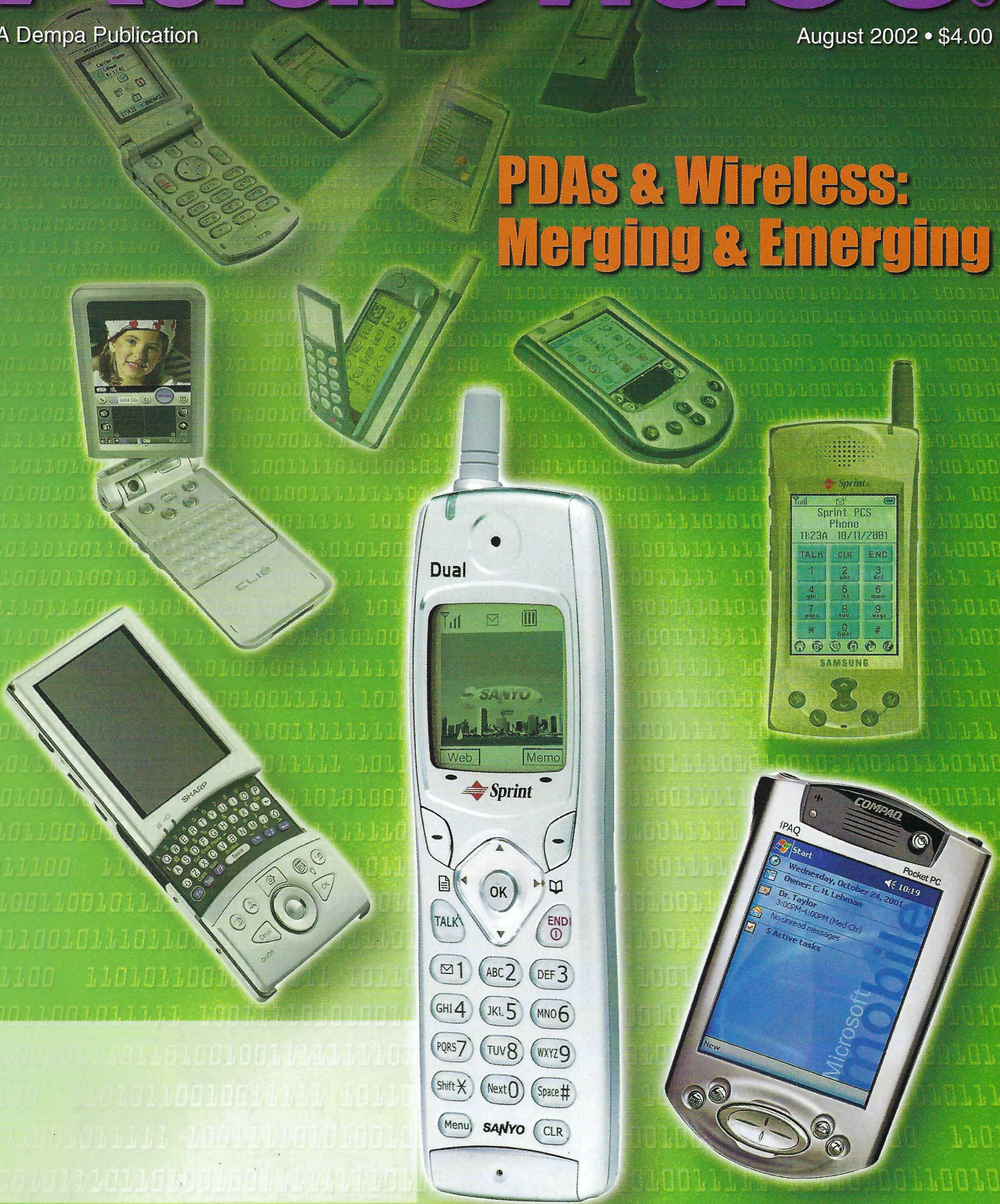


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## PDA's & Wireless: Merging & Emerging



# PDA & WIRELESS PHONE PRODUCT SHOWCASE

*These product areas provide a world of opportunity for CE retailers*

by Micah Sheveloff

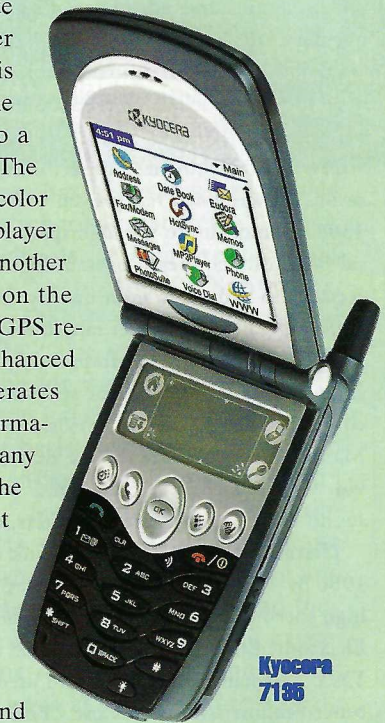
**M**anufacturers of personal electronics devices such as phones and PDAs (Personal Digital Assistants) have been able to take advantage of advanced technology and, after a careful analysis of consumer needs and buying trends, have been able to introduce an entire category of exciting products that are likely to drive a broad base of customers directly to their local retailers. Studies also indicate that this segment of the market breeds repeat buyers who frequently replace units that have been lost, damaged or become obsolete. Due to the staggering progress in miniaturization, the latest trend is a convergence of several popular portable devices into a single, diverse handheld component. Part laptop computer, part phone, part organizer and sometimes even part camera, these devices meet everyone's needs — from the tech-savvy early adopter to the executive on the go. Many retailers have quickly embraced these new products by gathering a selection of attractive and profitable accessories, merchandising effectively, and attaching themselves to the already noteworthy promotional momentum of an evolving consumer electronics category that can only spell opportunity.

## THE WIRELESS MANUFACTURERS

### RICK GOETTER, KYOCERA WIRELESS:

Kyocera Wireless is a manufacturer of phones and converged devices using the CDMA access technology. Having purchased the handset division of Qualcomm in February 2000, Kyocera Wireless thus acquired a great degree of expertise from a company that contributed to writing the CDMA wireless standard. We are expecting to ship the 7135 Smart Phone by late fall so that it reaches retailers in time for the holiday season. The 7135 replaces the QCP-6035 that sold well in the

U.S. (over 250,000 units). The new model will feature CDMA 1X (latest version) technology, capable of a peak data rate of 153K — 10 times faster than current models. This will allow users to surf the Web at speeds similar to a dial-up modem at home. The 7135 also will have a full-color display and a 16-bit MP3 player (headphones optional). Another advanced feature found on the 7135 will be the built-in GPS receiver for use with the enhanced 911 network, which generates number-identification information and location data for any phone used to call 911. The E-911 system has not yet been completed in the U.S. In addition to all of this communication technology, the 7135 is also a PDA. It uses the Palm OS v4.1 operating system, and has 16MB of RAM. There is also an expansion slot with a capacity of up to 256MB. The data rates and processing speed, as well as the color screen, makes the 7135 easier to use, comfortable, and a compelling product for consumers. For retailers, this is a desirable market segment to have in your stores — it is a traditionally affluent customer, and the complete suite of functionality that the 7135 provides makes it a best-in-class device.



### MATT BAKER, MOTOROLA:

Motorola will be launching two new products within the next two to three months. The first is called the 330-Series, with slightly different names for the various carriers. The MSRP for this phone will be under \$100, and the feature set is clearly oriented towards the youth market. The 330-Series can be highly

## THE LINGO: A GLOSSARY

*When being introduced to these segments of the market, it is useful to understand a few of the technical terms and acronyms\*:*

**Access Technology:** This term refers to the various types of technology used by each carrier's wire-

less network. (e.g., CDMA, TDMA, GSM, etc.). CDMA, TDMA, and GSM are all used in the U.S. GSM is also used throughout Europe and several other countries worldwide; however, the frequencies used in the U.S. are not compatible with the international system. There is a technology called UMTS

(Universal Mobile Telephone Standard) that is expected to provide global coverage by the year 2010. The precursor to today's digital systems was the analog cellular network, still active in most areas. Most wireless networks today are the second generation (2G) of each format, although the third update (3G)



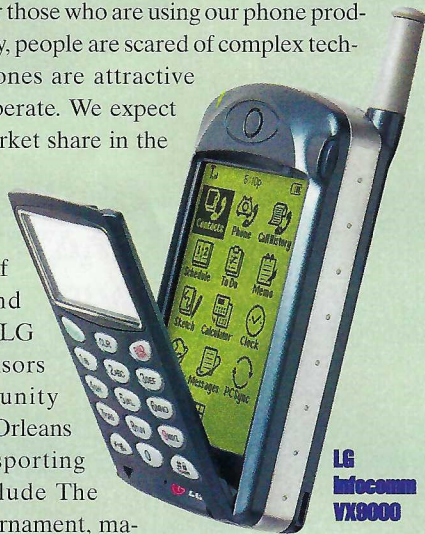
**Motorola T-720**

personalized, with colorful exterior skins, on-screen wallpaper and screen savers, and composable ring tones. The 330-Series phones will be small and easy to carry, and will also be capable of SMS messaging. In contrast, the T-720 is a higher-end offering, utilizing the "flip" form factor consumers have come to expect from Motorola phones. It is the company's first model with a color screen which, in combination with a new icon-driven menu, is exceptionally intuitive to

navigate. The T-720 is very visual; users can see exactly where they are going as they press buttons and activate features. The new T-720 is even slimmer than the famed Star-Tac, and will be available with either the latest versions of CDMA or GSM access technology, depending on the carrier. Motorola expects to ship the phone in an August or September (2002) time frame.

**MICHELE THENEGAL, LG INFOCOMM:**

Having entered the wireless market in 1998, phones manufactured by LG Infocomm are now available through retailers that represent the Sprint PCS and Verizon networks, such as Staples, Radio Shack, Circuit City, Best Buy, and a large host of independents nationwide. At LG, we are design innovators, bringing the first clamshell phone to market, as well as the first external LCD display with caller ID. Our objective is to make life easy for those who are using our phone products. Traditionally, people are scared of complex technology. Our phones are attractive and simple to operate. We expect to have 25% market share in the U.S. by the end of 2002, the success attributed to quality of products and strong branding. LG Infocomm sponsors many community events, the New Orleans Jazz Fest, and sporting events that include The Masters golf tournament, ma-

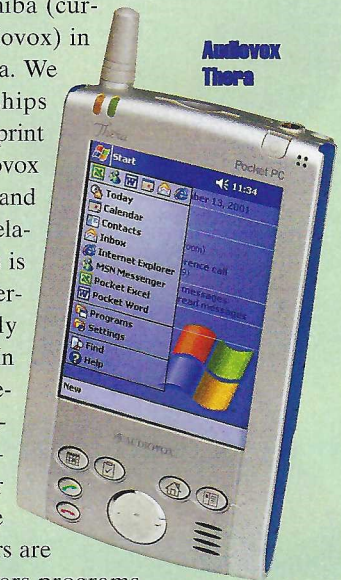


**LG Infocomm VX9000**

gor-league baseball and pro football. Our retailers indicate that once a consumer has bought an LG phone, they go back within 18 to 24 months to buy another one. We continually introduce many products, and have released five new phones in the last six months. The VX9000 is the latest tri-mode technology from LG Infocomm, combining the convenience of a PDA with wireless capabilities. The VX9000 features the LG proprietary operating system, providing all contact functions, and a unique hands-free system that activates automatically when the user accesses the PDA. The VX9000 supports two-way SMS messaging, and has a virtual keyboard on the touch-screen. The VX9000 weighs a mere 4.76 ounces, and is expected to ship mid to late August 2002.

**KATIE WASSERMAN, AUDIOVOX:**

Audiovox has a different approach to the wireless business. We do not actually build our phones, or own any factories. In 1984, when mobile phones were introduced, Audiovox already had a natural dealer base in place; the group of retailers that sold their 12-volt consumer products. In 1987, Audiovox Communications Corp. was formed, and currently we source our phone products from Toshiba (currently 25% owner of Audiovox) in Japan, and Curitel in Korea. We have developed relationships with two service providers, Sprint PCS and Verizon, and Audiovox is currently the Number 4 brand in U.S. market share. Our relationship with the retailers is based on who they activate service for. Everything really works through the carriers. In some cases, we sell to the retailers directly, whereas others are sold through the carriers. Either way, it is our responsibility to see that the products sell, and our dollars are spent supporting our carriers programs and promotions. The latest from Audiovox is called Thera (Greek for "gateway"), a Pocket PC/phone combination device. Thera utilizes the latest and fastest CDMA technology, and can handle e-mail, Word and Excel documents. Using the Microsoft Windows Pocket PC operating system, Thera has an SD slot for expansion, a built-in voice recorder, and a touch-screen interface with on-screen keyboard and handwriting recognition. We expect that Thera will do well being sold through Enterprise channels (through companies that special-



**Audiovox Thera**

**THE LINGO: A GLOSSARY**

is rapidly becoming a reality. 3G networks will bring wireless transmission speeds up to 2Mbps, allowing for the transfer of high-quality audio and video. The service providers (Sprint PCS, Verizon, AT&T, Cingular, etc.) operate on the access technology of their choice, and have even divided CDMA and GSM into more than one available frequency (e.g., 800MHz

and 1900MHz), making inter-network phone compatibility a non-reality. Retailers usually establish a business relationship with the service providers in their geographical area, as well as one of several national or regional distributors in order to obtain the actual phones and accessories.

**Bluetooth:** Technological specification for short-range wireless network connections.

**Converged Devices:** Units combining the functions of a cell phone and a hand-held organizer. Other optional functions may also exist, such as a digital camera.

ize in selling electronics solutions to large corporations).

## SCOTT GAINES, NOKIA:

The most recent offering from Nokia is a convergent device called the 9290 Communicator. With an MSRP of \$599, the multi-function hand-held is capable of operating as a phone, including a fully functional speaker phone, using GSM technology. Voicestream, AT&T, and Cingular (in some markets) currently use the GSM access technology. The phone identifica-

tion data is stored on a removable SIM card that can be installed in another phone, such as a smaller device for casual use on weekends. The 9290 also boasts a full-color screen with access to the Internet that can tackle messaging chores and e-mail with attachments. Users can read documents, spreadsheets, and conference up to five different callers at once. The PDA portion of the device

can handle Lotus Notes, and has a video player and flash memory, making the 9290 Communicator perfect for numerous corporate applications. The 9290 can

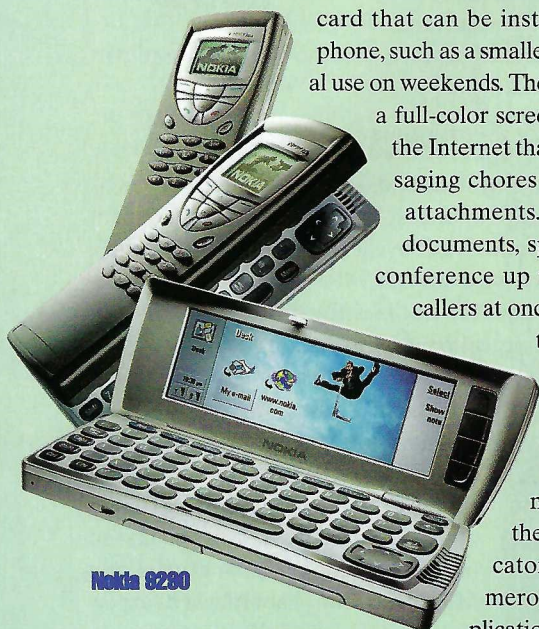
accept a pair of headphones, and is adaptable to an optional car-kit, enhancing safety and convenience in a mobile environment. There is a third-party accessory called IRMA available that would allow the 9290 to connect wirelessly to an overhead projector for presentations. The 9290 also has embedded games, such as Doom, already on board. One business application for the 9290 that we have seen in action is for insurance claims adjusters out on the road. With the optional digital camera accessory, the adjuster can shoot and send on-site pictures and his various forms wirelessly, greatly reducing the time required to process claims. Currently, the 9290 is sold exclusively through COMP USA and on the Nokia Web site.

## PETER SKARZYNSKI, SAMSUNG:

With the I300, businesspeople and consumers in general now have a single handheld product that meets their complete voice- and data-management needs. By combining the advanced features of Samsung's wireless phone technology with

Palm's user interface, the I300 will allow consumers to stay organized and in touch while on the go. The I300 has many applications that will be immediately familiar to Palm users, such as Date Book, To Do List, Memo Pad, Expense, HotSync, and an address book that is fully integrated with the phone. The I300 is also capable of Web browsing, and users can download Palm OS-compatible applications as well as a variety of games. The dual-band/dual-mode phone has an additional LCD on top of the device for phone indicators such as caller ID. The I300 features a full 8-bit, 256-color touch-screen panel, and employs CDMA technology. The I300 has an MSRP of \$499.95.

## Samsung I300



Nokia 9290

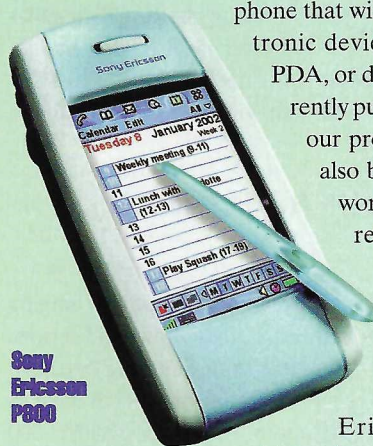
## NICKY CSELLAK-CLAEYS, SONY ERICSSON:

Sony Ericsson is a new company born of a joint venture between the wireless handset divisions of both Sony and Ericsson. We are committed to providing high-performance, easy-to-use products in the wireless market. It is our goal to make the devices intuitive-ready to run for consumers who are often overwhelmed by complex technology. There are three areas on which we are focused: 1) Imaging and messaging — being able to send and receive both text messages and digital images; 2) Entertainment functions, such as games and music; and

3) Connectivity — designing a mobile phone that will interact with other electronic devices, such as a computer, PDA, or digital camera. We are currently putting Bluetooth in most of our products. Compatibility has also been a key issue; we have worked very hard to establish relationships with content

providers in order to insure that everything can work seamlessly together. As an example of the latest from Sony

Ericsson, the P800 Smart Phone (operates on GSM 900, 1800, 1900) offers a full-color 208-x-320-pixel touch screen, and an on-board digital camera. Digital images can be taken with the P800, stored in the photo album, and sent as an email to a PC



Sony Ericsson P800

## THE LINGO: A GLOSSARY

**Dual Band:** A handset that works on two frequencies or bands.

**Dual Mode:** A handset that works on both digital and analog wireless networks.

**E-911:** Enhanced 911- A wireless 911

(emergency) service that provides automatic number identification (ANI) and automatic location information of a wireless phones used to contact a 911 call center. This information makes it easier and faster for police and rescue services to respond, and route calls to the appropriate dispatch.

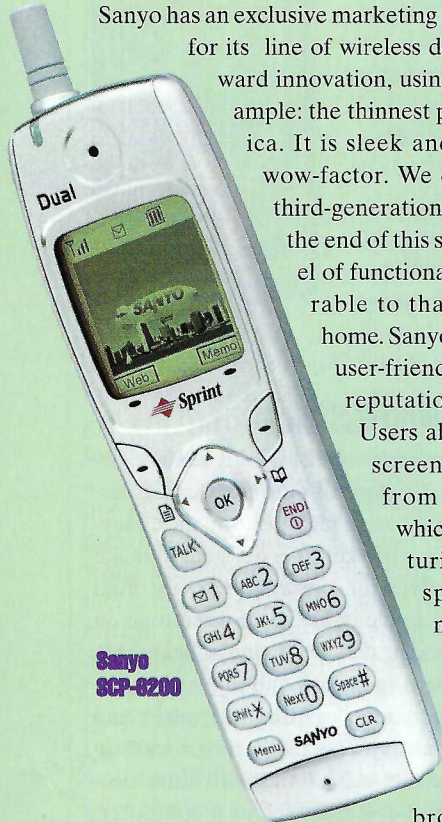
**Enterprise Sales:** Sales focused on corporate accounts rather than the retail customer.

**ESN:** Electronic Serial Number. A unique 32-bit number programmed into each phone by the manufacturer.

or as an MMS-message to another phone. It is also possible to view files such as PowerPoint, Word, or Excel, and the P800 can be connected wirelessly via Bluetooth to a PC, a Bluetooth headset, or other Bluetooth-enabled gadgets. The P800 is expected to become available during the third quarter of 2002.

### DAN WILINSKY, SPRINT PCS (FOR SANYO WIRELESS):

Sanyo has an exclusive marketing agreement with Sprint PCS for its line of wireless devices. Sanyo is geared toward innovation, using the model 6000 as an example: the thinnest phone sold in North America. It is sleek and elegant, and has a real wow-factor. We expect to see at least one third-generation (3G) model from Sanyo by the end of this summer, creating a new level of functionality with its speed, comparable to that of a dial-up modem at home. Sanyo phones are designed to be user-friendly and stylish, and have a reputation for network reliability. Users also enjoy the large viewing screen. The latest introduction from Sanyo is the SCP-6200, which is a dual-band model featuring picture-caller ID and space to store 500 phone numbers. The SCP-6200 is also capable of voice-activated dialing and can log up to 200 SMS messages. It can access the Web using the Openwave 4.1 browser, and it also has an electronic organizer built in. The SCP-6200 is also a slim design with a magnesium front plate and an advanced LCD display.



Sanyo SCP-6200

## THE PDA MANUFACTURERS

### SCOTT NELSON, CASIO:

Casio offers a whole range of consumer PDA products ranging from \$79 and up. We promote through trade shows and various publications, including computer magazines, although we have found that a large part of the success of any product in this category can be linked to word of mouth. The Cassiopeia BE-300 has an MSRP of \$199 (\$149 after rebate) and runs Windows CE3.0. It also has a Type 2 CompactFlash (CF) slot that accepts a variety of expansion modules, from memory and camera cards to wireless modems. The Cassiopeia BE-300 is targeted

at both business professionals and the student market. The Cassiopeia EG-800 is designed specifically with business applications in mind, and has an MSRP of \$899. It runs the Microsoft Pocket PC operating system, and is both drop- and splash-resistant. It features a one-hand Action Control, a voice recorder, a CF expansion slot and a rechargeable battery. The Cassiopeia EG-800 also has an infrared port and a powerful backlight.



Casio EG-800

### DAVID YANG, SONY ELECTRONICS:

The design of the Sony handheld devices is centered on entertainment, because Sony is best known for its entertainment products. Our customers are buying multiple electronic devices for the price of one, such as PDA, MP3, and digital camera capability all in one unit. The Clie line (five models in total) is targeted at the core Sony customer who is looking for quality, value, and an overall better experience. All Clie models have a Memory Stick expansion slot, and range in price from \$180 to \$600. The flagship NR70V has a color LCD screen that can flip and swivel. The unit is cased in magnesium, and includes a built-in digital camera and MP3 player. Sony has brought its expertise in the design of other devices, such as personal audio, digital imaging, PCs and televisions, to the Clie handheld product line. The NR70V utilizes the Palm OS v4.1 operating system, and features an integrated QWERTY keyboard for data input. Video player and image viewer software is also included.



Sony Clie NR70V

### RANDY DAZO, SHARP:

Sharp has been selling PDA devices in Japan for more than a decade, and offered the very first PDA for sale in the U.S. market. The current products are very feature-rich, especially from a hardware perspective. The Sharp Zaurus SL-5500 has 64MB of standard memory, and a sliding cover that conceals a QWERTY keyboard and a full-color LCD display. Sharp owns

## THE LINGO: A GLOSSARY

**Flash Memory:** A component or card used for expandable memory that has the ability to retain information without requiring power.

**GPRS:** General Packet Radio Service. A GSM-based data-transmission technique.

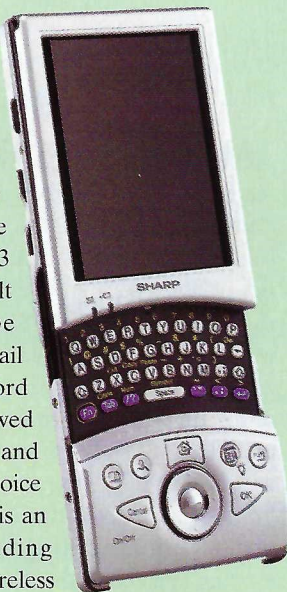
**GPS:** Global Positioning System. A series of satellites that continually transmit their position. Used for navigational and mapping devices.

**PCS:** Stands for Personal Communications System. A U.S. clarification of digital wire-

less communications.

**PDA:** Personal Digital Assistant. A handheld computer and personal organizer that sometimes has wireless capabilities, enabling users to connect to the Internet or to send and receive messages.

numerous patents and has been a leader in the development of LCD technology, as exemplified by the reflective (patented) TFT screen featured on the SL-5500. The image is bright indoors using the backlight; however, it also remains strong out of doors because it has a unique ability to reflect sunlight, actually getting brighter rather than becoming washed out. The SL-5500 also has two expansion slots for use with CF or SD upgrades. The unit will play MPEG-1 and MP3 files and has a headphone jack built in. We expect this device to be strong both with consumers at retail and the enterprise customer. Word and Excel documents can be viewed and edited, and there is a database and a calendar as well. There is also a voice recorder as standard, and there is an optional modem for downloading e-mail. The SL-5500 is 802.11b (wireless interface)-capable, with an optional compact flash modem. The SL-5500 has an MSRP of \$449.



Sharp Zaurus SL-5500

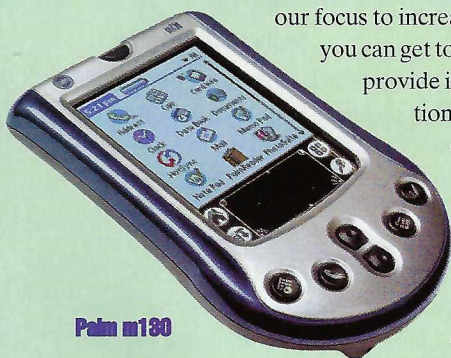
### CAITLIN SPAAN, PALM:

Palm is the PDA category leader, with 50% of U.S. market share encompassing both consumer and enterprise sales. From the college student to the wireless executive, Palm offers a wide range of solutions and price-points. It has been

our focus to increase the speed with which you can get to your data. Our products provide instant access to information. The m130 is a low-cost

color model with a high-contrast display and a rechargeable battery. It has a suggested retail price of \$279. The m130 has built-in dual-expansion slots for SD,

allowing the user to install a road atlas, dictionary, or various games. There is also a universal connector for such options as a mini keyboard or a GPS device. The m515 is slim, light and powerful, with 16 MB of standard memory. Word, Excel, and PowerPoint can be used on the m515, making it ideal for an executive discussing sales forecasts in a meeting. He/she can examine forecasted numbers,



Palm m130

enter them into a spreadsheet, and know immediately if inventory levels need adjustment. The m515 is an ideal business tool, and with its brushed-platinum look, it is both fast and pretty. Suggested retail on the m515 is \$399. The i705 (U.S. market only) is a wireless handheld device that can provide real-time access to e-mail and the Web. Wireless operation requires a subscription to Palm.net, with a choice of three usage plans. The i705 will notify the user of an incoming message via a light, beep or vibration. In the life of a busy attorney, the i705 could enable him/her to quickly send or receive a message, communicating with the office even while stuck in court. Such an attorney could even access the rules of civil procedure stored on an expansion card, or access critical information from a pertinent Web site. The i705 has a suggested retail price of \$449. The Palm OS is licensed to manufacturers such as Sony and Handspring, and there are thousands of third-party software applications for it. Additionally, there are numerous Palm-branded accessories, such as leather cases and keyboards, available, creating margin opportunities for retailers. There is a reseller authorization program, and regional distributors make for efficient access to product. We have seen retailers do very well by creating a Palm store within-a-store, and they have also demonstrated success selling the branded solution — a Palm handheld packaged with the leather case and expansion card. Our data indicates that over 90% of Palm customers recommend our products to their friends. Word of mouth is very important, and we also share new-product information with our registered users via the Web, in addition to promotions on radio, TV, print, and various forms of e-marketing.

### PAUL TAYAR, TOSHIBA:

The Toshiba PDA is sold at retail, and is oriented towards the business executive and SoHo-type client (small office-home-office). The e310 Pocket PC (MSRP \$399) is a slim, lightweight PDA with full multimedia capabilities. It has an expansion slot for additional SD memory, and can play both audio and video files. The e310 uses the Microsoft Windows Pocket PC 2002 operating system that includes Word, Excel, and other useful features. The full-color e310 has been very well received. The e740 Pocket PC has integrated Wi-Fi (wireless capability) using the 802.11b format, al-



Toshiba e740

## THE LINGO: A GLOSSARY

**Roaming:** Traveling outside a wireless carrier's or subscriber's local or home coverage area. There is usually an additional charge for roaming.

**Roaming Agreement:** An agreement between wireless carriers that allows sub-

scribers to use their phones on other carriers' networks.

**Smart Phone:** A class of advanced wireless phones that include data functions, such as Internet access and messaging.

**SMS:** Abbreviation for Short Messaging Service. Electronic messages sent on a wireless network.

**TD-CDMA:** An air interface combining both TDMA and CDMA.

lowing it to be connected wirelessly to a server without bulky docking stations or interconnecting cables. The e740 also has a VGA output, allowing for the use of a projector or video monitor. The e740 can be used with a printer, mouse, or external keyboard with the addition of the optional USB Expansion Pack. The e740 has a high-resolution display, and is powered by an Intel PXA 250 processor (400MHz), giving it double the speed and power of the e310. Another Toshiba innovation is the use of a user-removable high-capacity battery, enabling the consumer to purchase a second battery for long trips out on the road. There is also a larger, optional battery (providing three times the capacity) available for the e740. We see this unit as a viable alternative for the business professional who wants to be able to travel without having to carry his/her laptop computer. MSRP of the e740 is \$599.

### JENNY FAUBION, HANDSPRING:

The integrated wireless PDA is a new category — a great tool for mobile professionals who travel extensively. They can stay in touch by phone and e-mail, and have access to all of their personal data from one small device. Handspring offers the treo 180 (MSRP \$399) and the treo 270 (MSRP \$499) communicators, combining 16MB of memory with a mobile phone. The treo 180 is the non-color version with a QWERTY keyboard, and was launched last year. It is also available with Graffiti handwriting-recognition software instead of the QWERTY keyboard (called the treo180g). The treo 270 features a full-color display and a backlit QWERTY keyboard, and came to market this past May. Both use the SIM card-based GSM access technology, which currently provides excellent domestic service, and limited wireless coverage in Europe and Asia for products purchased in the U.S. Both models are smaller than most PDA devices, about the size of an average cell phone available today. The organizer is based on the Palm OS, featuring Date Book Plus, PhoneBook (an improved address book), To Do List, and Memo Pad. You can send and receive e-mail using the optional Treo Mail, or send a short message using SMS text messaging. Both the 180 and the 270 can provide access to the Web, allowing the busy executive to view almost any page on the Internet while on the go. The treo 90

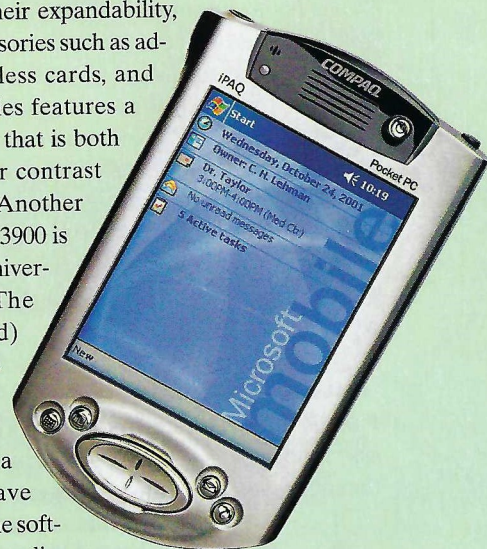


Handspring treo 80

(MSRP \$299) is the organizer-only version with a color screen. Not everyone wants a single, converged device; some consumers prefer to carry a tiny cell phone, and keep their organizer separate. The treo 90 addresses that customer in a slim, powerful package, offering an affordable color PDA with a QWERTY keyboard. The treo 90 also has SD expansion capability.

### JOHN BRANDEWIE, HEWLETT PACKARD:

Since the May 2002 merger between Hewlett Packard and Compaq, the new HP has reaffirmed its status as the market leader in the pocket PC category worldwide. There are two series of iPAQ pocket PCs: the 3800 series and the 3900 series, ranging in price from \$549 to \$749. The iPAQs are known for their expandability, accepting a host of accessories such as additional memory, wireless cards, and modems. The 3900 series features a new display technology that is both brighter and has better contrast than previous models. Another exciting function of the 3900 is its ability to work as a universal remote control. The consumer IR (infrared) function is certainly the first step toward the pocket PC's being used to control devices in a smart home. There have also been "tweaks" to the software — a new backup application, and Bluetooth in the higher-end model — that consumers will certainly appreciate. Product design and overall appearance have been important to HP's success with the iPAQ. Even if an employer is ultimately paying for the device, design and elegance are really important to this category of user. The iPAQs are very powerful devices marketed to mobile professionals — they could be self-employed, field sales reps, IP managers at a large corporation, or any number of other occupations. It is a nice blend of consumers who are seeking a distinctive pocket-PC product.



Hewlett-Packard iPAQ

Clearly, CE retailers must carve out niches that best suit them, sorting through the countless opportunities that exist within the wireless and PDA categories. These are heavily promoted items sought after by a diverse clientele, and the constant and rapid cycle of new technology is continuously driving consumers to explore the latest and greatest.

## THE LINGO: A GLOSSARY

**Telematics:** The integration of wireless communications, vehicle-monitoring systems and GPS (Global Positioning System) location devices.

**Tri-mode:** A telephone capable of accessing three different technologies, such as

CDMA (1900MHz), CDMA (800MHz), and analog.

**Unified Messaging:** Technology that allows for users to manage e-mail, voice and fax messages from any phone, PC, or wireless device.

**Voice-Activated Dialing:** A feature that allows a subscriber to dial a phone number by spoken commands.

\* A glossary of terms is available at the Consumer Electronics Association (CEA) Web site; the address is [www.cea.org](http://www.cea.org).