Film-Tech

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These manuals are designed to facilitate the exchange of information related to cinema projection and film handling, with no warranties nor obligations from the authors, for qualified field service engineers.

If you are not a qualified technician, please make no adjustments to anything you may read about in these Adobe manual downloads.

www.film-tech.com
This procedure applies only to the DTS-6/6D players.

**TOOLS NEEDED FOR THE JOB**

- Phillips head screwdrivers, #1 & #2
- Nut driver, 5/16
- DS3 Setup Disc, Empirical Test Disc, or a movie disc
- Upgrade kit*:
  - CD-ROM, DTS 6/6D System Update Disc V2.40.24 or higher, PN 9311E82701
  - Firmware IC (TCR) V1.46 or higher, PN 90500TCR00
  - SCSI cable PN 9022D43200 rev. A or higher (DTS-6) or PN 9022D56800 rev. B or higher (DTS-6D)
  - DVD Drive assembly with SCSI-IDE bridge board and power adapter cable PN 9020E83200 (qty. 2 DTS-6, qty. 3 DTS-6D)
  - Virtual ROM PCA/AQRM Chip, PN 9020E65300
  - SCSI PCA PN 5108002900 or equivalent
  - Anti-static wrist strap PN 1050000200

*For a DTS-6D (3-drive) player, use upgrade kit E209.
*For a DTS-6 (2-drive) player, use upgrade kit E208.

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**WARNING** When handling boards or ICs, use caution as they are susceptible to damage from static discharge. If the parts came to you in an anti-static bag, keep them in the bag until needed. Then, just before removing parts from the bag, hold the bag and touch the chassis of the player. This will make your body the same potential as the player. It’s best to stand on a linoleum or cement floor (not carpet) and use the provided wrist-grounding strap when handling boards and ICs.
**HOW TO INSTALL**

Below is shown for upgrade kit **E209** used on a DTS-6D (3-drive) player. The installation **E208** used on the DTS-6 (2-drive) player is basically the same other than the additional third drive used on the DTS-6D.

1. Remove all discs from drives.

2. Turn the player’s power switch off. Remove all cables from back of player. Remove player from sound rack and open player’s top cover. Remove all cables from the drives.

Remove SCSI cable

Remove power cables

Drives
③ Remove drives from the player. Save all screws and nuts.

④ Remove the brackets from the old drives and put them on the new drives.

 Helpful Hint: Do one bracket at a time. Align new drive to the old drive still in bracket. Then, remove the other drive and align new drive to the first. This will make drives fit flush with front panel when finished.
Verify the jumpers on the back of the new drives.

DTS-6D (3-drive player)
Drives are addressed as 3, 4 and 5 with 3 as the last drive ("C")

<table>
<thead>
<tr>
<th>Jumper Location (X = ON)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID4</td>
</tr>
<tr>
<td>Drive A (address 4)</td>
</tr>
<tr>
<td>Drive B (address 5)</td>
</tr>
<tr>
<td>Drive C (address 3)</td>
</tr>
</tbody>
</table>

DTS-6 (2-drive player)
Drives are addressed as 4 and 5 with 5 as the last drive ("B")

<table>
<thead>
<tr>
<th>Jumper Location (X = ON)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID4</td>
</tr>
<tr>
<td>Drive A (address 4)</td>
</tr>
<tr>
<td>Drive B (address 5)</td>
</tr>
</tbody>
</table>

Notes:
JP4 (Terminator Power ON/OFF) – leave this jumper ON for all drives.
JP2 (Terminator Enable/Disable) – for DTS-6D remove on drives A and B only. For DTS-6 remove on drive A only.
Shunt removed = DISABLE
Only the last drive in the series is terminated (JP2 installed)

⇐ Note: The order of these SCSI addressing jumpers is different from all previous drives.
Mount drives into player.

Connect the new SCSI cable to the SCSI-IDE bridge boards.

Using the power adapter, connect the power supply to the drive and to the SCSI-IDE bridge boards.
Remove the existing SCSI board. Once removed, you now have access to U14 (TCR firmware chip) on the D422 timecode board. If the TCR is an older version than what was sent to you, remove the old and install new TCR firmware chip in its place. When installing, check orientation of pin 1.

**WARNING** What not to do:

- Legs should not be touching.
- Legs should not be bent.
- All legs are not in the socket.
- Legs should not be hanging out.
- Installing the IC backwards will damage it!
⑧ Remove U12, “ROM-DOS” IC from the D422 timecode board.

**Helpful Hint** If you removed the D422 board from the player, be sure to reinstall the board correctly. Verify 10-pin cable, between SCSI and D422 boards, is plugged in properly.

**WARNING** What not to do:

- No legs on header should be exposed
- Do not plug any power cable into D422. You will damage the board!
⑨ Install the new **SCSI board** in an unused slot on the motherboard.

> **Helpful Hint**  The metal tab may need to sit under chassis lip for SCSI to sit flat in motherboard.

> **WARNING**  Be sure boards sit completely flat in motherboard connectors. No bottom copper fingers should not be exposed. All fingers should be in the socket.

The copper fingers of this board are showing. The board is too high and must be pushed down.
Look at your motherboard. If you have an **E363** motherboard, proceed to step 11. Do not install the ROM board or change the AQRM chip.

The E363 motherboard has DTS logo with E363 silk-screened onto board.

If you have anything other than an E363 motherboard, insert the **ROM board** (with “AQRM” chip) into an unused slot on the motherboard.

The ROM board is shown in front of the SCSI board. It may be installed either in front of, **OR**, behind the SCSI board, it does not matter.
① Connect **SCSI** cable to the SCSI board.

![SCSI board with diagram](image1)

**WARNING** What not to do:

- Do not plug in backwards.
- No header pins should be exposed.

![Diagram showing incorrect connections](image2)
② Update the software on the DTS-6 or DTS-6D using the DTS 6/6D System Update Disc. Follow the directions printed on the disc label. Remove disc once the update is complete.

③ Test unit using a DTS setup disc or movie disc. Load the disc into the player and verify the SYSTEM light blinks after about two minutes. If using a setup disc, it will self-play. A movie disc will not self-play but it should make the SYSTEM light blink.

Check each drive.

④ After the testing is complete, attach the top cover and re-install player into the sound rack.

DTS warranties drive kits one year upon purchase

Refer questions to DTS Cinema Technical Support

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