

**F**OR 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*

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

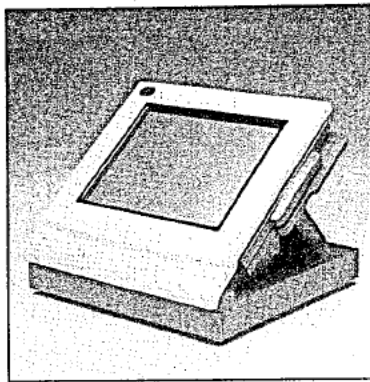
**Hilton at Walt Disney  
World Village**

"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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- suggest additional menu items
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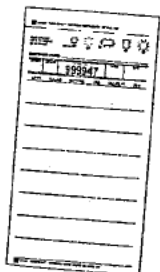
**Pivot Points**

Assist in order taking and delivery.

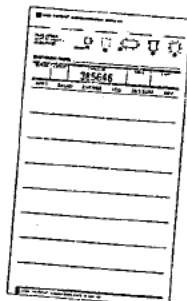
**Menu Guide**

Reminds waitstaff to ask about different menu items.

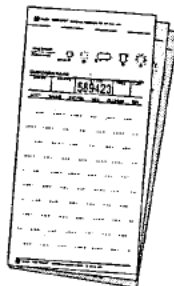
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multiple base stations and antennas needed to carry the signal from the hand-held terminal to the property's computer.

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

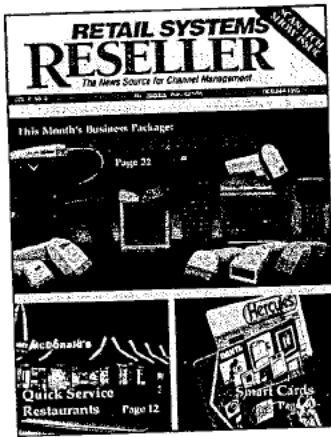
for drive-through. Eventually, McDonald's hopes to use wireless order entry technology in a number of order-taking and customer-survey applications, including at alternate venues. They hope to continue testing this year.

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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### CHECKLIST

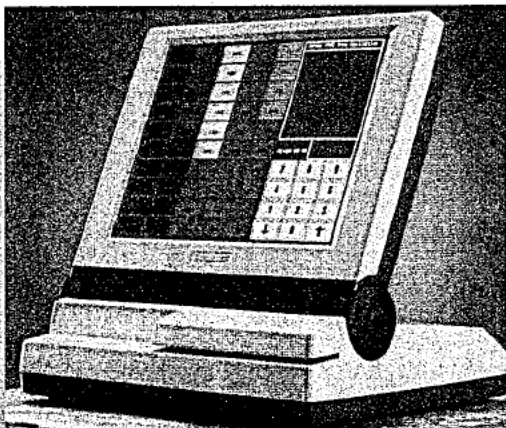
Micros Systems, Inc. ....	Circle 197
Fujitsu Systems .....	Circle 198
Olivetti North America....	Circle 199
Symbol Technologies .....	Circle 200
Telxon Corp. ....	Circle 201

# 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](http://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

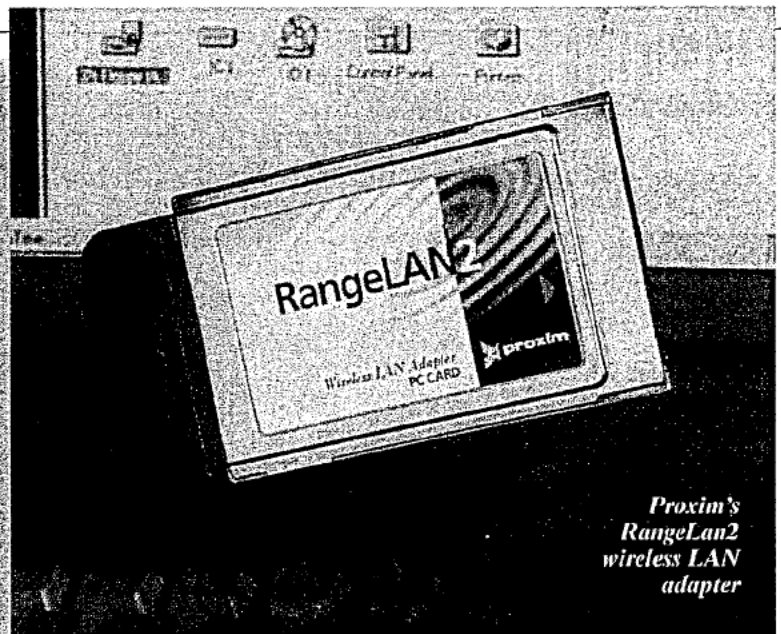
**Wayne, PA**, has introduced what it terms an "easy-to-use" interface—Quick Quote—part of its First Place Pro electronic catalog and quoting system for the foodservice equipment and supplies industry. First Place Pro, published monthly on CD-ROM, has a \$399 annual subscription fee.

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.

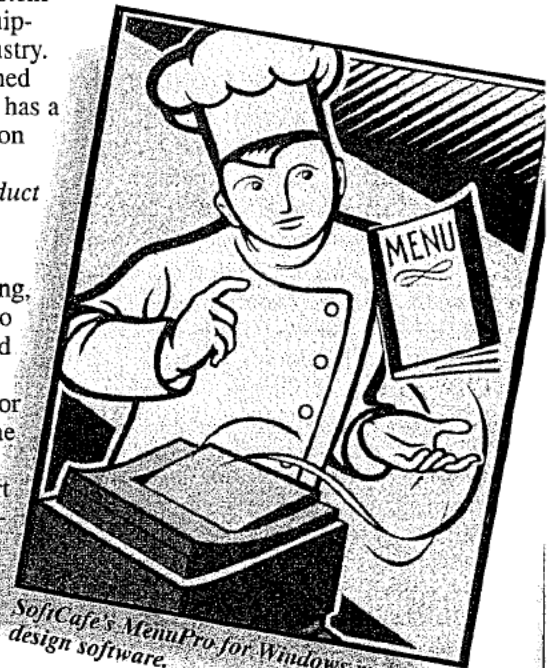
Circle No. 174 on Product Info Card



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.

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SoftCafe's MenuPro for Windows menu design software.

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