Film-Tech

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This document describes how to control the DTS-ECP/6AD cinema processor externally through the use of the serial interface. All of these commands operate the same through either the RS232 or RS422 interface of the DTS-ECP/6AD. This assumes that the DTS-ECP/6AD unit is installed with software version 1.06 or greater.

These commands are designed to allow control of the DTS-ECP/6AD to facilitate the implementation of a show control interface, automation control, or remote front panel.

**Connections**

**RS232.** Connect from the port labeled RS-232 port on the back of the DTS-6AD to the control device. Refer to the manual for the required pin-out. The port is always initialized at 9600 baud 8N1 (8-bits, not parity, and 1 stop bit).

**RS422 (AUTOMATION).** Connect the port labeled AUTOMATION on the back of the DTS-6AD to the control device. Refer to the manual for the required pin-out. The port only operates at 9600 baud 8N1 (8-bits, not parity, and 1 stop bit). It is allowed to have more than one device connected to the automation port.

**Status**

A change in the status of either the format, volume or mute causes a status string to automatically be transmitted through the AUTOMATION port. (It is not transmitted through the RS-232 port.) The following is the format for the status response:

```
Response:  Vvv<CR>
            Ff<CR>
            Mn
            Ee

vvv         Master fader value from 00 (0.0) to 99 (9.9)

f  1         Select format assigned to the F1 key (usually Mono)
          A  Projector input with A-type noise reduction
          S  Projector input with SR noise reduction
          X  External 6-channel input
          D  DTS digital
          N  Nonsync input

m +          Muted
          -  Not muted

e -          No error
          E  Error: Configuration settings lost on power-up.
```
Commands

Command Format

The software implements a simple ASCII command protocol that can be tested with a terminal program connected to a PC. Each command is terminated by 'CR'. Line feed characters are ignored.

Command response

There is a response transmitted after receiving any command terminated by 'CR'. The following table describes the general response strings which is transmitted after any command specific response.

<table>
<thead>
<tr>
<th>Response</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK</td>
<td>The command was accepted</td>
</tr>
<tr>
<td>E1-Invalid command</td>
<td>The command code is unrecognized</td>
</tr>
<tr>
<td>E2-Invalid command length</td>
<td>Too many or not enough characters in the command string</td>
</tr>
<tr>
<td>E3-Parameter out of range</td>
<td>The parameter following the command is not within the allowable range</td>
</tr>
<tr>
<td>E4-Invalid parameter</td>
<td>The parameter following the command is unrecognized</td>
</tr>
<tr>
<td>E5-Selection is not available</td>
<td>The selection is not valid</td>
</tr>
</tbody>
</table>

Directory

Directory listing of all of the audio reels on all installed CD-ROMS. The directory entries are numbered and the number may be used to select a specific reel to play using the Select command.

Format: D<CR>

Example directory:

1) Drive A -- R14 SN=1045 Trailers Reel 14
2) Drive A -- R1 SN=2117 Drowning Mona (w/ filters) - #2117
3) Drive A -- R2 SN=2117 Drowning Mona (w/ filters) - #2117
4) Drive B -- R3 SN=2117 Drowning Mona (w/ filters) - #2117
5) Drive B -- R4 SN=2117 Drowning Mona (w/ filters) - #2117
6) Drive B -- R5 SN=2117 Drowning Mona (w/ filters) - #2117
Audio Format Command

Selects the specified format. Responds with the new format after the selection is applied.

Format:  
- F<CR>  Respond with the current format only  
- Fc<CR>  Select the format defined by ‘c’

Response:  Fc<CR>

Values for c:  
- 1  Select format assigned to the F1 key (usually Mono)  
- A  Projector input with A-type noise reduction  
- S  Projector input with SR noise reduction  
- X  External 6-channel input  
- D  DTS digital  
- N  Nonsync input

Key control

Format:  Kc<CR>  Acts as a front panel a key press

Values for c:  
- F  Format  
- M  Menu  
- E  Exit  
- O  OK  
- 1-8  F1-F8  
- U  Mute

Mute command

Mute or unmute the cinema processor.

Format:  
- M<CR>  Mute  
- M<CR>  Unmute

Timecode offset

This is not the timecode reader offset adjustment. This is a separate offset that can be used when the DTS timecode is not on the film but goes through a tach to timecode converter. This offset should be used to match the audio start time (DTS TC = 60) according to the timecode received.

Format:  On<CR>  Selects the offset in timecode where n = -99999 to 99999
Select Reel

Substitute the directory entry number from the directory command (D<cr>) to play that reel selection. When a reel selection is made the reel number read from the timecode is ignored. Also there should not be a serial number in the timecode received.

Format: Sn<CR> Where n= from 0 to the total number of reels on all the discs.

The command S0<CR> turns off the reel selection feature.

Trailer directory

Format: T<CR>

Lists the serial numbers of all trailers installed. This command is for informational purposes only.

Example trailer directory listing:

1) Drive A -- R14 SN=1045
2) Drive A -- R14 SN=4
3) Drive A -- R14 SN=15
4) Drive A -- R14 SN=56
5) Drive A -- R14 SN=71
6) Drive A -- R14 SN=257
7) Drive A -- R14 SN=414
8) Drive A -- R14 SN=469
9) Drive A -- R14 SN=528
10) Drive A -- R14 SN=612
11) Drive A -- R14 SN=613
12) Drive A -- R14 SN=688
13) Drive A -- R14 SN=699
14) Drive A -- R14 SN=735
15) Drive A -- R14 SN=942

Volume Command

Sets or changes the master volume setting.

Format: V<CR> Response only
V+<CR> Volume up
V-<CR> Volume down
Vnm<CR> Set master fader to n.m

Response: Vnm<CR>
**Autoswitch Command**

This command is used to enable or disable the feature that automatically switches the cinema processor to DTS digital playback.

Format:

- W<CR> Response only
- W+<CR> Enable autoswitch (power-on default)
- W-<CR> Disable autoswitch

Response: W+<CR> or W-<CR>

**Version**

Returns the version number for the software installed on the DTS-6AD or DTS-ECP.

Format:

- X<CR>

Response:

- CPU VERSION: 1.06<CR>
- DSP CONTROLLER: 1.03<CR>
- DSP FIRMWARE: 1.10<CR>
- E-<CR>