



As more educators come to appreciate the value of interactive whiteboards (IWBs) as tools to facilitate teaching and learning, a growing number of IWB solutions are cropping up on the market.

Joining the ranks of traditional IWB products from companies such as Promethean and SMART Technologies are new entries such as PolyVision's eno, which is a three-in-one solution that can serve as a dry-erase, magnetic, or interactive surface. In addition, a number of vendors have developed hardware and software that can turn almost any flat surface into an interactive whiteboard nearly instantly.

For example, AVRover's SVS200 with ONfinity CM2 Max is a portable AV system that can turn almost any surface into an IWB. And mimio's Interactive System includes a small bar, stylus, mounting hardware, software, and USB interface that can attach to any dry-erase board or other surface to make it interactive.

What's more, the mainstays of the IWB market are constantly adding new features and capabilities to their own existing solutions—from wireless tablets and response systems to new touch-input functionality. In short, educators have a wide array of products to choose from.

To help you find an IWB solution that's well suited to your needs, we've compiled the first in a series of planned Product Face-offs for 2009. Assembled with the help of a blue-ribbon panel of advisors from industry-leading companies, school systems, and independent research firms, the chart on the following pages allows you to compare the key features of a number of IWB solutions.

If you're just starting your own IWB research, this chart can help answer some basic questions you might have, such as: How big is it? What's included in the price? Can it also be used as a dry-erase board? Are the electronic components easily replaceable?

And though our comprehensive chart will help answer many basic questions, our whiteboard advisory panel has also created a list of questions you might want to ask as you evaluate potential IWB solutions:

1. Does your school have a lot of applications (Microsoft Office, ExamView, etc.) that students use for projects on a daily basis? If so, you'll probably want an IWB with open architecture.
2. Does the vendor provide discounted upgrade options? Many IWB vendors offer discounted opportunities for educators to upgrade software and buy other peripherals, such as wireless tablets, remotes, and student response systems. These discounts might be offered for several years from the initial purchase, as users likely will move on to more sophisticated use over time.
3. Does the IWB vendor have a good service record?
4. What are the ongoing costs of upkeep and maintenance? Are repairs easy to make?
5. Will the IWB need to be calibrated and, if so, how often?
6. What kinds of training does the vendor offer? Will the vendor show you how to create your own IWB content? Integrate vendor content into the curriculum? Does the vendor offer recorded sessions? Follow-up sessions?
7. Do you want, or does your class need, an advanced toolset? (Educational clip art, mathematical symbols, calculators, polls, timers, file and application sharing, web tour, etc.) Are these toolsets included in the cost of the board?
8. Can you easily tab through screens? (In other words, how easy is it to go back to another screen to reference something and then return to the current screen?)
9. Is the IWB wheelchair accessible?
10. Is the interface intuitive for both you and your students?

We hope this guide will be useful as you consider an IWB solution for your schools. And be sure to watch for our upcoming Product Face-offs on Library Management Systems (May 2009), Learning Management Systems (August 2009), and Video Streaming Services (November/December 2009).

**See Product Face-off, page 12**

## Glossary of Terms

**Basic Tool Sets:** Annotations, text, shapes, images, object manipulation, flipcharts, and multimedia files.

**Diagonal:** Refers to the diagonal active screen area of the whiteboard.

**DPI:** Dots per inch.

**Electromagnetic:** An array of wires embedded behind the board surface interacts with a coil in the stylus tip to determine the (X,Y) coordinate of the stylus; there are magnetic sensors in the board that react and send a message back to the computer when they are activated by a magnetic pen.

**EVS Surface:** A whiteboard surface technology with a smooth, easy-to-clean, non-porous surface. It provides a matte-white surface with low-gloss factor. When fused to a honeycomb core, the board becomes very lightweight.

**Infrared Technology:** When pressed to the whiteboard surface, the finger or marker is sensed by infrared light. Software then manipulates the information to triangulate the location of the marker or stylus.

**IWB:** An interactive whiteboard is a large interactive display that connects to a computer and projector. It contains all the equipment needed except the computer. A projector projects the computer's desktop onto the board's surface, where users control the computer using a pen, finger, or other device. The board is typically mounted to a wall or on a floor stand.

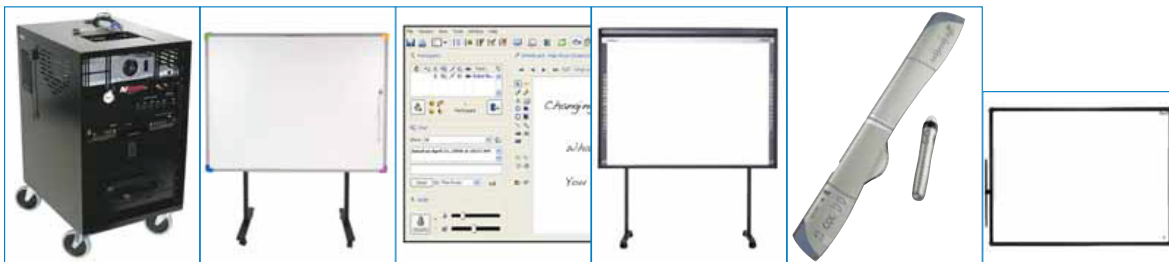
**PPI/LPI:** Pixels per inch/Lines per inch.

**Resistive Touch Technology:** Resistive touch screens are composed of two flexible sheets coated with a resistive material and separated by a microthin air gap. When contact is made to the surface of the touch screen, the two sheets are pressed together, registering the precise location of the touch. This technology allows a user to use a finger, a stylus, or any other pointing device on the surface of the board.

**RoHS:** Restriction of Hazardous Substances directive.

**XGA:** Extended Graphics Array.

# Product Face-off: Interactive Whiteboards



	<b>AVRover</b>	<b>eInstruction</b>	<b>Elluminate</b>	<b>Hitachi</b>	<b>mimio</b>	<b>Numonics</b>
<b>Product name</b>	SVS200 with ONfinity CM2 Max	Interwrite DualBoard	Elluminate <i>Live!</i> Virtual Whiteboard	StarBoard FXDUO-63; 77; 88W	mimio Interactive System	IntelliBoard
<b>Size (diagonal)</b>	Up to 108"	60", 77.5", 85", 95"	N/A	63", 77", 88"	N/A	62", 77"
Height adjustable?	Yes	Yes, with optional Adjust-it Stand	Yes	Yes	Yes; attaches to any flat surface using mounting brackets or suction cups	Yes; has five adjustable mounting positions
<b>Resolution</b>	N/A	65 lpi	N/A	500 lpi	100 lpi	1,000 lpi
<b>Technology</b>	Infrared	Electromagnetic	N/A	Infrared image sensor	Infrared image sensor; ultrasonic receiver	Electromagnetic
<b>Surface type</b>	N/A	Hard formica laminate	N/A	Cured resin	N/A	Hard formica laminate
<b>Input device</b>	digital pen	digital pen	finger or digital pen	finger or digital pen	digital pen	digital pen
Supports multiple input simultaneously?	No	Yes (two pens or up to nine remote tablets)	Yes	Yes, two at a time (Windows only)		No
<b>Compatibility</b>	Windows (XP or Vista), Mac OS X, Linux	Windows, Mac OS X, Linux	Windows, Mac OS X, Linux, Solaris	Windows (2000, XP, or Vista), Mac OS X, Linux	Windows (2000, XP, or Vista), Mac OS X, Linux	Windows (2000, ME, or XP), Mac OS X
<b>Accessories</b>	2000+ lumens projector, height adjustment system, DVD/VCR, mixer/amplifier with three speakers—all mounted inside a portable steel console	Pen charger, two digital pens, wall mount bracket  OPTIONAL- Floor stand, wall-mounted 3M projector with speaker system	N/A	Two retractable styluses, sliding height-adjustable mounts  OPTIONAL- Mobile floor stand, digital pen with three mouse buttons	Interactive Xi Bar, stylus, mounting hardware  OPTIONAL- 3M short-throw projector and carry case	Adjustable wall mount, cordless pen with full mouse capabilities  OPTIONAL- USB- rechargeable pen, mobile stand, E-Wand, wireless kit, Mac software kit
<b>System components</b>						
Replaceable electronics?	N/A	Yes	N/A	Yes	No	Yes
Student response system option	No	eInstruction CPS or PRS	Yes	No	In development	No
Teacher remote tablet option	AVRover RoverPad (\$325)	Interwrite Pad, Interwrite Mbi, and Interwrite Learner	Yes	Yes	mimio Pad	MPBT II Tablet
<b>Software</b>	FreeClass Interactive Wand software; RM Easiteach	InterWrite Workspace 8, ExamView	Elluminate <i>Live!</i>	StarBoard software	mimio Studio	Virtual Whiteboard software, RM Easiteach, Encyclopedia Britannica
<b>Additional features</b>						
Wireless connectivity	Yes (infrared)	Yes (optional RF)	Yes	Yes (optional Wi-Fi)	Yes	Yes, w/optional wireless kit
Theft protection	Yes	No	N/A	Yes	Yes	No
Supports dry-erase use?	Yes	Yes	N/A	Yes (not recommended)	Yes	Yes
<b>Cost</b>	\$3,440	Available on request	Available on request	Available on request	Available on request	Available on request
Includes installation?	No installation necessary	No	Yes	No	No installation necessary	No
Includes training?	Yes (online)	Yes	Yes	Yes (online)	Yes	Yes (online)
<b>Warranty</b>	5 yrs.	3 yrs.	N/A	5 yrs.	2 yrs. (5w/reg.)	Limited lifetime w/reg

# Product Face-off: Interactive Whiteboards

April 2009

eSCHOOL NEWS • 13



	<b>Panasonic</b>	<b>PolyVision</b>	<b>Promethean</b>	<b>QOMO</b>	<b>SMART Technologies</b>	<b>TeamBoard</b>
<b>Product name</b>	UB-T780EM UB-T780EW	ēno	Activboard	Infrared Board (IR) & Electromagnetic Board (EM)	SMART Board 600 Interactive Whiteboard System	TeamBoard RT or IR
<b>Size (diagonal)</b>	77"	78" (2610), 96" (2810)	64", 78", 95"	78", 88", 105" (IR only)	64" (660), 77" (680), 87.125" (685)	77" (RT), 110" (IR)
Height adjustable?	Yes	Yes, with optional adjustable stand	Yes, with optional adjustable stand	IR yes; EM no	Yes, with optional height-adjustable wall mount	Yes, with optional mobile stand
<b>Resolution</b>	360 lpi	677 lpi	200 lpi	65 lpi (IR); 130 lpi (EM)	65 lpi	65 lpi
<b>Technology</b>	Infrared image sensor; ultrasonic receiver	Unique, high-resolution camera	Electromagnetic	Infrared or electromagnetic	Resistive touch	Resistive touch or infrared
<b>Surface type</b>	PET-coated metal plate	Magnetic ceramic steel	Solid melamine surface	Hard-coated	Hard-coated	Hard-coated EVS
<b>Input device</b>	digital pen	digital pen	digital pen	finger or digital pen	finger or digital pen	finger or marker
Supports multiple input simultaneously?	No	Available in June	Yes, with an upgrade to Activarena	No	No	No
<b>Compatibility</b>	Windows (2000, XP, or Vista)	Windows (XP or Vista), Mac OS X	Windows, Mac OS X, Linux	Windows 2000, XP (EM supports Vista, too)	Windows, Mac OS X, Linux	Windows, Mac OS X, Linux
<b>Accessories</b>	Wall mounting plate, digital pen  OPTIONAL - Floor stand	Bluetooth-enabled stylus and receiver, movable magnetic icon strip, two replacement stylus  OPTIONAL - 12" or 24" magnetic tray, mobile adjustable-height stand, Hitachi or 3M projector	Mounting hardware, two ActivPens  OPTIONAL - Board-mounted, short-throw projector; height-adjustable mount	Three interactive pens (IR); wireless pen (EM); USB cable, wall mount bracket  OPTIONAL - Floor stand; Qview Document Camera	Board-mounted, short-throw projector; collapsible boom, pen tray, digital pens, eraser  OPTIONAL - SMART Document Camera; USB speakers; SMART Audio; floor stand; height-adjustable wall mount	Pen tray, six markers, stylus, EganCloth with mounting bracket, adapters and cables  OPTIONAL - Height-adjustable mobile stand; board-mounted, short-throw projector; protective cabinet; speakers
<b>System components</b>						
Replaceable electronics?	No	No	Yes	No	No	Yes
Student response system option	No	Qwizdom student response system	ActivExpression and ActivVote	Qclick	Senteo interactive response system	No
Teacher remote tablet option	No	RMClasspad	ActivSlate and ActivRemote	QIT30 RF wireless tablet	AirLiner wireless slate	Bluetooth wireless tablet
<b>Software</b>	RMEasiteach	RMEasiteach	Activstudio (middle, secondary, and higher education); Activ-Primary (elementary); ActivInspire	Flow! Annotation software, RM Easiteach	SMART Notebook	TeamBoard Suite 5, RMEasiteach
<b>Additional features</b>						
Wireless connectivity	Yes (optional)	Yes	Yes (Bluetooth, RF)	No	Yes	Yes (Bluetooth or Wi-Fi)
Theft protection	No	No	Yes (projector only)	No	Yes	No
Supports dry-erase use?	Yes	Yes	Yes	Yes	Yes	Yes
<b>Cost</b>	\$1,995	2610 \$1,595 2810 \$1,995	\$1,099 (64"); \$1,299 (78"); \$1,899 (95")	Available on request	Available on request	Available on request
Includes installation?	No	No	Varies by system	No	No	No
Includes training?	No	Yes	Yes (online)	No	Yes (online)	Yes
<b>Warranty</b>	120 days	Lifetime (surface); 10 yrs. (board); 2 yrs. (components)	5 yrs.	2 yrs.	2 yrs. (5w/reg.)	5 yrs.