

FOR A SMALL BUT growing number of restaurant operators, order entry systems that can communicate directly from a dining area to the kitchen without being tied to a land-line connection are slashing customer wait times and beefing up employee productivity, in operations as diverse as hotels and quick-serve restaurants.

The typical radio frequency (RF) wireless system is comprised of hand-held terminals, a base station with antenna, and a computer. Information is entered into the hand-held unit and sent on to the base station, which receives the radio signals via antenna and communicates the information by wire to the computer. Information can then be communicated back to the hand-held from the computer, and many different employees may use the system simultaneously.

So-called spread-spectrum systems operate in the 902-928 MHz bandwidth and are capable of sending large amounts of data very quickly over short distances. The effective distance is determined by the amount of power the system has, and obstacles (such as walls) that can cause signal interference. Unlike previous narrowband technology, today's spread spectrum RF systems do not require a site license from the Federal Communications Commission.

Remote hand-held units find acceptance in operations where the physical plant and service issues call for quicker fulfillment times.



Wireless order-entry units transmit a customer's request directly to the kitchen or bar.

Photo: Micro Systems, Inc.

Wireless Technology Keeps Customers In Order

BY JOHN JESITUS, *Contributing Editor*

JANUARY 1997

HOSPITALITY TECHNOLOGY • PAGE 25

DEFENDANT'S
EXHIBIT

444

Ameranth v. Menusoft
CA# 07-0271-TJW-CF

Petitioners' Exhibit 1029, Page 1

AMER0037731

The 814-room Hilton at Walt Disney World Village has been using an HHT (hand-held touchscreen) system from Micros Systems, Inc., Beltsville, MD, in its pool area for about 18 months to deliver beverage service in roughly the time it takes for guests to towel themselves off.

Currently, the Hilton uses four HHT units that communicate via spread-spectrum RF technology with

the hotel's POS system, the Micros 8700 hospitality management system (HMS). The HMS network in turn interfaces to Hilton's proprietary property management system. A radio module inside the HHT sends signals to a base station with antenna mounted on the pool bar's wall. The base station is wired to a PC that houses application software and point-of-sale database.

Says Joe Soria, the property's manager of information systems, "It saves the servers a lot of time. And that's the bottom line—increasing the guest's satisfaction.

"Before we got the hand-held units, the servers would have to go around both pools to take orders, write them down, and then head back toward the kitchen bar area." There, they would turn in their orders to be filled, then come back later to pick up and deliver the drinks and food.

"Servers don't have any time to waste, really — the order comes up, they go deliver it, and they're ready to take another round of orders."

—Joe Soria

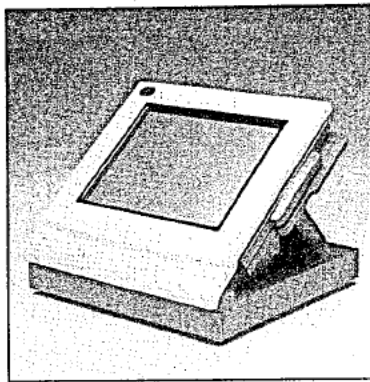
**Hilton at Walt Disney
World Village**

"Now," Soria says, "servers can go around the pool and enter the orders right there. As soon as it's rung in, the order prints up at the kitchen. So by the time they make their rounds at both pools, the order is usually very close to being ready. Servers don't have any time to waste, really—the order comes up, they go deliver it, and they're ready to take another round of orders."

The one drawback to HHT, according to Soria, is that the relatively small screen size of the hand-held units sometimes requires servers to spend a little more time accessing multiple information screens instead of one larger main menu. Otherwise, the system has performed so satisfactorily that the Hilton has considered using its hand-held units so in-room mini bar attendants can immediately post totals to folios.

"Unfortunately," Soria says, "because of the thickness and material of the walls, the signal doesn't get very far." For now, it is not financially feasible for the Hilton to install the

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SUPPLIERS GETTING WIRED OVER STANDARDS

The future of wireless systems in hospitality settings, as elsewhere, is very much an open question. Interface issues tend to prohibit a parts-and-pieces approach to system assembly, and the proprietary nature of RF systems leaves operators wary of making an expensive commitment to a single supplier.

Suppliers are working to overcome these limitations. The Institute of Electrical and Electronic Engineers (IEEE) has published standard 802.11, which has as its objective the development of new interface specifications, and a committee of engineers and supplier representatives are working on the problem. Separately, a group of mobile computing product and service suppliers have formed the Wireless LAN (local area network)

Interoperability Forum (WLI Forum), a self-funded group that has published a draft of an open-interface wireless LAN specification to help in the development of compatible products. The forum also announced at SCAN-TECH '96 in Chicago that it has designated an independent test laboratory, Los Angeles-based XXCal, to test products for interoperability as part of a certification process.

The forum is basing its specification on Mountain View, CA-based Proxim's RangeLAN2 interface. Members say that their charter is not intended to conflict with IEEE's 802.11 objectives, but not all industry players see it that way. Symbol and Telxon are not members of the forum, and Fred Heiman, executive vice

president of Symbol, has gone as far as to say that the forum is an attempt to thwart implementation of the IEEE standard, which his company supports. The forum points out, however, that several of its members are actively participating in IEEE's committee to finalize that specification, and that it is evaluating a method and timeline for creating wireless LAN operability through 802.11.

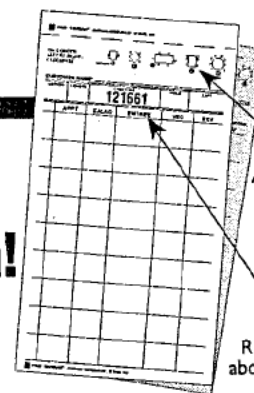
Restaurateurs may well greet this news with a big yawn. But with suppliers battling over how standards may evolve, it seems reasonable to assume that the critical mass the wireless industry ultimately attains will spill over into hospitality settings. When it does, don't be surprised when a slew of RF reps start knocking on your door.



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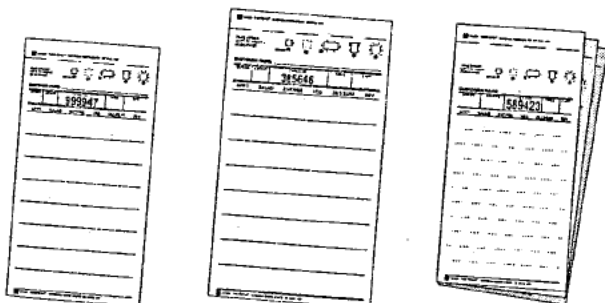
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multiple base stations and antennas needed to carry the signal from the hand-held terminal to the property's computer.

Wireless systems could also be a natural in some quick-serve environments. For example, a McDonalds store in the Chicago area has tested the Olivetti Wireless Order Taker System (which incorporates a Fujitsu 500 pen-based system and related

communications equipment) to take orders outdoors at car-side from drive-up customers. However, the units' screens fade after prolonged exposure to direct sunlight, reports Terry Torkelson, retail engineering management support specialist with Olivetti. The company is working with Fujitsu and a screen filter vendor to rectify the situation. Two other stores are testing wireless order entry

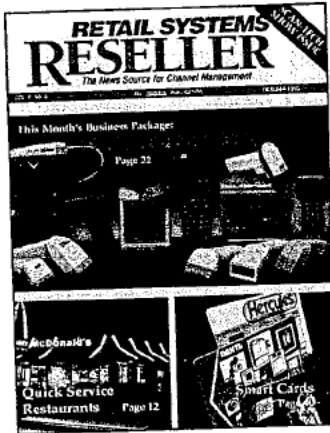
for drive-through. Eventually, McDonald's hopes to use wireless order entry technology in a number of order-taking and customer-survey applications, including at alternate venues. They hope to continue testing this year.

Wireless order entry systems that use hand-held terminals to communicate via radio frequency to a PC have long been common in applications such as warehousing. These systems have just in the last few years been introduced to the hospitality industry, but they are being accepted. "Hand-held technology is still very immature," says Dan Interlandi, senior vice president and general manager at Micros, in reference to spread-spectrum radio modules like those sold by his company.

Accordingly, the hospitality industry may not see widespread use of such technology for two to three years, Interlandi reasons, although the tide is definitely shifting in this direction. He adds, "We think that when handwriting recognition equipment becomes better and more reliable, and when the total cost—including software, printers, and everything else that accompanies a hand-held unit is around \$1,000 per server—that is when restaurateurs will begin to choose these technologies over traditional fixed point-of-sale terminals."

While Micros alone has some 3,000 HHTs installed at 300 sites in restaurants, hotels, stadiums and casinos, Interlandi reports that fine dining establishments have not accepted hand-held technology because many of them believe their ambiance will suffer if servers spend even a few seconds working with computer hardware at tableside rather than talking directly with patrons. •

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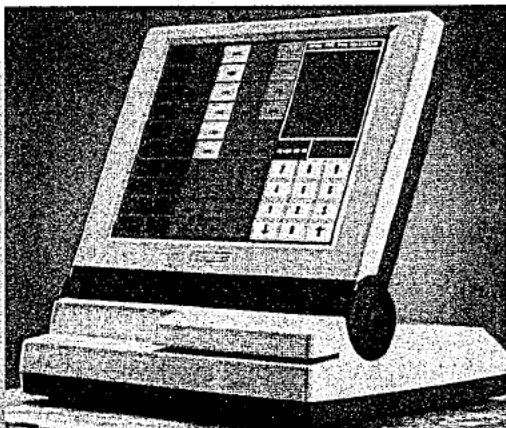
Micros Systems, Inc. Circle 197
Fujitsu Systems Circle 198
Olivetti North America Circle 199
Symbol Technologies Circle 200
Telxon Corp. Circle 201

PRODUCT NEWS

GuestWare, Inc., Cupertino, CA, has teamed up with the Culinary Institute of America and created a new on-line service called Digital Chef. Accessed live on the World Wide Web at www.digitalchef.com, the site combines a recipe database and communications functions, and is for professional chefs who create their own recipes as well as executive chefs who create and publish menus for chain locations. The site also offers basic cooking techniques, a glossary of cooking terms, and an on-line marketplace for purchasing food, cooking equipment and related items.

Circle No. 170 on Product Info Card

Electralogics, Inc., Fergus, Ontario, says its UDM2 is a PC-compatible touchscreen computer suitable for POS applications in retail and hospitality settings. It features a 486DX2/66 MHz processor; a 32-bit local bus video controller; a capacitive touch sensor; up to 64 Mb of



Electralogics' UDM2 touchscreen computer

RAM; a standard 10.4", VGA, passive-color LCD screen; and supports operating systems such as DOS, Windows 3.x, Windows 95, and QNX. Circle No. 171 on Product Info Card

Muzak, Seattle, debuted its new Menu Vision Direct at this year's Foodservice Technology Show. MVD is a satellite-addressable multimedia system which displays full-motion digital video, audio and text crawl, either on monitors or flat LCD plas-

ma panels. Digitally stored MPEG-1 video and audio are transmitted on the same platform that delivers the company's music, advertising and business services.

Circle No. 172 on Product Info Card

Automated Catalogue Services

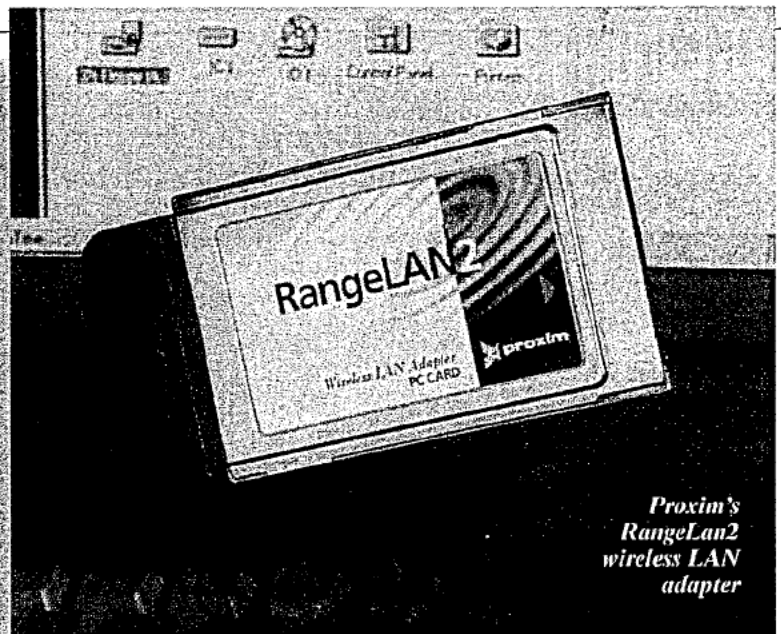
Wayne, PA, has introduced what it terms an "easy-to-use" interface—Quick Quote—part of its First Place Pro electronic catalog and quoting system for the foodservice equipment and supplies industry. First Place Pro, published monthly on CD-ROM, has a \$399 annual subscription fee.

Circle No. 173 on Product Info Card

SoftCafe, Silver Spring, MD, offers its MenuPro for Windows automated

menu design and creation software. Available on floppy disks or in a deluxe CD-ROM version, the program includes over 35 True-Type fonts, over 75 menu clip art images, color borders and graphics, several dozen menu styles, and an English dictionary and spell checker. The program is customizable, allowing users to include their own fonts, images and logos.

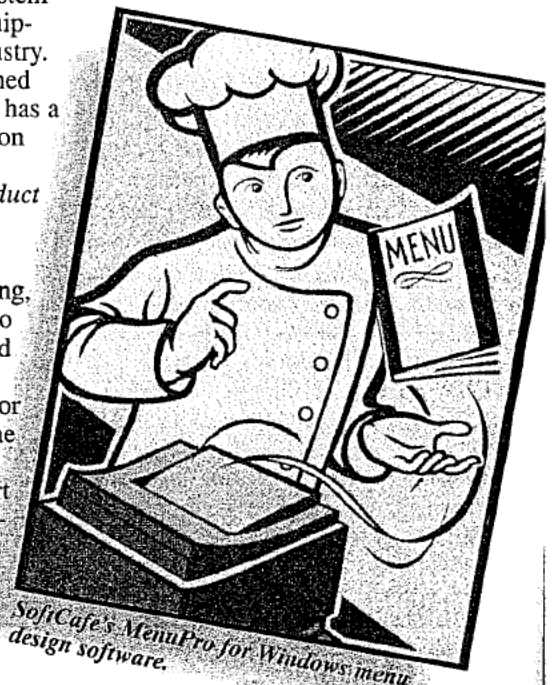
Circle No. 174 on Product Info Card



Proxim's RangeLAN2 wireless LAN adapter

Proxim, Mountain View, CA, says its new RangeLAN2 7400 PC Card is the fastest one-piece wireless LAN adapter available for portable peripherals, running at 1.6 Mbps. It also provides interchangeable antenna, allowing users to select an antenna that best matches their specific device and floor-coverage needs.

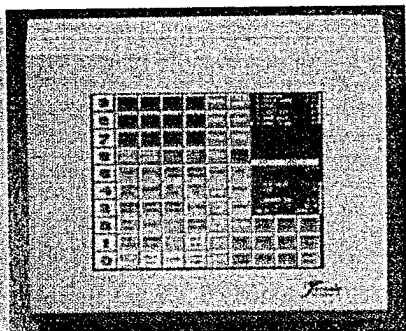
Circle No. 175 on Product Info Card



SoftCafe's MenuPro for Windows menu design software.

PRODUCT NEWS

Positran, Inc., Norristown, PA, has introduced its Tornado Quick Touch Series Terminal for restaurant POS applications. Equipped with a 486DX2 processor, with speeds ranging from 75 MHz to 133 MHz, the Tornado can be customized to fit user requirements for CPU speed, memory, video memory, and hard drive specifications. Open-architecture system design allows interfacing to menu boards, pole displays, printers, cash draw-

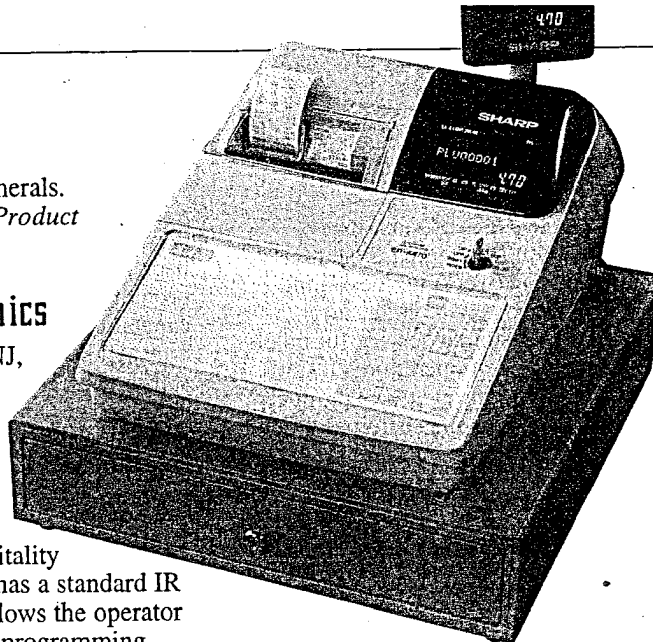


Positran's Tornado terminal

ers and other peripherals.
Circle No. 176 on Product Info Card

Sharp Electronics Corp., Mahwah, NJ, introduces its ER-A470 electronic cash register, which the company says brings infrared (IR) technology to the hospitality industry. The unit has a standard IR interface, which allows the operator to perform remote programming functions, via IR-equipped personal assistants or PCs, in less time, the company says.
Circle No. 177 on Product Info Card

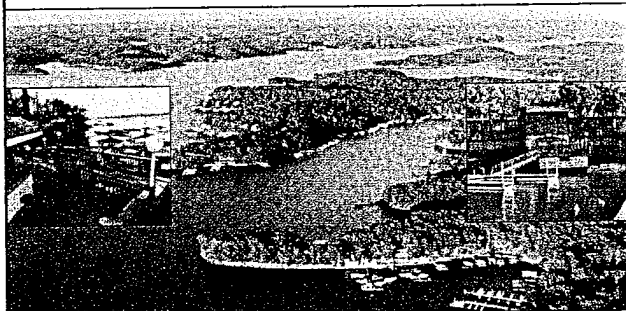
Electronic Marketing Systems, Santa Rosa, CA, says that its QS-1000 Electronic



Comment Card can help operators evaluate customer satisfaction, identify problems, and track service improvements, adding that electronic surveys tend to have higher response rates than paper-and-pencil surveys, and more accurate responses. Battery operated, the unit weighs 1.5 lbs.

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INFOSYSTEMS FOR FOODSERVICE AND LOGGING
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PRODUCT NEWS

Comet Systems Inc., Wauconda, IL, says that its Production Messaging System uses real-time networking, messaging and database technologies to improve customer service for quick service kitchen operations. A Grill monitor format integrates product build files with the customer order to help develop consistent preparation techniques, decreasing service times. A Runner monitor format facilitates order assembly and individual item production. Both integrate with Comet's POSiflow POS terminals to ensure accurate messaging.

Circle No. 179 on Product Info Card

Olivetti North America, Oak Brook, IL, points out that its POS Touch Screen System features built-in interface ports, customizable menus and configurations suitable for front counter, drive-thru, and grill environments. It also provides

instantaneous on-screen communication between registers and back grill areas, has a promotional display capability, and retains transaction, inventory, staffing and customer volume information.

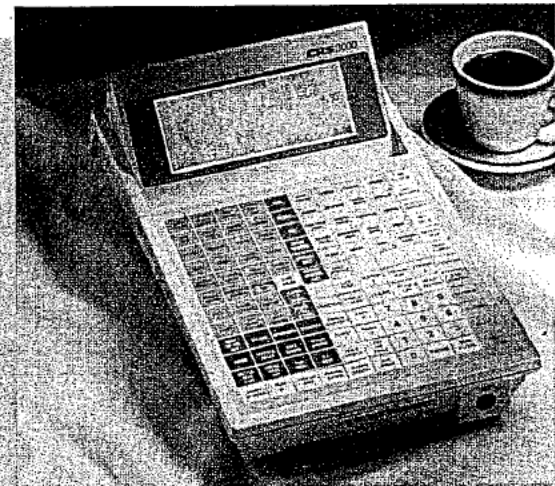
Circle No. 180 on Product Info Card

CRS, Inc.

Minneapolis, offers its value-priced CRS 3000 table service terminal, an easy-to-use unit, the company says, as prompting and pop-up windows guide operators through the right choices for each item. It features a fully programmable, spill-proof keyboard, employee time-keeping, "soft" check tallying, prompting for authorization numbers and tips, and easy programmability.

Circle No. 181 on Product Info Card

CRS 3000 table-service terminal



Accu-Time Systems, Ellington, CT, has announced that biometric fingerprint input technology has been incorporated into its line of time and data collection terminals. A standard version uses the fingerprint only to identify the employee; a second version also has a bar code slot reader for supplemental ID card use. The technology can also be retrofitted to the company's Series 2000 terminals already in the field.

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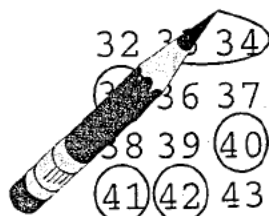
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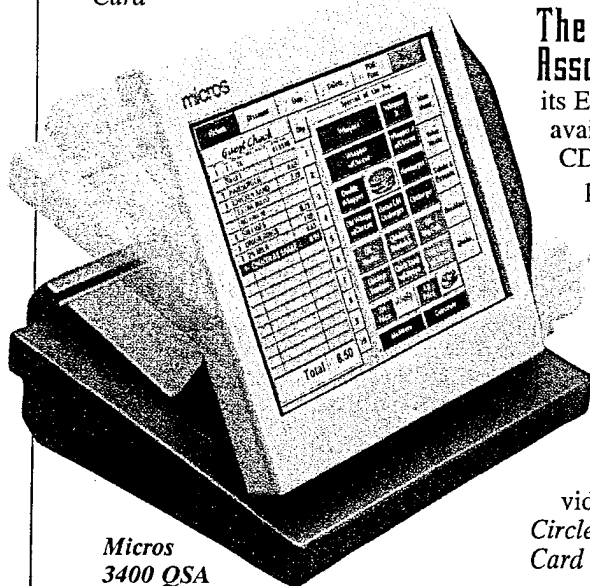
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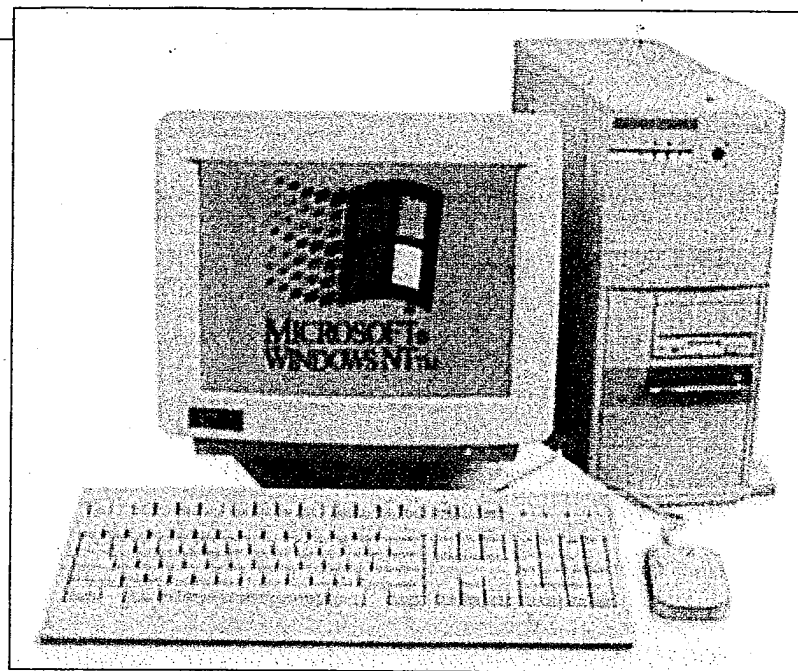
PRODUCT NEWS

Ameranth Technology Systems, Inc., Valencia, CA, says its clipboard-sized Intrapad can be used for reservations, wait lists, table status determination, frequent diner programs, and customer surveys. For wait lists, the unit automatically calculates and maintains time management, alerting the host on table status and customer seating preferences. The unit can be linked to the company's No-Wait paging system, allowing it to work as a control point for paging customers. *Circle No. 183 on Product Info Card*

Micros, Beltsville, MD, unveiled its new open architecture MICROS 3400 Quick Service Advantage solution that combines point-of-sale operations and back office management in one open system. A completely integrated 32-bit POS and back office Application, the Micros 3400 QSA runs on Microsoft Windows 95 and NT operating systems and includes high performance POS features such as fast order entry screen refreshing and built-in data redundancy, Micros says. For back office administration, it offers flexible management capabilities including inventory control, time keeping and cash management. *Circle No. 184 on Product Info Card*



Micros 3400 QSA



The Prism Advantage Series from Remanco

Remanco, Wilmington, MA, presents the Prism Advantage Series, a new Windows NT-based POS system for the hospitality industry that uses the Microsoft Access relational database to help users access third party DOS and Windows applications. By using Intel-based Pentium back office computers operating under Windows NT, this new series helps users create custom made POS systems for restaurants, hotels, casinos, or stadiums, reports Remanco. *Circle No. 185 on Product Info Card*

The National Restaurant Association, Chicago, through its Education Foundation, has made available *Serving Safe Food* on CD-ROM. Part of its ServSafe program, the new CD-ROM helps train front-line employees in all critical aspects of food safety, including personal hygiene, proper food temperature and cooking. It also includes assessment software that lets managers track employee progress with a quiz that provides immediate feedback. *Circle No. 186 on Product Info Card*

Elo TouchSystems, Fremont, CA, has developed MonitorMouse for Windows 95, a 32-bit touch-screen driver designed to help users take full advantage of all Windows 95 benefits, providing faster and more reliable operation, the company says. MonitorMouse processes touch data more quickly than other drivers, according to Elo. Also, because it operates in a protected mode, it's more robust and reliable than other drivers that must switch modes. MonitorMouse features a control panel that helps simplify set up and it can be installed directly within Windows 95. *Circle No. 187 on Product Info Card*

