

Report from Comdex

6 up-and-coming dental-office technologies



DR. LARRY EMMOTT

Comdex is the massive computer and technology trade show, organized by Key3 Media Group, which takes place every November in Las Vegas. The high-tech show attracts industry leaders as well as new start-up companies hoping to have the next "killer app." Comdex attracts as many as 200,000 technology professionals from around the world. In other words, for a techno geek like me, it is "Nerdvana."

Following are six high-tech goodies (and a robot dog) from Comdex Fall 2001, which (except for the dog), may be making their way into the dental office in the next few years:

1. Rubber keyboards
2. Digital microscope
3. Keyless keyboard
4. Network-inventory tracking software
5. Wearable computers
6. Flat-panel touch-screens, and... Aibo, the robot dog

By Dr. Larry Emmott

1. RUBBER KEYBOARDS

Man & Machine Inc. has developed the Flexboard line of rubberized keyboards. The keyboards are completely sealed to prevent damage from moisture or other contaminants. The company even has a specific keyboard model for medical use; it can be disinfected with "spray and wipe" techniques so that it can be used in a hospital operating room. It also offers a line of rubberized mice.

Some of the keyboard models can be rolled up for easy transport. For example, a hot item is a mini-rubberized keyboard; it can be attached to a PDA (Personal Digital Assistant), such as a Palm or Visor. When rolled up, the mini-keyboard looks like a small egg roll.



The Flexboard rubberized keyboard line from Man & Machine includes this yellow office model. The waterproof, flexible keyboard is sealed to prevent damage from water and contaminants. A rubberized mouse is on the left.

The Flexboard keyboard is available in office/home and industrial/medical versions, costing \$129 and \$229, respectively. Information on the keyboard/mouse line is available at www.man-machine.com.



2. DIGITAL MICROSCOPE

This device—the ProScope digital microscope and software kit by Scalar from Bodelin Distribution—is amazing. It is essentially a digital video camera with a magnifying lens that turns the camera into a digital microscope. However, the most amazing part is the price. A basic kit costs only \$219.

The digital microscope connects to the computer via a USB (Universal Serial Bus) port, so it can work with virtually any computer without a fancy capture port. The kit also comes with basic software, allowing users to freeze and save still images.

Currently, the ProScope is used mostly in education and police forensics; for example, it can capture magnified digital images at a crime scene. However, the device has great potential in many other fields, including medical/dental and dental lab work.

The ProScope is made by Scalar, a Japanese company that specializes in microscopy; Bodelin, its American distributor, is a distributor of computer peripherals.

The ProScope USB 50X Imaging kit comes with a 50X detachable lens and basic software for both Mac and PC.

Optional accessories include three additional ProScope lenses: a 100X lens and a 200X lens for greater magnification and a 1-10X lens for digital video. The company also offers a standard C-ring lens mount adapter, which allows mounting of standard lenses to the ProScope. A stand or tripod mount is also available.

Information on the ProScope is available at www.theproscope.com.



The ProScope digital microscope and software kit allows users to magnify objects (as the butterfly above) and capture them as enlarged images on a computer.

ProScope's features include the following:

1. Interchangeable lenses: 1-10X, 50X, 100X, 200X or standard C-Mount lenses
2. Instant snapshots saved to your desktop
3. Standard camera mount in front and in back
4. USB compatible for PC or Macintosh
5. Backlit for easy viewing
6. Tough plastic construction



The Senseboard "virtual keyboard" is a small device containing sensors that attaches to the palms of the hands. It allows users to type on any surface as if it were a keyboard.

3. KEYLESS KEYBOARD

The Senseboard Virtual Keyboard from Senseboard Technologies AB won the Best of Comdex 2001 award for the Best New Technology. The "virtual keyboard" is a little over the edge, but the idea is so intriguing it just might catch on. The product will be released in the first quarter of 2002.

The virtual keyboard is a pad measuring about one-and-a-half inches by three inches that fits over the palm of your hand. It can sense the movements of your fingers and translate them into keyboard strokes. Users simply can wiggle their fingers in midair to type. Its like playing air guitar, only this is air keyboard. You also can type on a tabletop or on your knee. Of course, if you are a hunt-and-peck, one-finger typist, it won't work too well.

The product is designed for use with a handheld Palm PDA or for anyone struggling with a tiny keyboard. The benefit to the dental office is that it would be possible to wear gloves over the sensors. That would allow users to type any time without fear of contamination and without taking the time to find a place to keep a bulky keyboard in the treatment room.

Senseboard Technologies AB is an information technology company based in Stockholm. Get a look at its Senseboard at www.senseboard.com.

4. NETWORK-INVENTORY TRACKING SOFTWARE

Several companies at Comdex offered some type of network tracking system. The systems vary, but the basic process allows users to create a complete inventory of all of their computer hardware and software on the office network in minutes.

That means users get a list of every computer and its basic specs, such as processor, speed, RAM (Random Access Memory), devices, and all the rest. It also provides a software inventory that shows all installed software and the version in use. In addition, the tracking system can monitor how often each application is being used. Some systems also will detect conflicts and deploy updates across the network. These tools can be used by the dentist or by the office technical support person.

The hardware inventory will be useful for insurance or practice valuations. It would even more valuable, though, as a tool to plan for computer upgrades and replacements. For example, it could help prevent you from installing a new application that is too powerful for your computers. When that happens, frequent crashes result, everyone is frustrated, and you never get value from your investment.

The software inventory will be even more useful. It may pick up some stray programs or games that staff members have brought in from home. It also could show you how often certain programs are being used at each station. For example,

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Name	My Version	Current Version
Animation Shop	1.0.0.1	3.0
EPSON Status Monitor 3 Environment CP	2.0.4.0	3.v1.0ca
Intel Corporation 810 Graphics Controller	5.11.1.133	5.13.1.2843
Intel(R) 82559 Fast Ethernet LAN on Mo	4.2.38.0	5.0.2a
Microsoft Access	9.0.0.2719	10.0
Microsoft Excel	9.0.0.2719	10.0.2614
Microsoft Office	9.0.0.2617	9.0.3720
Microsoft Office 2000	9.0.0.2717	10.0.2930.0
Microsoft Outlook	9.0.0.2416	10.0.2627.1
Microsoft PowerPoint	9.0.0.2716	10.0
Paint Shop Pro 5	5.0.0.0	7.04
Staff Resuser	9.5.1.0	7.0

TechTracker ITX software from TechTracker Inc. provides a complete inventory of all computer hardware and software in an office network. For example, TechTracker ITX's WatchList feature (above) shows the installed software and the version in use for six Microsoft programs, including Excel, Office, and Outlook.

5. WEARABLE COMPUTERS

For years, Xybernaut Corp. has been developing wearable computers for business. Now, with improved wireless communications, Xybernaut also has developed small, personal, wearable computer models. A consumer version will be out next year, which will cost about \$1,500.

The original idea behind wearable computers was to connect workers in the field to a computer. It was directed at repair personnel working on the road or, possibly, working within a confined area. Now, that has progressed to many other uses and medical/dental is a natural next step.

The company recently has introduced a wearable computer system with two computer screens. One screen is a flat panel touchscreen, which can be used

for viewing and data entry. The other screen is what is called a heads-up display with voice commands. (A heads-up display is a head-mounted display that covers only one eye; some head-mounted displays cover both eyes preventing the user from seeing his or her surroundings.)

Here's how the heads-up display with voice recognition works. The user talks to the computer through a microphone (like Madonna), and then voice commands take the place of a keyboard or mouse. For example, the user simply says, "Open file," "Scroll down," "Choose icon," or gives other commands, and the file or icon will come up on the heads-up display.

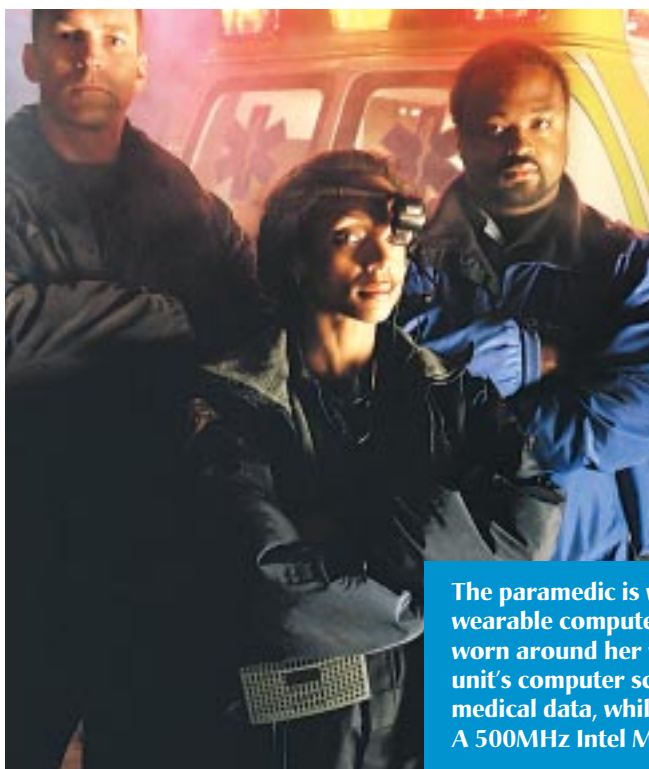
In addition to this capability, the unit can connect, via a wireless network, to the office server, and from there to anywhere in the world using the Internet.

In the future, with wearable computers dental assistants may not need a computer in every room to do charting. They would be wearing the computer, and it would go wherever they would go. Imagine answering the phone via a wireless headset anywhere in the office and then looking up the patient chart and making an appointment on a heads-up display.

The dentist also could wear a computer to view x-rays and photos during the treatment and, even, to view a live image of the tooth through the intraoral camera. A prep guide and check list could be set to scroll down the display. You could even check stock prices or baseball scores while you're working.

For more information, visit Xybernaut at www.xybernaut.com.

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The paramedic is wearing Xybernaut's Mobile Assistant 5 wearable computer, which consists of a one-pound processor worn around her waist and a heads-up display unit. The display unit's computer screen allows the paramedic to view emergency medical data, while keeping her hands free to work on patients. A 500MHz Intel Mobile Celeron processor powers the unit.

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it might be interesting to find out that station three is using the Solitaire program three to four hours a day. Or, maybe station two is on the Internet all afternoon.

More typically, the software inventory will help you decide which software is used, how many licenses are required, and give you a tool to keep versions up to date and uniform. Two sources for this type of service are TechTracker Inc., a provider of computer stability and security solutions, and Belarc Inc., which develops Internet-based products that help make personal computers easier to use and maintain.

TechTracker's flagship product is TechTracker ITX (see screen image above), which allows information technology (IT) managers to make more informed decisions around software troubleshooting, security, maintenance, and licensing.

Information on these companies and their products is available at www.techtracker.com and belarc.com.

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6. FLAT-PANEL TOUCHSCREENS

The flat-panel touchscreen is not a new technology, but it has improved. Also, prices have dropped significantly in the last year. A touchscreen is a natural for

the dental office. It saves space, eliminates the need for a mouse, keyboard, or light pen and makes asepsis easier. Light pens won't work with a basic flat-panel LCD, making a touchscreen the ideal solution.

Cieos Inc. has developed Cieoport, a computer specifically for the dental treatment room that uses a flat-panel touch-

screen. The Cieoport LCD, flat-panel touchscreen connects with a variety of video sources and digital x-ray interfaces.

FastPoint Technologies, famous for making light pens, has introduced a 15-inch flat-panel touchscreen model (right).

Both of these touchscreen models can be used either with a finger or a stylus to



The FastPoint 15-inch touchscreen LCD monitor can be used either with a finger or with FastPoint's autoclavable stylus (above) to improve asepsis.

improve asepsis. Just a year ago, flat panel touchscreens cost \$4,000 and more. FastPoint's 15-inch model retails for \$1,299 (but it can be found for around \$900—shop around). To see these products, look at www.fastpoint.com or www.cieos.com.



Could Aibo, Sony's robot dog, be programmed to greet patients?

AND... AIBO, THE ROBOT DOG

Aibo, Sony's robot dog, is cute, ingenious, entertaining—and expensive; Sony's 2nd Generation Aibo costs \$1,500.

My friend, Dr. David Dodell, the creator of IDF (Internet Dental Forum), was looking for a dental application for Aibo, who was on display at Comdex. We had to search for one, but here it is. Aibo will be the final piece in creating a Front Deskless office. Aibo can be programmed to greet patients. It is cute and will even roll over in greeting. It can lead patients down the hall to treatment rooms. After the work is done, Aibo can sit up and beg for the money. To see him in action, go to www.us.aibo.com/.

Personally, I don't expect us to be using robots, dogs, or otherwise, to greet patients. However, you never know, for "The future is coming and it will be amazing!" **DPR**

Dr. Larry Emmott, a recognized authority on dental technology in America, is a practicing general dentist in Phoenix, Ariz. He also is an award-winning speaker who has addressed hundreds of professional groups. He is a featured Instructor at the Las Vegas Institute and a member of the American Academy of Dental Practice Administration. He has written hundreds of articles on dentistry, computer use, and management. Since 1995, he has written a monthly electronic newsletter, Emmott on Technology, on how to minimize costs and maximize profits in practices through effective use of technology. Visit his computer-users Internet Web site: www.drlarryemmott.com.