PHOTRONICS INC

FORM 10-K
(Annual Report)

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended November 2, 2014

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ___ to ___

Commission file number 0-15451

PHOTRONICS, INC.

(Exact name of registrant as specified in its charter)

Connecticut	**06-0854886**
(State or other jurisdiction of incorporation or organization)	*(IRS Employer Identification No.)*

15 Secor Road, Brookfield, Connecticut 06804
(Address of principal executive offices)(Zip Code)
(203) 775-9000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Name of each exchange on which registered**
Common Stock, $.01 par value	NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definition of "accelerated filer, large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.
Large Accelerated Filer ☐ Accelerated Filer ☒ Non-Accelerated Filer ☐ Smaller Reporting Company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes ☐ No ☒

As of May 4, 2014, which was the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the shares of the registrant's common stock held by non-affiliates was approximately $529,675,990 (based upon the closing price of $8.77 per share as reported by the NASDAQ Global Select Market on that date).

As of December 29, 2014, 66,348,970 shares of the registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Proxy Statement for the 2015 Annual Meeting of Shareholders to be held in April 2015	Incorporated into Part III of this Form 10-K

Forward-Looking Statements

The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements made by or on behalf of Photronics, Inc. ("Photronics" or the "Company"). These statements are based on management's beliefs, as well as assumptions made by, and information currently available to, management. Forward-looking statements may be identified by words like "expect," "anticipate," "believe," "plan," "projects," “could,” “estimate,” “intend,” “may,” “will” and similar expressions, or the negative of such terms, or other comparable terminology. All forward-looking statements involve risks and uncertainties that are difficult to predict. In particular, any statement contained in this annual report on Form 10-K or in other documents filed with the Securities and Exchange Commission in press releases or in the Company's communications and discussions with investors and analysts in the normal course of business through meetings, phone calls, or conference calls regarding, among other things, the consummation and benefits of transactions and acquisitions, expectations with respect to future sales, financial performance, operating efficiencies, or product expansion, are subject to known and unknown risks, uncertainties, and contingencies, many of which are beyond the control of the Company. Various factors may cause actual results, performance, or achievements to differ materially from anticipated results, performance, or achievements expressed or implied by forward-looking statements. Factors that might affect forward-looking statements include, but are not limited to, overall economic and business conditions; economic and political conditions in international markets; the demand for the Company's products; competitive factors in the industries and geographic markets in which the Company competes; federal, state and international tax requirements (including tax rate changes, new tax laws and revised tax law interpretations); interest rate and other capital market conditions, including changes in the market price of the Company's securities; foreign currency exchange rate fluctuations; changes in technology; the timing, impact, and other uncertainties relating to transactions and acquisitions, divestitures and joint ventures as well as decisions the Company may make in the future regarding the Company’s business, capital and organizational structure and other matters; the seasonal and cyclical nature of the semiconductor and flat panel display industries; management changes; damage or destruction to the Company's facilities, or the facilities of its customers or suppliers, by natural disasters, labor strikes, political unrest, or terrorist activity; the ability of the Company to (i) place new equipment in service on a timely basis; (ii) obtain additional financing; (iii) achieve anticipated synergies and cost savings; (iv) fully utilize its tools; (v) achieve desired yields, pricing, product mix, and market acceptance of its products and (vi) obtain necessary export licenses. Any forward-looking statements should be considered in light of these factors. Accordingly, there is no assurance that the Company's expectations will be realized. The Company does not assume responsibility for the accuracy and completeness of the forward-looking statements and does not assume an obligation to provide revisions to any forward-looking statements, except as otherwise required by securities and other applicable laws.

PART I

ITEM 1. BUSINESS

General

Photronics, Inc. is a Connecticut corporation, organized in 1969. Its principal executive offices are located at 15 Secor Road, Brookfield, Connecticut 06804, telephone (203) 775-9000. Photronics, Inc. and its subsidiaries are collectively referred to herein as "Photronics" or the "Company". The Company's website is located at http://www.photronics.com. The Company makes available, free of charge through its website, its Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to these reports as soon as reasonably practicable after such materials are electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). The information found on or incorporated into the Company's website is not part of this or any other report the Company files with or furnishes to the SEC.

Photronics is one of the world's leading manufacturers of photomasks, which are high precision photographic quartz plates containing microscopic images of electronic circuits. Photomasks are a key element in the manufacture of semiconductors and flat panel displays ("FPDs"), and are used as masters to transfer circuit patterns onto semiconductor wafers and flat panel substrates during the fabrication of integrated circuits ("ICs") and a variety of FPDs and, to a lesser extent, other types of electrical and optical components. The Company currently operates principally from nine manufacturing facilities; two of which are located in Europe, three in Taiwan, one in Korea and three in the United States.

On April 4, 2014, DNP Photomask Technology Taiwan Co., Ltd. ("DPTT"), a wholly owned subsidiary of Dai Nippon Printing Co., Ltd. ("DNP"), merged into Photronics Semiconductor Mask Corporation ("PSMC"), a wholly owned subsidiary of Photronics, to form Photronics DNP Mask Corporation ("PDMC"). As a result of the acquisition of DPTT,
Photronics and DNP own 50.01 percent and 49.99 percent of PDMC, respectively.

Manufacturing Technology

The Company manufactures photomasks, which are used as masters to transfer circuit patterns onto semiconductor wafers and flat panel substrates. Photomasks are manufactured in accordance with circuit designs provided on a confidential basis by the Company's customers. IC and FPD photomask sets are manufactured in layers, each having a distinct pattern which is etched onto a different photomask. The resulting series of photomasks is then used to image the circuit patterns onto each successive layer of a semiconductor wafer or flat panel substrate. The typical manufacturing process for a photomask involves the receipt and conversion of circuit design data to manufacturing pattern data. A lithography system then exposes the circuit pattern onto the photomask blank. The exposed areas are developed and etched to produce that pattern on the photomask. The photomask is then inspected for defects and conformity to the customer's design data. After any defects are repaired, the photomask is cleaned using a proprietary process, any required pellicles (protective translucent cellulose membranes) are applied and, after final inspection, the photomask is shipped to the customer.

The Company currently supports customers across the full spectrum of IC production and FPD technologies by manufacturing photomasks using electron beam or optical (laser-based) systems, which are the predominant technologies used for photomask manufacturing, and are capable of producing the finer line resolution, tighter overlay and larger die size for the larger and more complex circuits currently being designed. Electron beam and laser generated photomasks can be used to produce the most advanced semiconductors and FPDs for use in an array of products. However, in the case of IC production, electron beam technologies fabricate the large majority of higher cost critical layer photomasks, while photomasks produced using laser-based systems are less expensive and less precise. End markets served with IC photomasks include devices used for microprocessors, memory, telecommunications and related applications. The Company currently owns a number of high-end and mature electron beam and laser-based systems.

The first several layers of photomasks are sometimes required to be delivered by the Company within 24 hours from the time it receives customers' design data. The ability to manufacture high quality photomasks within short time periods is dependent upon robust processes, efficient manufacturing methods, high production yield and high equipment reliability. The Company works to meet these requirements by making significant investments in research and development, manufacturing, and data processing systems, and by utilizing statistical process control methods to optimize the manufacturing process and reduce cycle times.

Quality control is an integral part of the photomask manufacturing process. Photomasks are manufactured in temperature, humidity, and particulate controlled clean rooms because of the high level of precision, quality and manufacturing yield required. Each photomask is inspected several times during the manufacturing process to ensure compliance with customer specifications. The Company continues to make substantial investments in equipment to inspect and repair photomasks to ensure that customer specifications are met.

The majority of IC photomasks produced for the semiconductor industry employ geometries of 65 nanometers or larger. At these geometries, the Company can produce full lines of photomasks and there is no significant technology employed by the Company's competitors that is not also available to the Company. The Company is also capable of producing full lines of photomasks for high-end IC and FPD applications. In the case of ICs, this includes photomasks at and below the 45 nanometer technology node and, for FPDs, at and above the Generation 8 technology node and active-matrix organic light-emitting diode (AMOLED) display screens. The Company has access to technology and customer qualified manufacturing capability that allows it to compete in high-end markets, serving both IC and FPD applications.

Sales and Marketing

The market for photomasks primarily consists of domestic and international semiconductor and FPD manufacturers and designers. Photomasks are manufactured by independent merchant manufacturers like Photronics, and by semiconductor and FPD manufacturers that produce photomasks exclusively for their own use (captive manufacturers). Previously there was a trend towards the divesture or closing of captive photomask operations by semiconductor manufacturers and an increase in the share of the market served by independent manufacturers. This trend was driven by the increased complexity and cost of capital equipment used in manufacturing photomasks and the lack of economy of scale for many semiconductor and FPD manufacturers to effectively utilize the equipment. However, more recently the remaining and largest captive mask facilities have started investing at faster rates than independent manufacturers to reach certain roadmap milestones. Nevertheless, most captive manufacturers maintain business and technology relationships with independent photomask manufacturers for ongoing support.

Generally, the Company and each of its customers engage in a qualification and correlation process before the Company becomes an approved supplier. Thereafter, the Company typically negotiates pricing parameters for a customer's orders based on the customer's specifications. Some prices may remain in effect for an extended period of time. In some instances, the Company enters into sales arrangements with an understanding that, as long as the Company's performance is competitive, the Company will receive a specified percentage of that customer's photomask requirements. However, none of the Company's customers have entered into a significant long-term agreement with the Company requiring them to purchase the Company's products.

The Company conducts its sales and marketing activities primarily through a staff of full-time sales personnel and customer service representatives who work closely with the Company's management and technical personnel. In addition to the sales personnel at the Company's manufacturing facilities, the Company has sales offices in the United States, Europe and Asia.

The Company supports international customers through both its domestic and international facilities. The Company considers its presence in international markets to be an important factor in attracting new customers, providing global solutions to its customers, minimizing delivery time, and serving customers that utilize manufacturing foundries outside of the United States, principally in Asia. See Note 16 to the Company's consolidated financial statements for the amount of net sales and long-lived assets attributable to each of the Company's geographic areas of operations.

Customers

The Company primarily sells its products to leading semiconductor and FPD manufacturers. The Company's largest customers (listed alphabetically) during the fiscal year ended November 2, 2014 ("fiscal 2014") included the following:

ASML Holding NV
AU Optronics Corp.
Dongbu HiTek Co. Ltd.
Global Foundries, Inc.
Himax Display, Inc.
Ili Technology Corp.
IM Flash Technologies, LLC
Innolux Corporation
Inotera Memories, Inc.
Intel Corporation
Jenoptik AG
LG Electronics, Inc.
Macronix International Company, Ltd.
Micron Technology, Inc.
Nanya Technology Corporation
Samsung Electronics Co., Ltd.
Semiconductor International Manufacturing Corp.
ST Microelectronics, Inc.
Texas Instruments Incorporated
United Microelectronics Corp.

During fiscal 2014, the Company sold its products and services to approximately 600 customers. One customer accounted for approximately 16%, 18% and 22% of the Company’s net sales in fiscal 2014, 2013 and 2012, respectively, and another customer accounted for approximately 11% of the Company’s net sales in fiscal 2014. This included sales of both IC and FPD photomasks. The Company's five largest customers, in the aggregate, accounted for approximately 44%, 43% and 43% of net sales in fiscal 2014, 2013 and 2012, respectively. A significant decrease in the amount of sales to any of these customers could have a material adverse effect on the financial performance and business prospects of the Company.

Seasonality

The Company's quarterly revenues can be affected by the seasonal purchasing of its customers. The Company is typically impacted during its first quarter by the North American and European holiday periods, as some customers reduce their effective workdays and orders during this period. Additionally, the Company can be impacted during its first or second fiscal quarter by the Asian New Year holiday period, which also may reduce customer orders.

Research and Development

The Company conducts its primary research and development activities for IC photomasks at its MP Mask Technology Center, LLC ("MP Mask"), a joint venture with Micron Technology, Inc. (“Micron”) and at its U.S. nanoFab, both of which are located in Boise, Idaho, and also at PK, Ltd. (“PKL”), its subsidiary in Korea, and at Photronics DNP Mask Corporation (“PDMC”), one of its subsidiaries in Taiwan, and for FPD photomasks at PKL, and in site-specific research and development programs to support strategic customers. These research and development programs and activities are undertaken to advance the Company's competitiveness in technology and manufacturing efficiency. The Company also conducts application oriented research and development activities to support the early adoption of new photomask or supporting data and services technology into the customers' applications. Currently, research and development photomask activities for ICs are focused on 20 nanometer node and below, and for FPDs on Generation 8 resolution enhancement masks, substrates larger than Generation 8 and masks for AMOLED type displays. The Company believes these core competencies will continue to be a critical part of semiconductor and FPD manufacturing, as optical lithography continues to scale device capabilities at and below 45 nanometer and at and above Generation 8. The Company has incurred research and development expenses of $21.9 million, $20.8 million and $19.4 million in fiscal 2014, 2013 and 2012, respectively. The Company believes that it owns, controls, or licenses valuable proprietary information that is necessary for its business as it is presently conducted. This includes trade secrets as well as patents. The Company also believes that its intellectual property and trade secret know-how will continue to be important to its maintaining technical leadership in the field of photomasks.

Patents and Trademarks

The Company has ownership interests in approximately 50 issued U.S. patents. The subject matter of these patents, which are registered in various countries, generally relates to the manufacture of IC photomasks or the use of photomasks to manufacture other products. The expiration dates of these patents range from 2018 to 2030. Additionally, pursuant to a technology license agreement with Micron, the Company has access to certain technology of Micron and MP Mask. The Company also has a number of trademarks and trademark registrations in the United States and in other countries.

While the Company believes that its intellectual property is and will continue to be, important to its technical leadership in the field of photomasks, its operations are not dependent on any one individual patent. The Company protects its intellectual property rights and proprietary processes by utilizing patents and non-disclosure agreements with employees, customers and vendors.

Materials, Supplies and Equipment

Raw materials used by the Company generally include: high precision quartz plates (including large area plates), which are used as photomask blanks and are primarily obtained from Japanese and Korean suppliers; pellicles and electronic grade chemicals, which are used in the manufacturing process; and compacts, which are durable plastic containers in which photomasks are shipped. These materials are generally sourced from several suppliers. The Company believes that its utilization of a select group of strategic suppliers enables it to access the most technologically advanced materials available. On an ongoing basis, the Company continues to consider additional supply sources.

The Company relies on a limited number of equipment suppliers to develop and supply the equipment used in the photomask manufacturing process. Although the Company has been able to obtain equipment on a timely basis, an inability to obtain equipment when required could adversely affect the Company's business and results of operations.

Backlog

The first several layers of a set of photomasks for a circuit pattern are often required to be shipped within 24 hours of receiving a customer's designs. Because of the short period between order and shipment dates (typically from 1 day to 2 weeks) for a significant amount of the Company's sales, the dollar amount of current backlog is not considered to be a reliable indicator of future sales volume.

Merger of PSMC with DNP Photomask Technology Taiwan Co., LTD.

On April 4, 2014, DNP Photomask Technology Taiwan Co., Ltd. (“DPTT”), a wholly owned subsidiary of Dai Nippon Printing Co., Ltd. (“DNP”), merged into Photronics Semiconductor Mask Corporation (“PSMC”), a wholly owned subsidiary of Photronics, to form Photronics DNP Mask Corporation (“PDMC”). As a result of the acquisition of DPTT, Photronics and DNP own 50.01 percent and 49.99 percent of PDMC, respectively.

International Operations

Sales from the Company’s international operations were approximately 77%, 70% and 70% of the Company's net sales in fiscal 2014, 2013 and 2012, respectively. The Company believes that its ability to serve international markets is enhanced by it having, among other things, a local presence in the markets that it serves. This requires a significant investment in financial, managerial, operational, and other resources.

Operations outside of the United States are subject to inherent risks, including fluctuations in exchange rates, political and economic conditions in various countries, unexpected changes in regulatory requirements, tariffs and other trade barriers, difficulties in staffing and managing international operations, longer accounts receivable collection cycles, potential restrictions on transfers of funds and potentially adverse tax consequences. These factors may have a material adverse effect on the Company's ability to generate sales outside of the United States and to deploy resources where they could otherwise be used to their greatest advantage and, consequently, may adversely affect its financial condition and results of operations. Note 16 of the notes to the Company's consolidated financial statements presents net sales and long-lived assets by geographic area.

Competition

The photomask industry is highly competitive and most of the Company's customers utilize multiple photomask suppliers. The Company's ability to compete depends primarily upon the consistency of its products' quality, timeliness of delivery, as well as pricing, technical capability and service, which the Company believes are the principal factors considered by customers in selecting their photomask suppliers. The Company also believes that proximity to customers is an important factor in certain markets where cycle time from order to delivery is critical. A few competitors have greater financial, technical, sales, marketing and other resources than the Company. An inability to meet these requirements could adversely affect the Company's financial condition, results of operations and cash flows. The Company believes that it is able to compete effectively because of its dedication to customer service, investment in state-of-the-art photomask equipment and facilities, and experienced technical employees.

The Company estimates that, for the types of photomasks it manufactures (IC and FPD), the size of the total market (captive and merchant) is approximately $3.7 billion. Its competitors include Compugraphics International, Ltd., DNP (outside of Taiwan), Hoya Corporation, SK-Electronics Co. Ltd., Taiwan Mask Corporation and Toppan Printing Co., Ltd. The Company also competes with semiconductor manufacturers' captive photomask manufacturing operations that supply photomasks for internal use and, in some instances, also for external customers and foundries. The Company expects to face continued competition which, in the past, has led to pressure to reduce prices. The Company believes the pressure to reduce prices has contributed to the decrease in the number of independent manufacturers, and expects such pressure to continue in the future.

Employees

As of November 2, 2014, the Company had approximately 1,500 employees. The Company believes it offers competitive compensation and other benefits and that its employee relations are good.

ITEM 1A. RISK FACTORS

The Company's dependency on the semiconductor industry, which as a whole is volatile, could have a negative material impact on its business.

The Company sells substantially all of its photomasks to semiconductor designers, manufacturers and foundries, as well as to other high performance electronics manufacturers. The Company believes that the demand for photomasks depends primarily on design activity rather than sales volume from products using photomask technologies. Consequently, an increase in semiconductor or FPD sales does not necessarily result in a corresponding increase in photomask sales. In addition, the reduced use of customized ICs, a reduction in design complexity, other changes in the technology or methods of manufacturing or designing semiconductors, or a slowdown in the introduction of new semiconductor or FPD designs could reduce demand for photomasks even if the demand for semiconductors and FPDs increases. Further, advances in design and production methods for semiconductors and other high performance electronics could reduce the demand for photomasks. Historically, the semiconductor industry has been volatile, with sharp periodic downturns and slowdowns. These downturns have been characterized by, among other things, diminished product demand, excess production capacity and accelerated erosion of selling prices.

The Company's results may suffer if either the IC or FPD photomask market does not grow or if the Company is unable to serve these markets successfully. The Company believes that the demand for photomasks for both ICs and FPDs depends primarily on design activity and, to a lesser extent, upon an increase in the number of production facilities used to manufacture ICs or FPDs. As a result, an increase in IC or FPD sales will not necessarily lead to a corresponding increase in photomask sales. A slowdown in the development of new technologies for fabricating ICs or FPDs could reduce the demand for related photomasks even if the demand for ICs or FPDs increases.

The Company may incur future net losses.

Although the Company has been profitable since fiscal 2010, it has, in the past, incurred net losses. The net losses experienced in prior years were due, in part, to macroeconomic factors, which resulted in significant charges for restructurings and impairments of long-lived assets. The Company cannot provide assurance that it will not incur net losses in the future.

The Company's quarterly operating results fluctuate significantly and may continue to do so in the future.

The Company has experienced fluctuations in its quarterly operating results and anticipates that such fluctuations will continue and could intensify in the future. Fluctuations in operating results may result in volatility in the prices of the Company's common stock and financial instruments linked to the value of the Company's common stock. Operating results may fluctuate as a result of many factors, including the size and timing of orders and shipments, the loss of significant customers, changes in product mix, the flow of customer design releases, technological change, fluctuations in manufacturing yields, competition and general economic conditions. The Company operates in a high fixed cost environment and, should its revenues and asset utilization decrease, its operating margins could be negatively impacted.

The Company's customers generally order photomasks on an as-needed basis, and the Company's net sales in any quarter are dependent on orders received during that quarter. Since the Company operates with little backlog and the rate of new orders may vary significantly from quarter-to-quarter, the Company's capital expenditures and, to some extent, expense levels are based primarily on sales forecasts and technological advancements in photomask manufacturing equipment. Consequently, if anticipated sales in any quarter do not occur when expected, capital expenditures and expense levels could be disproportionately high, and the Company's operating results would be adversely affected. Due to the foregoing factors, the Company believes that quarter-to-quarter comparisons of its operating results are not necessarily meaningful and that these comparisons cannot be relied upon as indicators of future performance. In addition, in future quarters the Company's operating results could be below the expectations of public market analysts and investors which, in turn, could materially adversely affect the market price of the Company's common stock.

The photomask industry is subject to rapid technological change and the Company might fail to remain competitive, which could have a material adverse effect on the Company's business and results of operations.

The photomask industry has been, and is expected to continue to be, characterized by technological change and evolving industry standards. In order to remain competitive, the Company will be required to continually anticipate, respond to and utilize changing technologies of increasing complexity in both traditional and emerging markets that it serves. In particular, the Company believes that, as semiconductor geometries continue to become smaller and FPDs become larger with improved performance, it will be required to manufacture increasingly complex photomasks. Additionally, the demand for photomasks has been, and could in the future be, adversely affected by changes in semiconductor and high performance electronics fabrication methods that affect the type or quantity of photomasks utilized, such as changes in semiconductor demand that favor field programmable gate arrays and other semiconductor designs that replace application-specific ICs. Furthermore, increased market acceptance of alternative methods of transferring IC designs onto semiconductor wafers could reduce or eliminate the need for photomasks in the production of semiconductors. As of the end of fiscal 2014, one alternative method, direct-write lithography, has not been proven to be a commercially viable alternative to photomasks, as it is considered to be too slow for high volume semiconductor wafer production. However, should direct-write or any other alternative method of transferring IC designs to semiconductor wafers without the use of photomasks achieve market acceptance, and if the Company is unable to anticipate, respond to or utilize these or other technological changes, due to resource, technological or other constraints, its business and results of operations could be materially adversely affected.

The Company's operations will continue to require substantial capital expenditures, for which it may be unable to obtain funding.

The manufacture of photomasks requires substantial investments by the Company in high-end manufacturing capability. The Company expects that it will be required to continue to make substantial capital expenditures to meet the technological demands of its customers and to position itself for future growth. The Company's capital expenditure payments for fiscal 2015 are expected to be in the range of $100 million to $110 million, of which $31 million was included in Accounts payable or Accrued liabilities on its November 2, 2014, Consolidated Balance Sheet. The Company cannot provide assurance that it will be able to obtain the additional capital required to fund its operations on reasonable terms, if at all, or that any such inability will not have a material adverse effect on its business and results of operations.

The Company's agreements with Micron have several risks; should either company not comply or execute under these agreements it could significantly disrupt the Company's business and technological activities, which could have a material adverse effect on the Company's operations and cash flows.

In 2006 Photronics and Micron entered into a joint venture known as MP Mask. The joint venture develops and produces photomasks for leading-edge and advanced next generation semiconductors. As part of the formation of the joint venture, Micron contributed its existing photomask technology center located at its Boise, Idaho, headquarters to MP Mask and Photronics paid Micron $135 million in exchange for a 49.99% interest in MP Mask, a license for photomask technology of Micron and certain supply agreements. Since the formation of the joint venture, the Company has, through November 2, 2014, made contributions to MP Mask of $38 million and received returns of investments of $10 million.

MP Mask is governed by a Board of Managers, appointed by Micron and the Company. Since MP Mask's inception, Micron, as a result of its majority ownership, has held majority voting power on the Board of Managers. The voting power held by each party is subject to change as ownership interests change. Under the MP Mask joint venture operating agreement, the Company may be required to make additional capital contributions to MP Mask up to the maximum amount defined in the operating agreement. However, should the Board of Managers determine that further additional funding is required, MP Mask would need to pursue its own financing. If MP Mask is unable to obtain its own financing, it may request additional capital contributions from the Company. Should the Company choose not to make a requested contribution to MP Mask, its ownership percentage may be reduced.

The failure of Photronics or Micron to comply or execute under any of these agreements, capitalize on the use of existing technology or further develop technology could result in a significant disruption to the Company's business and technological activities, and could adversely affect the Company's operations and cash flows.

The Company has been dependent on sales to a limited number of large customers; the loss of any of these customers or a significant reduction in orders from these customers could have a material adverse effect on its sales and results of operations.

Historically, the Company has sold a significant proportion of photomasks to a limited number of IC and FPD manufacturers. During fiscal 2014, the Company’s two largest customers by sales volume accounted for 16% and 11% of its net sales. The Company's five largest customers, in the aggregate, accounted for 44%, 43% and 43% of net sales in fiscal 2014, 2013, and 2012, respectively. None of the Company's customers have entered into a significant long-term agreement with the Company requiring them to purchase the Company's products. The loss of a significant customer or a significant reduction or delay in orders from any significant customer, (including reductions or delays due to customer departures from recent buying patterns), or an unfavorable change in market, economic, or competitive conditions in the semiconductor or FPD industries, could have a material adverse effect on the Company's financial performance and business prospects. The consolidation of semiconductor manufacturers or an economic downturn in the semiconductor industry may increase the likelihood of losing a significant customer and could also have an adverse effect on the Company's financial performance and business prospects.

The Company depends on a small number of suppliers for equipment and raw materials and, if the Company's suppliers do not deliver their products to it, the Company may be unable to deliver its products to its customers, which could adversely affect its business and results of operations.

The Company relies on a limited number of photomask equipment manufacturers to develop and supply the equipment it uses. These equipment manufacturers currently require lead times of up to twelve months or longer between the order and the delivery of certain photomask imaging and inspection equipment. The failure of such manufacturers to develop or deliver such equipment on a timely basis could have a material adverse effect on the Company's business and results of operations. In addition, the manufacturing equipment necessary to produce advanced photomasks could become prohibitively expensive, which could similarly affect the Company.

The Company uses high precision quartz photomask blanks, pellicles, and electronic grade chemicals in its manufacturing processes. There are a limited number of suppliers of these raw materials. The Company has no long-term contracts for the supply of these raw materials. Any delays or quality problems in connection with significant raw materials, particularly photomask blanks, could cause delays in the shipments of photomasks, which could have a material adverse effect on the Company's business and results of operations. The fluctuation of foreign currency exchange rates, with respect to prices of equipment and raw materials used in manufacturing, could also have a material adverse effect on the Company's business and results of operations.

The Company faces risks associated with the use of sophisticated equipment and complex manufacturing processes and technologies. The inability of the Company to effectively utilize such equipment and technologies and perform such processes could have a material adverse effect on its business and results of operations.

The Company's complex manufacturing processes require the use of expensive and technologically sophisticated equipment and materials, and are continually modified in an effort to improve manufacturing yields and product quality. Minute impurities, defects or other difficulties in the manufacturing process can lower manufacturing yields and make products unmarketable. Moreover, manufacturing leading-edge photomasks is more complex and time consuming than manufacturing less advanced photomasks, and may lead to delays in the manufacturing of all levels of photomasks. The Company has, on occasion, experienced manufacturing difficulties and capacity limitations that have delayed the Company's ability to deliver products within the time frames contracted for by its customers. The Company cannot provide assurance that, under such circumstances, it will not experience these or other manufacturing difficulties, or be subject to increased costs or production capacity constraints in the future, any of which could result in a loss of customers or could otherwise have a material adverse effect on its business and results of operations.

The Company's debt agreements limit its ability to obtain financing and may obligate the Company to repay debt before its maturity.

Financial covenants related to the Company's credit facility, which was last amended in August 2014, include Total Leverage Ratio, a Minimum Interest Coverage Ratio, and Minimum Unrestricted Cash Balances. Existing covenant restrictions limit the Company's ability to obtain additional debt financing and, should Photronics be unable to meet one or more of these covenants, its lenders may require the Company to repay any outstanding balance prior to the expiration date of the agreements. The Company's ability to comply with the financial and other covenants in its debt agreements may be affected by worsening economic or business conditions, or other events. The Company cannot assure that, under such circumstances, additional sources of financing would be available to pay off any long-term borrowings, so as to avoid default. Should the Company default on certain of its long-term borrowings, a cross default would occur on other long-term borrowings, unless amended or waived.

Acquisitions, mergers or joint ventures by the Company may entail certain operational and financial risks.

The Company has made significant acquisitions throughout its history and it may make other acquisitions or participate in other joint ventures or mergers in the future. As discussed above, in 2014 PSMC, the Company's wholly owned Taiwanese manufacturing subsidiary, merged with DPTT, a wholly owned subsidiary of DNP. Such transactions are subject to acquisition accounting, as prescribed in ASC 805 "Business Combinations", under which identifiable assets acquired, liabilities assumed and any noncontrolling interests are generally recognized at their acquisition date fair values and separately from goodwill, if any, that may be required to be recognized. Goodwill, when recognizable, would be measured as the excess amount of any consideration transferred, which is generally measured at fair value, over the acquisition date fair values of the identifiable assets acquired and liabilities assumed. In cases of acquisitions that require the Company to estimate the fair values of assets acquired and liabilities assumed, such estimates, though based upon assumptions that the Company believes to be reasonable, are subject to uncertainty. After the completion of such an acquisition, if in fact the transaction is consummated, the Company may be subject to various risks which could adversely affect its future earnings and cash flows. These may include that: the cost of combining the operations of the acquired company with the Company's operations may exceed the Company's estimates; goodwill, if any, or other intangible assets recognized may be subject to impairment charges; the lives of intangible assets acquired may be reduced; contingent liabilities are identified or change; the unanticipated loss of sales due to an overlap of customers served by the Company and the acquiree occurs; and that greater than anticipated charges to maintain duplicate pre-merger activities and eliminate duplicative activities are experienced. Furthermore, the Company may need to utilize its cash reserves and/or issue new securities to fund future acquisitions, which could have a dilutive effect on its earnings per share.

The Company's cash flows from operations and current holdings of cash may not be adequate for its current and long-term needs.

The Company's liquidity is highly dependent on its sales volume and the timing of its capital expenditures, (which can vary significantly from period to period), as it operates in a high fixed cost environment. Depending on conditions in the semiconductor and FPD markets, the Company's cash flows from operations and current holdings of cash may not be adequate to meet its current and long-term needs for capital expenditures, operations and debt repayments. Historically, in certain years, the Company has used external financing to fund these needs. Due to conditions in the credit markets and covenant restrictions on its existing debt, some financing instruments used by the Company in the past may not be available to it. Therefore, the Company cannot provide assurance that additional sources of financing would be available to it on commercially favorable terms, if at all, should its cash requirements exceed its cash available from operations, existing cash, and cash available under its credit facility.

The Company may incur unforeseen charges related to possible future facility closures or restructurings.

The Company cannot provide assurance that there will not be facility closures or restructurings in the near or long-term, nor can it assure that it will not incur significant charges, should there be any future facility closures or restructurings.

The Company operates in a highly competitive environment and, should it be unable to meet its customers' requirements for product quality, timeliness of delivery or technical capabilities, its sales could be adversely affected.

The photomask industry is highly competitive, and most of the Company's customers utilize more than one photomask supplier. The Company's competitors include Compugraphics International, Ltd., DNP (outside of Taiwan), Hoya Corporation, SK-Electronics Co., Ltd., Taiwan Mask Corporation and Toppan Printing Co., Ltd. The Company also competes with semiconductor manufacturers' captive photomask manufacturing operations, some of which market their photomask manufacturing services to outside customers. The Company expects to face continued competition from these and other suppliers in the future. Many of the Company's competitors have substantially greater financial, technical, sales, marketing and other resources than it has. Also, when producing smaller geometry photomasks, some of the Company's competitors may be able to more rapidly develop, produce, and achieve higher manufacturing yields than the Company. The Company believes that consistency of product quality and timeliness of delivery, as well as price, technical capability, and service are the principal factors considered by customers in selecting their photomask suppliers. The Company's inability to meet these competitive requirements could have a material adverse effect on its business and results of operations. In the past, competition led to pressure to reduce prices which, the Company believes, contributed to the decrease in the number of independent photomask suppliers. This pressure to reduce prices may continue in the future.

The Company's substantial international operations are subject to additional risks.

Sales from the Company's international operations were approximately 77%, 70% and 70% of the Company's net sales in fiscal 2014, 2013 and 2012, respectively. The Company believes that maintaining significant international operations requires it to have, among other things, a local presence in the geographic markets that it supplies. This requires significant investments in financial, managerial, operational, and other resources. Since 1996, the Company has significantly expanded its operations in international markets by acquiring existing businesses in Europe, acquiring majority equity interests in photomask manufacturing operations in Korea and Taiwan and building a new manufacturing facility for FPD photomasks in Taiwan. The Company, in order to enable it to optimize its investments and other resources, closely monitors the semiconductor and FPD manufacturing markets for indications of geographic movement and, in conjunction with these efforts, continues to assess the locations of its manufacturing facilities. These assessments may result in the opening or closing of facilities.

Operations outside of the United States are subject to inherent risks, including fluctuations in exchange rates, unstable political and economic conditions in various countries, unexpected changes in regulatory requirements, tariffs and other trade barriers, difficulties in staffing and managing international operations, longer accounts receivable payment cycles and potentially adverse tax consequences. These factors may have a material adverse effect on the Company's ability to generate sales outside of the United States and, consequently, on its business and results of operations.

Changes in foreign currency exchange rates could have a material adverse effect on the Company's results of operations, financial condition or cash flows.

The Company's financial statements are prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and are reported in U.S. dollars. The Company's operations have transactions and balances denominated in currencies other than the U.S. dollar, primarily the Korean won, New Taiwan dollar, Japanese yen, Singapore dollar, euro, and the pound sterling. In fiscal 2014, the Company recorded a net gain from changes in foreign currency exchange rates of $1.4 million in its statement of income, while its net assets were decreased by $5.9 million as a result of the translation of foreign currency financial statements to U.S. dollars. In the event of significant foreign currency fluctuations, the Company's results of operations, financial condition or cash flows may be adversely affected.

The Company's business depends on managerial and technical personnel, who are in great demand, and its inability to attract and retain qualified employees could adversely affect the Company's business and results of operations.

The Company's success depends, in part, upon key managerial and technical personnel, as well as its ability to continue to attract and retain additional qualified personnel. The loss of certain key personnel could have a material adverse effect upon the Company's business and results of operations. There can be no assurance that the Company can retain its key managerial, and technical employees, or that it can attract similar additional employees in the future.

The Company may be unable to enforce or defend its ownership and use of proprietary technology, and the utilization of unprotected Company developed technology by its competitors could adversely affect the Company's business, results of operations and financial position.

The Company believes that the success of its business depends more on its proprietary technology, information and processes, and know-how than on its patents or trademarks. Much of its proprietary information and technology related to manufacturing processes is not patented and may not be patentable. The Company cannot offer assurance that:

- it will be able to adequately protect its technology;
- competitors will not independently develop similar technology; or
- international intellectual property laws will adequately protect its intellectual property rights.

The Company may become the subject of infringement claims or legal proceedings by third parties with respect to current or future products or processes. Any such claims, with or without merit, or litigation to enforce or protect its intellectual property rights, or that require the Company to defend itself against claimed infringements of the rights of others, could result in substantial costs, diversion of resources, and product shipment delays or could force the Company to enter into royalty or license agreements, rather than dispute the merits of these claims. Any of the foregoing could have a material adverse effect on the Company's business, results of operations and financial position.

The Company may be unprepared for changes to environmental laws and regulations and may incur liabilities arising from environmental matters.

The Company is subject to numerous environmental laws and regulations that impose various environmental controls on, among other things, the discharge of pollutants into the air and water and the handling, use, storage, disposal and clean-up of solid and hazardous wastes. Changes in these laws and regulations may have a material adverse effect on the Company's financial position and results of operations. Any failure by the Company to adequately comply with these laws and regulations could subject it to significant future liabilities.

In addition, these laws and regulations may impose clean-up liabilities on current and former owners and operators of real property as well as parties who arrange for the disposal of hazardous substances at off-site locations owned or operated by others, without regard to fault, so that these liabilities may be joint and several with other parties. In the past, the Company has been involved in remediation activities related to its properties. The Company believes, based upon current information, that environmental liabilities relating to these activities or other matters are not material to its financial position or operations. However, there can be no assurances that the Company will not incur any material environmental liabilities in the future.

The Company's production facilities could be damaged or disrupted by a natural disaster or labor strike, either of which could adversely affect its financial position, results of operations and cash flows.

A major catastrophe, such as an earthquake or other natural disaster, labor strike, or work stoppage at any manufacturing facility of the Company, its suppliers, or its customers, could result in a prolonged interruption of the Company's business. A disruption resulting from any one of these events could cause significant delays in shipments of the Company's products and the loss of sales and customers, which could have a material adverse effect on the Company's financial position, results of operations, and cash flows. The Company's facilities in Taiwan are located in a seismically active area.

The Company's sales can be impacted by the health and stability of the general economy, which could adversely affect its results of operations and cash flows.

Unfavorable general economic conditions in the U.S. or other countries in which the Company or its customers conduct business may have the effect of reducing the demand for photomasks. Economic downturns may lead to a decrease in demand for end products whose manufacturing processes involve the use of photomasks, which may result in a reduction in new product design and development by semiconductor or FPD manufacturers, and adversely affect the Company's results of operations and cash flows.

Additional taxes could adversely affect the Company's financial results.

The Company's tax filings are subjected to audit by tax authorities in the various jurisdictions in which it does business. These audits may result in assessments of additional taxes that are subsequently resolved with the authorities or through the courts. Currently, the Company believes there are no outstanding assessments whose resolution would result in a material adverse financial result. However, the Company cannot offer assurances that unasserted or potential future assessments would not have a material adverse effect on its financial condition or results of operations.

The Company's business could be adversely impacted by global or regional catastrophic events.

The Company's business could be adversely affected by terrorist acts, major natural disasters, widespread outbreaks of infectious diseases, or the outbreak or escalation of wars, especially in the Asian markets, where the Company generates a significant portion of its sales, and in Japan where it purchases raw materials and capital equipment. Such events in the geographic regions in which the Company does business, including escalations of political tensions and military operations within the Korean Peninsula, where a major portion of the Company's foreign operations are located, could have material adverse impacts on its sales volume, cost of raw materials, results of operations, cash flows and financial condition.

Technology failures or cyber security breaches could have a material adverse effect on the Company's operations.

The Company relies on information technology systems to process, transmit, store, and protect electronic information. For example, a significant portion of the communications between the Company's personnel, customers, and suppliers depends on information technology. Information technology systems of the Company may be vulnerable to a variety of interruptions due to events beyond its control including, but not limited to, natural disasters, terrorist attacks, telecommunications failures, computer viruses, hackers, and other security issues. The Company has technology and information security processes and disaster recovery plans in place to mitigate its risk to these vulnerabilities. However, these measures may not be adequate to ensure that its operations will not be disrupted, should such an event occur.

Servicing the Company's debt requires a significant amount of cash, and the Company may not have sufficient cash flows from its operations to pay its indebtedness.

The Company's ability to make scheduled payments of debt principal and interest or to refinance its indebtedness depends on its future performance, which is subject to economic, financial, competitive and other factors beyond the Company's control. The Company's business may not continue to generate sufficient cash flows from operations in the future to both service its debt and make necessary capital expenditures. If the Company is unable to generate such cash flows, it may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. The Company's ability to refinance its indebtedness would depend upon the conditions in the capital markets and the Company's financial condition at such time. The Company may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on its debt obligations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None

ITEM 2. PROPERTIES

The following table presents certain information about the Company's photomask manufacturing facilities:

Location	Type of Interest	
Allen, Texas	Owned	
Boise, Idaho	Owned	
Brookfield, Connecticut	Owned	
Bridgend, South Wales	Leased	
Cheonan, Korea	Owned	
Dresden, Germany	Leased	
Hsinchu, Taiwan	Owned	(1)
Hsinchu, Taiwan	Leased	
Taichung, Taiwan	Owned	(1)

(1) The Company owns its manufacturing facility in Taichung and one of its manufacturing facilities in Hsinchu however, it leases the related land.

The Company believes that its existing manufacturing facilities are suitable and adequate for its present purposes. The Company also leases various sales offices. The Company's administrative headquarters are located in Brookfield, Connecticut, in a building that it owns.

ITEM 3. LEGAL PROCEEDINGS

The Company is subject to various claims that arise in the ordinary course of business. The Company believes such claims, individually or in the aggregate, will not have a material effect on the business of the Company.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES

The Common Stock of the Company is traded on the NASDAQ Global Select Market ("NASDAQ") under the symbol PLAB. The table below shows the range of high and low sale prices per share of each quarter for fiscal years 2014 and 2013, as reported by the NASDAQ Global Select Market.

	High	Low
Fiscal Year Ended November 2, 2014:		
Quarter Ended February 2, 2014	$ 9.75	$ 7.42
Quarter Ended May 4, 2014	8.95	7.72
Quarter Ended August 3, 2014	9.38	7.92
Quarter Ended November 2, 2014	9.20	7.11
Fiscal Year Ended November 3, 2013:		
Quarter Ended January 27, 2013	$ 6.21	$ 4.56
Quarter Ended April 28, 2013	7.50	5.81
Quarter Ended July 28, 2013	8.85	7.07
Quarter Ended November 3, 2013	8.89	7.03

On December 29, 2014, the closing sale price of the Common Stock per the NASDAQ Global Select Market was $8.40. Based on information available to the Company, the Company believes it has approximately 9,000 shareholders.

The Company, to date, has not paid any cash dividends on PLAB shares and, for the foreseeable future, anticipates that earnings will continue to be retained for use in its business. Further, the Company's credit facility precludes it from paying cash dividends.

Securities authorized for issuance under equity compensation plans

The information regarding the Company's equity compensation required to be disclosed by Item 201(d) of Regulation S-K is incorporated by reference from the Company's 2015 definitive Proxy Statement into Item 12 of Part III of this report. The 2015 Proxy Statement will be filed within 120 days after the Company’s fiscal year ended November 2, 2014.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data is derived from the Company's audited consolidated financial statements. The data should be read in conjunction with the audited consolidated financial statements and notes thereto and other financial information included elsewhere in this Annual Report on Form 10-K (in thousands, except per share amounts).

	Year Ended				
	November 2, 2014	November 3, 2013	October 28, 2012	October 30, 2011	October 31, 2010
OPERATING DATA:					
Net sales	$ 455,527	$ 422,180	$ 450,439	$ 512,020	$ 425,554
Cost and expenses:					
Cost of sales	(355,181)	(322,540)	(338,519)	(375,806)	(333,739)
Selling, general and administrative	(49,638)(a)	(48,213)(c)	(46,706)	(45,240)	(42,387)
Research and development	(21,913)	(20,758)	(19,371)	(15,507)	(14,932)
Consolidation, restructuring and related (charges) credits	-	-	(1,428)(d)	-	4,979(h)
Operating income	28,795	30,669	44,415	75,467	39,475
Other income (expense):					
Gain on acquisition	16,372(b)	-	-	-	-
Interest expense	(7,247)	(7,756)	(7,488)	(7,258)	(9,475)
Interest and other income (expense), net	3,410	3,892	3,721(e)	2,949(f)	2,553(i)
Debt extinguishment loss	-	-	-	(35,259)(g)	-
Income before income tax provision	41,330	26,805	40,648	35,899	32,553
Income tax provision	(9,295)	(7,229)	(10,793)	(15,691)	(7,471)
Net income	32,035(a)(b)	19,576(c)	29,855(d)(e)	20,208(f)(g)	25,082(h)(i)
Net income attributable to noncontrolling interests	(6,039)	(1,610)	(1,987)	(3,979)	(1,160)
Net income attributable to Photronics, Inc. shareholders	$ 25,996(a)(b)	$ 17,966(c)	$ 27,868(d)(e)	$ 16,229(f)(g)	$ 23,922(h) (i)
Earnings per share:					
Basic	$ 0.42(a)(b)	$ 0.30(c)	$ 0.46(d)(e)	$ 0.28(f)(g)	$ 0.45(h) (i)
Diluted	$ 0.41(a)(b)	$ 0.29(c)	$ 0.44(d)(e)	$ 0.28(f)(g)	$ 0.43(h) (i)
Weighted-average number of common shares outstanding:					
Basic	61,779	60,644	60,055	57,030	53,433
Diluted	66,679	61,599	76,464	58,458	65,803

BALANCE SHEET DATA

	As of				
	November 2, 2014	November 3, 2013	October 28, 2012	October 30, 2011	October 31, 2010
Working capital	$ 197,375	$ 213,879	$ 234,281	$ 209,306	$ 86,573
Property, plant and equipment, net	550,069	422,740	380,808	368,680	369,814
Total assets	1,029,183	885,929	849,234	817,854	703,879
Long-term debt	131,805	182,203	168,956	152,577	78,852
Equity	739,494	587,831	586,001	559,756	495,943

(a) Includes $2.5 million, net of tax, of expenses related to the acquisition of DPTT

(b) Includes non-cash gain of $16.4 million, net of tax, on acquisition of DPTT

(c) Includes $0.8 million, net of tax, of expenses related to the acquisition of DPTT

(d) Includes consolidation and restructuring charges of $1.4 million in connection with the discontinuance of manufacturing operations at the Company's Singapore facility.

(e) Includes non-cash gain of $0.1 million in connection with subsequent measurement at fair value of warrants issued to purchase the Company’s common stock.

(f) Includes non-cash charge of $0.4 million in connection with subsequent measurement at fair value of warrants issued to purchase the Company’s common stock.

(g) Includes losses recorded in connection with the acquisition of $35.4 million face amount of the Company’s 5.5% convertible senior notes, in exchange for 5.2 million shares of its common stock and cash of $22.9 million.

(h) Includes consolidation and restructuring credits of $5.0 million in connection with the closure of the Company's Shanghai, China, facility.

(i) Includes non-cash charge of $0.9 million in connection with subsequent measurement at fair value of warrants issued to purchase the Company's common stock.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Results of Operations for the Years Ended November 2, 2014, November 3, 2013 and October 28, 2012

Overview

The Company sells substantially all of its photomasks to semiconductor designers and manufacturers, and manufacturers of FPDs. Photomask technology is also being applied to the fabrication of other higher performance electronic products such as photonics, micro-electronic mechanical systems and certain nanotechnology applications. Thus, the Company's selling cycle is tightly interwoven with the development and release of new semiconductor designs and flat panel applications, particularly as they relate to the semiconductor industry's migration to more advanced design methodologies and fabrication processes. The Company believes that the demand for photomasks primarily depends on design activity rather than sales volumes from products manufactured using photomask technologies. Consequently, an increase in semiconductor or FPD sales does not necessarily result in a corresponding increase in photomask sales. However, the reduced use of customized ICs, reductions in design complexity, other changes in the technology or methods of manufacturing or designing semiconductors, or a slowdown in the introduction of new semiconductor or FPD designs could reduce demand for photomasks even if demand for semiconductors and FPDs increases. Advances in semiconductor, FPD and photomask design and semiconductor and FPD production methods could also reduce the demand for photomasks. Historically, the semiconductor industry has been volatile, with sharp periodic downturns and slowdowns. These downturns have been characterized by, among other things, diminished product demand, excess production capacity and accelerated erosion of selling prices.

The global semiconductor industry, including mobile display devices, is driven by end markets which have been closely tied to consumer driven applications of high performance semiconductor devices including, but not limited to, mobile communications and computing solutions. The Company is typically required to fulfill its customer orders within a short period of time, sometimes within 24 hours. This results in the Company having a minimal level of backlog orders, typically one to two weeks for IC photomasks and two to three weeks for FPD photomasks. The Company cannot predict the timing of the industry's transition to volume production of next generation technology nodes or the timing of up and down cycles with precise accuracy, but believes that such transitions and cycles will continue into the future, beneficially and adversely affecting its business, financial condition and operating results as they occur. The Company believes its ability to remain successful in these environments is dependent upon its achieving its goals of being a service and technology leader and efficient solutions supplier, which it believes should enable it to continually reinvest in its global infrastructure.

The Company is focused on improving its competitiveness by advancing its technology and reducing costs and, in connection therewith, has invested and plans to continue to invest in manufacturing equipment to serve the high-end market. As the Company continues to face challenges in the current and near term that require it to continue to make significant improvements in its competitiveness, it continues to evaluate further cost reduction initiatives.

As of December 2014 state-of-the-art production for semiconductor masks is considered to be 45 nanometer and lower for ICs and Generation 8 and above and AMOLED display based process technologies for FPDs. However, 65 nanometer and above geometries for semiconductors and Generation 7 and below, excluding AMOLED, process technologies for FPDs constitute the majority of designs currently being fabricated in volume. At these geometries, the Company can produce full lines of photomasks and there is no significant technology employed by the Company's competitors that is not available to the Company. The Company expects 45 nanometer and below designs to continue to move to wafer fabrication throughout fiscal 2015, and believes it is well positioned to service an increasing volume of this business as a result of its investments in manufacturing processes and technology in the global regions where its customers are located.

The photomask industry has been, and is expected to continue to be, characterized by technological change and evolving industry standards. In order to remain competitive, the Company will be required to continually anticipate, respond to, and utilize changing technologies. In particular, the Company believes that, as semiconductor geometries continue to become smaller, it will be required to manufacture even more complex optically-enhanced reticles, including optical proximity correction and phase-shift photomasks. Additionally, demand for photomasks has been, and could in the future be, adversely affected by changes in semiconductor and high performance electronics fabrication methods that affect the type or quantity of photomasks used, such as changes in semiconductor demand that favor field-programmable gate arrays and other semiconductor designs that replace application-specific ICs. Furthermore, increased market acceptance of alternative methods of transferring circuit designs onto semiconductor wafers could reduce or eliminate the need for photomasks in the production of semiconductors. As of the end of fiscal 2014, one alternative method, direct-write lithography, has not been proven to be a commercially viable alternative to photomasks, as it is considered too slow for high volume semiconductor wafer production, and the Company has not experienced a significant loss of revenue as a result of this or other alternative semiconductor design methodologies. However, should direct-write or any other alternative method of transferring IC designs to semiconductor wafers without the use of photomasks achieve market acceptance, and the Company does not anticipate, respond to, or utilize these or other changing technologies due to resource, technological or other constraints, its business and results of operations could be materially adversely affected.

Both revenues and costs have been affected by the increased demand for high-end technology photomasks that require more advanced manufacturing capabilities, but generally command higher average selling prices ("ASPs"). The Company's capital expenditure payments aggregated approximately $252 million for the three fiscal years ended November 2, 2014, which has significantly contributed to the Company’s operating expenses. The Company intends to continue to make the required investments to support the technological demands of its customers and position itself for future growth, and expects capital expenditure payments to be between $100 million and $110 million in fiscal 2015.

The manufacture of photomasks for use in fabricating ICs and other related products built using comparable photomask-based process technologies has been, and continues to be, capital intensive. The Company's integrated global manufacturing network, which consists of nine manufacturing sites, and its employees represent a significant portion of its fixed operating cost base. Should sales volumes decrease as a result of a decrease in design releases from the Company's customers, the Company may have excess or underutilized production capacity that could significantly impact operating margins, or result in write-offs from asset impairments.

In the second quarter of fiscal 2014 the Company acquired DPTT in a non-cash transaction that resulted in the Company owning 50.01% and DNP owning 49.99% of PDMC, whose financial results are included in the Company’s consolidated financial statements. PDMC is expected to generate sufficient cash flows to fund its operating and capital requirements. See Note 2 of the consolidated financial statements for more information.

In the fourth quarter of fiscal 2014 the Company amended its credit facility. The credit facility, which expires in December 2018, has a $50 million limit with an expansion capacity to $75 million, and is secured by substantially all of the Company's assets located in the United States and common stock the Company owns in certain of its foreign subsidiaries. The credit facility is subject to a minimum interest coverage ratio, total leverage ratio and minimum unrestricted cash balance financial covenants, all of which the Company was in compliance with at November 2, 2014. The Company had no outstanding borrowings against the credit facility at November 2, 2014, and $50 million was available for borrowing. The interest rate on the credit facility (1.67% at November 2, 2014) is based on the Company's total leverage ratio at LIBOR plus a spread, as defined in the credit facility.

In the fourth quarter of fiscal 2013 a $26.4 million principal amount, five year capital lease commenced to fund the purchase of a high-end lithography tool. Payments under the lease, which bears interest at 2.77% are $0.5 million per month through July 2018. Under the terms of the lease agreement, the Company must maintain the equipment in good working order, and is subject to a cross default with a cross acceleration provision related to certain nonfinancial covenants incorporated in its credit facility. As of November 2, 2014, the total amount payable through the end of the lease term was $21.6 million, of which $20.5 million represents principal and $1.1 million represents interest.

In the third quarter of fiscal 2013 the Company completed a tender offer for shares of PSMC. A total of 50.3 million shares were tendered at the offering price of 16.30 NTD (equivalent to a total of $27.4 million), which increased the Company's ownership interest in PSMC from 75.11% to 98.13%. In the fourth quarter of fiscal 2013 the Company further increased its ownership interest in PSMC to 98.63% with the purchase of an additional 1.1 million shares of PSMC for $0.7 million, and in the first quarter of fiscal 2014 the Company acquired all of the 3.0 million shares that were then held by noncontrolling interests at a cost of $1.7 million. In April 2014 PSMC merged with DPTT to form PDMC.

In the first quarter of fiscal 2013 PSMC completed a stock repurchase plan that had been authorized by its board of directors in fiscal 2012. The completion of this repurchase plan resulted in the Company acquiring an additional 9.2 million shares at a cost $4.2 million, and increasing its ownership percentage in PSMC from 72.09% at October 28, 2012 to 75.11% as of January 27, 2013.

In the second quarter of fiscal 2012 the Company paid $35 million to Micron in connection with its purchase of the U.S. nanoFab facility, which it had been leasing from Micron under an operating lease that was to end in December 2014. The purchase of the facility resulted in the Company's outstanding operating lease commitments being reduced by a total of $15 million for fiscal years 2013 and 2014.

In the second quarter of fiscal 2012 the Company, in connection with its purchase of the U.S. nanoFab facility, amended its credit facility to include the addition of a $25 million term loan maturing in March 2017 with minimum quarterly principal payments of $0.6 million (quarterly payments commenced in June 2012 and were based on a ten year repayment period). In the first quarter of fiscal 2014 the Company repaid the $21.3 million outstanding balance of this term loan.

In the first quarter of fiscal 2012 the Company ceased the manufacture of photomasks at its Singapore facility. This action, which was substantially completed in fiscal 2012, resulted in the Company recording restructuring charges of $1.4 million in fiscal 2012.

In 2012 the board of directors of PSMC authorized PSMC to repurchase additional shares of its outstanding common stock for retirement. These repurchase programs resulted in 35.9 million shares being purchased for $15.6 million in the fiscal year ended October 28, 2012. PSMC's repurchase of these shares increased the Company's ownership percentage in PSMC from 62.25% at October 30, 2011 to 72.09% as of October 28, 2012.

Results of Operations

The following table presents selected operating information expressed as a percentage of net sales:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Net sales	100.0%	100.0%	100.0%
Cost of sales	(78.0)	(76.4)	(75.1)
Gross margin	22.0	23.6	24.9
Selling, general and administrative expenses	(10.9)	(11.4)	(10.4)
Research and development expenses	(4.8)	(4.9)	(4.3)
Consolidation, restructuring and related charges	-	-	(0.3)
Operating income	6.3	7.3	9.9
Gain on acquisition	3.6	-	-
Interest expense	(1.6)	(1.9)	(1.7)
Interest and other income (expense), net	0.8	0.9	0.8
Income before income tax provision	9.1	6.3	9.0
Income tax provision	(2.1)	(1.7)	(2.4)
Net income	7.0	4.6	6.6
Net income attributable to noncontrolling interests	(1.3)	(0.3)	(0.4)
Net income attributable to Photronics, Inc. shareholders	5.7%	4.3%	6.2%

Note: All the following tabular comparisons, unless otherwise indicated, are for the fiscal years ended November 2, 2014 (2014), November 3, 2013 (2013) and October 28, 2012 (2012), in millions of dollars.

Net Sales

				Percent Change	
	2014	2013	2012	2013 to 2014	2012 to 2013
IC	$ 352.7	$ 320.6	$ 350.1	10.0%	(8.4)%
FPD	102.8	101.6	100.3	1.2	1.3
Total net sales	$ 455.5	$ 422.2	$ 450.4	7.9%	(6.3)%

Net sales for 2014 increased 7.9% to $455.5 million as compared to $422.2 million for 2013. The increase of $33.3 million was primarily related to increased IC sales of $32.1 million, principally associated with the acquisition of DPTT in Taiwan, as discussed in Note 2 to the consolidated financial statements. High-end IC sales increased $24.1 million to $104 million, principally related to increased units from Asian foundry business in Taiwan and Korea. Total IC sales increased by $32.1 million or 10.0% in 2014 as compared to 2013, primarily due to the increased sales in Taiwan. Total FPD sales increased by $1.2 million or 1.2% in 2014 as compared to 2013, primarily due to increased sales of mature units. High-end photomask applications, which typically have higher ASPs, include photomask sets for IC products using 45 nanometer and below technologies, and for FPD products using Generation 8 and above and AMOLED technologies. By geographic area, net sales in 2014 as compared to 2013 increased (decreased) by $6.1 million or 4.5% in Korea, by $(20.3) million or (16.0)% in the United States, by $49.7 million or 42.4% in Taiwan, by $(2.4) million or (5.8)% in Europe and by $0.2 million at other international locations. As a percent of total sales in 2014, sales were 31% in Korea, 23% in the United States, 37% in Taiwan, 8% in Europe, and 1% at other international locations.

Net sales for 2013 decreased 6.3% to $422.2 million as compared to $450.4 million for 2012, primarily related to reduced high-end IC sales of $30 million as compared to the prior year. The reduced high-end IC revenue was primarily attributable to an Asian foundry customer for which the Company was not qualified as a result of a node migration, and to a lesser extent, reduced ASPs. Total IC sales decreased by $29.5 million or 8.4% in 2013 as compared to 2012, primarily due to reduced high-end IC sales discussed previously, and mainstream IC sales were essentially flat. Total FPD sales increased by $1.3 million or 1.3% in 2013 as compared to 2012, primarily due to increased high-end FPD sales, which was partially offset by a $4 million decrease in mainstream FPD sales. Total revenues attributable to high-end products decreased by $24 million to $149 million in 2013, as high-end revenues for IC decreased by $30 million to $80 million, which were partially offset by a $6 million increase in high-end FPD revenues to $69 million. High-end photomask applications, which typically have higher ASPs, include photomask sets for IC products using 45 nanometer and below technologies, and for FPD products using Generation 8 and above and AMOLED technologies. By geographic area, net sales in 2013 as compared to 2012 decreased by $26.9 million or 16.7% in Korea, decreased by $8.1 million or 6.0% in the United States, increased by $8.1 million or 7.4% in Taiwan, increased by $0.5 million or 1.2% in Europe and decreased by $1.8 million at other international locations. As a percent of total sales in 2013, sales were 32% in Korea, 30% in the United States, 28% in Taiwan, 9% in Europe, and 1% at other international locations.

Gross Margin

				Percent Change	
	2014	2013	2012	2013 to 2014	2012 to 2013
Gross margin	$ 100.3	$ 99.6	$ 111.9	0.7%	(11.0)%
Gross margin %	22.0%	23.6%	24.9%	-	-

Gross margin percentage decreased to 22.0% in 2014 from 23.6% in 2013, primarily due to increased equipment costs, including depreciation expense associated with additional high-end equipment. The Company operates in a high fixed cost environment and, to the extent that the Company's revenues and utilization increase or decrease, gross margin will generally be positively or negatively impacted. Gross margin percentage decreased to 23.6% in 2013 from 24.9% in 2012, primarily due to a decrease in sales in 2013 as compared to 2012.

Selling, General and Administrative Expenses

				Percent Change	
	2014	2013	2012	2013 to 2014	2012 to 2013
S,G&A expenses	$ 49.6	$ 48.2	$ 46.7	2.9%	3.2%
% of net sales	10.9%	11.4%	10.4%	-	-

Selling, general and administrative expenses increased by $1.4 million to $49.6 million in 2014, as compared to 2013, primarily as a result of increased expenses related to the acquisition of DPTT. Selling, general and administrative expenses increased by $1.5 million to $48.2 million in 2013, as compared to 2012, primarily as a result of acquisition expenses of $0.8 million related to the merger of DPTT into PDMC, and to a lesser extent, increased selling-related expenses.

Research and Development

	2014	2013	2012	Percent Change 2013 to 2014	Percent Change 2012 to 2013
R&D expense	$ 21.9	$ 20.8	$ 19.4	5.6%	7.2%
% of net sales	4.8%	4.9%	4.3%	-	-

Research and development expenses consist primarily of global development efforts related to high-end process technologies for advanced sub-wavelength reticle solutions for IC technologies. Research and development expenses increased by $1.1 million to $21.9 million in 2014 as compared to 2013, and by $1.4 million to $20.8 million in 2013 as compared to 2012, primarily due to increased activities at advanced nanometer technology nodes for IC photomask applications.

Consolidation, Restructuring and Related Charges

Consolidation, restructuring and related charges of $1.4 million in 2012 primarily relate to the Company ceasing the manufacture of photomasks at its Singapore facility, and were primarily comprised of employee terminations and other costs of $1.1 million and asset write-downs of $0.3 million.

The Company continues to assess its global manufacturing strategy. This ongoing assessment could result in future facility closures, asset redeployments, workforce reductions, and the addition of increased manufacturing facilities, all of which would be predicated on market conditions and customer requirements.

Other Income (Expense)

	2014	2013	2012
Gain on acquisition	$ 16.4	$ -	$ -
Interest expense	(7.2)	$ (7.8)	$ (7.5)
Interest and other income (expense), net	3.3	3.9	3.7
Total other income (expense), net	$ 12.5	$ (3.9)	$ (3.8)

In April 2014 DNP Photomask Technology Taiwan Co., Ltd., a wholly owned subsidiary of DNP, merged into PSMC and operates under the name of Photronics DNP Mask Corporation. The acquisition resulted in the Company recording a gain of $16.4 million in the second quarter of fiscal 2014. See Note 2 of the consolidated financial statements for more information.

Interest expense decreased in 2014 as compared to 2013, primarily as a result of reduced outstanding borrowing balances. Interest and other income (expense), net decreased in 2014 as compared to 2013, primarily as a result of reduced interest income, offset in part by increased foreign currency exchange gains.

Interest expense increased slightly in 2013 as compared to 2012, primarily as a result of an additional capital lease commencing in 2013 related to the purchase of high-end equipment. Interest and other income (expense), net increased in 2013 as compared to 2012, primarily as a result of increased foreign currency exchange gains.

Income Tax Provision

	2014	2013	2012
Income tax provision	$ 9.3	$ 7.2	$ 10.8
Effective income tax rate	22.5%	27.0%	26.6%

The effective tax rate differs from the U.S. statutory rate of 35% in fiscal years 2014, 2013 and 2012 primarily due to earnings, including the fiscal year 2014 DPTT Acquisition gain, being taxed at lower statutory rates in foreign jurisdictions combined with the benefit of various investment credits claimed in a foreign jurisdiction, as well as valuation allowances in jurisdictions with historic and continuing losses.

The Company considers all available evidence when evaluating the potential future realization of its deferred tax assets and when, based on the weight of all available evidence, it determines that it is more likely than not that some portion or all of its deferred tax assets will not be realized, it reduces its deferred tax assets by a valuation allowance. As a result of these considerations, including any changes in its deferred tax liability, the valuation allowance was increased (decreased) by ($7.1 million), $1.1 million and $2.5 million as of the end of the fiscal years 2014, 2013 and 2012, respectively. The Company also regularly assesses the potential outcomes of ongoing and future tax examinations and, accordingly, has recorded accruals for such contingencies.

PKLT, the Company's FPD manufacturing facility in Taiwan, has been accorded a tax holiday which commenced in 2012 and expires in 2017. The availability of this tax holiday did not have a significant impact on the Company's decision to increase its Asian presence, which was in response to fundamental changes that took place in the semiconductor industry that the Company serves. This tax holiday had no dollar or per share effect on the 2014, 2013 or 2012 fiscal years.

PDMC acquired an IC manufacturing facility in Taiwan as a result of the DPTT Acquisition that has been accorded a tax holiday, which is scheduled to commence in 2015 and expire in 2019. The availability of this tax holiday did not have a significant impact on the Company's decision to enter into the DPTT Acquisition and increase its Asian presence. This tax holiday had no dollar or per share effect on the 2014, 2013 or 2012 fiscal years.

Net Income Attributable to Noncontrolling Interests

Net income attributable to noncontrolling interests increased $4.4 million to $6.0 million in 2014, as compared to $1.6 million in 2013, primarily as a result of changes in the ownership structure of the Company’s IC manufacturing facility located in Taiwan. During 2013 the Company reacquired shares held by noncontrolling interests of this subsidiary and, during 2014, the Company exchanged a 49.99% noncontrolling interest in this subsidiary in return for the net assets of an acquiree. See Notes 2 and 14 of the consolidated financial statements for further information.

Net income attributable to noncontrolling interests decreased to $1.6 million in 2013 as compared to $2.0 million in 2012, primarily as a result of the effect of shares of PSMC purchased under the tender offer and share repurchase programs discussed in Note 14 to the consolidated financial statements.

Liquidity and Capital Resources

	November 2, 2014	November 3, 2013	October 28, 2012
	(in millions)	*(in millions)*	*(in millions)*
Cash and cash equivalents	$ 192.9	$ 215.6	$ 218.0
Net cash provided by operating activities	$ 96.4	$ 99.4	$ 132.5
Net cash used in investing activities	$ (87.5)	$ (66.2)	$ (111.9)
Net cash provided by (used in) financing activities	$ (29.5)	$ (39.8)	$ 4.6

As of November 2, 2014, the Company had cash and cash equivalents of $192.9 million compared to $215.6 million as of November 3, 2013. The Company's working capital decreased $16.5 million to $197.4 million at November 2, 2014, as compared to $213.9 million at November 3, 2013. The decrease in cash and working capital in 2014 was primarily related to the repayment of a term loan outstanding balance of $21.3 million in December 2013. The Company may use its cash available on hand for operations, capital expenditures, debt repayments, strategic opportunities, stock repurchases or other corporate uses, any of which may be material.

As of November 3, 2013, the Company had cash and cash equivalents of $215.6 million compared to $218.0 million as of October 28, 2012. The Company's working capital decreased $20.4 million to $213.9 million at November 3, 2013, as compared to $234.3 million at October 28, 2012. The decrease in working capital was primarily the result of the purchase of PSMC shares and increased payables for capital expenditures.

As of November 2, 2014 and November 3, 2013, the Company’s total cash and cash equivalents include $105.9 million and $165.7 million, respectively, held by its foreign subsidiaries. The majority of earnings of the Company’s foreign subsidiaries are considered to be indefinitely reinvested. The repatriation of these funds to the U.S. may subject these funds to U.S. federal income taxes and local country withholding tax in certain jurisdictions. The Company’s foreign subsidiaries continue to grow through the reinvestment of earnings in additional manufacturing capacity and capability, particularly in the high-end IC and FPD areas.

Net cash provided by operating activities decreased to $96.4 million in fiscal 2014, as compared to $99.4 million in fiscal 2013, primarily due to reduced net income in 2014, less a noncash gain on the acquisition of DPTT discussed in Note 2 to the consolidated financial statements. Net cash provided by operating activities decreased to $99.4 million in fiscal 2013, as compared to $132.5 million in fiscal 2012, primarily due to reduced year-over-year net income and depreciation and amortization, and less cash generated from accounts receivable in 2013 than in 2012. Net cash provided by operating activities was $132.5 million in fiscal 2012, as compared to $136.6 million in fiscal 2011. The decrease was the result of less favorable, when adjusted for a significant non-cash debt extinguishment loss charge that was recorded in fiscal 2011, year-over-year operating results, which was partially offset by more cash generated through reduced accounts receivable and inventory balances.

Net cash used in investing activities in fiscal 2014 increased to $87.5 million, as compared to $66.2 million in 2013, primarily due to increased capital expenditure payments. Net cash used in investing activities in fiscal 2013 decreased to $66.2 million, as compared to $111.9 million in 2012, primarily due to less capital expenditure payments in 2013, and also due to no additional investments being made in the MP Mask joint venture in 2013, whereas $13.4 million was invested in 2012. Net cash used in investing activities increased to $111.9 million in fiscal 2012, as compared to $100.7 million in fiscal 2011, due to increased purchases of property, plant and equipment, which were partially offset by a decrease in the amount of the Company ’ s year-over-year investment in the MP Mask joint venture. The investments in the joint venture were primarily the result of capital calls made by the joint venture. Capital expenditure payments for the 2014, 2013, and 2012 fiscal years were $91.1 million, $63.8 million and $97.0 million, respectively. The Company expects capital expenditure payments for fiscal 2015 to range between $100 million and $110 million, primarily related to investment in high-end IC manufacturing capability.

Net cash used in financing activities was $29.5 million in fiscal 2014, as compared to $39.8 million used in financing activities in fiscal 2013, and was primarily comprised of repayments of borrowings, including the term loan outstanding balance of $21.3 million. Net cash used in financing activities was $39.8 million in fiscal 2013 as compared to $4.6 million provided by financing activities in fiscal 2012, and was primarily comprised of payments to acquire additional shares of PSMC and repayments of long-term borrowings. Net cash provided by financing activities was $4.6 million in fiscal 2012, as compared to $54.5 million provided by financing activities in fiscal 2011 and, in 2012, was primarily comprised of the proceeds of a $25 million term loan, that was entered into by the Company in connection with its purchase of the US nanoFab facility, which was partially offset by payments for the repurchase of common stock of PSMC from noncontrolling interests and repayments on long-term borrowings.

In October 2014, in a non-cash transaction, the Company issued 4.3 million shares in of its common stock in exchange for the fully matured, remaining outstanding $22.1 million principal amount 5.5% convertible senior notes, which were issued in September 2009.

In April 2014 the Company acquired DPTT, which was a non-cash transaction that resulted in the Company owning 50.01% and DNP owning 49.99% of PDMC, whose financial results are included in the Company's consolidated financial statements. PDMC is expected to generate sufficient cash flows to fund its operating and capital requirements. See Note 2 of the consolidated financial statements for more information.

In August 2014 the Company amended its credit facility. The credit facility, which expires in December 2018, has a $50 million limit with an expansion capacity to $75 million, and is secured by substantially all of the Company's assets located in the United States and common stock the Company owns in certain of its foreign subsidiaries. The credit facility is subject to minimum interest coverage, total leverage ratio and minimum unrestricted cash balance financial covenants, all of which the Company was in compliance with at November 2, 2014. The Company had no outstanding borrowings against the credit facility at November 2, 2014, and $50 million was available for borrowing. The interest rate on the credit facility (1.67% at November 2, 2014) is based on the Company ' s total leverage ratio at LIBOR plus a spread, as defined in the credit facility.

In June 2013 the Company completed a tender offer for shares of PSMC, a former subsidiary of the Company. A total of 50.3 million shares were tendered at the offering price of 16.30 NTD, equivalent to a total of $27.4 million. In September 2013 the Company purchased an additional 1.1 million shares of PSMC for $0.7 million, and in January 2014 the Company acquired all of the 3.0 million shares that were then held by noncontrolling interests at a cost of $1.7 million. In April 2014 PSMC merged with DPTT to form PDMC.

PSMC, through a series of repurchase programs which commenced in 2011 and ended in 2013, repurchased shares of its outstanding common stock. These repurchase programs resulted in 9.2 million shares being purchased for $4.2 million in 2013, 35.9 million shares being purchased for $15.6 million in 2012 and 21.6 million shares being purchased for $9.9 million in 2011.

In August 2013 a $26.4 million principal amount, five year capital lease commenced to fund the purchase of a high-end lithography tool. Payments under the lease, which bears interest at 2.77% are $0.5 million per month through July 2018. Under the terms of the lease agreement, the Company must maintain the equipment in good working order, and is subject to a cross default with a cross acceleration provision related to certain nonfinancial covenants incorporated in its credit facility. As of November 2, 2014, the total amount payable through the end of the lease term was $21.6 million, of which $20.5 million represents principal and $1.1 million represents interest.

In February 2012 the Company paid $35 million to Micron in connection with the purchase of the U.S. nanoFab facility. In connection therewith, the Company amended its credit facility to include the addition of a $25 million term loan maturing in March 2017, with minimum quarterly principal payments of $0.6 million. In the first quarter of fiscal 2014 the Company repaid the $21.3 million balance of this term loan that was outstanding at November 3, 2013. As a result of the purchase of the U.S. nanoFab facility, the Company's lease agreement with Micron for the U.S. nanoFab facility was cancelled, which reduced the Company's related outstanding operating lease commitments by a combined total of $15 million for fiscal years 2013 and 2014.

The Company's liquidity is highly dependent on its sales volume, cash conversion cycle, and the timing of its capital expenditures (which can vary significantly from period to period), as it operates in a high fixed cost environment. Depending on conditions in the semiconductor and FPD markets, the Company's cash flows from operations and current holdings of cash may not be adequate to meet its current and long-term needs for capital expenditures, operations and debt repayments. Historically, in certain years, the Company has used external financing to fund these needs. Due to conditions in the credit markets and covenant restrictions on its existing debt, some financing instruments used by the Company in the past may not be currently available to it. The Company continues to evaluate further cost reduction initiatives. However, the Company cannot assure that additional sources of financing would be available to it on commercially favorable terms, should its cash requirements exceed cash available from operations, existing cash, and cash available under its credit facility.

At November 2, 2014, the Company had outstanding purchase commitments of $84 million, which included $83 million related to capital expenditures, primarily for investment in high-end IC photomask manufacturing capability. The Company intends to finance its capital expenditures with its working capital, cash generated from operations, and, if necessary, with additional borrowings.

Cash Requirements

The Company's cash requirements in fiscal 2015 will be primarily to fund its operations, including capital spending, and to service its debt. The Company believes that its cash on hand, cash generated from operations and amounts available under its credit facility will be sufficient to meet its cash requirements for the next twelve months. The Company regularly reviews the availability and terms on which it might issue additional equity or debt securities in the public or private markets. However, the Company cannot assure that additional sources of financing would be available to the Company on commercially favorable terms, should the Company's cash requirements exceed its cash available from operations, existing cash, and cash available under its credit facility.

Contractual Obligations

The following table presents the Company's contractual obligations as of November 2, 2014:

	Payment due by period				
Contractual Obligations	**Total**	**Less Than 1 Year**	**1 – 3 Years**	**3 – 5 Years**	**More Than 5 Years**
Long-term borrowings	$ 115,000	$ -	$ 115,000	$ -	$ -
Operating leases	8,992	2,442	3,658	909	1,983
Capital leases	27,186	10,381	12,166	4,639	-
Unconditional purchase obligations	84,112	64,346	19,766	-	-
Interest	7,102	4,552	2,355	195	-
Other noncurrent liabilities	10,653	762	1,809	1,811	6,271
Total	$ 253,045	$ 82,483	$ 154,754	$ 7,554	$ 8,254

As of November 2, 2014, the Company had recorded accruals for uncertain tax positions of $5.1 million which was not included in the above table due to the high degree of uncertainty regarding the timing of future payments related to such liabilities.

Off-Balance Sheet Arrangements

Under the MP Mask joint venture operating agreement, in order to maintain its 49.99% ownership interest, the Company may be required to make additional capital contributions to the joint venture up to the maximum amount defined in the operating agreement. Cumulatively, through November 2, 2014, the Company has contributed $32.5 million to the joint venture, and has received distributions from the joint venture totaling $10.0 million. The Company did not make any contributions and received no distributions from MP Mask during fiscal 2014.

Under the PDMC joint venture operating agreement the shareholders of PDMC may be requested to make additional contributions to PDMC. In the event that PDMC requests additional capital from its shareholders, the Company may be required to make additional capital contributions to the joint venture in order to maintain its 50.01% ownership. The PDMC operating agreement limits the amount of contributions that may be requested during both PDMC’s first four years and during any individual year within those first four years.

The Company leases certain office facilities and equipment under operating leases that may require it to pay taxes, insurance and maintenance expenses related to the properties. Certain of these leases contain renewal or purchase options exercisable at the end of the lease terms. See Note 8 to the consolidated financial statements for additional information on these operating leases.

Business Outlook

A majority of the Company's revenue growth is expected to continue to come from the Asian region as customers increase their use of manufacturing foundries located outside of North America and Europe. Additional revenue growth is also anticipated in North America, as the Company expects to continue to benefit from advanced technology it may utilize under its technology license with Micron.

The Company continues to assess its global manufacturing strategy and monitor its market capitalization, sales volume and related cash flows from operations. This ongoing assessment could result in future facility closures, asset redeployments, additional impairments of intangible or long-lived assets, workforce reductions, or the addition of increased manufacturing facilities, all of which would be based on market conditions and customer requirements.

The Company's future results of operations and the other forward-looking statements contained in this filing involve a number of risks and uncertainties. While various risks and uncertainties have been discussed, a number of other unforeseen factors could cause actual results to differ materially from the Company's expectations.

Critical Accounting Estimates

The Company's consolidated financial statements are based on the selection and application of accounting policies, which require management to make significant estimates and assumptions. The Company believes that the following are some of the more critical judgment areas in the application of the Company's accounting policies that affect its financial condition and results of operations.

Estimates and Assumptions

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect amounts reported in them. Management bases its estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances. The Company's estimates are based on the facts and circumstances available at the time they are made. Changes in accounting estimates used are likely to occur from period to period, which may have a material impact on the presentation of the Company's financial condition and results of operations. Actual results reported by the Company may differ from such estimates. The Company reviews these estimates periodically and reflects the effect of revisions in the period in which they are determined.

Fair Value of Financial Instruments

The fair values of the Company's 3.25% and 5.5% convertible senior notes are estimated by management based upon reference to quoted market prices and other available market information. The fair values of the Company's cash and cash equivalents, accounts receivable, accounts payable, certain other current assets and current liabilities, and variable rate borrowings approximate their carrying value due to their short-term maturities.

Property, Plant and Equipment

Property, plant and equipment, except as explained below under "Impairment of Long-Lived Assets," are stated at cost less accumulated depreciation and amortization. Repairs and maintenance, as well as renewals and replacements of a routine nature, are charged to operations as incurred, while those that improve or extend the lives of existing assets are capitalized. Upon sale or other disposition, the cost of the asset and accumulated depreciation are removed from the accounts, and any resulting gain or loss is reflected in earnings.

Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the related assets. Buildings and improvements are depreciated over 15 to 40 years, machinery and equipment over 3 to 10 years and furniture, fixtures and office equipment over 3 to 5 years. Leasehold improvements are amortized over the life of the lease or the estimated useful life of the improvement, whichever is less. Judgment and assumptions are used in establishing estimated useful lives and depreciation periods. The Company also uses judgment and assumptions as it periodically reviews property, plant and equipment for any potential impairment in carrying values whenever events such as a significant industry downturn, plant closures, technological obsolescence or other changes in circumstances indicate that their carrying amounts may not be recoverable.

Intangible Assets

Intangible assets consist primarily of a technology license agreement, a supply agreement and acquisition-related intangibles. These assets, except as explained below, are stated at fair value as of the date acquired less accumulated amortization. Amortization is calculated based on the estimated useful lives of the assets, which range from 3 to 15 years, using the straight-line method or another method that more fairly represents the utilization of the assets.

The Company periodically evaluates the remaining useful lives of its intangible assets to determine whether events or circumstances warrant a revision to the remaining periods of amortization. In the event that the estimate of an intangible asset's remaining useful life has changed, the remaining carrying amount of the intangible asset is amortized prospectively over that revised remaining useful life. If it is determined that an intangible asset has an indefinite useful life, that intangible asset would be subject to impairment testing annually or whenever events or circumstances indicate that the carrying value may not, based on future undiscounted cash flows or market factors, be recoverable, and an impairment loss would be recorded in the period so determined. The measurement of the impairment loss would be based on the fair value of the intangible asset.

Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability is based on the Company's judgment and estimates of undiscounted future cash flows resulting from the use of the assets and their eventual disposition. Measurement of an impairment loss for long-lived assets that management expects to hold and use is based on the fair value of the assets. The carrying values of assets determined to be impaired are reduced to their estimated fair values. Fair values of the impaired assets would generally be determined using a market or income approach.

Business Combinations

When acquiring other businesses or participating in mergers or joint ventures in which the Company is deemed to be the acquirer, the Company generally recognizes identifiable assets acquired, liabilities assumed and any noncontrolling interests at their acquisition date fair values, and separately from any goodwill that may be required to be recognized. Goodwill, when recognizable, would be measured as the excess amount of any consideration transferred, which is generally measured at fair value, over the acquisition date fair values of the identifiable assets acquired and liabilities assumed.

Accounting for such transactions requires the Company's management to make significant assumptions and estimates. These include, among others, any estimates or assumptions that may be made for the amounts of future cash flows that will result from any identified intangible assets, the useful lives of such intangible assets, the amount of any contingent liabilities to record at the time of the acquisition, the extent of any restructuring charges expected to be incurred as a result of the business combination, and the fair values of any tangible assets acquired. Although the Company believes any estimates and assumptions it makes to be reasonable and appropriate at the time they are made, unanticipated events and circumstances may arise that affect their accuracy, causing actual results to differ from those estimated by the Company.

Investments in Joint Ventures

The financial results of investments in joint ventures of which the Company has a controlling financial interest are included in the Company's consolidated financial statements. In the case of any investment in a joint venture that gave rise to goodwill, such goodwill would be tested for impairment annually or when an event occurred or circumstances changed that would more likely than not have reduced the fair value of the joint venture below its carry value. Goodwill would be tested for impairment using a two-step process. The Company might, at its option, assess qualitative factors to determine whether it was necessary to perform the two-step impairment test. If it was determined that the two-step test was necessary, the Company would use the test to identify potential goodwill impairment and to measure the amount of a goodwill impairment loss to be recognized (if any).

Investments in joint ventures over which the Company has the ability to exercise significant influence and that, in general, are at least 20 percent owned are accounted for under the equity method. An impairment loss would be recognized whenever a decrease in the value of such an investment below its carrying amount is determined to be other than temporary. In judging "other than temporary," the Company would consider the length of time and the extent to which the fair value of the investment has been less than the carrying amount of the investment, the near-term and longer-term operating and financial prospects of the investee, and the Company's longer-term intent of retaining its investment in the investee.

Variable Interest Entities

The Company accounts for the investments it makes in certain legal entities in which equity investors do not have 1) sufficient equity at risk for the legal entity to finance its activities without additional subordinated financial support or, 2) as a group, the holders of the equity investment at risk do not have either the power, through voting or similar rights, to direct the activities of the legal entity that most significantly impact the entity's economic performance or, 3) the obligation to absorb the expected losses of the legal entity or the right to receive expected residual returns of the legal entity. These certain legal entities are referred to as "variable interest entities", or "VIEs".

The Company would consolidate the results of any such entity in which it determined that it has a controlling financial interest. The Company would have a "controlling financial interest" in such an entity if the Company had both the power to direct the activities that most significantly affect the VIE's economic performance and the obligation to absorb the losses of, or right to receive benefits from, the VIE that could be potentially significant to the VIE. On a quarterly basis, the Company reassesses whether it has a controlling financial interest in any investments it has in these certain legal entities.

The Company accounts for investments it makes in VIEs in which it has determined that it does not have a controlling financial interest but has significant influence over and holds at least a 20% ownership interest using the equity method. Any such investment not meeting the parameters to be accounted under the equity method would be accounted for using the cost method, unless the investment had a readily determinable fair value, at which it would then be reported.

Income Taxes

The income tax provision is computed on the basis of the various tax jurisdictions' income or loss before income taxes. Deferred income taxes reflect the tax effects of differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the tax effects of net operating losses and tax credit carryforwards. The Company uses judgment and assumptions to determine if valuation allowances for deferred income tax assets are required, if their realization is not more likely than not, by considering future market growth, forecasted operations, future taxable income, and the amounts of earnings in the tax jurisdictions in which it operates.

The Company considers income taxes in each of the tax jurisdictions in which it operates in order to determine its effective income tax rate. Current income tax exposure is identified and temporary differences resulting from differing treatments of items for tax and financial reporting purposes are assessed. These differences result in deferred tax assets and liabilities, which are included in the Company's consolidated balance sheets. Additionally, the Company evaluates the potential realization of deferred income tax assets from future taxable income and establishes valuation allowances if their realization is deemed not more likely than not. Accordingly, income taxes charged against earnings may have been impacted by changes in the valuation allowances. Significant management estimates and judgment are required in determining any valuation allowances recorded against net deferred tax assets.

The Company accounts for uncertain tax positions by recording a liability for unrecognized tax benefits resulting from uncertain tax positions taken, or expected to be taken, in its tax returns. The Company includes any applicable interest and penalties related to uncertain tax positions in its income tax provision.

Revenue Recognition

The Company recognizes revenue when there is persuasive evidence that an arrangement exists, delivery has occurred, the sales price is fixed or determinable, and collectability is reasonably assured. Delivery is determined by the shipping terms of the individual sales transactions. For sales with FOB destination or similar shipping terms, delivery occurs when the Company's product reaches its destination and is received by the customer. For sales with FOB shipping point terms, delivery occurs when the Company's product is received by the common carrier. The Company uses judgment when estimating the effect on revenue of discounts and product warranty obligations, both of which are accrued when the related revenue is recognized.

Warranties and Other Post Shipment Obligations – For a 30-day period, the Company warrants that items sold will conform to customer specifications. However, the Company's liability is limited to the repair or replacement of the photomasks at its sole option. The Company inspects photomasks for conformity to customer specifications prior to shipment. Accordingly, customer returns of items under warranty have historically been insignificant. However, the Company records a liability, based on historical experience, at the time it recognizes revenue for the insignificant amount of estimated warranty returns. The Company's specific return policies include accepting returns of products with defects, or products that have not been produced to precise customer specifications.

Share-based Compensation

The Company recognizes share-based compensation expense over the service period that the awards are expected to vest. Share-based compensation expense includes the estimated effects of forfeitures, which are adjusted over the requisite service period to the extent actual forfeitures differ, or are expected to differ, from such estimates. Changes in estimated forfeitures are recognized in the period of change and will also impact the amount of expense to be recognized in future periods. Determining the appropriate option pricing model, calculating the grant date fair value of share-based awards and estimating forfeiture rates requires considerable judgment, including the estimations of stock price volatility and the expected term of options granted.

The Company uses the Black-Scholes option pricing model to value employee stock options. The Company estimates stock price volatility based on daily averages of its historical volatility over a term approximately equal to the estimated time period the grant will remain outstanding. The expected term of options and forfeiture rate assumptions are derived from historical data.

Effect of Recent Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2014-09 – Revenue from Contracts with Customers, which will supersede nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of this ASU is that revenue should be recognized for the amount of consideration expected to be received for promised goods or services transferred to customers. This ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments, and assets recognized for costs incurred to obtain or fulfill a contract. This ASU will be effective for the Company in its first quarter of fiscal 2018. Early adoption is not permitted. The ASU allows for either full retrospective or modified retrospective adoption. The Company is evaluating the transition method that will be elected and the potential effects of the adoption of this ASU on its financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company records derivatives in the consolidated balance sheets as assets or liabilities, measured at fair value. The Company does not engage in derivative instruments for speculative purposes. Gains or losses resulting from changes in the values of those derivatives are reflected in earnings, or as accumulated other comprehensive income or loss, a separate component of equity, depending on the use of the derivatives and whether they qualify for hedge accounting. In order to qualify for hedge accounting, among other criteria, a derivative must be a hedge of an interest rate, price, foreign currency exchange rate, or credit risk that is expected to be highly effective at the inception of the hedge, be highly effective in achieving offsetting changes in the fair value or cash flows of the hedged item during the term of the hedge and formally documented at the inception of the hedge. In general, the types of risks that the Company has hedged are those related to the variability of future cash flows caused by movements in foreign currency exchange and interest rates. The Company documents its risk management strategy and hedge effectiveness at the inception of, and during the term of, each hedge.

Foreign Currency Exchange Rate Risk

The Company conducts business in several major international currencies throughout its worldwide operations and its financial performance may be affected by fluctuations in the exchange rates of these currencies. Changes in exchange rates can positively or negatively affect the Company's sales, operating margins, assets, liabilities, and equity. The functional currencies of the Company's Asian subsidiaries are the Korean won, the New Taiwan dollar and the Singapore dollar. The functional currencies of the Company's European subsidiaries are the British pound and the euro.

The Company attempts to minimize its risk of foreign currency transaction losses by producing its products in the same country in which the products are sold (thereby generating revenues and incurring expenses in the same currency), and by managing its working capital. However, in some instances, the Company sells products in a currency other than the functional currency of the country where it was produced or purchases products in a currency that differs from the functional currency of the purchasing manufacturing facility. There can be no assurance that this approach will continue to be successful, especially in the event of a significant adverse movement in the value of any foreign currency against the U.S. dollar.

The Company's primary net foreign currency exposures as of November 2, 2014, included the Korean won, the Japanese yen, the New Taiwan dollar, the Singapore dollar, the British pound, and the euro. As of November 2, 2014, a 10% adverse movement in the value of these currencies against the U.S. dollar would have resulted in a net unrealized pre-tax loss of $2.1 million. The Company does not believe that a 10% change in the exchange rates of other non-U.S. dollar currencies would have a material effect on its consolidated financial position, results of operations, or cash flows.

Interest Rate Risk

At November 2, 2014, the Company did not have any variable rate borrowings. A 10% change in interest rates would not have had a material effect on the Company's consolidated financial position, results of operations, or cash flows in the year ended November 2, 2014.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Photronics, Inc.
Brookfield, Connecticut

We have audited the accompanying consolidated balance sheets of Photronics, Inc. and subsidiaries (the "Company") as of November 2, 2014 and November 3, 2013, and the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three fiscal years ended November 2, 2014, November 3, 2013 and October 28, 2012. We also have audited the Company's internal control over financial reporting as of November 2, 2014, based on criteria established in Internal Control — Integrated Framework (1992) issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting in Item 9A. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Photronics, Inc. and subsidiaries as of November 2, 2014 and November 3, 2013, and the results of their operations and their cash flows for each of the three fiscal years ended November 2, 2014, November 3, 2013 and October 28, 2012, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of November 2, 2014 based on the criteria established in Internal Control — Integrated Framework (1992) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

/s/ Deloitte & Touche LLP

Hartford, Connecticut
January 6, 2015

PHOTRONICS, INC. AND SUBSIDIARIES
Consolidated Balance Sheets
(in thousands, except per share amounts)

	November 2, 2014	November 3, 2013
ASSETS		
Current assets:		
Cash and cash equivalents	$ 192,929	$ 215,615
Accounts receivable, net of allowance of $3,078 in 2014 and $3,541 in 2013	94,515	73,357
Inventories	22,478	18,849
Deferred income taxes	7,223	1,082
Other current assets	19,347	9,563
Total current assets	336,492	318,466
Property, plant and equipment, net	550,069	422,740
Investment in joint venture	93,122	93,124
Intangible assets, net	30,294	34,080
Deferred income taxes	11,036	12,455
Other assets	8,170	5,064
Total assets	$ 1,029,183	$ 885,929
LIABILITIES AND EQUITY		
Current liabilities:		
Current portion of long-term borrowings	$ 10,381	$ 11,818
Accounts payable	77,779	59,210
Payables – related parties	8,716	9,211
Accrued liabilities	42,241	24,348
Total current liabilities	139,117	104,587
Long-term borrowings	131,805	182,203
Deferred income taxes	3,045	1,007
Other liabilities	15,722	10,301
Total liabilities	289,689	298,098
Commitments and contingencies		
Equity:		
Preferred stock, $0.01 par value, 2,000 shares authorized, none issued and outstanding	-	-
Common stock, $0.01 par value, 150,000 shares authorized, 65,930 shares issued and outstanding at November 2, 2014, and 61,083 shares issued and outstanding at November 3, 2013	659	611
Additional paid-in capital	520,182	498,861
Retained earnings	85,435	59,439
Accumulated other comprehensive income	21,774	26,403
Total Photronics, Inc. shareholders' equity	628,050	585,314
Noncontrolling interests	111,444	2,517
Total equity	739,494	587,831
Total liabilities and equity	$ 1,029,183	$ 885,929

See accompanying notes to consolidated financial statements.

PHOTRONICS, INC. AND SUBSIDIARIES
Consolidated Statements of Income
(in thousands, except per share amounts)

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Net sales	$ 455,527	$ 422,180	$ 450,439
Cost and expenses:			
Cost of sales	(355,181)	(322,540)	(338,519)
Selling, general and administrative	(49,638)	(48,213)	(46,706)
Research and development	(21,913)	(20,758)	(19,371)
Consolidation, restructuring and related charges	-	-	(1,428)
Operating income	28,795	30,669	44,415
Other income (expense):			
Gain on acquisition	16,372	-	-
Interest expense	(7,247)	(7,756)	(7,488)
Interest and other income (expense), net	3,410	3,892	3,721
Income before income tax provision	41,330	26,805	40,648
Income tax provision	(9,295)	(7,229)	(10,793)
Net income	32,035	19,576	29,855
Net income attributable to noncontrolling interests	(6,039)	(1,610)	(1,987)
Net income attributable to Photronics, Inc. shareholders	$ 25,996	$ 17,966	$ 27,868
Earnings per share:			
Basic	$ 0.42	$ 0.30	$ 0.46
Diluted	$ 0.41	$ 0.29	$ 0.44
Weighted-average number of common shares outstanding:			
Basic	61,779	60,644	60,055
Diluted	66,679	61,599	76,464

See accompanying notes to consolidated financial statements.

PHOTRONICS, INC. AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income
(in thousands)

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Net income	$ 32,035	$ 19,576	$ 29,855
Other comprehensive income (loss), net of tax of $0:			
Foreign currency translation adjustments	(5,916)	9,805	7,188
Amortization of cash flow hedge	128	128	128
Other	(41)	54	(109)
Total other comprehensive income (loss), net of tax	(5,829)	9,987	7,207
Comprehensive income	26,206	29,563	37,062
Less: comprehensive income attributable to noncontrolling interests	5,238	858	3,387
Comprehensive income attributable to Photronics, Inc. shareholders	$ 20,968	$ 28,705	$ 33,675

See accompanying notes to consolidated financial statements.

PHOTRONICS, INC. AND SUBSIDIARIES
Consolidated Statements of Equity
Years Ended November 2, 2014, November 3, 2013 and October 28, 2012
(in thousands)

	Common Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Non-Controlling	Total
	Shares	Amount	Capital	Earnings	Income	Interests	Equity
Balance at October 30, 2011	59,651	$ 597	$ 486,674	$ 13,605	$ 10,171	$ 48,709	$ 559,756
Net income	-	-	-	27,868	-	1,987	29,855
Other comprehensive income	-	-	-	-	5,807	1,400	7,207
Sale of common stock through employee stock option and purchase plan	277	3	542	-	-	-	545
Restricted stock awards vestings and expense	108	1	901	-	-	-	902
Share-based compensation expense	-	-	2,258	-	-	-	2,258
Common stock warrants exercised	177	1	1,051	-	-	-	1,052
Repurchase of common stock of subsidiary	-	-	1,985	-	(78)	(17,481)	(15,574)
Balance at October 28, 2012	60,213	602	493,411	41,473	15,900	34,615	586,001
Net income	-	-	-	17,966	-	1,610	19,576
Other comprehensive income	-	-	-	-	10,740	(753)	9,987
Sale of common stock through employee stock option and purchase plan	397	4	880	-	-	-	884
Restricted stock awards vestings and expense	158	2	1,281	-	-	-	1,283
Share-based compensation expense	-	-	2,692	-	-	-	2,692
Common stock warrants exercised	315	3	(3)	-	-	-	-
Repurchase of common stock of subsidiary	-	-	600	-	(237)	(32,955)	(32,592)
Balance at November 3, 2013	61,083	611	498,861	59,439	26,403	2,517	587,831
Net income	-	-	-	25,996	-	6,039	32,035
Other comprehensive income	-	-	-	-	(5,028)	(801)	(5,829)
Sale of common stock through employee stock option and purchase plan	337	3	1,424	-	-	-	1,427
Restricted stock awards vestings and expense	172	2	1,295	-	-	-	1,297
Share-based compensation expense	-	-	2,774	-	-	-	2,774
Acquisition of DPTT	-	-	(6,291)	-	410	105,403	99,522
Conversion of debt to common stock	4,338	43	22,011	-	-	-	22,054
Repurchase of common stock of subsidiary	-	-	108	-	(11)	(1,714)	(1,617)
Balance at November 2, 2014	65,930	$ 659	$ 520,182	$ 85,435	$ 21,774	$ 111,444	$ 739,494

See accompanying notes to consolidated financial statements.

PHOTRONICS, INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Cash flows from operating activities:			
Net income	$ 32,035	$ 19,576	$ 29,855
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization of property, plant and equipment	72,859	65,994	78,623
Amortization of deferred financing costs and intangible assets	7,277	6,948	6,586
Gain on acquisition	(16,372)	-	-
Consolidation, restructuring and related charges	-	-	262
Share-based compensation	4,071	3,975	3,160
Deferred income taxes	4,215	(266)	(615)
Changes in assets and liabilities:			
Accounts receivable	5,271	2,400	11,190
Inventories	(2,552)	(891)	4,683
Other current assets	1,781	(2,744)	(79)
Accounts payable, accrued liabilities and other	(12,224)	4,409	(1,116)
Net cash provided by operating activities	96,361	99,401	132,549
Cash flows from investing activities:			
Purchases of property, plant and equipment	(91,085)	(63,792)	(96,978)
Cash from acquisition	4,508	-	-
Investment in joint venture	-	-	(13,397)
Purchases of intangible assets	(364)	(2,173)	(27)
Other	(544)	(272)	(1,541)
Net cash used in investing activities	(87,485)	(66,237)	(111,943)
Cash flows from financing activities:			
Proceeds from long-term borrowings	-	-	25,000
Repayments of long-term borrowings	(29,782)	(8,314)	(5,293)
Purchase of common stock of subsidiary	-	(32,374)	(15,598)
Proceeds from share-based arrangements	1,298	884	653
Payments of deferred financing fees	(346)	(40)	(198)
Other	(711)	-	-
Net cash provided by (used in) financing activities	(29,541)	(39,844)	4,564
Effects of exchange rate changes on cash and cash equivalents	(2,021)	4,252	2,945
Net increase (decrease) in cash and cash equivalents	(22,686)	(2,428)	28,115
Cash and cash equivalents at beginning of year	215,615	218,043	189,928
Cash and cash equivalents at end of year	$ 192,929	$ 215,615	$ 218,043
Supplemental disclosure of non-cash information:			
Noncash net assets from acquisition	$ 110,211	$ -	$ -
Accrual for property, plant and equipment purchased during year	28,672	17,502	5,052
Conversion of debt to common stock	22,054	-	-
Capital lease obligation for purchases of property, plant and equipment	-	26,356	-
Deposit related to facility purchase	-	-	2,000

See accompanying notes to consolidated financial statements.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Business

Photronics, Inc. and its subsidiaries (the "Company" or "Photronics") is one of the world's leading manufacturers of photomasks, which are high precision photographic quartz plates containing microscopic images of electronic circuits. Photomasks are a key element in the manufacture of semiconductors and flat panel displays ("FPDs"), and are used as masters to transfer circuit patterns onto semiconductor wafers and flat panel substrates during the fabrication of integrated circuits ("ICs") and a variety of FPDs and, to a lesser extent, other types of electrical and optical components. The Company currently operates principally from nine manufacturing facilities; two of which are located in Europe, three in Taiwan, one in Korea, and three in the United States.

Consolidation

The accompanying consolidated financial statements include the accounts of Photronics, Inc. and its majority-owned subsidiaries that the Company controls. All intercompany balances and transactions have been eliminated in consolidation.

Estimates and Assumptions

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect amounts reported in them. Estimates are based on historical experience and on various assumptions that are believed to be reasonable under the circumstances. The Company's estimates are based on the facts and circumstances available at the time they are made. Actual results reported by the Company may differ from such estimates. The Company reviews these estimates periodically and reflects the effect of revisions in the period in which they are determined.

Derivative Instruments and Hedging Activities

The Company records derivatives in the consolidated balance sheets as assets or liabilities, measured at fair value. The Company does not engage in derivative instruments for speculative purposes. Gains or losses resulting from changes in the values of those derivatives are reflected in earnings, or as accumulated other comprehensive income or loss, a separate component of equity, depending on the use of the derivatives and whether they qualify for hedge accounting. In order to qualify for hedge accounting, among other criteria, a derivative must be a hedge of an interest rate, price, foreign currency exchange rate, or credit risk that is expected to be highly effective at the inception of the hedge, be highly effective in achieving offsetting changes in the fair value or cash flows of the hedged item during the term of the hedge and formally documented at the inception of the hedge. In general, the types of risks the Company has hedged are those related to the variability of future cash flows caused by movements in foreign currency exchange and interest rates. The Company documents its risk management strategy and hedge effectiveness at the inception of, and during the term of, each hedge.

Fiscal Year

The Company's fiscal year ends on the Sunday closest to October thirty-first, and, as a result, a 53-week year occurs every 5 to 6 years. Fiscal years 2014 and 2012 each included 52 weeks, while fiscal year 2013 included 53 weeks.

Cash and Cash Equivalents

Cash and cash equivalents include cash and highly liquid investments purchased with an original maturity of 3 months or less. The carrying values of cash equivalents approximate their fair values due to the short-term maturities of these instruments.

Inventories

Inventories are primarily comprised of raw materials and are stated at the lower of cost, determined under the first-in, first-out ("FIFO") method, or market.

Property, Plant and Equipment

Property, plant and equipment, except as explained below under "Impairment of Long-Lived Assets," are stated at cost less accumulated depreciation and amortization. Repairs and maintenance, as well as renewals and replacements of a routine nature, are charged to operations as incurred, while those that improve or extend the lives of existing assets are capitalized. Upon sale or other disposition, the cost of the asset and accumulated depreciation are removed from the accounts, and any resulting gain or loss is reflected in earnings.

Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the related assets. Buildings and improvements are depreciated over 15 to 40 years, machinery and equipment over 3 to 10 years and, furniture, fixtures and office equipment over 3 to 5 years. Leasehold improvements are amortized over the life of the lease or the estimated useful life of the improvement, whichever is less. Judgment and assumptions are used in establishing estimated useful lives and depreciation periods. The Company also uses judgment and assumptions as it periodically reviews property, plant and equipment for any potential impairment in carrying values whenever events such as a significant industry downturn, plant closures, technological obsolescence, or other change in circumstances indicate that their carrying amounts may not be recoverable.

Intangible Assets

Intangible assets consist primarily of a technology license agreement, a supply agreement and acquisition-related intangibles. These assets are stated at fair value as of the date acquired less accumulated amortization. Amortization is calculated based on the estimated useful lives of the assets, which range from 3 to 15 years, using the straight-line method or another method that more fairly represents the utilization of the assets.

The Company periodically evaluates the remaining useful lives of its intangible assets to determine whether events or circumstances warrant a revision to the remaining periods of amortization. In the event that the estimate of an intangible asset’s remaining useful life has changed, the remaining carrying amount of the intangible asset is amortized prospectively over that revised remaining useful life. If it is determined that an intangible asset has an indefinite useful life, that intangible asset would be subject to impairment testing annually or whenever events or circumstances indicate that the carrying value may not, based on future undiscounted cash flows or market factors, be recoverable, and an impairment loss would be recorded in the period so determined. The measurement of the impairment loss would be based on the fair value of the intangible asset.

Impairment of Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability is based on the Company's judgment and estimates of undiscounted future cash flows resulting from the use of the assets and their eventual disposition. Measurement of an impairment loss for long-lived assets that management expects to hold and use is based on the fair value of the assets. The carrying values of assets determined to be impaired are reduced to their estimated fair values. Fair values of any impaired assets would generally be determined using a market or income approach.

Business Combinations

When acquiring other businesses or participating in mergers or joint ventures in which the Company is deemed to be the acquirer, the Company generally recognizes identifiable assets acquired, liabilities assumed and any noncontrolling interests at their acquisition date fair values, and separately from any goodwill that may be required to be recognized. Goodwill, when recognizable, would be measured as the excess amount of any consideration transferred, which is generally measured at fair value, over the acquisition date fair values of the identifiable assets acquired and liabilities assumed.

Accounting for such transactions requires the Company's management to make significant assumptions and estimates and, although the Company believes any estimates and assumptions it makes to be reasonable and appropriate at the time they are made, unanticipated events and circumstances may arise that affect their accuracy, causing actual results to differ from those estimated by the Company. When required, the Company will adjust the values of the assets acquired and liabilities assumed against the acquisition gain or goodwill, as initially recorded, for a period of up to one year after the transaction.

Costs incurred to effect a merger or acquisition, such as legal, accounting, valuation and other third party costs, as well as internal general and administrative costs incurred are charged to expense in the periods incurred. Costs incurred to issue any debt and equity securities are recognized in accordance with other applicable generally accepted accounting principles.

Investments in Joint Ventures

The financial results of investments in joint ventures of which the Company has a controlling financial interest are included in the Company's consolidated financial statements. Investments in joint ventures over which the Company has the ability to exercise significant influence and that, in general, are at least 20 percent owned are accounted for under the equity method. An impairment loss would be recognized whenever a decrease in the fair value of such an investment below its carrying amount is determined to be other than temporary. In judging "other than temporary," the Company would consider the length of time and the extent to which the fair value of the investment has been less than the carrying amount of the investment, the near-term and longer-term operating and financial prospects of the investee, and the Company's longer-term intent of retaining its investment in the investee.

Variable Interest Entities

The Company accounts for the investments it makes in certain legal entities in which equity investors do not have 1) sufficient equity at risk for the legal entity to finance its activities without additional subordinated financial support or, 2) as a group, the holders of the equity investment at risk do not have either the power, through voting or similar rights, to direct the activities of the legal entity that most significantly impact the entity's economic performance or, 3) the obligation to absorb the expected losses of the legal entity or the right to receive expected residual returns of the legal entity. These certain legal entities are referred to as "variable interest entities", or "VIEs".

The Company would consolidate the results of any such entity in which it determined that it has a controlling financial interest. The Company would have a "controlling financial interest" in such an entity when the Company has both the power to direct the activities that most significantly affect the VIE's economic performance and the obligation to absorb the losses of, or right to receive benefits from, the VIE that could be potentially significant to the VIE. On a quarterly basis, the Company reassesses whether it has a controlling financial interest in any investments it has in these certain legal entities.

The Company accounts for investments it makes in VIEs in which it has determined that it does not have a controlling financial interest but has significant influence over and holds at least a 20 percent ownership interest using the equity method. Any investment not meeting the parameters to be accounted under the equity method would be accounted for using the cost method unless the investment had a readily determinable fair value, at which it would then be reported.

Income Taxes

The income tax provision is computed on the basis of the various tax jurisdictions' income or loss before income taxes. Deferred income taxes reflect the tax effects of differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the tax effects of net operating losses and tax credit carryforwards. The Company uses judgment and assumptions to determine if valuation allowances for deferred income tax assets are required, if their realization is not more likely than not, by considering future market growth, forecasted operations, future taxable income, and the amount of earnings in the tax jurisdictions in which it operates.

The Company considers income taxes in each of the tax jurisdictions in which it operates in order to determine its effective income tax rate. Current income tax exposure is identified and temporary differences resulting from differing treatments of items for tax and financial reporting purposes are assessed. These differences result in deferred tax assets and liabilities, which are included in the Company's consolidated balance sheets. Additionally, the Company evaluates the potential realization of deferred income tax assets from future taxable income and establishes valuation allowances if their realization is deemed not more likely than not. Accordingly, income taxes charged against earnings may have been impacted by changes in the valuation allowance. Significant management estimates and judgment are required in determining any valuation allowances recorded against net deferred tax assets.

The Company accounts for uncertain tax positions by recording a liability for unrecognized tax benefits resulting from uncertain tax positions taken, or expected to be taken, in its tax returns. The Company includes any applicable interest and penalties related to uncertain tax positions in its income tax provision.

Earnings Per Share

Basic earnings per share ("EPS") is based on the weighted-average number of common shares outstanding for the period, excluding any dilutive common share equivalents. Diluted EPS reflects the potential dilution that could occur if certain share-based payment awards or financial instruments were exercised, earned or converted.

Share-Based Compensation

The Company recognizes share-based compensation expense over the service period that the awards are expected to vest. Share-based compensation expense includes the estimated effects of forfeitures, which are adjusted over the requisite service period to the extent actual forfeitures differ, or are expected to differ, from such estimates. Changes in estimated forfeitures are recognized in the period of change and will also impact the amount of expense to be recognized in future periods. Determining the appropriate option pricing model, calculating the grant date fair value of share-based awards and estimating forfeiture rates requires considerable judgment, including the estimations of stock price volatility and the expected term of options granted.

The Company uses the Black-Scholes option pricing model to value employee stock options. The Company estimates stock price volatility based on daily averages of its historical volatility over a term approximately equal to the estimated time period the grant will remain outstanding. The expected term of options and forfeiture rate assumptions are derived from historical data.

Research and Development

Research and development costs are expensed as incurred, and consist primarily of global development efforts related to high-end process technologies for advanced sub-wavelength reticle solutions for IC photomask technologies. Research and development expenses also include the amortization of the carrying value of a technology license agreement with Micron Technology, Inc. (“Micron”). Under this technology license agreement, the Company has access to certain photomask technology developed by Micron.

Foreign Currency Translation

The Company's international subsidiaries maintain their accounts in their respective local currencies. Assets and liabilities of such subsidiaries are translated to U.S. dollars at year-end exchange rates. Income and expenses are translated at average rates of exchange prevailing during the year. Foreign currency translation adjustments are accumulated and reported in accumulated other comprehensive income, a component of equity. The effects of changes in exchange rates on foreign currency transactions, which are included in interest and other income (expense), net were a net gain of $1.4 million, $0.5 million and $0.2 million in fiscal years 2014, 2013 and 2012, respectively.

Noncontrolling Interests

Noncontrolling interests represents the minority shareholders' proportionate share in the equity of the Company's two majority-owned subsidiaries, PK Ltd. ("PKL") in Korea of which noncontrolling shareholders owned approximately 0.3% as of November 2, 2014 and November 3, 2013, and Photronics DNP Mask Corporation ("PDMC") in Taiwan, of which noncontrolling interests owned 49.99% and 1.37%, as of November 2, 2014 and November 3, 2013, respectively. The effect on its equity of the change in the Company's ownership interest in PDMC is presented in Note 14.

Revenue Recognition

The Company recognizes revenue when there is persuasive evidence that an arrangement exists, delivery has occurred, the sales price is fixed or determinable, and collectability is reasonably assured. Delivery is determined by the shipping terms of the individual sales transactions. For sales with FOB destination or similar shipping terms, delivery occurs when the Company's product reaches its destination and is received by the customer. For sales with FOB shipping point terms, delivery occurs when the Company's product is received by the common carrier. The Company uses judgment when estimating the effect on revenue of discounts and product warranty obligations, both of which are accrued when the related revenue is recognized.

Warranties and Other Post Shipment Obligations – For a 30-day period, the Company warrants that items sold will conform to customer specifications. However, the Company's liability is limited to the repair or replacement of the photomasks at its sole option. The Company inspects photomasks for conformity to customer specifications prior to shipment. Accordingly, customer returns of items under warranty have historically been insignificant. However, the Company records a liability at the time it recognizes revenue for the insignificant amount of estimated warranty returns based on historical experience. The Company's specific return policies include accepting returns of products with defects, or products that have not been produced to precise customer specifications.

Sales Taxes – The Company reports its revenues net of any sales taxes billed to its customers.

NOTE 2 – ACQUISITION OF DNP PHOTOMASK TECHNOLOGY TAIWAN CO., LTD.

On April 4, 2014, DPTT merged into PSMC, the Company's IC manufacturing subsidiary located in Taiwan, to form PDMC. Throughout this report the merger of DPTT into PSMC is referred to as the "DPTT Acquisition." In connection with the DPTT Acquisition, the Company transferred consideration with a fair value of $41.0 million. The Company owns 50.01 percent of PDMC and includes its financial results in its consolidated financial statements, while DNP owns the remaining 49.99 percent of PDMC. The DPTT Acquisition was the result of the Company's desire to combine the strengths in logic and memory photomask technologies of PSMC and DPTT in order to enhance its capability with customers in the region.

The DPTT Acquisition met the conditions of a business combination as defined by Accounting Standards Codification ("ASC") 805 and, as such, is accounted for under ASC 805 using the acquisition method of accounting. ASC 805 defines the three elements of a business as Input, Process and Output. As a result of the DPTT Acquisition, Photronics acquired the machinery and equipment utilized in the processes to manufacture product, the building that houses the entire operation and the processes needed to manufacture the product, all previously owned by DPTT. The former DPTT employees hired by Photronics in connection with the acquisition brought with them the skills, experience and know-how necessary to provide the operational processes that, when applied to the acquired assets, represent processes being applied to inputs to create outputs. Having met all three elements of a business as defined in ASC 805, the Company determined that the DPTT Acquisition should be accounted for as a business combination.

The following table summarizes the provisional fair values of assets acquired and liabilities assumed of DPTT, the fair value of the noncontrolling interests and consideration for DPTT at the acquisition date. These provisional amounts could change as a result of the ultimate realization of the acquired net working capital.

Cash and cash equivalents	$ 4,508
Accounts receivable (gross amount of $28,560, of which $500 is estimated to be uncollectable)	28,060
Inventory	1,279
Deferred tax asset	9,787
Other current assets	11,517
Property, plant and equipment	95,431
Identifiable intangible assets	1,552
Other long-term assets	1,328
Accounts payable and accrued expenses	(32,410)
Deferred tax liability	(3,042)
Other long-term liabilities	(3,291)
Total net assets acquired	114,719
Noncontrolling interests retained by DNP	57,348
	57,371
Consideration – 49.99% of fair value of PSMC	40,999
Gain on acquisition	$ 16,372

In addition to recording the fair values of the net assets acquired, the Company also recorded a gain on acquisition of $16.4 million in the consolidated statement of income within other income (expense) in accordance with ASC 805 using the acquisition method of accounting. The gain on acquisition was primarily due to the difference between the market values of the acquired real estate and personal property exceeding the fair value of the consideration transferred. In addition, a deferred tax liability of $3.0 million was recorded in the opening balance sheet, which had the effect of reducing the gain on acquisition to $16.4 million. Prior to recording the gain, the Company reassessed whether it had correctly identified all of the assets acquired and all of the liabilities assumed. Additionally, the Company also reviewed the procedures used to measure the amounts of the identifiable assets acquired, liabilities assumed and consideration transferred.

The fair value of the consideration represents 49.99 percent of the fair value of PSMC, and is based on recent prices paid by the Company to acquire outstanding shares of PSMC (prior to the acquisition). As a result of the merger, the Company acquired the net assets of DPTT having a fair value of $114.7 million, less noncontrolling interests of $57.3 million retained by DNP, and transferred consideration with a fair value of $41.0 million, resulting in a gain of $16.4 million.

The acquisition date fair value of the property, plant and equipment of DPTT was $95.4 million, which was determined by utilizing the cost and, to a lesser extent, the market approach, based on an in-use premise of value. This fair value measurement is based on significant inputs that are not observable in the market and thus represents a fair value measurement categorized within Level 3 of the fair value hierarchy. Key assumptions include local and current construction replacement cost multipliers, amounts of ancillary replacement costs, physical deterioration, and economic and functional obsolescence to adjust the current replacement costs by, as well as the estimated economic lives of the assets.

Identifiable intangible assets acquired were primarily customer relationships, which represent the fair value of relationships and agreements DPTT had in place at the date of the merger. The customer relationships had a fair value of $1.5 million at the acquisition date, determined by using the multi-period excess earnings method, and are amortized over a twelve year estimated useful life. The acquisition date fair value of the remainder of the identifiable assets acquired and liabilities assumed were equivalent to, or did not materially differ from, their carrying values.

Acquisition costs related to the merger were $2.5 million and $0.8 million for fiscal year 2014 and 2013, respectively, and are included in selling, general and administrative expense in the consolidated statements of income.

Revenues and net income of PDMC included in the Company's financial results from the April 4, 2014 acquisition date through November 2, 2014, were $101.8 million and $6.0 million, respectively.

Unaudited Pro Forma Financial Information

The following unaudited pro forma financial information presents financial information as if the DPTT acquisition had occurred as of the beginning of fiscal year 2013. The pro forma earnings for fiscal years 2014 and 2013 were adjusted to exclude the above mentioned $2.5 million and $0.8 million non-recurring acquisition related costs and the gain on acquisition of $16.4 million. Other material non-recurring pro forma adjustments made to arrive at the below earnings amounts included the add back of additional depreciation recorded against DPTT long-lived assets of $6.6 million and $12.9 million for fiscal years 2014 and 2013, respectively. The pro forma information presented does not purport to represent results that would have been achieved had the merger occurred as of the beginning of the earliest period presented, or to be indicative of the Company's future financial performance.

	Year Ended	
	November 2, 2014	November 3, 2013
Revenues	$ 499,968	$ 514,265
Net income	$ 23,969	$ 34,922
Net income attributable to Photronics, Inc. shareholders	$ 12,169	$ 21,902
Diluted earnings per share	$ 0.19	$ 0.36

NOTE 3 - PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consists of the following:

	November 2, 2014	November 3, 2013
Land	$ 8,598	$ 8,692
Buildings and improvements	124,787	103,676
Machinery and equipment	1,367,691	1,225,091
Leasehold improvements	20,165	4,179
Furniture, fixtures and office equipment	12,086	11,546
Construction in progress	81,351	97,319
	1,614,678	1,450,503
Less accumulated depreciation and amortization	1,064,609	1,027,763
	$ 550,069	$ 422,740

Property under capital leases are included in above property, plant and equipment as follows:

	November 2, 2014	November 3, 2013
Machinery and equipment	$ 56,245	$ 21,327
Construction in progress	-	34,918
	56,245	56,245
Less accumulated amortization	10,430	4,932
	$ 45,815	$ 51,313

NOTE 4 - INTANGIBLE ASSETS

Intangible assets include assets related to the investment to form the MP Mask joint venture and other finite lived intangible assets. Amortization expense of intangible assets was $5.8 million, $5.5 million and $5.0 million in fiscal years 2014, 2013 and 2012, respectively.

Intangible assets consist of:

As of November 2, 2014	Gross Amount	Accumulated Amortization	Net Amount
Technology license agreement	$ 59,616	$ 33,451	$ 26,165
Customer relationships	8,716	6,394	2,322
Supply agreements	6,959	6,605	354
Software and other	6,223	4,770	1,453
	$ 81,514	$ 51,220	$ 30,294
As of November 3, 2013			
Technology license agreement	$ 59,616	$ 29,477	$ 30,139
Customer relationships	7,210	5,599	1,611
Supply agreements	6,959	6,381	578
Software and other	5,728	3,976	1,752
	$ 79,513	$ 45,433	$ 34,080

The weighted-average amortization period for intangible assets acquired in fiscal year 2014 is nine years, which is comprised of customer relationships and software and other that have weighted-average amortization periods of twelve years and three years, respectively. The weighted-average amortization period for intangible assets acquired in fiscal year 2013 is three years, which is comprised of software and other.

Intangible asset amortization over the next five years is estimated to be as follows:

Fiscal Years:

2015	$ 6,120
2016	5,668
2017	5,340
2018	5,064
2019	4,972

NOTE 5 - JOINT VENTURE, TECHNOLOGY LICENSE AND OTHER AGREEMENTS WITH MICRON TECHNOLOGY, INC.

In May 2006, Photronics and Micron Technology, Inc. ("Micron") entered into the MP Mask joint venture (“MP Mask”), which develops and produces photomasks for leading-edge and advanced next generation semiconductors. At the time of the formation of the joint venture, the Company also entered into both an agreement to license photomask technology developed by Micron and certain supply agreements.

This joint venture is a variable interest entity ("VIE") (as that term is defined in the Accounting Standards Codification ("ASC")) because all costs of the joint venture are passed on to the Company and Micron through purchase agreements they have entered into with the joint venture, and it is dependent upon the Company and Micron for any additional cash requirements. On a quarterly basis the Company reassesses whether its interest in MP Mask gives it a controlling financial interest in this VIE. The purpose of this quarterly reassessment is to identify the primary beneficiary (which is defined in the ASC as the entity that consolidates a VIE) of the VIE. As a result of the reassessments in fiscal year 2014, the Company determined that Micron is still the primary beneficiary of the VIE, by virtue of its tie-breaking voting rights within MP Mask’s Board of Managers, thereby giving it the power to direct the activities of MP Mask that most significantly impact its economic performance, including its decision making authority in the ordinary course of business and its purchasing the majority of products produced by the VIE.

The Company has utilized MP Mask for both high-end IC photomask production and research and development purposes. MP Mask charges its variable interest holders based on their actual usage of its facility and charges separately for any research and development activities it engages in at the requests of its owners.

MP Mask is governed by a Board of Managers, appointed by Micron and the Company. Since MP Mask's inception, Micron, as a result of its majority ownership, has held majority voting power on the Board of Managers. The voting power held by each party is subject to change as ownership interests change. Under the MP Mask joint venture operating agreement, the Company may be required to make additional capital contributions to MP Mask up to the maximum amount defined in the operating agreement. However, should the Board of Managers determine that further additional funding is required, MP Mask shall pursue its own financing. If MP Mask is unable to obtain its own financing, it may request additional capital contributions from the Company. Should the Company choose not to make a requested contribution to MP Mask, its ownership percentage may be reduced. MP Mask did not request, and the Company did not make, any contributions to MP Mask in fiscal years 2014 or 2013 and it did not receive any distributions from MP Mask during fiscal years 2014 or 2013.

The Company's investment in the VIE, which represents its maximum exposure to loss, was $93.1 million at November 2, 2014 and November 3, 2013. These amounts are reported in the Company's consolidated balance sheets as Investment in joint venture. The Company recorded losses from its investment in MP Mask of $0.1 million in fiscal years 2013 and 2012, and none in fiscal year 2014. Income (loss) from MP Mask is included in Interest and other income, net, in the consolidated statements of income.

As of November 2, 2014, the Company owed MP Mask $4.2 million and had a receivable from Micron of $6.8 million, both primarily related to the aforementioned supply agreements. The Company, in 2014, recorded $1.2 million of commission revenue earned under the supply agreements it has with Micron and MP Mask, and amortization of $0.2 million of the related supply agreement intangible asset. In 2014 the Company also recorded cost of sales in the amount of $3.2 million for photomasks produced by MP Mask for the Company's customers, and incurred expenses of $1.6 million for research and development activities and other goods and services purchased from MP Mask by the Company. In 2014 the Company purchased equipment from MP Mask for $1.3 million.

As of November 3, 2013, the Company owed MP Mask $4.5 million and had a receivable from Micron of $4.9 million, both primarily related to the aforementioned supply agreements. The Company, in 2013, recorded $0.9 million of commission revenue earned under the supply agreements it has with Micron and MP Mask, and amortization of $0.3 million of the related supply agreement intangible asset. In 2013 the Company also recorded cost of sales in the amount of $8.7 million for photomasks produced by MP Mask for the Company's customers, and incurred expenses of $1.6 million for research and development activities and other goods and services purchased from MP Mask by the Company. In 2013 the Company purchased equipment from MP Mask for $6.1 million.

The Company, in 2012, recorded $1.6 million of commission revenue earned under the supply agreements it has with Micron and MP Mask, and amortization of $0.4 million of the related supply agreement intangible asset. In 2012 the Company also recorded cost of sales in the amount of $7.6 million for photomasks produced by MP Mask for the Company's customers, and incurred expenses of $2.0 million for research and development activities and other goods and services purchased from MP Mask by the Company. In 2012 the Company purchased equipment from MP Mask for $1.9 million.

In the second quarter of fiscal 2012 the Company paid $35 million to Micron in connection with the purchase of the U.S. nanoFab facility and the remaining term of the operating lease agreement through 2014 was cancelled.

Summarized financial information of MP Mask is presented below.

	As of Fiscal Year End	
	2014	2013
Current assets	$ 31,696	$ 35,794
Noncurrent assets	205,457	177,769
Current liabilities	44,024	28,497
Noncurrent liabilities	6,804	-

	Fiscal Year		
	2014	2013	2012
Net sales	$ 81,399	$ 77,900	$ 84,216
Gross profit	3,427	4,663	1,799
Net income	1,259	4,735	831

NOTE 6 - ACCRUED LIABILITIES

Accrued liabilities include salaries, wages and related benefits of $10.4 million and $10.2 million at November 2, 2014 and November 3, 2013, respectively, and an acquisition liability of $7.2 million at November 2, 2014.

NOTE 7 - LONG-TERM BORROWINGS

Long-term borrowings consist of the following:

	November 2, 2014	November 3, 2013
3.25% convertible senior notes due in April 2016	$ 115,000	$ 115,000
5.50% convertible senior notes due and converted in October 2014	-	22,054
2.77% capital lease obligation payable through July 2018	20,481	25,065
3.09% capital lease obligation payable through March 2016	6,705	10,652
Term loan, which bore interest at a variable rate, as defined (2.69% at November 3, 2013), repaid in December 2013	-	21,250
	142,186	194,021
Less current portion	10,381	11,818
	$ 131,805	$ 182,203

The $115.0 million of long-term borrowings, excluding capital lease obligations, that was outstanding as of November 2, 2014, matures in fiscal year 2016.

As of November 2, 2014, minimum lease payments under the Company's capital lease obligations were as follows:

Fiscal Years:

2015	$ 11,070
2016	7,546
2017	5,168
2018	4,698
	28,482
Less interest	1,296
Net minimum lease payments under capital leases	27,186
Less current portion of net minimum lease payments	10,381
Long-term portion of minimum lease payments	$ 16,805

In October 2014 the 5.50% convertible senior notes, with a principal balance of $22.1 million, matured and were converted into 4.3 million shares of the Company’s common stock. See below for further discussion.

In August 2014 the Company amended its credit facility. The credit facility, which expires in December 2018, has a $50 million limit with an expansion capacity to $75 million, and is secured by substantially all of the Company’s assets located in the United States and common stock the Company owns in certain of its foreign subsidiaries. The credit facility is subject to a minimum interest coverage ratio, total leverage ratio and minimum unrestricted cash balance financial covenants, all of which the Company was in compliance with at November 2, 2014. The Company had no outstanding borrowings against the credit facility at November 2, 2014, and $50 million was available for borrowing. The interest rate on the credit facility (1.67% at November 2, 2014) is based on the Company’s total leverage ratio at LIBOR plus a spread, as defined in the credit facility.

In August 2013 a $26.4 million principal amount, five year capital lease commenced to fund the purchase of a high-end lithography tool. Payments under the capital lease, which bears interest at 2.77% are $0.5 million per month through July 2018. Under the terms of the lease agreement, the Company must maintain the equipment in good working order, and is subject to a cross default with cross acceleration provision related to certain nonfinancial covenants incorporated in its credit facility. As of November 2, 2014, the total amount payable through the end of the lease term was $21.6 million, of which $20.5 million represented principal and $1.1 million represented interest.

In March 2012 the Company, in connection with its purchase of the U.S. nanoFab facility (see Note 5 for further discussion), amended its credit facility ("the credit facility") to include the addition of a $25 million term loan that was to mature in March 2017. Simultaneously with entering into the amended credit facility, the Company repaid the $21.3 million balance of this term loan.

In March 2011 the Company issued through a private offering pursuant to Rule 144A under the Securities Act of 1933, as amended, $115 million aggregate principal amount of 3.25% convertible senior notes. The notes mature on April 1, 2016, and note holders may convert each $1,000 principal amount of notes to approximately 96 shares of common stock (equivalent to an initial conversion price of $10.37 per share of common stock) at any time prior to the close of business on the second scheduled trading day immediately preceding April 1, 2016. The conversion rate is subject to adjustment upon the occurrence of certain events, which are described in the indenture dated March 28, 2011. The Company is not required to redeem the notes prior to their maturity date. Interest on the notes accrues in arrears, and is paid semiannually through the notes' maturity date. The net proceeds of the notes were approximately $110.7 million, which were used, in part, to acquire $35.4 million of the Company's then outstanding 5.5% convertible senior notes and to repay, in full, its then outstanding obligations under capital leases of $19.8 million.

In September 2009 the Company issued, through a public offering, $57.5 million aggregate principal amount of 5.5% convertible senior notes with a five-year term. Under the terms of the offering, the note holders could convert each $1,000 principal amount of notes to approximately 197 shares of common stock (equivalent to an initial conversion price of $5.08 per share of common stock) on, or before, September 30, 2014. The net proceeds of this offering were approximately $54.9 million, which were used to reduce amounts outstanding under the Company's credit facility. As discussed above, $35.4 million of these notes were repurchased in fiscal 2011 with a portion of the proceeds from the March 2011 issuance of the Company's 3.25% convertible senior notes. As discussed above, the remaining $22.1 million of these notes were converted in a non-cash transaction by their holders to 4.3 million shares of the Company's common stock upon their maturity in October 2014.

In April 2011 the Company entered into a five year, $21.2 million capital lease for manufacturing equipment. Payments under the lease, which bears interest at 3.09%, are $0.4 million per month through March 2016. The lease agreement provides that the Company must maintain the equipment in good working order, and includes a cross default with cross acceleration provision related to certain non-financial covenants incorporated in the Company's credit facility agreement. As of November 2, 2014, the total amount payable through the end of the lease term was $6.9 million, of which $6.7 million represented principal and $0.2 million represented interest.

Interest payments were $6.3 million in fiscal 2014, 2013 and 2012, including deferred financing cost payments of $0.3 million and $0.2 million in fiscal 2014 and 2012, respectively.

NOTE 8 - OPERATING LEASES

The Company leases various real estate and equipment under non-cancelable operating leases, for which rental expense was $2.8 million, $2.7 million and $2.7 million in fiscal years 2014, 2013 and 2012, respectively. In fiscal 2012 the Company paid the former lessor $35 million in connection with its purchase of the U.S. nanoFab, which reduced the Company's outstanding operating lease commitments by a total of $15 million for fiscal years 2013 and 2014.

At November 2, 2014, future minimum lease payments under non-cancelable operating leases with initial terms in excess of one year are as follows:

2015	$ 2,292
2016	2,063
2017	1,595
2018	569
2019	340
Thereafter	1,983
	$ 8,842

See Note 7 for disclosures related to the Company's capital lease obligations.

NOTE 9 – SHARE-BASED COMPENSATION

The Company has a share-based compensation plan ("Plan"), under which options, restricted stock, restricted stock units, stock appreciation rights, performance stock, performance units, and other awards based on, or related to, shares of the Company's common stock may be granted from shares authorized but unissued or shares previously issued and reacquired by the Company. The maximum number of shares of common stock approved by the Company's shareholders to be issued under the Plan was increased from six million to nine million shares during fiscal 2014. Awards may be granted to officers, employees, directors, consultants, advisors, and independent contractors of the Company or its subsidiaries. In the event of a change in control (as defined in the Plan), the vesting of awards may be accelerated. The Plan, aspects of which are more fully described below, prohibits further awards from being issued under prior plans. The Company incurred total share-based compensation expenses of $4.1 million, $4.0 million and $3.2 million in fiscal years 2014, 2013 and 2012, respectively. No share-based compensation cost was capitalized as part of an asset and no related income tax benefits were recorded during the fiscal years presented.

Stock Options

Option awards generally vest in one to four years, and have a ten year contractual term. All incentive and non-qualified stock option grants must have an exercise price no less than the market value of the underlying common stock on the date of grant. The grant date fair values of options are based on the closing prices of the Company's common stock on the date of grant using the Black-Scholes option pricing model. Expected volatility is based on the historical volatility of the Company's stock. The Company uses historical option exercise behavior and employee termination data to estimate expected term, which represents the period of time that the options granted are expected to remain outstanding. The risk-free rate of return for the estimated term of the option is based on the U.S. Treasury yield curve in effect at the date of grant.

The weighted-average inputs and risk-free rate of return ranges used to calculate the grant date fair values of options issued during fiscal years 2014, 2013 and 2012 are presented in the following table:

	Year Ended		
	November 2, 2014	**November 3, 2013**	**October 28, 2012**
Expected volatility	61.0%	98.0%	102.1%
Risk-free rate of return	1.4%	0.5 – 1.4%	0.6 – 0.9%
Dividend yield	0.0%	0.0%	0.0%
Expected term	4.6 years	4.3 years	4.3 years

A summary of option activity under the Plan as of November 2, 2014, and changes during the year then ended is presented as follows:

Options	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding at November 3, 2013	4,174,302	$ 8.43		
Granted	632,500	8.86		
Exercised	(283,083)	3.75		
Cancelled and forfeited	(446,938)	19.50		
Outstanding at November 2, 2014	4,076,781	$ 7.60	5.6 years	$ 10,778
Exercisable at November 2, 2014	2,628,203	$ 7.78	4.2 years	$ 8,314
Expected to vest as of November 2, 2014	1,329,318	$ 7.29	8.2 years	$ 2,261

The weighted-average grant date fair value of options granted during fiscal years 2014, 2013 and 2012 were $4.44, $4.00 and $4.47, respectively. The total intrinsic value of options exercised during fiscal years 2014, 2013 and 2012 was $1.4 million, $1.6 million and $1.3 million, respectively.

The Company received cash from option exercises of $1.1 million, $0.5 million and $0.3 million in fiscal years 2014, 2013 and 2012, respectively. As of November 2, 2014, the total unrecognized compensation cost of unvested option awards was approximately $3.9 million. That cost is expected to be recognized over a weighted-average amortization period of 2.3 years.

Restricted Stock

The Company periodically grants restricted stock awards. The restrictions on these awards typically lapse over a service period of less-than-one to four years. The weighted-average grant date fair values of restricted stock awards issued during fiscal years 2014, 2013 and 2012 were $8.86, $5.48 and $6.28, respectively. The total fair value of awards for which restrictions lapsed was $1.5 million, $1.3 million and $0.5 million during fiscal years 2014, 2013 and 2012, respectively. As of November 2, 2014, the total compensation cost for restricted stock awards not yet recognized was approximately $0.9 million. That cost is expected to be recognized over a weighted-average amortization period of 2.1 years.

A summary of the status of the Company's outstanding restricted stock awards as of November 2, 2014, is presented below:

Restricted Stock	Shares	Weighted-Average Fair Value at Grant Date
Outstanding at November 3, 2013	303,627	$ 6.48
Granted	111,667	8.86
Vested	(171,563)	7.60
Cancelled	(8,250)	5.91
Outstanding at November 2, 2014	235,481	6.81
Expected to vest as of November 2, 2014	220,531	6.82

Employee Stock Purchase Plan

The Company's Employee Stock Purchase Plan ("ESPP") permits employees to purchase shares at 85% of the lower of the fair market value at the commencement of the offering or the last day of the payroll payment period. The maximum number of shares of common stock approved by the Company's shareholders to be purchased under the ESPP was increased from 1.2 million shares to 1.5 million shares during fiscal 2012. The vesting period for shares purchased under the ESPP is approximately one year. Under the ESPP, approximately 1.3 million shares had been issued through November 2, 2014, and approximately 57,000 shares are subject to outstanding subscriptions. As of November 2, 2014, the total compensation cost related to the ESPP not yet recognized was $0.1 million, which is expected to be recognized in fiscal 2015.

NOTE 10 - EMPLOYEE RETIREMENT PLAN

The Company maintains a 401(k) Savings and Profit Sharing Plan ("401(k) Plan") which covers all full-time domestic employees who have completed three months of service and are 18 years of age or older. Under the terms of the 401(k) Plan, employees may contribute up to 50% of their salary, subject to certain maximum amounts, which will be matched by the Company at 50% of the employee's contributions that are not in excess of 4% of the employee's compensation. Employee and employer contributions vest upon contribution. Employer contributions amounted to $0.4 million in fiscal years 2014, 2013 and 2012.

NOTE 11 - CONSOLIDATION, RESTRUCTURING AND RELATED CHARGES

In the first quarter of fiscal 2012 the Company ceased the manufacture of photomasks at its Singapore facility and, in connection therewith, recorded charges of $1.4 million during fiscal 2012. This restructuring, which was comprised primarily of employee termination costs, was substantially completed in fiscal 2012.

NOTE 12 - INCOME TAXES

Income before the income tax provisions consist of the following:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
United States	$ (23,083)	$ (14,164)	$ (5,474)
Foreign	64,413	40,969	46,122
	$ 41,330	$ 26,805	$ 40,648

The income tax provisions consist of the following:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Current:			
Federal	$ 354	$ 208	$ 81
State	-	65	(5)
Foreign	4,726	7,222	11,332
Deferred:			
Federal	-	-	-
State	(5)	(181)	-
Foreign	4,220	(85)	(615)
Total	$ 9,295	$ 7,229	$ 10,793

The income tax provisions differ from the amount computed by applying the statutory U.S. federal income tax rate to income before income taxes as a result of the following:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
U.S. federal income tax at statutory rate	$ 14,465	$ 9,382	$ 14,227
Changes in valuation allowances	(7,575)	1,325	1,806
Distributions from foreign subsidiaries	12,674	1,957	2,073
State income taxes, net of federal benefit	(141)	267	(1,956)
Foreign tax rate differentials	(4,864)	(4,851)	(3,805)
Tax credits	(2,847)	(3,967)	(1,071)
Uncertain tax positions, including reserves, settlements and resolutions	(2,255)	1,471	1,984
Debt extinguishment losses	-	-	(2,879)
Gain on acquisition of DPTT	(5,748)	-	-
Intercompany gain elimination	4,759	-	-
Equity based compensation	714	765	499
Other, net	113	880	(85)
	$ 9,295	$ 7,229	$ 10,793

The effective tax rate differs from the U.S. statutory rate of 35% in fiscal years 2014, 2013 and 2012 primarily due to earnings, including the fiscal year 2014 gain on acquisition of DPTT, being taxed at lower statutory rates in foreign jurisdictions, combined with the benefit of various investment credits in a foreign jurisdiction. Valuation allowances in jurisdictions with historic and continuing losses eliminate the effective rate impact of these jurisdictions.

The net deferred income tax assets consist of the following:

	As of	
	November 2, 2014	November 3, 2013
Deferred income tax assets :		
Net operating losses	$ 64,529	$ 57,631
Reserves not currently deductible	6,948	7,101
Alternative minimum tax credits	3,121	3,116
Tax credit carryforwards	8,368	7,051
Other	1,773	1,892
	84,739	76,791
Valuation allowances	(49,548)	(56,661)
	35,191	20,130
Deferred income tax liabilities:		
Undistributed earnings of foreign subsidiaries	(5,366)	(5,347)
Property, plant and equipment	(11,503)	(890)
Investments	(2,660)	(371)
Other	(448)	(992)
	(19,977)	(7,600)
Net deferred income tax assets	$ 15,214	$ 12,530
Reported as:		
Current deferred tax assets	$ 7,223	$ 1,082
Noncurrent deferred tax assets	11,036	12,455
Noncurrent deferred tax liabilities	(3,045)	(1,007)
	$ 15,214	$ 12,530

A reconciliation of the beginning and ending amounts of unrecognized tax benefits, excluding interest and penalties, is as follows:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Balance at beginning of year	$ 4,757	$ 3,793	$ 1,824
Additions (reductions) for tax positions in prior years	3,437	1,224	1,932
Additions based on current year tax positions	272	207	616
Settlements	(3,155)	(406)	(518)
Lapses of statutes of limitations	(318)	(61)	(61)
Balance at end of year	$ 4,993	$ 4,757	$ 3,793

Unrecognized tax benefits associated with uncertain tax positions were $5.1 million at November 2, 2014, of which $5.0 million is recorded in other liabilities in the consolidated balance sheet and $0.1 million is recorded as a reduction to deferred tax assets, and were $4.9 million at November 3, 2013, of which $1.7 million is recorded in other liabilities in the consolidated balance sheet, and $3.2 million is recorded as a reduction to deferred tax assets. If recognized, $5.0 million of the benefits would favorably impact the Company's effective tax rate in future periods. Included in these amounts for both fiscal years 2014 and 2013 was $0.1 million of interest and penalties. The Company includes any applicable interest and penalties related to uncertain tax positions in its income tax provision. The above table includes the fiscal year 2014 settlement of an Internal Revenue Service ("IRS") income tax examination of the Company's 2011 and 2012 federal income tax returns, as well as the recognition of previously unrecognized tax benefits resulting from the lapse of the assessment periods, which were offset in part by uncertain tax positions related to the acquisition of DPTT (as discussed in Note 2). The IRS income tax settlement had limited impact on the fiscal 2014 income tax expense, as the changes that resulted from the examination were offset by loss carryforwards, for which the related deferred tax assets were subject to a valuation allowance. Shortly after the close of the 2013 fiscal year, the Company reached a settlement with the relevant tax authorities regarding one of its non-US subsidiary's 2010 tax year, as reflected in the fiscal 2013 table above. As of November 2, 2014, the Company does not believe it is reasonably possible that the total amounts of unrecognized tax benefits will significantly increase or decrease in the next twelve months. The Company is no longer subject to examination by the U.S. for years prior to and including fiscal year 2012. With respect to major foreign and state tax jurisdictions, the Company is no longer subject to tax authority examinations for years prior to and including fiscal year 2009.

As of November 2, 2014, the Company had available U.S. Federal tax operating loss carryforwards of approximately $123.6 million which expire between 2023 and 2034, and research and development tax credit carryforwards of approximately $4.0 million which expire between 2019 and 2034. As of November 2, 2014, the Company also has U.S. state tax operating loss carryforwards of approximately $209.5 million and foreign tax operating loss carryforwards of approximately $73.1 million, including $34.6 million remaining of the $58.6 million acquired in the acquisition of DPTT. These loss carryforwards expire between 2015 and 2034 with the exception of $1.0 million that has an indefinite life.

The Company has established a valuation allowance for a portion of its deferred tax assets because it believes, based on the weight of all available evidence, that it is more likely than not that a portion of its net operating loss carryforwards will expire prior to utilization. The valuation allowance increased (decreased) by $(7.1 million), $1.1 million and $2.5 million in fiscal years 2014, 2013 and 2012, respectively.

As of November 2, 2014, the Company had $3.1 million of alternative minimum tax credit carryforwards that are available to offset future federal income taxes payable and will not expire. The Company also has state tax credits available of $5.6 million which, if they are not utilized, will expire between 2015 and 2034 and a foreign investment tax credit of $0.8 million that expires in 2019 if not utilized.

As of November 2, 2014, the undistributed earnings of foreign subsidiaries included in consolidated retained earnings amounted to $142.5 million, of which $15.3 million is not considered to be permanently invested. No provision has been made for future U.S. taxes payable on the remaining undistributed earnings of $127.2 million, as they are expected to be indefinitely invested in foreign jurisdictions and therefore are not anticipated to be subject to U.S. tax. The amount of undistributed earnings is calculated taking into account the net amount of earnings of the Company's foreign subsidiaries, considering its multitier subsidiary structure, and translating those earnings into U.S. dollars using exchange rates in effect as of the balance sheet date. Prior to the acquisition of DPTT, PDMC (formerly PSMC), in accordance with the ownership provisions in the DPTT acquisition agreements, made a onetime remittance of $35 million in earnings that were previously considered to be indefinitely invested. The Company has not changed its assertion on the balance of PDMC earnings which remain indefinitely invested. Should the Company elect in the future to repatriate the foreign earnings so invested, it may incur additional income tax expense on those foreign earnings, the amount of which is not practicable to compute.

PKLT, the Company's FPD manufacturing facility in Taiwan, has been accorded a tax holiday, which started in 2012 and expires in 2017. This tax holiday had no dollar or per share effect in the fiscal years ended November 2, 2014, November 3, 2013 and October 28, 2012. PDMC, acquired an IC manufacturing facility in Taiwan as a result of the DPTT Acquisition, that has been accorded a tax holiday which is scheduled to commence in 2015 and expire in 2019. This tax holiday had no dollar or per share effect on the 2014, 2013 or 2012 fiscal years. In Korea, various investment tax credits have been earned to reduce the Company's effective income tax rate.

Income tax payments were $5.2 million, $10.7 million and $14.3 million in fiscal 2014, 2013 and 2012, respectively. Cash received for refunds of income taxes paid in prior years amounted to $1.4 million, $0.3 million and $0.1 million in fiscal years 2014, 2013 and 2012, respectively.

NOTE 13 - EARNINGS PER SHARE

The calculation of basic and diluted earnings per share is presented as follows:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Net income attributable to Photronics, Inc. shareholders	$ 25,996	$ 17,966	$ 27,868
Effect of dilutive securities:			
Interest expense on convertible notes, net of related tax effects	1,426	-	6,168
Gain related to common stock warrants fair value adjustment	-	-	(94)
Earnings for diluted earnings per share	$ 27,422	$ 17,966	$ 33,942
Weighted-average common shares computations:			
Weighted-average common shares used for basic earnings per share	61,779	60,644	60,055
Effect of dilutive securities:			
Convertible notes	3,945	-	15,423
Share-based payment awards	955	813	767
Common stock warrants	-	142	219
Dilutive potential common shares	4,900	955	16,409
Weighted-average common shares used for diluted earnings per share	66,679	61,599	76,464
Basic earnings per share	$ 0.42	$ 0.30	$ 0.46
Diluted earnings per share	$ 0.41	$ 0.29	$ 0.44

The table below shows the outstanding weighted-average share-based payment awards that were excluded from the calculation of diluted earnings per share because their exercise price exceeded the average market value of the common shares for the period or, under application of the treasury stock method, they were otherwise determined to be antidilutive. The table also shows convertible notes that, if converted, would have been antidilutive.

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Convertible notes	11,085	6,168	-
Share based payment awards	1,911	2,880	2,587
Total potentially dilutive shares excluded	12,996	9,048	2,587

In the first quarter of fiscal year 2015, the Company awarded approximately 0.4 million shared-based payment awards to its employees and directors.

NOTE 14 – SUBSIDIARY SHARE REPURCHASE AND TENDER OFFER

Since the second quarter of fiscal 2011, the board of directors of PSMC (in 2014 PSMC's name was changed to PDMC, see Note 2), a subsidiary of the Company based in Taiwan, authorized several share repurchase programs for PSMC to purchase for retirement shares of its outstanding common stock. The last of these repurchase programs concluded in the first fiscal quarter of 2013 in which PSMC purchased 9.2 million shares at a cost of $4.2 million. These repurchase programs increased the Company's ownership in PSMC from 72.09% at October 28, 2012, to 75.11% at January 27, 2013. During fiscal 2013 the Company increased its ownership interest in PSMC, primarily through a tender offer, to 98.63% by purchasing 51.4 million shares at a cost of $28.1 million. In January 2014 the Company increased its ownership percentage in PSMC to 100% at a cost of $1.7 million for the then remaining 3.0 million shares that were not owned by the Company.

The table below presents the effect of the change in the Company's ownership interest in PSMC on the Company's equity for fiscal years 2014, 2013 and 2012 (in 2014 112.9 million shares of PSMC common stock were issued and 3.0 million shares were acquired, and shares of PSMC common stock were purchased in the amounts of 60.5 million shares in 2013 and 35.9 million shares in 2012).

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Net income attributable to Photronics, Inc. shareholders	$ 25,996	$ 17,966	$ 27,868
Increase (decrease) in Photronics, Inc.'s additional paid-in capital	(6,183)	600	1,985
Increase (decrease) in Photronics, Inc.'s accumulated other comprehensive income	399	(237)	(78)
Change from net income attributable to Photronics, Inc. shareholders due to issuance of shares of PDMC and transfers to or from noncontrolling interests	$ 20,212	$ 18,329	$ 29,775

NOTE 15 - COMMITMENTS AND CONTINGENCIES

At November 2, 2014, the Company had outstanding purchase commitments of $84 million, which included $83 million related to capital expenditures, and had recorded liabilities for the purchase of equipment of $31 million. See Note 8 for operating lease commitments.

The Company is subject to various claims that arise in the ordinary course of business. The Company believes such claims, individually or in the aggregate, will not have a material effect on its consolidated financial statements.

NOTE 16 - GEOGRAPHIC AND SIGNIFICANT CUSTOMER INFORMATION

The Company operates as a single operating segment as a manufacturer of photomasks, which are high precision quartz plates containing microscopic images of electronic circuits for use in the fabrication of IC's and FPDs. Geographic net sales are based primarily on where the Company's manufacturing facility is located.

The Company's 2014, 2013 and 2012 net sales by geographic area and of ICs and FPDs, and long-lived assets by geographic area were as follows:

	Year Ended		
	November 2, 2014	November 3, 2013	October 28, 2012
Net sales			
Taiwan	$ 167,075	$ 117,364	$ 109,232
Korea	140,386	134,300	161,154
United States	106,740	127,054	135,170
Europe	38,726	41,126	40,653
All other	2,600	2,336	4,230
	$ 455,527	$ 422,180	$ 450,439
IC	$ 352,679	$ 320,579	$ 350,105
FPD	102,848	101,601	100,334
	$ 455,527	$ 422,180	$ 450,439

	As of		
	November 2, 2014	November 3, 2013	October 28, 2012
Long-lived assets			
Taiwan	$ 207,324	$ 66,836	$ 72,185
Korea	176,141	153,878	120,628
United States	158,325	191,518	177,614
Europe	8,259	10,471	10,262
All other	20	37	119
	$ 550,069	$ 422,740	$ 380,808

One customer accounted for 16%, 18% and 22% of the Company's net sales in fiscal years 2014, 2013 and 2012, respectively, and another customer accounted for 11% of the Company’s net sales in fiscal 2014.

NOTE 17 - CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME BY COMPONENT

The following tables set forth the changes in the Company's accumulated other comprehensive income by component (net of tax of $0) for the years ended November 2, 2014 and November 3, 2013:

	Year Ended November 2, 2014			
	Foreign Currency Translation Adjustments	Amortization of Cash Flow Hedge	Other	Total
Balance at November 3, 2013	$ 27,797	$ (562)	$ (832)	$ 26,403
Other comprehensive income (loss) before reclassifications	(5,916)	-	(41)	(5,957)
Amounts reclassified from other accumulated comprehensive income	-	128	-	128
Net current period other comprehensive income (loss)	(5,916)	128	(41)	(5,829)
Less: other comprehensive loss attributable to noncontrolling interests	770	-	31	801
Other accumulated comprehensive income allocated to noncontrolling interests			410	410
Purchase of common stock of subsidiary	-	-	(11)	(11)
Balance at November 2, 2014	$ 22,651	$ (434)	$ (443)	$ 21,774

	Year Ended November 3, 2013			
	Foreign Currency Translation Adjustments	Amortization of Cash Flow Hedge	Other	Total
Balance at October 29, 2012	$ 17,241	$ (690)	$ (651)	$ 15,900
Other comprehensive income before reclassifications	9,805	-	54	9,859
Amounts reclassified from other comprehensive income	-	128	-	128
Net current period other comprehensive income	9,805	128	54	9,987
Less: other comprehensive loss attributable to noncontrolling interests	751	-	2	753
Purchase of common stock of subsidiary	-	-	(237)	(237)
Balance at November 3, 2013	$ 27,797	$ (562)	$ (832)	$ 26,403

The amortization of the cash flow hedge is included in Cost of sales in the consolidated statements of income for all periods presented.

NOTE 18 – CONCENTRATIONS OF CREDIT RISK

Financial instruments that potentially subject the Company to credit risk principally consist of trade accounts receivables and temporary cash investments. The Company sells its products primarily to manufacturers in the semiconductor and FPD industries in North America, Europe and Asia. The Company believes that the concentration of credit risk in its trade receivables is substantially mitigated by the Company's ongoing credit evaluation process and relatively short collection terms. The Company does not generally require collateral from customers. The Company establishes an allowance for doubtful accounts based upon factors surrounding the credit risk of specific customers, historical trends and other information.

The Company's cash and cash equivalents are deposited in several financial institutions, including institutions located within all of the countries in which it manufactures photomasks. Portions of deposits in some of these institutions may exceed the amount of insurance available for such deposits at these institutions. As these deposits are generally redeemable upon demand and are held by high quality, reputable institutions, the Company considers them to bear minimal credit risk. The Company further mitigates credit risks related to its cash and cash equivalents by spreading such risk among a number of institutions.

NOTE 19 - OTHER RELATED PARTY TRANSACTIONS

The chairman of the board and chief executive officer of the Company is also a director of a company that provides secure managed information technology services to Photronics. Another director of the Company is also a shareholder, chief executive officer and chairman of the board of this company. Since 2002, the Company has entered into various service contracts with this company to provide services to all of the Company's worldwide facilities. The Company incurred expenses for services provided by this company of $1.2 million, $1.7 million, and $1.8 million in fiscal years 2014, 2013 and 2012, respectively, and had an outstanding balance of $0.1 million due to this company as of November 2, 2014 and November 3, 2013. As of November 2, 2014, the Company had contracted with this company for various services through June 2015 at a cost of $0.9 million.

The Company purchases photomask blanks from a company of which an officer of the Company is a significant shareholder. The Company purchased $20.1 million, $20.0 million and $20.1 million of photomask blanks from this company in 2014, 2013 and 2012, respectively, for which the amount owed to this company was $4.4 million at November 2, 2014, and $4.6 million at November 3, 2013.

The Company believes that the terms of its transactions with the related parties described above were negotiated at arm's length and were no less favorable to the Company than terms it could have obtained from unrelated third parties. See Note 5 for other related party transactions.

NOTE 20 - FAIR VALUE MEASUREMENTS

The accounting framework for determining fair value includes a hierarchy for ranking the quality and reliability of the information used to measure fair value, which enables the reader of the financial statements to assess the inputs used to develop those measurements. The fair value hierarchy consists of three tiers as follows: Level 1, defined as quoted market prices in active markets for identical securities; Level 2, defined as inputs other than Level 1 that are observable, either directly or indirectly; and Level 3, defined as unobservable inputs that are not corroborated by market data.

The Company did not have any assets or liabilities measured at fair value, on a recurring or a nonrecurring basis, at November 2, 2014, or November 3, 2013. During the three month period ended May 4, 2014, the Company measured and recorded the net assets it acquired in its subsidiary’s acquisition of DPTT at fair value. See Note 2 for further information.

Fair Value of Other Financial Instruments

The fair values of the Company's cash and cash equivalents (Level 1 measurements), accounts receivable, accounts payable, and certain other current assets and current liabilities (Level 2 measurements) approximate their carrying value due to their short-term maturities. The fair value of the Company's variable rate term loan is a Level 2 measurement and approximates its carrying value due to the variable nature of the underlying interest rates. The fair value of the Company's convertible senior notes is a Level 2 measurement that is determined using recent bid prices.

The table below presents the fair and carrying values of the Company's convertible senior notes at November 2, 2014, and November 3, 2013.

	November 2, 2014		November 3, 2013	
	Fair Value	Carrying Value	Fair Value	Carrying Value
3.25% convertible senior notes	$ 122,544	$ 115,000	$ 130,330	$ 115,000
5.5% convertible senior notes	$ -	$ -	$ 37,567	$ 22,054

NOTE 21 - QUARTERLY RESULTS OF OPERATIONS (UNAUDITED)

The following table sets forth certain unaudited quarterly financial data:

	First	Second	Third	Fourth	Year
Fiscal 2014:					
	(a)	(b) (c)			(b) (d)
Net sales	$ 101,542	$ 104,882	$ 124,852	$ 124,251	$ 455,527
Gross margin	22,882	22,190	28,650	26,624	100,346
Net income	2,041	15,950	7,344	6,700	32,035
Net income attributable to Photronics, Inc. shareholders	1,993	15,540	4,186	4,277	25,996
Earnings per share:					
Basic	$ 0.03	$ 0.25	$ 0.07	$ 0.07	$ 0.42
Diluted	$ 0.03	$ 0.22	$ 0.07	$ 0.07	$ 0.41
Fiscal 2013:					
				(e)	(e)
Net sales	$ 99,839	$ 106,680	$ 109,652	$ 106,009	$ 422,180
Gross margin	21,098	24,789	27,078	26,675	99,640
Net income	2,859	5,442	6,364	4,911	19,576
Net income attributable to Photronics, Inc. shareholders	2,323	4,863	5,940	4,840	17,966
Earnings per share:					
Basic	$ 0.04	$ 0.08	$ 0.10	$ 0.08	$ 0.30
Diluted	$ 0.04	$ 0.08	$ 0.10	$ 0.08	$ 0.29

(a) Includes expenses of $0.5 million, net of tax, related to the acquisition of DPTT.

(b) Includes non-cash gain of $16.4 million, net of tax, related to the acquisition of DPTT.

(c) Includes expenses of $2.0 million, net of tax, related to the acquisition of DPTT.

(d) Includes expenses of $2.5 million, net of tax, related to the acquisition of DPTT.

(e) Includes expenses of $0.8 million, net of tax, related to the subsequent acquisition of DPTT.

NOTE 22 - RECENT ACCOUNTING PRONOUNCEMENTS

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2014-09 – Revenue from Contracts with Customers, which will supersede nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of this ASU is that revenue should be recognized for the amount of consideration expected to be received for promised goods or services transferred to customers. This ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments, and assets recognized for costs incurred to obtain or fulfill a contract. This ASU will be effective for the Company in its first quarter of fiscal 2018. Early adoption is not permitted. The ASU allows for either full retrospective or modified retrospective adoption. The Company is evaluating the transition method that will be elected and the potential effects of the adoption of this ASU on its financial statements.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

The Company has established and currently maintains disclosure controls and procedures, as such term is defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), designed to ensure that information required to be disclosed in its reports filed under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to management, including the Company's chief executive officer and chief financial officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

The Company's management, under the supervision and with the participation of the Company’s chief executive officer and chief financial officer, evaluated the effectiveness of the design and operation of the Company’s disclosure controls and procedures as of the end of the period covered by this report. Based upon that evaluation the Company’s chief executive officer and chief financial officer concluded that the Company’s disclosure controls and procedures were effective at a reasonable assurance level as of the end of the period covered by this report.

Changes in Internal Control over Financial Reporting

There was no change in the Company's internal control over financial reporting during the fourth fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Management assessed the effectiveness of the Company's internal control over financial reporting as of November 2, 2014, based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in "Internal Control - Integrated Framework" (1992). Management, under the supervision and with the participation of the Company's chief executive officer and chief financial officer, assessed that the Company's internal control over financial reporting was effective as of November 2, 2014.

The Company's independent registered public accounting firm, Deloitte & Touche LLP, has audited the effectiveness of the Company's internal control over financial reporting as of November 2, 2014, as stated in their attestation report on page 65 of this Form 10-K.

January 6, 2015

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information as to Directors required by Item 401, 405 and 407(c)(3)(d)(4) and (d)(5) of Regulation S-K is set forth in the Company's 2015 definitive Proxy Statement which will be filed with the Securities and Exchange Commission pursuant to Regulation 14A of the Exchange Act within 120 days after the end of the fiscal year covered by this Form 10-K under the caption "PROPOSAL 1 - ELECTION OF DIRECTORS," "SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE" and in the third paragraph under the caption "MEETINGS AND COMMITTEES OF THE BOARD," and is incorporated in this report by reference. The information as to Executive Officers is included in the Company's 2015 definitive Proxy Statement under the caption "EXECUTIVE OFFICERS" and is incorporated in this report by reference.

The Company has adopted a code of ethics that applies to its principal executive officer, principal financial officer and principal accounting officer or controller. A copy of the code of ethics may be obtained, free of charge, by writing to the vice president general counsel of Photronics, Inc. at 15 Secor Road, Brookfield, Connecticut 06804.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 402 of Regulation S-K and paragraph (e)(4) and (e)(5) of Item 407 is set forth in the Company's 2015 definitive Proxy Statement under the captions "EXECUTIVE COMPENSATION," "CERTAIN AGREEMENTS", "DIRECTORS' COMPENSATION", "COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION" and "COMPENSATION COMMITTEE REPORT," respectively, and is incorporated in this report by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by Item 201(d) of Regulation S-K is set forth in the Company’s 2015 definitive Proxy Statement under the caption “EQUITY COMPENSATION PLAN INFORMATION”, and is incorporated in this report by reference. The information required by Item 403 of Regulation S-K is set forth in the Company's 2015 definitive Proxy Statement under the caption "OWNERSHIP OF COMMON STOCK BY DIRECTORS, OFFICERS AND CERTAIN BENEFICIAL OWNERS", and is incorporated in this report by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Items 404 and Item 407(a) of Regulation S-K is set forth in the Company's 2015 definitive Proxy Statement under the captions "MEETINGS AND COMMITTEES OF THE BOARD" and "CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS", respectively, and is incorporated in this report by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 9(e) of Rule 14a-101 of the Exchange Act is set forth in the Company's 2015 definitive Proxy Statement under the captions "FEES PAID TO THE INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM" and "AUDIT COMMITTEE REPORT," and is incorporated in this report by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this report:

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
Photronics, Inc.
Brookfield, Connecticut

We have audited the consolidated financial statements of Photronics, Inc. and subsidiaries (the "Company") as of November 2, 2014 and November 3, 2013, and for each of the three fiscal years ended November 2, 2014, November 3, 2013 and October 28, 2012, and the Company's internal control over financial reporting as of November 2, 2014, and have issued our report thereon dated January 6, 2015; such report is included elsewhere in this Form 10-K. Our audits also included the consolidated financial statement schedule of the Company listed in Item 15. This consolidated financial statement schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits. In our opinion, such consolidated financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ Deloitte & Touche LLP

Hartford, Connecticut
January 6, 2015

Schedule II

Valuation and Qualifying Accounts
for the Years Ended November 2, 2014, November 3, 2013
and October 28, 2012
(in thousands)

	Balance at Beginning of Year	Charged to Costs and Expenses	Deductions	Balance at End of Year
Allowance for Doubtful Accounts				
Year ended November 2, 2014	$ 3,541	$ (740)	$ 277(a)	$ 3,078
Year ended November 3, 2013	$ 3,902	$ (398)	$ 37(a)	$ 3,541
Year ended October 28, 2012	$ 4,055	$ (203)	$ 50(a)	$ 3,902
Deferred Tax Asset Valuation Allowance				
Year ended November 2, 2014	$ 56,661	$ -	$ (7,113)(b)	$ 49,548
Year ended November 3, 2013	$ 55,536	$ 1,125	$ -	$ 56,661
Year ended October 28, 2012	$ 53,063	$ 3,331	$ (858)(c)	$ 55,536

(a) Uncollectible accounts written off, net, and impact of foreign currency translation.
(b) Decrease offset by increase in deferred tax liability net of utilization of net operating losses.
(c) Primarily due to utilization of net operating losses and expiration of investment tax credit.

EXHIBITS INDEX

Exhibit Number	Description
3.1	Certificate of Incorporation as amended July 9, 1986, April 9, 1990, March 16, 1995, November 13, 1997, April 15, 2002 and June 20, 2005 (incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K filed January 3, 2014).
3.2	By-laws of the Company, (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-1, File Number 33-11694, which was declared effective by the Commission on March 10, 1987).
4.4	Indenture dated March 28, 2011 between the Company and Wells Fargo (as successor trustee to the Bank of Nova Scotia Trust Company of New York) (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on March 29, 2011).
4.5	First Supplement to Indenture dated April 27, 2011 (incorporated by reference to Exhibit 4.6 of the Company's Current Report on Form 10-Q filed June 8, 2011).
10.1	Master Service Agreement dated January 11, 2002 between the Company and RagingWire Telecommunications, Inc.*
10.2	The Company's 1992 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.24 to the Company's Registration Statement on Form S-8, File Number 33-47446 which was filed April 24, 1994). +
10.3	Amendment to the Employee Stock Purchase Plan as of March 24, 2004 (incorporated by reference to Exhibit 10.7 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011). +
10.4	Amendment to the Employee Stock Purchase Plan as of April 8, 2010 (incorporated by reference to Exhibit 10.42 to the Company's Quarterly Report on Form 10-Q filed on June 10, 2010). +
10.5	Amendment to the Employee Stock Purchase Plan as of March 28, 2012 (incorporated by reference to the Company's Quarterly Report on Form 10-Q filed September 5, 2012). +
10.6	The Company's 2007 Long-Term Equity Incentive Plan (incorporated by reference to the Company's Quarterly Report on Form 10-Q filed September 5, 2012). +
10.7	Amendment to the 2007 Long Term Equity Incentive Plan as of April 8, 2010 (incorporated by reference to Exhibit 10.43 to the Company's Quarterly Report on Form 10-Q filed on June 10, 2010). +
10.8	Amendment to the 2007 Long Term Equity Incentive Plan as of April 11, 2014 + *
10.9	2011 Executive Incentive Compensation Plan effective as of November 1, 2010 + *
10.10	Consulting Agreement between the Company and Constantine S. Macricostas, dated July 11, 2005. (incorporated by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011 filed on January 13, 2012) +
10.11	Amendment No. 1 to the Consulting Agreement between Constantine S. Macricostas and the Company dated November 10, 2008. (incorporated by reference to the Company's Annual Report on Form 10-K filed January 3, 2014). +
10.12	Executive Employment Agreement between the Company and Sean T. Smith dated February 20, 2003 + *
10.13	Limited Liability Company Operating Agreement of MP Mask Technology Center, LLC between Micron Technology, Inc. ("Micron") and Photronics, Inc. ("Photronics") dated May 5, 2006. (incorporated by reference to Exhibit 10.14 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011) #
10.14	Contribution and Units Purchase Agreement between Micron, Photronics and MP Mask Technology Center, LLC ("MP Mask") dated May 5, 2006. (incorporated by reference to Exhibit 10.15 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011) #
10.15	Technology License Agreement among Micron, Photronics and MP Mask dated May 5, 2006. (incorporated by reference to Exhibit 10.16 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011) #

10.16	Photronics to Micron Supply Agreement between Micron and Photronics dated May 5, 2006. (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011) #
10.17	Company to Photronics Supply Agreement between MP Mask and Photronics dated May 5, 2006. (incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K for the fiscal year ended October 30, 2011) #
10.18	Special Warranty Deed dated as of February 29, 2012 (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed on March 6, 2012).
10.19	Joint Venture Framework Agreement dated November 20, 2013 between the Company and Dai Nippon Printing Co., Ltd*#
10.20	Joint Venture Operating Agreement dated November 20, 2013 between the Company and Dai Nippon Printing Co., Ltd.*#
10.21	Outsourcing Agreement dated November 20, 2013 between the Company, Dai Nippon Printing Co., Ltd and Photronics Semiconductor Mask Corporation.*#
10.22	License Agreement dated November 20, 2013 between the Company and Photronics Semiconductor Mask Corporation.*#
10.23	License Agreement dated November 20, 2013 between Dai Nippon Printing Co., Ltd and Photronics Semiconductor Mask Corporation.*#
10.24	Margin Agreement dated November 20, 2013 between the Company, Dai Nippon Printing Co., Ltd and Photronics Semiconductor Mask Corporation.*#
10.25	Merger Agreement dated January 16, 2014 between Photronics Semiconductor Mask Corporation and DNP Photomask Technology Taiwan Co. Ltd.*#
10.26	Executive Employment Agreement between the Company and Soo Hong Jeong dated May 31, 2011 (incorporated by reference to Exhibit 10.40 to the Company's Quarterly Report on Form 10-Q filed on June 8, 2011). +
10.27	Executive Employment Agreement between the Company and Christopher J. Progler, Vice President, Chief Technology Officer dated September 10, 2007 (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K filed on January 9, 2013). +
10.28	Executive Employment Agreement between the Company and Peter Kirlin dated May 21, 2010 (incorporated by reference to Exhibit 10.42 of the Company's Quarterly Report on Form 10-Q filed on June 10, 2010). +
10.29	Executive Employment Agreement between the Company and Richelle Burr dated May 21, 2010 (incorporated by reference to Exhibit 10.43 of the Company's Quarterly Report on Form 10-Q filed on June 10, 2010). +
10.30	Form of Amendment to Executive Employment Agreement dated March 16, 2012 (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on March 16, 2012). +
10.31	Third Amended and Restated Credit Agreement dated as of December 5, 2013 (incorporated by reference to Exhibit 10.24 to the Company's Annual Report on Form 10-K filed January 3, 2014)
10.32	Amendment No. 1 dated as of August 22, 2014 to the Third Amended and Restated Credit Agreement dated as of December 5, 2013.*
10.33	Second Amended and Restated Security Agreement.*
21	List of Subsidiaries of the Company.*
23	Consent of Deloitte & Touche LLP.*
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.*

32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
+	Represents a management contract or compensatory plan or arrangement.
#	Portions of this exhibit have been omitted pursuant to a request for confidential treatment filed with the Securities and Exchange Commission.
*	Represents an exhibit that is filed with this Annual Report on Form 10-K.
	The Company will provide a copy of any exhibit upon receipt of a written request for the particular exhibit or exhibits desired. All requests should be addressed to the Company's general counsel at the address of the Company's principal executive offices.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PHOTRONICS, INC.
(Registrant)

By /s/ SEAN T. SMITH — January 6, 2015
Sean T. Smith
Senior Vice President
Chief Financial Officer
(Principal Accounting Officer/
Principal Financial Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By /s/ CONSTANTINE S. MACRICOSTAS — January 6, 2015
Constantine S. Macricostas
Chairman of the Board
Chief Executive Officer
(Principal Executive Officer)

By /s/ SEAN T. SMITH — January 6, 2015
Sean T. Smith
Senior Vice President
Chief Financial Officer
(Principal Accounting Officer/
Principal Financial Officer)

By /s/ WALTER M. FIEDEROWICZ — January 6, 2015
Walter M. Fiederowicz
Director

By /s/ JOSEPH A. FIORITA, JR. — January 6, 2015
Joseph A. Fiorita, Jr.
Director

By /s/ LIANG-CHOO HSIA — January 6, 2015
Liang-Choo Hsia
Director

By /s/ GEORGE MACRICOSTAS — January 6, 2015
George Macricostas
Director

By /s/ MITCHELL G. TYSON — January 6, 2015
Mitchell G. Tyson
Director

EXHIBIT 10.1

RagingWire Telecommunications, INC.

Master Services Agreement #1001.0.1

This Master Services Agreement(**"Agreement"**) is entered into effective as of January 11, 2002, (**"Effective Date"**) by and between RagingWire Telecommunications, Inc., a Nevada corporation (**"RagingWire"**) and Photronics, Inc., a Florida corporation (**"Customer"**). In consideration of the mutual covenants contained in this Agreement, RagingWire and Customer agree as follows:

1. PURPOSE OF AGREEMENT

This Agreement sets forth the terms and conditions by which RagingWire will provide to Customer, and Customer shall accept and pay for, certain Services. Each such Service will be specifically identified and described in a Service Level Agreement (**"SLA"**) executed by the Parties and delivered by them to each other, which refer to this Agreement. RagingWire contemplates that Customer may contract for additional Services from time to time, and in each such case a new SLA will be executed, specifically identifying and describing such additional Services and referencing this Agreement. Any equipment sales and/or leases shall be covered in a written agreement separate from this Agreement.

2. DEFINITIONS

The following capitalized terms used in this Agreement have the meanings specified in this Section 2.

2.1 Applicable Rate **"Applicable Rate"** means one and one-half percent (1½%) per month, or the highest rate allowed by applicable law, whichever is lower.

2.2 Confidential Information **"Confidential Information"** is defined in Section 6.1.1 ("Non-Disclosure").

2.3 Customer Area **"Customer Area"** means the portion(s) of the Data Centers made available to Customer for the placement of Customer Equipment and use of the Services.

2.4 Customer Equipment **"Customer Equipment"** means Customer's computer hardware, not including stored data, and other tangible equipment or other tangible personal property placed by Customer in the Customer Area. If RagingWire is undertaking any managed services with respect to the Customer Equipment such equipment shall be identified on RagingWire's standard Customer Equipment List completed by Customer and accepted by RagingWire, as amended in writing from time to time by the Parties.

2.5 Customer Registration Form **"Customer Registration Form"** means a collective reference to the separate documents that contain the name and contact information (e.g., pager, e-mail and telephone numbers) for each of the Representatives authorized by Customer to enter the Data Centers and Customer Area, as delivered by Customer to RagingWire and amended in writing from time to time by Customer. The documents referred to herein include, without limitation, the Customer Information Form , the Use Administrator Form , and the Individual Registration Form .

2.6 Customer Technology **"Customer Technology"** means Customer's proprietary technology and processes, including, but not limited to, Customer's Internet operations design, content, software tools, hardware designs, algorithms, software (in source and object forms), user interface designs, architecture, class libraries, objects and documentation (both printed and electronic), know-how, inventions, trade secrets and any related Intellectual Property Rights (whether owned by Customer, controlled by or licensed to Customer by a third party) and also including any derivative works, improvements, enhancements or extensions of the foregoing conceived, invented, reduced to practice, expressed in a tangible medium,

2.7 Data Center(s **"Data Center(s)"** means any of the facilities used by RagingWire to provide the Services to Customer.

2.8 Initial Term **"Initial Term"** is defined in Section 4.2 ("Initial Term").

2.9 Intellectual Property Rights **"Intellectual Property Rights"** mean any and all (by whatever name or term known or designated) tangible and intangible and now known or hereafter existing throughout the universe (a) rights associated with works of authorship, including but not limited to copyrights, moral rights, and mask-works; (b) trademark and trade name rights and similar rights; (c) trade secret rights; (d) patents, design rights, and other industrial property rights; (e) all other intellectual and industrial property rights of every kind and nature and however designated (including logos, "rental" rights and rights to remuneration), whether arising by operation of law, contract, license, or otherwise; (f) all registrations and applications (whether for patent, copyright or similar right), including all continuations, continuations-in-part, and divisionals thereof; (g) all renewals, extensions, reissues, and re−examinations of such patents now or hereafter in force; and (h) all rights in any of the foregoing.

2.10 Notice of Service Commencement **"Notice of Service Commencement"** means the written notice provided by RagingWire to Customer which sets forth each Service to be provided pursuant to a SLA and the date such Service commenced.

2.11 Parties or Party **"Parties"** means RagingWire and Customer collectively; **"Party"** means either RagingWire or Customer, as the case may be, individually.

2.12 Professional Service(s) **"Professional Service(s)"** means any professional or consulting services provided by RagingWire to Customer, including without limitation any project based or one-time services. Any provision of Professional Services shall be governed by a written Professional Services Agreement separate from this Agreement.

2.13 RagingWire Supplied Equipment **"RagingWire Supplied Equipment"** means the computer hardware, software, computer code and other tangible equipment to be provided by RagingWire to Customer pursuant to a SLA.

2.14 RagingWire Technology **"RagingWire Technology"** means RagingWire's proprietary technology and processes, including, without limitation, the Services, software tools, hardware designs, algorithms, software (in source and object forms), user interface designs, architecture, class libraries, objects and documentation (both printed and electronic), network designs, know-how, inventions, trade secrets and any related Intellectual Property Rights (whether owned by RagingWire or licensed to RagingWire from a third party) and also including any derivative works, improvements, enhancements or extensions of the foregoing conceived, invented, reduced to practice, expressed in a tangible medium or developed by RagingWire (independently during the Term.

2.15 Renewal Term **"Renewal Term"** is defined in Section 4.3 ("Renewal Term").

2.16 Representative(s **"Representative(s)"** means the individuals authorized by Customer in writing to enter the Data Center(s) and the Customer Area including, without limitation, any employees, contractors, or agents of Customer. Each of the Representatives shall be identified in writing on an Individual Registration Form and shall have received a valid password from the Use Administrator to access the Data Center(s).

2.17 Rules and Regulations **"Rules and Regulations"** means RagingWire's general rules and regulations, as amended from time to time by RagingWire, governing access to the Data Center(s) and use of the Services by Customer and Customer's Representatives, including, without limitation, online conduct and the obligations of Customer and Customer's Representatives in the Data Center(s).

2.18 Section **"Section"** means a numbered paragraph section of this Agreement.

2.19 Service(s) **"Service(s)"** means the specific Services provided to Customer by RagingWire as described in each SLA executed by Customer and RagingWire, as amended from time to time; each of which is incorporated herein by reference.

2.20 Service Commencement Date **"Service Commencement Date"** means the date RagingWire begins providing Services to Customer, as indicated in a Notice of Service Commencement delivered by RagingWire to Customer.

2.21 Service Level Goals **"Service Level Goals"** is defined in Section 7.2 ("Service Level Goals").

2.22 Service Outage **"Service Outage"** is defined in the applicable SLA.

2.23 Service Level Agreement (SLA) **"Service Level Agreement"** or **"SLA"** means a separate written Service Level Agreement between Customer and RagingWire that provides a description of each Service to be provided by RagingWire to Customer. A SLA may contain additional information and provisions related to the Services and shall reference this Agreement. All SLA's executed by Customer and RagingWire from time to time are incorporated herein by reference and all Services provided pursuant to all SLA's are subject to the terms and conditions of this Agreement. To the extent any terms herein apply solely to a Service not specified in a SLA, such terms shall not apply to Customer.

2.24 Supplemental Emergency Services **"Supplemental Emergency Services"** is defined in Section 3.2 ("Supplemental Emergency Services").

2.25 Term **"Term"** means the Initial Term plus all Renewal Terms as defined in Section 4 ("Term").

2.26 Use Administrator **"Use Administrator"** is defined in Section 8.3.1 ("Use Administrator").

3. DELIVERY OF SERVICES

3.1 Delivery of Services . By executing this Agreement, RagingWire agrees to provide, and Customer agrees to accept and pay for, the Services described in each SLA during the Term. Except as provided in a separate SLA, all Services shall be deemed delivered, and the Parties' respective obligations under this Agreement shall be deemed performed, in Sacramento County, California.

3.2 Supplemental Emergency Services . Customer may request that RagingWire provide to Customer certain limited Services and/or equipment on a "one-time" or emergency basis (**"Supplemental Emergency Services"**) where such Services are not included within the scope of the Services described in the SLA's. Supplemental Emergency Services may include, for example, replacing a faulty Customer server with a RagingWire server for a temporary period of time. RagingWire will charge a reasonable fee for Supplemental Emergency Services, and Customer agrees to pay the fees for such Supplemental Emergency Services. Charges for such Supplemental Emergency Services shall be billed separately. RagingWire labor for Supplemental Emergency Services will be billed at the rates listed in Exhibit A, Basic Managed Services. RagingWire has no obligation to provide or to continue to provide any Supplemental Emergency Services. If, however, RagingWire agrees to provide any Supplemental Emergency Services upon request by Customer, such Services shall be provided subject to the availability of resources and personnel. ALL SUPPLEMENTAL EMERGENCY SERVICES PROVIDED PURSUANT TO THIS SECTION 3.2 ARE PROVIDED ON AN "AS-IS" BASIS AND EXCLUDE WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT **LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTBILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.**

4. TERM

4.1 Term Commencement . The term for provision of and payment for each Service will commence on the Service Commencement Date indicated in the Notice of Service Commencement.

4.2 Initial Term . RagingWire will provide each Service to Customer for an initial term commencing on the Service Commencement Date and ending on the date specified in the SLA (**"Initial Term"**); provided however that in no event shall the Initial Term end on any day other than the last day of a calendar month. In the event a SLA, or a notice termination by Customer, specifies that the Initial Term shall terminate on other than the last day of a calendar month then such Initial Term is hereby extended to the end of the calendar month at issue.

4.3 Renewal Term . Unless one of the Parties provides notice in accordance with Section 12 ("Termination"), RagingWire will automatically continue to provide each Service to Customer for additional periods of time equal to one (1) calendar year from the termination date of the Initial Term (as such may be adjusted pursuant to Section 4.2 ("Initial Term") or a Renewal Term, as applicable. Each additional period of time for which RagingWire continues to provide Services after the Initial Term is referred to herein as a **"Renewal Term** . **"**

5. FEES AND PAYMENT TERMS

5.1 Fees . Customer agrees to pay all fees due without set off or adjustment and in accordance with the prices for each Service listed in each SLA. Except as provided otherwise in a SLA, the price for each Service listed in each SLA shall not be altered during the Initial Term.

5.2 Payment Terms .

5.2.1 Security Deposit, Security Interest. Upon execution of each SLA, Customer agrees to pay to RagingWire, as a security deposit, an amount equal to the monthly recurring charges set forth in the SLA. The security deposit shall serve as a security for Customer's faithful performance of its obligations under this Agreement. If Customer defaults under or materially breaches any provision of this Agreement, RagingWire may use, apply or retain all or any portion of said security deposit for the payment of any amount due to RagingWire, or to reimburse or compensate, RagingWire for any liability, expense, loss or damage which RagingWire may incur by reason of such default or material breach. RagingWire shall not be obligated to keep the security deposit separate from its general accounts. No part of the security deposit shall be considered to be held in trust, to bear interest or to be a prepayment for any monies to be paid by Customer to RagingWire. Within thirty (30) days after the successful conclusion of this Agreement and the fulfillment of all of Customer's obligations hereunder, RagingWire shall return the deposit (less any offsets) to Customer.

5.2.2 Payment on Service Commencement . On the Service Commencement Date for each Service, RagingWire will invoice Customer, and Customer agrees to pay to RagingWire within thirty (30) days of such invoice, an amount equal to the sum of: (i) all non-recurring charges indicated in such SLA and (ii) the recurring charges for the remainder of the calendar month in which the Service Commencement Date occurs, prorated on the basis of a 30-day month.

5.2.3 Recurring Charges . After the month set forth in Section 5.2.2 ("Payment on Service Commencement") payment for monthly recurring charges for each successive full month will be due and payable on the first day of that month, and RagingWire will send Customer a courtesy invoice approximately two (2) weeks prior to the first day of the month for which such recurring Services are to be provided. Payment for recurring charges not received by the tenth day of the month shall be considered late and the provisions of Section 5.3 ("Late Payments") shall apply.

5.2.4 Variable and One-Time Charges . Charges for Services not included in the monthly recurring charges (e.g., burstable Internet bandwidth charges) and charges for one-time Services (e.g., Professional Services, installation work, and Supplemental Emergency Services) shall be included in a separate invoice. Payment for such Services shall be due no later than thirty (30) days after the date of such invoice.

5.3 Late Payments . Any delinquent payments shall accrue interest at the Applicable Rate from the date such payments are due.

5.4 Payment in U.S. dollars . All payments shall be made to RagingWire in U.S. dollars, preferably by means of an automatic electronic funds transfer system.

5.5 Taxes and Other Fees . All fees charged by RagingWire for Services are exclusive of all taxes and similar fees, now in force or enacted in the future, imposed on the transaction and/or the delivery of Services. Customer agrees that it will be responsible for and will pay in full all such taxes and similar fees, except for taxes based on RagingWire's net income. For purposes of this Section 5.5 only, all Services shall be deemed provided at the Data Center where such Services originated.

6. CONFIDENTIAL INFORMATION; INTELLECTUAL PROPERTY OWNERSHIP; LICENSE GRANTS

6.1 Confidential Information .

6.1.1 Non-Disclosure . RagingWire and Customer acknowledge that each will have access to certain proprietary and/or confidential information of the other Party concerning, without limitation, the other Party's business, plans, customers, financials, technology, products, and other information held in confidence by the other Party, whether in oral, written, graphic or electronic form (collectively, **"Confidential Information"**). As used in this Agreement, Confidential Information will include, but not be limited to: (i) all information in tangible or intangible form that is marked or designated as confidential; (ii) RagingWire Technology; (iii) Customer Technology; and (iv) the terms and conditions of this Agreement and any other agreements between the Parties. RagingWire and Customer each agrees, on behalf of itself, its employees and other persons to whom disclosure of Confidential Information is permitted under this Agreement, that (i) it will not use in any way, for its own account or the account of any third party, except as expressly permitted by, or required to achieve the purposes of, this Agreement, nor disclose to any third party, any of the other Party's Confidential Information.

6.1.2 Non-Confidential Information . Notwithstanding Section 6.1.1 ("Non-Disclosure"), information will not be deemed Confidential Information under this Agreement if such information: (i) is known to the receiving Party prior to receipt from the disclosing Party, as evidenced by the records of the receiving Party; (ii) becomes known (independently of disclosure by the disclosing Party) to the receiving Party, directly or indirectly, from a source other than one having an obligation of confidentiality to the disclosing Party; (iii) becomes part of the public domain or otherwise ceases to be secret or confidential, except through a breach of this Agreement by the receiving Party; or (iv) is independently developed by the receiving Party without any breach of this Agreement.

6.1.3 Protection and Preservation . Each Party on behalf of itself, its Representatives, employees, agents, and contractors, agrees that it will receive and hold all Confidential Information in trust and confidence and that it will treat all Confidential Information with the same degree of care as it accords to its own confidential information of like sensitivity, but in no event less than a reasonable level of care. Each Party shall: (i) not sell, license, transfer, publish, disclose, display or otherwise make available the Confidential Information of the other Party; (ii) not reverse assemble or reverse compile in whole or in part any applicable Confidential Information; (iii) acknowledge and take commercially reasonable steps to preserve the other Party's ownership rights in and to such other Party's Confidential Information; (iv) hold in trust and confidence and not use any Confidential Information except as necessary to perform obligations set forth in this Agreement; and (v) similarly bind in writing necessary third parties to the confidentiality obligations of this Section 6.1.3. Notwithstanding the foregoing, each Party shall have the right to disclose the other party's Confidential Information to its appropriate officers, directors, employees, auditors and attorneys on a "need to know basis". Further, each Party may disclose the other Party's Confidential Information to the extent necessary to comply with an order of an administrative agency or court of competent jurisdiction, or to enforce a Party's rights under this Agreement. As an express condition to the preceding sentence, the Party being required to disclose the information shall (i) take all reasonable steps to prevent such disclosure and (ii) provide prior written notice thereof to the other Party in sufficient time to enable the other Party to seek a protective order or otherwise contest such disclosure. Each Party agrees that it will ensure that its Representatives, employees, agents and contractors will not make use of, disseminate, or in any way disclose any Confidential Information of the other Party to any person, firm or business, except as necessary to perform obligations set forth in this Agreement and then only under a written confidentiality agreement no less restrictive than this Section 6.1 ("Confidential Information"). The obligations of non-disclosure and non use shall apply to Confidential Information for a period of three (3) years from the date of disclosure.

6.1.4 Method of Disclosure . Information disclosed in written form or electronically transmitted shall be considered Confidential Information only if it contains the legend "Confidential." Information disclosed in other-than-written form shall be Confidential Information only if the disclosing Party states that the disclosure is confidential at the time it is made and sends the recipient of the information a written summary, with an appropriate confidentiality legend, of the information so disclosed within thirty (30) days thereafter.

6.1.5 Return of Confidential Information . Upon termination or expiration of this Agreement, or upon written request of the other Party, each Party shall promptly return to the other all documents and other tangible materials representing the other's Confidential Information and all copies thereof, and shall permanently erase or destroy all Confidential Information stored by or for it in electronic, optical, mechanical, or other storage medium, and shall certify, in writing, the completion of the foregoing to the other Party.

6.2 Intellectual Property .

6.2.1 Ownership . Except for the rights expressly granted pursuant to Section 6.3.1 ("Grant By RagingWire"), (i) this Agreement does not transfer from RagingWire to Customer any RagingWire Technology and (ii) all right, title and interest (including, without limitation, Intellectual Property Rights) in and to the RagingWire Technology will remain solely with RagingWire. Except for the rights expressly granted pursuant to Section 6.3.2 ("Grant By Customer"), (i) this Agreement does not transfer from Customer to RagingWire any Customer Technology and (ii) all right, title and interest (including, without limitation, Intellectual Property Rights) in and to the Customer Technology will remain solely with Customer.

6.2.2 General Skills and Knowledge . Notwithstanding anything to the contrary in this Agreement, Customer will not at any time prohibit or enjoin RagingWire from using any concepts, skills, knowledge and techniques relating to information technology that is or are acquired during the course of providing the Services, including, without limitation, skills, knowledge and information publicly known or available, generally applicable in the trade (or art), or that could reasonably be acquired in similar work performed for other customers of RagingWire. For example, and without limitation, if, during the Term, RagingWire and/or Customer working with RagingWire jointly develops a computer program or algorithm that may be generally applicable in the art, RagingWire shall have the right to use and/or modify such computer program or algorithm, at no compensation to Customer, to provide Services to [other customers of RagingWire.] The Joint Development shall be jointly owned by RagingWire and Customer and each shall be afforded such rights as are available under applicable law, including federal copyright law.

6.3 License Grants .

6.3.1 Grant by RagingWire . RagingWire hereby grants to Customer a non-exclusive, non-transferable, royalty-free license, without the right to grant sub licenses during the Term, to use the RagingWire Technology solely for the purpose of receiving the Services. Customer shall have no right to use the RagingWire Technology for any purpose other than receiving the Services.

6.3.2 Grant by Customer . Customer agrees that if, in the course of providing the Services, it is reasonably necessary for RagingWire to access Customer Equipment and use Customer Technology, RagingWire is hereby granted and shall have a non-exclusive, non-transferable, royalty-free license, without the right to grant sub licenses during the Term, to use the Customer Technology solely for the purpose of providing the Services to Customer. Subject to Section 6.2.2 ("General Skills and Knowledge"), RagingWire shall have no right to use the Customer Technology for any purpose other than providing the Services.

6.4 Restrictions . The RagingWire Technology shall be used by Customer, its Representatives and agents only in a manner consistent with the rights granted in Section 6.3.1 ("Grant By RagingWire"). Customer agrees to use its best efforts to ensure that no portion of the RagingWire Technology is displayed outside the Data Center(s) or distributed in any way to any third party. Customer shall not rent, lease, license, distribute, transfer, reproduce, display, modify, publicly perform or timeshare the RagingWire Technology, or any portion thereof, or use such as a component of or a basis for products or services prepared for sale, license, lease, access or other marketing or distribution. Neither Customer nor any of its Representatives or agents shall prepare any derivative work based on the RagingWire Technology or other materials provided to Customer by RagingWire. Though not authorized to do so, should Customer or any Representative or agent create any derivative works of the RagingWire Technology, Customer, on behalf of itself and its Representative and/or agent, hereby assigns any and all right, title and interest (including, without limitation, Intellectual Property Rights) in such derivative works to RagingWire. Neither Customer nor any of its Representatives or agents shall translate, reverse engineer, decompile or disassemble the RagingWire Technology. Customer shall not allow any third party or unlicensed user or computer system to access or use the RagingWire Technology. Customer agrees not to demonstrate or disclose the results of any testing or bench-marking of the RagingWire Technology, to any third party, without RagingWire's prior written permission.

Customer Technology shall be used by RagingWire, its representatives and agents only in a manner consistent with the rights granted in Section 6.3.2 ("Grant By Customer"). Ragingwire agrees to use its best efforts to ensure that no portion of Customer Technology is displayed outside the Data Center(s) or distributed in any way to any third party. RagingWire shall not rent, lease, license, distribute, transfer, reproduce, display, modify, publicly perform or timeshare the Customer Technology, or any portion thereof, or use such as a component of or a basis for products or services prepared for sale, license, lease, access or other marketing or distribution. Neither RagingWire nor any of its representatives or agents shall prepare any derivative work based on the Customer Technology or other materials provided to RagingWire by Customer. Though not authorized to do so, should RagingWirer or any representative or agent create any derivative works of the Customer Technology, RagingWire, on behalf of itself and its representative and/or agent, hereby assigns any and all right, title and interest (including, without limitation, Intellectual Property Rights) in such derivative works to Customer. Neither RagingWire nor any of its representatives or agents shall translate, reverse engineer, decompile or disassemble the Customer Technology. RagingWire shall not allow any third party or unlicensed user or computer system to access or use the Customer Technology. RagingWire agrees not to demonstrate or disclose the results of any testing or bench-marking of the Customer Technology, to any third party, without Customer's prior written permission.

7. RAGINGWIRE'S WARRANTIES AND SERVICE LEVEL GOALS

7.1 RagingWire Warranties . RagingWire represents and warrants that it has the legal right to enter into this Agreement and perform its obligations hereunder. In the event of a breach of the warranties set forth in this Section 7.1, Customer's sole remedy shall be termination pursuant to Section 12 ("Termination"), except as provided elsewhere in this Agreement.

7.2 Service Level Goals . **"Service Level Goals"** means the service level goals applicable to the Services provided by RagingWire as set forth in the applicable SLA. If Customer experiences any Service performance issues, such as Service Outages, described in an applicable SLA, as a result of RagingWire's failure to provide the Services, the remedies and credits described in the applicable SLA shall apply.

7.2.1 Liquidated Damages . Except as provided elsewhere in this Agreement to the contrary, the Parties acknowledge and agree that because of the unique nature of the Services contemplated by this Agreement, it is difficult or impossible to determine with precision the specific amount of damages that might be incurred by Customer as a result of a failure of RagingWire to meet the Service Level Goals, or the specific amount that should be the responsibility of RagingWire in such circumstances. It is further understood and agreed by the Parties that Customer shall be damaged by such failure of RagingWire to meet the Service Level Goals, that it would be impracticable or extremely difficult to fix the actual damages resulting therefrom, that any credits that become payable under this Section 7.2 ("Service Level Goals") are in the nature of liquidated

damages, and not a penalty, and are fair and reasonable under the circumstances, and such payments represent a reasonable estimate of fair compensation for the losses that may reasonably be anticipated from RagingWire's failure to meet the Service Level Goals.

7.2.2 Sole Remedy and Liability . In recognition of Section 7.2.1 ("Liquidated Damages") and the other provisions hereof, and notwithstanding any other provisions of this Agreement, the Parties acknowledge and agree that, as an essential part of this Agreement, the liquidated damages payable under Section 7.2.1 ("Liquidated Damages") shall be the sole and exclusive measure of damages and remedy for Customer, and the sole and exclusive liability and obligation of RagingWire, arising out of or in any way relating to RagingWire's failure to meet the Service Level Goals or any other failure or default by RagingWire in any way relating to the Services (including any Supplemental Emergency Services) or RagingWire's failure to perform or provide any Services hereunder. The Parties further acknowledge and agree that the pricing and other terms contained in this Agreement reflect and are based upon the intended allocation of risk between the Parties as reflected in this Section 7.2 ("Service Level Goals") and elsewhere in this Agreement, and form an essential part of this Agreement.

7.2.3 Maintenance . RagingWire will conduct scheduled maintenance of the Data Center(s) and Services. In addition, RagingWire may be required to perform emergency maintenance if an urgent, mission-critical, or other serious maintenance situation arises. RagingWire and Customer agree to cooperate to minimize adverse impacts to the other Party during such scheduled and emergency maintenance.

7.2.4 Limitations . THE SERVICE LEVEL GOALS SET FORTH IN THIS SECTION 7.2 ("SERVICE LEVEL GOALS") SHALL APPLY ONLY TO THE SERVICES PROVIDED BY RAGINGWIRE PURSUANT TO A SLA AND DO NOT APPLY TO (1) ANY SUPPLEMENTAL EMERGENCY SERVICES, AND (2) ANY SERVICES THAT EXPRESSLY EXCLUDE THE SERVICE LEVEL GOALS (AS STATED IN THE APPLICABLE SLA). Except as stated ELSEWHERE in this Agreement to the contrary, THIS SECTION 7.2 ("SERVICE LEVEL GOALS") STATES CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR ANY FAILURE BY RAGINGWIRE TO PROVIDE SERVICES AND/OR THE PROVISION OF DEFECTIVE SERVICES.

7.3 Selection of RagingWire Supplied Equipment; Manufacturer Warranty . CUSTOMER ACKNOWLEDGES THAT CUSTOMER HAS SELECTED THE RAGINGWIRE SUPPLIED EQUIPMENT BASED UPON ITS OWN REVIEW AND EVALUATION OF SUCH EQUIPMENT AND CUSTOMER HAS NOT IN ANY WAY RELIED UPON ANY RECOMMENDATIONS OR REPRESENTATIONS WHICH MAY HAVE BEEN MADE BY RAGINGWIRE. RAGINGWIRE DISCLAIMS ANY STATEMENTS MADE BY RAGINGWIRE RELATING THERETO. EXCEPT WITH RESPECT TO ANY EXPRESS WRITTEN WARRANTIES MADE IN THIS AGREEMENT BY RAGINGWIRE FOR SERVICES RELATED TO RAGINGWIRE SUPPLIED EQUIPMENT, CUSTOMER ACKNOWLEDGES AND AGREES THAT CUSTOMER'S USE AND POSSESSION OF THE RAGINGWIRE SUPPLIED EQUIPMENT SHALL BE SUBJECT TO AND CONTROLLED BY THE TERMS OF ANY MANUFACTURER'S OR, IF APPROPRIATE, SUPPLIER'S WARRANTY AND INDEMNITY, AND CUSTOMER AGREES TO LOOK SOLELY TO THE MANUFACTURER OR, IF APPROPRIATE, SUPPLIER (AND NOT TO RAGINGWIRE) WITH RESPECT TO ALL MECHANICAL, ELECTRICAL, SERVICE AND OTHER CLAIMS, INCLUDING, WITHOUT LIMITATION, WARRANTY AND INDEMNITY CLAIMS. THE RIGHT TO ENFORCE ALL WARRANTIES AND INDEMNITIES MADE BY SUCH MANUFACTURER OR SUPPLIER IS HEREBY, TO THE EXTENT RAGINGWIRE HAS THE RIGHT, ASSIGNED TO CUSTOMER FOR THE DURATION OF CUSTOMER'S USE OF THE RAGINGWIRE SUPPLIED EQUIPMENT. RAGINGWIRE PROVIDES NO WARRANTY OR INDEMNITY FOR ANY RAGINGWIRE SUPPLIED EQUIPMENT, FOR PERSONAL INJURY, PROPERTY DAMAGES, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OR OTHERWISE.

7.4 No Other Warranty . Except for the express warranties set forth in this SECTION 7 or in a sla ("Ragingwire's warranties AND SERVICES LEVEL GOALS"), the Services and the Ragingwire supplied equipment are provided on an "as is" basis, and customer's use of the Services and/or the ragingwire supplied equipment is at CUSTOMER'S own risk. RagingWire does not make, and hereby disclaims, any and all other express and/or implied warranties, including, but not limited to, warranties of merchantability, fitness for a particular purpose, noninfringement and title, and any warranties arising from a course of dealing, usage or trade practice. RagingWire does not warrant that the Services and/or USE OF the ragingwire supplied equipment will be uninterrupted, error-free, completely secure, OR THAT ALL ERRORS WILL BE CORRECTED.

7.5 Disclaimer of Actions Caused by and/or Under the Control of Third Parties . RagingWire does not and cannot control the flow of data to or from RagingWire's network and other portions of the internet. Such flow depends in large part on the PERFORMANCE of the internet Services provided or controlled by third parties. At times, actions or inactions of such third parties can impair or disrupt customer's CONNECTIONS to the internet (or portions thereof). Although RagingWire will use commercially reasonable efforts to take actions it deems appropriate to remedy and avoid such events, RagingWire cannot guarantee that such events will not occur. Accordingly, except for the negligence or willful misconduct on the part of RagingWire, RagingWire disclaims any and all liability resulting from or related to such events, AND CUSTOMER ACCEPTS SUCH DISCLAIMER WITHOUT LIABILITY TO RAGINGWIRE.

8. CUSTOMER'S REPRESENTATIONS, WARRANTIES

8.1 Warranties of Customer .

8.1.1 Warranties . Customer represents and warrants that: (i) it has the legal right and authority to enter into this Agreement and perform its obligations hereunder; (ii) it has the legal right and authority, and will continue to own or maintain the legal right and authority during the Term, to place and use any Customer Equipment as contemplated under this Agreement; (iii) the performance of its obligations and use of the Services (by Customer, its Representatives and customers) will not violate any applicable laws, regulations or the Rules and Regulations or cause a breach of any agreements with any third parties or unreasonably interfere with other RagingWire customers' use of RagingWire Services; (iv) all equipment, materials and other tangible items placed by Customer at the Data Center(s) will be configured and used in

compliance with all applicable manufacturer specifications including, without limitation, power outlet, power consumption and clearance requirements; and (v) each Representative will be assigned a unique password, and no password will be shared or otherwise utilized by two (2) or more individuals.

8.1.2 Breach of Warranties . If Customer breaches any of the warranties in Section 8.1.1 ("Warranties"), in addition to any other remedies available at law or in equity, RagingWire will have the right, in its sole discretion, to immediately suspend any or all Services to Customer; provided, however, prior to any exercise of a remedy RagingWire will provide notice as provided in Section 12 ("Termination") and an opportunity to cure to Customer. If such breach is not cured within thirty (30) days, RagingWire shall have the right to terminate services as provided in Section 12. Customer shall be obligated to pay for Services provided due to suspension as a result of the breach.

8.2 Compliance with Laws; Rules and Regulations . Customer agrees that it shall use the Services only for lawful purposes and in accordance with this Agreement. Customer will comply at all times with all applicable laws and regulations and the Rules and Regulations, as amended by RagingWire from time to time. RagingWire may change the Rules and Regulations upon reasonable notice to Customer of at least five (5) days, which notice may be provided by posting such new Rules and Regulations at the affected Data Center. Customer acknowledges that Customer has received, read and understood the current version of the Rules and Regulations. The Rules and Regulations contain restrictions regarding online conduct (including prohibitions against unsolicited commercial email) by Customer, its Representatives and its customers. Customer agrees to comply with such restrictions and further agrees that a failure to comply with the same shall, atRagingWire's election, constitute a material breach of this Agreement. Customer further acknowledges that RagingWire exercises no controlwhatsoever over the content of the information passing through the Customer Equipment and that Customer agrees that it is Customer's sole responsibility to ensure that the information transmitted and received by Customer, its Representatives and its customers comply with all applicable laws and regulations and the Rules and Regulations.

8.3 Access and Security .

8.3.1 Use Administrator . Promptly after the Effective Date, Customer shall designate up to two individuals to serve as the use administrator(s) (**"Use Administrator"**) for Customer. The Use Administrator shall be responsible for assigning passwords to Representatives, administering security profiles of Representatives, inputting data to the Individual Representative Form, and verifying the identity of Representatives when called upon by RagingWire to do so. The Use Administrator(s) shall also serve as the primary contact between Customer and RagingWire pertaining to the Services.

8.3.2 Representatives . For an individual to be a Representative, the individual must be identified in writing by Customer on an Individual Registration Form prior to first access to the Data Center by such Representative. All Individual Registration Forms must be authenticated by Customer's Use Administrator and a valid password issued in order to become effective. Customer must promptly submit (in writing) and authenticate any changes to the information on an existing Customer Registration Form to RagingWire. RagingWire shall have no liability whatsoever for relying on an outdated Customer Registration Form which has not been properly updated by Customer.

8.3.3 Use of Passwords . Customer acknowledges and agrees that it is solely responsible for maintaining the confidentiality of the passwords distributed to Representatives, and agrees to notify RagingWire if it discovers that the password is lost, stolen, disclosed to an unauthorized third party, or otherwise may have been compromised. Customer shall be entirely responsible for any and all activities which occur under Customer's passwords, whether or not Customer or its Authorized Users are the entity or individuals undertaking such activities.

8.3.4 Data Center Access . Except with the advance written consent of RagingWire, Customer's access to the Data Center(s)shall be limited solely to the Representatives. Representatives shall have access only to the Customer Area and are prohibited from accessing other areas of the Data Center(s) unless accompanied by an authorized RagingWire representative. Customer and its Representatives shall cooperate with and comply with all security and safety measures promulgated by RagingWire from time to time in the Rules and Regulations, including, without limitation, the use of entry and exit logs and agreements, key cards, voice, photo, biometric, or other personal identification recognition devices, and other mechanisms and devices for registering, tracking and limiting access to the Customer Area and the Data Center(s). In the event of an emergency situation, as reasonably determined by RagingWire, involving or potentially involving the Customer Equipment or the RagingWire Supplied Equipment, RagingWire may admit individuals into the Customer Area pursuant to RagingWire's Emergency Admission Procedures.

8.4 License to Use of Space . Customer acknowledges that as a user of space in the Data Center(s), Customer has no right or entitlement to any particular location or amount of square footage (except as otherwise expressly provided in a SLA), but has the right to use the Customer Area solely under a non-exclusive, non-transferable, revocable license, as provided in Sections 8.8 ("Use of Customer Area") and 13.2 ("No Lease; Other Limitations").

8.5 Restrictions on Use of Services . Except as otherwise provided in a written agreement between the Parties, Customer shall not, without the prior written consent of RagingWire (which consent may be granted or withheld in its sole and absolute discretion), resell the Services to any third parties or connect the Customer Equipment directly to anything other than the RagingWire network, equipment and facilities.

8.6 Equipment And Connections . Each piece of Customer Equipment and RagingWire Supplied Equipment installed in the Customer Area must be clearly labeled, in accordance with the standard instructions in RagingWire's Customer Guide , with Customer name (or a code name identified in writing to RagingWire) and individual component identification. Each connection to and from each piece of such equipment shall be clearly labeled with Customer's name (or code name) at the starting and ending point of the connection. Customer Equipment and RagingWire Supplied Equipment must be configured and run at all times in compliance with the appropriate manufacturer's specifications,

including power outlet, power consumption, and clearance requirements. Customer must provide RagingWire with prior written notice any time Customer intends to connect or disconnect any Customer Equipment, RagingWire Supplied Equipment, or other equipment in the Customer Area.

8.7 Relocation of Customer Equipment . If it becomes necessary to relocate the Customer Equipment or RagingWire Supplied Equipment to another Customer Area or Data Center, Customer shall cooperate with RagingWire to facilitate such relocation, whether such relocation is based on the reasonable business needs of RagingWire (including, but not limited to, the needs of other RagingWire customers), the expansion of the space requirements of Customer, or otherwise. RagingWire shall be solely responsible for any costs and expenses incurred by RagingWire in connection with any such relocation and will use commercially reasonable efforts, in cooperation with Customer, to minimize and avoid any interruption of the Services.

8.8 Use of Customer Area . Customer acknowledges that RagingWire has made no representations or warranties about the physical condition of the Customer Area or the Data Center(s), their compliance with laws or their fitness for Customer's intended use. Customer agrees that Customer occupies the Customer Area on an "as-is, where-is" basis under a non-exclusive, non-transferable, revocable license for the Term. Customer agrees that if any law or regulation applicable to the Customer Area or the Data Center(s) requires that alterations or improvements be made to the Customer Area, other customer areas or the Data Center(s), to the extent such requirements result from Customer's use and occupancy of the Customer Area or the Data Center(s), Customer agrees that Customer shall pay for such alterations and improvements. Notwithstanding Customer's payment therefore, the Parties agree that all such alterations and improvements shall immediately become a part of the Data Center and the property of RagingWire or its lessor as applicable.

8.9 Conduct At Data Center .

8.9.1 Conduct . Customer on behalf of itself and its Representatives agrees to adhere to and abide by all security and safety measures set forth in the Rules and Regulations, the Customer Guide or as otherwise established by RagingWire. A copy of the current version of the Rules and Regulations and the Customer Guide shall be made available to Customer upon request. Customer on behalf of itself and its Representatives expressly agrees to not do or participate in any of the following: (i) interfere with, make any unauthorized use of, misuse or abuse any of RagingWire's property or equipment, or that of any other RagingWire customer or third party (ii) harass or disturb any individual, including RagingWire's personnel and representatives of other RagingWire customers; or (iii) any activity that is in violation of the law or aids or assists any criminal activity while on RagingWire's property, or in connection with the Data Center(s) or the Services. **additionally, customer acknowledges that neither it nor any of its representatives shall disturb, in any way, the raised floor of the data center(s).**

8.9.2 Prohibited Items . Customer and Representatives shall keep the Customer Area, and common areas adjacent to it, clean and clear of debris and refuse at all times. Customer shall not, except as otherwise agreed by RagingWire in writing:

(a) Place any Customer Equipment in the Customer Area that is not properly labeled and (if RagingWire is providing managed Services) has not been identified in writing to RagingWire;

(b) Store any paper products or other combustible materials of any kind in the Customer Area (other than equipment manuals and, if applicable, immediately required printing supplies); or

(c) Bring any Prohibited Materials (as defined below) into any Data Center. Such **"Prohibited Materials"** include, without limitation, the following and any similar items: tobacco products and lighters; explosives and weapons; hazardous or flammable materials; spray paint cans; alcohol, illegal drugs and other intoxicants; electromagnetic devices especially those which could interfere with computer and telecommunications equipment; radioactive materials; photographic, video, or magnetic recording equipment of any kind (other than tape back-up equipment); or animals (except those specifically trained and used to provide assistance to the impaired).

(d) Bring food or drinks onto the raised floor of the Data Center(s). These items are permitted only in the designated cafeteria areas.

8.9.3 Prohibited Activities . Customer, on behalf of itself and its Representatives, agrees that it will not: (i) send unsolicited commercial messages or communications in any form to third parties (commonly known as **"spam"**); (ii) engage in any activities or actions that infringe upon or misappropriate the Intellectual Property Rights of any third party, including, without limitation, using third-party copyrighted materials without appropriate permission, using third-party trademarks without appropriate permission or attribution, and using or distributing third-party information protected as a trade secret information in violation of a duty of confidentiality; (iii) engage in any activities or actions that would violate the personal privacy rights of others including, but not limited to, collecting and distributing information about Internet users without their permission, except as permitted by applicable law; (iv) send, post, or host harassing, abusive, libelous, or obscene materials or assist in any similar activities related thereto; (v) intentionally omit, delete, forge, or misrepresent transmission information, including headers, return mailing and Internet protocol addresses; (vi) engage in any activities or actions intended to withhold or cloak Customer or its customer's identity or contact information; (vii) use RagingWire's Services for any illegal purposes, in violation of any applicable laws or regulations or in violation of the rules of any other service providers, websites, chat rooms and the like; (viii) intentionally transmit or otherwise propagate computer viruses or similar destructive computer codes; (ix) disturb or anchor any item to the raised floor of the Data Center(s); (x) climb or scale any cages, ladders, racks or any support structures; (xi) engage in any other activities which may be deemed prohibited, in writing, by RagingWire, in its sole reasonable discretion; or (xii) assist or permit any persons in engaging in any of the activities described above. All of the foregoing are **"Prohibited Activities"** . If Customer becomes aware of any Prohibited Activities, Customer will use Customer's best efforts to remedy such Prohibited Activities immediately including, if necessary, limiting or terminating any of its Representative's access to Customer's online facilities.

8.9.4 Cameras . Customer nor any of its Representatives shall utilize, install, or configure any camera or other media device so as to view, record, or transmit any images or information regarding the Data Center(s). In order to maintain each Customer's privacy, all camera installations allowing a Customer to view their own Customer Area will be performed by RagingWire.

8.10 Suspension and Termination of Representative Access to Data Center . RagingWire shall have the right to suspend and/or terminate a Representative's access to the Data Center(s) at any time for any material failure, as determined in RagingWire's sole discretion, by such Representative to comply with the terms of this Agreement, the Customer Guide and/or the Rules and Regulations. In the event that access is terminated, Customer shall immediately take steps, to RagingWire's reasonable satisfaction, to ensure that Customer's remaining Representatives shall conform their conduct to the terms of this Agreement, the Customer Guide and the Rules and Regulations.

8.11 RagingWire Supplied Equipment .

8.11.1 Delivery and Term . On or prior to the Service Commencement Date, RagingWire shall deliver to Customer, at the designated Customer Area, the RagingWire Supplied Equipment. Customer shall have the right to use the RagingWire Supplied Equipment for the Term unless otherwise specified in the applicable SLA. Customer shall not remove any RagingWire Supplied Equipment from the Customer Area without the prior written consent of RagingWire.

8.11.2 Title. The RagingWire Supplied Equipment shall always remain the personal property of RagingWire. Customer shall have no right or interest in or to the RagingWire Supplied Equipment except as expressly provided in this Agreement and any SLA and shall hold the RagingWire Supplied Equipment subject and subordinate to the rights of RagingWire. Customer agrees to execute UCC financing statements as and when requested by RagingWire and hereby appoints RagingWire as Customer's attorney-in-fact to execute such financing statements on Customer's behalf. Customer will, at Customer's own expense, keep the RagingWire Supplied Equipment free and clear from any liens or encumbrances of any kind (except any caused by RagingWire) and will indemnify and hold RagingWire harmless from and against any loss or expense caused by Customer's failure to do so. Customer shall give RagingWire immediate written notice of any attachment or judicial process affecting the RagingWire Supplied Equipment or RagingWire's ownership thereof. Customer will not remove, alter or destroy any labels on the RagingWire Supplied Equipment stating that it is the property of RagingWire and shall allow the inspection of the RagingWire Supplied Equipment at any time.

Customer Equipment shall always remain the personal property of Customer. RagingWire shall have no right or interest in or to Customer Equipment except as expressly provided in this Agreement and any SLA. RagingWire will, at RagingWire's own expense, keep Customer Equipment free and clear from any liens or encumbrances of any kind (except any caused by Customer) and will indemnify and hold Customer harmless from and against any loss or expense caused by RagingWire's failure to do so. RagingWire shall give Customer immediate written notice of any attachment or judicial proceeding affecting Customer Equipment or Customer's ownership thereof. RagingWire will not remove, alter or destroy any labels on Customer Equipment stating that it is the property of Customer.

8.11.3 Use, Maintenance and Repair . Customer will, at Customer's own expense, keep the RagingWire Supplied Equipment in good repair, appearance and condition, other than normal wear and tear, and, if not included in the Services, shall obtain, pay for and keep in effect throughout the Term a hardware and software maintenance agreement with the manufacturer or other party acceptable to RagingWire. All parts furnished in connection with such repair and maintenance shall be manufacturer authorized parts and shall immediately become components of the RagingWire Supplied Equipment and the property of RagingWire. Customer shall use the RagingWire Supplied Equipment in compliance with the manufacturer's or supplier's suggested guidelines and in accordance with the Rules and Regulations. If Customer fails to maintain the RagingWire Supplied Equipment as described in this Section 8.11.3, RagingWire shall have the option, in its sole and absolute discretion, to: (i) retake possession of the RagingWire Supplied Equipment; and/or (ii) provide such maintenance and charge Customer the associated costs of such maintenance, and Customer agrees to pay any such charges.

8.11.4 Upgrades and Additions . Customer may affix or install any accessory, addition, upgrade, equipment or device to or on the RagingWire Supplied Equipment (other than electronic data) (**"Additions"**), provided that such Additions (i) can be removed without causing damage to the RagingWire Supplied Equipment; (ii) do not reduce the value of the RagingWire Supplied Equipment; (iii) are obtained from or approved in writing by RagingWire prior to affixing or installing such Additions to or on the RagingWire Supplied Equipment, and (iv) are not subject to the interest of any third party. No Additions shall be installed without RagingWire's prior written consent. At the end of the Initial Term, or Renewal Term (if applicable), Customer shall, at RagingWire's sole election, remove any Additions which (i) were not provided by RagingWire, and (ii) are readily removable without causing material damage or impairment of the intended function, use, or value of the RagingWire Supplied Equipment, and Customer shall restore the RagingWire Supplied Equipment to its original configuration. Any Additions, which are not readily removable, shall become the property of RagingWire, lien free and at no cost to RagingWire.

8.12 Scheduled And Emergency Maintenance . RagingWire will conduct routine scheduled maintenance of the Data Center(s) according to the maintenance schedule for the applicable Data Center, as such schedule may e modified from time to time in RagingWire's sole discretion. RagingWire shall make a copy of the then current applicable maintenance schedule available to Customer upon request. In the event that an urgent, mission-critical maintenance situation arises, RagingWire shall have to the right to perform emergency maintenance of the Data Center (s). Any such emergency maintenance, not caused solely by the actions of RagingWire shall not constitute a breach of this Agreement. To the extent circumstances allow in an emergency situation, RagingWire will make reasonable efforts to notify Customer of emergency maintenance about to be performed. During such scheduled and emergency maintenance periods, the Customer Equipment may be unable to transmit and/or receive data, and Customer may be unable to access the Customer Equipment and/or the RagingWire Supplied Equipment. Customer agrees to cooperate with RagingWire during scheduled and emergency maintenance periods. Customer further agrees that RagingWire shall have the right to access the Customer Area for the purpose of performing emergency maintenance.

9. INSURANCE

9.1 RagingWire Minimum Insurance Levels . RagingWire agrees to keep in full force and effect during the term of this Agreement: (i) a broad form Commercial General Liability Insurance policy providing for coverage of at least two million dollars ($2,000,000.00) per occurrence for bodily injury and property damage; and (ii) workers' compensation insurance in an amount not less than that required by applicable law. The Commercial General Liability Insurance policy shall be (i) written on an "occurrence" policy form and not on a "claims made" form; (ii) shall be primary and not contributory with RagingWire's liability insurance; (iii) shall provide for not less than thirty (30) days' advance written notice to RagingWire from the insurer or insurers, if more than one, of any cancellation, nonrenewal, or material change in coverage or available limits of liability; and (iv) shall be issued by an insurance company with a rating of no less than A-V in the current Best's Insurance Guide, or otherwise be acceptable to Customer, and admitted to engage in the business of insurance in the state in which the Services are actually provided (notwithstanding the provisions of Section 3.1 ("Delivery of Services")). RagingWire's Commercial General Liability Insurance coverage may be provided by a combination of primary, excess, and umbrella policies, provided that those policies are absolutely concurrent in all respects regarding the coverage afforded by the policies. The coverage of any excess or umbrella policy must be at least as broad as the coverage of the primary policy. RagingWire shall ensure, and be solely responsible for ensuring, that its contractors and subcontractors maintain insurance coverage at levels no less than those required by applicable law and customary in the applicable industry.

9.2 Customer Minimum Insurance Levels . Customer agrees to keep in full force and effect during the term of this Agreement: (i) a broad form Commercial General Liability Insurance policy providing for coverage of at least two million dollars ($2,000,000.00) per occurrence for bodily injury and property damage; and (ii) workers' compensation insurance in an amount not less than that required by applicable law. The Commercial General Liability Insurance policy shall be (i) written on an "occurrence" policy form and not on a "claims made" form; (ii) shall be primary and not contributory with Customer's liability insurance; (iii) shall provide for not less than thirty (30) days' advance written notice to Customer from the insurer or insurers, if more than one, of any cancellation, nonrenewal, or material change in coverage or available limits of liability; and (iv) shall be issued by an insurance company with a rating of no less than A-V in the current Best's Insurance Guide, or otherwise be acceptable to RagingWire, and admitted to engage in the business of insurance in the state in which the Services are actually provided (notwithstanding the provisions of Section 3.1 ("Delivery of Services")). Customer's Commercial General Liability Insurance coverage may be provided by a combination of primary, excess, and umbrella policies, provided that those policies are absolutely concurrent in all respects regarding the coverage afforded by the policies. The coverage of any excess or umbrella policy must be at least as broad as the coverage of the primary policy. Customer shall ensure, and be solely responsible for ensuring, that its Representatives (including contractors and subcontractors) maintain insurance coverage at levels no less than those required by applicable law and customary in the applicable industry.

Customer shall be solely responsible to procure and maintain property insurance coverage for the Customer Equipment, the RagingWire Supplied Equipment and all other items of Customer's property from any and all risks in, on, at or about the Customer Area or the Data Center (s) at which the Services are provided, including without limitation fire, fire protection system failure and earthquake damage.

9.3 Certificates of Insurance . Customer shall (i) deliver to RagingWire certificates of insurance which evidence the minimum levels of insurance set forth in Section 9.2 ("Customer Minimum Insurance Levels"); and (ii) cause its insurance provider(s) to name RagingWire as an additional insured and to notify RagingWire in writing of the effective date of such coverage. Customer shall deliver the certificates of insurance required by this Section 9.3 to RagingWire (i) on or before the first entry of Customer or a Representative onto any Data Center; (ii) again at least thirty (30) days before the expiration date of any applicable policy; and (iii) again on renewal of any applicable policy.

RagingWire shall (i) deliver to Customer certificates of insurance which evidence the minimum levels of insurance set forth in Section 9.1 ("RagingWire Minimum Insurance Levels"); and (ii) cause its insurance provider(s) to name Customer as an additional insured and to notify Customer in writing of the effective date of such coverage. RagingWire shall deliver the certificates of insurance required by this Section 9.3 to Customer (i) on or before the first entry of Customer or a Representative onto any Data Center; (ii) again at least thirty (30) days before the expiration date of any applicable policy; and (iii) again on renewal of any applicable policy

9.4 Obligations Continue Regardless of Insurance . The insurance requirements set forth in this Section 9 ("Insurance") are independent of Customer's indemnification and other obligations under this Agreement and shall not be construed or interpreted in any way to restrict, limit or modify Customer's indemnification and other obligations or to limit Customer's liability under this Agreement.

9.5 Waiver of Subrogation Rights . RagingWire and Customer each agrees to cause the insurance companies issuing their respective insurance policies to waive any subrogation rights that those insurance companies may have against the other Party by way of contract or otherwise. RagingWire and Customer hereby waive any right that either may have against the other on account of any bodily injury or property loss or damage to the extent that such loss or damage is insured hereunder under their respective insurance policies.

10. LIMITATIONS OF LIABILITY

10.1 Personal Injury . EACH REPRESENTATIVE AND ANY OTHER PERSON VISITING A DATA CENTER DOES SO AT HIS OR HER OWN RISK. RAGINGWIRE SHALL HAVE NO LIABILITY WHATSOEVER FOR ANY HARM TO SUCH PERSONS RESULTING FROM ANY CAUSE OTHER THAN THE NEGLIGENCE OR WILLFUL MISCONDUCT OF RAGINGWIRE.

10.2 Damage to Customer Equipment . RAGINGWIRE SHALL HAVE NO LIABILITY FOR ANY DAMAGE TO, OR LOSS OF, ANY CUSTOMER EQUIPMENT RESULTING FROM ANY CAUSE OTHER THAN THE NEGLIGENCE OR WILLFUL MISCONDUCT OF RAGINGWIRE. TO THE EXTENT RAGINGWIRE IS LIABLE FOR ANY DAMAGE TO, OR LOSS OF, CUSTOMER EQUIPMENT FOR

ANY REASON, SUCH LIABILITY SHALL BE LIMITED SOLELY TO THE THEN-CURRENT MARKET VALUE OF THE CUSTOMER EQUIPMENT, EXCLUDING (i) ANY LOST DATA, (ii) LOST SOFTWARE, AND/OR (iii) LOST FIRMWARE.

10.3 Waiver of Consequential and Incidental Damages . IN NO EVENT SHALL EITHER PARTY BE LIABLE OR RESPONSIBLE TO THE OTHER OR ANY THIRD PARTY FOR ANY TYPE OF INCIDENTAL, PUNITIVE, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST REVENUE, LOST PROFITS, REPLACEMENT GOODS, LOSS OF TECHNOLOGY, LOSS OF RIGHTS OR SERVICES, LOSS OF DATA, OR INTERRUPTION OR LOSS OF USE OF SERVICE OR EQUIPMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER ARISING UNDER A THEORY OF CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR OTHERWISE.

10.4 Hazardous Materials; Assumption of Risk . CUSTOMER ACKNOWLEDGES THAT CERTAIN HAZARDOUS OR TOXIC SUBSTANCES, MATERIALS, OR WASTE (COLLECTIVELY, **"HAZARDOUS MATERIALS"**), INCLUDING BUT NOT LIMITED TO BATTERY ACID, HIGH VOLTAGE ELECTRICITY, AND DIESEL FUEL, MAY BE PRESENT IN OR AROUND THE DATA CENTER(S) AND THAT CUSTOMER AND ITS REPRESENTATIVES MAY BE EXPOSED TO SUCH HAZARDOUS MATERIALS. CUSTOMER IS AWARE OF THE INHERENT RISKS OF INJURY AND PROPERTY DAMAGE INVOLVED IN RAGINGWIRE'S NORMAL OPERATIONS OF THE DATA CENTER(S), INCLUDING, WITHOUT LIMITATION, RISKS DUE TO OCCUPATIONAL OR ENVIRONMENTAL EXPOSURE TO HAZARDOUS MATERIALS KNOWN TO CAUSE CANCER, BIRTH DEFECTS, REPRODUCTIVE HARM, OR OTHER PHYSICAL AILMENTS. CUSTOMER ASSUMES ANY AND ALL KNOWN AND UNKNOWN RISKS OF INJURY AND PROPERTY DAMAGE THAT MAY RESULT FROM EXPOSURE TO HAZARDOUS MATERIALS IN OR AROUND THE DATA CENTER(S), EXCEPT FOR INJURY AND PROPERTY DAMAGE RESULTING FROM THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF RAGINGWIRE.

10.5 Maximum Liability NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, RAGINGWIRE'S MAXIMUM AGGREGATE LIABILITY TO CUSTOMER RELATED TO OR IN CONNECTION WITH THIS AGREEMENT WILL BE LIMITED TO THE TOTAL AMOUNT PAID BY CUSTOMER TO RAGINGWIRE HEREUNDER FOR THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE FIRST EVENT WHICH GAVE RISE TO SUCH LIABILITY.

10.6 Loss of Power . RagingWire shall not be liable for any failure or delay in its performance, including a Service Outage, under this Agreement due to the loss of power to any Data Center resulting from the unauthorized activation, or the required periodic testing pursuant to State or local laws or regulations, of any of the Emergency Power Off (**"EPO"**) switches.

10.7 Basis of the Bargain; Failure of Essential Purpose . Customer acknowledges that RagingWire has set its prices and entered into this Agreement in reliance upon the limitations, exclusions, and disclaimers of liability and the disclaimers of warranties and damages set forth in this Agreement, and that such limitations, exclusions and disclaimers form an essential basis of the bargain between Customer and RagingWire. The limitations and exclusions of liability and disclaimers specified in this Agreement shall survive and apply even if the remedies provided herein are found to have failed of their essential purpose.

11. INDEMNIFICATION

11.1 Indemnification By RagingWire . RagingWire agrees to indemnify, defend and hold harmless Customer from and against any and all costs, liabilities, losses, and expenses (including, but not limited to, reasonable attorneys' fees) (collectively, **"Losses"**) resulting from (i) a breach of its warranties contained in this Agreement or a SLA; (ii) from any claim, suit, action, or proceeding (each, an **"Action"**) brought by any third party against Customer or its affiliates alleging: (a) the infringement or misappropriation of any Intellectual Property Rights relating to the delivery or use of the Services (excluding any contributory infringement by the Customer); (b) personal injury and/or property damage to the extent caused by the [gross] negligence or willful misconduct of RagingWire; or (c) any violation of or failure to comply with the Rules and Regulations. Customer may retain its own counsel to assist in the defense of any indemnified Action, at its own expense and provided RagingWire shall retain control over such defense.

11.2 Indemnification By Customer Customer agrees to indemnify, defend and hold harmless RagingWire, its employees, agents, affiliates and customers (collectively the **"RagingWire Indemnitees"**) from and against Losses resulting from (i) a breach of its warranties contained in this Agreement or SLA; (ii) any Action brought by any third party against any of the RagingWire Indemnitees alleging: (a) the infringement or misappropriation of any Intellectual Property Rights relating to the use of the Services; (b) personal injury and/or property damage to the extent caused by the negligence or misconduct of Customer or its Representatives; (c) any violation of or failure to comply with the Rules and Regulations by Customer or its Representatives; (d) any damage or destruction to the Customer Area, the Data Center(s), RagingWire Supplied Equipment or equipment of any third party caused by Customer or its Representatives; (e) damages as a result of the use or occupancy of the Customer Area or Data Center(s) by Customer or its Representatives; (f) infringement or misappropriation of any Intellectual Property Rights of any third party by Customer or its Representatives; (g) defamation, libel, slander, obscenity, pornography, or violation of the rights of privacy or publicity of any third party by Customer or its Representatives; (h) spamming, or any other offensive, harassing or illegal conduct or violation of the Rules and Regulations by Customer or its Representatives, or The RagingWire Indemnitees may retain their own counsel to assist in the defense of any indemnified Action, at their own expense and provided Customer shall retain control over such defense.

11.3 Additional Indemnities of Customer RagingWire shall have no liability for, and Customer shall indemnify, defend and hold the RagingWire Indemnitees harmless against, any Losses arising from Actions alleging any infringement of the Intellectual Property Rights of a third party resulting from (i) compliance with Customer's designs, specifications, or instructions; (ii) modification of the Services or the RagingWire Supplied Equipment by Customer or its Representatives; (iii) use of the Services or the RagingWire Supplied Equipment other

than as authorized by RagingWire; (iv) use or combination of such the Services or the RagingWire Supplied Equipment with any items not supplied by RagingWire (including, without limitation, any Additions) or Customer's failure to use updated or modified versions of the Services or the RagingWire Supplied Equipment provided by RagingWire; or (v) any information provided by Customer to RagingWire.

11.4 Notice . Each Party's indemnification obligations set forth in Section 11.1 ("Indemnification By RagingWire") and Section 11.2 ("Indemnification By Customer") shall be subject to the following: (i) receiving prompt and sufficient written notice of the existence of any Action so that the indemnifying Party is not prejudiced by a lack of notice; (ii) being able, at its option, to control the defense of such Action; (iii) the indemnified party not settling any such action, claim or suit without the indemnifying party's prior written consent; and (iv) receiving full cooperation of the indemnified Party in the defense of such Action.

11.5 Enjoinment If Customer's use of the Services or the RagingWire Supplied Equipment under the terms of this Agreement is, or in RagingWire's opinion is likely to be, enjoined or RagingWire desires to limit its exposure to an Action, then RagingWire may, at its sole option and expense, either: (i) procure for Customer the right to continue using such Services or RagingWire Supplied Equipment under the terms of this Agreement; (ii) replace or modify such Services or RagingWire Supplied Equipment so that it is or they are non-infringing and substantially equivalent in function to the enjoined Services or RagingWire Supplied Equipment; or (iii) if options (i) and (ii) above cannot be accomplished despite the reasonable efforts of RagingWire, then RagingWire may terminate Customer's rights and RagingWire's obligations under this Agreement with respect to such Services or RagingWire Supplied Equipment and refund to Customer the unearned portion of any fees paid to RagingWire.

11.6 Sole and Exclusive Obligations and Remedies . THE FOREGOING INDEMNITY AND LIMITED REMEDIES ARE THE PARTIES SOLE AND EXCLUSIVE OBLIGATIONS, AND THE PARTIES SOLE AND EXCLUSIVE REMEDIES, WITH RESPECT TO INFRINGEMENT OR MISAPPROPRIATION OF ANY INTELLECTUAL PROPERTY RIGHTS.

12. TERMINATION

12.1 Termination Without Cause . Either Customer or RagingWire may terminate any Services or this Agreement without cause, provided that the terminating Party notifies the other Party in writing at least one hundred and eighty (180) days prior to the end of the Initial Term (or a Renewal Term, if applicable), in which case such Services or the Agreement shall terminate at the end of such term. The termination of any particular Service will not affect Customer's obligation to pay for other Services or any other amounts due from Customer to RagingWire.

12.2 Termination For Cause .

12.2.1 For Curable Breach . Subject to Section 7.2 ("Service Level Goals"), either Customer or RagingWire may terminate this Agreement if the other Party breaches any material term or condition of this Agreement and fails to cure such breach within thirty (30) days after receipt of written notice of the same, except in the case of failure to pay fees, which must be cured within five (5) business days after receipt of written notice from RagingWire. Customer may also terminate Services to be provided in the future and the obligation to pay for such future Services in accordance with the terms of the applicable SLA.

12.2.2 Insolvency . Either party may terminate this Agreement effective upon written notice if Customer: (i) becomes the subject of an involuntary petition in bankruptcy or any involuntary proceeding relating to insolvency, receivership, liquidation, or composition for the benefit of creditors, if such involuntary petition or involuntary proceeding is not dismissed within thirty (30) days of filing; or (ii) becomes the subject of a voluntary petition in bankruptcy or any voluntary proceeding relating to insolvency, receivership, liquidation, or composition for the benefit of creditors.

12.2.3 Incurable Breach E ither Party may terminate this Agreement effective upon written notice, if the other Party has breached its obligations of confidentiality set forth in Section 6.1 ("Confidential Information").

12.3 No Liability Upon Expiration . Neither Party shall be liable to the other Party for any expiration of any Service in accordance with the terms of the applicable SLA or, excepting Section 12.2 ("Termination for Cause"), this Agreement in accordance with its terms.

12.4 Effect of Termination . Upon the effective date of termination of a Service pursuant to this Agreement:

12.4.1 Termination of Service . RagingWire will immediately cease providing such Service;

12.4.2 Payment . Any and all payment obligations of Customer under this Agreement for such Service provided through the date of termination shall immediately become due and payable, and such payment obligations shall accrue interest, from the date that is thirty (30) days after the final invoice date for such Service, at the Applicable Rate; and

12.4.3 Return of Equipment . Subject to Section 12.5 ("Customer Equipment as Security"), within ten (10) business days of such termination Customer shall, with respect to such Service: (i) remove from the Data Center(s) all associated Customer Equipment (excluding any RagingWire Supplied Equipment) and any other Customer property; (ii) deliver or make available all associated RagingWire Supplied Equipment to an authorized representative of RagingWire; and (iii) return the Customer Area to RagingWire in the same condition as it was on the Service Commencement Date, normal wear and tear excepted. If Customer does not remove the Customer Equipment and other Customer property within such ten (10) business day period, RagingWire will have the option to (i) move any and all such property to secure storage and

charge Customer for the cost of such removal and storage, and/or (ii) liquidate the property in any reasonable manner.

12.5 Survival. The following will survive any expiration or termination of this Agreement: Sections 3.2, 5, 6.1, 6.2, 6.4, 7.2, 7.4, 7.5, 8, 9.4, 9.5, 10, 11, 12 and 13.

13. MISCELLANEOUS PROVISIONS

13.1 Force Majeure . Excepting any financial obligations arising under this Agreement, neither RagingWire nor Customer shall be liable for any failure or delay in its performance, including Service Outages, under this Agreement due to any cause beyond its reasonable control, including, without limitation, acts of war, acts of God, earthquake, flood, fire, embargo, riot, sabotage, labor dispute, strike or lockout, failure of an energy provider to supply power, governmental act or failure of the Internet (not resulting from the actions or inactions of a Party) (each, a **"Force Majeure Event"**), provided that the delayed Party: (i) gives the other Party prompt notice of such cause; and (ii) uses commercially reasonable efforts to correct such failure or delay in performance. In the event that a Force Majeure event continues for a period of five (5) business days, either party shall have the right to terminate this Agreement and any SLA upon written notice to the other party.

13.2 No Lease; Other Limitations . This Agreement is an agreement for services and is not intended to and shall not constitute a lease of any real property or a transaction for the sale of goods. Customer acknowledges and agrees that: (i) it has been granted only a non-exclusive, non-transferable revocable license to occupy the Customer Area and use the Data Center(s) and any RagingWire Supplied Equipment in accordance with this Agreement; (ii) Customer has not been granted any real property interest in the Customer Area or Data Center(s); (iii) Customer has no rights as a tenant or otherwise under any real property or landlord/tenant laws, regulations, or ordinances and to the full extent permissible under law waives and releases any rights or remedies with respect thereto; (iv) this Agreement, to the extent it involves the use of space or property leased by RagingWire, shall be subordinate to any lease between RagingWire and its landlord(s); and (v) the expiration or termination of any such lease shall terminate this Agreement as to such space or property subject to Customer retaining any rights or claims it may have against RagingWire arising from the expiration or termination of such lease. Customer hereby waives and releases any claims or rights to make a claim that it may have against the landlord(s) and RagingWire under any lease by RagingWire with respect to any Customer Equipment or other property of Customer located in the premises demised to RagingWire by such landlord(s). Customer will comply with all Rules and Regulations concerning use and occupancy of the Customer Area and other areas in the facilities. Except as expressly provided in Section 13.10 ("Assignment"), Customer shall have no right to transfer its rights of use and occupancy of the Customer Area or Data Center(s) or the RagingWire Supplied Equipment in whole or in part, and any attempted sublicense or transfer of its right of use and occupancy under the licenses granted under this Agreement shall be void.

13.3 Marketing . Customer agrees that during the term of this Agreement RagingWire may publicly refer to Customer, orally and in writing, as a customer of RagingWire upon the prior written consent of Customer. Any other public reference to Customer by RagingWire will require Customer's prior written consent which consent may be for any reason or no reason withheld.

13.4 Government Regulations . Customer will not export, re-export, transfer, or make available, whether directly or indirectly, any regulated item or information to anyone outside the United States in connection with this Agreement without first complying with all export control laws and regulations which may be imposed by the U.S. Government and any country or organization of nations within whose jurisdiction Customer operates or does business.

13.5 Non-Solicitation . During the Term, neither RagingWire nor Customer will, and each Party will ensure that its respective affiliates do not, directly or indirectly, solicit or attempt to solicit for employment any persons employed by the other Party. Customer further agrees that during the Term, it will not, directly or indirectly, solicit or attempt to solicit for employment any persons contracted by RagingWire to provide any Services to Customer.

13.6 No Third Party Beneficiaries . RagingWire and Customer each agrees that, except as otherwise expressly provided in Section 11 ("Indemnification"), there shall be no third party beneficiaries to this Agreement, including but not limited to the insurance providers for either Party or the customers of Customer.

13.7 Governing Law; Choice of Forum . This Agreement is made under and will be governed by and construed in accordance with the laws of the State of California (except that body of law controlling conflicts of law). The United Nations Convention on Contracts For the International Sale of Goods shall not apply to this Agreement. Any litigation resulting from a dispute or claim arising under or relating to this Agreement shall be resolved in a state or federal court in Sacramento, California. The Parties specifically submit to the personal jurisdiction and subject matter jurisdiction of the state and federal courts located in Sacramento, California.

13.8 Informal Dispute Resolution . The Parties shall endeavor to settle by mutual discussions in good faith any disputes or claims arising under or relating to this Agreement or any SLA, including the existence, validity, interpretation, performance, termination or breach of this Agreement or any SLA. Within ten (10) days of a Party's notice of a dispute or claim, at least one management level representative from each Party who is not directly involved in the dispute and with proper authority to resolve this matter shall meet face to face and exhaust all reasonable efforts to resolve the matter.

13.9 Severability; Waiver . If any provision of this Agreement is determined by any court of competent jurisdiction to be invalid, illegal or unenforceable to any extent, that provision shall, if possible, be construed as though more narrowly drawn, if a narrower construction would avoid such invalidity, illegality or unenforceability or, if that is not possible, such provision shall, to the extent of such invalidity, illegality or unenforceability, be severed, and the remaining provisions of this Agreement shall remain in full force and effect. The waiver of any breach or

default of this Agreement will not constitute a waiver of any subsequent or continuing breach or default, and will not act to amend or negate the rights of the waiving Party.

13.10 Assignment . Customer may assign this Agreement in whole as part of a corporate reorganization, consolidation, merger, or sale of substantially all of its assets with the prior written consent of RagingWire. Customer shall not otherwise assign its rights or delegate its duties under this Agreement either in whole or in part, and any attempted assignment or delegation shall be void. This agreement will bind and inure to the benefit of each party's permitted assigns.

13.11 Notice . Any notice or communication required or permitted to be given under this Agreement may be delivered by hand, deposited with an overnight courier, sent by registered or certified mail, return receipt requested, postage prepaid, or by facsimile followed by such registered or certified mail, in each case to the address or facsimile number of the receiving Party as listed at the end of this Agreement, or at such other address or facsimile number as may later be furnished in writing by either Party to the other Party. Such notice shall be deemed to have been given upon personal delivery, three (3) days after deposit in the mail or upon electronic acknowledgment of receipt of such facsimile transmission. Notwithstanding the foregoing, notices relating to the Services (including, without limitation, invoices and Notices of Service Commencement) may be delivered from RagingWire to Customer by first class mail, postage prepaid and such notices shall be deemed to have been given three (3) days after deposit in the mail.

13.12 Relationship of Parties . RagingWire and Customer are independent contractors and this Agreement will not establish any relationship of partnership, joint venture, employment, franchise or agency between RagingWire and Customer. Neither RagingWire nor Customer will have the power to bind the other or incur obligations on the other's behalf without the other's prior written consent, except as otherwise expressly provided in this Agreement.

13.13 Entire Agreement; Counterparts; Originals . This Agreement, including all other agreements referred to in this Agreement and documents incorporated by reference, constitutes the complete and exclusive agreement between the Parties with respect to the subject matter hereof, and supersedes and replaces any and all prior or contemporaneous discussions, negotiations, understandings and agreements, written and oral, regarding such subject matter. Any terms and conditions in any purchase order or other response by Customer which are additional to or different from the terms and conditions of this Agreement are hereby deemed rejected by RagingWire without need of further notice of rejection, and shall not be of any effect or in any way binding upon RagingWire. Such purchase order or other response shall not be deemed to be made a part of this Agreement. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together shall constitute one and the same instrument. This Agreement may be changed only by a written document signed by authorized representatives of RagingWire and Customer. For purposes of this Agreement, the term **"written"** means anything reduced to a tangible form by a Party, including a printed or handwritten document.

13.14 Interpretation of Conflicting Terms . In the event of a conflict between or among the terms in this Agreement, a SLA, and any other document made a part hereof, the documents shall control in the following order: (i) this Agreement; (ii) the SLA; and then (iii) other documents.

13.15 RagingWire Policies and Procedures . Customer agrees to comply with RagingWire's policies and procedures, including, but not limited to, no tolerance for workplace violence, sexual harrassment, or discrimination. The Policies and Procedures are available for Customer's reference.

13.16 Time is of the Essence . Time is of the essence in RagingWire providing the Services to Customer.

13.17 Right to Inspect Customer Area . Upon advance written notice, Customer may inspect the Customer Area during normal business hours of RagingWire.

IN WITNESS WHEREOF, the Parties have read the foregoing and all documents incorporated in this Agreement and agree and accept such terms as of the Effective Date.

PHOTRONICS, INC.:	**RAGINGWIRE TELECOMMUNICATIONS, INC.:**
Signature: _	Signature: _
Print Name: _	Print Name: _
Title: _	Title: _
Address:	Address:
Facsimile: _	Facsimile: _
E-Mail Address: _	E-Mail Address: _
Date: _	Date: _

Exhibit A

Basic Managed Services	**NRC**	**MRC**

These rates apply for the length of the initial term specified in the Infrastructure SLA.

RagingWire Telecommunications, INC.

Master Services Agreement #1001.0.1

Effective as of January 11, 2002

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Exhibit 10.8

Photronics, Inc.
2007 Long Term Equity Incentive Plan
(as Amended on April 11, 2014)

1. Purposes of the Plan

The purposes of the Plan are to (a) promote the long-term success of the Company and its Subsidiaries and to increase stockholder value by providing Eligible Individuals with incentives to contribute to the long-term growth and profitability of the Company by offering them an opportunity to obtain a proprietary interest in the Company through the grant of equity-based awards and (b) assist the Company in attracting, retaining and motivating highly qualified individuals who are in a position to make significant contributions to the Company and its Subsidiaries.

Upon the Effective Date, no further Awards will be granted under the Prior Plans.

2. Definitions and Rules of Construction

(a) Definitions . For purposes of the Plan, the following capitalized words shall have the meanings set forth below:

" ***Award*** " means an Option, Restricted Stock, Restricted Stock Unit, Stock Appreciation Right, Performance Stock, Performance Unit or Other Award granted by the Committee pursuant to the terms of the Plan.

" ***Award Document*** " means an agreement, certificate or other type or form of document or documentation approved by the Committee that sets forth the terms and conditions of an Award. An Award Document may be in written, electronic or other media, may be limited to a notation on the books and records of the Company and, unless the Committee requires otherwise, need not be signed by a representative of the Company or a Participant.

" ***Beneficial Owner*** " and " ***Beneficially Owned*** " have the meaning set forth in Rule 13d-3 under the Exchange Act.

" ***Board*** " means the Board of Directors of the Company, as constituted from time to time.

" ***Change of Control*** " means:

(i) Any Person becomes the Beneficial Owner, directly or indirectly, of securities of the Company representing thirty-five percent (35%) or more of the combined voting power of the Company's then outstanding securities; or

(ii) The following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the Effective Date, constitute the Board and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest, including, but not limited to, a consent solicitation, relating to the election of directors of the Company) whose appointment or election by the Board or nomination for election by the Company's stockholders was approved or recommended by a vote of at least a majority of the directors then still in office who either were directors on the Effective Date or whose appointment, election or nomination for election was previously so approved or recommended; or

(iii) There is consummated a merger or consolidation of the Company or any Subsidiary with any other corporation, other than (A) a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior to such merger or consolidation continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or any parent thereof), in combination with the ownership of any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, more than fifty percent (50%) of the combined voting power of the securities of the Company or such surviving entity or any parent thereof outstanding immediately after such merger or consolidation, or (B) a merger or consolidation effected to implement a recapitalization of the Company (or similar transaction) in which no Person is or becomes the Beneficial Owner, directly or indirectly, of securities of the Company representing thirty-five percent (35%) or more of the combined voting power of the Company's then outstanding securities; or

(iv) The stockholders of the Company approve a plan of complete liquidation or dissolution of the Company or there is consummated an agreement for the sale or disposition by the company of all or substantially all of the Company's assets, other than a sale or disposition by the Company of all or substantially all of the Company's assets to an entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are owned by stockholders of the Company in substantially the same proportions as their ownership of the Company immediately prior to such sale.

Notwithstanding the foregoing, with respect to an Award that is subject to Section 409A of the Code and the payment or settlement of the Award will accelerate upon a Change of Control, no event set forth herein will constitute a Change of Control for purposes of the Plan or any Award Document unless such event also constitutes a "change in ownership," "change in effective control," or "change in the ownership of a substantial portion of the Company's assets" as defined under Section 409A of the Code.

" ***Code*** " means the Internal Revenue Code of 1986, as amended, and the applicable rulings and regulations promulgated thereunder.

" ***Committee*** " means the Compensation Committee of the Board, any successor committee thereto or any other committee appointed from time to time by the Board to administer the Plan, which committee shall meet the requirements of Section 162(m) of the Code, Section 16(b) of the Exchange Act and the applicable rules of the NASDAQ; *provided, however* , that, if any Committee member is found not to have met the qualification requirements of Section 162(m) of the Code and Section 16(b) of the Exchange Act, any actions taken or Awards granted by the Committee shall not be invalidated by such failure to so qualify.

" ***Common Stock*** " means the common stock of the Company, par value $0.01 per share, or such other class of share or other securities as may be applicable under Section 13 of the Plan.

" ***Company*** " means Photronics, Inc., a Connecticut corporation, or any successor to all or substantially all of the Company's business that adopts the Plan.

" ***EBITDA*** " means earnings before interest, taxes, depreciation and amortization.

" ***Effective Date*** " means the date on which the Plan is adopted by the Board and approved by the Shareholders of the Company.

" ***Eligible Individuals*** " means the individuals described in Section 4(a) of the Plan who are eligible for Awards under the Plan.

" ***Exchange Act*** " means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

" ***Fair Market Value*** " means, with respect to a share of Common Stock, the fair market value on the date of valuation of such Award as determined by the Compensation Committee; provided, however, that with respect to an incentive stock option issued to a 10% or more shareholder, Fair Market Value shall mean 110% of the fair market value or such other percentage as may be permitted by the Code and regulations promulgated thereunder.

" ***Incentive Stock Option*** " means an Option that is intended to comply with the requirements of Section 422 of the Code or any successor provision thereto.

" ***NASDAQ*** " means the NASDAQ Stock Market, Inc.

" ***Non-Employee Director*** " means any member of the Board who is not an officer or employee of the Company or any Subsidiary.

" ***Nonqualified Stock Option*** " means an Option that is not intended to comply with the requirements of Section 422 of the Code or any successor provision thereto.

" ***Option*** " means an Incentive Stock Option or Nonqualified Stock Option granted pursuant to Section 7 of the Plan.

" ***Other Award*** " means any form of Award other than an Option, Restricted Stock, Restricted Stock Unit or Stock Appreciation Right granted pursuant to Section 11 of the Plan.

" ***Participant*** " means an Eligible Individual who has been granted an Award under the Plan.

" ***Performance Period*** " means the period established by the Committee and set forth in the applicable Award Document over which Performance Targets are measured.

" ***Performance Stock*** " means a Target Number of Shares granted pursuant to Section 10(a) of the Plan.

" ***Performance Target*** " means the performance measures established by the Committee, from among the performance criteria provided in Section 6(g), and set forth in the applicable Award Document.

" ***Performance Unit*** " means a right to receive a Target Number of Shares or cash in the future granted pursuant to Section 10(b) of the Plan.

" ***Permitted Transferees*** " means (i) a Participant's family member, (ii) one or more trusts established in whole or in part for the benefit of one or more of such family members, (iii) one or more entities which are beneficially owned in whole or in part by one or more such family members, or (iv) a charitable or not-for-profit organization.

" ***Person*** " means any person, entity or "group" within the meaning of Section 13(d)(3) or Section 14(d)(2) of the Exchange Act, except that such term shall not include (i) the Company or any of its Subsidiaries, (ii) a trustee or other fiduciary holding securities under an employee benefit plan of the Company, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, (iv) a corporation owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company, or (v) a person or group as used in Rule 13d-1(b) under the Exchange Act.

" ***Plan*** " means this 2007 Long Term Equity Incentive Plan, as amended or restated from time to time.

" ***Plan Limit*** " means the maximum aggregate number of Shares that may be issued for all purposes under the Plan as set forth in Section 5 (a) of the Plan.

" ***Prior Plan*** " means the 1996 Stock Option Plan, the 1998 Stock Option Plan, and the 2000 Stock Plan, as amended from time to time.

" ***Restricted Stock*** " means one or more Shares granted or sold pursuant to Section 8(a) of the Plan.

" ***Restricted Stock Unit*** " means a right to receive one or more Shares (or cash, if applicable) in the future granted pursuant to Section 8(b) of the Plan.

" ***Shares*** " means shares of Common Stock, as may be adjusted pursuant to Section 13(b).

" ***Stock Appreciation Right*** " means a right to receive all or some portion of the appreciation on Shares granted pursuant to Section 9 of the Plan.

" ***Subsidiary*** " means (i) a corporation or other entity with respect to which the Company, directly or indirectly, has the power, whether through the ownership of voting securities, by contract or otherwise, to elect at least a majority of the members of such corporation's board of directors or analogous governing body, or (ii) any other corporation or other entity in which the Company, directly or indirectly, has an equity or similar interest and which the Committee designates as a Subsidiary for purposes of the Plan. For purposes of determining eligibility for the grant of Incentive Stock Options under the Plan, the term "Subsidiary" shall be defined in the manner required by Section 424(f) of the Code.

" ***Substitute Award*** " means any Award granted upon assumption of, or in substitution or exchange for, outstanding employee equity awards previously granted by a company or other entity acquired by the Company or with which the Company combines pursuant to the terms of an equity compensation plan that was approved by the stockholders of such company or other entity.

" ***Target Number*** " means the target number of Shares or cash value established by the Committee and set forth in the applicable Award Document.

(b) Rules of Construction . The masculine pronoun shall be deemed to include the feminine pronoun, and the singular form of a word shall be deemed to include the plural form, unless the context requires otherwise. Unless the text indicates otherwise, references to sections are to sections of the Plan.

3. Administration

(a) Committee . The Plan shall be administered by the Committee, which shall have full power and authority, subject to the express provisions hereof, to:

(i) select the Participants from the Eligible Individuals;

(ii) grant Awards in accordance with the Plan;

(iii) determine the number of Shares subject to each Award or the cash amount payable in connection with an Award;

(iv) determine the terms and conditions of each Award, including, without limitation, those related to term, permissible methods of exercise, vesting, cancellation, payment, settlement, exercisability, Performance Periods, Performance Targets, and the effect, if any, of a Participant's termination of employment with the Company or any of its Subsidiaries or, subject to Section 6(d), a Change of Control of the Company;

(v) subject to Sections 16 and 17(e) of the Plan, amend the terms and conditions of an Award after the granting thereof;

(vi) specify and approve the provisions of the Award Documents delivered to Participants in connection with their Awards;

(vii) construe and interpret any Award Document delivered under the Plan;

(viii) make factual determinations in connection with the administration or interpretation of the Plan;

(ix) adopt, prescribe, amend, waive and rescind administrative regulations, rules and procedures relating to the Plan;

(x) employ such legal counsel, independent auditors and consultants as it deems desirable for the administration of the Plan and to rely upon any advice, opinion or computation received therefrom;

(xi) vary the terms of Awards to take account of tax and securities law and other regulatory requirements or to procure favorable tax treatment for Participants;

(xii) correct any defects, supply any omission or reconcile any inconsistency in any Award Document or the Plan; and

(xiii) make all other determinations and take any other action desirable or necessary to interpret, construe or implement properly the provisions of the Plan or any Award Document.

(b) Plan Construction and Interpretation . The Committee shall have full power and authority, subject to the express provisions hereof, to construe and interpret the Plan.

(c) Determinations of Committee Final and Binding . All determinations by the Committee in carrying out and administering the Plan and in construing and interpreting the Plan shall be made in the Committee's sole discretion and shall be final, binding and conclusive for all purposes and upon all persons interested herein.

(d) Delegation of Authority . To the extent not prohibited by applicable laws, rules and regulations, the Committee may, from time to time, delegate some or all of its authority under the Plan to a subcommittee or subcommittees thereof or other persons or groups of persons as it deems necessary, appropriate or advisable under such conditions or limitations as it may set at the time of such delegation or thereafter; *provided , however ,* that the Committee may not delegate its authority (i) to make Awards to employees (A) who are subject on the date of the Award to the reporting rules under Section 16(a) of the Exchange Act, (B) whose compensation for such fiscal year may be subject to the limit on deductible compensation pursuant to Section 162(m) of the Code or (C) who are officers of the Company who are delegated authority by the Committee hereunder, or (ii) pursuant to Section 16 of the Plan. For purposes of the Plan, reference to the Committee shall be deemed to refer to any subcommittee, subcommittees, or other persons or groups of persons to whom the Committee delegates authority pursuant to this Section 3(d).

(e) Liability of Committee . Subject to applicable laws, rules and regulations: (i) no member of the Board or Committee (or its delegates) shall be liable for any good faith action or determination made in connection with the operation, administration or interpretation of the Plan and (ii) the members of the Board or the Committee (and its delegates) shall be entitled to indemnification and reimbursement in the manner provided in the Company's Certificate of Incorporation as it may be amended from time to time. In the performance of its responsibilities with respect to the Plan, the Committee shall be entitled to rely upon information and/or advice furnished by the Company's officers or employees, the Company's accountants, the Company's counsel and any other party the Committee deems necessary, and no member of the Committee shall be liable for any action taken or not taken in reliance upon any such information and/or advice.

(f) Action by the Board . Anything in the Plan to the contrary notwithstanding, subject to applicable laws, rules and regulations, any authority or responsibility that, under the terms of the Plan, may be exercised by the Committee may alternatively be exercised by the Board.

4. Eligibility

(a) Eligible Individuals . Awards may be granted to officers, employees, directors, Non-Employee Directors, consultants, advisors and independent contractors of the Company or any of its Subsidiaries or joint ventures, partnerships or business organizations in which the Company or its Subsidiaries have an equity interest; *provided , however* , that only employees of the Company or Subsidiary may be granted Incentive Stock Options. The Committee shall have the authority to select the persons to whom Awards may be granted and to determine the type, number and terms of Awards to be granted to each such Participant. Under the Plan, references to "employment" or "employed" include the engagement of Participants who are consultants, advisors and independent contractors of the Company or its Subsidiaries and the service of Participants who are Non-Employee Directors, except for purposes of determining eligibility to be granted Incentive Stock Options.

(b) Grants to Participants . The Committee shall have no obligation to grant any Eligible Individual an Award or to designate an Eligible Individual as a Participant solely by reason of such Eligible Individual having received a prior Award or having been previously designated as a Participant. The Committee may grant more than one Award to a Participant and may designate an Eligible Individual as a Participant for overlapping periods of time.

5. Shares Subject to the Plan

(a) Plan Limit . Subject to adjustment in accordance with Section 13 of the Plan, the maximum aggregate number of Shares that may be issued for all purposes under the Plan shall be nine million (9,000,000) plus any Shares that are available for issuance under the Prior Plans or that become available for issuance upon cancellation or expiration of awards granted under the Prior Plans without having been exercised or settled. Shares to be issued under the Plan may be authorized and unissued shares, issued shares that have been reacquired by the Company (in the open-market or in private transactions) and that are being held in treasury, or a combination thereof. All of the Shares subject to the Plan Limit may be issued pursuant to Incentive Stock Options.

(b) Rules Applicable to Determining Shares Available for Issuance . The number of Shares remaining available for issuance will be reduced by the number of Shares subject to outstanding Awards and, for Awards that are not denominated by Shares, by the number of Shares actually delivered upon settlement or payment of the Award. For purposes of determining the number of Shares that remain available for issuance under the Plan, (i) the number of Shares that are tendered by a Participant or withheld by the Company to pay the exercise price of an Award or to satisfy the Participant's tax withholding obligations in connection with the exercise or settlement of an Award and (ii) all of the Shares covered by a stock-settled Stock Appreciation Right to the extent exercised, will not be added back to the Plan Limit. In addition, for purposes of determining the number of Shares that remain available for issuance under the Plan, the number of Shares corresponding to Awards under the Plan that are forfeited or cancelled or otherwise expire for any reason without having been exercised or settled or that is settled through issuance of consideration other than Shares (including, without limitation, cash) shall be added back to the Plan Limit and again be available for the grant of Awards; *provided , however* , that this provision shall not be applicable with respect to (i) the cancellation of a Stock Appreciation Right granted in tandem with an Option upon the exercise of the Option or (ii) the cancellation of an Option granted in tandem with a Stock Appreciation Right upon the exercise of the Stock Appreciation.

(c) Special Limits . Anything to the contrary in Section 5(a) above notwithstanding, but subject to adjustment under Section 13 of the Plan, the following special limits shall apply to Shares available for Awards under the Plan:

(i) the maximum number of Shares that may be issued pursuant to awards of Restricted Stock, Restricted Stock Units, Performance Stock, Performance Units, other full value awards, and Other Awards that are payable in Shares granted under the Plan shall equal one million (1,000,000) Shares in the aggregate;

(ii) the maximum amount of Awards (other than those Awards set forth in Section 5(c)) that may be awarded to any Eligible Individual in any calendar year is fifteen percent of the Shares measured as of the date of grant (with respect to Awards denominated in Shares).

(d) Any Shares underlying Substitute Awards shall not be counted against the number of Shares remaining for issuance and shall not be subject to Section 5(c).

6. Awards in General

(a) Types of Awards . Awards under the Plan may consist of Options, Restricted Stock, Restricted Stock Units, Stock Appreciation Rights, Performance Stock, Performance Units and Other Awards. Any Award described in Sections 7 through 11 of the Plan may be granted singly or in combination or tandem with any other Award, as the Committee may determine. Awards under the Plan may be made in combination with, in replacement of, or as alternatives to awards or rights under any other compensation or benefit plan of the Company, including the plan of any acquired entity.

(b) Terms Set Forth in Award Document . The terms and conditions of each Award shall be set forth in an Award Document in a form approved by the Committee for such Award, which Award Document shall contain terms and conditions not inconsistent with the Plan. Notwithstanding the foregoing, and subject to applicable laws, the Committee may accelerate (i) the vesting or payment of any Award, (ii) the lapse of restrictions on any Award or (iii) the date on which any Award first becomes exercisable. The terms of Awards may vary among Participants, and the Plan does not impose upon the Committee any requirement to make Awards subject to uniform terms. Accordingly, the terms of individual Award Documents may vary.

(c) Termination of Employment . The Committee shall specify at or after the time of grant of an Award the provisions governing the disposition of an Award in the event of a Participant's termination of employment with the Company or any of its Subsidiaries. Subject to applicable laws, rules and regulations, in connection with a Participant's termination of employment, the Committee shall have the discretion to accelerate the vesting, exercisability or settlement of, eliminate the restrictions and conditions applicable to, or extend the post-termination exercise period of an outstanding Award. Such provisions may be specified in the applicable Award Document or determined at a subsequent time.

(d) Change of Control . (i) The Committee shall have full authority to determine the effect, if any, of a Change of Control of the Company or any Subsidiary on the vesting, exercisability, settlement, payment or lapse of restrictions applicable to an Award, which effect may be specified in the applicable Award Document or determined at a subsequent time. Subject to applicable laws, rules and regulations, the Board or the Committee shall, at any time prior to, coincident with or after the effective time of a Change of Control, take such actions as it may consider appropriate, including, without limitation: (A) providing for the acceleration of any vesting conditions relating to the exercise or settlement of an Award or that an Award shall terminate or expire unless exercised or settled in full on or before a date fixed by the Committee; (B) making such adjustments to the Awards then outstanding as the Committee deems appropriate to reflect such Change of Control; (C) causing the Awards then outstanding to be assumed, or new rights substituted therefor, by the surviving corporation in such Change of Control; or (D) permit or require Participants to surrender outstanding Options and Stock Appreciation Rights in exchange for a cash payment, if any, equal to the difference between the highest price paid for a Share in the Change of Control transaction and the Exercise Price of the Award. In addition, except as otherwise specified in an Award Document (or a Participant's written employment agreement with the Company or any Subsidiary):

(1) any and all Options and Stock Appreciation Rights outstanding as of the effective date of the Change of Control shall become immediately exercisable, and shall remain exercisable until the earlier of the expiration of their initial term or the second (2 nd) anniversary of the Participant's termination of employment with the Company;

(2) any restrictions imposed on Restricted Stock and Restricted Stock Units outstanding as of the effective date of the Change of Control shall lapse;

(3) the Performance Targets with respect to all Performance Units, Performance Stock and other performance-based Awards granted pursuant to Sections 6(g) or 10 outstanding as of the effective date of the Change of Control shall be deemed to have been attained at the specified target level of performance; and

(4) the vesting of all Awards denominated in Shares outstanding as of the effective date of the Change in Control shall be accelerated.

(ii) Subject to applicable laws, rules and regulations, the Committee may provide, in an Award Document or subsequent to the grant of an Award for the accelerated vesting, exercisability and/or the deemed attainment of a Performance Target with respect to an Award upon specified events similar to a Change of Control.

(iii) Notwithstanding any other provision of the Plan or any Award Document, the provisions of this Section 6(d) may not be terminated, amended, or modified upon or after a Change of Control in a manner that would adversely affect a Participant's rights with respect to an outstanding Award without the prior written consent of the Participant. Subject to Section 16, the Board, upon recommendation of the Committee, may terminate, amend or modify this Section 6(d) at any time and from time to time prior to a Change of Control.

(e) Dividends and Dividend Equivalents . The Committee may provide Participants with the right to receive dividends or payments equivalent to dividends or interest with respect to an outstanding Award, which payments can either be paid currently or deemed to have been reinvested in Shares, and can be made in Shares, cash or a combination thereof, as the Committee shall determine; *provided, however,* that the terms of any reinvestment of dividends must comply with all applicable laws, rules and regulations, including, without limitation, Section 409A of the Code. Notwithstanding the foregoing, no dividends or dividend equivalents shall be paid with respect to Options or Stock Appreciation Rights.

(f) Rights of a Stockholder . A Participant shall have no rights as a stockholder with respect to Shares covered by an Award (including voting rights) until the date the Participant or his nominee becomes the holder of record of such Shares. No adjustment shall be made for dividends or other rights for which the record date is prior to such date, except as provided in Section 13.

(g) Performance-Based Awards . (i) The Committee may determine whether any Award under the Plan is intended to be "performance-based compensation" as that term is used in Section 162(m) of the Code. Any such Awards designated to be "performance-based compensation" shall be conditioned on the achievement of one or more Performance Targets to the extent required by Section 162(m) of the Code and will be subject to all other conditions and requirements of Section 162(m). The Performance Targets will be comprised of specified levels of one or more of the following performance criteria as the Committee deems appropriate: net income; cash flow or cash flow on investment; pre-tax or post-tax profit levels or earnings; operating earnings; return on investment; earned value added expense reduction levels; free cash flow; free cash flow per share; earnings per share; net earnings per share; return on assets; return on net assets; return on equity; return on capital; return on sales; growth in managed assets; operating margin; total stockholder return or stock price appreciation; EBITDA; adjusted EBITDA; revenue; revenue before deferral, in each case determined in accordance with generally accepted accounting principles (subject to modifications approved by the Committee) consistently applied on a business unit, divisional, subsidiary or consolidated basis or any combination thereof. The Performance Targets may be described in terms of objectives that are related to the individual Participant or objectives that are Company-wide or related to a Subsidiary, division, department, region, function or business unit and may be measured on an absolute or cumulative basis or on the basis of percentage of improvement over time, and may be measured in terms of Company performance (or performance of the applicable Subsidiary, division, department, region, function or business unit) or measured relative to selected peer

companies or a market index. In addition, for Awards not intended to qualify as "performance-based compensation" under Section 162(m) of the Code, the Committee may establish Performance Targets based on other criteria as it deems appropriate.

(ii) The Participants will be designated, and the applicable Performance Targets will be established, by the Committee within ninety (90) days following the commencement of the applicable Performance Period (or such earlier or later date permitted or required by Section 162 (m) of the Code). Each Participant will be assigned a Target Number payable if Performance Targets are achieved. Any payment of an Award granted with Performance Targets shall be conditioned on the written certification of the Committee in each case that the Performance Targets and any other material conditions were satisfied. The Committee may determine, at the time of Award grant, that if performance exceeds the specified Performance Targets, the Award may be settled with payment greater than the Target Number, but in no event may such payment exceed the limits set forth in Section 5(c). The Committee retains the right to reduce any Award notwithstanding the attainment of the Performance Targets.

(h) Deferrals . In accordance with the procedures authorized by, and subject to the approval of, the Committee, Participants may be given the opportunity to defer the payment or settlement of an Award to one or more dates selected by the Participant; *provided* , *however* , that the terms of any deferrals must comply with all applicable laws, rules and regulations, including, without limitation, Section 409A of the Code. No deferral opportunity shall exist with respect to an Award unless explicitly permitted by the Committee on or after the time of grant.

(i) Repricing of Options and Stock Appreciation Rights . Notwithstanding anything in the Plan to the contrary, an Option or Stock Appreciation Right shall not be granted in substitution for a previously granted Option or Stock Appreciation Right being canceled or surrendered as a condition of receiving a new Award, if the new Award would have a lower exercise price than the Award it replaces, nor shall the exercise price of an Option or Stock Appreciation Right be reduced once the Option or Stock Appreciation Right is granted. The foregoing shall not (i) prevent adjustments pursuant to Section 13 or (ii) apply to grants of Substitute Awards.

7. Terms and Conditions of Options

(a) General . The Committee, in its discretion, may grant Options to Eligible Individuals and shall determine whether such Options shall be Incentive Stock Options or Nonqualified Stock Options. Each Option shall be evidenced by an Award Document that shall expressly identify the Option as an Incentive Stock Option or Nonqualified Stock Option, and be in such form and contain such provisions as the Committee shall from time to time deem appropriate.

(b) Exercise Price . The exercise price of an Option shall be fixed by the Committee at the time of grant or shall be determined by a method specified by the Committee at the time of grant. In no event shall the exercise price of an Option be less than one hundred percent (100%) of the Fair Market Value of a Share on the date of grant; *provided* , *however* that the exercise price of a Substitute Award granted as an Option shall be determined in accordance with Section 409A of the Code and may be less than one hundred percent (100%) of the Fair Market Value.

(c) Term . An Option shall be effective for such term as shall be determined by the Committee and as set forth in the Award Document relating to such Option, and the Committee may extend the term of an Option after the time of grant; *provided* , *however* , that the term of an Option may in no event extend beyond the tenth (10^{th}) anniversary of the date of grant of such Option.

(d) Exercise; Payment of Exercise Price . Options shall be exercised by delivery of a notice of exercise in a form approved by the Company. Subject to the provisions of the applicable Award Document, the exercise price of an Option may be paid (i) in cash or cash equivalents, (ii) by actual delivery or attestation to ownership of freely transferable Shares already owned by the person exercising the Option, (iii) by a combination of cash and Shares equal in value to the exercise price, (iv) through net share settlement or similar procedure involving the withholding of Shares subject to the Option with a value equal to the exercise price or (v) by such other means as the Committee may

authorize. In accordance with the rules and procedures authorized by the Committee for this purpose, the Option may also be exercised through a "cashless exercise" procedure authorized by the Committee from time to time that permits Participants to exercise Options by delivering irrevocable instructions to a broker to deliver promptly to the Company the amount of sale or loan proceeds necessary to pay the exercise price and the amount of any required tax or other withholding obligations or such other procedures determined by the Company from time to time.

(e) Incentive Stock Options . The exercise price per Share of an Incentive Stock Option shall be fixed by the Committee at the time of grant or shall be determined by a method specified by the Committee at the time of grant, but in no event shall the exercise price of an Incentive Stock Option be less than one hundred percent (100%) of the Fair Market Value of a Share on the date of grant. No Incentive Stock Option may be issued pursuant to the Plan to any individual who, at the time the Incentive Stock Option is granted, owns stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any of its Subsidiaries, unless (i) the exercise price determined as of the date of grant is at least one hundred ten percent (110%) of the Fair Market Value on the date of grant of the Shares subject to such Incentive Stock Option and (ii) the Incentive Stock Option is not exercisable more than five (5) years from the date of grant thereof. No Participant shall be granted any Incentive Stock Option which would result in such Participant receiving a grant of Incentive Stock Options that would have an aggregate Fair Market Value in excess of one hundred thousand dollars ($100,000), determined as of the time of grant, that would be exercisable for the first time by such Participant during any calendar year. No Incentive Stock Option may be granted under the Plan after the tenth anniversary of the Effective Date. The terms of any Incentive Stock Option granted under the Plan shall comply in all respects with the provisions of Section 422 of the Code, or any successor provision thereto, as amended from time to time.

8. Terms and Conditions of Restricted Stock and Restricted Stock Units

(a) Restricted Stock . The Committee, in its discretion, may grant or sell Restricted Stock to Eligible Individuals. An Award of Restricted Stock shall consist of one or more Shares granted or sold to an Eligible Individual, and shall be subject to the terms, conditions and restrictions set forth in the Plan and established by the Committee in connection with the Award and specified in the applicable Award Document. Restricted Stock may, among other things, be subject to restrictions on transferability, vesting requirements or other specified circumstances under which it may be canceled.

(b) Restricted Stock Units . The Committee, in its discretion, may grant Restricted Stock Units to Eligible Individuals. A Restricted Stock Unit shall entitle a Participant to receive, subject to the terms, conditions and restrictions set forth in the Plan and the applicable Award Document, one or more Shares. Restricted Stock Units may, among other things, be subject to restrictions on transferability, vesting requirements or other specified circumstances under which they may be canceled. If and when the cancellation provisions lapse, the Restricted Stock Units shall become Shares owned by the applicable Participant or, at the sole discretion of the Committee, cash, or a combination of cash and Shares, with a value equal to the Fair Market Value of the Shares at the time of payment.

9. Stock Appreciation Rights

(a) General . The Committee, in its discretion, may grant Stock Appreciation Rights to Eligible Individuals. A Stock Appreciation Right shall entitle a Participant to receive, upon satisfaction of the conditions to payment specified in the applicable Award Document, an amount equal to the excess, if any, of the Fair Market Value on the exercise date of the number of Shares for which the Stock Appreciation Right is exercised over the grant price for such Stock Appreciation Right specified in the applicable Award Document. The grant price per share of Shares covered by a Stock Appreciation Right shall be fixed by the Committee at the time of grant or, alternatively, shall be determined by a method specified by the Committee at the time of grant, but in no event shall the grant price of a Stock Appreciation Right be less than one hundred percent (100%) of the Fair Market Value of a Share on the date of grant; *provided* , *however* , that the grant price of a Substitute Award granted as a Stock Appreciation Rights shall be in accordance with Section 409A of the Code and may be less than one hundred percent (100%) of the Fair Market Value. Payments to a Participant upon exercise of a Stock Appreciation Right may be made in cash or Shares, having

an aggregate Fair Market Value as of the date of exercise equal to the excess, if any, of the Fair Market Value on the exercise date of the number of Shares for which the Stock Appreciation Right is exercised over the grant price for such Stock Appreciation Right. The term of a Stock Appreciation Right settled in Shares shall not exceed seven (7) years.

(b) Stock Appreciation Rights in Tandem with Options . A Stock Appreciation Right granted in tandem with an Option may be granted either at the same time as such Option or subsequent thereto. If granted in tandem with an Option, a Stock Appreciation Right shall cover the same number of Shares as covered by the Option (or such lesser number of shares as the Committee may determine) and shall be exercisable only at such time or times and to the extent the related Option shall be exercisable, and shall have the same term as the related Option. The grant price of a Stock Appreciation Right granted in tandem with an Option shall equal the per-share exercise price of the Option to which it relates. Upon exercise of a Stock Appreciation Right granted in tandem with an Option, the related Option shall be canceled automatically to the extent of the number of Shares covered by such exercise; conversely, if the related Option is exercised as to some or all of the shares covered by the tandem grant, the tandem Stock Appreciation Right shall be canceled automatically to the extent of the number of Shares covered by the Option exercise.

10. Terms and Conditions of Performance Stock and Performance Units

(a) Performance Stock . The Committee may grant Performance Stock to Eligible Individuals. An Award of Performance Stock shall consist of a Target Number of Shares granted to an Eligible Individual based on the achievement of Performance Targets over the applicable Performance Period, and shall be subject to the terms, conditions and restrictions set forth in the Plan and established by the Committee in connection with the Award and specified in the applicable Award Document.

(b) Performance Units . The Committee, in its discretion, may grant Performance Units to Eligible Individuals. A Performance Unit shall entitle a Participant to receive, subject to the terms, conditions and restrictions set forth in the Plan and established by the Committee in connection with the Award and specified in the applicable Award Document, a Target Number of Shares or cash based upon the achievement of Performance Targets over the applicable Performance Period. At the sole discretion of the Committee, Performance Units shall be settled through the delivery of Shares or cash, or a combination of cash and Shares, with a value equal to the Fair Market Value of the underlying Shares as of the last day of the applicable Performance Period.

11. Other Awards

The Committee shall have the authority to specify the terms and provisions of other forms of equity-based or equity-related Awards not described above that the Committee determines to be consistent with the purpose of the Plan and the interests of the Company, which Awards may provide for cash payments based in whole or in part on the value or future value of Shares, for the acquisition or future acquisition of Shares, or any combination thereof.

12. Certain Restrictions

(a) Transfers . No Award shall be transferable other than pursuant to a beneficiary designation under Section 12(c), by last will and testament or by the laws of descent and distribution or, except in the case of an Incentive Stock Option, pursuant to a domestic relations order, as the case may be; *provided , however* , that the Committee may, subject to applicable laws, rules and regulations and such terms and conditions as it shall specify, permit the transfer of an Award, other than an Incentive Stock Option, for no consideration to a Permitted Transferee. Any Award transferred to a Permitted Transferee shall be further transferable only by last will and testament or the laws of descent and distribution or, for no consideration, to another Permitted Transferee of the Participant.

(b) Award Exercisable Only by Participant . During the lifetime of a Participant, an Award shall be exercisable only by the Participant or by a Permitted Transferee to whom such Award has been transferred in accordance with Section 12(a) above. The grant of an Award shall impose no obligation on a Participant to exercise or settle the Award.

(c) Beneficiary Designation . The beneficiary or beneficiaries of the Participant to whom any benefit under the Plan is to be paid in case of his death before he receives any or all of such benefit shall be determined under the Company's Group Life Insurance Plan. A Participant may, from time to time, name any beneficiary or beneficiaries to receive any benefit in case of his death before he receives any or all of such benefit. Each such designation shall revoke all prior designations by the same Participant, including the beneficiary designated under the Company's Group Life Insurance Plan, and will be effective only when filed by the Participant in writing (in such form or manner as may be prescribed by the Committee) with the Company during the Participant's lifetime. In the absence of a valid designation under the Company's Group Life Insurance Plan or otherwise, if no validly designated beneficiary survives the Participant or if each surviving validly designated beneficiary is legally impaired or prohibited from receiving the benefits under an Award, the Participant's beneficiary shall be the Participant's estate.

13. Recapitalization or Reorganization

(a) Authority of the Company and Stockholders . The existence of the Plan, the Award Documents and the Awards granted hereunder shall not affect or restrict in any way the right or power of the Company or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or business, any merger or consolidation of the Company, any issue of stock or of options, warrants or rights to purchase stock or of bonds, debentures, preferred or prior preference stocks whose rights are superior to or affect the Shares or the rights thereof or which are convertible into or exchangeable for Shares, or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

(b) Change in Capitalization . Notwithstanding any provision of the Plan or any Award Document, the number and kind of Shares authorized for issuance under Section 5 of the Plan, including the maximum number of Shares available under the special limits provided for in Section 5(c), may be equitably adjusted in the sole discretion of the Committee in the event of a stock split, reverse stock spit, stock dividend, recapitalization, reorganization, partial or complete liquidation, reclassification, merger, consolidation, separation, extraordinary cash dividend, split-up, spin-off, combination, exchange of Shares, warrants or rights offering to purchase Shares at a price substantially below Fair Market Value, or any other corporate event or distribution of stock or property of the Company affecting the Shares in order to preserve, but not increase, the benefits or potential benefits intended to be made available under the Plan. In addition, upon the occurrence of any of the foregoing events, the number and kind of Shares subject to any outstanding Award and the exercise price per Share (or the grant price per Share, as the case may be), if any, under any outstanding Award may be equitably adjusted (including by payment of cash to a Participant) in the sole discretion of the Committee in order to preserve the benefits or potential benefits intended to be made available to Participants. Such adjustments shall be made by the Committee. Unless otherwise determined by the Committee, such adjusted Awards shall be subject to the same restrictions and vesting or settlement schedule to which the underlying Award is subject.

14. Term of the Plan

Unless earlier terminated pursuant to Section 16, the Plan shall terminate on the tenth (10 th) anniversary of the Effective Date, except with respect to Awards then outstanding. No Awards may be granted under the Plan after the tenth (10 th) anniversary of the Effective Date.

15. Effective Date

The Plan shall become effective on the Effective Date, subject to approval by the stockholders of the Company.

16. Amendment and Termination

Subject to applicable laws, rules and regulations, the Board may at any time terminate or, from time to time, amend, modify or suspend the Plan; *provided* , *however* , that no termination, amendment, modification or suspension (i) will be effective without the approval of the stockholders of the Company if such approval is required under applicable laws, rules and regulations, including the rules of NASDAQ and (ii) shall materially and adversely alter or impair the rights of a Participant in any Award previously made under the Plan without the consent of the holder thereof. Notwithstanding the foregoing, the Board shall have broad authority to amend the Plan or any Award under the Plan without the consent of a Participant to the extent it deems necessary or desirable (a) to comply with, take into account changes in, or interpretations of, applicable tax laws, securities laws, employment laws, accounting rules and other applicable laws, rules and regulations, (b) to take into account unusual or nonrecurring events or market conditions (including, without limitation, the events described in Section 13(b)), or (c) to take into account significant acquisitions or dispositions of assets or other property by the Company.

17. Miscellaneous

(a) Tax Withholding . The Company or a Subsidiary, as appropriate, may require any individual entitled to receive a payment of an Award to remit to the Company, prior to payment, an amount sufficient to satisfy any applicable tax withholding requirements. In the case of an Award payable in Shares, the Company or a Subsidiary, as appropriate, may permit or require a Participant to satisfy, in whole or in part, such obligation to remit taxes by directing the Company to withhold shares that would otherwise be received by such individual or to repurchase shares that were issued to the Participant to satisfy the minimum statutory withholding rates for any applicable tax withholding purposes, in accordance with all applicable laws and pursuant to such rules as the Committee may establish from time to time. The Company or a Subsidiary, as appropriate, shall also have the right to deduct from all cash payments made to a Participant (whether or not such payment is made in connection with an Award) any applicable taxes required to be withheld with respect to such payments.

(b) No Right to Awards or Employment . No person shall have any claim or right to receive Awards under the Plan. Neither the Plan, the grant of Awards under the Plan nor any action taken or omitted to be taken under the Plan shall be deemed to create or confer on any Eligible Individual any right to be retained in the employ of the Company or any Subsidiary or other affiliate thereof, or to interfere with or to limit in any way the right of the Company or any Subsidiary or other affiliate thereof to terminate the employment of such Eligible Individual at any time. No Award shall constitute salary, recurrent compensation or contractual compensation for the year of grant, any later year or any other period of time. Payments received by a Participant under any Award made pursuant to the Plan shall not be included in, nor have any effect on, the determination of employment-related rights or benefits under any other employee benefit plan or similar arrangement provided by the Company and the Subsidiaries, unless otherwise specifically provided for under the terms of such plan or arrangement or by the Committee.

(c) Securities Law Restrictions . An Award may not be exercised or settled, and no Shares may be issued in connection with an Award, unless the issuance of such shares (i) has been registered under the Securities Act of 1933, as amended, (ii) has qualified under applicable state “blue sky” laws (or the Company has determined that an exemption from registration and from qualification under such state “blue sky” laws is available) and (iii) complies with all applicable foreign securities laws. The Committee may require each Participant purchasing or acquiring Shares pursuant to an Award under the Plan to represent to and agree with the Company in writing that such Eligible Individual is acquiring the Shares for investment purposes and not with a view to the distribution thereof. All certificates for Shares delivered under the Plan shall be subject to such stock-transfer orders and other restrictions as the Committee may deem advisable under the rules, regulations, and other requirements of the Securities and Exchange Commission, any exchange upon which the Shares are then listed, and any applicable securities law, and the Committee may cause a legend or legends to be put on any such certificates to make appropriate reference to such restrictions.

(d) Section 162(m) of the Code . The Plan is intended to comply in all respects with Section 162(m) of the Code; *provided , however* , that in the event the Committee determines that compliance with Section 162(m) of the Code is not desired with respect to a particular Award, compliance with Section 162(m) of the Code will not be required. In addition, if any provision of this Plan would cause Awards that are intended to constitute "qualified performance-based compensation" under Section 162(m) of the Code, to fail to so qualify, that provision shall be severed from, and shall be deemed not to be a part of, the Plan, but the other provisions hereof shall remain in full force and effect.

(e) Section 409A of the Code . Notwithstanding any contrary provision in the Plan or an Award Document, if any provision of the Plan or an Award Document contravenes any regulations or guidance promulgated under Section 409A of the Code or would cause an Award to be subject to additional taxes, accelerated taxation, interest and/or penalties under Section 409A of the Code, such provision of the Plan or Award Document may be modified by the Committee without consent of the Participant in any manner the Committee deems reasonable or necessary. In making such modifications the Committee shall attempt, but shall not be obligated, to maintain, to the maximum extent practicable, the original intent of the applicable provision without contravening the provisions of Section 409A of the Code. Moreover, any discretionary authority that the Committee may have pursuant to the Plan shall not be applicable to an Award that is subject to Section 409A of the Code to the extent such discretionary authority would contravene Section 409A of the Code or the guidance promulgated thereunder.

(f) Awards to Individuals Subject to Laws of a Jurisdiction Outside of the United States . To the extent that Awards under the Plan are awarded to Eligible Individuals who are domiciled or resident outside of the United States or to persons who are domiciled or resident in the United States but who are subject to the tax laws of a jurisdiction outside of the United States, the Committee may adjust the terms of the Awards granted hereunder to such person (i) to comply with the laws, rules and regulations of such jurisdiction and (ii) to permit the grant of the Award not to be a taxable event to the Participant. The authority granted under the previous sentence shall include the discretion for the Committee to adopt, on behalf of the Company, one or more sub-plans applicable to separate classes of Eligible Individuals who are subject to the laws of jurisdictions outside of the United States.

(g) Satisfaction of Obligations . Subject to applicable law, the Company may apply any cash, Shares, securities or other consideration received upon exercise or settlement of an Award to any obligations a Participant owes to the Company and the Subsidiaries in connection with the Plan or otherwise, including, without limitation, any tax obligations or obligations under a currency facility established in connection with the Plan.

(h) No Limitation on Corporate Actions . Nothing contained in the Plan shall be construed to prevent the Company or any Subsidiary from taking any corporate action, whether or not such action would have an adverse effect on any Awards made under the Plan. No Participant, beneficiary or other person shall have any claim against the Company or any Subsidiary as a result of any such action.

(i) Unfunded Plan . The Plan is intended to constitute an unfunded plan for incentive compensation. Prior to the issuance of Shares, cash or other form of payment in connection with an Award, nothing contained herein shall give any Participant any rights that are greater than those of a general unsecured creditor of the Company. The Committee may, but is not obligated, to authorize the creation of trusts or other arrangements to meet the obligations created under the Plan to deliver Shares with respect to awards hereunder.

(j) Successors . All obligations of the Company under the Plan with respect to Awards granted hereunder shall be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

(k) Application of Funds . The proceeds received by the Company from the sale of Shares pursuant to Awards will be used for general corporate purposes.

(l) Award Document . In the event of any conflict or inconsistency between the Plan and any Award Document, the Plan shall govern and the Award Document shall be interpreted to minimize or eliminate any such conflict or inconsistency.

(m) Headings . The headings of Sections herein are included solely for convenience of reference and shall not affect the meaning of any of the provisions of the Plan.

(n) Severability . If any provision of this Plan is held unenforceable, the remainder of the Plan shall continue in full force and effect without regard to such unenforceable provision and shall be applied as though the unenforceable provision were not contained in the Plan.

(o) Expenses . The costs and expenses of administering the Plan shall be borne by the Company.

(p) Arbitration . Any dispute, controversy or claim arising out of or relating to the Plan that cannot be resolved by the Participant on the one hand, and the Company on the other, shall be submitted to arbitration in the State of Connecticut under the National Rules for the Resolution of Employment Disputes of the American Arbitration Association; *provided , however* , that any such submission by the Participant must be made within one (1) year of the date of the events giving rise to such dispute, controversy or claim. The determination of the arbitrator shall be conclusive and binding on the Company and the Participant, and judgment may be entered on the arbitrator's award in any court having jurisdiction. The expenses of such arbitration shall be borne by the Company; *provided , however* , that each party shall bear its own legal expenses unless the Participant is the prevailing party, in which case the Company shall promptly pay or reimburse the Participant for the reasonable legal fees and expenses incurred by the Participant in connection with such contest or dispute (excluding any fees payable pursuant to a contingency

Exhibit 10.9

PHOTRONICS, INC.

2011 EXECUTIVE INCENTIVE COMPENSATION PLAN

Effective November 1, 2010, the Board of Directors of Photronics, Inc. ("Photronics") adopted this 2011 Executive Incentive Compensation Plan (the " Plan "), subject to the approval of the stockholders of Photronics in accordance with the requirements of Section 162 (m) of the Code, and other applicable requirements.

ARTICLE I

PURPOSE OF PLAN

The purpose of the Plan is to: (i) attract, retain and motivate employees by providing incentives and rewards to Eligible Employees dependent upon the financial success of Photronics and its Subsidiaries (collectively, the " Company "); and (ii) make the Company's compensation program competitive with those of other major employers. The Company intends that certain compensation payable under the Plan will constitute "qualified performance-based compensation" under Section 162(m) of the Code. The Plan shall be administratively interpreted and construed in a manner consistent with such intent.

ARTICLE II

DEFINITIONS

2.1 " Applicable Employee Remuneration " shall have the meaning given to such term in Section 162(m) (4) of the Code.

2.2 " Award " shall mean the amount of the payment under the Plan payable to a Participant for a Performance Period.

2.3 " Base Pay " shall mean, for any Eligible Employee, the salary range midpoint of such employee's salary grade or, if so specified by the Compensation Committee, compensation reasonably equivalent thereto as determined by the Compensation Committee.

2.4 " Beneficiary " shall mean a Participant's deemed beneficiary pursuant to Article VIII.

2.5 " Board " shall mean the Board of Directors of Photronics.

2.6 " CEO " shall mean the Chief Executive Officer, of Photronics.

2.7 " Code " shall mean the Internal Revenue Code of 1986, as amended.

2.8 " Compensation Committee " shall mean the Compensation Committee of the Board. Any action which may be taken by the Compensation Committee may be taken by the Board.

2.9 " Covered Employee " shall have the meaning given to such term in Section 162(m)(3) of the Code; provided, however, that an employee will be considered a Covered Employee for purposes of the Plan only if his or her Applicable Employee Remuneration for the relevant Year is expected to exceed $1,000,000.

2.10 " Department " shall mean Photronics' Corporate Human Resources Department.

2.11 " Detrimental Conduct " shall mean activities which have been, are or would reasonably be expected to be detrimental to the interests of the Company, as determined in the sole and good faith judgment of the Compensation Committee. Such activities include, but are not limited to, gross neglect or willful and continuing refusal by the Participant to substantially perform his or her duties or responsibilities for or owed to the Company, unlawful conduct under securities, antitrust, tax or other laws, improper disclosure or use of confidential or proprietary information or trade secrets, competition with or improper taking of a corporate opportunity of any business of the Company, failure to cooperate in any investigation or legal proceeding, or misappropriation of property.

2.12 " Eligible Employee " shall mean each executive of the Company who is an Executive Officer or any other key employee who is selected by the Compensation Committee to participate in the Plan.

2.13 " Executive Officer " shall mean any employee of the Company who, at the relevant time, is required to file beneficial ownership reports pursuant to Section 16(a) of the Securities Exchange Act of 1934, as amended, and rules thereunder.

2.14 " Financial Criteria " shall mean: (i) earnings or earnings per share; (ii) stockholder return; (iii) return on capital, investment, or stockholders' equity; (iv) cash flow or throughput; (v) EBIT or EBITDA; (vi) return on assets employed; (vii) gross margin; (viii) operating profit; (ix) working capital; (x) market share; (xi) net worth; (xii) inventory turnover; (xiii) completion of significant projects or implementation of significant new processes; and (xiv) achievement of strategic milestones.

2.15 " Line of Business " or " LOB " shall mean any of the Company's business segments or designated business units.

2.16 " Participant " shall mean an Eligible Employee who has satisfied the requirements for participation in the Plan as set forth in Article IV.

2.17 " Performance Measures " shall mean one or more Financial Criteria, which may be applied with respect to an individual Participant or the Company's consolidated performance, and which may be measured on an absolute, adjusted or relative basis (including comparisons of results for the Performance Period either to results for a prior Performance Period or to the Company's business plan or forecast for the Performance Period).

2.18 " Performance Period " shall mean a Year or such greater or lesser period of time, as determined by the Compensation Committee, over which a Participant's Performance Threshold is to be achieved. The Performance Period need not be identical for all Awards. Within one Year, the Compensation Committee may establish multiple Performance Periods.

2.19 " Performance Threshold " shall mean the percentage determined by the Compensation Committee for each Performance Period, representing the minimum level of achievement of Participants' respective Performance Goals for the Performance Period that each Participant must attain to be entitled to an Award for such Performance Period.

2.20 " Subsidiary " shall mean a company of which more than 50 percent of the outstanding capital is owned, directly or indirectly, by Photronics.

2.21 " Year " shall mean the fiscal year.

ARTICLE III

ADMINISTRATION

3.1 Administration . Except as otherwise provided herein, the Plan shall be administered by the Compensation Committee. The Compensation Committee shall have full and sole power and discretionary authority to make all determinations hereunder, select Participants and determine the extent and terms of their participation in the Plan, construe and interpret the Plan, establish and amend regulations to further the purposes of the Plan, and take any other action necessary, appropriate or expedient to administer and implement the Plan.

3.2 Human Resources Department . The Department or another corporate department designated by the Department shall: (i) in consultation with the CEO, formulate, review and make recommendations to the Compensation Committee regarding such changes in the Plan as it deems appropriate or the Compensation Committee may request; (ii) maintain records of Awards; (iii) prepare reports and provide data as required by the Compensation Committee and government agencies; (iv) obtain consents and approvals relating to the Plan as required by government agencies; and (v) take such other actions as may be necessary or appropriate or as may be requested by the Compensation Committee for the effective implementation and administration of the Plan.

3.3 Performance Measures . The general parameters (such as milestones and related awards) of the Performance Measures shall be determined by the Compensation Committee. The Compensation Committee may consult with the CEO, consultants or any other advisors that the Compensation Committee deems appropriate or advisable in determining the Performance Measures. The specific Performance Measures and the related Performance Thresholds for Awards to the CEO and other Executive Officers who are Covered Employees shall be determined by the Compensation Committee.

3.4 Binding Effect . Decisions, actions and interpretations by the Compensation Committee, the Department or management of the Company, regarding the Plan, pursuant to this Article III or as otherwise provided for herein, shall be final and binding upon all Participants and Beneficiaries.

ARTICLE IV

PARTICIPATION

All Eligible Employees who have completed a minimum of three months of service shall be eligible for an Award. Except as otherwise provided in Article VII, Awards based on Performance Periods that are for a full Year and that are granted to Eligible Employees who have completed more than three months but less than 12 months of service during a Year will be prorated based upon the Employee's length of service during the Year.

ARTICLE V

AWARDS

5.1 Performance Period . Each Performance Period shall be the length of time determined by the Compensation Committee, but in no event shall a Performance Period be less than three months or greater than three years.

5.2 Performance Thresholds . Within 90 days after the beginning of a Performance Period that is a full Year (or, if the Performance Period is shorter than one full Year, before 25 percent of the Performance Period has elapsed), the Compensation Committee shall establish (i) Performance Measures in writing for each Participant for such Performance Period, (ii) Performance Thresholds with respect to each Performance Measure representing a

minimum level of achievement that the Participant must attain in order to receive an Award, (iii) either a percentage of Base Pay or a fixed monetary amount (i.e., a "maximum amount") payable as an Award if the Participant achieves 100 percent of his or her Performance Measures, and (iv) a mathematical formula or matrix that weighs each Performance Measure and indicates the amount of the Participant's Award if his or her level of achievement of such Performance Measures exceeds or falls short of the Performance Threshold determined pursuant to clause (ii) above, if applicable. Performance Measures, including Performance Thresholds and maximum amounts, established by the Compensation Committee for any Performance Period may differ among Participants.

5.3 Determination of Awards . For each Performance Period, the specific determination as to whether and the extent to which Performance Measures, including Performance Thresholds, applicable to the Participants have been met shall be made by the Compensation Committee. No Award is payable until the Compensation Committee has certified that the Performance Measures have been met and the amount payable in respect of such Award. The Compensation Committee may decrease the aggregate amount awarded to any Participant for any Performance Period irrespective of whether the relevant Performance Measures, including Performance Thresholds, have been met.

5.4 Maximum Award . The aggregate amount of any Award to any Participant for any Performance Period, as finally determined (or certified, as applicable) by the Compensation Committee, shall constitute the Participant's Award for such Performance Period; provided, however, that his or her aggregate Award for any Year shall not exceed 65% of the Participant's base salary for Photronics fiscal year during which such Performance Period ends.

Change of Position during a Plan Year – was deleted

ARTICLE VI

PAYMENT OF AWARD

6.1 Payment . The Awards for any Performance Period shall normally be certified during the 90 day period following the end of such Performance Period or as soon thereafter as is practicable under the circumstances. The Awards will be paid to the Participants in cash, or Company stock awards or a combination thereof no later than January 31st of each year.

6.2 Deferral of Payment . The Compensation Committee reserves the right to defer and to allow Participants to defer payment of some or all Awards, in whole or in part, upon such terms and conditions as the Compensation Committee may determine, so long as such deferral would not trigger exercise tax under Section 409A of the Code. The Compensation Committee's decision regarding the deferral of Awards shall be final and binding on all Participants and Beneficiaries.

6.3 Subsidiaries' Liability for Awards . Each Subsidiary shall be liable for paying Awards with respect to Participants who are employed by such Subsidiary.

6.4 Detrimental Conduct . Notwithstanding anything contained herein to the contrary, if the Compensation Committee determines that a Participant has engaged in Detrimental Conduct, then the Compensation Committee shall have the right, in its sole and good faith judgment, to suspend (temporarily or permanently) the payment of an Award to such Participant, increase the Performance Measures applicable to an Award to such Participant, cancel an Award to such Participant, require the forfeiture of an Award to such Participant, or take any other actions in respect of an Award to such Participant.

6.5 Withholding or Offset . The Company retains the right to deduct and withhold from any payments due hereunder all sums that it may be required or permitted to deduct or withhold pursuant to any applicable contract, statute, law, regulation, order or otherwise.

ARTICLE VII

TERMINATION OF EMPLOYMENT

Notwithstanding any other provision of the Plan to the contrary, if a Participant's employment with the Company is terminated for any reason (including a voluntary or involuntary termination or retirement) prior to the last day of a Performance Period, then such Participant shall not be entitled to an Award for such Performance Period; provided, however, that the Compensation Committee may direct payment of all or any part of an Award to any Participant who prior to such day retires, dies, becomes permanently disabled or otherwise becomes subject to special circumstances, so long as the Performance Thresholds applicable to his or her Performance Measures were achieved or exceeded; provided, further that the Compensation Committee may direct payment of an Award, prior to the last day of a Performance Period and regardless of whether Performance Thresholds are achieved, to a Participant, or his or her estate, in the event of the Participant's termination of employment prior to the last day of the Performance Period due to the Participant's death or disability during the Performance Period.

ARTICLE VIII

BENEFICIARY DESIGNATION

The beneficiary or beneficiaries designated by a Participant or deemed to have been designated by a Participant under the Photronics 401(k) Plan (" Savings Plan ") shall be deemed to be a Participant's Beneficiary. A deceased Participant's unpaid Award shall be paid to his or her Beneficiary. For Participants who do not participate in the Savings Plan, the beneficiary or beneficiaries designated by a Participant or deemed to have been designated by a Participant under a Company sponsored life insurance program shall be deemed to be a Participant's Beneficiary. A deceased Participant's unpaid Award shall be paid to his or her Beneficiary at the same time the Award would otherwise be paid to the Participant. If a Participant does not participate in the Savings Plan or such insurance program, or if a Participant participates in the Savings Plan or such insurance program and has not designated or been deemed to have designated a beneficiary thereunder, then a deceased Participant's unpaid Award shall be paid to the Participant's estate. If a Beneficiary does not survive a Participant, then the deceased Participant's unpaid Award shall be paid to the Participant's estate. If the Beneficiary of a deceased Participant survives a Participant and dies before such Participant's Award is paid, then such unpaid Award shall be paid to the Beneficiary's estate.

ARTICLE IX

GENERAL PROVISIONS

9.1 Awards Not Assignable . Nothing in this Plan shall be construed to give a Participant, Beneficiary, Participant's estate or Beneficiary's estate any right, title or interest in any specific asset, fund or property of any kind whatsoever owned by the Company or in which it may have any interest now or in the future, but each Participant, Beneficiary, Participant's estate and Beneficiary's estate shall have the right to enforce his, her or its claims against the relevant Subsidiary in the same manner as any unsecured creditor of the relevant Subsidiary. No Participant, Beneficiary, Participant's estate or Beneficiary's estate shall have the power to transfer, assign, anticipate, mortgage or otherwise encumber any right to receive a payment in advance of any such payment and any attempted transfer, assignment, anticipation, mortgage or encumbrance shall be void.

9.2 Unfunded Compensation . The Plan is intended to constitute an unfunded incentive compensation arrangement. Nothing contained in the Plan, and no action taken pursuant to the Plan, shall create or be construed to create a trust of any kind. Pursuant to Section 6.3, all Awards shall be paid from the general funds of the respective employer, and no special or separate fund shall be established and no segregation of assets shall be made to assure payment of such Awards.

9.3 No Right to Employment . Nothing contained in the Plan shall give any Participant the right to continue in the employment of the Company or affect the right of the Company to discharge a Participant.

9.4 Adjustment of Awards . Subject to the restrictions in Section 5.3, the Compensation Committee shall make such adjustments, to the extent it deems appropriate, to the Performance Measures and Performance Thresholds to compensate for or reflect any material changes that may have occurred in accounting practices, tax laws, other laws or regulations, the financial structure of the Company, acquisitions or dispositions of assets, Subsidiaries, or Lines of Business, any other extraordinary developments, or any unusual circumstances outside of management's control that alter or affect computation of such Performance Measures and Performance Thresholds or the performance of the Company or any relevant Subsidiary or Line of Business.

9.5 Inadvertent Non Compliance . If any provision of the Plan would cause any Award to a Covered Employee not to constitute "qualified performance-based compensation" under Section 162(m) of the Code, it shall be severed from and thereupon be deemed not to be a part of the Plan, but the other provisions of the Plan shall remain in full force and effect.

9.6 Applicable Law . The Plan shall be construed and governed in accordance with the laws of the State of Connecticut.

ARTICLE X

AMENDMENT, SUSPENSION OR TERMINATION

The Compensation Committee shall have the right to amend, suspend or terminate the Plan at any time; provided, however, that any amendment, suspension or termination shall not adversely affect the rights of Participants or Beneficiaries to receive Awards granted prior to such action; and provided further, that no amendment that alters the Award, Performance Measures or other factors relating to an Award applicable to a Covered Employee for the Performance Period in which such amendment is made or any prior Performance Period shall be effective in respect thereof except to the extent that it may be made without causing such Award to cease to qualify as "qualified performance-based compensation" under Section 162(m) of the Code. To the extent required by Section 162(m) of the Code and the regulations thereunder, the material terms of the Plan shall be disclosed to, and shall be subject to approval by, Photronics' stockholders in a manner intended to comply with Section 162(m) of the Code. In addition, for purposes of granting Awards following the expiration of the initial stockholder approval, the material terms of this Plan must be reapproved by Photronics' stockholders in accordance with the requirements of Section 162 (m) of the Code and the regulations thereunder.

Approved on behalf of
PHOTRONICS, INC.
and its Subsidiaries

Dated: _____ ____, 20 __

By: _____
Name: _____
Title: _____

Exhibit 10.12

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT (this " Agreement ") is entered into as of February 20, 2003 by and between Photronics, Inc., a Connecticut corporation (the " Company "), having a principal place of business at 1061 East Indiantown Road, Jupiter, Florida 33477 and Sean T. Smith (" Executive ") residing at 60 Whitney Ridge Terrace, North Haven, Connecticut, 06473.

WITNESSETH:

WHEREAS, the Company and Executive desire to enter into this Agreement to assure the Company of the continuing service of Executive and to set forth the terms and conditions of Executive's employment with the Company.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth herein, the parties agree as follows:

1. Term. The Company agrees to employ Executive and Executive hereby accepts such employment, in accordance with the terms of this Agreement. Subject to Section 5, the term of Executive's employment shall commence on the date hereof and continue for three (3) years thereafter unless this Agreement is earlier terminated as provided herein (the " Term "); provided , however, that unless the Company gives written notice to Executive at least thirty (30) days prior to the end of the Term of this Agreement (as the Term may be extended pursuant to this Section 1), on each anniversary of the date hereof, the Term of this Agreement shall automatically be extended for an additional one (1) year period.

2. Services. So long as this Agreement shall continue in effect, Executive shall devote Executive's full business time, energy and ability to the business, affairs and interests of the Company and its subsidiaries and matters related thereto. Executive shall use his best efforts and abilities to promote the Company's interests and shall perform faithfully the services contemplated by this Agreement in accordance with the Company's policies as established by the Board of Directors of the Company.

3. Duties and Responsibilities.

(a) Executive shall serve as the Vice President, Chief Financial Officer of the Company. In the performance of Executive's duties, Executive shall report directly to the CEO and shall have such duties, responsibilities and authority as may from time to time be assigned to the Executive by the CEO.

(b) In addition, Executive agrees to observe and comply with the policies, rules and regulations of the Company. The Company agrees that the duties which may be assigned to Executive shall be the customary duties of the office of Vice President, Chief Financial Officer and shall not be inconsistent with the provisions of the charter documents of the Company or applicable law.

4. Compensation.

(a) Base Compensation . During the Term, the Company agrees to pay Executive a base salary at the rate of $210,000 per year payable in accordance with the Company's customary payroll practices generally applicable to similarly situated employees as may be in effect from time to time (the " Base Salary "). All payments required hereunder, including the payments required by this Section 4(a) , may be allocated by the Company to one or more of its subsidiaries to which Executive renders services but the Company shall remain responsible for all payments hereunder and Executive shall have no obligation to seek payment from such subsidiaries.

(b) Periodic Review . The Compensation Committee or the Board of Directors of the Company shall review Executive's Base Salary and Benefits (as defined below) from time to time in accordance with the normal business practices of the Company. The Company may in its sole discretion increase the Base Salary during the Term. The amount of any increase combined with the previous year's Base Salary shall then constitute Executive's Base Salary for purposes of this Agreement.

(c) Additional Benefits . During the Term, the Executive shall be entitled to participate in the employee benefit plans and arrangements as the Company may establish from time to time in which other employees similarly situated are entitled to participate (which may include, without limitation, bonus plan(s), medical plan, dental plan, disability plan, basic life insurance and business travel accident insurance plan, 401(k) plan, stock option or stock purchase plans or any successor plans thereto (the " Benefits ")). The Company shall have the right to terminate or change any such plans or programs at any time.

(d) Automobile Allowance . During the Term of this Agreement, the Company shall provide the Executive with an automobile allowance or company car consistent with the Company's policies and provisions applicable to other similarly situated executives of the Company.

(e) Vacation . During the Term of this Agreement, Executive shall be entitled to four (4) weeks' paid vacation per calendar year, which shall not be transferable to any subsequent year.

5. Termination. This Agreement and all rights and obligations hereunder, except the rights and obligations contained in this Section 5 , Section 7 (Confidential Information), Section 8 (Non-Competition), Section 9 (Intellectual Property) and Section 10 (Remedies), which shall survive any termination hereunder, shall terminate upon the earliest to occur of any of the following:

(a) Resignation without Good Reason; Retirement . Upon the resignation by Executive without Good Reason (as defined below) following at least thirty (30) days written notice to the Company or retirement from the Company in accordance with the normal retirement policies of the Company, Executive shall be entitled to receive a payment in the amount of the sum of (A) Executive's Base Salary through the date of termination to the extent not theretofore paid, (B) any compensation previously deferred by Executive (together with any accrued interest or earnings thereon), and (C) any accrued vacation pay, in each case to the extent not theretofore paid (the sum of the amounts described in clauses (A), (B) and (C) shall be hereinafter referred to as the " Accrued Obligations "), in a lump sum, subject to statutory deductions and withholdings, in cash within ten (10) business days after the date of termination or any earlier time required by applicable law.

(b) Death or Disability of Executive .

(i) If Executive's employment is terminated by reason of Executive's death or disability, this Agreement shall terminate without further obligations to Executive (or Executive's heirs or legal representatives) under this Agreement, other than for:

(1) Payment of any Accrued Obligations, which shall be paid to Executive or Executive's estate or beneficiary, as applicable, in a lump sum, subject to statutory deductions and withholdings, in cash within ten (10) business days after the date of termination or any earlier time required by applicable law.

(2) Payment to Executive or Executive's estate or beneficiary, as applicable, of any amount accrued pursuant to the terms of any other applicable benefit plan.

(ii) If Executive shall become disabled, Executive's employment may be terminated only by written notice from the Company to Executive.

(iii) For the purposes of this Agreement, " disability " or " disabled " shall mean a mental or physical incapacity which prevents Executive from performing Executive's duties with the Company for a period of three hundred sixty (360) consecutive calendar days, as certified by a physician selected by the Company or its insurers.

(c) Termination for Cause .

(i) The Company may terminate Executive's employment and all of Executive's rights to receive Base Salary, and any Benefits hereunder for Cause.

(ii) Upon such termination for Cause, Executive shall be entitled to receive any Accrued Obligations, which shall be paid to Executive in a lump sum, subject to statutory deductions and withholdings, in cash within ten (10) business days after the date of termination or any earlier time required by applicable law.

(iii) For purposes of this Agreement, the term " Cause " shall be defined as any of the following

(1) Executive's material breach of any of any obligations under this Agreement (other than by reason of physical or mental illness, injury, or condition);

(2) Executive's conviction by, or entry of a plea of "guilty" or "nolo contendere" in a court of competent and final jurisdiction for any felony that impairs his ability to perform his duties to the Company or any crime of moral turpitude;

(3) Executive's commission of an act of fraud upon the Company;

(4) Executive's engaging in willful or reckless misconduct or gross negligence in connection with any property or activity of the Company or its Affiliates;

(5) Executive's repeated and intemperate use of alcohol or illegal drugs after written notice from the Board or Directors;

(6) Executive's material breach of any other material obligation to the Company (other than by reason of physical or mental illness, injury, or condition) that is or could reasonably be expected to result in material harm to the Company;

(7) Executive's becoming insolvent or filing for bankruptcy;

(8) Executive's becoming barred or prohibited by the SEC from holding my position with the Company; or

(9) Executive's violation of any duty of loyalty (i.e., engaging in self-interested transactions, misappropriation of business opportunities that belong to the Company, or a breach of Executive's fiduciary duties to the Company).

(d) Termination Without Cause; Resignation For Good Reason .

(i) Notwithstanding any other provision of this Section 5 , (i) the Company, upon thirty (30) days advance notice to Executive, shall have the right to terminate Executive's employment with the Company without Cause at any time, including, without limitation, in connection expiration of the Term and (ii) Executive, upon thirty (30) days advance notice to the Company, shall have the right to resign for Good Reason.

(ii) If Executive is so terminated without Cause or resigns for Good Reason, Executive shall receive from the Company:

(1) Any Accrued Obligations through the date of termination, which shall be paid to Executive in a lump sum, subject to statutory deductions and withholdings, in cash within ten (10) business days after the date of termination or any earlier time required by applicable law.

(2) A payment (" Severance Payment ") equal to twelve (12) months of Executive's current Base Salary. The Severance Payment shall be paid by the Company to Executive in equal installments in accordance with the Company's customary payroll practices generally applicable to similarly situated employees as may be in effect from time and shall be subject to statutory deductions and withholdings.

(3) To the extent permitted by applicable law and the terms of the plans, the continuation of medical and dental plan benefits for a period of three hundred sixty (360) days (" Benefit Period "), provided that Executive shall be required to make all required contributions to such plans as Executive did prior to the date of termination date. Subsequent to the Benefit Period, Executive will be eligible to continue medical insurance coverage for any remaining period required under COBRA.

(iii) As used in this Agreement, the term "Good Reason" shall mean (i) (except as set forth in Section 5(e)) the relocation of the Company's principal executive offices to a location outside the contiguous 48 United States without the consent of Executive or (ii) any reduction in salary or benefits contrary to this Agreement, without the consent of Executive.

(iv) As a condition to receiving the payment and benefits extension contemplated by this Section 5(d) , Executive agrees to execute and deliver to the Company the Release substantially in the form attached to this Agreement as Exhibit A .

(e) Change of Control .

(i) For purposes of the Agreement, a "change of control" means, and shall be deemed to have taken place, if;

(1) any individual, partnership, firm, corporation, association, trust, unincorporated organization or other entity or person, or any syndicate or group deemed to be a person under Section 14 (d) (2) of the Exchange Act, is or becomes the "beneficial owner" (as defined in Rule 13d-3 of the General Rules and Regulations under the Exchange Act), directly or indirectly, of securities of the Company representing 50% or more of the combined voting power of the Company's then outstanding securities entitled to vote in the election of directors of the Company;

(2) during any period of two (2) consecutive years (not including any period prior to the execution of this Agreement) individuals who at the beginning of such period constituted the Board and any new directors, whose election by the Board or nomination for election by the Company's shareholders was approved by a vote of at least three-fourths (3/4ths) of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority of the Board;

(3) there occurs a reorganization, merger, consolidation or other corporate transaction involving the Company (a " Transaction "), and shareholders of the Company immediately prior to such Transaction do not, immediately after the Transaction, own more than 50% of the combined voting power of the Company or other corporation resulting from such Transaction; or

(4) there is a "change in control" of the Company within the meaning of Section 280G of the U.S. Federal internal revenue code of 1986.

(ii) For the purposes of this Section 5(e) , the term "Good Reason" shall mean the relocation of the Company's principal executive offices to a location which is more than fifty (50) miles from its then-current location without the consent of Executive.

(iii) In the event Executive is terminated by the Company for any reason (other than for Cause as defined in Section 5(c) thereof, but including a resignation for Good Reason as defined in Section 5(e)(ii)), during the period three (3) months before or two (2) years following a "change in control" of the Company (or any successor), Executive shall be entitled to receive a cash payment equal to eighteen (18) months of Executive's current Base Salary and the benefits described in Section 5(d)(iii) of the Agreement. Upon such "change of control" during the Term, the Term of this Agreement shall automatically be the period equal to the longer of (i) two (2) years from the date of the "change of control" or (ii) the remaining period of the initial three (3) year Term after the "change of control". In no event shall Executive be entitled to receive both the Severance Payment described in Section 5(d) hereof and the "change of control" payment described in this Section 5(e) .

(iv) Any payments to be made to Executive in connection with this Section 5(e) shall be made in a lump sum, subject to statutory deductions and withholdings, in cash within ten (10) business days after the date of termination or any earlier time required by applicable law.

(f) Tax Consideration .

(i) In the event that the aggregate of all payments or benefits made or provided to the Executive under this Agreement and under all other plans and programs of the Company (the " Aggregate Payment ") is determined to constitute a Parachute Payment, as such term is defined in Section 280G(b)(2) of the Internal Revenue Code of 1986, as amended (the "Code"), the Company shall pay to the Executive an additional amount (the " Gross-Up Amount "), prior to the time any excise tax (" Excise Tax ") is imposed by Section 4999 of the Code is payable with respect to such Aggregate Payment, which, after the imposition of all excise, federal, state and local income taxes, enables the Executive to retain a total amount equal to the Aggregate Payment prior to the payment of the Gross-Up Amount. Notwithstanding the foregoing, if it shall be determined that the Executive is entitled to receive the Gross-Up Amount, but the portion of the Aggregate Payment that would be treated as a Parachute Payment does not exceed 125% of the greatest amount that could be paid to the Executive such that the receipt of the Aggregate Payment would not give rise to any Excise Tax (the "Safe Harbor Amount"), then no Gross-Up Amount shall be paid to the Executive and the Aggregate Payment shall be reduced to the Safe Harbor Amount.

(ii) All determinations required to be made under this Section 5(f) , including whether the Aggregate Payment constitutes a Parachute Payment, the amount of the Gross-Up Amount to be paid to the Executive, if any, and the determination of the Safe Harbor Amount, if applicable, shall be made in good faith by the by the Company's regular outside auditors (the " Accounting Firm "); provided , however, that such Accounting Firm presents its rationale and supporting calculations to the Executive upon his request and shall in good faith work to resolve any discrepancies raised by accountants or lawyers chosen by the Executive who present reasonable critiques of the determination. If a dispute over the methodology or conclusions of the Accounting Firm cannot be resolved between the parties, an impartial accounting firm shall be consulted to resolve the dispute. All fees and expenses of the Accounting Firm incurred in connection with the retention of the Accounting Firm pursuant to this Section 5(f) shall be borne by the Company. All fees and expenses of the accountants and lawyers chosen by the Executive and, if retained, the additional accounting firm, incurred in connection with the resolution of any disputes pursuant to this Section 5(f) shall be borne by the non-prevailing party.

(iii) As a result of uncertainty in the application of Sections 280G and 4999 of the Code at the time of the determination by the Accounting Firm, the parties hereto acknowledge and agree that it is possible that the Company will have paid a Gross-Up Amount that exceeds the amount that the Company should have paid pursuant to this Section 5(f) (the " Overpayment ") or that the Company will have paid a Gross-Up Amount that is less than the amount that the Company should have paid pursuant to this Section 5(f) (the " Underpayment "). In the event the Accounting Firm, in a written opinion delivered to the Company and to the Executive, determines that, based upon the assertion of a deficiency by the Internal Revenue Service against the Executive, which the Accounting Firm believes has a high probability of success, an Overpayment has been made, then any such Overpayment shall, to the extent permitted under applicable law (including Section 402 of the Sarbanes-Oxley Act of 2002), be treated for all purposes as a loan to the Executive which the Executive shall promptly repay to the Company together with interest at the Applicable Federal Rate provided for in Section 7872(f)(2) of the Code; provided, however, the Executive may contest any such determination by the Accounting Firm at his own expense. In the event the Accounting Firm, based upon controlling precedent or other substantial authority, determines that an Underpayment has occurred, any such Underpayment shall be promptly paid by the Company to or for the benefit of the Executive together with interest at the Applicable Federal Rate provided for in Section 7872(f)(2) of the Code.

(g) Treatment of Stock Options Upon a Termination .

(i) If this Agreement is terminated pursuant to clause (e) of this Section 5 , all stock options or similar rights granted to Executive pursuant to the Company's stock option plans shall immediately vest as of the date of termination and Executive may exercise any such vested stock options for a period of 390 days following such termination, but in no event later than ten (10) years after grant.

(ii) If this Agreement is terminated pursuant to clause (c) of this Section 5 , all stock options granted to Executive pursuant to the Company's stock plans shall terminate immediately.

To the extent that the Executive has been granted stock options intended to be incentive stock options under Section 422 of the Internal Revenue Code, such stock options shall cease to be incentive stock options and shall be treated as nonqualified stock options if the options are exercised by the Employee more than three (3) months (one year in case of death or disability as defined in Section 422 of the Internal Revenue Code) following termination of employment.

Except as expressly modified by this clause (g) of this Section 5 , all stock options and similar rights granted under the Company's stock plans shall remain subject to all of the terms and conditions of the applicable stock plans and agreements evidencing the grants thereof.

(h) Status of Executive During Exclusivity Period . If this Agreement is terminated pursuant to clauses (a), (b), or (d) of this Section 5 , during Executive's Exclusivity Period the Executive shall be deemed and treated as an employee of the Company for the purposes of all payroll, benefits, welfare and stock option plans.

(i) Exclusive Remedy . Executive agrees that the payments other benefits provided and contemplated by this Agreement shall constitute the sole and exclusive obligation of the Company in respect of Executive's employment with and relationship to the Company and that the full payment thereof shall be the sole and exclusive remedy for any termination of Executive's employment. Executive covenants not to assert or pursue any other remedies, at law or in equity, with respect to any termination of employment.

6. Business Expenses . During the Term of this Agreement, to the extent that such expenditures satisfy the criteria under the Internal Revenue Code or other applicable laws for deductibility by the Company (whether or not fully deductible by the Company) for federal income tax purposes as ordinary and necessary business expenses, the Company shall provide the Executive with reimbursement of reasonable business expenses incurred by the Executive while conducting Company business in a manner consistent with the Company's policies and provisions

applicable to the Executives of the Company.

7. Confidential Information .

(a) Executive acknowledges that the nature of Executive's employment by the Company is such that Executive shall have access to information of a confidential and/or trade secret nature which has great value to the Company and which constitutes a substantial basis and foundation upon which the business of the Company is based. Such information includes (A) trade secrets, inventions, mask works, ideas, processes, manufacturing, formulas, source and object codes, data, programs, other works of authorship, know-how, improvements, discoveries, developments or experimental work, designs, and techniques; (B) information regarding plans for research, development, new products, marketing and selling, business plans, budgets and unpublished financial statements, licenses, prices and costs, suppliers and customers; (C) information regarding the skills and compensation of other employees the Company or its affiliates, including but not limited to, their respective business plans or clients (including, without limitation, customer lists and lists of customer sources), or information relating to the products, services, customers, sales or business affairs of the Company or its Affiliates (the " Confidential Information ").

(b) Executive shall keep all such Confidential Information in confidence during the Term of this Agreement and at any time thereafter and shall not disclose any of such Confidential Information to any other person, except to the extent such disclosure is (i) necessary to the performance of this Agreement and in furtherance of the Company's best interests, (ii) required by applicable law, (iii) lawfully obtainable from other sources, or (iv) authorized in writing by the Board. Upon termination of Executive's employment with the Company, Executive shall deliver to the Company all documents, records, notebooks, work papers, and all similar material containing any of the foregoing information, whether prepared by Executive, the Company or anyone else.

8. Non-Competition . Executive covenants and agrees that commencing on the date hereof and continuing for the entire Term of Executive's employment and for period of twelve (12) months thereafter (the " Exclusivity Period "), Executive shall not, and shall cause each of its affiliates (if applicable) not to:

(a) Acquire any controlling ownership interest in or engage, directly or indirectly, for themselves or as agent, consultant, employee or otherwise, in any business which is competitive with or damaging to the business of the Company or any subsidiary of the Company, whether such business is now owned or hereafter organized or acquired;

(b) Undertake the planning for or organization of, directly or indirectly, alone or in combination with any person or entity any business activity which is competitive with or damaging to the business of the Company or any subsidiary of the Company;

(c) Solicit, attempt to solicit, **or assist others in soliciting or attempting to solicit,** directly or indirectly, any business related to the business of the Company from any customers or prospective customers of the Company; for the purposes of this Section 8 , the term " customer " means any entity or person who is or has been a client or customer of the Company during the time which Executive was employed with the Company, and the term " prospective customer " means a person or entity who became known to the Company during the time which Executive was employed with the Company as a result of that person's or entity's interest in obtaining the services or products of the Company; and

(d) Solicit, attempt to solicit **, or assist others in soliciting or attempting to solicit, directly or indirectly, for employment or any similar capacity,** any person who is an employee of, or an independent contractor for, the Company or its direct or indirect subsidiaries, parents or Affiliates or who was such an employee within twelve (12) months prior to the date of such solicitation or attempted solicitation.

(e) Executive acknowledges that in the event of his employment with the Company terminates for any reason, Executive will be able to earn a livelihood without violating the foregoing restrictions.

(f) If any provision or clause, or portion thereof, within this Section 8 shall be held by any court or other tribunal of competent jurisdiction to be illegal, invalid, or unenforceable in such jurisdiction, the remainder of such provision shall not be thereby affected and shall be given full effect, without regard to the invalid portion. It is the intention of the parties that, if any court construes any provision or clause within this Section 8 , or any portion thereof, to be illegal, void or unenforceable because of the duration of such provision or the geographic area or matter covered thereby, such court shall reduce the duration, area, or matter of such provision, and, in its reduced form, such provision shall then be enforceable and shall be enforced.

9. Intellectual Property .

(a) Executive has no interest (except as disclosed to the Company) in any inventions, designs, improvements, patents, copyrights and discoveries which are useful in or directly or indirectly related to the business of the Company or to any experimental work carried on by the Company. Except as may be limited by applicable law, all inventions, designs, improvements, patents, copyrights and discoveries conceived by Executive during the Term of this Agreement which are useful in or directly or indirectly related to the business of the Company or to any experimental work carried on by the Company, shall be the property of the Company. Executive will promptly and fully disclose to the Company all such inventions, designs, improvements, patents, copyrights and discoveries (whether developed individually or with other persons) and will take all steps necessary and reasonably required to assure the Company's ownership thereof and to assist the Company in protecting or defending the Company's proprietary rights therein.

(b) Executive also agrees to assist the Company in obtaining United States or foreign letters patent and copyright registrations covering inventions assigned hereunder to the Company and that Executive's obligation to assist the Company shall continue beyond the termination of Executive's employment but the Company shall compensate Executive at a reasonable rate for time actually spent by Executive at the Company's request with respect to such assistance. If the Company is unable because of Executive's mental or physical incapacity or for any other reason to secure Executive's signature to apply for or to pursue any application for any United States or foreign letters patent or copyright registrations covering inventions assigned to the Company, then Executive hereby irrevocably designates and appoints the Company, each of its duly authorized officers and agents as Executive's agent and attorney-in-fact to act for and in Executive's behalf and stead to execute and file any such applications and to do all other lawfully permitted acts to further the prosecution and issuance of letters patent or copyright registrations thereon with the same legal force and effect as if executed by Executive. Executive will further assist the Company in every way to enforce any copyrights or patents obtained including, without limitation, testifying in any suit or proceeding involving any of the copyrights or patents or executing any documents deemed necessary by the Company, all without further consideration but at the expense of the Company. If Executive is called upon to render such assistance after the termination of Executive's employment, then Executive shall be entitled to a fair and reasonable per diem fee in addition to reimbursement of any expenses incurred at the request of the Company.

10. Remedies. The parties hereto agree that the services to be rendered by Executive pursuant to this Agreement, and the rights and privileges granted to the Company pursuant to this Agreement, are of a special, unique, extraordinary and intellectual character, which gives them a peculiar value, the loss of which cannot be reasonably or adequately compensated in damages in any action at law, and that a breach by Executive of any of the terms of this Agreement will cause the Company great and irreparable injury and damage. Executive hereby expressly agrees that the Company shall be entitled to the remedies of injunction, specific performance and other equitable relief to prevent a breach of this Agreement by Executive. This Section 10 shall not be construed as a waiver of any other rights or remedies which the Company may have for damages or otherwise.

11. Return of Property. Executive agrees to return, on or before the termination date, all property belonging to the Company, including but not limited to computers, PDA, telephone and other credit cards, Company business records, Company automobile (if applicable), etc.

12. Severability. If any provision of this Agreement is held to be unenforceable for any reason, it shall be adjusted rather than voided, if possible, to achieve the intent of the parties to the extent possible. In any event, all other provisions of this Agreement shall be deemed valid and enforceable to the extent possible.

13. Succession. This Agreement shall inure to the benefit of and be binding upon the Company and its successors and assigns and any such successor or assignee shall be deemed substituted for the Company under the terms of this Agreement for all purposes. As used herein, "successor" and "assignee" shall include any person, firm, corporation or other business entity which at any time, whether by purchase, merger or otherwise, directly or indirectly acquires the stock of the Company or to which the Company assigns this Agreement by operation of law or otherwise. The obligations and duties of Executive hereunder are personal and otherwise not assignable. Executive's obligations and representations under this Agreement will survive the termination of Executive's employment, regardless of the manner of such termination.

14. Notices. Any notice or other communication provided for in this Agreement shall be in writing and sent if to the Company to its principal office at:

Photronics, Inc.
15 Secor Road, PO Box 5226
Brookfield, Connecticut 06804

Attention: Corporate Secretary

or at such other address as the Company may from time to time in writing designate, and if to Executive at the address set forth above or at such address as Executive may from time to time in writing designate. Each such notice or other communication shall be effective (I) if given by written telecommunication, three (3) days after its transmission to the applicable number so specified in (or pursuant to) this Section 14 and a verification of receipt is received, (ii) if given by certified mail, once verification of receipt is received, or (iii) if given by any other means, when actually delivered to the addressee at such address and verification of receipt is received.

15. Adequate Consideration. Executive acknowledges that the cash severance and other benefits to be provided by the Company to Executive are not available under any current plan or policies of the Company. Accordingly, Executive further acknowledges that the payments and benefits under this Agreement provide adequate consideration for Executive's obligations to the Company contained in Section 7 (Confidential Information), Section 8 (Non-Competition), Section 10 (Remedies) and Exhibit A (Release).

16. Entire Agreement. This Agreement contains the entire agreement of the parties relating to the subject matter hereof and supersedes any prior agreements, undertakings, commitments and practices relating to Executive's employment by the Company.

17. Amendments. No amendment or modification of the terms of this Agreement shall be valid unless made in writing, duly executed by both parties.

18. Waiver. No failure on the part of any party to exercise or delay in exercising any right hereunder shall be deemed a waiver thereof or of any other right, nor shall any single or partial exercise preclude any further or other exercise of such right or any other right.

19. Governing Law . This Agreement, and the legal relations between the parties, shall be governed by and construed in accordance with the laws of the State of Connecticut without regard to conflicts of law doctrines and any court action arising out of this Agreement shall be brought in any court of competent jurisdiction within the State of Connecticut.

20. Attorneys' Fees. If any litigation shall occur between Executive and the Company which litigation arises out of or as a result of this Agreement or the acts of the parties hereto pursuant to this Agreement, or which seeks an interpretation of this Agreement, the prevailing party shall be entitled to recover all costs and expenses of such litigation, including reasonable attorneys' fees and costs.

21. Withholding . All compensation payable hereunder, including salary and other benefits, shall be subject to applicable taxes, withholding and other required, normal or elected employee deductions.

22. Counterparts . This Agreement and any amendment hereto may be executed in one or more counterparts. All of such counterparts shall constitute one and the same agreement and shall become effective when a copy signed by each party has been delivered to the other party.

23. Headings . Section and other headings contained in this Agreement are for convenience of reference only and shall not affect in any way the meaning or interpretation of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date and year first above written.

THE COMPANY

PHOTRONICS, INC.

By: _____
Name:
Title:

EXECUTIVE

/s/ SEAN T. SMITH
Name: Sean T. Smith

EXHIBIT A

RELEASE

1. I signed an Employment Agreement with Photronics, Inc. (the "Company"), dated February 20, 2003 (the "Agreement"), wherein I agreed to the terms applicable to certain terminations of employment with the Company. Pursuant to the terms of the Agreement, I am entitled to certain severance payments and benefits, described in the Agreement, provided that I sign this Release.

2. In consideration of the severance payments described in the Agreement, I, on behalf of myself, my heirs, agents, representatives, predecessors, successors and assigns, hereby irrevocably release, acquit and forever discharge the Company and each of its respective agents, employees, representatives, parents, subsidiaries, divisions, affiliates, officers, directors, shareholders, investors, employees, attorneys, transferors, transferees, predecessors, successors and assigns, jointly and severally (the " Released Parties ") of and from any and all debts, suits, claims, actions, causes of action, controversies, demands, rights, damages, losses, expenses, costs, attorneys' fees, compensation, liabilities and obligations whatsoever, suspected or unsuspected, known or unknown, foreseen or unforeseen, arising at any time up to and including the date of this Release, save and except for the parties' obligations and rights under the Agreement. In recognition of the consideration set forth in the Agreement, I hereby release and forever discharge the Released Parties from any and all claims, actions and causes of action, I have or may have as of the date of this Release arising under any state or federal civil rights or human rights law, or under the Federal Age Discrimination in Employment Act of 1967, as amended, and the applicable rules and regulations promulgated thereunder ("ADEA"). By signing this Release, I hereby acknowledge and confirm the following: (a) I was advised in writing by the Company in connection with my termination to consult with an attorney of my choice prior to signing this Agreement, including without limitation, the terms relating to my release of claims arising under ADEA and any other law, rule or regulation referred to above; (b) I was given a period of not fewer than 21 days to consider the terms of this Agreement and to consult with an attorney of my choosing with respect hereto; and (c) I am providing the release and discharge set forth in this paragraph only in exchange for consideration in addition to anything of value to which I was already entitled.

3. The Agreement and this Release may be revoked by me within the 7-day period commencing on the date I sign this Release (the "Revocation Period"). In the event of any such revocation, all obligations of the Company under the Agreement will terminate and be of no further force and effect as of the date of such revocation and both the Company and I will have and be entitled to exercise all rights that would have existed had the Agreement and Release not been entered into. No such revocation will be effective unless it is in writing and signed by me and received by the Company prior to the expiration of the Revocation Period.

_____ _____

Name Date

_____ _____

Witness Date

Exhibit 10.19

JOINT VENTURE FRAMEWORK AGREEMENT

This Joint Venture Framework Agreement ("Agreement") is entered into on this 20 th day of November, 2013 by and between Photronics, Inc., a corporation organized under the laws of the state of Connecticut, U.S.A. with its principal place of business at 15 Secor Road, Brookfield, Connecticut, U.S.A. ("Photronics") and Dai Nippon Printing Co., Ltd., a corporation organized under the laws of Japan with its principal place of business at 1-1, Ichigaya Kagacho 1-chome, Shinjuku-ku, Tokyo, Japan ("DNP"). (Photronics and DNP are hereinafter individually a "Party" and collectively the "Parties".)

1. Objective

1.1 The objectives of this Agreement are to set forth the agreements between the Parties to effect (a) the acquisition by Photronics Semiconductor Mask Corp., a subsidiary of Photronics organized under the laws of Taiwan, the Republic of China (hereinafter "ROC" or "Taiwan") with its current principal place of business at 1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park, Taiwan ("PSMC") of DNP Photomask Technology Taiwan Co., Ltd., a subsidiary of DNP organized under the laws of Taiwan with its principal place of business at No.6, Lising 7th Rd., East District, Hsinchu City 30078 Hsinchu Science Park, Taiwan ("DPTT"), by way of a statutory merger under the laws of Taiwan whereby PSMC shall survive (the "Business Combination"); (b) the issue of shares of PSMC to DNP as consideration for the Business Combination; and (c) the execution of the Transaction Agreements (defined below).

1.2 For the purposes of this Agreement, the term "Transaction Agreements" shall refer to the following documents (as each is defined herein):

(a) this Agreement;

(b) the Merger Agreement, the form of which is attached hereto as Exhibit 1-1;

(c) the Joint Venture Operating Agreement, the form of which is attached hereto as Exhibit 1-2;

(d) the Outsourcing Agreement, the form of which is attached hereto as Exhibit 1-3;

(e) the License Agreement between Photronics and PSMC, the form of which is attached hereto as Exhibit 1-4; and

(f) the License Agreement between DNP and PSMC, the form of which is attached hereto as Exhibit 1-5 (together with the License Agreement between Photronics and PSMC hereinafter "License Agreement").

The term "Joint Venture Agreements" shall refer to the agreements referred to in items (a), (c), (d), (e) and (f) above in this Section.

1.3 The schedules and exhibits after duly executed shall form part of this Agreement and shall have the same force and effect as if expressly set out in the body of this Agreement, and any reference to this Agreement shall include such schedules and exhibits.

1.4 References to "Affiliates" in this Agreement shall refer to, with respect to any person, a person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with such person, where "control" for the purposes of this definition (including the terms "controlled by" and "under common control with") means the possession, directly or indirectly, of the power to direct or cause the direction of the management and actions of a person, whether through the ownership of voting securities, by contract or credit arrangement, as trustee or executor, or otherwise.

2. Business Combination in Taiwan

Subject to the applicable laws of the ROC and the restrictions thereunder, the Parties shall use their reasonable efforts, acting in good faith, to carry out each of the steps and tasks relating to the proposed Business Combination, substantially within the respective contemplated timeframe, set forth in the Project Timetable attached hereto as Exhibit 2 (the "Project Timetable"); provided , however, the Parties acknowledge that the Project Timetable is subject to revision and change from time to time and thus, the failure by a Party to accomplish any step or task within the respective preferred timeframe described in the Project Timetable shall not be deemed a material breach, noncompliance or other default of this Agreement if the Party has been reasonably diligent in carrying out such step or task. In the event of a material delay of the preferred timeframe set out in the Project Timetable, the Parties will promptly meet and discuss in good faith a revised preferred timeframe and amend the Project Timetable in writing.

3. Cooperation and Support

3.1 The Parties shall use their reasonable best efforts to take or cause to be taken all actions required to consummate the transactions contemplated hereby. In addition, the Parties hereto shall file or supply, or cause to be filed or supplied, all material applications, notifications and information required to be filed or supplied by them pursuant to applicable laws in connection with the transactions contemplated hereby. Each Party hereto shall use its reasonable best efforts to obtain all waivers, consents and approvals from governmental authorities and third parties required to be obtained by such Party for the

consummation of the transactions contemplated hereby, other than any waivers, consents and approvals where the failure to obtain such waiver, consent and/or approval, either in any individual case or in the aggregate, would not have a material adverse effect on the transactions contemplated hereby. Each Party hereto shall cooperate in good faith with the other Party hereto in order to achieve the timely consummation of the transactions contemplated hereby.

3.2 Notwithstanding the foregoing, the Parties understand that their communications and activities under the Transactions Agreements are subject to various applicable laws and regulations, including anti-trust and related competition laws. Each of the Parties hereby agree to use its reasonable best efforts to take or cause to be taken all actions required and to work with each other to cause the transactions contemplated hereby to be in compliance with such laws and regulations.

4. Execution of Transaction Agreements and Regulatory Approval Procedures

4.1 Each of the Parties shall execute the Joint Venture Agreements concurrently with their execution of this Agreement. The Joint Venture Agreements (except for this Agreement) will have an effective date as of the closing of the Business Combination.

4.2 It is understood that Photronics holds approximately * ("Restructuring Transaction") in accordance with the Project Timetable subject to the proviso of Section 2 hereof. Photronics and DNP agree that they shall respectively cause PSMC and DPTT to sign the Merger Agreement promptly (but in no event later than ten (10) calendar days) after PSMC has become *

4.3 Subject to the compliance of the Parties in regard to their respective obligations under the Transaction Agreements and except as otherwise agreed by the Parties in writing after the date hereof, the Parties agree that regulatory approvals necessary to consummate the Business Combination are as set forth in the Schedule I of the Merger Agreement.

5. Representations and Warranties and Further Covenants

5.1 Photronics hereby represents and warrants that each of the representations and warranties set forth in Exhibit 5-1 are true and correct in all material respects as of the date hereof, and as of the closing of the Business Combination.

5.2 DNP hereby represents and warrants that each of the representations and warranties set forth in Exhibit 5-2 are true and correct in all material respects as of the date hereof, and as of the closing of the Business Combination.

5.3 Photronics and DNP further agree on the relevant net working capital of PSMC and DPTT respectively as set forth in the NWC Proposal attached hereto as Exhibit 5-3 (the "NWC Proposal"). Photronics and DNP hereby covenant to, and shall cause PSMC or DPTT, as applicable, to implement and carry out their respective obligations under the NWC Proposal. In the event that there is a need to extract or inject cash by Photronics and/or DNP from PSMC and/or DPTT as the case may be after the closing of the Business Combination according to the NWC Proposal, Photronics and DNP shall make their best efforts to cooperate with each other in good faith to carry out such cash extraction or injection.

5.4 Photronics hereby covenants that it will, and it will also cause PSMC to, and DNP hereby covenants that it will, and it will also cause DPTT to, consummate the terms and the respective obligations set forth in Section 1.9 of the Merger Agreement on the transfer of DPTT employees to the surviving entity resulting from the Business Combination.

5.5 During the period of time between signing this Agreement and the closing of the Business Combination, DNP and DPTT will use * to the extent reasonably possible under the circumstances. Furthermore, the Parties (DNP, Photronics along with their subsidiaries PSMC and DPTT) agree to collaborate and apply best effort to * by which the Parties can confirm * , DNP and DPTT *. In the event that the *

6. Standstill

6.1 Each of the Parties agree, and undertake to cause their Affiliates, not to sell, pledge, hypothecate, assign, encumber, or otherwise directly or indirectly transfer any of their shares in PSMC or DPTT to any person prior to the closing of the Business Combination; for clarification, this standstill restriction does not apply to any actions taken by Photronics and/or any of its Affiliate(s) to carry out the Restructuring Transaction (including but not limited to the release and re-creation of pledge over PSMC shares currently pledged as described in Section 6.4 (i)).

6.2 The Parties agree, and undertake to cause their Affiliates, not to sell, pledge, hypothecate, assign, encumber, or otherwise directly or indirectly transfer any of their shares in, or any rights to any interest in the surviving entity resulting from the Business Combination, except as otherwise agreed in the Joint Venture Operating Agreement.

6.3 Photronics undertakes to cause PSMC, and DNP undertakes to cause DPTT, commencing with the date first above written and ending as of the date of the closing of the Business Combination:

(a) to conduct the business in substantially the same manner as heretofore conducted and only in the ordinary course of business, to use its reasonable best efforts to preserve its business organization, and to maintain the existing relations with customers, creditors, business partners and others having business dealings with PSMC and DPTT, respectively;

(b) not to pass any resolution for its winding up, bankruptcy, re-organization or dissolution or liquidation or apply for the appointment of a receiver, manager or judicial manager or like officer; and

(c) not to take any of the following actions without the prior written consent of the other Party except for DPTT's Permitted Capital Increase (as defined in the Merger Agreement), Restructuring Transaction and PSMC's Permitted Capital Reduction (as defined in the Merger Agreement):

(i) unless otherwise permitted under Article 1.7 of the Merger Agreement, amend its articles of incorporation or make any material change in any policy on corporate governance, internal control, accounting or the like;

(ii) issue, sell, transfer, dispose of or create encumbrances over any shares, securities, or options;

(iii) make a capital increase/reduction or split or combine any of its capital stock or securities;

(iv) redeem, purchase or otherwise acquire directly or indirectly any of its capital stock or securities;

(v) enter into any business outside the existing scope of business, change the scope of the existing business or cease carrying on business;

(vi) sell or otherwise dispose of all or substantially all of its assets to any third party or contract to do so;

(vii) change its auditors;

(viii) change its financial year end or tax accounting year end;

(ix) except in the ordinary course of its business, and except for the acquisition/lease (an related lease liability) of the * and * from Photronics or one of Photronics'

Affiliates, acquire assets from third parties in excess of * in the aggregate;

(x) create or establish any subsidiary, acquire any interest in any other person or entity or enter into any joint venture, business alliance or partnership;

(xi) except in the ordinary course of its business, make any borrowings, incur any indebtedness or enter into any financial commitments, guarantees or provision of any kind of security;

(xii) enter into any M&A transaction (such as merger, spin-off, business transfer/assumption and share exchange) other than the Business Combination contemplated under the Merger Agreement; or

(xiii) make any distribution to its shareholder(s), employees and/or directors/supervisors.

6.4 Notwithstanding anything to the contrary set forth herein or in the Section 7.2.1 of the Joint Venture Operating Agreement, the Parties agree that (i) Photronics' or its Affiliate(s)' *

7. Effectiveness of this Agreement

7.1 This Agreement constitutes binding obligations of each of the Parties and shall take effect as of the date hereof until it has been terminated in accordance with this Section 7.

7.2 This Agreement shall terminate upon the earliest occurrence of one of the following events:

(a) the written consent of the Parties;

(b) by written notice delivered by the non-defaulting Party to the Party in default, in the event of any material breach, noncompliance or other default of any provision of this Agreement or any other Transaction Agreement, which, if capable of cure, is not cured within thirty (30) calendar days after receipt by

such defaulting Party of a written notice, which shall specify such default, from the non-defaulting Party;

(c) by written notice from either Party to the other Party hereto, in the event that (i) the Closing (as defined under the Merger Agreement) does not occur on or prior to * (or such later date agreed by the Parties in writing) or (ii) any of the regulatory approvals necessary to consummate the Business Combination set forth in the Schedule I of the Merger Agreement has been disapproved by the relevant competent authority by a final decision that is unable to be changed by re-application or supplemental filing; or (iii) the * and notice is given under Section 5.5 hereof to terminate; and

(d) upon any termination of the Merger Agreement.

8. Dispute Resolution

8.1 The Parties hereby agree that any and all claims, disputes or controversies of whatever nature, arising out of, in connection with, or in relation to the interpretation, performance, enforcement, breach, termination or validity of this Agreement and/or any other Transaction Agreement (except for the License Agreement for the purpose of this Section 8), shall be first *.

8.2 If, within thirty (30) days (or such shorter time if emergency or exigent circumstances exist) of first *, the Parties are unable to reach a mutually agreed resolution, then the Parties hereby agree that such claims, disputes or controversies shall be resolved by a binding arbitration, to be held in Taipei at the ROC Arbitration Association (the "Association"), under the ROC Arbitration Law and the Arbitration Rules of the ROC Arbitration Association. Each Party shall bear its own expenses incurred in connection with arbitration and the fees and expenses of the arbitrator shall be shared equally by the Parties involved in the dispute and advanced by them from time to time as required. The arbitrator shall render its final award within six (6) months, subject to extension by the arbitrator upon substantial justification shown of extraordinary circumstances, following conclusion of the hearing and any required post-hearing briefing or other proceedings ordered by the arbitrator. Any discovery in connection with such arbitration hereunder shall be limited to information directly relevant to the controversy or claim in arbitration. The arbitrator will state the factual and legal basis for the award. To the extent not amended or overturned by appeal to a court of competent jurisdiction pursuant to the Arbitration Law of Taiwan, the decision of the arbitrator in any such proceeding will be final and binding and not subject to judicial review and final judgment may be entered upon such an award in any court of competent jurisdiction, but entry of such judgment will not be required to make such award effective. The Parties agree that the arbitration proceedings and decisions shall be kept confidential and that any information or documents, including any pleadings or submissions exchanged or produced in such arbitration (including, but not limited to briefs, or other documents submitted

or exchanged, any testimony or other oral submissions, and any awards) shall not be disclosed beyond the arbitrator, the Association, the Parties, their counsel and any person necessary to conduct the arbitration, except as may be required in recognition and enforcement proceedings or otherwise permitted under Section 9.1. The Parties hereby irrevocably waive, to the fullest extent permitted by applicable law, any objection which they may now or hereafter have to the laying of venue of any action brought for enforcement of such arbitration clause or any award resulting from arbitration pursuant to this Section 8 or any defense of inconvenient forum for the maintenance of any such action. Each of the Parties hereto agrees that an arbitration award in any such action may be enforced in other jurisdictions by suit on the arbitration award or in any other manner provided by applicable law. The Parties agree that the arbitration proceeding described in this Section 8 is the sole and exclusive manner in which the Parties may resolve disputes arising out of or in connection with this Agreement; provided that the Parties expressly agree that nothing in this Agreement shall prevent the Parties from applying to a court having jurisdiction over any of the Parties to this Agreement for the limited purpose of obtaining temporary and provisional or injunctive relief necessary solely to preserve the status quo or otherwise to prevent irreparable harm to a Party pending the outcome of arbitration. The Parties agree that all arbitration proceeding described in this Section 8 shall be conducted in English with English speaking lawyer(s) and arbitrator(s), and that the number of arbitrator(s) required at such proceeding shall be: (a) one (1) arbitrator in the event that the disputed amount is less than * , or (b) three (3) arbitrators in the event that the disputed amount is equal to or greater than * .

9. Confidentiality

9.1 Each Party shall not disclose, divulge, provide, publish or provide access to third parties, and will use reasonable efforts to cause its respective Affiliates, officers, directors, members, employees, agents, representatives and advisors (collectively, such party's "Covered Persons") not to disclose, divulge, provide, publish or provide access to third parties, unless and solely to the extent (i) compelled to disclose by judicial or administrative process or by other requirements of law or the applicable rules of any national securities exchange or (ii) necessary to enforce claims in a judicial or administrative proceeding, (a) the existence and content of the Transaction Agreements and any information arising from or in connection with the Transaction Agreements and/or the transactions contemplated hereby and (b) all documents and information concerning the Transaction Agreements and the transactions contemplated hereby or furnished by one Party and its Covered Persons (the "Disclosing Party"), to any other Party and its Covered Persons (the "Receiving Party"), except to the extent that such information can be shown by written evidence to have been (A) previously known on a non-confidential basis by the Receiving Party, (B) publicly available through no fault of the Receiving Party, (C) rightfully received from a third party without a duty of

confidentiality, (D) disclosed by the Disclosing Party of such information to a third party without a duty of confidentiality on such third party, (E) independently developed by the Receiving Party prior to or without reference to any such documents or information, or (F) disclosed with the prior approval of the Disclosing Party of such documents or information. If this Agreement is terminated for any reason, the confidentiality obligations required by this Section 9 shall survive and be maintained as set forth below, and the Receiving Party shall return to the Disclosing Party, all documents and other materials, and all copies thereof, obtained by the Receiving Party from the Disclosing Party in connection herewith that are subject to this Section 9. The Receiving Party shall use any information obtained herewith that are subject to this Section 9 only in relation to the performance of its obligations under the Transaction Agreements and/or the transactions contemplated hereby. The confidentiality obligations required by this Section 9 shall not apply to disclosures permitted pursuant to Section 9.2 hereof, and all confidentiality obligations required by this Section 9 shall be terminated upon *.

9.2 Except as agreed by the Parties, each of the Parties agrees that it shall not, directly or indirectly, make or cause any public announcement in respect of the Transaction Agreements or the transactions contemplated hereby without the prior written consent of the other Party, and the Parties agree that they shall undertake not to, and to cause either PSMC or DPTT, as applicable, not to, directly or indirectly, make or cause to be made any such public announcement without the prior written consent of the applicable other Party. Notwithstanding the foregoing, each Party shall be permitted to issue any public announcements or press releases solely to the extent as required by law or the applicable rules of any national securities exchange, provided that a draft of any such public announcement or press release be first provided by the Party who issues such public disclosure to the other Party no later than five (5) Business Days (defined in the Joint Venture Operating Agreement) prior to such required public disclosure; provided further that, in case that reports on Form 8-K need to be filed according to the Securities Exchange Act of 1934 of the United States, such draft shall be provided to the other Party no later than three (3) Business Days.

10. Expenses

Each Party shall pay its own fees and expenses incurred with respect to the preparation and negotiation of the Transaction Agreements.

11. Governing Law

THIS AGREEMENT SHALL BE GOVERNED IN ALL RESPECTS, INCLUDING AS TO VALIDITY, INTERPRETATION AND EFFECT, BY THE INTERNAL LAWS OF TAIWAN WITHOUT GIVING EFFECT TO THE CONFLICT OF LAWS RULES THEREOF.

12. Indemnification

12.1 Each of the Parties hereby agrees to indemnify the other Party that is not in default under this Agreement and/or any other Transaction Agreement and its Affiliates, directors, supervisors, officers, employees, agents, and successors (collectively the "Non-Breaching Party") against, and agrees to hold the Non-Breaching Party harmless from, any and all claim, cost, damage, loss, liability and expense (including without limitation reasonable attorneys' fees and expenses in connection with any action, suit or proceeding) of any nature whatsoever suffered or incurred by the Non-Breaching Party resulting from or in connection with a breach of this Agreement and/or any other Transaction Agreement by such Party (each, a "Loss").

12.2 Procedures for Indemnification .

(a) The party seeking indemnification under Section 12 hereof (the "Indemnified Party") agrees to give prompt notice to the Party against whom indemnity is sought (the "Indemnifying Party") of the assertion of any claim, or the commencement of any suit, action or proceeding in respect of which indemnity may be sought hereunder; provided that the failure to notify the Indemnifying Party shall not relieve the Indemnifying Party of its obligations hereunder, except to the extent such failure shall have materially and adversely prejudiced the Indemnifying Party. The Indemnifying Party shall not be liable under this Section 12.2 for any settlement of Third Party Claims (as defined below) effected without its consent and in violation of Section 12.2(b) hereof.

(b) The Indemnifying Party shall be entitled to participate in the defense of any claim asserted by any third party and arising from the breach of obligations under this Agreement and/or any other Transaction Agreement ("Third Party Claim") and, subject to the limitations set forth in this Section 12.2, shall be entitled to control and appoint lead counsel for such defense, in each case at its expense, provided that prior to assuming control of such defense, the Indemnifying Party must acknowledge that it would have an indemnity obligations for Loss resulting from such Third Party Claims as provided under this Section 12.2. Notwithstanding the foregoing, the Indemnifying Party shall not be entitled or obligated to assume or maintain control of the defense of any Third Party Claim nor pay the fees and expense of counsel retained by the Indemnified Party if (i) the Third Party Claim relates to or arises in connection with any criminal proceeding, action, indictment, allegation or investigation against the Indemnified Party and/or willful misconduct or gross negligence of the Indemnified Party, or (ii) the Third Party Claim seeks an injunction or equitable relief against the Indemnified Party.

(c) If the Indemnifying Party shall assume the control of the defense of any Third Party Claim in accordance with the provisions of Section 12.2(b), the Indemnifying Party shall obtain the prior written consent of

the Indemnified Party (which shall not be unreasonably withheld or delayed) before entering into any settlement of such Third Party Claim.

(d) The Indemnified Party shall be entitled to participate in the defense of any Third Party Claim and to employ one law firm as separate counsel of its choice for such purpose. The reasonable fees and expenses of such separate counsel shall be borne by the Indemnified Party, provided that the Indemnifying Party shall not pay the reasonable fees and expenses of such separate counsel, (i) incurred by the Indemnified Party prior to the date the Indemnifying Party assumes control of the defense of the Third Party Claim and the Indemnifying Party is not otherwise required to assume control of the defense of such Third Party Claim, or (ii) if representation of both the Indemnifying Party and the Indemnified Party by the same counsel would create a conflict of interest.

(e) The Indemnified Party shall take all reasonable steps to avoid or mitigate its Losses upon and after becoming aware of any event or condition which would reasonably be expected to give rise to any Losses that are indemnifiable under this Agreement and/or any other Transaction Agreement, including taking all reasonable steps to enforce any claim for indemnification for such Losses under any contract with any third party (including any insurance coverage) that may cover any portion of such Losses.

12.3 Limitations on Indemnification.

(a) No claim pursuant to this Section 12 may be asserted after the expiration of twelve (12) months from the date of the closing of the Business Combination or March 31, 2015, whichever is later, except with respect to any claims for indemnification with respect to the representations and warranties contained in following Sections:
- as for Exhibit 5-1
A.I. * ;
B.I. * ;
B.III * ;
B.IV * ; and
B.VII * ;
- as for Exhibit 5-2
A.I. * ;
B.I. * ;
B.III * ;
B.IV * ; and
B.VII * ;
(collectively, the " Fundamental Representations "), each of which shall survive for a period of four (4) years after the date of the closing of the Business Combination or March 31, 2015, whichever is later.

(b) No indemnity or reimbursement for Losses asserted under this Section 12 shall be required of the Indemnifying Party (i) for any individual Loss (or

group of related Losses) that is less than * (or its equivalent in other currency, the "Individual Basket") (provided, that for the avoidance of doubt, any such Loss shall not be applied towards the Basket), (ii) unless and until the aggregate amount of Losses suffered by the Indemnified Party exceeds * (or its equivalent in other currency, the "Basket"), at which point, the Indemnifying Party shall be liable only for such Losses in excess of * , subject to the other limitations set forth herein, and (iii) to the extent the aggregate amount of all such Losses suffered by the Indemnified Party and indemnified by the Indemnifying Party in excess of * (or its equivalent in other currency, the "Cap"); provided that the Individual Basket, the Basket and the Cap shall not be applicable to any Losses asserted in respect of fraud, willful misconduct or gross negligence of the Indemnifying Party or its Affiliates, directors, supervisors, officers, employees, agents, and successors; provided further that the Cap shall not be applicable to any Losses asserted resulting from or in connection with a breach of the Fundamental Representations.

(c) For the avoidance of doubt, (i) each indemnification obligation set forth in this Section 12 shall be calculated on an after-tax basis; and (ii) all Losses shall be decreased by any recoveries from third parties and any tax benefits relating to such Losses.

(d) In no event shall either Party or any of its Affiliates, officers, directors, supervisors, employees, agents or assigns be liable for any consequential, incidental, punitive, special, exemplary or other indirect damages, including, by way of example and not limitation, loss of business, profits, use, data, or other economic advantage.

(e) Notwithstanding the foregoing, Sections 12.3(a) and 12.3(b) shall not apply to any breach or default of the obligations set forth in the Joint Venture Operating Agreement, the Outsourcing Agreement and the License Agreement.

12.4 Sole and Exclusive Remedy.

Without prejudice to other remedy otherwise and expressly provided in other Transaction Agreements which are intended to operate from and after the closing of the Business Combination (including, without limitation, *), this Section 12 shall be the sole and exclusive remedy of the Parties for any breach of the representations, warranties, covenants or agreements contained in this Agreement and the Merger Agreement.

13. Notices

13.1 All notices, requests, demands, waivers and other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if (a) delivered personally, (b) mailed, certified or registered mail with postage prepaid, (c) sent by next-day or

overnight mail or delivery, or (d) sent by fax with electronic confirmation of delivery, as follows:

- if to Photronics,

Photronics, Inc.
15 Secor Road
Brookfield, CT 06804
Telephone: +1- 203-775-9000
Fax: *
Attention: General Counsel

with a copy to:

LCS & Partners
5th floor, Sec. 5, No. 8, Sinyi Road
Taipei, Taiwan, Republic of China
Telephone: +886 2 2729 8000
Fax: *
Attention: *.

- if to DNP,

Dai Nippon Printing Co., Ltd.
1-1, Ichigaya Kagacho 1-chome, Shinjuku-ku, Tokyo, Japan
Telephone: *
Fax: *
Attention: *

with a copy to:
*
*
*
*
Fax: *

or, in each case, at such other addresses as may be specified in writing to the other Party hereto.

13.2 All such notices, requests, demands, waivers and other communications shall be deemed to have been received (a) if by personal delivery on the day after such delivery, (b) if by certified or registered mail, on the fifth business day after the mailing thereof, (c) if by next-day or overnight mail or delivery, on the day delivered or (d) if by fax, on the next day following the day on which such transmission was sent, provided that a copy is also sent by personal delivery, overnight courier or certified or registered mail.

14. Amendments and Waivers

No amendment, modification or discharge of this Agreement, and no waiver hereunder, shall be valid or binding unless set forth in writing and duly executed by or on behalf of Photronics and DNP. Any such waiver shall constitute a waiver only with respect to the specific matter described in such writing and shall in no way impair the rights of the Party granting such waiver in any other respect or at any other time. Neither the waiver by any of the Parties hereto of a breach of or a default under any of the provisions of this Agreement or to exercise any right or privilege hereunder, shall be construed as a waiver of any other breach or default of a similar nature, or as a waiver of any of such provisions, rights or privileges hereunder. The rights and remedies herein provided are cumulative and none is exclusive of any other, or of any rights or remedies that any Party may otherwise have pursuant to applicable laws.

15. Assignment

In no event may any rights or obligations under this Agreement be assigned by either Party to another person without obtaining prior written approval from the other Party.

16. Severability

If one or more provisions of this Agreement are held to be unenforceable under applicable law, such provision shall be excluded from this Agreement, and the balance of the Agreement shall be interpreted as if such provision were so excluded, and shall be enforceable in accordance with its terms.

17. Survival

Unless otherwise indicated by context, Sections 7 to 9 and 11 to 18 and such other sections as are intended by their nature or by their terms to survive any expiration or termination shall survive the expiration or termination of this Agreement.

18. Miscellaneous

This Agreement shall supersede any previous agreement and understanding between the Parties and all their respective Affiliates with regard to the same subject. Except as otherwise provided herein, the terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and permitted assigns of the Parties hereto. This Agreement may be signed in counterparts.

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For and on behalf of

Photronics, Inc.

By: _____
Name:
Title:

For and on behalf of

Dai Nippon Printing Co., Ltd.

By: _____
Name:
Title:

Framework Agreement Signature Page

*

*

- Exhibit 1-2 –

*

*

*

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Exhibit A. *
*

Exhibit 10.20

JOINT VENTURE OPERATING AGREEMENT

OF

PHOTRONICS DNP MASK CORPORATION

between

PHOTRONICS, INC.

and

DAI NIPPON PRINTING CO., LTD.

Dated as of November 20, 2013

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JOINT VENTURE OPERATING AGREEMENT
OF
PHOTRONICS DNP MASK CORPORATION

This **JOINT VENTURE OPERATING AGREEMENT** (together with the Schedules, as amended or otherwise modified from time to time, this " **Agreement** ") is made and entered into as of the 20th day of November, 2013, by and between Photronics, Inc., a corporation organized under the laws of the state of Connecticut, U.S.A. with its principal place of business at 15 Sector Road, Brookfield, Connecticut, U.S.A. (" **Photronics** ") and Dai Nippon Printing Co., Ltd., a corporation organized under the laws of Japan with its principal place of business at 1-1, Ichigaya Kagacho 1-chome, Shinjuku-ku, Tokyo, Japan (" **DNP** "), with respect to Photronics DNP Mask Corporation, whose name as of the date of this Agreement is Photronics Semiconductor Mask Corporation (the " **Company** "), a company limited by shares organized and formed under the Company Act of the Republic of China (the " **Act** ") with its principal place of business at 1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park, Taiwan.

ARTICLE 1.
ORGANIZATIONAL MATTERS

1.1 Background

The Company was formed on October 6, 1997 under the Act and will become the joint venture entity contemplated by the Merger Agreement (the " **Merger Agreement** ") to be executed between the Company and DNP Photomask Technology Taiwan Co., Ltd., a corporation organized under the laws of the R.O.C., with its principal place of business at No. 6, Lising 7 th Rd., East District, Hsinchu City, Hsinchu Science Park, Taiwan, R.O.C. Upon execution of the Merger Agreement, Photronics will be the sole Shareholder of the Company directly or indirectly, and upon the contributions contemplated under such Merger Agreement, DNP will also become a Shareholder of the Company. The rights and liabilities of the Shareholders shall be as provided in the Act, except as otherwise expressly provided herein. In the event of any inconsistency between any terms and conditions contained in this Agreement and any non−mandatory provisions of the Act, the terms and conditions contained in this Agreement shall govern. If any provision of this Agreement is prohibited or ineffective under the Act, this Agreement will be considered amended to the smallest degree possible in order to make such provision effective under the Act. The Shareholders and the Board of Directors shall also cause the Company to take corporate actions and make filings and recordings that are necessary or advisable to effectuate the aforesaid amendment.

1.2 Name

The name of the Company after the completion of the Merger contemplated under the Merger Agreement shall be □□□□□ □□□□□□□□□□ (Photronics DNP Mask Corporation). The Board of Directors may change the name of the Company from time to time, in accordance with this Agreement and Applicable Law.

1.3 Principal Place of Business

The principal place of business of the Company will be located in 1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park, Taiwan.

1.4 Business Purpose

The purpose of the Company shall be *.

1.5 Term

The Company shall continue until the Company is terminated, dissolved or liquidated in accordance with this Agreement and the Act. Notwithstanding the dissolution of the Company, the existence of the Company shall continue until termination pursuant to, and as provided in, Article 10 of this Agreement.

1.6 Accounting Consolidation

1.6.1 The Shareholders confirm and agree that, for as long as Photronics and/or an Affiliate of Photronics holds more than fifty percent (50%) of Percentage Interest in the Company in the aggregate, the Company is intended to, and shall be treated as, a consolidated subsidiary of Photronics under United States and Taiwan GAAP. In the event that any term of this Agreement or any relationship, understanding or other agreement, including any Transaction Document, between or among, the Company, Photronics and DNP shall be inconsistent with any existing or future rule, principle or standard governing accounting consolidation of the Company's financial results by Photronics under GAAP, then this Agreement or such relationship, understanding or other agreement shall be modified, terminated or waived (as the case may be) (each an " **Accounting Amendment** ") to the minimum extent necessary to grant, allow or permit accounting consolidation of the Company's financial results by Photronics in accordance with Section 1.6.2.

1.6.2 Where Photronics believes that an Accounting Amendment may be necessary due to any existing or future rule, principle or standard under GAAP,

(a) Photronics shall promptly notify DNP of the reasons for, and content of, any proposed Accounting Amendment in writing;

(b) after Photronics' above notification, *

1.6.3 For the avoidance of doubt, for as long as Photronics and/or an Affiliate of Photronics holds more than fifty percent (50%) of Percentage Interest in the Company in aggregate, nothing contained herein is intended or shall allow DNP to (a) control the operations or assets of the Company in its sole discretion and (b) have the discretionary power to govern the financial, operating and personnel policies of the Company unless such actions as set forth in (a) and (b) immediately above are permitted under GAAP and agreed to between the parties hereto.

1.7 Transaction Documents

Contemporaneous with the execution of this Agreement, Photronics, DNP, their respective subsidiaries and the Company have entered into the agreements listed on Schedule A-1 hereto and will have agreed to the final form and substance of the exhibits attached as Schedule A-2 , as applicable (collectively, the " **Transaction Documents** "). The timing and execution of the Transaction Documents is governed by the Framework Agreement.

1.8 Ratification of Organizational Actions

When necessary, the Shareholders will, by a resolution adopted by the Shareholders' meeting of the Company, authorize the Company, and ratify all action having been taken by or on behalf of the Company (including by its Officers) prior to the date hereof, to execute and deliver the Transaction Documents to which it is a party, including all certificates, agreements and other documents required in connection therewith.

1.9 Articles of Incorporation

The Shareholders agree that as of the completion of the Merger contemplated under the Merger Agreement, the Articles of Incorporation of the Company shall substantially be in the form attached hereto as Schedule I .

1.10 Compliance

For as long as Photronics and/or an Affiliate of Photronics hold more than fifty percent (50%) of Percentage Interest in the Company, the Company will comply with Photronics health and safety and environmental and corporate compliance policies, procedures, programs and standards. In the event the Company has any concerns about any compliance matters including but not limited to antitrust concerns the Company will consult with counsel for the Company.

1.11 Pre-Closing Liabilities

DNP agrees to be responsible for any and all DPTT Pre-Closing Liability, and Photronics agrees to be responsible for any and all PSMC Pre-Closing Liability.

ARTICLE 2.
DEFINITIONS

Capitalized words and phrases used and not otherwise defined elsewhere in this Agreement shall have the following meanings:

"Accounting Amendment" is defined in Section 1.6.1.

"Accounting Amendment Closing" is defined in Section 1.6.2(b).

"Accounting Amendment Closing Price" is defined in Section 1.6.2(b).

" **Accounting Amendment Option** " is defined in Section 1.6.2(b).

" **Accounting Amendment Option Notice** " is defined in Section 1.6.2(b).

"Act" is defined in the preamble.

"Additional Contributions" is defined in Section 4.1.2(a).

"Affiliate" of a Person means any other Person which, directly or indirectly, controls, is controlled by, or is under common control with, such Person. The term "control" (including, with correlative meaning, the terms "controlled by" and "under common control with"), as used with respect to any Person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise. A Person shall be deemed an Affiliate of another Person only so long as such control relationship exists. The parties acknowledge and agree that neither DNP nor Photronics is presently controlled by any other Person. Notwithstanding the foregoing, a Company Entity shall not be deemed to be an Affiliate of either DNP or Photronics, except where expressly provided in this Agreement.

"Agreement" is defined in the preamble.

"Annual Budget" is defined in Section 6.2.

"Applicable Law" means, with respect to a Person, any domestic or foreign, national, federal, territorial, state or local constitution, statute, law (including principles of common law), treaty, ordinance, rule, administrative interpretation, regulation, order, writ, injunction, legally binding directive, judgment, decree or other requirement or restriction of any arbitrator or Governmental Authority applicable to such Person or its properties, assets, officers, directors, employees, consultants or agents (in connection with such officer's, director's, employee's, consultant's or agent's activities on behalf of such Person).

" **Articles of Incorporation** " means the Articles of Incorporation of the Company, as amended from time to time.

"Board of Directors" means, at any time, the Board of Directors of the Company.

"Business" shall mean all activities related to or reasonably required in connection with the design, development fabrication and sale of integrated circuit photomasks.

"Business Day" means a full banking business day in the State of Connecticut, Japan and Taiwan.

"Business Plan" is defined in Section 6.2.

"Capital Contributions" means, with respect to any Shareholder, the total amount of cash and the initial agreed upon asset value of property (other than cash) contributed to the capital of the Company by such Shareholder.

"Cash" means cash and cash equivalents determined by the Board of Directors in good faith consistent with GAAP.

"Chairman of the Board" is defined in Section 5.5.

"Change in Control" shall be deemed to have occurred, with respect to Photronics or DNP, when: *

For the purpose of this definition, a "group" means two or more Persons who, acting for a common purpose, which act based on their mutual consent in the form of a contract, an agreement or others; and a "beneficial owner" means any Person who owns the shares or other assets under his/her/its own name or under the name of a third party (i.e. a nominee) where: (i) such Person (a) provides said shares or assets or (b) provides the funds to acquire such shares or assets to the nominee directly or indirectly; or (ii) the principal has the right to manage, utilize or dispose of the shares or assets held by the nominee; or (iii) entire or partial profits or losses of the shares or assets held under the name of the nominee are assumed by the principal.

"Change in Control Closing" is defined in Section 7.4.2.

"Change in Control Closing Price" is defined in Section 7.4.3.

"Change in Control Notice" is defined in Section 7.4.1.

"Company" is defined in the preamble.

"Company Accountant" shall mean initially Deloitte Touche LLP or such other independent accounting firm as appointed from time to time by the Board of Directors.

"Company Assets" means all direct and indirect rights and interests in real and personal property owned by the Company and its subsidiaries from time to time, and shall include both tangible and intangible property (including Cash). For the sake of clarity, "Company Assets" shall not be deemed to include any right or interest owned by Photronics or DNP or their respective Affiliates, including, without limitation, any rights licensed from third parties to Photronics or DNP unless authorized by such third parties.

"Company Entity" means the Company, or any of its directly or indirectly majority owned subsidiaries (whether organized as corporations, limited liability companies or other legal entities).

"Company Liabilities" means all direct and indirect liabilities and obligations of the Company and its subsidiaries from time to time including the aggregate undistributed amounts due to Shareholders to pay Taiwanese taxes on any income allocated to them. In determining the amount of such liabilities, any contingent liabilities, guarantees or other amounts that are not recorded on the Company's consolidated balance sheet shall be included and reserved against at the fair probable value thereof as reasonably determined by the Board of Directors in accordance with GAAP.

"Directors" is defined in Section 5.1.3.

"DNP" is defined in the preamble.

"DNP Director" means any of the Directors designated by DNP to serve on the Board of Directors in accordance with Section 5.1.3.

"DPTT" means DNP Photomask Technology Taiwan Co., Ltd., a company limited by shares incorporated under the Act.

" **DPTT Pre-Closing Liability** " means any and all liabilities and claims arising against DPTT (whether or not made against DPTT or against the Company after the completion of the Merger as contemplated in the Merger Agreement) by any third party which are attributable to events occurred prior to the completion of the Merger as contemplated in the Merger Agreement and are not: (i) reflected in the latest financial statements of DPTT which were made available to Photronics prior to the execution of this Agreement; (ii) taken into consideration and reflected by the relevant adjustment(s) made under Exhibit 5-3 (NWC Proposal) of the Framework Agreement (excluding those that are not required to be taken into consideration thereunder); and (iii) otherwise indemnified by DNP pursuant to Section 12 of the Framework Agreement or recovered from third parties.

"Economic Interest" means a Person's right to share in allocations of Net Profits, Net Losses and other items of income, gains, losses, deductions and credits hereunder and to receive distributions from the Company as set forth in this Agreement, but does not include any other rights of a Shareholder including, without limitation, the right to vote or to participate in the management of the Company, or, except as specifically provided in this Agreement or required under the Act, any right to information concerning the business and affairs of the Company.

"Effective Date" means the date of the Closing (as defined in the Merger Agreement).

"Exchange Act" means the Securities Exchange Act of 1934 of the United States, as amended.

"Fiscal Months" is defined in Section 5.12.1.

"Fiscal Quarters" is defined in Section 5.12.1.

"Fiscal Year" is defined in Section 5.12.1.

" **Force Majeure** " means any cause or causes beyond the reasonable control of the Company, including, but not limited to, acts of God, industrial disturbances, wars, terrorism, epidemics, blockages, embargoes, insurrections, riots, explosions, fires, earthquake, floods, perils of the sea.

" **Framework Agreement** " means the Joint Venture Framework Agreement of even date herewith executed by and between Photronics and DNP.

"GAAP" means generally accepted accounting principles in Taiwan and/or United States, as applicable, as in effect from time to time.

"GAAS" means generally accepted auditing standards in Taiwan and/or United States, as applicable, as in effect from time to time.

"General Manager" is defined in Section 5.14.1.

"Governmental Authority" means any foreign, domestic, national, federal, territorial, state or local governmental authority, quasi-governmental authority, instrumentality, court, government, stock exchange or self−regulatory organization, commission, tribunal or organization or any regulatory, administrative or other agency, or any political or other subdivision, department or branch of any of the foregoing.

" **Increasing Shareholder** " is defined in Section 5.4

"Indemnified Loss" is defined in Section 5.13.1.

"Indemnitee" is defined in Section 5.13.1.

"Interest" means the entire ownership interest of a Shareholder in the Company at any particular time, including without limitation, the Shareholder's Shares and Economic Interest, any and all rights to vote and otherwise participate in the Company's affairs, and the rights to any and all benefits to which a Shareholder may be entitled as provided in this Agreement, together with the obligations of such Shareholder to comply with all of the terms and provisions of this Agreement. An Interest may be expressed as a number of Shares.

"Liquidating Event" is defined in Section 10.2.

"Liquidators" is defined in Section 10.5.1.

" **Majority Shareholder** " is defined in Section 7.3.1.

" **Management Advisory Committee** " is defined in Section 5.15.

" **Minority Closing** " is defined in Section 7.3.2.

" **Minority Closing Price** " is defined in Section 7.3.3.

" **Minority Shareholder** " is defined in Section 7.3.1.

" **Net Book Value** " means,*.

"Net Profits " or **"Net Losses"** means, for each Fiscal Year or other period, an amount equal to the Company's taxable income or loss for such year or period.

"Officer" is defined in Section 5.14.3.

"Overseas Customers" shall mean *.

"Percentage Interest" means, with respect to a Shareholder holding one or more Shares, its Interest in the Company as determined by dividing the number of Shares owned by such Shareholder by the total number of Shares of the Company then outstanding. For the purposes of this Agreement, the aggregate Percentage Interest of all entities directly or indirectly wholly owned by Photronics or DNP, as the case may be, shall be the basis for calculating the Percentage Interest of Photronics and DNP.

"Person" means any person or entity, whether an individual, trustee, corporation, partnership, limited partnership, limited liability company, trust, unincorporated organization, business association, firm, joint venture, other legal entity or Governmental Authority.

"Photronics" is defined in the preamble.

"Photronics Director" means any of the Directors designated by Photronics to serve on the Board of Directors in accordance with Section 5.1.3.

"PSMC" means Photronics Semiconductor Mask Corporation, a company limited by shares incorporated under the Act.

" **PSMC Pre-Closing Liability** " means any and all liabilities and claims arising against the Company by any third party which are attributable to events occurred prior to the completion of the Merger as contemplated in the Merger Agreement and are not: (i) reflected in the latest financial statements of the Company which were made available to DNP prior to the execution of this Agreement; (ii) taken into consideration and reflected by the relevant adjustment(s) made under Exhibit 5-3 (NWC Proposal) of the Framework Agreement (excluding those that are not required to be taken into consideration thereunder); and (iii) otherwise indemnified by Photronics pursuant to Section 12 of the Framework Agreement or recovered from third parties.

" **Reducing Shareholder** " is defined in Section 5.4.

" **Related Party Agreement** " is defined in Section 5.18.

" **Representative** " is defined in Section 5.13.6(d).

"Required Funding Date" is defined in Section 4.1.2(a).

"Seconded Employees" is defined in Section 6.4.

"Service Provider Documents" is defined in Section 6.5.1

"Share" means equity interest of the Company issued pursuant to Article 3 of this Agreement. Shares may be issued in whole numbers of a fractional interest. As of the completion of the Merger contemplated under the Merger Agreement, the Shares are to be held by the Shareholders in accordance with Schedule C .

"Shareholder" means a Person owning Shares.

"Shortfall" means the dollar difference between a requested Additional Contribution and the actual amount a Shareholder pays of such Additional Contribution.

"Tax" or **"Taxes"** means all taxes, levies, imposts and fees imposed by any Governmental Authority (domestic or foreign) of any nature including but not limited to federal, state, local or foreign net income tax, alternative or add-on minimum tax, profits or excess profits tax, franchise tax, gross income, adjusted gross income or gross receipts tax, employment related tax (including employee withholding or employer payroll tax), real or personal property tax or ad valorem tax, sales or use tax, excise tax, stamp tax or duty, any withholding or back up withholding tax, value added tax, severance tax, prohibited transaction tax, premiums tax, occupation tax, together with any interest or any penalty, addition to tax or additional amount imposed by any Governmental Authority (domestic or foreign) responsible for the imposition of any such tax.

" **Territory** " means * .

"Transaction Documents" is defined in Section 1.7.

"Transfer" (including, with correlative meaning, the term " **Transferred** ") means, with respect to any Share or Economic Interest or portion thereof, a sale, conveyance, exchange, assignment, pledge, encumbrance, gift, bequest, hypothecation or other transfer or disposition by any other means, whether for value or no value and whether voluntary or involuntary (including, without limitation, by operation of law), or an agreement to do any of the foregoing.

"Supermajority Vote of Directors" *.

"Supermajority Vote of Shareholders" *

"Vice General Manager" is defined in Section 5.14.1.

"Voting Stock" is defined in the definition of "Change in Control."

ARTICLE 3.
SHARES AND CAPITAL CONTRIBUTIONS

3.1 Authorized Shares

The Company is authorized to issue equity interests (which should be common shares with the par value at * per share) in the Company designated as "Shares". The total number of authorized Shares and issued Shares of the Company as of the completion of the Merger contemplated under the Merger Agreement shall be set forth in the Merger Agreement.

3.2 Initial Capital Contributions and Share Issuance

The Shareholders acknowledge and agree that the names and address of each Shareholder, Percentage Interests of, and number of Shares owned by, the Shareholders as of the completion of the Merger contemplated under the Merger Agreement are as set forth on Schedule C .

3.3 Return or Redemption of Capital Contribution

Except as otherwise provided in this Agreement or approved by a Supermajority Vote of Shareholders: (a) no Shareholder shall demand or be entitled to receive a return of or interest on any portion of its Capital Contributions; and (b) no Shareholder shall withdraw any portion of its Capital Contributions or receive any distributions from the Company as a return of capital on account of such Capital Contributions. Except as otherwise provided in this Agreement or approved by a Supermajority Vote of Board, the Company shall not redeem or repurchase the Shares of any Shareholder. Provided in all three cases that any such return, distribution or redemption that is permitted hereunder shall be *pro rata* based upon the Shareholders' respective Percentage Interests and in compliance with Applicable Law.

3.4 Liability of Shareholders

Except as otherwise required by any non-waivable provision of the Act or other Applicable Law and except as provided in this Agreement or other agreements between the Company and one or more Shareholders or their Affiliates, no Shareholder shall be liable in any manner whatsoever for any debt, liability or other obligation of the Company, whether such debt, liability or other obligation arises in contract, tort, or otherwise solely by reason of being a Shareholder.

3.5 Revenue

The Shareholders hereby agree* .

ARTICLE 4.
FINANCING OF THE COMPANY

4.1 Types of Financing

4.1.1 General . The Shareholders expect the Company to be self funding. The Shareholders shall not be obliged to make any kind of additional investment (including the Additional Contributions, loan to the Company and guaranteeing a loan of the Company) into the Company upon or after the completion of the Merger contemplated under the Merger Agreement. Nevertheless, the Board of Directors shall be responsible for determining the type of financing required to fund the operations of the Company and will evaluate Capital Contributions from the Shareholders or incurring debt from the Shareholders or from public, private or bank markets, in each case as permitted under this Agreement; the Board of Directors will then decide on the type of funding that is in the best interests of the Company at the time of the decision.

4.1.2 Shareholder Contributions .

(a) If the Board of Directors determines that the Company requires additional funding via a Capital Contribution from the Shareholders to the Company, the Shareholders shall have the right to make such Capital Contributions to the Company pro-rata based on such Shareholder's Percentage Interest (the **"Additional Contributions"**) of up to * in aggregate during the four year period following the date of the completion of the Merger contemplated under the Merger Agreement, and up to * in any one year period during such four year period. Request for Additional Contributions shall be made by written notice by the Board of Directors, provided that if any of the Shareholders intends to cause the Board of Directors to approve an Additional Contributions, it shall notify the other Shareholder in writing and any such written notice shall include the amount of required Capital Contribution and the required funding date (" **Required Funding Date** ") to be approved by the Board of Directors and shall be sent to the other Shareholder at least ninety (90) calendar days prior to the relevant meeting of the Board of Directors. Such Required Funding Date shall correspond to the end of a Fiscal Month. All Additional Contributions shall be made in New Taiwan Dollars or equivalent in US Dollars. Where the Applicable Law grants employees of the Company any subscription rights and no exception in the Applicable Law is available to the Company, the Shareholders agree to use their best efforts to cause the employees of the Company to waive any rights they may have under the Applicable Law to subscribe to any additional Shares to be issued in connection with any Additional Contributions.

(b) In the event that any Shareholder determines to *

ARTICLE 5.
MANAGEMENT

5.1 Board of Directors

5.1.1 Powers . Except as otherwise required by any non-waivable provision of the Act or other Applicable Law or expressly provided in this Agreement, all management powers over the business, property and affairs of the Company are exclusively vested in a board of directors (the " **Board of Directors** "), and no Shareholder shall have any right to participate in or exercise control or management power over the business and affairs of the Company or otherwise to bind, act or purport to act on behalf of the Company in any manner. Subject to any non-waivable provision of Applicable Law and the limitations set forth in this Agreement, the Board of Directors shall have all the rights and powers that may be possessed by the Board of Directors under the Act, which shall include, without limitation, the power to incur indebtedness, the power to enter into agreements and commitments of all kinds, the power to manage, acquire and dispose of Company Assets, and all ancillary powers necessary or convenient to the foregoing. Without limiting the general authority granted by the immediately preceding sentence, the majority of the Board of Directors shall have the authority set forth on Schedule D hereto. The Board of Directors may also designate one or more persons to open bank accounts and conduct other banking business on behalf of the Company. The Directors shall devote such time to the business and affairs of the Company as is reasonably necessary for the performance of their duties, but shall not be required to devote full time to the performance of such duties.

5.1.2 Evaluation of General Manager . The Board of Directors will be responsible for supervision and evaluation of the Company's General Manager on an ongoing basis, including at least an annual review of his or her performance to ensure he or she is acting in accordance with prudent business practices.

5.1.3 Number of Directors; Appointment of Directors . Both parties shall cause the Company to hold an extraordinary general shareholders' meeting not later than on the *calendar day (or a later day agreed by both parties) after the completion of the Merger contemplated under the Merger Agreement to elect some or all Directors and supervisors of the Company and such members shall have the same term of office as provided below. The Board of Directors shall consist of seven (7) individuals (each such individual, a " **Director** ") and the term of their office shall be three (3) years. Subject to Sections 5.2 and 5.3 below, in the aforesaid extraordinary general shareholders' meeting and subsequent general shareholders' meetings of the Company in which the Directors are to be re-elected, four (4) of the representatives appointed by Photronics and three (3) of the representatives appointed by DNP shall be elected as the Directors. If a Director resigns (including by death or retirement) or is removed either by the Shareholder who appointed such Director as provided for under the Act or in accordance with Section 5.2 or 5.3, each newly appointed Director shall hold office for the remaining term of the replaced Director. Each Shareholder having the right to nominate a Director pursuant to this Section 5.1.3 shall have the right, in its sole discretion, to remove such Director at any time, by delivery of written notice to the Company with a copy to each of the other Shareholder and the Director(s) to be removed. In the case of a vacancy in the office of a Director for any reason (including by reason of death, resignation, retirement, expiration of such Director's term or removal pursuant to the preceding sentence), the vacancy shall be filled by the Shareholder that nominated the Director in question; *provided, however*, that in the case of a vacancy created due to a change in a Shareholder's Percentage Interest as described in Section 5.2 or 5.3, such vacancy shall be filled in accordance with Section 5.2 or 5.3. Each Shareholder shall notify the other Shareholder and the Company of the name, business address and business telephone, e-mail address and facsimile numbers of each Director that such Shareholder has nominated. Each Shareholder shall promptly notify the other Shareholder and the Company of any change in such Shareholder's nominated Director or of any change in their Director's address or other contact information.

5.2 Effect of Reduction in Photronics' Percentage Interest on Photronics Directors

Subject to Section 5.4 below, the number of Directors that Photronics can appoint to or maintain on the Board of Directors shall depend on Photronics Percentage Interest as follows:

Photronics's Percentage Interest	Number of Photronics Directors
> 80%	*
> 50% and □ 80%	*
□ 20% and □ 50%	*
> 0% and < 20%	*

5.3 Effect of Reduction in DNP's Percentage Interest on DNP Directors

Subject to Section 5.4 below, the number of Directors that DNP can appoint to or maintain on the Board of Directors shall depend on DNP Percentage Interest as follows:

DNP's Percentage Interest	Number of DNP Directors
> 80%	*
> 50% and □ 80%	*
□ 20% and □ 50%	*
> 0% and < 20%	*

5.4 Procedure .

If either Shareholder's Percentage Interest should be below any of the threshold levels set forth in Sections 5.2 or 5.3 above more than three (3) months and if such Shareholder (the " **Reducing Shareholder** ") then has more designees serving on the Board of Directors than the number to which it is entitled, such Reducing Shareholder shall immediately identify by written notice to the Company with a copy to the other Shareholder (the " **Increasing Shareholder** ") the designee or designees on the Board of Directors that will cease serving on the Board of Directors, and each such designee shall thereupon cease to be a Director or member of the Board of Directors. If such Reducing Shareholder fails to make such designation within five (5) Business Days after written demand by the Increasing Shareholder, the Increasing Shareholder may for and on behalf of the Reducing Shareholder and its designee(s) (and the Reducing Shareholder hereby, and shall cause its designee(s) to, irrevocably authorize the Increasing Shareholder to) designate by written notice to the Company with a copy to the Reducing Shareholder one or more (as appropriate) of the Reducing Shareholder's designees on the Board of Directors that will cease serving on the Board of Directors and each such designee shall thereupon cease to be a Director or member of the Board of Directors. Upon the written notice described in either of the immediately preceding two sentences, the Shareholders agree to collaborate to cause the Board of Directors to convene a meeting of the Shareholders as soon as practicable to fill the vacancies created by such removals in accordance with the provisions of Sections 5.2 and 5.3. Similarly, if a Shareholder whose Percentage Interest fell below any threshold level set forth in Section 5.2 or 5.3 subsequently increases its Percentage Interest above any such level, the process shall be reversed.

5.5 Chairman and Vice-Chairman

A Chairman of the Board of Directors (the " **Chairman of the Board** ") shall preside at all meetings of the Board of Directors. The Chairman of the Board shall be selected from and among the Directors appointed by Photronics; *provided, however* , *

5.6 Meetings of Shareholders and of the Board of Directors; Quorum

5.6.1 Shareholder Meetings . At any time, and from time to time, the Board of Directors may call meetings of the Shareholders. Special meetings of the Shareholders for any proper purpose or purposes may be called at any time by the Board of Directors. Written notice of any such meeting shall be given to all Shareholders. No less than twenty (20) calendar days' written notice shall be given for an annual meeting of the Shareholders and no less than ten (10) calendar days' written notice shall be given for any special meetings of the Shareholders. Each meeting of the Shareholders shall be conducted by the Chairman of the Board of Directors. Where the Chairman of the Board is on leave or cannot exercise his power and authority for any cause, the meeting of the Shareholders shall be conducted by the Vice-Chairman of the Board, or any designee appointed in accordance with the Act. Each Shareholder may authorize any Person by written proxy to act for it or on its behalf on all matters in which the Shareholder is entitled to participate. Each proxy must be signed by a duly authorized officer of the Shareholder. All other provisions governing or otherwise relating to the convening of meetings of the Shareholders shall from time to time be established in the sole discretion of the Board of Directors (acting reasonably) . Each of the Shareholders shall have the obligation to attend the meeting of the Shareholders, whether in person or by proxy, for the purpose of the quorum, provided that nothing in the foregoing shall be construed to restrict any Shareholder on how to exercise its voting rights (including abstaining from voting). In the event that any of the Shareholders fails to attend a meeting of the Shareholders due to reasons other than those that are unattributable to such Shareholder or its representative(s) (including, without limitation, Force Majeure, accident and illness) and taking into account that such Shareholder should use its best efforts to issue a proxy for such meeting, resulting in a failure of reaching a quorum, it shall be deemed as a material breach of this Agreement and bad faith of such Shareholder in performing its obligations hereunder.

5.6.2 Board Meetings . The Board of Directors shall hold meetings at least once every Fiscal Quarter. Unless a higher quorum is required by Applicable Law, the presence of four (4) Directors, in each case, in person or by video conference, shall be necessary and sufficient to constitute a quorum for the purpose of taking action by the Board of Directors at any meeting of the Board of Directors. Each Director may authorize any other Director by written proxy to act for or on behalf of such Director on all matters in which such Director is entitled to participate. Each Shareholder shall be responsible for the expenses of the Director(s) appointed by such Shareholder in connection with all meetings of the Board of Directors. The Chairman of the Board shall preside at all meetings of the Board of Directors and shall have such other duties and responsibilities as may be assigned to him or her by the Board of Directors. The Chairman of the Board must include any item submitted by a Shareholder or General Manager for consideration at a meeting of the Board of Directors, may not cut off debate on any matter being considered by the Board of Directors and shall call for a vote on any matter at the request of any Director or General Manager. Each of the Directors shall have the obligation to attend each of the meetings of the Board of Directors, whether in person or by proxy, for the purpose of the quorum, provided that nothing in the foregoing shall be construed to restrict any Director on how to exercise his/her voting rights (including abstaining from voting). In the event that any of the Directors fails to attend two meetings of the Board of Directors consecutively due to reasons other than those that are unattributable to such Director or its proxy (including, without limitation, Force Majeure, accident and illness) and taking into account that such Director should use his/her best efforts to issue a proxy for such meeting, resulting in failure of reaching a quorum, it shall be deemed as a material breach and bad faith of the Shareholder who nominates such Director in performing such Shareholder's obligations hereunder.

5.6.3 Notice; Waiver . Except in the case of emergency as provided under the Act, the regular quarterly meetings of the Board of Directors described in Section 5.6.2 shall in principle be held upon not less than seven (7) Business D ays' written notice. Additional meetings of the Board of Directors may be held upon the request of any Director to the Chairman of the Board, upon not less than seven (7) Business D ays' written notice (which may be given, to the extent permitted by Applicable Law, via confirmed facsimile, confirmed e-mail or other manner provided for in Section 12.5). No action taken by the Directors at any meeting shall be valid unless the requisite quorum is present.

5.6.4 Voting of Directors . Except as otherwise expressly provided in this Agreement and/or Applicable Law, all actions, determinations or resolutions of the Board of Directors shall require the affirmative vote or consent of a majority of the Board of Directors present at any meeting at which a quorum is present. Each Director shall be entitled to one (1) vote, and Directors shall be entitled to cast their vote through proxies.

5.6.5 Meetings . All meetings of the Board of Directors or the Shareholders shall be conducted in English. Directors and their proxies shall have the right to participate in all meetings of the Board of Directors by means of a video conference or similar communications equipment by means of which all persons participating in the meeting can see and hear each other at the same time and participation by such means shall constitute presence in person at a meeting.

5.6.6 Reliance by Third Parties . For convenience and subject to Applicable Laws, each party agrees that any Person dealing with the Company, Photronics Director, DNP Director, or any Officer may rely upon a certificate signed by any one Photronics Director and one DNP Director as to: (a) the identity of any Director or Officer; (b) the existence or non-existence of any fact or facts which constitute a condition precedent to acts by the Directors or Officers or in any other manner germane to the affairs of the Company; (c) the Persons who are authorized to execute and deliver any instrument or document for or on behalf of the Company; or (d) any act or failure to act by the Company or as to any other matter whatsoever involving the Company, Photronics, DNP, any Director or any Officer.

5.7 Supervisors

The Company shall have two (2) supervisors. Each of Photronics and DNP shall be entitled to designate one (1) representative to be elected as the supervisor.

5.8 Actions Requiring a Supermajority Vote of Shareholders

Notwithstanding the provisions of Section 5.6.4 or any other provisions of this Agreement, the Company may not, and no Shareholder or Director may cause the Company to, take any of the actions specified in Schedule F (or any other action specified in this Agreement as requiring a Supermajority Vote of Shareholders) without obtaining the Supermajority Vote of Shareholders.

5.9 Actions Requiring a Supermajority Vote of Directors

Notwithstanding the provisions of Section 5.6.4 or any other provisions of this Agreement, the Company may not, and no Shareholder or Director may cause the Company to, take any of the actions specified in Schedule G (or any other action specified in this Agreement as requiring a Supermajority Vote of Directors) without obtaining the Supermajority Vote of Directors.

5.10 Compensation of Directors and Supervisors

The Directors and supervisors shall not be entitled to any compensation in their capacities as Directors and supervisors unless otherwise agreed upon in writing by all of the Shareholders.

5.11 Other Activities

Subject to Applicable Law and the provisions of the Transaction Documents*

5.12 Accounting; Records and Reports

5.12.1 Accounting and Fiscal Year . The books, records and accounts of the Company, including for all applicable tax purposes, will be maintained in accordance with such methods of accounting as shall be reasonably determined by the Board of Directors. The fiscal year of the Company (" **Fiscal Year** "), including each of the fiscal quarters (the " **Fiscal Quarters** ") and each of the fiscal months (" **Fiscal Months** ") thereof, shall correspond to that of Photronics for as long as Photronics and/or an Affiliate of Photronics hold more than fifty percent (50%) of Percentage Interest in the Company in the aggregate.

5.12.2 Books and Records . The Board of Directors shall cause to be kept, at such location as the Board of Directors shall reasonably deem appropriate, full and proper ledgers, other books of account, and records of all receipts and disbursements and other financial activities of the Company in accordance with Photronics' record retention policies for as long as Photronics and/or an Affiliate of Photronics hold more than fifty percent (50%) of Percentage Interest in the Company in the aggregate. The Board of Directors shall also cause to be kept at such location copies of each of the following:

(a) a current list of the full name and last known address of each Shareholder, and the capital account, number of Shares and Percentage Interest held by each Shareholder;

(b) a current list of the full name and last known address of each Director;

(c) the Articles of Incorporation of the Company, including any amendments to the Articles of Incorporation;

(d) the Company's federal, state and local income tax returns and reports, if any, for the seven (7) most recent Fiscal Years;

(e) this Agreement and any amendments to this Agreement;

(f) financial statements of the Company for the five (5) most recent Fiscal Years; and

(g) minutes of all meetings of the Board of Directors and the Shareholders.

5.12.3 Reports . The Board of Directors shall also cause to be sent to each Shareholder of the Company, the following:

(a) within forty-five (45) days after the Effective Date, the Company shall provide each Shareholder with an unaudited balance sheet of the Company as of the Effective Date;

(b) within one hundred eighty (180) days following the end of each Fiscal Year, such information as may be reasonably required by the Shareholders for preparation of their respective federal, state and local income or franchise tax returns;

(c) a copy of the Company's federal, state and local income tax or information returns for each Fiscal Year, concurrent with the filing of such returns;

(d) within seventy five (75) days after the end of each Fiscal Year, the Company shall provide each Shareholder with an audited balance sheet, income statement and statement of cash flows for and as of the last day of the Fiscal Year then ended, prepared in accordance with GAAP and audited in accordance with GAAS as well as such other financial information as any Shareholder may reasonably request to enable such Shareholder and its Affiliates to prepare their consolidated quarterly and annual financial statements;

(e) within forty five (45) days after the end of each Fiscal Quarter or Fiscal Year, the Company shall provide each Shareholder with an unaudited balance sheet, income statement and statement of cash flows for and as of the last day of the year or quarter (as appropriate) then ended, prepared in accordance with GAAP, as well as such other financial information as any Shareholder may reasonably request to enable such Shareholder and its Affiliates to prepare their consolidated quarterly and annual financial statements ; and

(f) within a reasonable period of time, notice of any material litigation filed against the Company or any written claim by a Governmental Authority of any material violation of any state, federal or foreign law, statute, rule or regulation.

If Japanese generally accepted accounting principles have been amended, both parties agree that; (a) the time limit set forth in this Section 5.12.3 shall be amended accordingly, and to the extent DNP deems reasonably necessary, by the notice from DNP to the Company, and (b) both parties shall cause the Company to use all reasonable efforts to send all necessary financial information as DNP may reasonably request to enable DNP and its Affiliates to prepare their consolidated quarterly and annual financial statements.

5.12.4 Access to Company Books and Records .

(a) To the extent not in violation of Applicable Law, the terms of the Transaction Documents and the Company's confidential obligations (statutory or contractual) to third parties, Shareholders (personally or through an authorized representative) may, for purposes reasonably related to their interests in the Company, during reasonable business hours (i) examine and copy (at their own cost and expense) the books and records of the Company, including the records listed in Section 5.12.2, and (ii) have access to the Company's management, internal and external accountants and attorneys, plans, properties and other assets to conduct investigations regarding the Business and assets of the Company at such Shareholder's sole expense, and the Company shall reasonably cooperate with such Shareholder in such investigations. Any information obtained as a result of this Section 5.12.4 shall be used by a Shareholder solely for purposes reasonably related to such Shareholder's participation in the Company and shall be subject to Section 5.16 of this Agreement .

(b) Any Shareholder's request for documents or request to inspect or copy documents or have access to the Company's management, plans, properties and other assets under this Section 5.12.4 (i) may be made by that Shareholder or that Shareholder's authorized representative and (ii) shall be made in writing to the General Manager and shall state the purpose of such demand. If a Shareholder is not satisfied with the response of the General Manager, the Shareholder may make such request to the Management Advisory Committee and/or the Board of Directors.

5.13 Indemnification and Liability of the Directors

5.13.1 Indemnification . The Company shall indemnify and hold harmless each Director, the General Manager and all other Officers (individually, an " **Indemnitee** ") to the fullest extent permitted by Applicable Law from and against any and all losses, claims, demands, costs, damages, liabilities, whether joint or several, expenses of any nature (including reasonable attorneys' fees and disbursements), judgments, fines, settlements and other amounts (each an " **Indemnified Loss** ") arising from any and all claims, demands, actions, suits or proceedings, civil, criminal, administrative or investigative, in which the Indemnitee may be involved as a defendant, or threatened to be involved as a defendant (other than all claims, demands, actions, suits or proceedings brought by the Shareholder who nominated such Director, if applicable), relating to the performance or nonperformance of any act concerning the activities of the Company or by reason of the Indemnitee's status as a Director, General Manager or Officer, as applicable, regardless of whether the Indemnitee retains such status at the time any such Indemnified Loss is paid or incurred, if (a) the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Company and, in the case of a criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful, and (b) the Indemnitee's conduct did not constitute an act or omission which involved intentional misconduct or a knowing violation of the law or gross negligence. The termination of an action, suit or proceeding by judgment, order, or settlement shall not, in and of itself, create a presumption or otherwise constitute evidence that the Indemnitee acted in a manner contrary to that specified in clauses (a) or (b) above.

5.13.2 Expenses . Expenses incurred by an Indemnitee in defending any claim, demand, action, suit or proceeding subject to this Section 5.13 shall be advanced by the Company prior to the final disposition of such claim, demand, action, suit, or proceeding.

5.13.3 Company Expenses . Any indemnification provided hereunder shall be satisfied solely out of the Company Assets, as an expense of the Company. No Shareholder shall be subject to liability by reason of these indemnification provisions.

5.13.4 No Other Rights . The provisions of this Section 5.13 are for the benefit of the Indemnitees and shall not be deemed to create any rights for the benefit of any other Person; *provided , however* , that the indemnification rights provided in this Section 5.13 will inure to the benefit of the heirs, legal representatives, successors, assigns and administrators of the Indemnitee.

5.13.5 No Liability . No Indemnitee shall be liable to the Company or to any Shareholder for any losses sustained or liabilities incurred as a result of any act or omission of any Indemnitee if (a) the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Company and, in the case of a criminal proceeding, had no reasonable cause to believe that his or her conduct was unlawful, and (b) the Indemnitee's conduct did not constitute an act or omission which involved intentional misconduct or a knowing violation of the law or gross negligence.

5.13.6 No Fiduciary Duties .

(a) In connection with the determination of any and all matters presented for action to the Shareholders, the Board of Directors or the Management Advisory Committee, as applicable, the Shareholders acknowledge and agree that each Shareholder will be acting on its own behalf and each Representative serving on the Board of Directors or the Management Advisory Committee will be acting on behalf of the Shareholder that appointed such Representative, to the fullest extent permitted by Applicable Law.

(b) Each Shareholder may act, and, to the fullest extent permitted by Applicable Law, will be protected for acting, in its own interest (subject to the express terms of any contract entered into by such Shareholder) without regard to the interest of the other Shareholder, and, subject to Section 5.13.6(c), each Representative may act, and, to the fullest extent permitted by Applicable Law, will be protected for acting, at the direction or control of, or in a manner that such Representative believes is in the best interest of, the Shareholder that appointed the Representative without regard to the interest of the other Shareholder.

(c) Each of the Shareholders hereby waives, and shall cause the Company to waive, on its own behalf and on behalf of each of its subsidiaries, to the fullest extent permitted by Applicable Law, any claim or cause of action against any Shareholder or Director or member of the Management Advisory Committee appointed by a Shareholder based on the determination of any and all matters presented for action to the Shareholders, the Board of Directors or the Management Advisory Committee, as applicable; *provided , however* , the foregoing will not limit any Shareholder's obligation under, or liability for, breach of the express terms of this Agreement, other Transaction Documents or any other agreement that they have entered into with the Company or any of its subsidiaries or the other Shareholder. Each of the Shareholders acknowledges that no Shareholder shall negotiate or enter into or request or otherwise cause the Company to negotiate or enter into any agreement or transaction that would result in such Shareholder or any of its Affiliates receiving any financial consideration or other tangible property incentive, payment or other form of financial consideration or other tangible property consideration from any Governmental Authority or Person based upon the Company's taking an action (including hiring any employees, undertaking any construction or purchasing any equipment) or entering into such agreement or transaction other than as a Shareholder of the Company pursuant to this Agreement, and any Shareholder who receives any such consideration or other tangible property incentive, payment or other form of financial consideration or other tangible property consideration from any Governmental Authority or Person in respect of the Company's activities, shall promptly convey such consideration or other tangible property incentive, payment or other form of financial consideration or other tangible property consideration from any Governmental Authority or Person to the Company as a supplemental Capital Contribution without consideration including any adjustment in the Shares or Economic Interest of, or balance of requested Additional Contribution owed by, such Shareholder.

(d) The term " **Representative** " shall mean, with respect to a Shareholder, the Directors and members of the Management Advisory Committee appointed by such Shareholder.

5.14 Officer

5.14.1 General Manager and Vice General Manager . The Company will have a general manager (the " **General Manager** ") to be selected by Photronics with input from the Board of Directors and DNP; provided, however, that if the Percentage Interest of Photronics falls below*.

5.14.2 Duties and Powers of the General Manager . The General Manager shall, subject to the control of the Board of Directors, have general supervision, direction and control of the day-to-day affairs of the Company and shall report directly to the Board of Directors. Unless limited by the Board of Directors or this Agreement, he or she shall have the general powers and duties of management usually vested in the office of chief executive officer of corporations and shall have such other powers and duties as may be prescribed by the Board of Directors.

5.14.3 Other Officers; Employment; Removal . The Company may also have a chief financial officer, a secretary and such other officers as determined by the Board of Directors after input from the General Manager and the Vice General Manager, each of whom will be accountable to the General Manager (the General Manager, the Vice General Manager and any other officers elected in accordance with this Section 5.14.3, each, an " **Officer** " and collectively, the " **Officers** "). Subject to Section 5.14.1, the General Manager, the Vice General Manager and any other Officer may be removed at any time upon an affirmative vote of the majority of the Board of Directors and the consent of the Shareholder who appoints such Officer in question.

5.14.4 Duties and Powers of Chief Financial Officer . Any chief financial officer of the Company shall keep and maintain, or cause to be kept and maintained, books and records of accounts of the properties and business transactions of the Company, including accounts of its assets, liabilities, receipts, disbursements, gains, losses and capital. He or she shall disburse the funds of the Company as may be ordered by the Board of Directors and shall render to the Board of Directors at their request an account of all his or her transactions as chief financial officer and of the financial condition of the Company. Authorizations with respect to the Company's depositories, disbursement of funds and related banking matters shall be as set forth in resolutions of the Board of Directors.

5.14.5 Duties and Powers of Vice General Manager . The Vice General Manager shall assist the General Manager and shall have such other powers and duties as may be prescribed by the Board of Directors from time to time after consultation with the General Manager and DNP or Photronics, who is entitled to appoint the Vice General Manager at that time. For the avoidance of doubt, the Vice General Manager, if selected by DNP in accordance with Section 5.14.1 above, shall be counted as one of the Two DNP Appointed Seconded Employees (as defined in Section 6.4 below).

5.14.6 Duties and Powers of Secretary .

(a) Any secretary of the Company shall attend all meetings of the Board of Directors and all meetings of the Shareholders and record all votes and the minutes of all proceedings in a book to be kept for that purpose, and shall perform like duties for any standing committees when requested by such committee.

(b) Any secretary of the Company shall keep, or cause to be kept, at the principal executive office or at the office of the Company's transfer agent or registrar, as determined by resolution of the Board of Directors, a register, or a duplicate register, showing the names of all Shareholders and their addresses, Percentage Interests, the number and date of certificates issued for the same (if any), and the number and date of cancellation of every certificate surrendered for cancellation (if any).

5.14.7 General Provisions Regarding Officers .

(a) The Board of Directors may, from time to time, designate Officers of the Company and delegate to such Officers such authority and duties as the Board of Directors may deem advisable and may assign titles (including, without limitation, president, vice-president and/or treasurer) to any such Officer. Unless the Board of Directors otherwise determines, if the title assigned to an Officer of the Company is one commonly used for Officers of a business corporation, then, subject to the terms of this Agreement, the assignment of such title shall constitute the delegation to such Officer of the authority and duties that are customarily associated with such office. Any number of titles may be held by the same Officer.

(b) Any Officer to whom a delegation is made pursuant to the foregoing shall serve in the capacity delegated unless and until such delegation is revoked by the Board of Directors for any reason or no reason whatsoever, with or without cause, or such Officer resigns.

5.15 Management Advisory Committee

The Shareholders will establish a management advisory committee (the " **Management Advisory Committee** ") relating to the following matters:

(a) *

(b) advice to the Board of Directors on matters of strategic importance relative to the Company and those matters requiring formal resolution at the board level, including but not limited to * ; and

(c) review and discussion on the relevant matters that require a Supermajority Vote of Shareholders or Directors in accordance with Sections 5.8 and 5.9.

The composition of the Management Advisory Committee shall consist of six (6) members, three (3) members appointed by Photronics and three (3) members appointed by DNP, and such six (6) members may include the General Manager of the Company at the discretion of the appointed Shareholder. The Management Advisory Committee shall convene regular meetings consistent with the number of meetings of the Board of Director provided however the Management Advisory Committee shall generally meet one to three days in advance of the Board of Directors meeting. The Management Advisory Committee shall discuss the matters listed above. The Management Advisory Committee may at its own discretion put forth resolutions and vote on specific matters to be discussed at the subsequent meeting of the Board of Directors, and may also publish minutes of its meetings and submit such minutes to the Board of Directors, provided however that the Management Advisory Committee shall be an advisory capacity only and shall have no power to vote on or make any decisions with respect to any matters reserved to the Board of Directors; though not obligated to act on any input from the Management Advisory Committee, the Board of Directors will in good faith take inputs raised by the Management Advisory Committee into full consideration.

5.16 Non-Disclosure

The parties acknowledge and agree that Section 9 of the Framework Agreement shall be applied for the proprietary or nonpublic information disclosed by one party to another party in connection with this Agreement.

5.17 Maintenance of Insurance

The Company shall at all times be covered by insurance of the types and in the amounts set forth on Schedule E . Such insurance coverage may be provided through the coverage under one or more insurance policies maintained by the Company or by either Shareholder. A certificate of insurance will be provided by the Company to the Shareholders annually evidencing coverage.

5.18 Related Party Agreements *

ARTICLE 6.
OPERATIONS

6.1 Headquarters

The Company's world headquarters shall be in Taiwan.

6.2 Operations Plan; Annual Budget

The initial business plan of the Company will be a combined business plan including synergies and is attached hereto as Schedule H. From time to time, but in no event less frequently than annually, the Board of Directors may amend or update a business plan of the Company (collectively with the initial business plan referred to as the " **Business Plan** "). The Board of Directors will also be responsible for approving an annual budget (the " **Annual Budget** ") on at least an annual basis at the beginning of each fiscal year.

6.3 DPTT Employees

Unless otherwise agreed by Photronics and DNP, on or before thirty (30) calendar days before the completion of the Merger contemplated under the Merger Agreement, * shall be provided with an offer to become employees of the Company from and after the completion of the Merger contemplated under the Merger Agreement, which contain terms consistent with the following: *

6.4 Company Employees; Seconded Employees

The Company shall employ its own personnel and shall be their exclusive employer. In addition, certain other persons who are employed by a Shareholder or its Affiliates may be assigned by such Shareholder, to work for the Company (" **Seconded Employees** "). *

6.5 Service Provider Documents

6.5.1 The Company shall have policies applicable to, and ensure that all of its officers, employees and third-party independent contractors, third-party consultants, and other third-party service providers enter into appropriate agreements with respect to, (1) protection of confidential information of the Company, (2) compliance with Applicable Law, and (3) other matters related to the delivery of services to, or employment of such Person by, the Company or its Affiliates. The Company shall have policies applicable to, and ensure that all of its officers and employees enter into appropriate agreements with respect to intellectual property assignment, including invention disclosures, pursuant to which ownership to any intellectual property created in the course of employment with the Company or any of its Affiliates shall be assigned to the Company. The Company shall have policies applicable to, and ensure that all of its third-party independent contractors, third-party consultants, and other third-party service providers that create intellectual property in the course of performing services for the Company, enter into appropriate agreements with the Company with respect to the Company's ownership of or the Company's right to use such intellectual property. The forms referred to in this Section 6.5.1 are collectively referred to as the " **Service Provider Documents.** "

6.5.2 Notwithstanding any preceding provisions in this Section 6.5 or elsewhere, no Seconded Employee shall be required to sign any Service Provider Documents, except with respect to acknowledgement of and agreement regarding policies of the Company addressing conduct while performing services at the premises of the Company, such as workplace safety, but excluding matters relating to protection of confidential information of the Company and intellectual property assignment, which issues have been addressed in special Service Provider Documents. The Company shall be responsible for providing such Service Provider Documents, prepared by the Company for each Seconded Employees to the appropriate Seconded Employees, following up to make sure they are signed and for properly storing such forms; and each Shareholder shall cooperate with the Company to require their Seconded Employees to sign such special Service Provider Document when requested to do so by the Company.

6.6 Compensation and Benefits

The Company shall have compensation and benefits programs (including incentive compensation programs) for the employees of the Company *

ARTICLE 7.
DISPOSITION AND TRANSFERS OF INTERESTS

7.1 Holding of Shares

For so long as Photronics or DNP, directly or indirectly, owns Shares in the Company, Photronics or DNP, as applicable, must own and hold such Shares either (a) by itself or (b) through one or more wholly owned (including indirect wholly owned) subsidiaries.

7.2 Transfer Moratorium

7.2.1 Other than as specifically provided in this Section 7.2, no Shareholder may*.

7.2.2 Transfer Notice . If any Shareholder proposes to Transfer any of its Shares, whether directly or indirectly (the " **Selling Shareholder** "), such Selling Shareholder shall promptly provide written notice (the " **Transfer Notice** ") to the other Shareholder (the " **Non-Selling Shareholder** ") describing*.

7.2.3 Right of First Refusal . The Non-Selling Shareholder shall have*.

7.2.4 Co-Sale Right . In the event that the Non-Selling Shareholder does not*.

7.2.5 *.

7.2.6 *.

7.2.7 The restrictions set forth in this Section 7.2 shall not apply to any Transfers by a Selling Shareholder to one or more of its wholly owned (including indirectly wholly owned) subsidiaries as permitted under Section 7.1.

7.2.8 *.

7.3 Purchase and Sale of Remaining Interest

7.3.1 If the Percentage Interest of a Shareholder (the " **Minority Shareholder** ") is*

7.3.2 The closing of the purchase and sale of the Minority Shareholder's remaining Interest (the " **Minority Closing** ") shall take place*

7.3.3 Upon the Minority Closing, the Majority Shareholder shall pay to the Minority Shareholder a sum*.

7.4 Change in Control

7.4.1 The parties will provide at least sixty (60) days but no more than one hundred eighty (180) days notice (the " **Change in Control Notice** *

7.4.2 If Change in Control occurs to *

7.4.3 Upon the Change in Control Closing,*.

7.5 Purchase and Sale Agreement

In the event of any purchase and sale of Shares under Section 7.3 or 7.4, the parties thereto shall enter into a commercially reasonable agreement to implement such purchase and sale. The parties thereto shall also make the necessary amendments to this Agreement.

ARTICLE 8.
[INTENTIOANLLY DELETED]

ARTICLE 9.
TERM AND TERMINATION OF THIS AGREEMENT

9.1 Term of this Agreement

9.1.1 This Agreement shall enter into force as of the Effective Date, and remain in force throughout the duration of the Company if not terminated earlier as provided for in Section 9.1.2 or 9.2.1.

9.1.2 In the event that one of the Parties ceases to be Shareholder of the Company for any reason, this Agreement is automatically terminated.

9.2 Termination and Cross-termination

9.2.1 Notwithstanding Section 9.1, this Agreement may be terminated by either party at any time, upon notice given to the other part*

9.2.2 The parties agree that:

(a) the termination of this Agreement shall not (unless otherwise specified in the Transaction Documents concerned) produce the automatic cross-termination of any of the Transaction Documents;

(b) the termination of any of the Transaction Documents shall not produce the automatic cross-termination of this Agreement;

(c) the party who terminates this Agreement in accordance with Section 9.2.1 above shall have the right to terminate any or all of the Transaction Documents, to which it is a party without any liability;

(d) the termination of this Agreement shall not affect the respective rights and obligations of the parties having accrued prior thereto, under this Agreement; and

(e) the termination rights, remedies and provisions arising from Applicable Laws shall, to the extent not waived or excluded hereby, cumulate with those specified under this Section 9.2.1.

9.3 Right of Terminating Party

The parties agree that the party who terminates this Agreement in accordance with Section 9.2.1 (the " **Terminating Party** ") shall have the right:

(a)*

ARTICLE 10.
DISSOLUTION, LIQUIDATION, AND TERMINATION OF THE COMPANY

10.1 Limitations

The Company may be dissolved, liquidated, and terminated only pursuant to the provisions of this Article 10, and the parties hereto do hereby irrevocably waive, to the extent permitted by Applicable Law, any and all other rights they may have to cause a dissolution, liquidation or termination of the Company or a sale or partition of any or all of the Company Assets in connection with such dissolution or liquidation.

10.2 Exclusive Causes

Notwithstanding the Act, the following and only the following events shall cause the Company to be dissolved, liquidated, and terminated (each a " **Liquidating Event** "), unless otherwise set forth in this Agreement:

(a)*

10.3 Effect of Dissolution

The dissolution of the Company shall be effective on the day on which the event occurs giving rise to the dissolution (or, if a corporate action of the Company is required by the Act, on the day such corporate action is duly taken), but the Company shall not terminate until it has been wound up and its assets have been distributed as provided in Section 10.5.1 or 11.1 of this Agreement. Notwithstanding the dissolution of the Company, prior to the termination of the Company, the business of the Company and the affairs of the Shareholders, as such, shall continue to be governed by this Agreement.

10.4 Loss of the Company

In the event that the accumulated losses of the Company*.

10.5 Liquidation

10.5.1 Upon dissolution of the Company, the Board of Directors (or other Person(s) designated by a decree of court) shall act as the " **Liquidators** " of the Company. The Liquidators shall liquidate the Company Assets, and shall apply and distribute the proceeds thereof as follows unless otherwise provided by the Applicable Law:

(a) first *

10.6 Dissolution

*

ARTICLE 11.
DISTRIBUTIONS

11.1 Use of Cash

Subject to applicable legal and contractual restrictions and to Section 11.2 and Article 10, Company cash will be treated as follows (in the following order of priority):*

11.2 Distributions Upon Liquidation

Distributions made in conjunction with the final liquidation of the Company shall be applied or distributed as provided in Article 10 hereof.

11.3 Withholding

11.1, no right is given to any Shareholder to demand or receive any distribution of property other than cash as provided in this Agreement. *

11.5 Limitations on Distributions

Notwithstanding any provision to the contrary contained in this Agreement, neither the Company nor the Board of Directors, on behalf of the Company, shall be required to or shall knowingly make a distribution to any Shareholder or the holder of any Economic Interest on account of its Shares in the Company (as applicable) in violation of the Act or other Applicable Law.

ARTICLE 12.
MISCELLANEOUS

12.1 Amendments

Any provision of this Agreement may be amended if, and only if, such amendment is in writing and is duly executed by each Shareholder, provided however this Agreement will be amended to allow Photronics to implement an Accounting Amendment in accordance with Section 1.6,. Upon the making of any amendment to this Agreement in accordance with the previous sentence, the Board of Directors shall prepare and file such documents and certificates as may be required under the Act and under any other Applicable Law.

12.2 No Waiver

Any provision of this Agreement may be waived if, and only if, such waiver is in writing and is duly executed by the party against whom the waiver is to be enforced. No failure or delay by any party in exercising any right, power or privilege under this Agreement shall operate as a waiver thereof nor shall any single or partial waiver or exercise thereof preclude the enforcement of any other right, power or privilege nor deemed to extend to any prior or subsequent default, breach or occurrence or affect, in any way, any rights arising by such prior or subsequent default, breach or occurrence.

12.3 Entire Agreement

This Agreement, together with the Schedules and other documents referred to herein and therein, constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and supersede any and all prior oral and written, and all contemporaneous oral, agreements or understandings pertaining thereto including the Memorandum of Understanding dated April 2, 2013 between Photronics and DNP. There are no agreements, understandings, restrictions, warranties or representations relating to such subject matter among the parties other than those set forth herein and in the Schedules and other documents referred to herein and therein.

12.4 Further Assurances

Each of the parties hereto does hereby covenant and agree on behalf of itself, its successors and its assigns, without further consideration, to prepare, execute, acknowledge, file, record, publish, and deliver such other instruments, documents and statements, and to take such other action as may be required by law or reasonably necessary or advisable to effectively carry out the purposes of this Agreement.

12.5 Notices

Unless otherwise provided herein, all notices, requests, instructions or consents required or permitted under this Agreement shall be in writing and will be deemed given: (a) when delivered personally; (b) when sent by confirmed facsimile and followed up by delivery by overnight carrier under Clause (d) below; (c) ten (10) Business Days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (d) three (3) Business Days after deposit with an internationally recognized commercial overnight carrier specifying next−day delivery, with written verification of receipt. All communications will be sent to the addresses, email account or facsimile number listed on Schedule C (or to such other address, email account or facsimile number as may be designated by a party giving written notice to the other parties pursuant to this Section 12.5).

12.6 Governing Law

All questions concerning the construction, interpretation and validity of this Agreement and all claims or causes of action (whether in contract or tort) that may be based upon, arise out of or relate to this Agreement or the negotiation, execution or performance of this Agreement will be governed by and construed in accordance with the laws of Taiwan (without reference to any choice or conflicts of laws rules or principles that would require the application of the laws of any other jurisdiction).

12.7 Construction; Interpretation

12.7.1 Certain Terms . The words "hereof," "herein," "hereto," "hereunder" and similar words refer to this Agreement as a whole and not to any particular provision of this Agreement. The term "including" or "includes" is not limited and means "including, or includes, without limitation."

12.7.2 Section References; Titles and Subtitles . Unless otherwise noted, all references to Sections and Schedules herein are to Sections and Schedules of this Agreement. The titles, captions and headings of this Agreement are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement.

12.7.3 Reference to Persons, Agreements, Statutes . Unless otherwise expressly provided herein, (i) references to a Person include its successors and permitted assigns, (ii) references to agreements (including this Agreement) and other contractual instruments shall be deemed to include all subsequent amendments, restatements and other modifications thereto or supplements thereof and (iii) references to any statute or regulation are to be construed as including all statutory and regulatory provisions consolidating, amending, replacing, supplementing or interpreting such statute or regulation.

12.7.4 Presumptions . No party, nor its counsel, shall be deemed the drafter of this Agreement for purposes of construing the provisions of this Agreement, and all provisions of this Agreement shall be construed in accordance with their fair meaning, and not strictly for or against any party.

12.8 Rights and Remedies Cumulative

The rights and remedies provided by this Agreement are cumulative and the use of any one right or remedy by any party shall not preclude or waive its right to use any or all other remedies. Said rights and remedies are given in addition to any other rights the parties may have by law, statute, ordinance or otherwise.

12.9 No Assignment; Binding Effect

Except as otherwise expressly provided herein, no party may assign, delegate or otherwise transfer any of its rights or obligations hereunder to any third party, whether by assignment, transfer, Change in Control or other means, without the prior written consent of each other party. Any attempted assignment in violation of the foregoing shall be null and void. Subject to the foregoing, this Agreement shall be binding on and inure to the benefit of the Shareholders, their heirs, executors, administrators, successors and all other Persons hereafter holding, having or receiving an interest in the Company.

12.10 Severability

If any provision in this Agreement will be found or be held to be invalid or unenforceable, then the meaning of said provision will be construed, to the extent feasible, so as to render the provision enforceable, and if no feasible interpretation would save such provision, it will be severed from the remainder of this Agreement which will remain in full force and effect unless the severed provision is essential and material to the rights or benefits received by any party. In such event, the parties will use their respective best efforts to negotiate, in good faith, a substitute, valid and enforceable provision or agreement which most nearly reflects the parties' intent in entering into this Agreement.

12.11 Counterparts

This Agreement may be executed in counterparts, each of which so executed will be deemed to be an original and such counterparts together will constitute one and the same agreement. Execution and delivery of this Agreement by exchange of facsimile copies or PDF file bearing the facsimile signature of a party shall constitute a valid and binding execution and delivery of this Agreement by such party.

12.12 Dispute Resolution; Arbitration

The parties hereby agree that any and all claims, disputes or controversies of whatever nature, arising out of, in connection with, or in relation to the interpretation, performance, enforcement, breach, termination or validity of this Agreement, shall be first * .

12.13 Third-Party Beneficiaries

None of the provisions of this Agreement shall be for the benefit of or be enforceable by any creditor of the Company or by any third-party creditor of any Shareholder. This Agreement is not intended to confer any rights or remedies hereunder upon, and shall not be enforceable by, any Person other than the parties hereto, their respective successors and permitted assigns and, solely with respect to the provision of Section 5.13, each Indemnitee and each other indemnified Person addressed therein.

12.14 Specific Performance

The parties agree that irreparable damage will result if this Agreement is not performed in accordance with its terms, and the parties agree that any damages available at law for a breach of this Agreement would not be an adequate remedy. Therefore, the provisions hereof and the obligations of the parties hereunder shall be enforceable in a court or other tribunal with jurisdiction, by a decree of specific performance, and appropriate injunctive relief may be applied for an granted in connection therewith. Such remedies and all other remedies provided for in this Agreement shall, however, be cumulative and not exclusive and shall be in addition to any other remedies that a party may have under this Agreement in accordance with Applicable Laws.

12.15 Consequential Damages

No party shall be liable to any other party under any legal theory for indirect, special, incidental, consequential or punitive damages, or any damages for loss of profits, revenue or business or damage to reputation or goodwill, even if such party has been advised of the possibility of such damages (it being understood that consequential damages arising from the breach of the confidentiality restrictions set forth in Section 5.16 shall not be considered to fall within any such category of damages).

12.16 Fees and Expenses

Except as otherwise expressly provided in this Agreement and to the extent that the Company pay fees and expenses of the Shareholders, each party hereto shall bear its own fees and expenses incurred in connection with this Agreement, the Transaction Documents and the transactions contemplated hereby and thereby, including the legal, accounting and due diligence fees, costs and expenses incurred by such party.

(Signature Page Follows)

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

SHAREHOLDERS

PHOTRONICS, INC.

By: _____
Name:
Title:

DAI NIPPON PRINTING CO., LTD.

By: _____
Name:
Title:

SCHEDULES A-1 and A-2

*

SCHEDULE B

*

SCHEDULE C

*

SCHEDULE D

*

SCHEDULE E

*

SCHEDULE F

*

SCHEDULE G

*

SCHEDULE H

*

SCHEDULE I

*

SCHEDULE J

*

*

Exhibit 10.21

OUTSOURCING AGREEMENT

This **OUTSOURCING AGREEMENT** (this " **Agreement** ") is made and entered into as of the 20th day of November, 2013, by and among Photronics, Inc., a Connecticut corporation (" **Photronics** "), Dai Nippon Printing Co., Ltd., a Japanese corporation (" **DNP** "), and Photronics Semiconductor Mask Corp. (the " **Company** "), a company limited by shares organized and formed under the Company Act of the Republic of China. Each of Photronics and DNP is hereinafter referred to as a " **Supplier** " and collectively as the " **Suppliers** " and each of the Suppliers and the Company is hereinafter referred to as a " **Party** " and collectively as the " **Parties** ."

ARTICLE 1.
BACKGROUND

Photronics and DNP wish to participate in a joint venture either directly or indirectly through their respective Affiliates as Shareholders in the Company, and to carry on the Business (as defined below) through the Company. The Parties are engaged, among other things, in the design, development, fabrication and sale of advanced photomasks (the " **Business** "). In connection with the formation of the joint venture, Photronics and DNP have entered into a Joint Venture Operating Agreement (the " **JV Operating Agreement** ") dated as of the 20 th day of November, 2013. In connection with the JV Operating Agreement and*.

ARTICLE 2.
INTERPRETATION

2.1 Defined Terms

Unless otherwise defined in this Agreement, terms defined in the JV Operating Agreement shall have the same meanings when used in this Agreement .

2.2 Incorporation by Reference

The following Articles and Sections of the JV Operating Agreement shall be incorporated by reference into and form an integral part of this Agreement , *mutatis mutandis* : Section 5.16 (Non-Disclosure) and Section 12 (Miscellaneous).

ARTICLE 3.
PURCHASE ORDERS

3.1 Outsource and Issuance of Purchase Orders*

3.2 Purchase Orders*

3.3 Purchase Order Terms*

3.4 Rescheduling and Cancellation*

3.5 End of Life*

3.6 Certain Claims*

3.7 Priority for New Products*

3.8 Qualification * .

ARTICLE 4.
PURCHASE ORDER ALLOCATION*

ARTICLE 5.
PRODUCT PRICES AND PAYMENT

5.1 Prices

The purchase price for the Product shall be as set forth in Schedule 2.

5.2 Invoices; Payments* .

5.3 Taxes

All amounts payable for Product sold by Suppliers to the Company hereunder are exclusive of any taxes. The Company shall be responsible for and shall pay any applicable sales, use, excise or similar taxes, including value added taxes and customs duties due on the importation of Products and arising from purchases made by the Company under this Agreement, excluding any taxes based on Suppliers' income and any applicable withholding taxes. All such taxes shall be determined based upon the final shipment designation of the items identified on the invoice.

ARTICLE 6.
DELIVERY

6.1 Risk of Loss and Title

Delivery of all Products shall be made pursuant to the Delivery Term. Risk of loss for the Products and title to the Products shall pass to the Company in accordance with the Delivery Term .

6.2 Delivery*

ARTICLE 7.
LIMITED WARRANTIES

7.1 Suppliers Limited Warranty*

ARTICLE 8.
TERM AND TERMINATION

8.1 Term

This Agreement shall become effective on the completion of the merger contemplated under the Merger Agreement and shall continue to be in full force and effect for so long as Photronics and DNP, or any of their Affiliates, each remains a Shareholder of the Company.

8.2 Termination for Cause

A Party shall have the right to terminate its obligations under this Agreement if the other Party materially breaches this Agreement and fails to cure such breach within thirty (30) days after its receipt of written notice of the breach specifying such default.

8.3 Survival

Article 7 (for the duration of the applicable warranty period), Article 8, Article 9 and Article 10 shall survive any termination or expiration of this Agreement.

ARTICLE 9. INDEMNIFICATION

9.1 Indemnification by Suppliers*

9.2 Indemnification by Company*

9.3 Procedure

The Party seeking indemnification hereunder (the " **Indemnified Party** ") agrees to promptly inform the other Party in writing of such claim and furnish a copy of each communication, notice or other action relating to the claim and the alleged infringement. The Indemnified Party shall permit the other Party (the " **Indemnifying Party** ") to have sole control over the defense and negotiations for a settlement or compromise, provided that the Indemnifying Party may not settle or compromise a claim in a manner that imposes or purports to impose any liability or obligations on the Indemnified Party without obtaining the Indemnified Party's prior written consent. The Indemnified Party agrees to give all reasonable authority, information and assistance necessary to defend or settle such suit or proceeding at the Indemnifying Party's reasonable request and at the Indemnifying Party's expense.

ARTICLE 10. LIABILITY AND REMEDY

10.1 Limited Liability*

10.2 Remedies

Notwithstanding anything stated to the contrary in this Agreement, the Parties acknowledge that any breach of Section 3.5 (End of Life) of this Agreement and/or the non-disclosure clause in Section 9 of the Framework Agreement by a Party would cause irreparable harm to the other Parties, and that the damages arising from any such breach would be difficult or impossible to ascertain. As such, the Parties agree that a Party shall be entitled to injunctive relief and other equitable remedies in the event of any breach or threatened breach of Section 3.5 of this Agreement and/or the non-disclosure clause in Section 9 of the Framework Agreement by another Party. Such injunctive or other equitable relief shall be in addition to, and not in lieu of, any other remedies that may be available to that Party. The Parties shall be entitled reasonable attorney fees and costs of enforcement of this Agreement .

ARTICLE 11. OTHER ARRANGEMENT*

(Signature Page Follows)

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement as of the day and year first above written.

PHOTRONICS, INC.

By: _____
Name:
Title:

DAI NIPPON PRINTING CO., LTD.

By: _____
Name:
Title:

Photronics Semiconductor Mask Corp.

By: _____
Name: _____
Title: _____

Schedule 1 *

*

Schedule 2*

Exhibit 10.22

LICENSE AGREEMENT

This LICENSE AGREEMENT (" Agreement ") is entered into, as of this ____ day of_____, 2013by and between **Photronics, Inc.** , a corporation organized under the laws of the State of Connecticut, U.S.A. with its principal place of business at 15 Secor Road, Brookfield, Connecticut, U.S.A. (" Photronics ") and **Photronics Semiconductor Mask Corporation** , a corporation organized under the laws of the Republic of China (hereinafter " ROC " or " Taiwan ") , with its registered office at 1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park, Taiwan, R.O.C (" Company "). Each of Photronics and the Company is hereafter referred to as a " Party " and collectively the " Parties ".

RECITALS

WHEREAS , in order to integrate resources, reduce operating costs and expand the economic scale of each of **DNP Photomask Technology Taiwan Co. Ltd.** (" DPTT ") and **Photronics Semiconductor Mask Corp.** (" PSMC ") which is the predecessor of the Company, DPTT agreed to enter into a Merger Agreement ("Merger Agreement") with the Company as the surviving company;

WHEREAS , after the merger of DPTT into the Company, the Company will become a joint venture entity directly or indirectly owned by Photronics and **Dai Nippon Printing Co., Ltd.,** a corporation organized under the laws of Japan, with its principal place of business at 1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo 162-8001, Japan (" DNP ") as its shareholders;;

WHEREAS , Photronics who owns certain patents, patent applications, Know-How and invention disclosures with respect to the Licensed Products (defined below) desires to enter into this Agreement, pursuant to which Photronics agrees to grant*

WHEREAS , the Company wishes to continue using such license to make, use, distribute or otherwise dispose of Photomasks (as defined below) ;

NOW , **THEREFORE** , in consideration of the mutual covenants and conditions contained herein and intending to be legally bound, the Parties hereby agree as follows:

ARTICLE I.
DEFINITIONS

Section 1.1. Certain Defined Terms . The following terms shall have the meanings set forth below:

" Affiliate " means, with respect to any Person (as hereinafter defined), any other Person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, such Person. For the purposes of this definition, "control," when used with respect to any specified Person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of equity interests in such Person, by contract or otherwise; and the terms "controlling" and "controlled" have correlative meanings to the foregoing.

" Agreement " has the meaning set forth in the introductory paragraph hereof.

" Business Day " means any day other than a Saturday, Sunday or any other day on which banks are authorized or required by law or other governmental action to close in Japan, Taiwan and the United States of America.

" Control ", " Controlled " or " Controlling ", when used in reference to Know-how or Patent Rights*

" Effective Date " means the completion date of the merger contemplated under the Merger Agreement .

" Governmental Authority " means any nation, state, territory, province, county, city or other unit or subdivision thereof or any entity, authority, agency, department, board, commission, instrumentality, court or other judicial body authorized on behalf of any of the foregoing to exercise legislative, judicial, regulatory or administrative functions of or pertaining to government, and any governmental or non-governmental self-regulatory organization.

" Know-how " means*

" Improvements " shall mean all enhancements, modifications, and improvements to the Licensed Patents and Licensed Know-how including , but not limited to, enhancements, modifications, and improvements in the form of equipment and devices, software, methods and methodology whether or not patented or patentable.

" License " has the meaning set forth in Section 2.1 herein.

" Licensed Know-how " means *

" Licensed Patents " means*

" Licensed Products " means*

" Order " means any judicial, administrative or arbitral judgment, order, award, writ, decree, injunction, lawsuit, proceeding or stipulation of any Governmental Authority.

" Party " and " Parties " have the meaning set forth in the introductory paragraph hereof.

" Patent Rights " means*

" Person " means any natural person, corporation, company, limited liability company, partnership (limited or general), joint venture, association, trust, unincorporated organization or other entity.

" Photomasks " means*.

" Term " means the period commencing upon the completion of the merger contemplated under the Merger Agreement and concluding upon termination of this Agreement pursuant to Article VII herein.

" Territory " means*.

Section 1.2. Rules of Construction and Interpretation .

(a) The definitions of the terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation". The word "will" shall be construed to have the same meaning and effect as the word "shall". The word "any" shall mean "any and all" unless otherwise clearly indicated by context. Where either Party's consent is required hereunder, except as otherwise specified herein, such Party's consent may be granted or withheld in such Party's sole discretion.

(b) Unless the context requires otherwise, (i) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein), (ii) any reference to any laws herein shall be construed as referring to such laws as from time to time enacted, repealed or amended, (iii) any reference herein to any person shall be construed to include the person's successors and assigns, (iv) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof, and (v) all references herein to Articles, Sections or Exhibits, unless otherwise specifically provided, shall be construed to refer to Articles, Sections and Exhibits of this Agreement.

ARTICLE II.
GRANT OF LICENSE

Section 2.1. License . In consideration for good and valuable consideration, (i) Photronics hereby agrees to*

Section 2.2. Technical Documents . Photronics shall furnish the Company with the technical documents*.

Section 2.3. If the Company wishes to obtain a license for any Improvements and developments relating to the Licensed Know-how or Licensed Patents which Photronics obtains or comes into possession of during the Term of this Agreement in order to*.

Section 2.4. Subcontracting . If the Company wishes to*.

Section 2.5. Further License to Third Parties . The Company acknowledges that Photronics has the right to*.

Section 2.6. Marking . In connection with the Company's exercise of its rights under the License during the Term hereof, the Company shall comply with applicable patent marking laws with respect to the Licensed Patents, and as otherwise reasonably instructed by Photronics.

Section 2.7. Restrictions. The Company hereby agrees that the Licensed Know-how that is licensed by Photronics hereunder shall*.

Section 2.8. No Analysis . Without written permission from Photronics, no compositional, structural or reverse analysis shall*.

ARTICLE III.
ROYALTIES

Section 3.1. The Parties acknowledge and agree*.

ARTICLE IV.
CONFIDENTIALITY

Section 4.1. The Company agrees that during the Term hereof and thereafter, it shall keep the Licensed Know-how strictly confidential by employing appropriate measures and shall not, without prior written consent of Photronics, (i) disclose, sell, assign, or divulge such Licensed Know-how in any manner to anyone, with the exception of disclosure on a strictly need-to-know basis to its employees, and (ii) use the Licensed Know-how for any purpose other than this Agreement.

Section 4.2. Upon expiration or termination of this Agreement, the Company shall forthwith return or destroy in an appropriate manner, as requested by Photronics, all documents and electronic data (including all copies, summaries, excerpts thereof) containing, or derived or produced partly or wholly from the Licensed Know-how.

Section 4.3. The Company agrees to take all appropriate measures to comply with Article 4.1 above, including but not limited to the following: (i) the Company shall procure the personnel of the Company who have access to the Licensed Know-how under this Agreement to execute a confidentiality agreement in which the terms and conditions are identical to those of Section 4.1 above;

Section 4.4. The Company agrees that in the event the Company*

ARTICLE V.
REPRESENTATIONS, WARRANTIES AND LIMITATION OF LIABILITY

Section 5.1 Title and Contest . Except for any technology owned by or licensed by*.

Section 5.2 Disclaimer. EXCEPT FOR THE EXPRESS LIMITED WARRANTY SET FORTH IN SECTION 5.1 ABOVE, THE LICENSED KNOW-HOW AND LICENSED PATENTS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE. PHOTRONICS SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE LICENSED KNOW-HOW AND LICENSED PATENTS LICENSED BY PHOTRONICS HEREUNDER.

Section 5.3 Non-contravention . Each Party represents and warrants that the execution of this Agreement and the grant of the License hereunder will not conflict with, or result in any breach of or constitute a default under any contract by which that Party is bound, or violate or conflict with any Order.

Section 5.4 No Challenge . The Company agrees that at no time shall it challenge directly or indirectly or assist anyone else in challenging directly or indirectly the validity and/or enforceability of any claim of any of the Licensed Patents at any time.

Section 5.5 Use of Licensed Patents ; No Permitted Sublicensing . The Company represents and warrants that it shall only*

Section 5.6 Limitation of Liability . IN NO EVENT WILL PHOTRONICS HAVE ANY LIABILITY FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER FOR BREACH OF CONTRACT, TORT OR OTHERWISE, ARISING OUT OF OR RELATED TO THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO, LOSS OF ANTICIPATED PROFITS, LOSS OF DATA, OR LOSS OF USE, EVEN IF PHOTRONICS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE CUMULATIVE LIABILITY OF PHOTRONICS FOR DAMAGES HEREUNDER WILLBE SUBJECT TO THE INDEMNIFICATION BASKET AND CAP ON LIABILITY AS SET FORTH IN THE FRAMEWORK AGREEMENT.

ARTICLE VI.
PROSECUTION AND MAINTENANCE AND ENFORCEMENT

Section 6.1. Prosecution and Maintenance . PHOTRONICS shall have sole responsibility and discretion with respect to prosecution, issuance and maintenance of the Licensed Patents.

Section 6.2. Enforcement. During the Term, the Company shall promptly provide written notice to PHOTRONICS of any infringement of any Licensed Patents of which it becomes aware, including in such notice a reasonable level of detail regarding such infringement.

Section 6.3. Cost of Action . Unless the Parties otherwise agree, the total cost of any such action commenced by PHOTRONICS, shall be borne by PHOTRONICS (but excluding fees and expenses charged by separate counsel, if any, engaged by the Company). Except as the Parties may otherwise agree in writing, any damages or settlement payments resulting from any such action commenced as set forth above, whether in an out-of-court settlement or through legal adjudication of such action, and at any time, shall be retained by PHOTRONICS.

Section 6.4. Cooperation . In any infringement action that PHOTRONICS may institute pursuant to this Article 6 during the Term of this Agreement, the Company hereto shall, at the request of PHOTRONICS and at PHOTRONICS'S sole cost, cooperate reasonably in the prosecution of such action.

ARTICLE VII.
TERM; TERMINATION

Section 7.1. Term . The term of this Agreement shall commence on the Effective Date and, shall continue unless terminated in accordance with the provisions of Section 7.2. .

Section 7.2. Termination .

(a) PHOTRONICS shall have the right to forthwith terminate this Agreement in the event of:*

(b) Subject to Section 7.2(a), PHOTRONICS shall have the right to terminate this Agreement by*;.

Subject to Section 7.2 (a), upon the termination under this Section 7.2(b), the Company will have*.

ARTICLE VIII.
MISCELLANEOUS

Section 8.1. Publicity . Except as otherwise required by law, legal process or stock exchange rules, neither Party shall issue any press release or make any public announcement or disclosure related to the Agreement or the transactions contemplated hereunder without the prior agreement of the other Party, including with respect to the content of such release, announcement or disclosure (and, with respect in any legally required announcement, Photronics and the Company shall use all reasonable efforts to consult and agree with each other with respect to the content of any such required press release or other publicity).

Section 8.2. Notices . All notices and other communications hereunder shall be in writing and shall be deemed given and effective (a) when delivered, if delivered in person, (b) when transmitted by telecopy (with confirmation of transmission received), (c) three (3) Business Days after mailing, if mailed by certified or registered mail (return receipt requested and obtained) or (d) one (1) Business Day after transmitted, if transmitted by a nationally recognized overnight courier to the parties at the following addresses (or at such other address for a party as shall be specified by like notice):

If to the Company

[]
Photronics, Inc.
15 Secor Rd.
Brookfield, CT 06804 USA
Attention: *
Facsimile: *

With a copy (which shall not constitute notice) to:

If to Photronics

Photronics, Inc.
15 Secor Rd.
Brookfield, CT 06804 USA
Attention: *
Facsimile: *

and/or to such other respective addresses and/or addressees as may be designated by notice given in accordance with the provisions of this Section 8.2.

Section 8.3. Expenses . Except as otherwise expressly set forth in this Agreement, each Party hereto shall bear all fees and expenses incurred by such Party in connection with, relating to or arising out of the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby and thereby, including financial advisors', attorneys', accountants' and other professional fees and expenses.

Section 8.4. Entire Agreement . This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes any previous agreements, arrangements or understandings between them relating to the subject matter hereof. For the avoidance of doubt, the Technology License Agreement shall be superseded and replaced by this Agreement upon the completion of the merger contemplated under the Merger Agreement in accordance with Section 2.1 above. Each exhibit hereto shall be considered incorporated into this Agreement.

Section 8.5. Non-Waiver . The failure in any one or more instances of a Party to insist upon performance of any of the terms, covenants or conditions of this Agreement, to exercise any right or privilege in this Agreement conferred, or the waiver by said Party of any breach of any of the terms, covenants or conditions of this Agreement, shall not be construed as a subsequent waiver of any such terms, covenants, conditions, rights or privileges, but the same shall continue and remain in full force and effect as if no such forbearance or waiver had occurred. No waiver shall be effective unless it is in writing and signed by an authorized representative of the waiving Party.

Section 8.6. Severability . Any term or provision of this Agreement which is invalid or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions of this Agreement or affecting the validity or enforceability of any of the terms or provisions of this Agreement in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision shall be interpreted to be only as broad as is enforceable.

Section 8.7. Binding Effect; Benefit . This Agreement shall inure to the benefit of and be binding upon the Parties, and their successors and permitted assigns. Nothing in this Agreement, express or implied, is intended to confer on any Person other than the Parties, and their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, including third party beneficiary rights.

Section 8.8. Assignability . The Company shall not assign, pledge or otherwise dispose of its rights or delegate its obligations under this Agreement in whole or in part without the prior written consent of PHOTRONICS. .

Section 8.9. Amendments . This Agreement shall not be modified or amended except pursuant to an instrument in writing executed and delivered on behalf of each of the Parties.

Section 8.10. Headings . The headings contained in this Agreement are for convenience of reference only and shall not affect the meaning or interpretation of this Agreement.

Section 8.11. Governmental Reporting . Anything to the contrary in this Agreement notwithstanding, nothing in this Agreement shall be construed to mean that a Party or other Person must make or file, or cooperate in the making or filing of, any return or report to any Governmental Authority in any manner that such Person or such Party reasonably believes or reasonably is advised is not in accordance with applicable laws.

Section 8.12. Survival . The terms and conditions of Article I (to the extent necessary to give effect to this Section 8.12), Article III, Article IV, Article V and Sections 7.3, 8.2, 8.4, 8.5, 8.6, 8.7, 8.10, 8.12,8.14, 8.15, 8.16 and 8.17 of this Agreement shall survive any termination hereof.

Section 8.13. Relationship of Parties . Neither Party has any express or implied authority to assume or create any obligations on behalf of the other or to bind the other to any contract, agreement or undertaking with any third party.

Section 8.14. Applicable Law . This Agreement shall be governed by and construed in accordance with the laws of Taiwan without reference to the choice of law principles thereof.

Section 8.15. Arbitration. In the event of any dispute, controversy or claim arising out of or in connection with this Agreement (each, a “Dispute”), the Parties shall use their reasonable efforts to resolve such Dispute within a period of ninety (90) days commencing from either Party’s receipt of a notice from the other Party stating the existence of a Dispute. In the event any such Dispute is not resolved, either Party may refer such Dispute to arbitration in Taipei, Taiwan before one (1) arbitrator appointed in accordance with the ROC Arbitration Law and the Arbitration Rules of the ROC Arbitration Association. The arbitration proceeding shall be conducted in English. The award thereof shall be final and binding upon the Parties hereto. Judgment upon such award may be entered in any court having jurisdiction thereof.

Section 8.16. Equitable Relief . The Company acknowledges and agrees that damages alone would be insufficient to compensate Photronics for a breach by the Company of this Agreement and that irreparable harm would result from a breach of this Agreement. The Company hereby consents to the entering of an order for injunctive relief to prevent a breach or further breach, and the entering of an order for specific performance to compel performance of any obligations under this Agreement.

Section 8.17. Language . The official language of this Agreement exclusively shall be, and all communications and agreements between the Parties exclusively shall be made in, the English language. The Parties hereto waive any rights they may have under any other law to have this Agreement written in another language, and any translation of this Agreement will be solely for the convenience of the Parties.

Section 8.18. Counterparts . This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same agreement.

IN WITNESS WHEREOF, intending to be legally bound, the Parties have executed this Agreement as of the Effective Date.

Photronics, Inc.	Photronics Semiconductor Mask Corporation
By: _____	By: _____
Name:	Name:
Title:	Title:

EXHIBIT A

LICENSED KNOW-HOW*

EXHIBIT B

LICENSED PATENTS*

EXHIBIT C*

Exhibit 10.23

LICENSE AGREEMENT

This LICENSE AGREEMENT (" Agreement ") is entered into, as of this 20 th day of November, 2013, by and between Dai Nippon Printing Co., Ltd., a corporation organized under the laws of Japan, with its principal place of business at 1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo 162-8001, Japan ("DNP") and Photronics Semiconductor Mask Corporation , a corporation organized under the laws of the Republic of China (hereinafter "ROC" or "Taiwan") , with its registered office at 1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park, Taiwan, R.O.C (" Company "). Each of DNP and the Company is hereafter referred to as a "Party" and collectively the "Parties".

RECITALS

WHEREAS , in order to integrate resources, reduce operating costs and expand the economic scale of each of DNP Photomask Technology Taiwan Co. Ltd. (DPTT") and Photronics Semiconductor Mask Corp. which is the predecessor of the Company, DPTT agreed to enter into a Merger Agreement ("Merger Agreement") with the Company as the surviving company;

WHEREAS , after the merger of DPTT into the Company, the Company will (a) become a joint venture entity directly or indirectly owned by Photronics, Inc., a corporation organized under the laws of the State of Connecticut, U.S.A. with its principal place of business at 15 Secor Road, Brookfield, Connecticut, U.S.A. ("Photronics") and DNP as its shareholders; and (b) assume all rights and obligations of DPTT by operation of the Business Mergers and Acquisitions Act of Taiwan, including, amongst others, the rights and obligations under the technology license agreement entered into by and between DNP and DPTT as of June 23, 2008, as amended as of June 23, 2011 and an agreed date prior to the Effective Date (collectively, the "Technology License Agreement");

WHEREAS , in connection with the merger of DPTT into the Company, Photronics and DNP have entered into a Joint Venture Operating Agreement ("JV Operating Agreement") dated as of 20 th day of November, 2013 and Joint Venture Framework Agreement ("JV Framework Agreement") dated as of 20 th day of November, 2013.

WHEREAS , DNP who owns certain patents, patent applications, know how and invention disclosures with respect to the Licensed Products (defined below) desires to enter into this Agreement, pursuant to which DNP agrees to continue granting*

WHEREAS , the Company wishes to continue using such license to make, use, distribute or otherwise dispose of Photomasks (as defined below) ;

NOW , **THEREFORE** , in consideration of the mutual covenants and conditions contained herein and intending to be legally bound, the Parties hereby agree as follows:

ARTICLE I.
DEFINITIONS

Section 1.1. Certain Defined Terms . The following terms shall have the meanings set forth below:

" Affiliate " means, with respect to any Person (as hereinafter defined), any other Person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, such Person. For the purposes of this definition, "control," when used with respect to any specified Person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of equity interests in such Person, by contract or otherwise; and the terms "controlling" and "controlled" have correlative meanings to the foregoing.

" Agreement " has the meaning set forth in the introductory paragraph hereof.

" Business Day " means any day other than a Saturday, Sunday or any other day on which banks are authorized or required by law or other governmental action to close in Japan, Taiwan and the United States of America.

" Control ", " Controlled " or " Controlling ", when used in reference to Know-how or Patent Rights, means*.

" Effective Date " means the completion date of the merger contemplated under the Merger Agreement.

" Governmental Authority " means any nation, state, territory, province, county, city or other unit or subdivision thereof or any entity, authority, agency, department, board, commission, instrumentality, court or other judicial body authorized on behalf of any of the foregoing to exercise legislative, judicial, regulatory or administrative functions of or pertaining to government, and any governmental or non-governmental self-regulatory organization.

" Know-how " means* .

" Improvements " shall mean* .

" License " has the meaning set forth in Section 2.1 herein.

" Licensed Know-how " means*.

" Licensed Patents " means*.

"Licensed Products" means*.

" Order " means any judicial, administrative or arbitral judgment, order, award, writ, decree, injunction, lawsuit, proceeding or stipulation of any Governmental Authority.

" Party " and " Parties " have the meaning set forth in the introductory paragraph hereof.

" Patent Rights " means*.

" Person " means any natural person, corporation, company, limited liability company, partnership (limited or general), joint venture, association, trust, unincorporated organization or other entity.

" Photomasks " means*.

" Term " means the period commencing upon the completion of the merger contemplated under the Merger Agreement and concluding upon termination of this Agreement pursuant to Article VII herein.

" Territory " means*.

Section 1.2. Rules of Construction and Interpretation .

(a) The definitions of the terms herein shall apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation". The word "will" shall be construed to have the same meaning and effect as the word "shall". The word "any" shall mean "any and all" unless otherwise clearly indicated by context. Where either Party's consent is required hereunder, except as otherwise specified herein, such Party's consent may be granted or withheld in such Party's sole discretion.

(b) Unless the context requires otherwise, (i) any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein), (ii) any reference to any laws herein shall be construed as referring to such laws as from time to time enacted, repealed or amended, (iii) any reference herein to any person shall be construed to include the person's successors and assigns, (iv) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Agreement in its entirety and not to any particular provision hereof, and (v) all references herein to Articles, Sections or Exhibits, unless otherwise specifically provided, shall be construed to refer to Articles, Sections and Exhibits of this Agreement.

ARTICLE II.
GRANT OF LICENSE

Section 2.1. License . In consideration for the royalty payments that have been made pursuant to the Technology License Agreement and other good and valuable consideration, (i) DNP hereby agrees to continue*.

Section 2.2. Technical Documents. DNP shall furnish the Company with the technical documents*.

Section 2.3. Improvements. If the Company wishes to obtain a license for any Improvements and developments relating to the Licensed Know-how or Licensed Patents which DNP obtains or comes into possession of during the Term of this Agreement in order to*.

Section 2.4. Subcontracting . If the Company wishes to*.

Section 2.5. Further License to Third Parties . The Company acknowledges that DNP has the right to*.

Section 2.6. Marking . In connection with the Company's exercise of its rights under the License during the Term hereof, the Company shall comply with applicable patent marking laws with respect to the Licensed Patents, and as otherwise reasonably instructed by DNP.

Section 2.7. Restrictions. The Company hereby agrees that the Licensed Know-how that is licensed by DNP hereunder shall*.

Section 2.8. No Analysis. Without written permission from DNP, no compositional, structural or reverse analysis shall be made of any*.

ARTICLE III.
ROYALTIES

Section 3.1. The Parties acknowledge and agree*.

ARTICLE IV.
CONFIDENTIALITY

Section 4.1. The Company agrees that during the Term hereof and thereafter, it shall keep the Licensed Know-how strictly confidential*.

Section 4.2. Upon expiration or termination of this Agreement, the Company shall forthwith return or destroy in an appropriate manner, as requested by DNP, all documents and electronic data (including all copies, summaries, excerpts thereof) containing, or derived or produced partly or wholly from the Licensed Know-how.

Section 4.3. The Company agrees to take all appropriate measures to comply with Article 4.1 above, including but not limited to the following: *

Section 4.4. The Company agrees that in the event the Company has been conclusively proven to*.

ARTICLE V.
REPRESENTATIONS, WARRANTIES AND LIMITATION OF LIABILITY

Section 5.1. Title and Contest. DNP represents and warrants*

Section 5.2. Disclaimer. EXCEPT FOR THE EXPRESS LIMITED WARRANTY SET FORTH IN SECTION 5.1 ABOVE, THE LICENSED KNOW-HOW AND LICENSED PATENTS ARE PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE. DNP SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE LICENSED KNOW-HOW AND LICENSED PATENTS LICENSED BY DNP HEREUNDER.

Section 5.3. Non-contravention . Each Party represents and warrants that the execution of this Agreement and the grant of the License hereunder will not conflict with, or result in any breach of or constitute a default under any contract by which that Party is bound, or violate or conflict with any Order.

Section 5.4. No Challenge . The Company agrees that at no time shall it challenge directly or indirectly or assist anyone else in challenging directly or indirectly the validity and/or enforceability of any claim of any of the Licensed Patents at any time.

Section 5.5. Use of Licensed Patents ; No Permitted Sublicensing . The Company represents and warrants that it shall only*

Section 5.6. Limitation of Liability. IN NO EVENT WILL DNP HAVE ANY LIABILITY FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER FOR BREACH OF CONTRACT, TORT OR OTHERWISE, ARISING OUT OF OR RELATED TO THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO, LOSS OF ANTICIPATED PROFITS, LOSS OF DATA, OR LOSS OF USE, EVEN IF DNP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE CUMULATIVE LIABILITY OF DNP FOR DAMAGES HEREUNDER WILL BE SUBJECT TO THE INDEMNIFICATION BASKET AND CAP ON LIABILITY AS SET FORTH IN THE JV FRAMEWORK AGREEMENT.

Section 5.7 Additional Information. *

ARTICLE VI.
PROSECUTION AND MAINTENANCE AND ENFORCEMENT

Section 6.1. Prosecution and Maintenance . DNP shall have sole responsibility and discretion with respect to prosecution, issuance and maintenance of the Licensed Patents.

Section 6.2. Enforcement. During the Term, the Company shall promptly provide written notice to DNP of any infringement of any Licensed Patents of which it becomes aware, including in such notice a reasonable level of detail regarding such infringement.

Section 6.3. Cost of Action . Unless the Parties otherwise agree, the total cost of any such action commenced by DNP, shall be borne by DNP (but excluding fees and expenses charged by separate counsel, if any, engaged by the Company). Except as the Parties may otherwise agree in writing, any damages or settlement payments resulting from any such action commenced as set forth above, whether in an out-of-court settlement or through legal adjudication of such action, and at any time, shall be retained by DNP.

Section 6.4. Cooperation . In any infringement action that DNP may institute pursuant to this Article 6 during the Term of this Agreement, the Company hereto shall, at the request of DNP and at DNP's sole cost, cooperate reasonably in the prosecution of such action.

ARTICLE VII.
TERM; TERMINATION

Section 7.1. Term . The term of this Agreement shall commence on the Effective Date and, shall continue unless terminated in accordance with the provisions of Section 7.2.

Section 7.2. Termination .

(a) DNP shall have the right to forthwith terminate this Agreement in the event of*

(b) Subject to Section 7.2(a)*

ARTICLE VIII.
MISCELLANEOUS

Section 8.1. Publicity . Except as otherwise required by law, legal process or stock exchange rules, neither Party shall issue any press release or make any public announcement or disclosure related to the Agreement or the transactions contemplated hereunder without the prior agreement of the other Party, including with respect to the content of such release, announcement or disclosure (and, with respect in any legally required announcement, DNP and the Company shall use all reasonable efforts to consult and agree with each other with respect to the content of any such required press release or other publicity).

Section 8.2. Notices . All notices and other communications hereunder shall be in writing and shall be deemed given and effective (a) when delivered, if delivered in person, (b) when transmitted by telecopy (with confirmation of transmission received), (c) three (3) Business Days after mailing, if mailed by certified or registered mail (return receipt requested and obtained) or (d) one (1) Business Day after transmitted, if transmitted by a nationally recognized overnight courier to the parties at the following addresses (or at such other address for a party as shall be specified by like notice):

If to the Company

Photronics Semiconductor Mask Corporation
1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park,
Taiwan, R.O.C
Attention: *
Facsimile: *

With a copy (which shall not constitute notice) to:

Photronics, Inc.
15 Secor Rd.
Brookfield, CT 06804 USA
Attention: *
Facsimile: *

If to DNP

Dai Nippon Printing Co., Ltd.
1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo 162-8001, Japan
Telephone: *
Fax:*
Attention:*

With a copy (which shall not constitute notice) to:

*
*
*
Telephone:*
Fax: *
Attention *
Email: *

and/or to such other respective addresses and/or addressees as may be designated by notice given in accordance with the provisions of this Section 8.2.

Section 8.3. Expenses . Except as otherwise expressly set forth in this Agreement, each Party hereto shall bear all fees and expenses incurred by such Party in connection with, relating to or arising out of the execution, delivery and performance of this Agreement and the consummation of the transactions contemplated hereby and thereby, including financial advisors', attorneys', accountants' and other professional fees and expenses.

Section 8.4. Entire Agreement . This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes any previous agreements, arrangements or understandings between them relating to the subject matter hereof. For the avoidance of doubt, the Technology License Agreement shall be superseded and replaced by this Agreement upon the completion of the merger contemplated under the Merger Agreement in accordance with Section 2.1 above. Each exhibit hereto shall be considered incorporated into this Agreement.

Section 8.5. Non-Waiver . The failure in any one or more instances of a Party to insist upon performance of any of the terms, covenants or conditions of this Agreement, to exercise any right or privilege in this Agreement conferred, or the waiver by said Party of any breach of any of the terms, covenants or conditions of this Agreement, shall not be construed as a subsequent waiver of any such terms, covenants, conditions, rights or privileges, but the same shall continue and remain in full force and effect as if no such forbearance or waiver had occurred. No waiver shall be effective unless it is in writing and signed by an authorized representative of the waiving Party.

Section 8.6. Severability . Any term or provision of this Agreement which is invalid or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions of this Agreement or affecting the validity or enforceability of any of the terms or provisions of this Agreement in any other jurisdiction. If any provision of this Agreement is so broad as to be unenforceable, the provision shall be interpreted to be only as broad as is enforceable.

Section 8.7. Binding Effect; Benefit . This Agreement shall inure to the benefit of and be binding upon the Parties, and their successors and permitted assigns. Nothing in this Agreement, express or implied, is intended to confer on any Person other than the Parties, and their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, including third party beneficiary rights.

Section 8.8. Assignability . The Company shall not assign, pledge or otherwise dispose of its rights or delegate its obligations under this Agreement in whole or in part without the prior written consent of DNP.

Section 8.9. Amendments . This Agreement shall not be modified or amended except pursuant to an instrument in writing executed and delivered on behalf of each of the Parties.

Section 8.10. Headings . The headings contained in this Agreement are for convenience of reference only and shall not affect the meaning or interpretation of this Agreement.

Section 8.11. Governmental Reporting . Anything to the contrary in this Agreement notwithstanding, nothing in this Agreement shall be construed to mean that a Party or other Person must make or file, or cooperate in the making or filing of, any return or report to any Governmental Authority in any manner that such Person or such Party reasonably believes or reasonably is advised is not in accordance with applicable laws.

Section 8.12. Survival . The terms and conditions of Article I (to the extent necessary to give effect to this Section 8.12), Section 2.7, 2.8, Article III, Article IV, Article V and Sections 7.2, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.12, 8.14, 8.15, 8.16 and 8.17 of this Agreement shall survive any termination hereof.

Section 8.13. Relationship of Parties . Neither Party has any express or implied authority to assume or create any obligations on behalf of the other or to bind the other to any contract, agreement or undertaking with any third party.

Section 8.14. Applicable Law . This Agreement shall be governed by and construed in accordance with the laws of Taiwan without reference to the choice of law principles thereof.

Section 8.15. Arbitration. In the event of any dispute, controversy or claim arising out of or in connection with this Agreement (each, a "Dispute"), the Parties shall use their reasonable efforts to resolve such Dispute within a period of ninety (90) days commencing from either Party's receipt of a notice from the other Party stating the existence of a Dispute. In the event any such Dispute is not resolved, either Party may refer such Dispute to arbitration in Taipei, Taiwan before one (1) arbitrator appointed in accordance with the ROC Arbitration Law and the Arbitration Rules of the ROC Arbitration Association. The arbitration proceeding shall be conducted in English. The award thereof shall be final and binding upon the Parties hereto. Judgment upon such award may be entered in any court having jurisdiction thereof.

Section 8.16. Equitable Relief . The Company acknowledges and agrees that damages alone would be insufficient to compensate DNP for a breach by the Company of this Agreement and that irreparable harm would result from a breach of this Agreement. The Company hereby consents to the entering of an order for injunctive relief to prevent a breach or further breach, and the entering of an order for specific performance to compel performance of any obligations under this Agreement.

Section 8.17. Language . The official language of this Agreement exclusively shall be, and all communications and agreements between the Parties exclusively shall be made in, the English language. The Parties hereto waive any rights they may have under any other law to have this Agreement written in another language, and any translation of this Agreement will be solely for the convenience of the Parties.

Section 8.18. Counterparts . This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same agreement.

(Signature Page Follows)

IN WITNESS WHEREOF, intending to be legally bound, the Parties have executed this Agreement as of the Effective Date.

Dai Nippon Printing Co., Ltd.

By: _____

Name:

Title:

Photronics Semiconductor Mask Corporation

By: _____

Name:

Title:

License Agreement (DNP – PSMC) Signature Page

EXHIBIT A

LICENSED KNOW-HOW*

EXHIBIT B

LICENSED PATENTS*

EXHIBIT C *

Exhibit 10.24

MARGIN AGREEMENT

This **MARGIN AGREEMENT** (this " **Agreement** ") is made and entered into as of the 20th day of November, 2013, by and among Photronics, Inc., a Connecticut corporation (" **Photronics** "), Dai Nippon Printing Co., Ltd., a Japanese corporation (" **DNP** "), and Photronics Semiconductor Mask Corp. (the " **Company** "), a company limited by shares organized and formed under the Company Act of the Republic of China. Photronics, DNP and the Company are sometimes individually referred to herein as a " **Party** " and collectively as the " **Parties** ."

ARTICLE 1.
BACKGROUND

Photronics and DNP wish to participate in a joint venture either directly or indirectly through their respective Affiliates as Shareholders in the Company, and to carry on the Business (as defined below) through the Company. The Parties are engaged, among other things, in the design, development, fabrication and sale of advanced integrated circuit photomasks (the " **Business** "). In connection with the formation of the joint venture, Photronics and DNP have entered into a Joint Venture Operating Agreement (the " **JV Operating Agreement** ") dated as of the 20 th day of November, 2013.*.

ARTICLE 2.
INTERPRETATION

2.1 Defined Terms

Unless otherwise defined in this Agreement, terms defined in the JV Operating Agreement shall have the same meanings when used in this Agreement .

For purposes of this Agreement the following capitalized words shall have the following meanings:

" **Effective Date** " means the date of the completion of the merger contemplated under the Merger Agreement.

" **JV Territory** " ***** .

" **Modeled Capacity** "*.

" **Stabilization Period** " *

Incorporation by Reference

Section 5.16 (Non-Disclosure) and Article 12 (Miscellaneous) of the JV Operating Agreement is hereby incorporated by reference into and form an integral part of this Agreement , *mutatis mutandis* .

ARTICLE 3.
ALLOCATION OF NET SALES

3.1 Allocation of Net Sales During*

Commencing on the Effective Date and continuing for the period ending*

3.2 Payments

The Company shall make all payments required hereunder 180 days from the shipment of the applicable Products delivered. All payments under this Section 3.2 shall be made in U.S. Dollars or other currency agreed by DNP and the Company, by wire transfer to the account identified by DNP, from time-to-time.

3.3 Outsourcing Agreement

*.

ARTICLE 4.
OPERATIONS

4.1 EBM 8000 Priority

*

4.2 Transfer of the Products to the Company

*

4.3 Tool Acceptance

In the event that the tool acceptance for the EBM 8000 photomask writer has not been completed within*.

4.4 Sustained Capacity

After the Stabilization Period, the Company will *

Reports

The Company shall provide regular operating reports to Photronics and DNP, which reports shall include, without limitation, the capacity utilization of the facility for Products.

ARTICLE 5.
TERM AND TERMINATION

5.1 Term

This Agreement shall become effective on the Effective Date and shall continue to be in full force and effect until the end of the Initial Allocation Period.

5.2 Termination for Cause

A Party shall have the right to terminate its obligations under this Agreement if the other Party materially breaches this Agreement and fails to cure such breach within thirty (30) days after its receipt of written notice of the breach specifying such default.

(Signature Page Follows)

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement as of the day and year first above written.

PHOTRONICS, INC.

By: _____
Name:
Title:

DAI NIPPON PRINTING CO., LTD.

By: _____
Name:
Title:

PHOTRONICS SEMICONDUCTOR MASK CORP.

By: _____
Name: _____
Title: _____

Schedule A

*.

Schedule B

Modeled Capacity

A) *

Exhibit 10.25

MERGER AGREEMENT

BETWEEN

PHOTRONICS SEMICONDUCTOR MASK CORP.

AND

DNP PHOTOMASK TECHNOLOGY TAIWAN CO. LTD.

[□] , 2013

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MERGER AGREEMENT

THIS MERGER AGREEMENT is made and entered into as of this [□] day of [□] 2013 (" ***Signing Date*** ") by and between:

(1) Photronics Semiconductor Mask Corp., a company organized and existing under the laws of the Republic of China (" ***R.O.C.*** "), with its registered office at1F, No. 2, Lising Road, Hsinchu City, Hsinchu Science Park, Taiwan, R.O.C. (" ***Party A*** "); and

(2) DNP Photomask Technology Taiwan Co. Ltd., a company organized and existing under the laws of the R.O.C., with its registered office at No. 6, Lising 7 th Rd., East District, Hsinchu City, Hsinchu Science Park, Taiwan, R.O.C. (" ***Party B*** ").

(Party A and Party B are hereinafter individually a " ***Party*** " and collectively the " ***Parties*** ".)

WHEREAS , i n order to integrate resources, reduce operating costs, and expand the economic scale of Party A, the Parties would like to execute this Agreement and pursue a merger with each other with consideration payable in Party A's new shares.

WHEREAS , Photronics, Inc., a company incorporated under the laws of the State of Connecticut with its corporate headquarters located at 15 Secor Road, Brookfield, Connecticut, U.S.A. (" ***Photronics*** "), which owns 100% shares of Party A directly or indirectly, and Dai Nippon Printing Co., Ltd., a company incorporated under the laws of Japan with its corporate headquarters located at 1-1, Ichigaya Kagacho 1-chome, Shinjuku-ku, Tokyo, Japan (" ***DNP*** "), which owns 100% shares of Party B directly, have entered into (i) a Joint Venture Framework Agreement (the " ***Framework Agreement*** ") and (ii) in connection with the closing of the merger transaction contemplated hereunder a Joint Venture Operating Agreement (the " ***Operating Agreement*** ") related to the operation of the Surviving Company (as defined in Article 1.1 below).

NOW THEREFORE , in consideration of the foregoing and of the representations, covenants and agreements contained herein, the Parties hereby agree as follows:

ARTICLE I

MERGER

1.1 Method of Merger

Subject to the terms and conditions hereof, the Parties agree to the merger of Party B with and into Party A (the " ***Merger*** ") pursuant to Article 18 of the Business Mergers and Acquisitions Act in Taiwan (the " ***M&A Act*** "), whereby Party A shall be the surviving company (the " ***Surviving Company*** "). The Chinese and English names of the Surviving Company shall be [□□□□□□□□□□□□□□□] and Photronics DNP Mask Corporation, respectively.

1.2 Capital Stock

(a) Capital Stock of Party A . S ubject to change resulted from PSMC's Permitted Capital Reduction (as defined below), as of the date of execution hereof, Party A has an authorized capital of * and a paid-in capital of * divided into * shares of common stock with a par value of * per share which are 100% owned directly or indirectly by Photronics.

(b) Capital Stock of Party B . Subject to change resulted from DPTT's Permitted Capital Increase (as defined below), as of the date of execution hereof, Party B has an authorized capital of * and a paid-in capital of * divided into * shares of common stock with a par value of * per share, which are 100% owned by DNP.

(c) Capital Stock of Surviving Company . Immediately after the Closing (as defined in Article 1.5 below) of the Merger, the amount of authorized capital and that of paid-in capital of the Surviving Company shall be as set forth in Schedule II hereof.

1.3 Merger Consideration

The consideration for the Merger shall be payable in Party A's new shares. The Parties agree that upon the Closing , Party A shall, subject to Article 1.4 hereof, issue the amount of common shares as set forth in Schedule II hereof (which shall amount to 49.99% of the Surviving Company's total issued and outstanding shares immediately after the Closing) of Party A to DNP, which is Party B's sole shareholder, as the consideration for the Merger (the " ***Merger Consideration*** "). DNP's shareholding in Party B as recorded on the shareholder roster of Party B as of the date of Closing shall be delivered to and then cancelled by Party A upon the Closing.

Each share held in the treasury of Party B, if any, shall, by virtue of the Merger and without any action on the part of the holder thereof, be cancelled without payment of any consideration, as of the date of the Closing.

1.4 Adjustment of Merger Consideration

After this Agreement has been approved by the resolution of both Parties' board of directors meeting and shareholders meeting (whose function will be carried out by the board of directors in accordance with the Company Act of R.O.C. if the relevant Party is wholly owned by a corporate entity), as applicable, in the event of the following, the shareholders or board of directors shall have authorized their respective board of directors pursuant to applicable law to negotiate and agree with each other on the adjustment of the Merger Consideration for and on behalf of the respective Party within ten (10) business days after the occurrence of such event in accordance with applicable laws and this Article 1.4, and the foregoing adjustment is not required to be further approved by the shareholders meeting of the Parties:

(a) The occurrence of any event which will have a material impact on the financial circumstances of Party A or Party B, including but not limited to, the disposal by Party A or Party B of any of its material assets;

(b) The occurrence of any event which will have a material impact on the rights of shareholders or price of shares of Party A or Party B, such as a major disaster (natural or otherwise), major revolution in technologies, or any act of war or terrorist activity;

(c) Party A's or Party B's repurchase of treasury shares;

(d) Adjustment of the Merger Consideration is necessary due to change of regulation, order by relevant authorities or administrative guideline;

(e) The occurrence of any other major events affecting the business or operation of Party A or Party B; or

(f) The occurrence of any other major events that requires the adjustment of the Merger Consideration (including but not limited to either Party's material breach of its covenants in Article III or its representations or warranties in Article IV).

For avoidance of doubt, no adjustment is required for PSMC's Permitted Capital Reduction and DPTT's Permitted Capital Increase.

1.5 Merger Effective Date

Subject to the satisfaction or waiver of the conditions precedents set forth in Article II below and the terms of this Agreement, the closing of the Merger (" ***Closing*** ") shall take place on the date that is set and determined by the board of directors of each of the Parties but shall be no later than five (5) business days, or such other date that shall be mutually agreed upon by the board of directors of each Party in writing, after all of the conditions set forth in Article II have been satisfied or waived.

1.6 Delivery of Share Certificates and Payment of Merger Consideration

Matters regarding (i) the delivery of share certificates representing the shares of Party B by its shareholder to Party A; and (ii) and the delivery of the share certificates representing the Merger Consideration by Party A to Party B's shareholder shall be reasonably decided by Party A and Party B before the date of Closing.

1.7 Articles of Incorporation, Directors and Supervisors of Surviving Company

(i) Upon the Closing, the Articles of Incorporation of the Surviving Company shall have been duly amended to the one attached hereto as Exhibit A; and (ii) Party A shall, within fifteen (15) calendar days after the Closing, convene a shareholders' meeting to elect new directors and supervisors of the Surviving Company in accordance with the Operating Agreement.

1.8 Assumption of Rights and Obligations

Upon the Closing, any and all assets, liabilities and rights and obligations of Party B as of the date of Closing shall continue and be assumed by the Surviving Company.

1.9 Transfer of Employees

Unless otherwise agreed by the Parties, on or before thirty (30) calendar days before the date of Closing, all the employees of Party B*

ARTICLE II

CONDITIONS PRECEDENT

2.1 Mutual Conditions to Closing .

The obligations of the Parties to consummate the Merger at the Closing shall be subject to the satisfaction of the following on or prior to the Closing:

(a) The board of directors and shareholders meeting approvals (if required by applicable laws) for the Merger by each Party shall have been obtained, not revoked and shall remain in full force and effect;

(b) All prior approvals and consents required for the consummation of the Merger or in connection with the authorization, execution and performance of this Agreement from the relevant authorities (the " ***Regulatory Approvals*** ") and/or any other third party approvals (other than any approvals and consents where the failure to obtain such approvals and consents, either in any individual case or in the aggregate, would not have a material adverse effect on the Merger contemplated hereby) as listed in Schedule I shall have been duly obtained, made or given and shall be in full force and effect and shall not impose material restrictions or other material burdens on the Parties or the Surviving Company with respect to the Merger or the matters contemplated in the Transaction Agreements (as defined in the Framework Agreement);

(c) There shall not (i) be in effect any law, regulation, ruling or governmental order of any governmental authority which makes illegal, prevents or restricts the consummation of the Merger or other transactions contemplated by any other Transaction Agreement, the performance by the applicable Parties of their respective obligations under this Agreement or any other Transaction Agreement, or impairs the ability of the Surviving Company to own or conduct the business of Party A and Party B as previously conducted, whether directly or indirectly, (ii) have been commenced or threatened any action or proceeding by any governmental authority which seeks to prevent the Merger or the performance by the applicable Parties of their respective obligations under this Agreement or any other Transaction Agreement; and

(d) The Framework Agreement, the Operating Agreement and all other Transaction Agreements shall have been executed and delivered.

2.2 Additional Conditions to the Obligations of Party A

The obligation of Party A to consummate the Merger shall be subject to the satisfaction of the following conditions (in addition to those specified in Article 2.1) on or prior to the Closing (unless and to the extent waived, wholly or in part, by Party A):

(a) Party B shall have performed and complied with all agreements and covenants required by this Agreement to be performed or complied with by it on or prior to the Closing , *including Article 3.4 provided that a failure to obtain any third party consent that is not listed in Schedule I (Approvals) prior to the Closing should not be deemed a breach or non-performance of Article 3.5 for the purpose of this Article 2.2(a)* ;

(b) No events or circumstances which result in an event that is materially adverse to the business, properties or assets, including contracts, customer and supplier relationships (" ***Material Adverse Change*** ") of Party B shall have occurred since the date hereof;

(c) All of the representations and warranties in Article IV given by Party B shall be true, accurate and not misleading in all material respects as of the date of Closing;

(d) Party A shall have received at the Closing a certificate issued by an executive officer of Party B, dated as of the date of Closing, in form and substance substantially as set forth in Exhibit B attached hereto;

(e) DNP is not in any material breach, noncompliance or other default of any provision of the Framework Agreement;

(f) No government order has been issued, or other government action has been taken, to prohibit Party A from completing the capital reduction in the amount set forth in Schedule II prior to the Closing for the purpose of adjustment of Party A's evaluation for the Merger, after which capital reduction its paid-in capital should become the amount as set forth in Schedule II with a par value of * per share, which are 100% owned directly or indirectly by Photronics as of the date of Closing (" ***PSMC's Permitted Capital Reductio*** **n** "), and Party B has not taken any action to prohibit the completion of PSMC's Permitted Capital Reduction prior to the Closing; and

(g) Party B has, after obtaining all required corporate or governmental approvals, duly and legally completed capital increase in the amount set forth in Schedule II for the purpose of repaying its existing loans as of the Signing Date (the " ***Existing Loans*** "), after which capital increase its paid-in capital should become the amount as set forth in Schedule II with a par value of * per share, which are 100% owned by DNP, as of the date of Closing (" ***DPTT's Permitted Capital Increase*** "), and Party B has*.

2.3 Additional Conditions to the Obligations of Party B .

The obligation of Party B to consummate the Merger shall be subject to the satisfaction of the following conditions (in addition to those specified in Article 2.1) on or prior to the Closing (unless and to the extent waived, wholly or in part, by Party B):

(a) Party A shall have performed and complied with all agreements and covenants required by this Agreement to be performed or complied with by it on or prior to the Closing , *including Article 3.4* provided that a failure to obtain any third party consent that is not listed in Schedule I (Approvals) prior to the Closing should not be deemed a breach or non-performance of Article 3.5 for the purpose of this Article 2.3(a);

(b) No Material Adverse Change of Party A shall have occurred since the date hereof;

(c) All of the representations and warranties in Article IV given by Party A shall be true, accurate and not misleading in all material respects as of the date of the Closing;

(d) Party B shall have received at the Closing a certificate issued by an executive officer of Party A, on behalf of Party A and dated as of the date of the Closing, in form and substance substantially as set forth in Exhibit C attached hereto;

(e) Photronics is not in any material breach, noncompliance or other default of any provision of the Framework Agreement;

(f) No government order has been issued, or other government action has been taken, to prohibit Party B from completing the DPTT's Permitted Capital Increase prior to the Closing, and Party A has not taken any action to prohibit the completion of DPTT's Permitted Capital Increase prior to the Closing; and

(g) Party A has, after obtaining all required corporate or governmental approvals, duly and legally completed PSMC's Permitted Capital Reduction

ARTICLE III

COVENANTS

Unless otherwise provided herein, during the period from the Signing Date until the Closing , Party A hereby covenants and agrees with Party B the following with respect to Party A, and Party B hereby covenants and agrees with Party A the following with respect to Party B:

3.1 Covenants with Respect to this Agreement

Neither Party A nor Party B shall take any action that would make any representation or warranty of it contained herein untrue or incorrect or have the effect of preventing, impeding, or in any material respect, interfering with or adversely affecting the performance by it of its obligations under this Agreement or any other Transaction Agreement.

3.2 Issuance of shares

Except for the DPTT's Permitted Capital Increase, neither Party A nor Party B shall conduct any cash capital increase, issuance of bonus shares, stock options, or other equity based securities.

3.3 Conduct of Business of Party A or Party B with Respect to this Agreement

(a) the business of Party A and Party B shall be conducted in substantially the same manner as heretofore conducted and only in the ordinary course of business, and each of Party A and Party B shall use their reasonable best efforts to preserve the business organization of Party A or Party B, and to maintain the existing relations with customers, creditors, business partners and others having business dealings with Party A or Party B.

(b) neither Party A nor Party B shall pass any resolution for its winding up, bankruptcy, re-organization or dissolution or liquidation or apply for the appointment of a receiver, manager or judicial manager or like officer;

(c) neither Party A nor Party B shall take any of the following actions without the prior written consent of the other Party except for the DPTT's Permitted Capital Increase and PSMC's Permitted Capital Reduction:

(i) unless otherwise permitted under Article 1.7 hereof, amend its articles of incorporation or make any material change in any policy on corporate governance, internal control, accounting or the like;

(ii) issue, sell, transfer, dispose of or create encumbrances over any shares, securities, or options kind;

(iii) make a capital reduction or split or combine any of its capital stock or securities;

(iv) redeem, purchase or otherwise acquire directly or indirectly any of its capital stock or securities;

(v) enter into any business outside the existing scope of business, change the scope of the existing business or cease carrying on business;

(vi) sell or otherwise dispose of all or substantially all of its assets to any third party or contract to do so;

(vii) change its auditors;

(viii) change its financial year-end or tax accounting year-end;

(ix) except in the ordinary course of its business, acquire assets in excess of * in the aggregate;

(x) create or establish any subsidiary, acquire any interest in any other person or entity or enter into any joint venture, business alliance or partnership;

(xi) except in the ordinary course of its business, make any borrowings, incur any indebtedness or enter into any financial commitments, guarantees or provision of any kind of security;

(xii) enter into any M&A transaction (such as merger, spin-off, business transfer/assumption and share exchange) other than the Merger contemplated hereunder; or

(xiii) make any distribution to its shareholder(s), employees and/or directors/supervisors.

Notwithstanding anything to the contrary set forth herein, the Parties agree that DPTT's*.

3.4 Access to Information

During the period from the Signing Date until the Closing, upon reasonable notice and to the extent permitted by applicable laws and regulations, either Party shall afford the other Party and its representatives reasonable access, during normal business hours, to additional financial and operating data and other information of Party A or Party B as the other Party may reasonably request. Each Party shall permit the other Party and its advisers to perform an audit of the financial accounts of Party A or Party B at such time as may reasonably be requested prior to the Closing.

3.5 Regulatory and Other Authorizations; Notices and Consents

Each Party will at the other Party 's request cooperate with and assist the other Party in obtaining all Regulatory Approvals and all consents and approvals that the other Party may be required to obtain in connection with the consummation of the Merger. Each Party shall use their respective reasonable best efforts to obtain, prior to the date of consummation of the Merger, all consents to the performance by it of its obligations under this Agreement and the consummation of the Merger that may be required under each material contract to which it is a party (the " ***Required Contractual Consents*** "). All Required Contractual Consents shall be in writing and executed counterparts thereof shall be delivered to the other Party at or prior to the Closing.

3.6 Notification to Creditors .

As soon as practical after the approval of the Merger by a resolution adopted at each Party's board of directors meeting and shareholders meeting, as applicable, each of Party A and Party B shall (i) make an announcement and notify its creditors of the Merger; and (ii) designate a thirty (30)-day period for the creditors to object to the Merger. In the event any creditor objects to the Merger within said thirty (30)-day period, Party A or Party B, as applicable, shall (i) settle the account(s) payable to the objecting creditor; (ii) deposit a security bond or establish a trust specifically for the purpose of settling the account(s) payable to the objecting creditor; or (iii) prove to the objecting creditor that the Merger will not have any adverse impact on the rights of the objecting creditor.

ARTICLE IV

REPRESENTATIONS AND WARRANTIES

Each of Party A and Party B represents and warrants to the other that the following are true and accurate, as of the date of execution hereof and as of the date of Closing, respectively:

(a) Legal Establishment and Existence . It is a corporation duly organized and validly existing under the laws of the R.O.C., and has obtained all necessary licenses, approvals, permits and other certification required for operating its existing business activities;

(b) Full Power and Valid Authorization . I t has full legal capacity and power and is duly and validly authorized to execute and perform this Agreement;

(c) Validity of the Agreement . Its execution and performance of this Agreement is not in violation of the following: (i) any provisions of applicable laws and regulations; (ii) its articles of incorporation and other applicable internal rules; (iii) any rulings, orders or dispositions of the court or relevant authorities; and (iv) any contracts, agreements, representations, undertakings, warranties, binding arrangements or any other legal or contractual obligations, except with respect to clause (i) and (iv) where the failure of such violation would not, individually or in the aggregate, have a Material Adverse Change; and

(d) Enforceability . T his Agreement constitutes the legally valid and binding obligations of it, enforceable against it in accordance with the terms and conditions of this Agreement, except to the extent that enforceability may be limited by applicable bankruptcy, reorganization, insolvency, moratorium or other laws affecting the enforcement of creditors' rights generally and by general principles of equity.

ARTICLE V

EXPENSES AND TAXES

5.1 Expenses

Regardless of whether or not the Merger is consummated, each Party shall pay its own costs, fees and expenses arising from the Merger and in connection with this Agreement, including without limitation, the costs, fees and expenses of its counsels, accountants, and any other advisors and/or experts.

5.2 Tax

Any and all taxes of each of the Parties arising herefrom or in connection herewith and the execution and performance hereof or for any other reason shall be borne such Party in accordance with applicable laws and regulations and nothing herein shall be construed to express or imply that the Parties shall be jointly liable for any of such obligations.

ARTICLE VI

MISCELLANEOUS

6.1 Amendments and Modification

Subject to applicable laws and regulations, this Agreement may be amended, modified and supplemented only by written agreement between the Parties.

6.2 Assignment

This Agreement is not intended to confer upon any person other than the Parties any rights hereunder. Neither this Agreement nor any of the rights, interests or obligations of either Party hereunder shall be assigned by either Party hereto (whether by operation of law or otherwise) without the prior written consent of the other Party. Any purported assignment hereof without required consent shall be null and void. Subject to the preceding provision, this Agreement shall be binding upon, inure to the benefit of and be enforceable by the Parties and their respective successors and permitted assigns.

6.3 Severability

In the event that any of the provisions contained herein is rendered invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any of the other provisions hereof, which shall nevertheless remain in full force and effect, and this Agreement shall be construed as if such invalid, illegal or unenforceable provisions had never been contained herein.

6.4 Notices

Any notice required or permitted to be given under this Agreement shall be in writing and be (i) personally delivered, (ii) transmitted by telecopier (with confirmation by mail, postage prepaid, registered or certified, return receipt requested, or by airmail in the event of mailing for delivery outside of the country in which mailed), or (iii) delivered by an overnight courier, to the other Party as follows, as elected by the Party giving such notice:

To Party A: Photronics, Inc.
Attention: General Counsel
Address: 15 Secor Road
Brookfield, CT 06804
Fax No.

To Party B: DNP Photomask Technology Taiwan Co. Ltd.
Attention:
Address:
Fax No.

Except as otherwise specified herein, any and all notices and other communications shall be deemed to have been duly served on the date of receipt thereof. Either Party may change its address for purposes hereof by a written notice as aforesaid to the other Party.

6.5 Governing Law

This Agreement shall be construed, interpreted and governed by the laws of the R.O.C.

6.6 Governing Language

This Agreement is executed in English.

6.7 Arbitration

In the event of any dispute, controversy or claim arising out of or in connection with this Agreement (each, a " ***Dispute*** "), the Parties shall use their reasonable efforts to resolve such Dispute within a period of ninety (90) days commencing from either Party's receipt of a notice from the other Party stating the existence of a Dispute . In the event any such Dispute is not so resolved, either Party may refer such Dispute to the Arbitration Association of the R.O.C. in Taipei, Taiwan for arbitration in accordance with the Arbitration Act of the R.O.C. and the Rules of the Arbitration Association of the R.O.C.

6.8 Counterparts

This Agreement shall be executed in two counterparts, which shall be deemed one and the same agreement and take effect upon execution thereof by the Parties hereto and delivery of one thereof to the other Party .

6.9 Termination

(a) This Agreement constitutes binding obligations of each of the Parties and shall take effect as of the Signing Date until it has been terminated in accordance with this Article 6.9.

(b) Prior to the Closing, this Agreement shall terminate upon the earliest occurrence of one of the following events:

(i) the written consent of the Parties;

(ii) by written notice delivered by the non-defaulting Party to the Party in default, in the event of any material breach, noncompliance or other default of any provision of this Agreement or any other Transaction Agreement, which, if capable of cure, is not cured within thirty (30) calendar days after receipt by such defaulting Party of a written notice, which shall specify such default, from the non-defaulting Party;

(iii) by written notice from either Party to the other Party hereto, in the event that any of the Regulatory Approvals has been disapproved by the relevant competent authority by a final decision that is unable to be changed by re-application or supplemental filing or any required third party consent listed in Schedule I has been rejected;

(iv) by written notice from either Party to the other Party hereto, in the event that the Closing does not occur on or prior * (or such later date agreed by the Parties in writing); and

(v) upon any termination of the Framework Agreement.

(c) After this Agreement has been terminated, both Parties shall adopt necessary actions to cease to proceed the Merger and either Party may request the other Party to return any and all documents, information, files, articles, plans, trade secrets, and other tangible data obtained in connection with the Merger within seven (7) business days after such termination.

6.10 Indemnification

Article 12 of the Framework Agreement shall apply mutatis mutandis to this Agreement.

6.11 Confidentiality

Before Closing, unless otherwise provided for under applicable law, regulations, or this Agreement, and except for disclosure made to shareholders and affiliates of either Party, the Parties agree that any documents, information, files, articles, plans, trade secrets, and o ther tangible or intangible data obtained from the other Party before the Closing for the purpose of the Merger shall be kept in strict confidence.

The forgoing confidentiality obligation shall survive the termination, rescindment, cancellation, or loss of effectiveness of this Agreement.

IN WITNESS WHEREOF , the Parties have executed or caused this Agreement to be duly executed as of the date first written above.

- The remaining is left blank intentionally -

Photronics Semiconductor Mask Corp.

_____
By:
Title:
Address:

DNP Photomask Technology Taiwan Co. Ltd.

_____
By:
Title:
Address:

EXHIBIT A

*

[□]

EXHIBIT B

*

EXHIBIT C

*

Schedule I

*

Schedule II

*

Exhibit 10.32

EXECUTION COPY

AMENDMENT NO. 1

Dated as of August 22, 2014

to

THIRD AMENDED AND RESTATED CREDIT AGREEMENT

Dated as of December 5, 2013

THIS AMENDMENT NO. 1 (" Amendment ") is made as of August 22, 2014 by and among Photronics, Inc. (the " Company "), the financial institutions listed on the signature pages hereof and JPMorgan Chase Bank, N.A., as Administrative Agent (in such capacity, the " Administrative Agent ") and as Collateral Agent (in such capacity, the " Collateral Agent "), under that certain Third Amended and Restated Credit Agreement dated as of December 5, 2013 by and among the Company, the Foreign Subsidiary Borrowers party thereto from time to time, the Lenders party thereto from time to time, the Collateral Agent and the Administrative Agent (as may be further amended, supplemented or otherwise modified from time to time, the " Credit Agreement "). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings given to them in the Credit Agreement.

WHEREAS, the Company has requested that the Lenders and the Administrative Agent agree to certain amendments to the Credit Agreement;

WHEREAS, the Lenders party hereto and the Administrative Agent have agreed to such amendments on the terms and conditions set forth herein;

NOW, THEREFORE, in consideration of the premises set forth above, the terms and conditions contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company, the Lenders party hereto and the Administrative Agent have agreed to enter into this Amendment.

1. Amendments to Credit Agreement . Effective as of the date of satisfaction of the conditions precedent set forth in Section 2 below, the Credit Agreement is hereby amended as follows:

(a) The definition of "LIBO Rate" set forth in Section 1.01 of the Credit Agreement is amended to delete the reference to "British Bankers Association" appearing therein and to replace such reference with "ICE Benchmark Administration".

(b) Section 1.01 of the Credit Agreement is amended to add the following new definition thereto in the appropriate alphabetical order:

> " Specified Capital Expenditures " means, solely for purposes of calculating the Interest Coverage Ratio for each period of four (4) consecutive fiscal quarters ending on or about October 31, 2014, January 31, 2015, April 30, 2015 and July 31, 2015, Capital Expenditures made by the Company solely in respect of the purchase of the Micronic Prexision-80 Tool in an aggregate amount not to exceed $32,000,000.

(c) Section 6.11(a) of the Credit Agreement is amended to add the parenthetical "(other than, if applicable, any Specified Capital Expenditures)" immediately following the reference to "Capital Expenditures" appearing therein.

2. Conditions of Effectiveness . The effectiveness of this Amendment is subject to the conditions precedent that (a) the Administrative Agent shall have received counterparts of (i) this Amendment duly executed by the Company, the Required Lenders and the Administrative Agent and (ii) the Consent and Reaffirmation attached hereto duly executed by the Subsidiary Guarantors, (b) the Company shall have paid to the Administrative Agent, for the account of each Lender that executes and delivers its signature page hereto by such time as is requested by the Administrative Agent, an amendment fee equal to $5,000 for each such Lender and (c) the Company shall have paid all of the fees of the Administrative Agent and its affiliates (including, to the extent invoiced, reasonable attorneys' fees and expenses of the Administrative Agent) in connection with this Amendment and the other Loan Documents.

3. Representations and Warranties of the Company and Acknowledgements and Confirmations . The Company hereby represents and warrants as follows:

(a) This Amendment and the Credit Agreement, as amended hereby, constitute legal, valid and binding obligations of the Company and are enforceable against the Company in accordance with their terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether considered in a proceeding in equity or at law.

(b) As of the date hereof and giving effect to the terms of this Amendment, (i) no Default shall have occurred and be continuing and (ii) the representations and warranties of the Company set forth in the Credit Agreement, as amended hereby, are true and correct as of the date hereof.

4. Reference to and Effect on the Credit Agreement .

(a) Upon the effectiveness hereof, each reference to the Credit Agreement in the Credit Agreement or any other Loan Document shall mean and be a reference to the Credit Agreement as amended hereby.

(b) Except as specifically amended above, the Credit Agreement and all other documents, instruments and agreements executed and/or delivered in connection therewith shall remain in full force and effect and are hereby ratified and confirmed.

(c) The execution, delivery and effectiveness of this Amendment shall not operate as a waiver of any right, power or remedy of the Administrative Agent or the Lenders, nor constitute a waiver of any provision of the Credit Agreement or any other documents, instruments and agreements executed and/or delivered in connection therewith.

(d) This Amendment shall constitute a Loan Document.

5. Governing Law . This Amendment shall be construed in accordance with and governed by the law of the State of New York.

6. Headings . Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Amendment for any other purpose.

7. Counterparts . This Amendment may be executed by one or more of the parties hereto on any number of separate counterparts, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. Signatures delivered by facsimile or PDF shall have the same force and effect as manual signatures delivered in person.

[Signature Pages Follow]

IN WITNESS WHEREOF, this Amendment has been duly executed as of the day and year first above written.

PHOTRONICS, INC.,
as the Company

By:_____
Name:
Title:

JPMORGAN CHASE BANK, N.A., individually as a Lender and as Administrative Agent

By:_____
Name:
Title:

RBS CITIZENS, NATIONAL ASSOCIATION,
as a Lender

By:_____
Name:
Title:

TD BANK, N.A.,
as a Lender

By:_____
Name:
Title:

CONSENT AND REAFFIRMATION

Each of the undersigned hereby acknowledges receipt of a copy of the foregoing Amendment No. 1 to the Third Amended and Restated Credit Agreement dated as of December 5, 2013 (as amended, supplemented or otherwise modified from time to time, the " Credit Agreement ") by and among Photronics, Inc. (the " Company "), the Foreign Subsidiary Borrowers from time to time party thereto (together with the Company, the " Borrowers "), the financial institutions from time to time party thereto (the " Lenders ") and JPMorgan Chase Bank, N.A., as Administrative Agent (the " Administrative Agent ") and Collateral Agent, which Amendment No. 1 is dated as of August 22, 2014 (the " Amendment "). Capitalized terms used in this Consent and Reaffirmation and not defined herein shall have the meanings given to them in the Credit Agreement. Without in any way establishing a course of dealing by the Administrative Agent or any Lender, each of the undersigned consents to the Amendment and reaffirms the terms and conditions of the Subsidiary Guaranty and any other Loan Document executed by it and acknowledges and agrees that such agreements and each and every such Loan Document executed by the undersigned in connection with the Credit Agreement remains in full force and effect and is hereby reaffirmed, ratified and confirmed. All references to the Credit Agreement contained in the above−referenced documents shall be a reference to the Credit Agreement as so modified by the Amendment and as the same may from time to time hereafter be amended, modified or restated.

Dated: August 22, 2014

[Signature Page Follows]

PHOTRONICS IDAHO, INC.

By:_____

Name:

Title:

TRIANJA TECHNOLOGIES, INC.

By:_____

Name:

Title:

PHOTRONICS TEXAS ALLEN, INC.

By:_____

Name:

Title:

PHOTRONICS CALIFORNIA, INC.

By:_____

Name:

Title:

Exhibit 10.33

EXECUTION COPY

SECOND AMENDED AND RESTATED SECURITY AGREEMENT

THIS SECOND AMENDED AND RESTATED SECURITY AGREEMENT (as the same may be amended, restated, supplemented or otherwise modified from time to time, this " Security Agreement ") is entered into as of December 5, 2013 by and among PHOTRONICS, INC., a Connecticut corporation (the " Company "), the Subsidiaries of the Company listed on the signature pages hereto (together with the Company, the " Initial Grantors ," and together with any additional Subsidiaries, whether now existing or hereafter formed or acquired which become parties to this Security Agreement from time to time by executing a Supplement hereto in substantially the form of Annex I , the " Grantors "), and JPMORGAN CHASE BANK, N.A., a national banking association, in its capacity as contractual representative (the " Collateral Agent ") for itself and for the Holders of Secured Obligations (as defined in the Credit Agreement identified below). Capitalized terms used herein (including, without limitation, Article I hereof) and not otherwise defined herein shall have the respective meanings ascribed to such terms in the Credit Agreement.

PRELIMINARY STATEMENT

WHEREAS, the Company, certain Subsidiaries of the Company from time to time parties thereto as borrowers (together with the Company, the " Borrowers "), the financial institutions from time to time party thereto as lenders (collectively, the " Lenders "), and JPMorgan Chase Bank, N.A., as administrative agent thereunder (the " Administrative Agent ") have entered into that certain Third Amended and Restated Credit Agreement of even date herewith (as the same may be amended, restated, supplemented or otherwise modified from time to time, the " Credit Agreement " and the agreements, documents and instruments executed and/or delivered pursuant thereto or in connection therewith, including, without limitation, any guaranty delivered in connection therewith, the " Loan Documents "), which Credit Agreement amends and restates in its entirety the Existing Agreement (as defined in the Credit Agreement), providing, subject to the terms and conditions thereof, for extensions of credit and other financial accommodations to be made by the Lenders to or for the benefit of the Borrowers;

WHEREAS, the Credit Agreement, among other things, re-evidences the Borrowers' outstanding obligations under the Existing Agreement and provides, subject to the terms thereof, for future extensions from time to time of credit and other financial accommodations by the Lenders to the Borrowers;

WHEREAS, as a condition precedent to the effectiveness of an amendment to the Existing Agreement, the Initial Grantors entered into the Amended and Restated Security Agreement, dated as of February 12, 2010, with the Collateral Agent (as amended, the " Existing Security Agreement ");

WHEREAS, each Initial Grantor party to the Existing Security Agreement wishes to affirm its obligations under the terms of the Existing Security Agreement and wishes to amend and restate the terms of the Existing Security Agreement; and

WHEREAS, the Grantors wish to secure their obligations to the Holders of Secured Obligations pursuant to the terms of this Security Agreement;

ACCORDINGLY, the Grantors and the Collateral Agent, on behalf of the Holders of Secured Obligations, hereby agree as follows:

ARTICLE I

DEFINITIONS

1.1. Terms Defined in the Credit Agreement . All capitalized terms used herein and not otherwise defined shall have the meanings assigned to such terms in the Credit Agreement.

1.2. Terms Defined in New York UCC . Terms defined in the New York UCC which are not otherwise defined in this Security Agreement are used herein as defined in the New York UCC.

1.3. Definitions of Certain Terms Used Herein . As used in this Security Agreement, in addition to the terms defined in the Preliminary Statement, the following terms shall have the following meanings:

" Accounts " shall have the meaning set forth in Article 9 of the New York UCC.

" Article " means a numbered article of this Security Agreement, unless another document is specifically referenced.

" Chattel Paper " shall have the meaning set forth in Article 9 of the New York UCC.

" Collateral " means all Accounts, Chattel Paper, Commercial Tort Claims, Deposit Accounts, Documents, Equipment, Farm Products, Fixtures, General Intangibles, Goods, Instruments, Intellectual Property Collateral, Inventory, Investment Property, letters of credit, Letter-of-Credit Rights, Pledged Deposits, Supporting Obligations and Other Collateral, wherever located, in which any Grantor now has or hereafter acquires any right or interest, and the proceeds (including Stock Rights), insurance proceeds and products thereof, together with all books and records, customer lists, credit files, computer files, programs, printouts and other computer materials and records related thereto; provided that in no event shall "Collateral" include or the security interest granted under Article II hereof attach to (a) any lease, license, permit, contract, property rights or agreement to which any Grantor is a party, any of its rights or interests thereunder or any Trademark or other Intellectual Property, if and for so long as the grant of such security interest shall (i) give any other Person party to such lease, license, permit, contract, property rights or agreement the right to terminate its obligations thereunder, (ii) constitute or result in the abandonment, cancellation, invalidation or unenforceability of any material right, title or interest of any Grantor therein or (iii) result in a breach or termination pursuant to the terms of, or a default under, any such lease, license, contract property rights or agreement (other than, in the case of each of the foregoing clauses (i), (ii) and (iii), to the extent that any such right or term would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the Uniform Commercial Code of any relevant jurisdiction or any other applicable law (including the U.S. Bankruptcy Code) or principles of equity), provided, however, that the Collateral shall include and such security interest shall attach immediately at such time as the condition causing such abandonment, cancellation, invalidation or unenforceability shall be remedied and to the extent severable, shall attach immediately to any portion of such lease, license, contract, property rights, agreement or Trademark that does not result in any of the consequences specified in (i), (ii) or (iii) above; (b) any license, permit or other governmental authorization that, under the terms and conditions of such governmental authorization or under applicable law, cannot be subjected to a Lien in favor of the Collateral Agent for the benefit of the Holders of Secured Obligations without the consent of the relevant governmental authority and such consent has not been obtained; (c) any of the capital stock of a Foreign Subsidiary; (d) those assets as to which the Collateral Agent reasonably determines (in consultation with, and with written notice to, the Company) that the cost of obtaining such a security interest or perfection thereof (including tax consequences) are excessive in relation to the benefit to the Holders of Secured Obligations of the security to be afforded thereby; (e) any item of personal property, tangible or intangible, to the extent the grant by any Grantor of a security interest pursuant to this Security Agreement in its right, title and interest in such item of property is prohibited by any law or governmental rule or regulation or by effective and enforceable contractual provisions (including license restrictions) in any agreement to which the Grantor is a party (so long as no such agreement shall be entered into for the purposes of circumventing the security interest granted herein and excluding any such provision to the extent such provision would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the Uniform Commercial Code of any relevant jurisdiction or any other applicable law (including the U.S. Bankruptcy Code) or principles of equity); (f) intellectual property in relation to which any law or governmental rule or regulation, or any agreement with a domain name registrar or any other Person entered into by the Grantor in the ordinary course of business and existing on the date hereof, prohibits the creation of a security interest therein or would otherwise invalidate such Grantor's right, title or interest therein (other than to the extent any such agreement would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the Uniform Commercial Code of any relevant jurisdiction or any other applicable law (including the U.S. Bankruptcy Code) or principles of equity); (g) any Equipment owned by any Grantor that is subject to a purchase money Lien or a capital lease permitted by the Credit Agreement if the agreement in which such Lien is granted (or in the document providing for such capital lease) validly prohibits or requires the consent of any Person other than any Grantor as a condition to the creation of any other Lien on such equipment (other than to the extent any such agreement would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the Uniform Commercial Code of any relevant jurisdiction or any other applicable law (including the U.S. Bankruptcy Code) or principles of equity), but only, in each case, to the extent, and for so long as, the Indebtedness secured by the applicable Lien or capital lease has not been repaid in full or the applicable prohibition (or consent required) has not been otherwise removed or terminated; (h) motor vehicles and other assets subject to certificates of title or ownership; or (i) any real property held by a Grantor as a lessee under a lease; provided that the parties hereby agree, for the avoidance of doubt (without limitation with respect to any assets not so listed), that the assets listed in Schedule 1 to this Agreement are prohibited by contractual restrictions with third parties from being included as "Collateral" hereunder except to the extent such restrictions would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the Uniform Commercial Code of any relevant jurisdiction.

" Commercial Tort Claims " means commercial tort claims, as defined in the New York UCC of any Grantor, including each commercial tort claim specifically described in Exhibit "F".

" Confirmatory Grant of Security Interest " means, with respect to any Grantor and its Patents, Trademarks, or Copyrights, an agreement with a list of such Patents, Trademarks or Copyrights attached as an exhibit thereto, in form and substance satisfactory to the Collateral Agent, duly executed by such Grantor, to be filed in the United States Patent and Trademark Office or the United States Copyright Office, as applicable, evidencing the Collateral Agent's Lien on such Patents, Trademarks or Copyrights, as applicable.

" Control " shall have the meaning set forth in Article 8 or, if applicable, in Section 9-104, 9-105, 9-106 or 9-107 of Article 9 of the New York UCC.

" Copyrights " means, with respect to any Person, all of such Person's right, title, and interest in and to the following: (a) all copyrights, rights and interests in copyrights, works protectable by copyright, copyright registrations, and copyright applications; (b) all extensions of any of the foregoing; (c) all income, royalties, damages, and payments now or hereafter due and/or payable under any of the foregoing, including, without limitation, damages or payments for past or future infringements for any of the foregoing; (d) the right to sue for past, present, and future infringements of any of the foregoing; and (e) all rights corresponding to any of the foregoing throughout the world.

" Deposit Accounts " shall have the meaning set forth in Article 9 of the New York UCC.

" Documents " shall have the meaning set forth in Article 9 of the New York UCC.

" Equipment " shall have the meaning set forth in Article 9 of the New York UCC.

" Event of Default " shall have the meaning set forth in the Credit Agreement.

" Exhibit " refers to a specific exhibit to this Security Agreement, unless another document is specifically referenced.

" Farm Products " shall have the meaning set forth in Article 9 of the New York UCC.

" Fixtures " shall have the meaning set forth in Article 9 of the New York UCC.

" General Intangibles " shall have the meaning set forth in Article 9 of the New York UCC and, in any event, includes payment intangibles, contract rights, rights to payment, rights arising under common law, statutes, or regulations, choses or things in action, goodwill (including the goodwill associated with any Grantor owned Trademark), Intellectual Property, URLs and domain names, other industrial or intellectual property or rights therein or applications therefor, whether under license or otherwise, programs, programming materials, blueprints, drawings, purchase orders, customer lists, monies due or recoverable from pension funds, route lists, rights to payment and other rights under any royalty or licensing agreements, including Licenses, infringement claims, computer programs, information contained on computer disks or tapes, software, literature, reports, catalogs, pension plan refunds, pension plan refund claims, insurance premium rebates, tax refunds, and tax refund claims, interests in a partnership or limited liability company which do not constitute a security under Article 8 of the Code, and any other personal property other than Commercial Tort Claims, money, Accounts, Chattel Paper, Deposit Accounts, Goods, Investment Property, negotiable Collateral, and oil, gas, or other minerals before extraction.

" Goods " shall have the meaning set forth in Article 9 of the New York UCC.

" Instruments " shall have the meaning set forth in Article 9 of the New York UCC.

" Intellectual Property " means all Patents, Trademarks and Copyrights as defined herein.

" Intellectual Property Collateral " means all domain names, Intellectual Property and Licenses.

" Inventory " shall have the meaning set forth in Article 9 of the New York UCC.

" Investment Property " shall have the meaning set forth in Article 9 of the New York UCC.

" Letter of Credit Rights " shall have the meaning set forth in Article 9 of the New York UCC.

" Licenses " means, with respect to any Person, all of such Person's right, title, and interest in and to (a) any and all licensing agreements or similar arrangements in and to its Patents, Copyrights, or Trademarks, (b) all income, royalties, damages, claims, and payments now or hereafter due or payable under and with respect thereto, including, without limitation, damages and payments for past and future breaches thereof, and (c) all rights to sue for past, present, and future breaches thereof.

" New York UCC " means the New York Uniform Commercial Code as in effect from time to time .

" Other Collateral " means any property of the Grantors, not included within the defined terms Accounts, Chattel Paper, Commercial Tort Claims, Deposit Accounts, Documents, Equipment, Fixtures, Farm Products, General Intangibles, Goods, Instruments, Intellectual Property Collateral, Inventory, Investment Property, Letter-of-Credit Rights, Pledged Deposits and Supporting Obligations, including, without limitation, all cash on hand, letters of credit, Stock Rights or any other deposits (general or special, time or demand, provisional or final) with any bank or other financial institution, it being intended that the Collateral include all real and personal property of the Grantors.

" Patents " means, with respect to any Person, all of such Person's right, title, and interest in and to: (a) any and all patents and patent applications; (b) all inventions and improvements described and claimed therein; (c) all reissues, divisions, continuations, extensions, and continuations-in-part thereof; (d) all income, royalties, damages, claims, and payments now or hereafter due or payable under and with respect thereto, including, without limitation, damages and payments for past and future infringements thereof; (e) all rights to sue for past, present, and future infringements thereof; and (f) all rights corresponding to any of the foregoing throughout the world.

" Pledged Deposits " means all time deposits of money (other than Deposit Accounts and Instruments), whether or not evidenced by certificates, which a Grantor may from time to time designate as pledged to the Collateral Agent or to any Holder of Secured Obligations as security for any Secured Obligations, and all rights to receive interest on said deposits.

" Receivables " means the Accounts, Chattel Paper, Documents, Investment Property, Instruments or Pledged Deposits, and any other rights or claims to receive money which are General Intangibles or which are otherwise included as Collateral.

" Registered " means issued by, registered with, renewed by or the subject of a pending application before any governmental authority or internet domain name registrar.

" Section " means a numbered section of this Security Agreement, unless another document is specifically referenced.

" Security " shall have the meaning set forth in Article 8 of the New York UCC.

" Stock Rights " means any securities, dividends or other distributions and any other right or property which any Grantor shall receive or shall become entitled to receive for any reason whatsoever with respect to, in substitution for or in exchange for any securities or other ownership interests in a corporation, partnership, joint venture or limited liability company constituting Collateral and any securities, any right to receive securities and any right to receive earnings, in which any Grantor now has or hereafter acquires any right, issued by an issuer of such securities.

" Supporting Obligation " shall have the meaning set forth in Article 9 of the New York UCC.

" Trademarks " means, with respect to any Person, all of such Person's right, title, and interest in and to the following: (a) all trademarks (including service marks), trade names, trade dress, and trade styles and the registrations and applications for registration thereof and the goodwill of the business symbolized by the foregoing; (b) all licenses of the foregoing, whether as licensee or licensor; (c) all renewals of the foregoing; (d) all income, royalties, damages, and payments now or hereafter due or payable with respect thereto, including, without limitation, damages, claims, and payments for past and future infringements thereof; (e) all rights to sue for past, present, and future infringements of the foregoing, including the right to settle suits involving claims and demands for royalties owing; and (f) all rights corresponding to any of the foregoing throughout the world.

The foregoing definitions shall be equally applicable to both the singular and plural forms of the defined terms.

ARTICLE II

REAFFIRMATION AND GRANT OF SECURITY INTEREST

Each Initial Grantor party to the Existing Security Agreement reaffirms the security interest granted under the terms and conditions of the Existing Security Agreement and agrees that such security interest remains in full force and effect and is hereby ratified, reaffirmed and confirmed. Each Initial Grantor party to the Existing Security Agreement acknowledges and agrees with the Collateral Agent that the Existing Security Agreement is amended, restated, and superseded in its entirety pursuant to the terms hereof.

Each of the Grantors hereby pledges, assigns and grants to the Collateral Agent, on behalf of and for the benefit of the Holders of Secured Obligations, a security interest in all of such Grantor's right, title and interest, whether now owned or hereafter acquired, in and to the Collateral to secure the prompt and complete payment and performance of the Secured Obligations. For the avoidance of doubt, the grant of a security interest herein shall not be deemed to be an assignment of intellectual property rights owned by the Grantors.

ARTICLE III

REPRESENTATIONS AND WARRANTIES

Each of the Initial Grantors represents and warrants to the Collateral Agent and the Holders of Secured Obligations, and each Grantor that becomes a party to this Security Agreement pursuant to the execution of a Security Agreement Supplement in substantially the form of Annex I represents and warrants (after giving effect to supplements to each of the Exhibits hereto with respect to such subsequent Grantor as attached to such Security Agreement Supplement), that, as of the date hereof or as of the date any additional Grantor becomes party to this Security Agreement pursuant to a Security Agreement Supplement:

3.1. Title, Authorization, Validity and Enforceability . Such Grantor has (other than the Intellectual Property Collateral, with respect to which Section 3.11 shall apply) (a) good and valid rights in or the power to transfer the Collateral owned by it and (b) title to the Collateral with respect to which it has purported to grant a security interest hereunder, free and clear of all Liens except for Liens permitted under Section 4.1.6 hereof. Such Grantor has full corporate, limited liability company or partnership, as applicable, power and authority to grant to the Collateral Agent the security interest in the Collateral pursuant hereto. The execution and delivery by such Grantor of this Security Agreement have been duly authorized by proper corporate, limited liability company, limited partnership or partnership, as applicable, proceedings, and this Security Agreement constitutes a legal, valid and binding obligation of such Grantor and creates a security interest which is enforceable against such Grantor in all Collateral it now owns or hereafter acquires, except as enforceability may be limited by (i) bankruptcy, insolvency, fraudulent conveyance, reorganization or similar laws relating to or affecting the enforcement of creditors' rights generally, (ii) general equitable principles (whether considered in a proceeding in equity or at law), and (iii) requirements of reasonableness, good faith and fair dealing. When financing statements have been filed in the appropriate offices against such Grantor in the locations listed in Exhibit "E" , the Collateral Agent will have a perfected first priority security interest in the Collateral owned by such Grantor in which a security interest may be perfected by filing of a financing statement under the New York UCC, subject only to Liens permitted under Section 4.1.6 hereof.

3.2. Conflicting Laws and Contracts . Neither the execution and delivery by such Grantor of this Security Agreement, the creation and perfection of the security interest in the Collateral granted hereunder, nor compliance with the terms and provisions hereof will violate (i) any law, rule, regulation, order, writ, judgment, injunction, decree or award binding on such Grantor, or (ii) such Grantor's charter, articles or certificate of incorporation, partnership agreement or by-laws (or similar constitutive documents), or (iii) the provisions of any indenture, instrument or agreement to which such Grantor is a party or is subject, or by which it, or its property may be bound or affected, or conflict with or constitute a default thereunder, or result in or require the creation or imposition of any Lien in, of or on the property of such Grantor pursuant to the terms of any such indenture, instrument or agreement (other than any Lien of the Collateral Agent on behalf of the Holders of Secured Obligations) except, in each case, which could not reasonably be expected to result in a Material Adverse Effect.

3.3. Principal Location . Such Grantor's mailing address and the location of its place of business (if it has only one) or its chief executive office (if it has more than one place of business), is disclosed in Exhibit "A" .

3.4. Property Locations . The Inventory, Equipment and Fixtures of each Grantor are located solely at the locations of such Grantor described in Exhibit "A" . All of said locations are owned by such Grantor except for locations (i) which are leased by such Grantor as lessee and designated in Part B of Exhibit "A" and (ii) at which Inventory is held in a public warehouse or is otherwise held by a bailee or on consignment by such Grantor as designated in Part C of Exhibit "A" .

3.5. No Other Names; Etc. . Within the five-year period ending as of the date such Person becomes a Grantor hereunder, such Grantor has not conducted business under any name, changed its jurisdiction of formation, merged with or into or consolidated with any other Person, except as disclosed in Exhibit "A" . The name in which such Grantor has executed this Security Agreement is the exact name as it appears in such Grantor's organizational documents, as amended, as filed with such Grantor's jurisdiction of organization as of the date such Person becomes a Grantor hereunder.

3.6. Accounts and Chattel Paper . The names of the obligors, amounts owing, due dates and other information with respect to the Accounts and Chattel Paper owned by such Grantor are and will be correctly stated in all material respects in all material records of such Grantor relating thereto and in all material invoices and reports with respect thereto furnished to the Collateral Agent by such Grantor from time to time.

3.7. Filing Requirements . None of the Equipment owned by such Grantor is covered by any certificate of title. None of the Collateral owned by such Grantor is of a type for which security interests or liens may be perfected by filing under any federal statute except for Patents, Trademarks and Copyrights held by such Grantor and described in Exhibit "B" . The legal description, county and street address of the property on which any Fixtures owned by such Grantor are located is set forth in Exhibit "C" together with the name and address of the record owner of each such property.

3.8. No Financing Statements . No financing statement describing all or any portion of the Collateral which has not lapsed or been terminated naming such Grantor as debtor has been filed in any jurisdiction except financing statements (i) naming the Collateral Agent on behalf of the Holders of Secured Obligations as the secured party and (ii) in respect of Liens permitted by Section 6.02 of the Credit Agreement; provided , that nothing herein shall be deemed to constitute an agreement to subordinate any of the Liens of the Collateral Agent under the Loan Documents to any Liens otherwise permitted under Section 6.02 of the Credit Agreement.

3.9. Federal Employer Identification Number; State Organization Number; Jurisdiction of Organization . Such Grantor's federal employer identification number is, and if such Grantor is a registered organization, such Grantor's State of organization, type of organization and State of organization identification number are, listed in Exhibit "G" .

3.10. Pledged Securities and Other Investment Property . Exhibit "D " sets forth a complete and accurate list of the Instruments, Securities and other Investment Property constituting Collateral and delivered to the Collateral Agent. Each Grantor is the direct and beneficial owner of each Instrument, Security and other type of Investment Property listed in Exhibit "D" as being owned by it, free and clear of any Liens, except for the security interest granted to the Collateral Agent for the benefit of the Holders of Secured Obligations hereunder or as permitted by Section 6.02 of the Credit Agreement.

3.11. Intellectual Property .

3.11.1 Exhibit "B" contains a complete and accurate listing as of the date hereof of all Registered U.S. Intellectual Property Collateral (other than intellectual property excluded from the definition of Collateral), including: (i) U.S. trademark registrations and U.S. applications for trademark registration, (ii) U.S. patents and U.S. patents applications, together with all U.S. reissuances, continuations, continuations in part, revisions, extensions and reexaminations thereof, (iii) U.S. copyright registrations and applications for registration and (iv) U.S. domain names. Grantor has all right, title and interest to the Intellectual Property Collateral listed in Exhibit "B" . When Confirmatory Grants of Security Interest have been filed with the United States Patent and Trademark Office and the United States Copyright Office, as applicable, the Collateral Agent will have a perfected first priority security interest in the Registered U.S. Intellectual Property Collateral owned by such Grantor in which a security interest may be perfected by making such filings, subject only to Liens permitted under Section 4.1.6 hereof.

3.11.2 Except as set forth on Exhibit "B" , no Person other than the respective Grantor has any right or interest of any kind or nature in or to the Intellectual Property Collateral, including any right to sell, license, lease, transfer, distribute, use or otherwise exploit the Intellectual Property or any portion thereof outside of the ordinary course of the respective Grantor's business.

3.11.3 No Grantor has received any written notice that remains outstanding challenging the validity, enforceability, or ownership of any Intellectual Property Collateral except where those challenges could not reasonably be expected to result in a Material Adverse Effect.

3.11.4 Each Grantor has enforced and currently enforces reasonable quality control measures in connection with such Grantor's licensing of the trademarks listed on Exhibit "B" to third parties, except (i) with respect to trademarks not currently in use and (ii) where the failure to use such reasonable quality control measures could not reasonably be expected to result in a Material Adverse Effect.

3.11.5 The consummation of the transactions contemplated by the Loan Documents will not result in the termination or material impairment of any of the material Intellectual Property.

ARTICLE IV

COVENANTS

From the date of this Security Agreement and thereafter until this Security Agreement is terminated, each of the Initial Grantors agrees, and from and after the effective date of any Security Agreement Supplement applicable to any Grantor (and after giving effect to supplements to each of the Exhibits hereto with respect to such subsequent Grantor as attached to such Security Agreement Supplement) and thereafter until this Security Agreement is terminated each such subsequent Grantor agrees:

4.1. General .

4.1.1 Inspection . Each Grantor will permit the Collateral Agent or any Holder of Secured Obligations, by its representatives and agents (upon reasonable prior notice so long as no Event of Default has occurred and is continuing) (i) to inspect the Collateral, (ii) to examine and make copies of the records of such Grantor relating to the Collateral and (iii) to discuss the Collateral and the related records of such Grantor with such Grantor's officers and employees (so long as an Event of Default has occurred and is continuing, in the case of any Receivable, with any person or entity which is or may be obligated thereon), all at such reasonable times and intervals as the Collateral Agent or such Holder of Secured Obligations may determine, and all at such Grantor's expense.

4.1.2 Taxes . Such Grantor will timely file or cause to be filed all tax returns and reports required to be filed and will pay or cause to be paid all taxes required to be paid by it with respect to the Collateral, except (i) those that are being contested in good faith by appropriate proceedings and for which such Grantor has set aside on its books adequate reserves or (ii) to the extent that failure to do so could not reasonably be expected to result in a Material Adverse Effect.

4.1.3 Records and Reports; Notification of Default . Each Grantor shall keep and maintain complete, accurate and proper books and records with respect to the Collateral owned by such Grantor, and furnish to the Collateral Agent, with sufficient copies for each of the Holders of Secured Obligations, such reports relating to the Collateral as the Collateral Agent shall from time to time reasonably request. Each Grantor will give prompt notice in writing to the Collateral Agent of the occurrence of any development which could reasonably be expected to materially and adversely affect the Collateral, taken as a whole.

4.1.4 Financing Statements and Other Actions; Defense of Title . Each Grantor hereby authorizes the Collateral Agent to file, and if requested will execute and deliver to the Collateral Agent, all financing statements describing the Collateral owned by such Grantor and other documents and take such other actions as may from time to time reasonably be requested by the Collateral Agent in order to maintain a first priority, perfected security interest in and, if applicable, Control of, the Collateral owned by such Grantor, subject to Liens permitted under Section 6.02 of the Credit Agreement, provided that nothing herein shall be deemed to constitute an agreement to subordinate any of the Liens of the Collateral Agent under the Loan Documents to any Liens otherwise permitted under Section 6.02 of the Credit Agreement. Such financing statements may describe the Collateral in the same manner as described herein or may contain an indication or description of collateral that describes such property in any other manner as the Collateral Agent may determine, in its reasonable discretion, is necessary, advisable or prudent to ensure that the perfection of the security interest in the Collateral granted to the Collateral Agent herein, including, without limitation, describing such property as "all assets" or "all personal property, whether now owned or hereafter acquired." Each Grantor will use commercially reasonable efforts to defend title to the Collateral owned by such Grantor against all persons in a manner materially consistent with past practices and to defend the security interest of the Collateral Agent in such Collateral and the priority thereof against any Lien not expressly permitted hereunder, unless (i) such Collateral has a book value of less than $500,000 or (ii) the Collateral Agent shall have provided its written consent with respect thereto.

4.1.5 Disposition of Collateral . No Grantor will sell, lease or otherwise dispose of the Collateral owned by such Grantor except (i) dispositions specifically permitted pursuant to Section 6.03 of the Credit Agreement and (ii) until such time as such Grantor receives a notice from the Collateral Agent pursuant to Article VII , proceeds of Inventory and Accounts collected in the ordinary course of business.

4.1.6 Liens . No Grantor will create, incur, or suffer to exist any Lien on the Collateral owned by such Grantor except Liens permitted pursuant to Section 6.02 of the Credit Agreement, provided , that nothing herein shall be deemed to constitute an agreement to subordinate any of the Liens of the Collateral Agent under the Loan Documents to any Liens otherwise permitted under Section 6.02 of the Credit Agreement.

4.1.7 Change in Corporate Existence, Type or Jurisdiction of Organization, Location, Name . Each Grantor will:

(i) preserve its existence and corporate structure as in effect on the date hereof, except as otherwise permitted under Section 6.03 of the Credit Agreement;

(ii) not change its jurisdiction of organization;

(iii) not maintain its place of business (if it has only one) or its chief executive office (if it has more than one place of business) at a location other than a location specified in Exhibit "A" ; and

(iv) not (i) have any Inventory, Equipment or Fixtures or proceeds or products thereof (other than Inventory and proceeds thereof disposed of as permitted by Section 4.1.5) at a location other than a location specified in Exhibit "A" or (ii) change its name or taxpayer identification number,

unless, in each such case, such Grantor shall have given the Collateral Agent not less than thirty (30) days' prior written notice of such event or occurrence and the Collateral Agent shall have either (x) determined that such event or occurrence will not adversely affect the validity, perfection or priority of the Collateral Agent's security interest in the Collateral, or (y) taken such steps (with the cooperation of such Grantor to the extent necessary or advisable) as are necessary or advisable to properly maintain the validity, perfection and priority of the Collateral Agent's security interest in the Collateral owned by such Grantor.

4.1.8 Other Financing Statements . No Grantor will suffer to exist or authorize the filing of any financing statement naming it as debtor covering all or any portion of the Collateral owned by such Grantor, except any financing statement authorized under Section 4.1.4 hereof. Each Grantor acknowledges that it is not authorized to file any financing statement or amendment or termination statement with respect to any financing statement filed in connection herewith without the prior written consent of the Collateral Agent, subject to such Grantor's rights under Section 9-509(d)(2) of the New York UCC.

4.2. Receivables .

4.2.1 Certain Agreements on Receivables . After written notice from the Collateral Agent during the occurrence and continuation of an Event of Default, no Grantor will make or agree to make any discount, credit, rebate or other reduction in the original amount owing on a Receivable or accept in satisfaction of a Receivable less than the original amount thereof (other than discounting of receivables owing from distressed customers in a manner consistent with prudent business practices).

4.2.2 Collection of Receivables . Except as otherwise provided in this Security Agreement, each Grantor will collect and enforce, at such Grantor's sole expense, all amounts due or hereafter due to such Grantor under the Receivables owned by such Grantor; provided that each Grantor may adjust, settle, compromise or release the amount or payment of any Receivable or amount due on any contract relating thereto, or allow any credit or discount thereon, in the ordinary course of its business and consistent with its normal business practices.

4.2.3 Delivery of Invoices . Each Grantor will deliver to the Collateral Agent immediately upon its request after the occurrence of an Event of Default duplicate invoices with respect to each Account owned by such Grantor bearing such language of assignment as the Collateral Agent shall specify.

4.3. Maintenance of Goods . Each Grantor will do all things necessary to maintain, preserve, protect and keep the Inventory and the Equipment owned by such Grantor in good repair, working order and saleable condition (ordinary wear and tear excepted) and make all necessary and proper repairs, renewals and replacements so that its business carried on in connection therewith may be properly conducted at all times, except where the failure to do so, individually or in the aggregate, could not reasonably be expected to have a Material Adverse Effect.

4.4. Instruments, Securities, Chattel Paper, Documents and Pledged Deposits . Each Grantor will (i) deliver to the Collateral Agent immediately upon execution of this Security Agreement, or upon acquisition by the Grantor thereafter, the originals of all Chattel Paper, Securities (to the extent certificated) and Instruments constituting Collateral (if any then exist), (ii) hold in trust for the Collateral Agent upon receipt and immediately thereafter deliver to the Collateral Agent any Chattel Paper, Securities and Instruments constituting Collateral, (iii) upon the designation of any Pledged Deposits (as set forth in the definition thereof), deliver to the Collateral Agent such Pledged Deposits which are evidenced by certificates included in the Collateral endorsed in blank, marked with such legends and assigned as the Collateral Agent shall specify, and (iv) upon the Collateral Agent's request, after the occurrence and during the continuance of an Event of Default, deliver to the Collateral Agent (and thereafter hold in trust for the Collateral Agent upon receipt and immediately deliver to the Collateral Agent) any Document evidencing or constituting Collateral.

4.5. Uncertificated Securities and Certain Other Investment Property . Each Grantor will permit the Collateral Agent from time to time to cause the appropriate issuers (and, if held with a securities intermediary, such securities intermediary) of uncertificated securities or other types of Investment Property not represented by certificates which are Collateral owned by such Grantor to mark their books and records with the numbers and face amounts of all such uncertificated securities or other types of Investment Property not represented by certificates and all rollovers and replacements therefor to reflect the Lien of the Collateral Agent granted pursuant to this Security Agreement. Each Grantor will use all commercially reasonable efforts, with respect to Investment Property constituting Collateral owned by such Grantor held with a financial intermediary, to cause such financial intermediary to enter into a control agreement with the Collateral Agent in form and substance reasonably satisfactory to the Collateral Agent.

4.6. Stock and Other Ownership Interests .

4.6.1 Changes in Capital Structure of Issuers . Except as permitted in the Credit Agreement, no Grantor will (i) permit or suffer any issuer of privately held corporate securities or other ownership interests in a corporation, partnership, joint venture or limited liability company constituting Collateral owned by such Grantor to dissolve, liquidate, retire any of its capital stock or other Instruments or Securities evidencing ownership, reduce its capital or merge or consolidate with any other entity, or (ii) vote any of the Instruments, Securities or other Investment Property in favor of any of the foregoing except to the extent permitted under Section 6.03 of the Credit Agreement.

4.6.2 Issuance of Additional Securities . No Grantor will permit or suffer any Domestic Subsidiary to issue any such securities or other ownership interests, any right to receive the same or any right to receive earnings, except to such Grantor or another Grantor.

4.6.3 Registration of Pledged Securities and other Investment Property . Each Grantor will permit any registrable Collateral owned by such Grantor to be registered in the name of the Collateral Agent or its nominee at any time at the option of the Required Lenders following the occurrence and during the continuance of an Event of Default and without any further consent of such Grantor.

4.6.4 Exercise of Rights in Pledged Securities and other Investment Property . Each Grantor will permit the Collateral Agent or its nominee at any time during the continuance of an Event of Default, without notice, to exercise or refrain from exercising any and all voting and other consensual rights pertaining to the Collateral owned by such Grantor or any part thereof, and to receive all dividends and interest in respect of such Collateral.

4.7. Deposit Accounts . Each Grantor will (i) upon the Collateral Agent's reasonable request, use commercially reasonable efforts to cause each bank or other financial institution in which it maintains (a) a Deposit Account to enter into a control agreement with the Collateral Agent, in form and substance reasonably satisfactory to the Collateral Agent in order to give the Collateral Agent Control of the Deposit Account or (b) other deposits (general or special, time or demand, provisional or final) to be notified of the security interest granted to the Collateral Agent hereunder and cause each such bank or other financial institution to acknowledge such notification in writing and (ii) upon the Collateral Agent's request after the occurrence and during the continuance of an Event of Default, deliver to each such bank or other financial institution a letter, in form and substance reasonably acceptable to the Collateral Agent, transferring ownership of the Deposit Account to the Collateral Agent or transferring dominion and control over each such other deposit to the Collateral Agent until such time as no Event of Default exists. In the case of deposits maintained with Lenders, the terms of such letter shall be subject to the provisions of the Credit Agreement regarding setoffs.

4.8. Letter-of-Credit Rights . Each Grantor will, upon the Collateral Agent's request, use commercially reasonable efforts to cause each issuer of a letter of credit, to consent to the assignment of proceeds of any letter of credit with respect to which such Grantor is the beneficiary in an amount in excess of $1,000,000 in order to give the Collateral Agent Control of the letter-of-credit rights to such letter of credit.

4.9. Federal, State or Municipal Claims . Each Grantor will notify the Collateral Agent of any Collateral owned by such Grantor which constitutes a claim against the United States government or any state or local government or any instrumentality or agency thereof in excess of $1,000,000, the assignment of which claim is restricted by federal, state or municipal law. Furthermore, each Grantor will execute and deliver to the Collateral Agent such documents, agreements and instruments, and will take such further actions (including, without limitation, the taking of necessary actions under the Federal Assignment of Claims Act of 1940, as amended (31 U.S.C. § 3727 et seq. and 41 U.S.C. § 15 et seq.)), which the Collateral Agent may, from time to time, reasonably request, to ensure perfection and priority of the Liens hereunder in respect of Accounts and General Intangibles owing by any government or instrumentality or agency thereof, all at the expense of the Company.

4.10. Intellectual Property.

4.10.1 If, after the date hereof, any Grantor obtains rights to, including, but not limited to filing and acceptance of a statement of use or an amendment to allege use with the United States Patent and Trademark Office, or applies for or seeks registration of, any new patentable invention, Trademark or Copyright in addition to the Intellectual Property described in Part C of Exhibit "B" , which are all of such Grantor's Intellectual Property as of the date hereof, then such Grantor shall give the Collateral Agent notice thereof concurrently with any delivery of financial statements under Section 5.01(a) or 5.01(b) of the Credit Agreement. Each Grantor agrees promptly upon request by the Collateral Agent to execute and deliver to the Collateral Agent any supplement to this Security Agreement, Confirmatory Grants of Security Interest or any other document reasonably requested by the Collateral Agent to evidence such security interest in a form appropriate for recording in the applicable federal office. Each Grantor also hereby authorizes the Collateral Agent to modify this Security Agreement unilaterally (i) by amending Part C of Exhibit "B" to include any future Intellectual Property of which the Collateral Agent receives notification from such Grantor pursuant hereto and (ii) by recording with the United States Patent and Trademark Office and/or the United States Copyright Office, in addition to and not in substitution for this Security Agreement, Confirmatory Grants of Security Interest containing a schedule of such future Patents, Trademarks and/or Copyrights.

4.11. Commercial Tort Claims . If, after the date hereof, any Grantor identifies the existence of a commercial tort claim in excess of $1,000,000 belonging to such Grantor that has arisen in the course of such Grantor's business in addition to the commercial tort claims described in Exhibit "F" , which are all of such Grantor's commercial tort claims in excess of $1,000,000 as of the date hereof, then such Grantor shall give the Collateral Agent prompt notice thereof, but in any event not less frequently than quarterly. Each Grantor agrees promptly upon request by the Collateral Agent to execute and deliver to the Collateral Agent any supplement to this Security Agreement or any other document reasonably requested by the Collateral Agent to evidence the grant of a security interest therein in favor of the Collateral Agent.

4.12. Updating of Exhibits to Security Agreement . The Company will provide to the Collateral Agent, concurrently with the delivery of the financial statements required by Section 5.01(a) of the Credit Agreement, updated versions of the Exhibits to this Security Agreement (provided that if there have been no changes to any such Exhibits since the previous updating thereof required hereby, the Company shall indicate that there has been "no change" to the applicable Exhibit(s)).

ARTICLE V

REMEDIES

5.1. Remedies . Upon the occurrence and continuance of an Event of Default, the Collateral Agent may, in accordance with the terms of the Loan Documents, exercise any or all of the following rights and remedies:

5.1.1 Those rights and remedies provided in this Security Agreement, the Credit Agreement or any other Loan Document, provided that this Section 5.1.1 shall not be understood to limit any rights or remedies available to the Collateral Agent and the Holders of Secured Obligations prior to an Event of Default.

5.1.2 Those rights and remedies available to a secured party under the New York UCC (whether or not the New York UCC applies to the affected Collateral) or under any other applicable law (including, without limitation, any law governing the exercise of a bank's right of setoff or bankers' lien).

5.1.3 Without notice except as specifically provided in Section 8.1 hereof or elsewhere herein, sell, lease, assign, grant an option or options to purchase or otherwise dispose of the Collateral or any part thereof in one or more parcels at public or private sale, for cash, on credit or for future delivery, and upon such other terms as the Collateral Agent may deem commercially reasonable.

The Collateral Agent, on behalf of the Holders of Secured Obligations, may comply with any applicable state or federal law requirements in connection with a disposition of the Collateral, and such compliance will not be considered to adversely affect the commercial reasonableness of any sale of the Collateral.

If, after the Credit Agreement has terminated by its terms and all of the Secured Obligations have been paid in full, there remain outstanding Swap Obligations or Banking Services Obligations, the Required Lenders may exercise the remedies provided in this Section 5.1 upon the occurrence of any event which would allow or require the termination or acceleration of any Swap Obligations or Banking Services Obligations.

Notwithstanding the foregoing, neither the Collateral Agent nor any other Holder of Secured Obligations shall be required to (i) make any demand upon, or pursue or exhaust any of their rights or remedies against, any Grantor, any other obligor, guarantor, pledgor or any other Person with respect to the payment of the Secured Obligations or to pursue or exhaust any of their rights or remedies with respect to any Collateral therefor or any direct or indirect guarantee thereof, (ii) marshal the Collateral or any guarantee of the Secured Obligations or to resort to the Collateral or any such guarantee in any particular order, or (iii) effect a public sale of any Collateral.

5.2. Grantors' Obligations Upon an Event of Default . Upon the request of the Collateral Agent after the occurrence of an Event of Default, each Grantor will:

5.2.1 Assembly of Collateral . Assemble and make available to the Collateral Agent the Collateral and all records relating thereto at any place or places reasonably specified by the Collateral Agent.

5.2.2 Secured Party Access . Permit the Collateral Agent, by the Collateral Agent's representatives and agents, to enter any premises where all or any part of the Collateral, or the books and records relating thereto, or both, are located, to take possession of all or any part of the Collateral and to remove all or any part of the Collateral.

5.3. License . The Collateral Agent is hereby granted a license or other right to use, following the occurrence and during the continuance of an Event of Default, without charge, each Grantor's labels, patents, copyrights, rights of use of any name, trade secrets, trade names, trademarks, service marks, customer lists and advertising matter, or any property of a similar nature, as it pertains to the Collateral, in completing production of, advertising for sale, and selling any Collateral, and, following the occurrence and during the continuance of an Event of Default, such Grantor's rights under all licenses and all franchise agreements shall inure to the Collateral Agent's benefit for such purpose. In addition, each Grantor hereby irrevocably agrees that the Collateral Agent may, following the occurrence and during the continuance of an Event of Default, sell any of such Grantor's Inventory directly to any person, including without limitation persons who have previously purchased such Grantor's Inventory from such Grantor and in connection with any such sale or other enforcement of the Collateral Agent's rights under this Security Agreement, may sell Inventory which bears any trademark owned by or licensed to such Grantor and any Inventory that is covered by any copyright owned by or licensed to such Grantor and the Collateral Agent may finish any work in process and affix any trademark owned by or licensed to such Grantor and sell such Inventory as provided herein.

ARTICLE VI

WAIVERS, AMENDMENTS AND REMEDIES

No delay or omission of the Collateral Agent or any Holder of Secured Obligations to exercise any right or remedy granted under this Security Agreement shall impair such right or remedy or be construed to be a waiver of any Event of Default or an acquiescence therein, and any single or partial exercise of any such right or remedy shall not preclude any other or further exercise thereof or the exercise of any other right or remedy. No waiver, amendment or other variation of the terms, conditions or provisions of this Security Agreement whatsoever shall be valid unless in writing signed by (a) the Collateral Agent and (b) each Grantor, and then only to the extent in such writing specifically set forth, provided that the addition of any Subsidiary as a Grantor hereunder by execution of a Security Agreement Supplement in the form of Annex I (with such modifications as shall be reasonably acceptable to the Collateral Agent) shall not require receipt of any consent from or execution of any documentation by any other Grantor party hereto. All rights and remedies contained in this Security Agreement or by law afforded shall be cumulative and all shall be available to the Collateral Agent and the Holders of Secured Obligations until the Secured Obligations have been paid in full.

ARTICLE VII

PROCEEDS; COLLECTION OF RECEIVABLES

7.1. Lockboxes . Upon request of the Collateral Agent after the occurrence of an Event of Default, each Grantor shall execute and deliver to the Collateral Agent irrevocable lockbox agreements in the form provided by or otherwise reasonably acceptable to the Collateral Agent, which agreements shall be accompanied by an acknowledgment by the bank where the lockbox is located of the Lien of the Collateral Agent granted hereunder and of irrevocable instructions to wire all amounts collected therein to a special collateral account at the Collateral Agent.

7.2. Collection of Receivables . The Collateral Agent may at any time after the occurrence of an Event of Default, by giving each Grantor written notice, elect to require that the Receivables be paid directly to the Collateral Agent for the benefit of the Holders of Secured Obligations. In such event, each Grantor shall, and shall permit the Collateral Agent to, promptly notify the account debtors or obligors under the Receivables owned by such Grantor of the Collateral Agent's interest therein and direct such account debtors or obligors to make payment of all amounts then or thereafter due under such Receivables directly to the Collateral Agent. Upon receipt of any such notice from the Collateral Agent, each Grantor shall thereafter hold in trust for the Collateral Agent, on behalf of the Holders of Secured Obligations, all amounts and proceeds received by it with respect to the Receivables and Other Collateral and immediately and at all times thereafter deliver to the Collateral Agent all such amounts and proceeds in the same form as so received, whether by cash, check, draft or otherwise, with any necessary endorsements. The Collateral Agent shall hold and apply funds so received as provided by the terms of Section 7.3 hereof.

7.3. Application of Proceeds . The proceeds of the Collateral received by the Collateral Agent hereunder shall be applied by the Collateral Agent to payment of the Secured Obligations pursuant to the terms of the Credit Agreement.

ARTICLE VIII

GENERAL PROVISIONS

8.1. Notice of Disposition of Collateral; Condition of Collateral . Each Grantor hereby waives notice of the time and place of any public sale or the time after which any private sale or other disposition of all or any part of the Collateral may be made. To the extent such notice may not be waived under applicable law, any notice made shall be deemed reasonable if sent to the Company, addressed as set forth in Article IX , at least ten (10) days prior to (i) the date of any such public sale or (ii) the time after which any such private sale or other disposition may be made. The Collateral Agent shall have no obligation to clean-up or otherwise prepare the Collateral for sale. To the maximum extent permitted by applicable law, each Grantor waives all claims, damages, and demands against the Collateral Agent or any other Holder of Secured Obligations arising out of the repossession, retention or sale of the Collateral, except such as arise solely out of the gross negligence or willful misconduct of the Collateral Agent or such other Holder of Secured Obligations as finally determined by a court of competent jurisdiction. To the extent it may lawfully do so, each Grantor absolutely and irrevocably waives and relinquishes the benefit and advantage of, and covenants not to assert against the Collateral Agent or any other Holder of Secured Obligations, any valuation, stay, appraisal, extension, moratorium, redemption or similar laws and any and all rights or defenses it may have as a surety now or hereafter existing which, but for this provision, might be applicable to the sale of any Collateral made under the judgment, order or decree of any court, or privately under the power of sale conferred by this Security Agreement, or otherwise. Except as otherwise specifically provided herein, each Grantor hereby waives presentment, demand, protest or any notice (to the maximum extent permitted by applicable law) of any kind in connection with this Security Agreement or any Collateral.

8.2. Compromises and Collection of Collateral . Each Grantor and the Collateral Agent recognize that setoffs, counterclaims, defenses and other claims may be asserted by obligors with respect to certain of the Receivables, that certain of the Receivables may be or become uncollectible in whole or in part and that the expense and probability of success in litigating a disputed Receivable may exceed the amount that reasonably may be expected to be recovered with respect to a Receivable. In view of the foregoing, each Grantor agrees that the Collateral Agent may at any time and from time to time, if an Event of Default has occurred and is continuing, compromise with the obligor on any Receivable, accept in full payment of any Receivable such amount as the Collateral Agent in its reasonable discretion shall determine or abandon any Receivable, and any such action by the Collateral Agent shall be commercially reasonable so long as the Collateral Agent acts in good faith based on information known to it at the time it takes any such action.

8.3. Secured Party Performance of Grantor's Obligations . Without having any obligation to do so, the Collateral Agent may perform or pay any obligation which any Grantor has agreed to perform or pay in this Security Agreement if any Grantor fails to perform or pay such obligation and such Grantor shall reimburse the Collateral Agent for any reasonable amounts paid by the Collateral Agent pursuant to this Section 8.3 . Each Grantor's obligation to reimburse the Collateral Agent pursuant to the preceding sentence shall be a Secured Obligation payable on demand.

8.4. Authorization for Secured Party to Take Certain Action . Each Grantor irrevocably authorizes the Collateral Agent at any time and from time to time in the reasonable discretion of the Collateral Agent and appoints the Collateral Agent as its attorney in fact (i) to execute on behalf of such Grantor as debtor and to file financing statements necessary or desirable in the Collateral Agent's reasonable discretion to perfect and to maintain the perfection and priority of the Collateral Agent's security interest in the Collateral, (ii) to indorse and collect any cash proceeds of the Collateral during the continuance of an Event of Default, (iii) to file a carbon, photographic or other reproduction of this Security Agreement or any financing statement with respect to the Collateral as a financing statement and to file any other financing statement or amendment of a financing statement (which does not add new collateral or add a debtor) in such offices as the Collateral Agent in its reasonable discretion deems necessary or desirable to perfect and to maintain the perfection and priority of the Collateral Agent's security interest in the Collateral, (iv) during the continuance of an Event of Default, to contact and enter into one or more agreements with the issuers of uncertificated securities which are Collateral owned by such Grantor and which are Securities or with financial intermediaries holding other Investment Property as may be necessary or advisable to give the Collateral Agent Control over such Securities or other Investment Property, (v) during the continuance of an Event of Default, to enforce payment of the Instruments, Accounts and Receivables in the name of the Collateral Agent or such Grantor, (vi) to apply the proceeds of any Collateral received by the Collateral Agent to the Secured Obligations as provided in Article VII and (vii) to discharge past due taxes, assessments, charges, fees or Liens on the Collateral (except for such Liens as are specifically permitted hereunder or under any other Loan Document), and each Grantor agrees to reimburse the Collateral Agent on demand for any reasonable payment made or any reasonable expense incurred by the Collateral Agent in connection therewith, provided that this authorization shall not relieve any Grantor of any of its obligations under this Security Agreement or under the Credit Agreement.

8.5. Specific Performance of Certain Covenants . Each Grantor acknowledges and agrees that a breach of any of the covenants contained in Sections 4.1.5 , 4.1.6 , 4.4 , 5.2 , or 8.7 or in Article VII hereof will cause irreparable injury to the Collateral Agent and the Holders of Secured Obligations, that the Collateral Agent and Holders of Secured Obligations have no adequate remedy at law in respect of such breaches and therefore agrees, without limiting the right of the Collateral Agent or the Holders of Secured Obligations to seek and obtain specific performance of other obligations of the Grantors contained in this Security Agreement, that the covenants of the Grantors contained in the Sections referred to in this Section 8.5 shall be specifically enforceable against the Grantors.

8.6. Use and Possession of Certain Premises . Upon the occurrence of an Event of Default, the Collateral Agent shall be entitled to occupy and use any premises owned or leased by the Grantors where any of the Collateral or any records relating to the Collateral are located until the Secured Obligations are paid or the Collateral is removed therefrom, whichever first occurs, without any obligation to pay any Grantor for such use and occupancy.

8.7. Dispositions Not Authorized . No Grantor is authorized to sell or otherwise dispose of the Collateral except as set forth in Section 4.1.5 hereof and notwithstanding any course of dealing between any Grantor and the Collateral Agent or other conduct of the Collateral Agent, no authorization to sell or otherwise dispose of the Collateral (except as set forth in Section 4.1.5 hereof) shall be binding upon the Collateral Agent or the Holders of Secured Obligations unless such authorization is in writing signed by the Collateral Agent.

8.8. Benefit of Agreement . The terms and provisions of this Security Agreement shall be binding upon and inure to the benefit of the Grantors, the Collateral Agent and the Holders of Secured Obligations and their respective successors and assigns (including all persons who become bound as a debtor to this Security Agreement), except that the Grantors shall not have the right to assign their rights or delegate their obligations under this Security Agreement or any interest herein, without the prior written consent of the Collateral Agent. No sales of participations, assignments, transfers, or other dispositions of any agreement governing the Secured Obligations or any portion thereof or interest therein shall in any manner impair the Lien granted to the Collateral Agent, for the benefit of the Collateral Agent and the other Holders of Secured Obligations, hereunder.

8.9. Survival of Representations . All representations and warranties of the Grantors contained in this Security Agreement shall survive the execution and delivery of this Security Agreement.

8.10. Taxes and Expenses . Any taxes (including income taxes) payable or ruled payable by a Federal or State authority in respect of this Security Agreement shall be paid by the Grantors, together with interest and penalties, if any. The Grantors shall reimburse the Collateral Agent for any and all reasonable out-of-pocket expenses and internal charges (including reasonable attorneys', auditors' and accountants' fees and reasonable time charges of attorneys, paralegals, auditors and accountants who may be employees of the Collateral Agent) paid or incurred by the Collateral Agent in connection with the preparation, execution, delivery, administration, collection and enforcement of this Security Agreement and in the audit, analysis, administration, collection, preservation or sale of the Collateral (including the expenses and charges associated with any periodic or special audit of the Collateral). Any and all costs and expenses incurred by the Grantors in the performance of actions required pursuant to the terms hereof shall be borne solely by the Grantors.

8.11. Headings . The title of and section headings in this Security Agreement are for convenience of reference only, and shall not govern the interpretation of any of the terms and provisions of this Security Agreement.

8.12. Termination . This Security Agreement shall continue in effect (notwithstanding the fact that from time to time there may be no Secured Obligations outstanding) until (i) any and all commitments to extend credit under the Loan Documents have terminated and (ii) all of the Secured Obligations (other than contingent indemnity obligations) have been indefeasibly paid in cash and performed in full and no commitments of the Collateral Agent or the Holders of Secured Obligations which would give rise to any Secured Obligations are outstanding.

8.13. Entire Agreement . This Security Agreement and the other Loan Documents embody the entire agreement and understanding between the Grantors and the Collateral Agent relating to the Collateral.

8.14. Governing Law; Jurisdiction; Waiver of Jury Trial .

8.14.1 **THIS SECURITY AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAW OF THE STATE OF NEW YORK.**

8.14.2 Each Grantor hereby irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of the Supreme Court of the State of New York sitting in New York County, Borough of Manhattan and of the United States District Court for the Southern District of New York, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Security Agreement or any other Loan Document, or for recognition or enforcement of any judgment, and each Grantor hereby irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such New York State or, to the extent permitted by law, in such Federal court. Each Grantor agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing in this Security Agreement or any other Loan Document shall affect any right that the Collateral Agent may otherwise have to bring any action or proceeding relating to this Security Agreement or any other Loan Document against any Grantor or its properties in the courts of any jurisdiction.

8.14.3 Each Grantor hereby irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Security Agreement in any court referred to in Section 8.14.2 . Each Grantor hereby irrevocably waives, to the fullest extent permitted by law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

8.14.4 Each party to this Security Agreement irrevocably consents to service of process in the manner provided for notices in Article IX of this Security Agreement, and each of the Grantors hereby appoints the Company as its agent for service of process. Nothing in this Security Agreement will affect the right of any party to this Security Agreement to serve process in any other manner permitted by law.

8.14.5 **WAIVER OF JURY TRIAL . EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS SECURITY AGREEMENT OR ANY OTHER LOAN DOCUMENT (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTIES HAVE BEEN INDUCED TO ENTER INTO THIS SECURITY AGREEMENT AND THE OTHER LOAN DOCUMENTS BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.**

8.15. Indemnity . Each Grantor hereby agrees, jointly with the other Grantors and severally, to indemnify the Collateral Agent and the Holders of Secured Obligations (collectively, the " Indemnitees "), and their respective successors, assigns, agents and employees, from and against any and all liabilities, damages, penalties, suits, costs and related expenses (including, without limitation, all reasonable expenses of litigation or preparation therefor whether or not the Collateral Agent or any Holder of Secured Obligations is a party thereto) imposed on, incurred by or asserted against the Collateral Agent or the Holders of Secured Obligations, or their respective successors, assigns, agents and employees, in any way relating to or arising out of this Security Agreement or any other Loan Document, or the manufacture, purchase, acceptance, rejection, ownership, delivery, lease, possession, use, operation, condition, sale, return or other disposition of any Collateral (including, without limitation, latent and other defects, whether or not discoverable by the Collateral Agent or the Holders of Secured Obligations or any Grantor, and any claim for patent, trademark or copyright infringement); provided that such indemnity shall not, as to any Indemnitee, and its successors, assigns, agents and employees, be available to the extent that such liabilities, damages, penalties, suits, costs, and related expenses are determined by a court of competent jurisdiction by final and nonappealable judgment to have resulted from the gross negligence or willful misconduct of such Indemnitee and its successors, assigns, agents and employees or from the material breach of such Indemnitee's obligations under the Loan Documents.

8.16. Subordination of Intercompany Indebtedness . Each Grantor agrees that any and all claims of such Grantor against any other Grantor (each an " Obligor ") with respect to any "Intercompany Indebtedness" (as hereinafter defined), any endorser, obligor or any other guarantor of all or any part of the Secured Obligations, or against any of its properties shall be subordinate and subject in right of payment to the prior payment, in full and in cash, of all Secured Obligations, provided that, and not in contravention of the foregoing, so long as no Event of Default has occurred and is continuing, such Grantor may make loans to and receive payments in the ordinary course of business with respect to such Intercompany Indebtedness from each such Obligor to the extent not prohibited by the terms of this Security Agreement and the other Loan Documents. Notwithstanding any right of any Grantor to ask, demand, sue for, take or receive any payment from any Obligor, all rights, liens and security interests of such Grantor, whether now or hereafter arising and howsoever existing, in any assets of any other Obligor shall be and are subordinated to the rights of the Holders of Secured Obligations and the Collateral Agent in those assets. No Grantor shall have any right to possession of any such asset or to foreclose upon any such asset, whether by judicial action or otherwise, unless and until this Security Agreement has terminated in accordance with Section 8.12 hereof. If all or any part of the assets of any Obligor, or the proceeds thereof, are subject to any distribution, division or application to the creditors of such Obligor, whether partial or complete, voluntary or involuntary, and whether by reason of liquidation, bankruptcy, arrangement, receivership, assignment for the benefit of creditors or any other action or proceeding, or if the business of any such Obligor is dissolved or if substantially all of the assets of any such Obligor are sold, then, and in any such event (such events being herein referred to as an " Insolvency Event "), any payment or distribution of any kind or character, either in cash, securities or other property, which shall be payable or deliverable upon or with respect to any indebtedness of any Obligor to any Grantor (" Intercompany Indebtedness ") shall be paid or delivered directly to the Collateral Agent for application on any of the Secured Obligations, due or to become due, until such Secured Obligations (other than contingent indemnity obligations) shall have first been fully paid and satisfied (in cash). Should any payment, distribution, security or instrument or proceeds thereof be received by the applicable Grantor upon or with respect to the Intercompany Indebtedness after any Insolvency Event and prior to the termination of this Security Agreement in accordance with Section 8.12 hereof, such Grantor shall receive and hold the same in trust, as trustee, for the benefit of the Holders of Secured Obligations and shall forthwith deliver the same to the Collateral Agent, for the benefit of the Holders of Secured Obligations, in precisely the form received (except for the endorsement or assignment of the Grantor where necessary), for application to any of the Secured Obligations, due or not due, and, until so delivered, the same shall be held in trust by the Grantor as the property of the Holders of Secured Obligations. If any such Grantor fails to make any such endorsement or assignment to the Collateral Agent, the Collateral Agent or any of its officers or employees is irrevocably authorized to make the same. Each Grantor agrees that until the termination of this Security Agreement in accordance with Section 8.12 hereof, no Grantor will assign or transfer to any Person (other than the Collateral Agent or the Company or another Grantor) any claim any such Grantor has or may have against any Obligor.

8.17. Severability . Any provision in this Security Agreement that is held to be inoperative, unenforceable, or invalid in any jurisdiction shall, as to that jurisdiction, be inoperative, unenforceable, or invalid without affecting the remaining provisions in that jurisdiction or the operation, enforceability, or validity of that provision in any other jurisdiction, and to this end the provisions of this Security Agreement are declared to be severable.

8.18. Counterparts . This Security Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Security Agreement by telecopy, e-mailed .pdf or any other electronic means that reproduces an image of the actual executed signature page shall be effective as delivery of a manually executed counterpart of this Security Agreement. The words "execution," "signed," "signature," "delivery," and words of like import in or relating to any document to be signed in connection with this Security Agreement and the transactions contemplated hereby shall be deemed to include Electronic Signatures, deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for in any applicable law, including the Federal Electronic Signatures in Global and National Commerce Act, the New York State Electronic Signatures and Records Act, or any other similar state laws based on the Uniform Electronic Transactions Act.

8.19. Limitation on Collateral Agent's and other Holders of Secured Obligations' Duty with Respect to the Collateral . The Collateral Agent shall have no obligation to clean-up or otherwise prepare the Collateral for sale. The Collateral Agent and each other Holder of Secured Obligations shall use reasonable care with respect to the Collateral in its possession or under its control. Neither the Collateral Agent nor any other Holder of Secured Obligations shall have any other duty as to any Collateral in its possession or control or in the possession or control of any agent or nominee of the Collateral Agent or such other Holder of Secured Obligations, or any income thereon or as to the preservation of rights against prior parties or any other rights pertaining thereto. To the extent that applicable law imposes duties on the Collateral Agent to exercise remedies in a commercially reasonable manner, each Grantor acknowledges and agrees that it is commercially reasonable for the Collateral Agent (i) to fail to incur expenses deemed significant by the Collateral Agent to prepare Collateral for disposition or otherwise to transform raw material or work in process into finished goods or other finished products for disposition, (ii) to fail to obtain third party consents for access to Collateral to be disposed of, or to obtain or, if not required by other law, to fail to obtain governmental or third party consents for the collection or disposition of Collateral to be collected or disposed of, (iii) to fail to exercise collection remedies against account debtors or other Persons obligated on Collateral or to remove Liens on or any adverse claims against Collateral, (iv) to exercise collection remedies against account debtors and other Persons obligated on Collateral directly or through the use of collection agencies and other collection specialists, (v) to advertise dispositions of Collateral through publications or media of general circulation, whether or not the Collateral is of a specialized nature, (vi) to contact other Persons, whether or not in the same business as such Grantor, for expressions of interest in acquiring all or any portion of such Collateral, (vii) to hire one or more professional auctioneers to assist in the disposition of Collateral, whether or not the Collateral is of a specialized nature, (viii) to dispose of Collateral by utilizing internet sites that provide for the auction of assets of the types included in the Collateral or that have the reasonable capacity of doing so, or that match buyers and sellers of assets, (ix) to dispose of assets in wholesale rather than retail markets, (x) to disclaim disposition warranties, such as title, possession or quiet enjoyment, (xi) to purchase insurance or credit enhancements to insure the Collateral Agent against risks of loss, collection or disposition of Collateral or to provide to the Collateral Agent a guaranteed return from the collection or disposition of Collateral, or (xii) to the extent deemed appropriate by the Collateral Agent, to obtain the services of other brokers, investment bankers, consultants and other professionals to assist the Collateral Agent in the collection or disposition of any of the Collateral. Each Grantor acknowledges that the purpose of this Section 8.19 is to provide non-exhaustive indications of what actions or omissions by the Collateral Agent would be commercially reasonable in the Collateral Agent's exercise of remedies against the Collateral and that other actions or omissions by the Collateral Agent shall not be deemed commercially unreasonable solely on account of not being indicated in this Section 8.19. Without limitation upon the foregoing, nothing contained in this Section 8.19 shall be construed to grant any rights to any Grantor or to impose any duties on the Collateral Agent that would not have been granted or imposed by this Security Agreement or by applicable law in the absence of this Section 8.19.

8.20. Reinstatement . This Security Agreement shall remain in full force and effect and continue to be effective should any petition be filed by or against any Grantor for liquidation or reorganization, should any Grantor become insolvent or make an assignment for the benefit of any creditor or creditors or should a receiver or trustee be appointed for all or any significant part of any Grantor's assets, and shall continue to be effective or be reinstated, as the case may be, if at any time payment and performance of the Secured Obligations, or any part thereof, is, pursuant to applicable law, rescinded or reduced in amount, or must otherwise be restored or returned by any obligee of the Secured Obligations, whether as a "voidable preference," "fraudulent conveyance," or otherwise, all as though such payment or performance had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, restored or returned, the Secured Obligations shall be reinstated and deemed reduced only by such amount paid and not so rescinded, reduced, restored or returned.

ARTICLE IX

NOTICES

9.1. Sending Notices . Any notice required or permitted to be given under this Security Agreement shall be sent (and deemed received) in the manner and to the addresses set forth in Section 9.01 of the Credit Agreement. Any notice delivered to the Company shall be deemed to have been delivered to all of the Grantors.

9.2. Change in Address for Notices . Each of the Grantors, the Collateral Agent and the Lenders may change the address for service of notice upon it by a notice in writing to the other parties.

ARTICLE X

THE COLLATERAL AGENT

JPMorgan Chase Bank, N.A. has been appointed Collateral Agent for the Holders of Secured Obligations hereunder pursuant to Article VIII of the Credit Agreement. It is expressly understood and agreed by the parties to this Security Agreement that any authority conferred upon the Collateral Agent hereunder is subject to the terms of the delegation of authority made by the Holders of Secured Obligations to the Collateral Agent pursuant to the Credit Agreement, and that the Collateral Agent has agreed to act (and any successor Collateral Agent shall act) as such hereunder only on the express conditions contained in such Article VIII . Any successor Collateral Agent appointed pursuant to Article VIII of the Credit Agreement shall be entitled to all the rights, interests and benefits of the Collateral Agent hereunder.

[Signature Pages Follow]

IN WITNESS WHEREOF, each of the Grantors and the Collateral Agent have executed this Second Amended and Restated Security Agreement as of the date first above written.

PHOTRONICS, INC.,
as a Grantor

By: _____
Name:
Title:

[OTHER GRANTORS] [1],
as a Grantor

By: _____
Name:
Title:

[1] Company to advise.

Acknowledged and Agreed
as of the date first written above:

JPMORGAN CHASE BANK, N.A., as Collateral Agent

By: _____
Name:
Title:

SCHEDULE 1
(See defined term " Collateral " in the Security Agreement)

Excluded Assets

[TO BE DISCUSSED]

EXHIBIT “A”
(See Sections 3.3 , 3.4 , 3.5 and 4.1.7 of Security Agreement)

Prior names, jurisdiction of formation, place of business (if Grantor has only one place of business), chief executive office (if Grantor has more than one place of business), mergers and mailing address:

_____
_____
_____
_____

Attention: _____

Locations of Real Property, Inventory, Equipment and Fixtures:

A. Owned Locations of Inventory, Equipment and Fixtures of the Grantors:

B. Leased Locations of Inventory, Equipment and Fixtures of the Grantors (Include Landlord’s Name):

C. Public Warehouses or other Locations pursuant to Bailment or Consignment Arrangements (include name of warehouse operator or other bailee or consignee of Inventory and Equipment of the Grantors):

EXHIBIT “B”
(See Sections 3.8 and 3.12 of Security Agreement)

Patents, copyrights and trademarks protected under federal law * and industrial designs:

* For (i) trademarks, show the trademark itself, the registration date and the registration number; (ii) trademark applications, show the trademark applied for, the application filing date and the serial number of the application; (iii) patents, show the patent number, issue date and a brief description of the subject matter of the patent; and (iv) patent applications, show the serial number of the application, the application filing date and a brief description of the subject matter of the patent applied for. Any licensing agreements for patents or trademarks should be described on a separate schedule.

EXHIBIT “C”
(See Section 3.8 of Security Agreement)

Legal description, county and street address of property on which Fixtures are located:

Name and Address of Record Owner:

EXHIBIT “D”

List of Pledged Securities
(See Section 3.11 of Security Agreement)

A. STOCKS:

Issuer	Certificate Number	Number of Shares

B. BONDS:

Issuer	Number	Face Amount	Coupon Rate	Maturity

C. GOVERNMENT SECURITIES:

Issuer	Number	Type	Face Amount	Coupon Rate	Maturity

D. OTHER SECURITIES OR OTHER INVESTMENT PROPERTY
(CERTIFICATED AND UNCERTIFICATED):

Issuer	Description of Collateral	Percentage Ownership Interest

EXHIBIT “E”
(See Section 3.1 of Security Agreement)

OFFICES IN WHICH FINANCING STATEMENTS HAVE BEEN FILED

EXHIBIT “F”
(See Definition of “Commercial Tort Claims”)

COMMERCIAL TORT CLAIMS

[Describe parties, case number (if applicable), nature of dispute]

EXHIBIT "G"
(See Section 3.10 of "Security Agreement")

FEDERAL EMPLOYER IDENTIFICATION NUMBER;
STATE ORGANIZATION NUMBER; JURISDICTION OF INCORPORATION

GRANTOR †	Federal Employer Identification Number	Type of Organization	State of Organization or Incorporation	State Organization Number
Photronics, Inc.	[_____]	Corporation	Connecticut	[_____]
[Other Grantors]	[_____]	[_____]	[_____]	[_____]

† Company to provide.

ANNEX I

to

SECURITY AGREEMENT

Reference is hereby made to the Second Amended and Restated Security Agreement (as amended, restated, supplemented or otherwise modified from time to time, the " Agreement "), dated as of December 5, 2013, made by each of PHOTRONICS, INC., a Connecticut corporation (the " Company ") and the other Subsidiaries of the Company listed on the signature pages thereto (together with the Company, the " Initial Grantors ", and together with any additional Subsidiaries, including the undersigned, which become parties thereto by executing a Supplement in substantially the form hereof, the " Grantors "), in favor of the Collateral Agent. Capitalized terms used herein and not defined herein shall have the meanings given to them in the Agreement.

By its execution below, the undersigned, [NAME OF NEW GRANTOR], a [_____] [corporation/limited liability company/limited partnership] (the " New Grantor ") agrees to become, and does hereby become, a Grantor under the Agreement and agrees to be bound by the Agreement as if originally a party thereto. The New Grantor hereby collaterally assigns and pledges to the Collateral Agent for the benefit of the Holders of Secured Obligations, and grants to the Collateral Agent for the benefit of the Holders of Secured Obligations, a security interest in all of the New Grantor's right, title and interest in and to the Collateral, whether now owned or hereafter acquired, to secure the prompt and complete payment and performance of the Secured Obligations. For the avoidance of doubt, the grant of a security interest herein shall not be deemed to be an assignment of intellectual property rights owned by the New Grantor.

By its execution below, the undersigned represents and warrants as to itself that all of the representations and warranties contained in the Agreement are true and correct in all respects as of the date hereof. New Grantor represents and warrants that the supplements to the Exhibits to the Agreement attached hereto are true and correct in all respects and such supplements set forth all information required to be scheduled under the Agreement. New Grantor shall take all steps necessary and required under the Agreement to perfect, in favor of the Collateral Agent, a first-priority security interest in and lien against New Grantor's Collateral.

THIS AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAW OF THE STATE OF NEW YORK.

IN WITNESS WHEREOF, the New Grantor has executed and delivered this Annex I counterpart to the Agreement as of this _____ day of _____, 20___.

[NAME OF NEW GRANTOR]

By: _____

Title: _____

Exhibit 21

SUBSIDIARIES OF PHOTRONICS, INC.

	State or Jurisdiction of Incorporation or Organization
Align-Rite International, Ltd.	(United Kingdom)
Photronics (Wales) Limited	(United Kingdom)
Photronics, B.V.	(Netherlands)
Photronics California, Inc.	(California, USA)
Photronics Idaho, Inc.	(Idaho, USA)
Photronics Texas Allen, Inc.	(Texas, USA)
Photronics MZD, GmbH	(Germany)
Photronics Advanced Mask Corporation	(Taiwan, R.O.C.)
Photronics DNP Mask Corporation (1)	(Taiwan, R.O.C.)
Photronics Switzerland, S.a.r.L	(Switzerland)
Photronics Singapore Pte, Ltd.	(Singapore)
Photronics UK, Ltd.	(United Kingdom)
PK, Ltd. (2)	(Korea)
PKLT	(Taiwan, R.O.C.)
Trianja Technologies, Inc.	(Texas, USA)

Note: Entities directly owned by subsidiaries of Photronics, Inc. are indented and listed below their immediate parent. Ownership is 100% unless otherwise indicated.

(1) 50.01% owned by Photronics, Inc. and 49.99% owned by DNPJ
(2) 79.98% owned by Photronics, Inc., and 19.71% owned by Photronics Singapore Pte Ltd.

EXHIBIT 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-160235 and 333-161857 on Form S-3 and Registration Statement Nos. 333-169296, 333-169295, 333-02245, 333-42010, 333-50809, 333-17400, 333-86846, 333-78102, 333-151763 and 333-197890 on Form S-8 of our reports dated January 6, 2015, relating to the consolidated financial statements and financial statement schedule of Photronics, Inc. and subsidiaries and the effectiveness of Photronics, Inc. and its subsidiaries' internal control over financial reporting appearing in this Annual Report on Form 10-K of Photronics, Inc. and its subsidiaries for the year ended November 2, 2014.

/s/Deloitte & Touche LLP

Hartford, Connecticut
January 6, 2015

EXHIBIT 31.1

I, Constantine S. Macricostas, certify that:

1. I have reviewed this Annual Report on Form 10-K of Photronics, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report.

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this annual report based on such evaluation; and

    d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ CONSTANTINE S. MACRICOSTAS
Constantine S. Macricostas
Chief Executive Officer
January 6, 2015

EXHIBIT 31.2

I, Sean T. Smith, certify that:

1. I have reviewed this Annual Report on Form 10-K of Photronics, Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report.

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report.

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this annual report based on such evaluation; and

    d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ SEAN T. SMITH
Sean T. Smith
Chief Financial Officer
January 6, 2015

EXHIBIT 32.1

Section 1350 Certification of the Chief Executive Officer

I, Constantine S. Macricostas, Chief Executive Officer of Photronics, Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

(1) the Annual Report on Form 10-K of the Company for the year ended November 2, 2014 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ CONSTANTINE S. MACRICOSTAS

Constantine S. Macricostas
Chief Executive Officer
January 6, 2015

EXHIBIT 32.2

Section 1350 Certification of the Chief Financial Officer

I, Sean T. Smith, Chief Financial Officer of Photronics, Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

(1) the Annual Report on Form 10-K of the Company for the year ended November 2, 2014 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ SEAN T. SMITH

Sean T. Smith
Chief Financial Officer
January 6, 2015