


# FILM-TECH

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DEPARTMENT Engineering	CREATED BY: L. Brown	EFFECTIVE DATE July 15, 2008	APPROVED BY: M. B. Smith			

This document accompanies XD10P software update disc version 1.6 and describes the following:

1. XD10P Set-up Software Version 1.00.26 provides the Digital Delay Feature. This allows you to adjust the overall time delay required to compensate for various video projectors.


The Digital Delay Feature operates with the DTS® Cinema Audio Processor, serial number 2300 or later, or with older units that have been upgraded with a "DO-80T" digital out (middle) board.

For instructions on installing and operating the Digital Delay feature, please refer to *DTS XD10P Digital Delay Installation Guide*, DTS part number #9301H11400.

2. XD10P Firmware V1.5 provided a bug fix to the control card firmware so that the unit will not wake up in random formats. If "last selected" is used, the unit will wake up in the last format selected prior to power down.



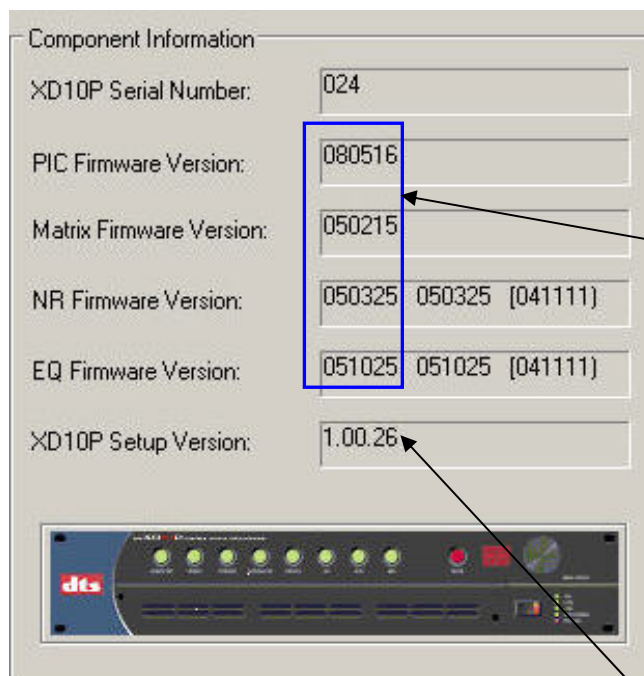
**Caution:** Prior to updating firmware, you must save your settings or they will be lost. See Technical Notice *XD10P Firmware Update Procedure* (TN-F259 latest revision) for instructions on saving your settings.

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- ☒ Note: Updating the XD10P requires updating both the XD10P Setup program and the XD10P firmware. The functions described on pages 2 through 5 will not work unless a complete update has been done.

For instructions to update the XD10P firmware (PIC, Matrix, NR, and EQ), see TN-F259. For instructions to update the XD10P Setup program, see TN-F279.

If the XD10P has been correctly updated, this screen will display in the **Profile** tab of the Setup software (on the laptop connected to the XD10P):




PIC, Matrix, NR, and EQ versions together reflect the version 1.5 update to the firmware inside the XD10P.

The following window will display when **About** is selected from the **Help** menu.



This indication reflects the version 1.00.26 update to the Setup program.

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3. Notes from V1.4 XD10P Firmware provided bug fixes to the control card firmware and improved logging:
  - Fixed issue with units not powering up to “last selected” mode. Modified firmware to only allow valid data bytes in the mode registers.
  - Reduced the SPI and 12c speed to 400kHz or less to avoid any possibility of internal communication clashes while booting up.
  - Lowered the brown out from 4.45-4.9V to 4.2-4.45V. This helps avoid an issue that causes the fader to ramp up if the voltage dips.
4. Notes from V1.3 XD10P firmware:
 

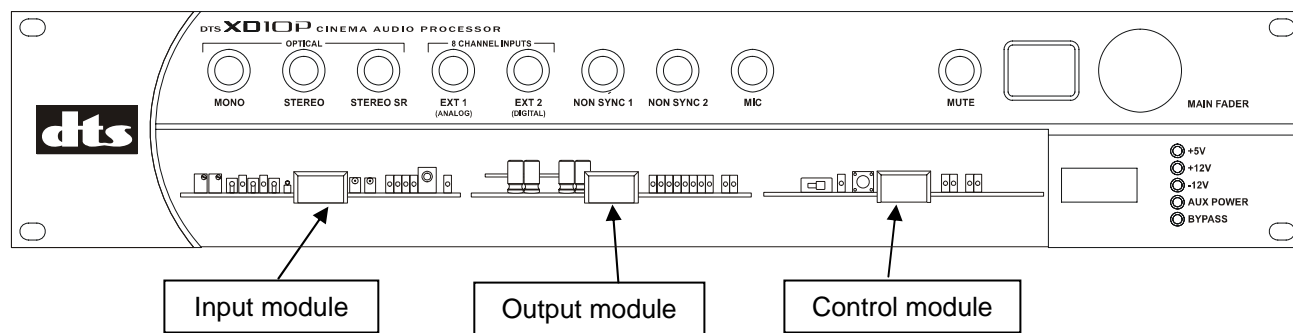
V1.3 corrects an issue that occurred when using the XD10P with a Doremi server that caused the XD10P to mute.
5. Notes from V1.2 XD10P firmware:
 

V1.2 corrects a bug in V1.1 that prevents units from acting on EQ settings after power cycling.
6. Notes from V1.0 XD10P firmware:

## **Known Issues**

### **1. Each module must be plugged into the correct slot**


Be careful when removing or installing module cards. These cards can be inserted (in error) into any combination of the three available slots. Make sure each module is installed into the correct slot.



Each module must be installed into its own slot.

### **2. XD10P serial port may lock up when saving settings.**

While using the XD10P setup software, and saving settings, a warning message may appear. If this occurs, select save settings again. Normally the second attempt will be successful.

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**3. Digital delay maximum may be too short for proper interface setup to the latest EFIB boards.**

DTS XD10P setup software V1.00.26 allows a maximum digital input delay of 100mS. Digital servers using the latest EFIB boards (Enhanced Format Interface Board) may require a longer delay.

Use USL JSD-80 setup software when a longer delay (to 140mS) is needed. The **JSD-80** Laptop Interface Software can be downloaded from the USL website: <http://www.uslinc.com/>

**4. Corrections to User Manual**

Page 5-1, paragraph 5.3 *Signal Inputs*,

Under **NON SYNC 1 input**:


Impedance 30 kOhms, change to Impedance ≥20 kOhms.

Under **NON SYNC 2 input**:

Impedance 30 kOhms, change to Impedance ≥20 kOhms.

Under **Analog 8-channel input**:

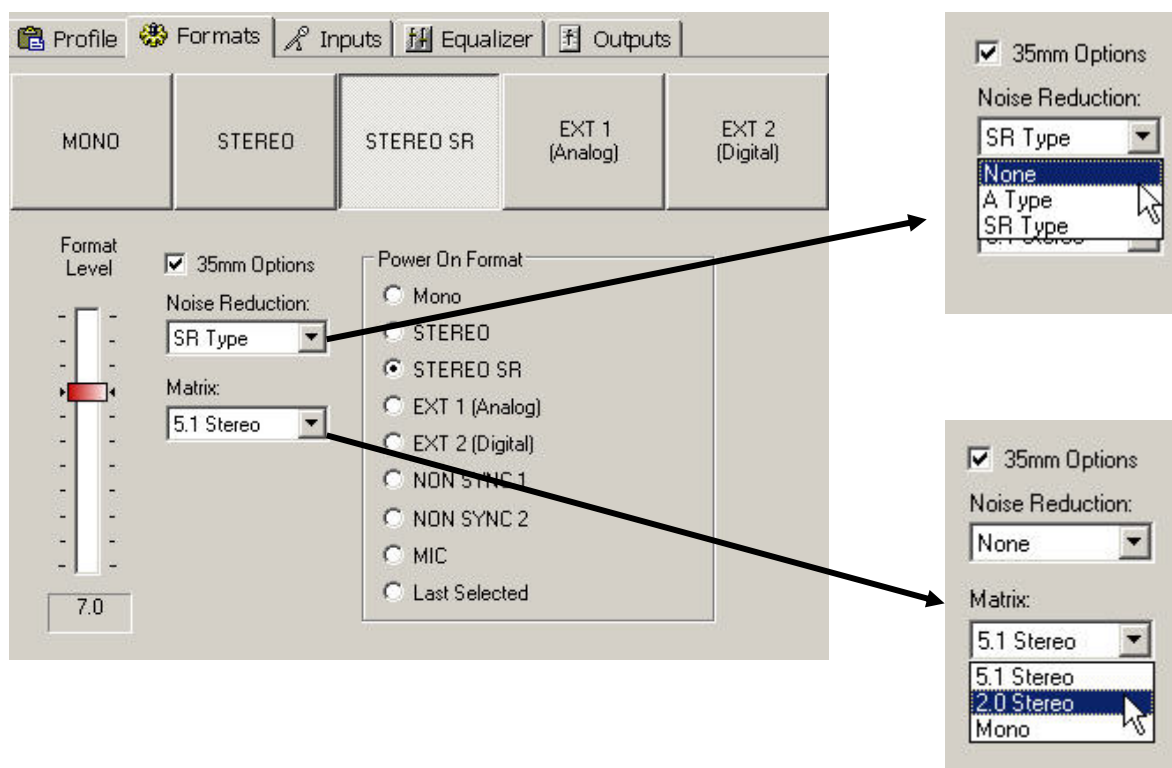
Impedance 30 kOhms, change to Impedance ≥20 kOhms.

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## Format Options

Each of the three optical formats can be configured using XD10P Setup program. The technician can change the optical format button assignments and functions.

Reassignment and configuration offer the technician more choices for setting up the theater. For example, different fader settings can be configured for feature playback in SR and pre-show SR.




1. Select an optical format in the Formats tab on the XD10P Setup program to display the options.
2. Check the **35mm Options** box. This will open choice selections for **Noise Reduction** and **Matrix**.

Choice assignments for Noise Reduction are **SR**, **A-type**, or **None**.

Choice assignments for Matrix are **5.1 Stereo**, **2.0 Stereo**, or **Mono**.

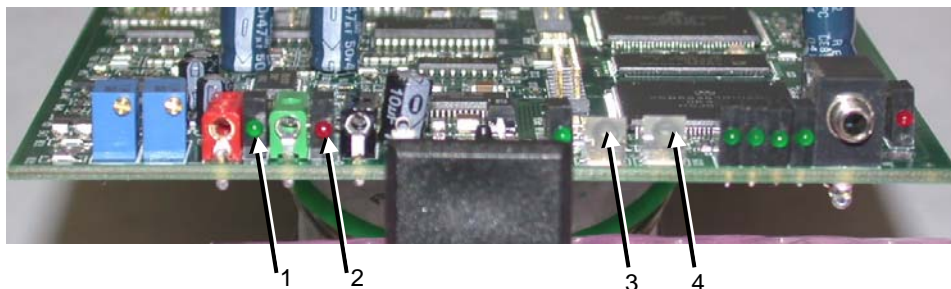
If reassignments of formats are made, it is recommended that you label the format button on the XD10P.

- ☒ **Note:** Reconfiguration of these formats can only be done with the XD10P Setup program (version 1.00.24 or later) and with firmware version 1.1 installed in the XD10P.

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## Adjusting Optical Gain: (without a laptop)

Adjustment will be done by observing the LED level indicators on the Input Module: (items 3 and 4 in the photo below) while turning the fader knob.



LED Display	Projector	Channel
1.1	1	Left
1.2	1	Right
2.1	2	Left
2.2	2	Right

### Procedure:

1. Turn OFF the XD10P processor.
2. Hold down the **Mute** button and turn the power ON.
3. Continue to hold the **Mute** button until the LED display indicates 1.1 (indicating Projector 1, Left Channel)  
Note that the green Projector 1 LED (1) will be illuminated indicating that Projector 1 is selected.

Also note that the three optical format buttons (MONO, STEREO, and STEREO SR) will flash together, as a reminder that the XD10P is in a calibration mode.

4. Run a tone loop (CAT 69T) on the projector.
5. Observe the left cell indicator (3) to determine the optical gain status. When illuminated green, the level is correctly calibrated. If the indicator is continuous red, the level is too low. Flashing red indicates that the level is too high. Adjust the gain, if necessary, by rotating the main fader control clockwise to raise the level or counter-clockwise to lower the level.

If you wish to center the setting, start with the setting in the “red”. Slowly adjust the fader clockwise while counting the clicks, until the LED indicator (3) is green. Continue to rotate fader knob until LED blinks red. Divide in half the number of ‘clicks’ you counted. Adjust the fader counter-clockwise by this number of ‘clicks’ to center the setting. The LED should now be solid green.


6. Press the **Mute** button to save the setting and move to next channel.

The display will change to 1.2 (Projector 1, Right Channel). The Projector 1 indicator (1) will still be illuminated.

7. Observe the right cell indicator (4) and, if necessary, adjust the gain using the main fader in the same manner as step # 5. When you have completed this adjustment and have a solid green LED (4), press **Mute**.

This will complete Projector 1 calibration. The LED display will now show 2.1 (Projector 2, Left Channel). Note that the red Projector 2 LED (2) will now be illuminated indicating that Projector 2 is selected.



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8. Repeat steps 4 through 7 for Projector 2 left and right cell adjustments. The display will read 2.1 (Projector 2, Left Channel) and 2.2 (Projector 2, Right Channel), respectively.

If there is no Projector 2, press **Mute** twice to return to normal operation.

The last **Mute** button press will return the system to its normal operating mode. Operation will resume after six seconds. The MONO, STEREO, and STEREO SR buttons will stop flashing.

## **Fader Level Presets: Fixed vs. Dynamic**

### **Description:**

#### **Fixed Preset Mode**

The XD10P is shipped from the factory with all 8 of the formats configured for Fixed Preset mode. The initial fader level assigned to each of the 8 formats is 7.0. The fader level assignment for each format can be reprogrammed to a different setting. This is accomplished either by using the XD10P Setup program or by manual adjustment from the front panel. For details, see chapter 3 of the XD10P manual, 3.7.6 *Preset Levels and Startup Mode*.

Each time the XD10P is switched to a format that has a Fixed Preset, the fader level automatically adjusts to the assigned preset level for the selected format.

For example, Stereo SR and EXT 1 are both set for Fixed Preset mode with fader level presets of 6.0 and 7.0, respectively. If EXT 1 is selected, the fader will change to 7.0. If the fader is manually adjusted to 6.5 and then Stereo SR is selected, the fader will automatically change to 6.0 (which is the preset for Stereo SR).

If EXT 1 is then again selected, the fader will change to 7.0, the preset for that format, not to 6.5, which was the last fader setting used with that format.

#### **Dynamic Preset Mode**

XD10P firmware version 1.1 and later, now allows one or more formats to be reprogrammed from Fixed Preset mode to Dynamic Preset mode. All formats programmed for Dynamic Preset mode share a common fader preset level. The fader preset level is dynamic because any time the front panel fader is adjusted while a 'dynamic' format is selected, this fader setting becomes the new dynamic fader preset level for all formats currently programmed to Dynamic Fader Preset mode.


For example, Stereo SR and EXT 1 are both set for Dynamic Preset mode while Non Sync 1 is set for Fixed Preset mode with a fader level preset of 4.5. If, at the beginning of the show, Stereo SR is selected and the fader is adjusted to 6.0, then when the XD10 begins playback and pulses the XD10P to EXT 1, the fader will remain unchanged at 6.0 (because all formats in Dynamic Preset mode share the same fader setting). At the end of the show when the automation pulses the XD10P to Non Sync 1, the fader will change to the fixed preset of 4.5. When the next show begins and the automation pulses the XD10P to Stereo SR, the fader will return to the dynamic preset of 6.0 (the last fader setting used by any format programmed to Dynamic Preset mode).

#### **☒ Notes:**

- When changing between one Dynamic Preset format and another Dynamic Preset format, the fader level will not change since all dynamic formats share the same fader preset level.
- When changing from a Dynamic Preset format to a Fixed Preset format, the fader level will automatically change to the fader level assigned to the selected Fixed Preset format. Changing to another Fixed Preset format will again result in the fader changing to the preset for the newly selected Fixed Preset format.
- When changing from a Fixed Preset format to a Dynamic Preset format, the fader will change to the Dynamic Preset fader level (the last manually set level for any dynamic format).

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### How to use this feature:

Programming an XD10P format to the Dynamic Preset mode can only be done from the XD10P front panel when the laptop computer / XD10P Setup Program is not connected. To program a particular format to Dynamic Preset mode:

1. Press and hold down the selected format button.
2. While holding this format button down, adjust the fader to 0.0.
3. Release the format button.


The Fixed Preset mode has now been reprogrammed to Dynamic Preset mode for that format only.

4. Now manually adjust the fader to the desired level.

To enable the **Fixed Preset** mode:

1. Press and release the format button to be reprogrammed.
2. Lower the fader to 0.0.
3. Hold down the format button, and continue to press it while adjusting fader to desired level.
4. Release the format button.

This will enable the Fixed Preset mode for that format only. The fader level assignment for that format will be the level to which the fader was adjusted before releasing the format button.

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