

## Tech Note

Uploading new firmware into the DFP-D3000 using a PCMCIA (PC Card) flash memory card or a connected computer.

Product: DFP-D3000.  
S/N: All units with firmware version 2.10 and higher.  
Document: **TN99042802-1**, CC  
Summary: Procedures for uploading new firmware into the DFP-D3000

### Uploading using a computer only.

There are two ways to load new firmware into a DFP-D3000. One is to use a computer (laptop) having the latest setup software and two special files, and utilize the functions of the software under menus **Tools>Upload new firmware . . .** This procedure requires about 25 minutes. As a part of the automatic procedure, the current theatre (Project Configuration) settings are saved to the computer then reloaded back into the DFP-D3000 after the new firmware has been uploaded

### Uploading using a PCMCIA card.

The second means of installing new firmware is to use a special flash memory PC-Card (formerly called PCMCIA) card. This procedure requires opening the unit's front panel and changing a DIP switch. This procedure takes about 5 minutes and does not save current theatre settings, which must be manually saved using the setup software and then manually restored after the firmware upgrade is complete.

### Cautions.

If power to the DFP-D3000 is lost at any time during either firmware upgrade procedure, the unit will be non-operational except for its PEC inputs (without NR2 or matrix decoding) until a Sony Cinema Products PCMCIA card can be used to reload any version of firmware. Note that theatre settings files created with versions of setup software v2.043 and after are automatically compatible with earlier versions of firmware and setup software. Note also that this process adds functionality to the automation logic of the DFP-3000, but in so doing it changes some of the functions of the Automation connector pins. See Tech Note TN99042801 for a listing of the new Automation connector pin definitions.

### PCMCIA card procedures.

1. **Turn off power** to the unit. Before doing this, be sure to take all appropriate precautions with attached equipment and save your Project Configuration settings to a .DFP file on your attached computer, using the setup software.
2. Open the front panel and move DIP Switch 1 to its DOWN position. This is the leftmost switch in the two groups of red DIP switches on the upper PCB.
3. Insert the special Sony PCMCIA card containing the new firmware face up into the card slot at the right of the upper PCB.
4. Turn on the AC mains power. Wait 4 minutes or so until the LED's next to the DIP switches take on an obvious alternating, rather than sweeping or halted, pattern. If in doubt when you first perform this step, wait at least 5 minutes while observing the pattern.
5. Turn off the AC mains power, remove the PCMCIA card, restore the DIP switch, and close the front panel. Restore your previous Project Configuration file using the setup software. The unit may now be operated in the normal manner, but

check documentation that describes new properties of the Automation connector.

### Uploading new firmware using a connected computer.

This procedure begins with two floppy disks each containing a single file. These files may also be obtained by e-mail from Sony Cinema Products. The files are self-extracting compressed files named FILES.EXE (same for all software versions) and FIRM\_XXX.EXE, where XXX is the version of firmware to be uploaded.

**IT IS ABSOLUTELY CRITICAL THAT POWER IS NOT LOST OR TURNED OFF TO THE DFP-D3000 DURING THE PROCESS OF FIRMWARE UPLOAD.** If this happens, the DFP-D3000 will become inoperative and you must call SCPC for a flash memory PCMCIA card in order to restore the unit. Also, if you fail to follow steps 6, 7, and 8 below before clicking on the **Start** button, the DFP-D3000 will similarly become inoperative. These instructions are very easy to follow, but you must follow steps 6, 7 and 8 carefully.

1. Copy FILES.EXE to a temporary directory on your computer. Launch FILES.EXE by double clicking on it in Windows, or by running it from the command prompt in DOS or a DOS window. This will result in nine new files; you can now delete FILES.EXE. Install the setup software by double clicking on INSTALL.EXE in your new directory (you can locate it using Windows Explorer). Do not install the new software in the same directory that you used for FILES.EXE; we recommend using "DFP". You do not need to keep your old version of setup software, as all newer versions are backward compatible and automatically sense and adapt to whatever firmware version they are communicating with.
2. Follow the same procedure with FIRM\_300.EXE. We suggest creating a directory named FIRM300. You will end up with two files: PROG.HEX and COEFF.HEX.

If you wish, you can copy the two new files to a floppy disk and the other nine new files to another floppy disk. The files on these floppies can then just be copied to directories on other computers, skipping the extracting steps.

3. At this time it might be a good idea to back up the existing theatre settings file to your laptop or to floppy disks, if you have not already. This is good practice, even though these files will be automatically restored by the upload process.
4. Having connected the laptop to the DFP-D3000 with a null modem cable, launch the setup software by double clicking on its icon or on its executable file, which will be named DFP2044.EXE or something similar related to the version. Note that there is a red rectangle at the bottom of the window which says **Disconnected**. In the menu bar, select **Config>DFP**. When the dialog box opens, enter the serial number of the DFP-3000 and then click on **Connect**. The LCD window of the DFP-D3000 will say **PC CONTROLLED** and the red rectangle will turn green and indicate **Connected**.
5. Now select **Tools>Upload New Firmware . . .** A window will appear labeled **Firmware Uploading**. The text in this window is essentially repeated in the following instructions. Read the text and click on **Exit** to close the window. Note that the window that is uncovered has a line at the bottom indicating the software is connected to the DFP-D3000. If not, repeat step 3.
6. Click on **Select Directory**. Use the **Directories** scroll window to select **firm300**, or whatever directory you created in step 2 above. When you have

done this, two familiar files will appear in the left **File to Locate** scroll window: **coeff.hex** and **prog.hex**. Click **OK** to close the **Select Directory** dialog box.

7. Carefully follow the next instructions. In the **DFP Firmware Upload** window, under **DFP Firmware File Selection**, click on the **COEFF.HEX** file name to select it. A window will appear; you must click on **Coefficient Data**. When you do, the window disappears and you will notice that the **Coefficient File: Not Selected** text under the **Firmware Processing Status** area has changed to **Coefficient File: COEFF.HEX** and that the associated radio button **Selected** is active. If this is not the case or you are not sure, repeat this step.
8. Continuing with care, select the **PROG.HEX** file name and click on the **Program Data** alternative in the pop up window. Confirm that the **Program Data: PROG.HEX** text appears and the associated **Selected** button is active. If this is not the case or you are not sure, repeat this step.
9. When both the **Coefficient File: COEFF.HEX** and **Program Data: PROG.HEX** text are visible and both **Selected** buttons are active (which should be the case if you have been successful with steps 7 and 8), click on the **Start** button. Be sure that steps 7 and 8 have been completed successfully before you select **Start** or the firmware upload process will hang up and the unit will be rendered inoperative. The remainder of the process is automatic.

The setup software will then establish communication with the existing firmware in the DFP-D3000 and will begin to upload the new version. You should see the processor LCD window indicating the progress of firmware transfer.

**IT IS ABSOLUTELY CRITICAL THAT POWER IS NOT LOST TO THE DFP-D3000 DURING THE PROCESS OF FIRMWARE UPLOAD.** If this happens, the DFP-D3000 will become inoperative and you must call SCPC for a flash memory PCMCIA card in order to restore the unit. Also, if you fail to follow steps 7 and 8 above before clicking on the **Start** button, the DFP-D3000 will similarly become inoperative.

10. When the file transfer process is complete, the setup software will instruct the DFP-D3000 to re-boot. During the re-boot process, the setup software automatically disconnects from the DFP-D3000. After the re-boot, the setup software will automatically reconnect to the DFP-D3000. At that time it will automatically reload saved theatre configuration settings back into the DFP-D3000. Do not interrupt this process.

At the end of the complete process, the LCD display on the DFP-D3000 will indicate **PC CONTROLLED**. If you had theatre settings stored in the unit which were created under firmware v2.10, the setup software will show a report telling you what adjustments were made to your settings to make them compatible with the new firmware. The only manual entries required when upgrading from firmware v2.10 to v3.0 is the requirement to individually enter subwoofer low pass filter settings in each preset configuration; this is because v3.0 allows different settings for each preset.

This is the end of the setup software firmware version upgrade process.