As filed with the Securities and Exchange Commission on November 27, 2001

Registration No. 333-

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

PRE-EFFECTIVE AMENDMENT NO. 1 TO

FORM S-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

MICREL, INCORPORATED

(Exact name of registrant as specified in its charter)

California	**94-2526744**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification Number)*

2180 Fortune Drive
San Jose, California 95131
(408) 944-0800

(Address, including zip code, and telephone number, including area code, of registrar's principal executive offices)

Raymond D. Zinn
President and Chief Executive Officer
2180 Fortune Drive
San Jose, California 95131
(408) 944-0800

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Stephanie J. Millet, Esq.
Morrison & Foerster LLP
755 Page Mill Road
Palo Alto, California 94304
(650) 813-5600

Approximate date of commencement of proposed sale to the public:
From time to time after the effective date of this Registration statement.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. ☐

CALCULATION OF REGISTRATION FEE

Title of Shares to be Registered	Amount to be Registered	Proposed Maximum Aggregate Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, no par value	2,735,211 shares	$19.28 (1)	$52,734,868 (1)	$13,184(2)

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) based on the average of the high and low reported sales prices on the Nasdaq National Market on October 1, 2001.

(2) Previously paid on October 3, 2001.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file an amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer of sale is not permitted.

Subject to Completion, dated November 27, 2001

Prospectus

MICREL, INCORPORATED

2,735,211 Shares of Common Stock

2,735,211 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 October 1, 2001 was $18.62 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 5 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.

November 27, 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 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 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 the 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 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 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. The continuing trend to provide more processing power in smaller form factors (e.g. notebook PCs, Personal Digital Assistants ("PDAs")) creates demand for thermal management devices.

In May 2001, we acquired Kendin Communications Inc. (“Kendin”), 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 has been 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 six months of 2001. In the fourth quarter of 2000 and the first six months 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 during the first six months of 2001 led to lower order rates from customers serving the telecommunications, industrial and computer 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 half of 2001. 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 half 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. The Company 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.

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; 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; the impact of the application or elimination of the pooling of interests method on our earnings and price of our common stock; and current or future acquisitions, including the acquisition of Kendin Communications, Inc. 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, our Quarterly Report on Form 10-Q for the quarter ended June 30, 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 business may be adversely affected by the recent slowdown in the global economy.

Recently the global economy has been experiencing a slowdown due to many factors, including decreased consumer confidence and concerns about inflation, and reduced corporate profits and capital spending. As a result of these unfavorable

economic conditions, we have experienced lower new customer order rates and a significant amount of previously placed orders were cancelled during the first half of 2001. In addition, the recent terrorist attacks on September 11, 2001 appear to have further depressed economic activity in the United States. If the weak economic conditions in the U.S. continue or worsen or if a wider global economic recession materializes, our business, financial condition and results of operations may be materially and adversely affected.

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 resulting 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.

The current weakness in the global economy has caused the end markets that our customers serve to grow less rapidly, or in some cases contract. The resulting uncertainty of demand has caused most of our customers to error on the side of caution until they see signs of order strength for their end products. In addition, many customers are continuing to deplete excess inventories, particularly contract manufacturers and high bandwidth communication OEM’s. Semiconductors are perceived to be readily available and supplier lead times are at or near record lows. In this environment customers are not making large purchase commitments, only ordering small quantities to fill known short-term requirements, greatly reducing our visibility into customer demand.

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 will not be fully absorbed, resulting in higher average unit costs and lower sales margins. The decline in new customer order rates in 2001 has resulted in reduced capacity utilization of our factories as we have attempted to match production with anticipated customer demand. Our gross margins have declined as a result of this reduced utilization of our production capacity. Gross margins may deteriorate further should production activity be curtailed in response to lower customer demand in the future.

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

In times of weak economic conditions, such as the semiconductor industry is now experiencing and due to uncertain customer demand and under-utilization of semiconductor fabrication capacity, price competition becomes more prevalent. This can have the effect of reducing revenue levels and gross margins.

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. 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 Ethernet, 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 three 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.

On May 30, 2001, the Company completed the acquisition of Kendin Communications Inc., a fabless semiconductor company that designs, develops and markets high performance integrated circuits for the communications and networking markets. The integration of Kendin will place a burden on our management team and infrastructure. There can be no assurances that Kendin will be effectively assimilated into our business.

The risks involved with these acquisitions and any other acquisitions include:

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

There can be no assurance that we will be successful in overcoming these risks or any other problems associated with our acquisition of Kendin or with any of our other acquisitions. Any of these risks could materially harm our business, financial condition and results of operations. Additionally, there can be no assurance that any of the companies that we acquired or any business that we may acquire in the future will achieve anticipated revenues and operating results.

In addition, acquisitions accounted for using the pooling of interests methods of accounting 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. Recently, the Financial Accounting Standards Board has eliminated pooling of interests accounting for all business combinations initiated after June 30, 2001. In addition recent pronouncements have limited the ability of companies to write-off in-process research and development. The effect of these changes is to increase the portion of the purchase price for any future acquisitions that must be charged to our costs of revenues and operating expenses in the periods following any such acquisitions. As a result, our results of operations in the periods following any future acquisitions could be adversely affected. To that extent, these changes may make it more difficult for us to acquire other companies, product lines or technologies in the future.

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 were to be 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 these facilities. In addition, many of these problems are difficult to diagnose, 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 have 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 all 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	105	0
Jay Beninger	582	529	0
Debasish Bhattacharya	1,059	529	0
David Brook	15,895	7,947	0
Ching-Li Chang	2,119	1,059	0
Danny Chang	1,059	529	0
Menping Chang	69,353	34,676	0
Szu-How Chang	1,483	741	0
Andrew Chapman	22,519	11,259	0
Debashis Chatterjee	423	211	0
Chin-Pin Chen	4,238	2,119	0
Gwang Chywan (Jason) Chen	14,836	7,418	0
June-Ying Chen	2,968	2,384	0
Sharron Chen	3,179	1,589	0
Shu-Hui (Angela) Chen	1,342	671	0
Thomas Chen	635	317	0
Tien-Te Chen	1,059	529	0
Ho Sheng Chien	5,298	2,649	0
Shaoan Chin	56,165	28,082	0
Eric Chou	1,854	927	0
Ken Choy	423	211	0
John H. Chu	4,238	2,119	0
George R. Claseman	3,106	1,553	0
Ron Colburn	1,059	529	0
Morton Collins	21,194	10,597	0
Comerica, Incorporated	1,497	748	0
James Curtis	116	105	0
David Dai	847	423	0
Michael J. Danaher	729	662	0
Fred Donahoe	1,059	529	0
Subroto Dutta	1,059	529	0
Ging Fan	110,741	55,370	0
Huei-Yi Fan	4,546	4,132	0
Fan Ging Trust For John Fan Family*	127,167	63,583	0
John C.C. Fan*	47,687	23,843	0
Tracy Fang	1,059	529	0
David Fong	1,059	529	0
Forthbridge Investment Ltd.	233,140	211,945	0
Rob Gelphman	233	211	0
Michael Grunwald	5,298	2,649	0
Christine Han	8,097	5,298	0
John Hodge	5,298	2,649	0
Even Hong	1,059	529	0
Chi Chia Hsieh	15,895	7,947	0
Lee-Yuan Hsieh	3,444	1,722	0

	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	7,594	0
Woody Huang	74,180	37,090	0
Dingchung (Fred) Jann	25,369	20,134	0
Aili S. Jiaravanont	63,583	31,791	0
Meth Jiaravanont*	84,778	42,389	0
Michael S. Jiaravanont	63,583	31,791	0
Mika S. Jiaravanont	63,583	31,791	0
Yu-Chien Wang Jow	4,238	2,119	0
Kao Tieh-Keng	10,597	5,298	0
Tara P. Khatua	562	529	0
Kopin Trust*	1,154,489	577,244	0
Lee Chee Kuan	2,119	1,059	0
Peichung Lai	1,059	529	0
Vuong K. Le	2,537	1,268	0
Stephen Lee	4,238	2,119	0
Luen-Mou Liang	10,597	5,298	0
Sam Liang	2,119	1,059	0
Fu Lin	4,075	2,037	0
Hwasan Lin	605	529	0
Jung-Chen Lin*	70,571	45,285	0
Michael Lin	10,836	7,418	0
Peter J.P. Lin	4,238	2,119	0
Pie-Jie Lin	17,339	9,669	0
Sha-Shu Lin	1,059	529	0
Tian-I Liou*	170,784	118,689	0
Chen Lang Liu	4,238	2,119	0
Fang-Su Liu	6,888	3,444	0
Hsi-I Liu	39,277	24,638	0
Tang-Jung Liu	67,398	40,799	0
Wei-Chi Lo	1,589	794	0
Yun-Hsieh Lo	777	388	0
Philip Lowe	423	211	0
LeAnne Luong	2,755	1,377	0
Michael Mackin	4,238	2,119	0
Tom Majeski	3,914	2,649	0
Thomas McCarthy	1,059	529	0
Adisak Mekkittikul	14,836	7,418	0
Mitchell Financial Group	14,571	7,285	0
Lawrence Mo	20,688	10,844	0
W. Mackin & P. Morton TTEE Quadrep Inc 401k PSP U/A DTD 11/01/89 FBO P. Morton	3,179	1,589	0
Bill Myers	582	529	0
Ting-Yang Nieh	1,059	529	0
Hai Nguyen	4,285	2,142	0
Gregory T. O'Haire	233	211	0
Joseph B. O'Haire	233	211	0
Debajyoti Pal	1,059	529	0
Jake C. Peters	10,597	5,298	0
Ruthley Services Ltd.	248,832	226,210	0
Hillol Sarkar	741	370	0
Jiann-Chyi Sam Shieh	3,497	3,179	0
Mike Smith	1,059	529	0
Balakrishnan Sreekandaswamy	774	387	0

	Beneficial Ownership Prior to Offering	Offered	Beneficial Ownership After the Offering
	Number of Shares	Number of Shares	Number of Shares
Kazumi Sugimura	213,139	116,569	0
Wei Jenny Sun	1,695	847	0
Super Star Capital	4,075	2,037	0
Synapse Fund I, LLC	116,570	105,972	0
Shu Yuan (Lisa) Teng	847	423	0
Tai Yuen Venture Capital Investment Corporation	52,986	26,493	0
Ming Chung (Jack) Tsao	4,238	2,119	0
Shiang-Hua Tsao	24,373	12,186	0
Victor Tsao	26,493	13,246	0
Bor-Jeu Tsaur	2,119	1,059	0
Bor-Yeu Tsaur*	32,389	21,194	0
Edmond Tseng	2,119	1,059	0
Sue Tseng	2,119	1,059	0
Tomen Electronics Corp.	83,147	41,573	0
Triton I Venture Capital LTD	52,986	26,493	0
TSI Partnership X	8,967	8,151	0
Ultima International Ltd.	48,910	24,455	0
Venrock Associates*	181,983	165,435	0
Venrock Entrepreneurs Fund, L.P.*	18,493	16,812	0
Venrock Associates II, L.P.*	261,878	238,065	0
Vallobh Vimolvanich*	29,142	26,493	0
The Childrens Trust Account, Michael A. Wall Trustee FBO A. Worsham, H. Powell, M. White & M.A.P. Wall	2,914	2,649	0
Michael Wall	14,105	12,822	0
Chi Chen (Gene) Wang	635	317	0
James Wang	729	662	0
Shih-Bin Wang	4,238	2,119	0
WS Investment Company 2000B	4,768	2,384	0
WS Investment Company LLC (2000)	4,503	2,251	0
Lih-Hwa Wu	4,238	2,119	0
Way-Chen Wu	44,303	22,519	0
Shu-Mei (Amy) Yang	476	238	0
Jim Yu	953	476	0
TOTAL	4,377,965	2,735,211	0

*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 2,735,211 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 the 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 for the years ended December 31, 2000, 1999 and 1998 incorporated in this prospectus by reference from Micrel's Current Report on Form 8-K dated October 31, 2001 have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report, which is incorporated herein by reference, and have been so incorporated in reliance upon the report 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 office of the Commission: 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 September 30, 2001;

c. Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2001;

d. Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2001;

e. Our Current Report on Form 8-K filed on June 13, 2001;

f. Our Current Report on Form 8-K filed on June 21, 2001;

g. Our Current Report on Form 8-K filed on July 23, 2001;

h. Our Current Report on Form 8-K filed on October 3, 2001;

i. Our Current Report on Form 8-K filed on November 26, 2001; and

j. 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.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other expenses of Issuance and Distribution

The following table sets forth the estimated fees and expenses payable by Micrel in connection with the issuance and distribution of the common stock registered hereby. All of such fees and expenses are estimates, except the Securities Act registration fee.

Securities Act Registration Fee	$ 13,184
Printing and duplicating fees	0
Legal fees and expenses	20,000
Accounting fees and expenses	20,000
Miscellaneous expenses	0
*Total	$ 53,184

*None of the expenses listed above will be borne by the selling stockholders.

Item 15. Indemnification Of Directors And Officers

Under Section 317 of the General Corporation Law of the State of California, we have the power to indemnify our directors and officers against liabilities they may incur in such capacities, including liabilities under the Securities Act of 1933, as amended (the “Securities Act”). Our bylaws also provide for mandatory indemnification of its directors and executive officers, and permissive indemnification of its employees and agents, to the fullest extent permissible under California law.

We are also empowered under our bylaws to enter into indemnification agreements with our directors and officers and to purchase insurance on behalf of any person whom we are required or permitted to indemnify. We have entered into indemnification agreements with each of our directors and executive officers.

In addition, our Restated Articles of Incorporation provide that the liability of our directors for monetary damages shall be eliminated to the fullest extent permissible under California law. This provision in the Restated Articles of Incorporation does not eliminate a director's duty of care, and in appropriate circumstances equitable remedies such as an injunction or other forms of non-monetary relief will remain available under California law. Each director will continue to be subject to liability for breach of the director's duty of loyalty to us, for acts or omission not in good faith or involving intentional misconduct or knowing violations of law, for acts or omissions that the director believes to be contrary to the best interests of us or our shareholders, for any transaction from which the director derived an improper personal benefit, for improper transactions between the director and us and for improper distributions to shareholders and loans to directors and officers. This provision also does not affect a director's responsibilities under any laws, such as the federal securities laws or state or federal environmental laws.

We have entered into agreements with our directors and certain of our executive officers that require us to indemnify such persons against expenses, judgments, fines, settlements and other amounts actually and reasonably incurred (including expenses of a derivative action) in connection with any proceeding, whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was our director or officer or any of our affiliated enterprises, provided such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreement also sets forth certain procedures that will apply in the event of a claim for indemnification thereunder.

Item 16. Exhibits

3.1 - Amended and Restated Articles of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to Registrant’s registration statement on Form S-1 (File No. 33-85694))

3.2 - Bylaws of the Registrant (incorporated by reference to Exhibit 3.2 to Amendment No. 1 to the Registrant’s registration statement on Form S-1 (File No. 33-85694))

4.1 - Reference is made to Exhibits 3.1 and 3.2

5.1* - Opinion of Morrison & Foerster LLP

10.1 - Agreement and Plan of Merger and Reorganization among Micrel, Incorporated, Kournikova Acquisition Sub, Inc., Kendin Communications Inc. and with respect to Articles VIII and IX only, John C.C. Fan as stockholders' agent, dated as of May 4, 2001 (incorporated by reference to Exhibit 10.1 to Registrant's registration statement on Form S-3 (File No. 333-63620))

23.1 - Consent of Deloitte & Touche LLP, Independent Auditors

23.2* - Consent of Morrison & Foerster LLP (included in Exhibit 5.1)

24.1* - Power of Attorney (included on signature page hereto)

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*Previously Filed

Item 17. Undertakings

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of these securities being registered which remain unsold at the termination of the offering.

The undersigned Registrant hereby further undertakes that, for the purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual reports pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, when applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference to this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undersigned Registrant hereby further undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance under Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4), or 497(h) under the Securities Act of 1933 shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described under Item 15 of this registration statement, or otherwise (other than insurance), the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in such Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in such Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Company certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California on November 27, 2001.

MICREL INCORPORATED

By: /s/ Raymond D. Zinn
Raymond D. Zinn
Chief Executive Officer
and Chairman of the Board
(Principal Executive Officer)

POWER OF ATTORNEY

The undersigned hereby constitutes and appoints Raymond D. Zinn and Richard D. Crowley, Jr. as his true and lawful attorneys-in-fact and agents, jointly and severally, with full power of substitution and resubstitution, for and in his stead, in any and all capacities, to sign on his/her behalf the registration statement on Form S-3 in connection with the sale by the selling stockholders of shares of offered securities, and to execute any amendments thereto (including post-effective amendments) or certificates that may be required in connection with this registration statement, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission and granting unto said attorneys-in-fact and agents, jointly and severally, the full power and authority to do and perform each and every act and thing necessary or advisable to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, jointly and severally, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to registration statement on Form S-3 has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Raymond D. Zinn Raymond D. Zinn	Chief Executive Officer, Chairman of the Board and Director	November 27, 2001
* Richard D. Crowley, Jr.	Chief Financial Officer and Vice President, Finance	November 27, 2001
* Warren H. Muller	Director	November 27, 2001
* Larry L. Hansen	Director	November 27, 2001
* George Kelly	Director	November 27, 2001
* Dale L. Peterson	Director	November 27, 2001
*By: /s/ Raymond D. Zinn Raymond D. Zinn	Attorney-in-Fact	November 27, 2001

Exhibit 23.1

INDEPENDENT AUDITORS' CONSENT

We consent to the incorporation by reference in this Amendment No.1 to Registration Statement No. 333-70876 of Micrel, Incorporated on Form S-3 of our report dated January 23, 2001 (July 27, 2001 as to the fifth paragraph of Note 11 and September 27, 2001 as to the first three paragraphs of Note 2 to the financial statements), appearing in the Current Report on Form 8-K dated October 3, 2001 of Micrel, Incorporated and to the reference to us under the heading “Experts” in the Prospectus, which is a part of this Registration Statement.

DELOITTE & TOUCHE LLP
San Jose, California
November 27, 2001