

MICREL, INCORPORATED

2,735,295 Shares of Common Stock

2,735,295 shares of our common stock were issued to former stockholders of Kendin Communications Inc. as payment for the acquisition by us of Kendin Communications Inc. Some of these stockholders may wish to sell these shares in the future, and this prospectus allows them to do so. We will not receive any of the proceeds from any sale of shares by these stockholders, but we have agreed to bear the expenses of registration of the shares by this prospectus.

Our stock is listed on the Nasdaq National Market under the symbol: MCRL

The last sale price of the common stock on the Nasdaq National Market on June 21, 2001 was \$25.20 per share.

No person has been authorized to give any information or to make any representations not contained or incorporated by reference in this prospectus in connection with the offer described in this prospectus and, if given or made, such information and representations must not be relied upon as having been authorized by Micrel or the selling stockholders. Neither the delivery of this prospectus nor any sale made under this prospectus shall under any circumstances create any implication that there has been no change in the affairs of Micrel, Incorporated since the date hereof or since the date of any documents incorporated herein by reference. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the securities to which it relates, or an offer or solicitation in any state to any person to whom it is unlawful to make such offer in such state.

Investing in the common stock involves a high level of investment risk. See “Risk Factors” beginning on page 3 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

July 6, 2001

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THE COMPANY

Overview

We design, develop, manufacture and market a range of high-performance analog power integrated circuits and mixed-signal and digital integrated circuits. We sell standard analog integrated circuits for power management, which are used in a wide variety of electronic products, including those in the computer, telecommunications and industrial markets. In addition, we manufacture custom analog and mixed-signal circuits and provide wafer foundry services for a diverse range of customers who produce electronic systems for communications, consumer and military applications. With our acquisition of Synergy Semiconductor in November 1998, we broadened our standard product offerings to include high performance bipolar integrated circuits sold to customers within the communications, industrial and computing markets. This product portfolio is comprised of more than 200 products including communication transceivers, clock generators, distribution/clock recovery circuits as well as high-speed logic and memory. In April 2000, we completed our acquisition of Electronic Technology Corporation ("ETC"), a company specializing in mixed signal and analog design with a complete portfolio of voltage supervisor and microprocessor reset circuits. These products are highly complementary with our power products portfolio since they accurately monitor the power supplies of critical system components (e.g. microprocessors) and signal the microprocessor to reset if the voltage to the device falls out of the specified operating range.

Continuing trends in the communications and computing markets have created increased demand for power analog circuits, which control, regulate, convert and route voltage and current in electronic systems. This demand for power analog circuits has been fueled by the tremendous growth of battery powered cellular telephones and computing devices and the emergence of lower voltage microprocessors and Personal Computer Memory Card International Association ("PCMCIA") standards for peripheral devices. Our standard analog products business is focused on addressing this demand for high-performance power analog circuits. We sell a wide range of regulators, references and switches designed for cellular telephones and laptop computers. We were one of the first companies to offer analog products for the PCMCIA Card and universal serial bus ("USB") market. We recently introduced a family of Hot Swap Power controllers for the Compact Peripheral Control Interface ("CompactPCI") bus standard used extensively in PC servers, networking equipment and industrial control applications. These devices support 24 hours a day, 7 days per week operation by enabling customers to remove and insert printed circuit boards during system operation. Future families of hot swap controllers are being developed to address the higher voltage requirements of the telecommunications market. We also offer standard analog products that address other markets, including power supplies and industrial, defense, avionics, and automotive electronics.

Our standard mixed-signal and digital integrated circuits have also experienced increased demand in 2000. These products are used primarily in the wide area network infrastructure and fiber optic communications marketplaces which both have seen significant growth in recent years due to the expansion in capacity required in the Internet backbone.

With the acquisition of Altos Semiconductor in November 1999, we entered the high growth thermal management market. These mixed signal devices accurately measure the temperature at various "hot spots" in electronic systems and initiate system cooling by turning on fans or if necessary initiate a controlled system shutdown. With the continuing trend to provide more processing power in smaller form factors (e.g. notebook PCs, Personal Digital Assistants ("PDAs")) the demand for thermal management devices is growing rapidly.

In May 2001, we acquired Kendin Communications Inc., a fabless semiconductor company that designs, develops and markets high performance integrated circuits for the communications and networking markets. We intend to employ Kendin's patented algorithmic signal processing architecture to offer advantages over DSP-based designs, including lower power consumption, reduced die size and greater yield, all while using digital manufacturing technologies. This acquisition is intended to be accounted for as a pooling-of-interests.

In addition to standard analog and mixed signal products, we offer customers various combinations of design, process and foundry services. Through interaction with customers in its custom and foundry business, we have been able to enhance our design and process technology capabilities, which in turn provides engineering and marketing benefits to its standard products business.

The supply of semiconductors can quickly and unexpectedly match or exceed demand because customer end demand can change very quickly and semiconductor suppliers can rapidly increase production output. This can lead to a sudden oversupply situation and a subsequent reduction in order rates as customers adjust their inventories to true demand rates. Customers continuously adjust their inventories resulting in frequent changes in demand for our products.

The semiconductor industry experienced such a change in the supply and demand situation during 2000 and the first quarter of 2001. In the fourth quarter of 2000 and the first quarter of 2001, customers in the high speed communications end market, and the contract manufacturing firms that serve this market, adjusted their demand on component suppliers as they coped with high levels of inventory and sharply reduced demand for their end products. In addition, the slowing of global economic growth in the North American economy during the first quarter of 2001 led to lower order rates from customers serving the computer and industrial end markets as they adjusted to lower demand for their products. The rapid build up of semiconductor inventories in global sales channels caused lead times for components to fall precipitously during the first quarter. Due to the combination of excess supply, reduced demand and lower lead times, new orders rates declined and a significant amount of previously placed orders were cancelled during the first quarter of 2001. The corresponding reduction in backlog has left us, like most semiconductor suppliers, with extremely limited visibility into future customer demand. Customers appear to be placing orders on an "as needed" basis due to short supplier lead times combined with the uncertain macroeconomic outlook. The low backlog and uncertainty of customer demand significantly limits our ability to predict future levels of sales and profitability.

We were incorporated in California in July 1978 under the name Micrel, Incorporated. References to "Micrel" or the "Company" refer to Micrel, Incorporated, our subsidiaries, and predecessor entities acquired in previous acquisitions, which also does business as Micrel Semiconductor. Our headquarters are located at 2180 Fortune Drive, San Jose, California, 95131. Our telephone number is (408) 944-0800.

MATERIAL CHANGES

On June 21, 2001 we issued a press release updating our current outlook for the quarter ending June 30, 2001. We currently estimate a sequential decrease in revenues, from the quarter ended March 31, 2001, of 31% to 34% to \$50 million to \$52 million including Kendin revenues.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, as well as our filings with the Securities and Exchange Commission (the "Commission") incorporated by reference into this prospectus, include statements that are not purely historical. All statements included or incorporated by reference herein which are not purely historical in nature are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, including without limitation statements regarding our expectations, hopes, intentions, beliefs or strategies regarding the future, product demand and product development; increased demand for our power analog circuits and standard mixed-signal and digital integrated circuits; the focus of our standard analog products business; the development of future families of hot swap controllers; the growth of infrastructure and communications marketplaces; demand for Thermal Management devices; our intentions regarding Kendin's products; enhancement of design and process technology capabilities; future revenue levels, fluctuations in operating results, or gross margins; the uncertainty of customer demand in the semiconductor industry; the semiconductor industry; our dependence on select end-markets; our anticipation that sales of products to relatively few customers will continue to account for a significant portion of its revenues; focus on high-speed communications integrated circuits market; our expectation that a significant portion of its revenues will continue to be based on sales of certain products; dependence on export sales to international customers; ongoing expansion of manufacturing capability; anticipated increase in manufacturing capacity accompanying the expansion of its facilities; anticipation regarding growth; our plans to reduce the impact of temporary power outages; our product development strategy; levels of international sales; future expansion or utilization of manufacturing capacity; future expenditures; the composition of our net revenues; fluctuations in results of operations; semiconductor supply and demand; declines in manufacturing yields; the defense and outcome of present and future litigation claims; and current or future acquisitions. All forward-looking statements included in this document are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements. It is important to note that our actual results could differ materially from those in such forward-looking statements. Some of the factors that could cause actual results to differ materially from the results set forth in or implied by such forward looking statements are set forth in "Risk Factors" beginning on page 5. Additional factors that may affect these forward-looking statements and our operating results are contained in our Annual Report on Form 10-K for the year ended December 31, 2000, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2001 and our subsequent filings with the Commission.

RISK FACTORS

Investors should carefully consider the following risk factors in evaluating an investment in Micrel's common stock.

Our operating results may fluctuate because of a number of factors, many of which are beyond our control.

If our operating results are below the expectations of public market analysts or investors, then the market price of our common stock could decline. Some of the factors that affect our quarterly and annual results, but which are difficult to control or predict are:

- the volume and timing of orders received
- changes in the mix of products sold
- market acceptance of our products and our customers' products
- competitive pricing pressures
- our ability to introduce new products on a timely basis
- the timing of new product announcements and introductions by us or our competitors
- the timing and extent of research and development expenses
- fluctuations in manufacturing yields
- cyclical semiconductor industry conditions
- our ability to hire and retain key technical and management personnel
- our access to advanced process technologies
- the timing and extent of process development costs
- the current California energy crisis

Customer demand for our products is volatile and difficult to predict.

Our customers continuously adjust their inventories in response to changes in end market demand for their products and the availability of semiconductor components. This results in frequent changes in demand for our products. The volatility of customer demand limits our ability to predict future levels of sales and profitability. The supply of semiconductors can quickly and unexpectedly match or exceed demand because customer end demand can change very quickly. Also, semiconductor suppliers can rapidly increase production output. This can lead to a sudden oversupply situation and a subsequent reduction in order rates and revenues as customers adjust their inventories to true demand rates.

Sales of our products are highly dependent on certain select end markets.

We currently sell a significant portion of our products in the high speed communications, computer and wireless handset markets. These markets are characterized by short product life cycles, rapidly changing customer demand, evolving and competing industry standards and seasonal demand trends. Additionally, there can be no assurance that these markets will continue to grow. If the markets for high speed communications, computers or wireless handsets that we serve fail to grow, or grow more slowly than we currently anticipate, or if we experience increased competition in these markets, our business, results of operations and financial condition will be adversely affected.

Our gross margin is dependent upon a number of factors, among them our level of capacity utilization.

Semiconductor manufacturing is a capital intensive business resulting in high fixed costs. If we are unable to utilize our installed wafer fabrication or test capacity at a high level, the costs associated with these facilities and equipment is not fully absorbed, resulting in higher average unit costs and lower sales margins.

Our industry is highly competitive.

The semiconductor industry is highly competitive and subject to rapid technological change, price-erosion and increased international competition. Significant competitive factors include:

- product features
- performance
- price
- timing of product introductions
- emergence of new computer and communications standards
- quality and customer support

Because the standard products market for integrated circuits is diverse and highly fragmented, we encounter different competitors in our various market areas. Most of these competitors have substantially greater technical, financial and marketing resources and greater name recognition than we do. Due to the increasing demands for integrated circuits, we expect intensified competition from existing integrated circuit suppliers and the entry of new competition. Increased competition could adversely affect our financial condition or results of operations. There can be no assurance that we will be able to compete successfully in either the standard products or custom and foundry products business in the future or that competitive pressures will not adversely affect our financial condition, results of operations, or cash flows.

Our product offering is concentrated and a reduction in demand for one of our significant products could reduce our revenues and results of operations.

We currently derive the majority of our product revenues from sales of standard analog and mixed-signal integrated circuits and we expect these products to continue to account for the majority of our revenues for the foreseeable future. As a result, factors adversely affecting the pricing of or demand for standard analog integrated and mixed-signal circuits, such as competition, product performance or technological change, could have a material adverse effect on our business and consolidated results of operations and financial condition.

An important part of our strategy is to continue our focus on the market for high-speed communications integrated circuits, or ICs. If we are unable to penetrate this market further, our revenues could stop growing and may decline.

Our markets frequently undergo transitions in which products rapidly incorporate new features and performance standards on an industry-wide basis. If our products are unable to support the new features or performance levels required by OEMs in these markets, we would likely lose business from existing or potential customers and would not have the opportunity to compete for new design wins until the next product transition. If we fail to develop products with required features or performance standards, or if we experience even a short delay in bringing a new product to market, or if our customers fail to achieve market acceptance of their products, our revenues could be significantly reduced for a substantial period of time.

A significant portion of our revenues in recent periods has been, and is expected to continue to be, derived from sales of products based on SONET, SDH and ATM transmission standards. If the communications market evolves to new standards, we may not be able to successfully design and manufacture new products that address the needs of our customers or gain substantial market acceptance. Although we have developed products for the Gigabit Ethernet and Fibre Channel communications standards, volume sales of these products are modest, and we may not be successful in addressing other market opportunities for products based on these standards.

We encounter risks associated with our international operations.

We have generated a substantial portion of our net revenues from export sales. We believe that a substantial portion of our future net revenues will depend on export sales to customers in international markets, including Asia. International markets are subject to a variety of risks, including changes in policy by foreign governments, social conditions such as civil unrest, and economic conditions including high levels of inflation, fluctuation in the value of foreign currencies and currency exchange rates and trade restrictions or prohibitions. In addition, we sell to domestic customers that do business worldwide and cannot predict how the businesses of these customers may be affected by economic conditions in Asia or elsewhere. Such factors could adversely affect our future revenues, financial condition, results of operations or cash flows.

Our international sales are primarily denominated in U.S. currency.

Consequently, changes in exchange rates that strengthen the U.S. dollar could increase the price of our products in the local currencies of the foreign markets we serve. This would result in making our products relatively more expensive than our competitors' products that are denominated in local currencies, leading to a reduction in sales or profitability in those foreign markets. We have not taken any protective measures against exchange rate fluctuations, such as purchasing hedging instruments.

We face risks associated with acquisitions we have completed and will face risks associated with any future acquisitions.

We have made four strategic acquisitions in the past two years: Synergy Semiconductor in November 1998, Altos Semiconductor Inc. in December 1999, Electronic Technology Corporation in April 2000 and Kendin Communications Inc.

in May 2001. The acquisition of Kendin Communications Inc. is the largest acquisition that we have undertaken. The risks involved with these acquisitions and any other acquisitions include:

- diversion of management's attention
- failure to retain key personnel
- amortization of acquired intangible assets
- customer dissatisfaction or performance problems with the acquired company
- the cost associated with acquisitions and the integration of acquired operations
- assumption of unknown liabilities

Any of these risks could materially harm our business, financial condition and results of operations. Additionally, any acquisition involves a significant amount of integration of two companies that have previously operated independently. No assurance can be given that difficulties will not be encountered in integrating certain products, technologies or operations of the acquired companies with ours or that the benefits expected from such integration will be realized. There can be no assurance that any of the acquired companies will retain its key personnel, that the engineering teams of Micrel and the acquired companies will successfully cooperate and realize any technological benefits or that Micrel or the acquired companies will realize any of the other anticipated benefits of the acquisitions. In addition, the consummation of the Kendin acquisition could result in the cancellation, termination or nonrenewal of arrangements with Kendin by suppliers, distributors or customers of Kendin or the loss of certain key Kendin employees, or the termination of negotiations or delays in ordering by prospective customers of Kendin as a result of uncertainties that may be perceived as a result of the acquisition. Any significant amount of cancellations, terminations, delays or nonrenewals of arrangements with Kendin or loss of key employees or termination of negotiations or delays in ordering could have a material adverse effect on the business, operating results or financial condition of Kendin and Micrel after the acquisition.

In addition, we accounted for some or all of these acquisitions using the pooling-of-interests method of accounting which means the acquisitions are subject to rules established by the Financial Accounting Standards Board and the Securities and Exchange Commission. These rules are complex and the interpretation of them is subject to change. Additionally, the availability of pooling of interests accounting treatment for a business combination depends in part upon circumstances and events occurring after the acquisition. The failure of a past business combination or a future potential business combination that has been accounted for under the pooling of interests accounting method to qualify for this accounting treatment would materially harm our reported and future earnings and likely, the price of our common stock.

Our operating results substantially depend on manufacturing output and yields, which may not meet expectations.

We manufacture most of our semiconductors at our San Jose and Santa Clara, California fabrication facilities. Manufacturing semiconductors requires manufacturing tools which are unique to each product being produced. If one of these unique manufacturing tools was damaged or destroyed, then our ability to manufacture the related product would be impaired and our business would suffer until the tool was repaired or replaced. Additionally, the fabrication of integrated circuits is a highly complex and precise process. Small impurities, contaminants in the manufacturing environment, difficulties in the fabrication process, defects in the masks used to print circuits on a wafer, manufacturing equipment failures, wafer breakage or other factors can cause a substantial percentage of wafers to be rejected or numerous die on each wafer to be nonfunctional.

The ongoing expansion of the manufacturing capacity of our existing wafer fabrication facilities could increase the risk of contaminants in the facilities. In addition, many of these problems are difficult to diagnose, and are time consuming and expensive to remedy and can result in lower output and yields and shipment delays.

Our future success depends in part on the continued service of our key design engineering, sales, marketing and executive personnel and our ability to identify, hire and retain additional personnel.

There is intense competition for qualified personnel in the semiconductor industry, in particular design engineers, and we may not be able to continue to attract and train engineers or other qualified personnel necessary for the development of our business or to replace engineers or other qualified personnel who may leave our employ in the future. Loss of the services of, or failure to recruit, key design engineers or other technical and management personnel could be significantly detrimental to our product and process development programs.

We may not be able to protect our intellectual property adequately, or we could be harmed by litigation involving our patents and proprietary rights.

Our future success depends in part upon our intellectual property, including patents, trade secrets, know-how and continuing technology innovation. There can be no assurance that the steps taken by us to protect our intellectual property will be adequate to prevent misappropriation or that others will not develop competitive technologies or products. There can be no assurance that any patent owned by us will not be invalidated, circumvented or challenged, that the rights granted thereunder will provide competitive advantages to us or that any of our pending or future patent applications will be issued with the scope of the claims sought by us, if at all. Furthermore, there can be no assurance that others will not develop technologies that are similar or superior to our technology, duplicate our technology or design around the patents owned by us. Additionally, the semiconductor industry is characterized by frequent litigation regarding patent and other intellectual property rights. There can be no assurance that existing claims or any other assertions or claims for indemnity resulting from infringement claims will not adversely affect our business, financial condition, results of operations, or cash flows.

Our business could be adversely affected by electrical power or natural gas supply interruptions.

The majority of our administrative, technical and manufacturing facilities are located in Northern California and these facilities may be subject to electrical power or natural gas supply interruptions. In recent months, electrical power suppliers have experienced shortages in electrical power which has resulted in brief electrical power interruptions. The weak financial condition of California's Public Utilities may aggravate the situation and shortages may develop for natural gas. Semiconductor manufacturing depends upon a controlled environment which requires high usage of electrical power and natural gas. Frequent or extended electrical power interruptions could have a negative impact on production output, manufacturing yields, and manufacturing efficiencies. We intend to implement plans to reduce the impact of temporary power outages. These plans include the installation of emergency electrical power generation equipment. There can be no assurance that these plans will be successful. Frequent or extended electrical power or natural gas interruptions could have a material adverse impact on our business, financial condition and operating results.

USE OF PROCEEDS

All of the shares being offered under this prospectus are offered by the selling stockholders, and we will not receive any of the proceeds from the sale of the shares. This registration statement is intended to satisfy certain of our obligations under our merger agreement with Kendin Communications Inc. Under that agreement, we have agreed to pay expenses of registration of these shares under federal and state securities laws.

SELLING STOCKHOLDERS

The following table provides the names of and the number of shares of common stock beneficially owned by each selling stockholder, and the number of shares of common stock beneficially owned by each selling stockholder upon completion of the offering or offerings pursuant to this prospectus, assuming each selling stockholder offers and sells all of its or his/her respective shares of common stock. Selling stockholders may, however, offer and sell all, or some or none of their shares. Under some circumstances, the respective donees, pledgees and transferees or other successors in interest of the selling stockholders may also sell the shares listed below as being held by the selling stockholders. No selling stockholder beneficially owns one percent or greater of our outstanding common stock.

	Beneficial Ownership Prior to Offering	Offered	Beneficial Ownership After the Offering
	Number of Shares	Number of Shares	Number of Shares
Ravi Athalye	211	106	105
Jay Beninger	1,059	530	529
Debasish Bhattacharya	1,059	530	529
David Brook.....	15,895	7,948	7,947
Ching-Li Chang	2,119	1,060	1,059
Danny Chang	1,059	530	529
Menping Chang.....	69,353	34,677	34,676
Szu-How Chang	1,483	742	741
Andrew Chapman.....	22,519	11,260	11,259
Debashis Chatterjee.....	423	212	211
Chin-Pin Chen.....	4,238	2,119	2,119
Gwang Chywan (Jason) Chen.....	14,836	7,418	7,418
June-Ying Chen	4,768	2,384	2,384
Sharron Chen	3,179	1,590	1,589
Shu-Hui (Angela) Chen	1,342	671	671
Thomas Chen	635	318	317
Tien-Te Chen	1,059	530	529
Ho Sheng Chien	5,298	2,649	2,649
Shaoan Chin.....	56,165	28,083	28,082
Eric Chou.....	1,854	927	927
Ken Choy.....	423	212	211
John H. Chu	4,238	2,119	2,119
George R. Claseman.....	3,106	1,553	1,553
Ron Colburn	1,059	530	529
Morton Collins.....	21,194	10,597	10,597
Comerica, Incorporated	1,497	749	748
James Curtis.....	211	106	105
David Dai.....	847	424	423
Michael J. Danaher.....	1,324	662	662
Fred Donahoe.....	1,059	530	529
Subroto Dutta.....	1,059	530	529
Ging Fan	110,741	55,371	55,370
Huei-Yi Fan	8,265	4,133	4,132
Fan Ging Trust For John Fan Family*..	127,167	63,584	63,583
John C.C. Fan*.....	47,687	23,844	23,843
Tracy Fang.....	1,059	530	529
David Fong	1,059	530	529
Forthbridge Investment Ltd.	423,890	211,945	211,945
Rob Gelpman	423	212	211
Michael Grunwald.....	5,298	2,649	2,649
Christine Han	10,597	5,299	5,298
John Hodge	5,298	2,649	2,649
Even Hong	1,059	530	529
Chi Chia Hsieh.....	15,895	7,948	7,947
Lee-Yuan Hsieh	3,444	1,722	1,722

	Beneficial Ownership Prior to Offering	Offered	Beneficial Ownership After the Offering
	Number of Shares	Number of Shares	Number of Shares
Lin-Chu Huang	15,189	7,595	7,594
Woody Huang.....	74,180	37,090	37,090
Dingchung (Fred) Jann.....	40,269	20,135	20,134
Aili S. Jiaravanont.....	63,583	31,792	31,791
Meth Jiaravanont*.....	84,778	42,389	42,389
Michael S. Jiaravanont	63,583	31,792	31,791
Mika S. Jiaravanont.....	63,583	31,792	31,791
Yu-Chien Wang Jow	4,238	2,119	2,119
Kao Tieh-Keng.....	10,597	5,299	5,298
Tara P. Khatua	1,059	530	529
Kopin Trust*.....	1,154,489	577,245	577,244
Lee Chee Kuan.....	2,119	1,060	1,059
Peichung Lai	1,059	530	529
Vuong K. Le	2,537	1,269	1,268
Stephen Lee	4,238	2,119	2,119
Luen-Mou Liang	10,597	5,299	5,298
Sam Liang.....	2,119	1,060	1,059
Fu Lin.....	4,075	2,038	2,037
Hwasan Lin.....	1,059	530	529
Jung-Chen Lin*.....	90,571	45,286	45,285
Michael Lin.....	14,836	7,418	7,418
Peter J.P. Lin.....	4,238	2,119	2,119
Pie-Jie Lin.....	19,339	9,670	9,669
Sha-Shu Lin	1,059	530	529
Tian-I Liou*.....	237,378	118,689	118,689
Chen Lang Liu	4,238	2,119	2,119
Fang-Su Liu	6,888	3,444	3,444
Hsi-I Liu	49,277	24,639	24,638
Tang-Jung Liu.....	81,598	40,799	40,799
Wei-Chi Lo	1,589	795	794
Yun-Hsieh Lo.....	777	389	388
Philip Lowe.....	423	212	211
LeAnne Luong	2,755	1,378	1,377
Michael Mackin	4,238	2,119	2,119
Tom Majeski.....	5,298	2,649	2,649
Thomas McCarthy.....	1,059	530	529
Adisak Mekkitikul.....	14,836	7,418	7,418
Mitchell Financial Group.....	14,571	7,286	7,285
Lawrence Mo	21,688	10,844	10,844
W. Mackin & P. Morton TTEE Quadrep Inc 401k PSP U/A DTD 11/01/89 FBO P. Morton.....	3,179	1,590	1,589
Bill Myers	1,059	530	529
Ting-Yang Nieh	1,059	530	529
Hai Nguyen.....	4,285	2,143	2,142
Gregory T. O'Haire.....	423	212	211
Joseph B. O'Haire.....	423	212	211
Debajyoti Pal	1,059	530	529
Jake C. Peters.....	10,597	5,299	5,298
Ruthley Services Ltd.	452,421	226,211	226,210
Hillol Sarkar.....	741	371	370
Jiann-Chyi Sam Shieh	6,358	3,179	3,179
Mike Smith	1,059	530	529
Balakrishnan Sreekandaswamy.....	774	387	387

	Beneficial Ownership Prior to Offering	Offered	Beneficial Ownership After the Offering
	Number of Shares	Number of Shares	Number of Shares
Kazumi Sugimura.....	233,139	116,570	116,569
Wei Jenny Sun	1,695	848	847
Super Star Capital	4,075	2,038	2,037
Synapse Fund I, LLC.....	211,945	105,973	105,972
Shu Yuan (Lisa) Teng	847	424	423
Tai Yuen Venture Capital Investment Corporation	52,986	26,493	26,493
Ming Chung (Jack) Tsao	4,238	2,119	2,119
Shiang-Hua Tsao.....	24,373	12,187	12,186
Victor Tsao	26,493	13,247	13,246
Bor-Jeu Tsaur.....	2,119	1,060	1,059
Bor-Yeu Tsaur*	42,389	21,195	21,194
Edmond Tseng	2,119	1,060	1,059
Sue Tseng	2,119	1,060	1,059
Tomen Electronics Corp.....	83,147	41,574	41,573
Triton I Venture Capital LTD	52,986	26,493	26,493
TSI Partnership X.....	16,303	8,152	8,151
Ultima International Ltd.	48,910	24,455	24,455
Venrock Associates*	330,870	165,435	165,435
Venrock Entrepreneurs Fund, L.P.*	33,624	16,812	16,812
Venrock Associates II, L.P.*	476,130	238,065	238,065
Vallobh Vimolvanich*	52,986	26,493	26,493
The Childrens Trust Account, Michael A. Wall Trustee FBO A. Worsham, H. Powell, M. White & M.A.P. Wall	5,298	2,649	2,649
Michael Wall	25,645	12,823	12,822
Chi Chen (Gene) Wang	635	318	317
James Wang	1,324	662	662
Shih-Bin Wang.....	4,238	2,119	2,119
WS Investment Company 2000B	4,768	2,384	2,384
WS Investment Company LLC (2000) ..	4,503	2,252	2,251
Lih-Hwa Wu	4,238	2,119	2,119
Way-Chen Wu	45,038	22,519	22,519
Shu-Mei (Amy) Yang.....	476	238	238
Jim Yu	953	477	476
TOTAL	5,470,506	2,735,295	2,735,211

*Affiliate of Kendin Communications Inc. prior to the acquisition.

PLAN OF DISTRIBUTION

This prospectus relates to the offer and sale from time to time by the holders of up to 2,735,295 shares of our common stock. These shares were issued in connection with the merger agreement between Micrel and Kendin Communications, Inc. dated as of May 4, 2000 (the "Merger Agreement"). This prospectus has been prepared in connection with registering these shares to allow for sales of these shares by the applicable selling stockholders to the public as required by the terms of this merger agreement. We have registered the shares for sale pursuant to the terms of the merger agreement, but registration of these shares does not necessarily mean that any of these shares will be offered and sold by the holders thereof.

We will not receive any proceeds from this offering. The shares may be sold from time to time to purchasers directly by any of the selling stockholders, or under some circumstances, donees, pledgees, transferees or other successors in interest ("Transferees") thereof. Alternatively, the selling stockholders, or Transferees thereof, may from time to time offer the shares through dealers or agents, who may receive compensation in the form of commissions from the selling stockholders, or Transferees thereof, and/or the purchasers of the shares for whom they may act as agent. The selling stockholders, or Transferees thereof, and any dealers or agents that participate in the distribution of the shares may be deemed to be "underwriters" within the meaning of the Securities Act and any profit on the sale of the shares by them and any commissions received by any such dealers or agents might be deemed to be underwriting commissions under the Securities Act of 1933.

At a time a particular offer of the shares is made, a prospectus supplement, if required, will be distributed that will set forth the name and names of any dealers or agents and any commissions and other terms constituting compensation from the selling stockholders, or Transferees thereof, and any other required information. The shares may be sold from time to time at varying prices determined at the time of sale or at negotiated prices.

In order to comply with the securities laws of certain states, if applicable, the shares may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in such state or an exemption from such registration or qualification requirement is available and is complied with.

The shares may also be sold in one or more of the following transactions: (a) block transactions (which may involve crosses) in which a broker-dealer may sell all or a portion of such stock as agent but may position and resell all or a portion of the block as principal to facilitate the transaction; (b) purchases by any such broker-dealer as principal and resale by such broker-dealer for its own account pursuant to a prospectus supplement; (c) ordinary brokerage transactions and transactions in which any such broker-dealer solicits purchasers; (d) sales "at the market" to or through a market maker or into an existing trading market, on an exchange or otherwise, for such shares; and (e) sales in other ways not involving market makers or established trading markets, including direct sales to purchasers. In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate.

We have undertaken to keep the registration statement of which this prospectus is a part effective until the earlier of the disposition of the securities offered by the prospectus or May 30, 2002. After this period, if we choose not to maintain the effectiveness of the registration statement of which this prospectus is a part, the securities offered hereby may not be sold, pledged, transferred or assigned, except in a transaction which is exempt under the provisions of the Securities Act.

EXPERTS

The consolidated financial statements and the related consolidated financial statement schedule incorporated in this prospectus by reference from Micrel's Annual Report on Form 10-K for the year ended December 31, 2000 have been audited by Deloitte & Touche LLP, independent auditors, as stated in their reports, which are incorporated herein by reference, and have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

LEGAL MATTERS

The validity of the issuance of the shares of common stock offered pursuant to this prospectus will be passed upon for Micrel by Morrison & Foerster LLP, Palo Alto, California.

AVAILABLE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance with the Act we file reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). These reports, proxy statements and other information filed can be inspected and copied at the Commission's Public Reference Section, 450 Fifth Street, N.W., Washington, D.C., 20549, and at the following regional offices of the Commission: Seven World Trade Center, 13th Floor, New York, New York 10048 and 500 West Madison Street, Suite 1400, Chicago, Illinois 60661-2511. Copies of such material can be obtained from the Public Reference Section of the Commission, 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates. The Commission maintains a web site (<http://www.sec.gov>) containing reports, proxy and information statements and other information of registrants, including ours, that file electronically with the Commission. In addition, the Common Stock is listed on the Nasdaq National Market and similar information concerning us can be inspected and copied at the offices of the National Association of Securities Dealers, Inc., 9513 Key West Avenue, Rockville, Maryland 20850.

We have filed with the Commission a registration statement on Form S-3 (of which this prospectus is a part) under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the shares being offered by this prospectus. This prospectus does not contain all of the information set forth in this registration statement, some portions of which have been omitted as permitted by the rules and regulations of the Commission. Statements contained in this prospectus as to the contents of any contract or other documents are not necessarily complete, and in each instance reference is made to the copy of such contract or other document filed as an exhibit to the registration statement, and each of these statements are qualified in all respects by this reference and the exhibits and schedules thereto. For further information regarding us and the shares being offered by this prospectus, reference is hereby made to the registration statement and such exhibits and schedules which may be obtained from the Commission at its principal office in Washington, D.C. upon payment of the fees prescribed by the Commission.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The documents listed below have been filed by Micrel, Incorporated under the Exchange Act with the Commission and are incorporated herein by reference:

- a. Our Annual Report on Form 10-K for the year ended December 31, 2000;
- b. Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2001;
- c. Our Current Report on Form 8-K filed on June 13, 2001;
- d. Our Current Report on Form 8-K filed on June 21, 2001; and
- e. The description of our Common Stock contained in our registration statement on Form 8-A (File No. 0-25236).

Each document we file pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act subsequent to the date of this prospectus and prior to the termination of the offering made hereby shall be deemed to be incorporated by reference in this prospectus and to be part hereof from the date of filing such documents. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein (or in the applicable prospectus supplement) or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

Copies of all documents which are incorporated herein by reference (not including the exhibits to such information, unless such exhibits are specifically incorporated by reference in such information) will be provided without charge to each person, including any beneficial owner, to whom this prospectus is delivered upon written or oral request. Requests should be directed to Investor Relations, 2180 Fortune Drive, San Jose 95131, telephone number: (408) 944-0800.