



# TECHNICAL BULLETIN

1.866.518.6791 or +1.403.228.5940

Issue 1– March 14, 2003

## Changes to the 3000i with Digital Vision Touch (DViT™ ) Technology

SMART has developed a new technology – Digital Vision Touch (DViT) technology – that provides touch and tool-recognition capability using digital cameras rather than analog resistive materials. This technology has been incorporated into both *Rear Projection SMART Board™ 3000i* interactive whiteboards and *SMART Board for Plasma Displays* units that will be shipped to customers starting on March 17, 2003.

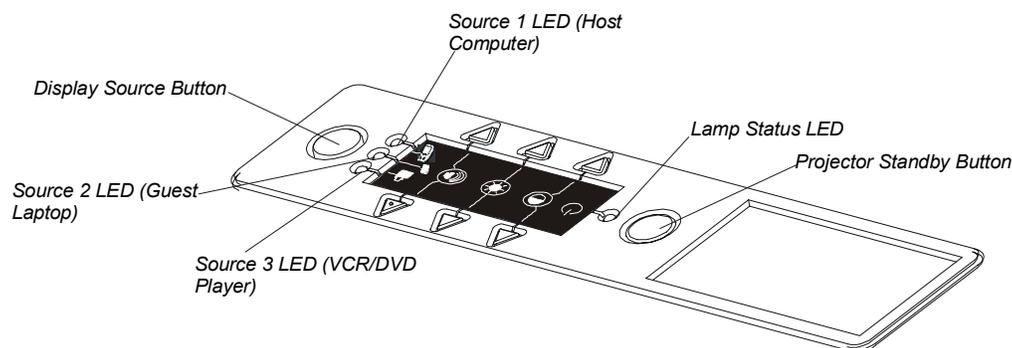
This bulletin will focus on changes to 3000i operation and maintenance that have been introduced with DViT technology. With the disappearance of the analog resistive layers, the most obvious changes are a much higher contrast and a brighter screen image. From the user's point of view, very little else will look different. However, we've taken advantage of the redesign of the cabinet and the revision of the Control Panel firmware to introduce a few other improvements.

3000i units with DViT technology have a serial number of 3000i-DV-09000 and greater, contain an SC8.0 serial controller and include version 3.0 of Control Panel (a.k.a. Wonderbar) firmware. The projector for the 3000I-DV is the same NEC MT1060 as was shipped previously.

### Changes to Control Panel Behavior

#### Reversible Standby Mode Now Interruptible

If you're familiar with the Control Panel on the 3000i, you know that pressing the Projector Standby button at the end of your session initiates a five-minute reversible-standby period. In this state, the screen is black, but the projector lamp remains on so you can restore the image instantly by pressing any button on the Control Panel. After five minutes, the lamp begins to power down, and after an additional 90 seconds, full standby mode is reached. With the DViT technology version of the 3000i, you can skip this five-minute wait. Press and hold the Projector Standby button for approximately three seconds, and the lamp will start to power down right away, reaching full standby mode in 90 seconds.



*The Control Panel on the 3000i*

#### Enhancement to Source-Changing Functionality

We've also added a minor variation to the display-source sequence. Previously, if you pressed the Display Source button, the system cycled from source 1 (host computer) to source 2 (laptop) to source 3 (VCR/DVD player) and then back again to source 1. However, we found that while the VCR source tends to be used statically, users typically switch back and forth between source 1 and 2, displaying the host and the guest laptop sources alternately.

With the 3000I-DV, if you switch from source 1 to source 2, and then pause for at least 60 seconds, you'll automatically return to source 1 when you next press the Display Source button. Of course, you can still switch from source 1 to source 3: Press the Display Source button once, wait about ten seconds (until the source 2 LED stops flashing), and then press it again.

During source-switching, the next source LED in the sequence now flashes once per second during the ten-second switching interval. When the flashing stops, the projector input has successfully switched to the next source. This change provides a visual cue so users will know when a new source is active and, if they're switching to the next source, when to press the Display Source button again.

### **All Settings Retained when Sources Are Switched**

Previously, only the volume setting was retained for each source after source switching. Now, when you adjust contrast or brightness for any source, the settings are retained for that source, even when you switch to another source.

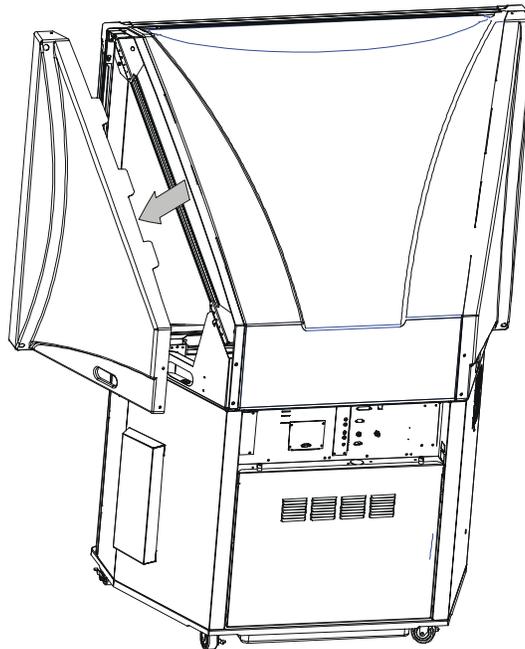
To restore the default levels of volume, contrast and brightness, just press the Up and Down buttons at the same time. The default levels of brightness and contrast are both set at 50%. The default audio level is 0 (no sound).

## **Maintenance Issues**

### **Removing the Side Panel to Perform Projector Maintenance and Troubleshooting Activities**

Previously, we've recommended removing the projector from the cabinet when the lamp needs to be replaced. While this remains a valid method of accessing the projector, we'd like to suggest a less labor-intensive option.

Remove the side panel on your left (as you face the cabinet) to replace the projector lamp, and remove the side panel on your right to clean the projector filter.



**Removing the Side Panel**

You'll then have more than enough room to reach down to the projector and perform these procedures, which are described in the NEC projector manual. However, you must be extremely careful not to touch the back of the screen or brush against it with your head while you're examining or performing maintenance procedures on internal cabinet components.

By removing the side panel, you also gain access to important components like the SC8 controller, the Communications Hub and the two 12V power supplies. Side-panel removal is also a necessary preliminary step when you're removing the interactive whiteboard screen. You should avoid removing both side panels at the same time.

For complete instructions on side-panel removal, see Appendix A of the *Rear Projection SMART Board 3000i Installation Guide*.

## Cleaning the Projector Filter (and Clearing the Reminder Message)

The 3000i has been shipping with an installed NEC MT1060 projector since November, 2002. During this time, many users have noticed that a "Please Clean Filter" message from the projector appears on the bottom of the screen after 100 hours of operation. This message will appear for about a minute each time each time you start up, and then disappear until the next time you start up. Unfortunately, cleaning the filter doesn't make this message disappear. To make the message disappear for good, you must clear the filter-usage meter back to zero, as described below.

### To remove the "Please Clean Filter" message

- 1 Press the **Menu** button on the projector remote control.
- 2 Select **Advanced Menu > Projector Options > Menu > Setup**. Click the **Page 4** tab and then click the **Clear Filter Usage Meter** button.

The meter returns to zero. You won't receive another "Please Clean Filter" message for 100 hours.

**NOTE:** Regular replacement of the projector air filter is necessary to maintain optimal performance, and it should be cleaned every 100 hours of operation. Otherwise, the projector may overheat. Turn to page E-54 in the *NEC MT1065/1060/MT860 User's Manual* for complete cleaning instructions.

## Screen and Camera Care

With analog resistive technology, the screen covered a layer of sensitive circuitry, so a certain amount of care was required when making contact with it. With DViT technology, this multi-layer screen has been replaced by a significantly more robust screen that can tolerate much greater degrees of force.

To clean the screen, we recommend spraying a standard, non-alcohol glass cleaner onto a cloth and then wiping the screen surface, rather than spraying the cleaner directly on the screen.

The cameras are well protected from dust and dirt, so you should only clean the camera lens very occasionally. When you do so, avoid spraying glass cleaner directly onto the lens. Instead, spray the cleaner onto a cotton-tipped swab and rub it gently on the lens.



*Camera in Corner of Bezel*

## Digital Visual Interface (DVI) Projector Support

To enable a DVI connection between the computer and projector, press and hold the Volume Up, Brightness Up and Contrast Up buttons at the same time for three seconds. All the LEDs should flash three times to indicate a DVI selection, and then the projector source changes to DVI.

With DVI enabled, whenever the system would have previously switched to RGB1, it now switches to DVI when you toggle through the three sources with the Display Source button. In addition, the source message that appears in the upper-right corner of the screen will also say **DVI (Digital)** rather than **RGB1**.

To disable DVI, simultaneously press and hold the Volume Down, Brightness Down and Contrast Down buttons for three seconds. All the LEDs flash three times to indicate that DVI is disabled, and the projector source returns to RGB1.

Note that the projector is set to default to RGB1. Therefore, if you want the DVI connection to extend beyond the current session, you'll need to alter that default setting in the projector menu as described below.

**To change the RGB1 default to DVI**

- 1** Press the **Menu** button on the projector remote control.
- 2** Select **Advanced Menu > Projector Options > Menu > Setup**. Click the **Page 6** tab.
- 3** Click the scroll-down button under **Default Source Select** and select **DVI(Digital)** from the list.
- 4** Click OK.

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