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## Simonizing the PDA

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### *BellSouth's communicative Simon is a milestone in the evolution of the PDA*

*Chris O'Malley*

When computer makers say, "PDA" (personal digital assistant), they're referring to a small, pen-operated computer that might be able to wirelessly send or receive data, but not voice calls. But telephone companies, understandably, are apt to take a different view, which is why Simon says, "Talk."

Simon is BellSouth Cellular's intriguing new so-called personal communicator. Developed largely by IBM, Simon is essentially a cellular phone with the electronic innards and LCD face of a PDA. As such, Simon can not only serve as your portable phone, but it can also ply the cellular airwaves with data. Simon can send and receive E-mail, faxes, and pages. And while each of these avenues has its limits, Simon is easily the most communicative PDA to appear thus far.

Simon may also be one of the most expensive PDAs to appear thus far--or one of the least costly, depending on your point of view. Simon lists for \$899 with cellular-service activation from authorized dealers (in a BellSouth Cellular market) or \$1099 without service direct from BellSouth. In an age when cellular phones are sometimes given away to lure customers, and they rarely sell for more than \$500 in any case, that's a lot to pay for a phone. But Simon is more than a phone, and rigging a PDA (or any portable PC) with two-way wireless data features costs a lot more--and still doesn't give you voice capability.

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At first glance, Simon appears to be a throwback rather than a trendsetter. Its brick-like shape (8 by 2 1/2 by 1 1/2 inches) and heft (18 ounces with battery) give it the look and feel of a vintage handheld. Since 1989, Datalight's Cell

pad, Simon has a narrow, backlit LCD screen--the only visual clue that it may be something other than a cellular phone (see the photo).

But this is merely a clue at first, since the opening screen depicts a dial pad, a signal-strength gauge, and familiar cellular ``buttons," such as Send and Quick Dial. Once you begin to peruse its menus and peer into its cavities, it finally becomes apparent that this is as much a PDA-like organizer and data communicator as it is a phone. This mild deception may be Simon's most striking quality: It looks and feels like a product you already know how to use, rather than a new religion you must immerse yourself in.

There is familiarity in Simon's components, too. Inside, Simon is basically a miniaturized DOS computer joined with a modem and a cellular transmitter/receiver. The CPU is a 16-bit x86-compatible processor running at 16 MHz, a single-chip design manufactured by Vadem. Simon runs a version of DOS called ROM-DOS, from Datalight, and has 32 KB of ROM dedicated to the system's BIOS. There's 2 MB of flash memory that stores Simon's built-in applications (from 1 MB, using Stacker compression), and another 1 MB of pseudo-static RAM for running the programs and storing user data. Roughly 640 KB of this memory is actually available for your use.

Many of the unit's hardware features are less than exotic, too. There's a 2400-bps Hayes-compatible modem inside that uses the MNP 5 protocol to help stream data through the often-turbulent cellular airwaves. Simon also has 9600-bps send-and-receive fax functions. At 4 1/2 inches tall by a mere 1.4 inches wide, its backlit monochrome LCD is small; it has an all-points-addressable touch overlay that you can electronically write on with either the included stylus or your finger. The display is otherwise unremarkable, although the very fact that it's backlit makes it stand out among PDAs and palmtops. Even Simon's expansion port is in the form of the now-commonplace Type II PCMCIA slot.

IBM didn't reinvent the cellular wheel, either; Simon's cellular functions come via the same Mitsubishi RF transceiver that's used in several hand-held phones. As with all portable cellular phones, transmitting power is limited to 0.6 W. Externally, the unit has a retractable antenna on top, and a 33-pin connector at the bottom for an RJ-11 land-line adapter or a (as yet unannounced) serial cable for linking Simon to a PC.

Simon uses a rechargeable nickel-cadmium battery pack that slides onto the back of the unit. The included slim battery

pack provides about 1 hour of talk time (for conversation or data transmission) and 8 to 12 hours of standby time (i.e., the amount of time you can leave the phone on so it can receive calls).

A thicker, high-capacity pack can deliver roughly double these figures. But battery life varies, depending on how much you are using Simon to do other things, such as entering names and appointments into its organizing utilities. A lithium coin battery inside the unit provides up to 2 1/2 days of backup power for your data if the main battery is drained or removed.

#### Simon's Software

Although Simon's hardware is largely a condensed compilation of proven performers, its software is another story. The user interface and applications were designed from scratch by IBM to fit Simon's narrow screen and make good use of its phone functions. Only one of its applications, cc:Mail, exists outside the Simon. (BellSouth says it intends to select third-party publishers to develop additional applications for Simon, but none had been announced by the time this went to press.)

The software is broken down into two main areas: phone (i.e., voice) functions, and what BellSouth calls "mobile-office" functions. You access the phone functions through the simulated dial-pad screen and a handful of accompanying menus, such as a list of one-button Quick Dial numbers or a list of direct-dial buttons showing the last 10 numbers you've called. It's as simple to use as any cellular phone, and a telephone icon at the bottom of the screen lets you get to the dial pad quickly, regardless of which application you're in.

Simon has a few features that you don't find in every cellular phone. It simplifies calling while out of your home area (known as roaming) by reducing the necessary steps to just pressing a few preference buttons. It also supports multiple cellular phone numbers, or NAMs (numerical assignment numbers), and it can answer your calls automatically.

But perhaps Simon's biggest phone perk is that it can act like a pager. When a call comes in and goes unanswered, the caller can leave a phone number, which is recorded in Simon's pager menu. Simon then beeps and darkens the Phone Pager button. It can store up to nine numbers, which you call back with a one-touch selection.

The mobile-office functions consist largely of the usual PDA/organizer fare (see the box above): address book, appointment calendar, notepad, sketchpad, calculator, and to-do programs, plus utilities for setting system preferences and a password, managing data files, and changing the time and date. But because Simon has built-in communications gear,

it adds fax and E-mail functions to the mix. The fax program allows you to use either the notepad or the sketchpad to create faxes, and you can view and annotate (as well as send) the faxes. The E-mail program is based on cc:Mail Remote and works with any cc:Mail host that supports remote users.

All these programs share a clean design and are so easy to use that you'll rarely need to poke your nose inside Simon's skinny user's manual. They are also fairly well integrated. You can call, fax, or send E-mail to someone from the address book, for example. You can also dial a number contained in an E-mail message and forward an E-mail message as a fax.

### The Bad with the Good

Even with all its good points, there's no shortage of frustrations with using Simon; many of them are minor, but a few are major. While you can operate Simon with a pen, it doesn't do handwriting recognition. Thus, you're left to enter data with either a tiny on-screen QWERTY keyboard or the PredictaKey keyboard, which automatically displays the next six characters most likely to be used (and lets you page through the alphabet six letters at a time according to this probability formula). You can also flip to a numeric keypad.

The PredictaKey works better than I expected it would. It seems to get the correct next letter among its first six about 75 percent of the time. But entering names into the address book or tapping out fax and E-mail messages are tedious chores. Simon needs either an adjunct keyboard (a palmtop-style one would do) for data-entry sessions or a desktop-linking kit that would enable you to transfer data from your PC. BellSouth says it intends to provide the latter soon; there's already a Link PC button for this function in the file-managing program.

Faxing with a device of this small size can be frustrating, too. You can scribble handwritten messages for creating quick faxes, but Simon's narrow screen and relatively poor pen tracking ensure that the results are usually quite atrocious. Simon is best at simply letting you view faxes (while holding the unit sideways) and then perhaps forward them after doing a quick markup. Likewise, long E-mail messages can be a real drag to read through, although you can limit incoming mail to about a paragraph if you wish. You can't receive files attached to E-mail messages, either.

### Simon Does

As cellular phones go, Simon doesn't have much staying power. Even the smallest flip phones typically have more talk and standby time than Simon, and portable phones that approach Simon's size give you much more. That's not

necessarily a fair comparison, but realistically, Simon's competition will include cellular phones as well as PDAs. Another power peeve: There's no battery gauge, either on the main or backup battery, so you have to guess when Simon is going to quit (although you won't lose data when it does, thanks to the backup battery).

Merging a phone and a PDA has another bad side effect: You can't take notes or use Simon's other features while conversing, since the screen is up next to your ear. The more you depend on Simon, the more irksome that drawback becomes, since you'll want to enter all your appointments, phone numbers, and the like into it.

Regardless, Simon has a full range of communications options, and, most important, they work. Simon is no less fickle than other cellular phones for voice calls; it's clearer in some areas than others, depending on local signal strength, and it usually works better outdoors. But it completed reasonably clear calls made from inside airports between West Palm Beach and San Diego on one recent trip I took, and it also consistently performed well in my car.

But data transmissions are dicier, with Simon dropping the cellular connection 10 percent to 20 percent of the time in my experience. But an 80 percent to 90 percent success rate is nothing to complain about for sending data in analog fashion over the cellular system (Simon doesn't support the emerging CDPD [Cellular Digital Packet Data] digital cellular service).

#### PDA Progress

In addition to the high-capacity battery (\$78) and RJ-11 phone connector (\$119), Simon's other options include 1-MB and 1.8-MB PCMCIA memory cards (\$224 and \$279, respectively) and a travel charger (no price had been set at press time) that lets you recharge Simon's batteries directly from an AC outlet so you don't have to carry the recharger base with you. In addition, BellSouth has plans to offer a cigarette lighter adapter as well as an alphanumeric paging card similar to the one that the company's MobileComm division offers for Apple's Newton. The paging card will let you receive pager messages and E-mail from public services.

Whether or not Simon is your idea of the ultimate (for now) personal communicator depends on how appealing you find the combination of voice calls and E-mail--and maybe on how little you need a laptop. Clearly, Simon won't replace portable PCs, but it's equally clear that it represents a milestone in the evolution of the PDA.

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## The Facts

Simon \$899  
(in BellSouth Cellular service areas; otherwise, \$1099)  
BellSouth Cellular Corp.  
1100 Peachtree St. NE  
Atlanta, GA 30309  
(800) 746-6672  
fax: (404) 717-2111

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## Selected Simon Features

### ADDRESS BOOK

- Auto-dialing
- Search

### APPOINTMENT CALENDAR

- Alarms
- Periodic meetings
- One- or three-month view

### CALCULATOR

- Standard
- Financial
- Metric conversion
- Programmer

### CELLULAR NUMERIC PAGER

- Stores nine numbers

### CELLULAR PHONE

- Last 10 numbers
- Quick-dial list (16 numbers)
- Call timing
- Vox (voice-activated transmitter)

### DIAGNOSTICS

### E-MAIL

- Lotus cc:Mail Remote
- Can limit to short messages

### FAX (9600-BPS GROUP 3)

- Viewing with zoom
- Busy retries
- Fax storage

### FILER

- System memory or PC Card storage (optional)
- Copy, rename, delete, back up, and restore

NOTEPAD

SKETCHPAD

SYSTEM SETUP

- Password locking
- Power management settings

TO-DO LIST

WORLD CLOCK

- World-map view
- Alarm

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*Photograph: Simon looks like a large cellular phone except for its replacement of the dialing keypad with an LCD look-alike (right inset). Through the touchscreen, you operate the phone functions and a group of small PDA applications, such as the E-mail program shown (a small-screen version of Lotus cc:Mail).*

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