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SONY

Sony Cinema Products Corporation

Tech Note

Upgrading firmware in the DFP-R3000 Reader, using an attached laptop computer.

Product: DFP-R3000.
S/N: All units.
Document: **TN99090901**, CC/DC
Summary: Upgrading DFP-R3000 Reader firmware.

Upgrading the firmware in the DFP-R3000 is done by exposing an interior connector, connecting with a PC-compatible laptop computer, and running special software in addition to Windows 3.1 or later.

Step-by-step.

To begin, ensure that you have the correct software. You may have received it by e-mail in the form of a zipped file, such as R3KFMUP.ZIP. If so, unzip the file to a floppy disk; the file, SETUP.BAT, that will be created will only run correctly from a floppy disk. After extracting the ZIP file you should have 11 files on the floppy, depending on the number of components being upgraded. If you received the software on a floppy disk, the files may already be unzipped.

Install the software.

Run SETUP.BAT from the floppy disk (just type SETUP from the A:\ prompt and press the “Enter” key). This will create a folder on the computer called C:\SDDSINST. This folder must be in the root directory of your C: drive. Do not move this folder or any of the files in it.

Expose the internal serial port.

First, turn off power to the DFP-D3000 decoder. Remove the reader cable between the reader and decoder. Facing the roller side of the DFP-R3000 reader, remove the panel on the right side of the reader by removing the 6 black screws. Use a JIS crosspoint screwdriver to prevent damage to the screws which might be caused by an ordinary Phillips screwdriver. This will expose an internal 9-pin female D-Sub connector, which is an RS232C port.

Connect to the reader.

Connect a null modem cable (same as you use for connecting to the decoder) from the computer’s serial port to the RS232C port of the reader. Do not worry about setting the baud rate or parity, as this will be set automatically. Next, reconnect the reader cable to the decoder and turn on the decoder mains switch. This will supply power to the reader.

Run the software for setting up the reader.

Start Windows 3.1 or later. Use Windows Explorer to go to the C:\SDDSINST directory. Locate a file named INSTMODE; this file appears as a DOS shortcut. Double click INSTMODE or use other means to run it. You will be presented with an alert dialog box telling you that this program is set to run in MSDOS mode, etc. Click YES. This will shut down Windows and restart your computer in MSDOS. It will then perform some brief setup operations. You will be left at the C:\SDDSINST> prompt.

Upgrade.

To begin the upgrade process, type SDDSINST AUX if you are using COM1 of your computer or type SDDSINST AUX1 if you are using COM2. Press the "Enter" key. The software will communicate with the reader and a series of messages and asterisks will appear on your screen. After a few minutes the process will be complete. You will see a message such as FINISH UPDATE FIRMWARE.

If the process fails.

In rare cases the upgrade process will hang during the upgrade step. If this occurs you must take drastic action. First, attempt to repeat the steps beginning with **Connect to the reader** above. Be sure to power off the decoder and power it back on. Sometimes this process must be repeated more than once. If this still does not allow the upgrade process to go to completion, you must power off the decoder and unsolder a spot on the main PCB in the reader. On older readers (version RD35-12 or -13) you must delicately unsolder a bridge on the PCB labeled SL1, which is immediately behind the RS232C connector. Carefully slide the main PCB out just enough to expose this area. On newer readers (version -14) you must unsolder a 0-ohm chip resistor R220, located behind the RS232C connector. Now power up and repeat the **Upgrade** process. When this is successful, power down the decoder, and carefully restore the solder bridge or replace the chip resistor. Power up and repeat the **Upgrade** process again and it should work successfully.

As long as you're at it.

To perform an automatic CCD gain and flatness adjustment, you must exit DOS and launch the Hyperterminal program that comes with Microsoft Windows. When initially launched, Hyperterminal will ask you to configure a new connection. Name it anything you chose, such as *Direct to COM*. A new dialog will ask for more information, but only use the *Connect to* drop down list to select the COM port you are using. When a new dialog appears asking you to set the properties, select 9600, 8, no parity bit, 1 stop bit, and Xon/Xoff flow control.

With the connection set up, press *ENTER*. If all goes well you should receive a group of gibberish text and then the following response from the Reader, indicating it is communicating and ready to receive commands.

(^o^)/

(If this doesn't happen, you must troubleshoot the configuration of Hyperterminal, the port selection, serial cable connection, and similar issues.)

Make sure there is no film in the Reader and then type an **A** and press ENTER. The Reader will return about a dozen lines of text indicating that it is performing its automatic "shading compensation" routine. The process ends with another (^o^)/ prompt.

If problems are encountered on either the P or S sides you may receive one of the following text lines:

LED Current limit over
LED dark error
LED shading limit over error
Sampling time out
Dark level too high

These messages indicate that the Reader requires service. Refer to Section 3 of the DFP-R3000 Digital Film Sound Reader Maintenance Manual or contact Sony.

Return the reader to service. Power down the decoder, disconnect the cables, reattach the end panel, reattach the reader cable, and power up the decoder.

Additional upgrades. If you have additional Readers to upgrade, beginning with the step **Expose the internal serial port**.

Shut down. After all Readers have been upgraded, you will still be in MSDOS. To return to Windows, type EXIT and press the “Enter” key.