



Digital Theater Systems

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DTS Technical Notice, TN-E217

Subject: SMPTE RP200 changes DTS subwoofer level (REVISED)

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At a SMPTE meeting held in late 1998, all three digital sound companies agreed to comply with the recommended practice for subwoofer level, **SMPTE RP200**. The subwoofer level has changed to enable the use of one master recording when transferring to all three digital sound processes and to provide playback consistency in theaters. As of **January 1, 1999**, the recorded subwoofer level on 6-track masters has been lowered to the SMPTE recommended level of 10dB in-band gain (as compared to the screen channels).

To comply with this new standard, all DTS films released in North America after January 1, 1999 have been transferred into the DTS digital process with **subwoofer at 10dB in-band gain**. The **SMPTE RP200** logo is clearly visible on the discs of these films.

Because the recorded subwoofer level has been lowered, the DTS theater subwoofer playback should be increased. Increasing the DTS subwoofer level compensates for the new lowered recording level, resulting in the same playback as before the change.

To maintain the integrity of the cinema sound equipment, DTS discs of pre 1999 films should be played only after the subwoofer playback level has been restored to the previous 88 dBC level.

Technicians should follow these steps

Equipment needed: DTS Setup Disc, DS1 or Rev. C

1. Verify the cinema processor is correctly calibrated. Follow the manufacturer's recommendations for proper playback levels (when using a DTS-6AD, see 4. Below).
2. Using the DTS Setup Disc, adjust the DTS output levels as normal: L, C, R to 85dB SPL and surround(s) to 82 dB SPL* *in the theater*.
3. Adjust the **DTS-6 or DTS-6D subwoofer to 91dBC SPL** *in the theater*.
4. When adjusting the output of the **DTS-6AD Cinema Processor** using the internal pink noise generator, adjust the DTS subwoofer to 85dBC SPL *in the theater*.

NOTE

* It is recommended that the subwoofer amplifier be turned off during the surround level adjustments. Turn the subwoofer amp back on after the surround levels have been set.

Please refer any questions to DTS technical support