HALO
by
PARASOUND

C 1/C 2 Controllers
Manual Supplement for C 1 and C 2 with
PLIIx-Lipsync Software Upgrade Installed

Addendum to Owner's Guide

The new surround modes are for 7.1 channel systems.
Are your back channel speakers selected?

If you have not yet selected Back channel speakers, press the **MENU button** on the remote (or the **Menu button** on the front panel) and go to the **Speaker setup, Size setup** menu page, **> Back speakers**.

```
SIZE SETUP
BACK SPKRS:    2 SMALL
```

```
Size setup

  Main speakers          Large
  Center speaker         Small
  Surround speakers      Small
> Back speakers        2 Small
  Subwoofer                Yes
  Subwoofer filter          On
  Subwoofer freq.    80Hz-THX
  Enhanced bass            Off
  Exit
```

Dolby Pro Logic IIx

Dolby Pro Logic IIx: This extends two channel or 5.1 channel source material to the center channel, surround channels and back channel speakers in a 7.1 channel system. Pro Logic IIx produces a spacious, enveloping effect. It is designed for use with any stereo, Dolby 2.0, Dolby Pro Logic, Dolby Digital 5.1, DTS 5.1 or Surround EX signal. With a single back channel speaker it is known as 6.1 channel, and with two back channel speakers it is known as 7.1 channel. There are two types of Pro Logic IIx: Pro Logic IIx Movie and Pro Logic IIx Music. These are our recommended surround modes if you have a 6.1 or 7.1 channel system. Please note that Pro Logic IIx Movie is not compatible with Dolby Digital 5.1 with a 6.1 channel system. We encourage you to rediscover how exciting and alive your older recordings will sound.

- **Dolby Pro Logic IIx Movie**: This version of Pro Logic IIx is optimized for movies and computer games. By feeding the surround and back channel speakers different signals, it produces a more spacious, enveloping effect.

```
DVD          DOLBY D 3/2.1
PLIIX MOVIE    VOL: -10
```

```
                          DVD
AUDIO
  Signal      Dolby D 3/2.1
  Input           Coaxial 1
  Mode     Dolby PLIIx Movie
VIDEO
  Signal          No Signal
  Input         Composite 1
```

- **Dolby Pro Logic IIx Music**: This version of Pro Logic IIx is optimized for music listening; it is designed to produce very natural-sounding surround ambience from stereo sources such as CDs. It has three parameters not found in Pro Logic IIx Movie:

  - **Center Width**: This adjusts the apparent width of the center-channel signal.
  - **Panorama**: This wraps the sound of the front left and right speakers around the listening area.
  - **Dimension**: This moves the surround field toward the back or front of the room.

```
VIDEO 2 ANALOG
PLIIX MUSIC    VOL: -10
```

```
                      Video 2
AUDIO
  Signal             Analog
  Input             Analog 2
  Mode     Dolby PLIIx Music
VIDEO
  Signal          No Signal
  Input         Composite 2
```
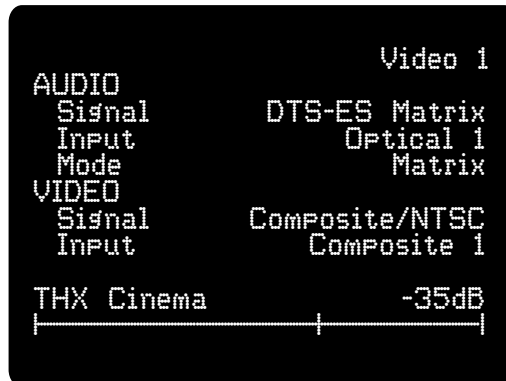
These settings are made on the Dolby/DTS setup page of the Audio Setup menu.

Note: Pro Logic IIx operates with the same menu settings you already made for Pro Logic II.
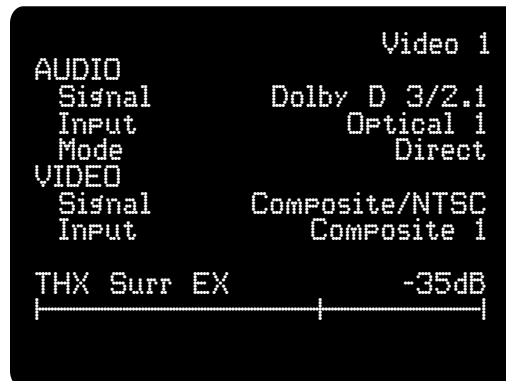
THX Operation

- **THX Cinema**: With most surround modes, pressing the **THX button** switches only THX Cinema processing on or off. The C 2 front panel displays only "THX" for THX Cinema. More detailed information about THX Cinema may be found on page 16.
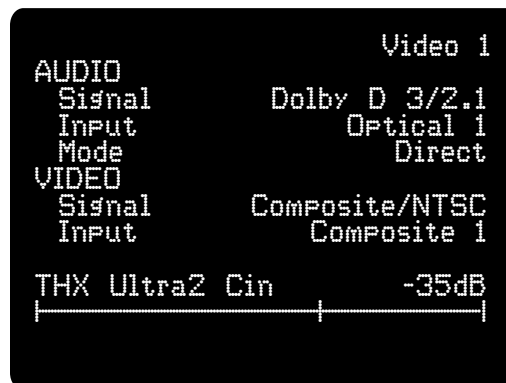
```
DVD        DTS-ES MTRX
DIRECT     THX VOL: -35
```

```
                    Video 1
AUDIO
  Signal      DTS-ES Matrix
  Input          Optical 1
  Mode             Matrix
VIDEO
  Signal    Composite/NTSC
  Input        Composite 1

THX Cinema            -35dB
├─────────────┼─────────┤
```

Other THX Modes

If the Direct mode is selected, which enables a 5.1 channel source to play in its native format (displayed 3/2.1), each time you press the THX button will select another THX mode:

- **THX Surround EX**: This adds additional sounds behind your listening area with specially encoded DVDs. The panel display is "THX SURR EX" on the C 2 and "THX Surr EX" on the C 1. More detailed information about THX Surround EX may be found on page 17.
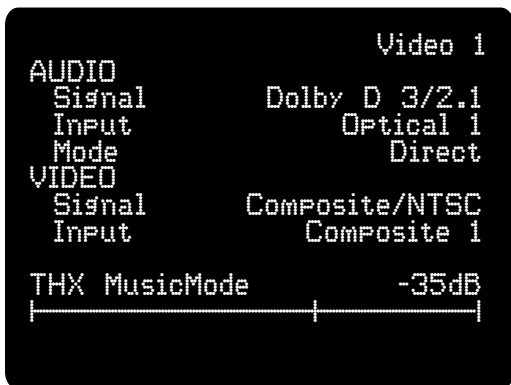
```
DVD       DOLBY D 3/2.1
THX SURR EX  VOL: -35
```

```
                    Video 1
AUDIO
  Signal     Dolby D 3/2.1
  Input          Optical 1
  Mode             Direct
VIDEO
  Signal    Composite/NTSC
  Input        Composite 1

THX Surr EX           -35dB
├─────────────┼─────────┤
```

- **THX Ultra2 Cinema**: For 7.1 channel playback of 5.1 channel movies. THX Ultra2 Cinema enhances 7.1 channel listening with ASA back channel speakers for optimum replay. The panel display is "THX ULT2CIN" on the C 2 and "THX Ultra2 Cin" on the C 1. More detailed information about THX Ultra2 Cinema may be found on page 18.
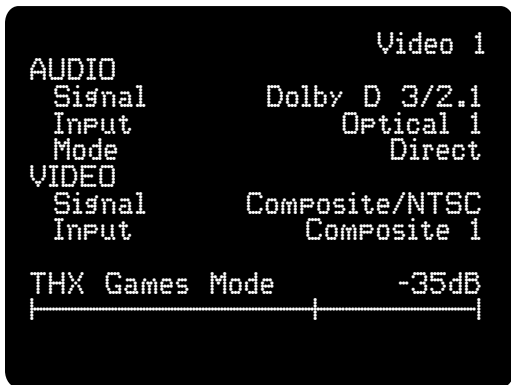
```
DVD       DOLBY D 3/2.1
THX ULT2CIN  VOL: -35
```

```
                    Video 1
AUDIO
  Signal     Dolby D 3/2.1
  Input          Optical 1
  Mode             Direct
VIDEO
  Signal    Composite/NTSC
  Input        Composite 1

THX Ultra2 Cin        -35dB
├─────────────┼─────────┤
```

- **THX Music Mode**: For 7.1 channel playback of 5.1 channel music sources. THX MusicMode enhances 7.1 channel listening with ASA back channel speakers to stabilize the sound field. The panel display is "THX MUSIC" on the C 2 and "THX MusicMode" on the C 1. More detailed information about THX MusicMode may be found on page 18.

```
DVD        DOLBY D 3/2.1
THX MUSIC    VOL: -35
```

```
                        Video 1
AUDIO
  Signal      Dolby D 3/2.1
  Input          Optical 1
  Mode              Direct
VIDEO
  Signal     Composite/NTSC
  Input        Composite 1

THX MusicMode          -35dB
|--------------+---------|
```

- **THX Games**: For 7.1 channel playback of 5.1 channel games. This enhances the sonic impact of video games for total immersion in all the action. The panel display is "THX GAMES" on the C 2 and "THX Games Mode" on the C 1. We invite you to connect your game console or PC to one of the C 1 or C 2 digital audio inputs. More detailed information about THX Games may be found on page 18.
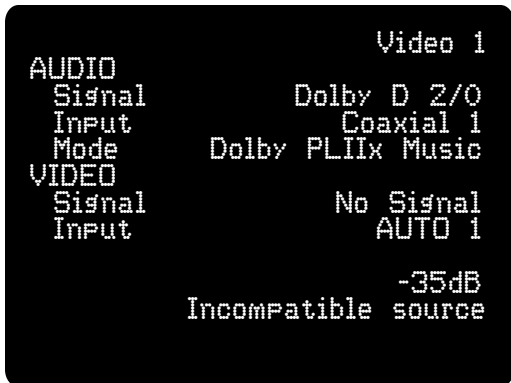
```
DVD        DOLBY D 3/2.1
THX GAMES    VOL: -35
```

```
                        Video 1
AUDIO
  Signal      Dolby D 3/2.1
  Input          Optical 1
  Mode              Direct
VIDEO
  Signal     Composite/NTSC
  Input        Composite 1

THX Games Mode         -35dB
|--------------+---------|
```

Surgeon General's Warning: This may be addictive.

Note: THX Surround EX, THX Ultra2 Cinema and THX Games will engage only when both of the following conditions are met:

- Back channel speakers must be selected in the Speaker setup, Size setup menu.

- The selected mode must be DIRECT. Only THX Cinema will engage when other modes are selected.

If you press the THX button and "**INCOMPATIBLE SOURCE**" appears, it means the mode is not DIRECT, you have not selected back speakers or the input signal is not compatible.

```
DVD          DOLBY D 2.0
INCOMPATIBLE SOURCE
```

```
                        Video 1
AUDIO
  Signal        Dolby D 2/0
  Input           Coaxial 1
  Mode      Dolby PLIIx Music
VIDEO
  Signal          No Signal
  Input              AUTO 1

                       -35dB
            Incompatible source
```

7.1 Channel Party Mode

The new **Party** mode duplicates front-channel stereo and distributes it to the surround and back channel speakers in a 7.1 channel system. Spreading sound uniformly throughout the room will make it easier for your guests to converse while music is playing.

Mode table

The following table was prepared for the C 1 and C 2 by THX Ltd. It shows you the surround modes and THX modes which are available for each source, whether you have a 5.1 channel, 6.1 channel, or 7.1 channel speaker setup.

KEY:

Non-THX default (bold text)

THX default (italics text)

Other allowed modes (plain text)

SB = Back speakers

Lt Rt = L total R total (of down-mixed channels)

FOOTNOTES:

[1] Re-Equalization - Front speakers

[2] Re-Equalization - Back speakers

[3] Timbre-Match

[4] Adaptive Decorrelation

[5] ASA- Adaptive Speaker Array processing

Input Type	5.1 speakers	6.1 speakers	7.1 speakers
Monaural source	**Mono**	**Mono**	**Mono**
Analog: L or L+R	*Mono + THX Cinema* [1]	*Mono + THX Cinema* [1]	*Mono + THX Cinema* [1]
Digital: AC-3 1/0			
DTS 1/0			
2-channel source	Mono	Mono	Mono
Analog: Lt Rt or Stereo	Mono + THX Cinema [1]	Mono + THX Cinema [1]	Mono + THX Cinema [1]
Digital: Lt Rt or Stereo			
- PCM	Stereo	Stereo	Stereo
- AC-3 2/0	Stereo + THX Cinema [1]	Stereo + THX Cinema [1]	Stereo + THX Cinema [1]
- DTS 2/0	**Pro Logic II Movie**	PLII not applicable	PLII not applicable
	Pro Logic II Movie +THX Cinema [1,3]		
	Pro Logic II Music		
	PLIIx not applicable	**Pro Logic IIx Movie**	**Pro Logic IIx Movie**
		Pro Logic IIx Movie + THX Cinema [1,2,3]	*Pro Logic IIx Movie + THX Cinema* [1,2,3]
		Pro Logic IIx Music	Pro Logic IIx Music
	Pro Logic	Pro Logic (SB = no output)	Pro Logic (SB = no output)
	Pro Logic + THX Cinema [1,3,4] (SB = no output) [1,3,4]	Pro Logic + THX Cinema (SB = no output) [1,3,4]	Pro Logic + THX Cinema
	Neo:6 Cinema	**Neo:6 Cinema**	**Neo:6 Cinema**
	Neo:6 Cinema + THX Cinema [1,3]	*Neo:6 Cinema + THX Cinema* [1,2,3]	*Neo:6 Cinema* [1,2,3] *+ THX Cinema*
	Neo:6 Music	Neo:6 Music	Neo:6 Music
	Natural	Natural	Natural
	Party	Party	Party

Input Type	5.1 speakers	6.1 speakers	7.1 speakers
	Club	Club	Club
	Concert	Concert	Concert
AC-3 5.1, No EX Flag	**Dolby Digital 5.1**	**Dolby Digital 5.1** (SB = no output)	**Dolby Digital 5.1** (SB = no output)
(EX or non-EX encoded)	*Dolby Digital 5.1 +* *THX Cinema* [1,3,4]	*Dolby Digital 5.1 + THX Cinema* (SB = no output) [1,3,4]	Dolby Digital 5.1 + THX Cinema (SB = no output) [1,3,4]
		Dolby Digital 5.1 + Dolby EX (Manual Activation)	Dolby Digital 5.1 + Dolby EX (Manual Activation)
		Dolby Digital + THX Surround EX [1,2,3] (Manual Activation)"	Dolby Digital + THX Surround EX [1,2,3] (Manual Activation)
		Dolby Digital + PLIIx Music	**Dolby Digital + PLIIx Movie**
		Dolby Digital + Neo:6	Dolby Digital + PLIIx Movie + THX Cinema [1,2,3]
		Dolby Digital + Neo:6 + THX Cinema 1,2,3	Dolby Digital + PLIIx Music
			Dolby Digital + *THX Ultra2 Cinema 1,3,4,5*
			Dolby Digital + THX MusicMode 3,4,5"
			Dolby Digital + THX Games Mode 3,5"
			Dolby Digital + Neo:6
			Dolby Digital + Neo:6 + THX Cinema 1,2,3"
		Dolby Digital + Surround 6.1	Dolby Digital + Surround 6.1
AC-3 5.1, EX-Flagged	**Dolby Digital 5.1 (Direct)**	**Dolby Digital + Dolby EX**	Dolby Digital + Dolby EX
(EX encoded)	*Dolby Digital 5.1 +* *THX Cinema* [1,3,4]	*Dolby Digital +* *THX Surround EX* [1,2,3]	*Dolby Digital +* *THX Surround EX* [1,2,3]
			Dolby Digital + PLIIx Movie
			Dolby Digital + PLIIx Movie + THX Cinema [1,2,3]
DTS 5.1	**DTS 5.1 Direct**	**DTS 5.1 Direct** (SB = no output)	**DTS 5.1** (SB = no output)
(non-ES encoded)	*DTS 5.1 + THX Cinema* [1,3,4]	*DTS 5.1 + THX Cinema* (SB = no output) [1,3,4]	DTS 5.1 + THX Cinema (SB = no output) [1,3,4]
		DTS 5.1 + Neo:6	DTS 5.1 + Neo:6
		DTS 5.1 + Neo:6 + THX Cinema [1,2,3]	DTS 5.1 + Neo:6 + THX Cinema [1,2,3]

Input Type	5.1 speakers	6.1 speakers	7.1 speakers
		DTS 5.1 + PLIIx Music	*DTS 5.1 +* *THX Ultra2 Cinema [1,3,4,5]*
3,4,5			DTS 5.1 + THX MusicMode
3,5			DTS 5.1 + THX Games Mode
			DTS 5.1 + PLIIx Movie + THX Cinema [1,2,3]
			DTS 5.1 + PLIIx Music
		DTS 5.1 + Surround 6.1	DTS 5.1 + Surround 6.1
DTS-ES Matrix 6.1	**DTS 5.1 Direct** *DTS 5.1 + THX Cinema [1,3,4]*	DTS-ES Matrix + Direct (5.1) **DTS-ES Matrix 6.1 + Matrix**	DTS-ES Matrix + Direct (5.1) **DTS-ES Matrix 6.1 + Matrix**
		DTS-ES Matrix 6.1 + Matrix + THX Cinema [1,2,3]	*DTS-ES Matrix 6.1 + THX Cinema [1,2,3]*
DTS-ES Discrete 6.1	**DTS 5.1** *DTS 5.1 + THX Cinema [1,3,4]*	**DTS-ES Discrete 6.1** *DTS-ES Discrete 6.1 + THX Cinema [1,2,3]*	**DTS-ES Discrete 6.1** *DTS-ES Discrete 6.1 + THX Cinema [1,2,3]*
DTS 96/24	**DTS 96/24**	**DTS 96/24 (5.1, SB = no output)**	**DTS 96/24 (5.1, SB = no output)**
(5.1 channel)	*DTS 96/24 + THX Cinema [1,3,4]*	*DTS 96/24 + THX Cinema (5.1, SB = no output) [1,3,4]*	DTS 96/24 + THX Cinema (SB = no output) [1,3,4]
			DTS 96/24 + THX Ultra2 Cinema [1,3,4,5]
			DTS 96/24 + THX MusicMode [3,4,5]
			DTS 96/24 + THX Games Mode [3,5]

KEY:

Non-THX default (bold text)

THX default (italics text)

Other allowed modes (plain text)

SB = Back speakers

Lt Rt = L total R total (of down-mixed channels)

FOOTNOTES:

[1] Re-Equalization - Front speakers

[2] Re-Equalization - Back speakers

[3] Timbre-Match

[4] Adaptive Decorrelation

[5] ASA- Adaptive Speaker Array processing

New Tone Controls and Lipsync

These features offer you new options and they include new menu settings. The settings are found in the **Audio setup** menu.

To make settings in the **Audio setup** menu, you first press the **Menu button** on the front panel, or the **MENU button** on the remote handset.

Press the **v down cursor button** or press the front panel **Menu button** until the menu's > cursor lines up with "**Audio setup**". Press the center of the **thumbpad** on the remote or turn the front panel knob just a little in either direction. Select "**Tone controls**" and press the center of the **thumbpad** to enter the **Tone setup** menu.

```
MAIN MENU
SIZE SETUP
```

```
Main Menu

> Audio setup
  Speaker setup
  Source setup
  Display setup
  Trigger setup
  THX Audio setup

  Exit
```

Treble and Bass Tone Controls

Review: Treble and Bass can be set in 1 dB steps for up to 12 dB of cut or boost. Bass and Treble tone settings affect only the front left, center, and right channels.

```
AUDIO SETUP
TONE CONTROLS
```
➡
```
TONE CONTROLS
TREBLE:          2DB
```

```
Audio setup

  Dolby/DTS setup
  Preset setup
> Tone controls

  LFE level        0dB
  Reverb           Dry

  Exit
```
➡
```
Tone controls

  Bass      ——+——    0dB
> Treble    ——+|——    2dB

  Treble freq      6 KHz
  Bass freq        80 Hz

  Exit
```

After the menu setup is concluded, any Bass or Treble adjustments you make while you're listening will temporarily add to, or subtract from, their settings on the **Audio setup** page.

For example, if you had set **Treble** to **+2dB** in the **Audio setup** menu, then the first time you press the remote's **+ TRE key** (on the C 1/C 2 page) it will increase to **+3dB**. Or the first time you press the **TRE – key** on the remote it will reduce to **+1dB**.
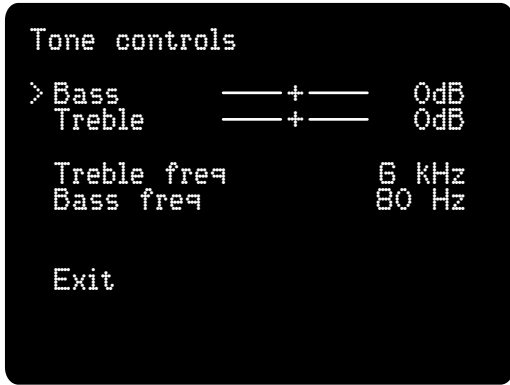
What's New

Higher Resolution

The original Bass and Treble tone controls were digitally processed with a 48 kHz sampling rate.

The Bass and Treble tone controls now operate with a 96 kHz sampling rate to enable the highest possible resolution. Higher resolution lets you make tonal adjustments without sacrificing overall quality of sound and its ultimate detail and clarity.

```
TONE CONTROLS
BASS:           0DB
```

Tone Frequency

The tone controls could previously boost or cut Bass and Treble in frequency ranges that were fixed. Now you have a choice of three frequencies (technically known as "- 3 dB turnover points") for each tone control.

With these tone frequency settings you can make more focused adjustments to optimize the way your speakers and room work together.

The upgraded tone control settings are found on the setup **Menu, Audio setup** page, **Tone controls** page, **Bass Freq.** and **Treble Freq.**

```
Tone controls

> Bass      ——+——    0dB
  Treble    ——+——    0dB

  Treble freq      6 KHz
  Bass freq       80 Hz

  Exit
```

The **Treble tone** control now offers you a choice of three frequencies where the treble tone control range is centered, 6 kHz, 8 kHz and 10 kHz.

- **- 6 kHz setting:** The **Treble tone** control will make the most noticeable increase or decrease in the high frequencies in your music and movies. This will affect how penetrating the treble range sounds to you because it includes treble frequencies in a range which is more audible. It has a subtle effect on the upper part of the "presence" range and increase at 6 kHz may improve the intelligibility of dialogue.

- **- 8 kHz setting:** The **Treble tone** control will have a less noticeable and more subtle increase or decrease in the high frequencies in your music and movies. You may prefer this setting.

- **- 10 kHz setting:** The **Treble tone** control will have the least impact on the perceived treble of music or movies. You will probably hear the effects of adjustments made at 10 kHz more in terms of the "airiness" of a recording than on its actual musical content. The 10 kHz setting is ideal for making older recordings sound more spacious and detailed without changing their fundamental sonic balance. It can also help reduce the "edge" on poorly made recordings which are overly "aggres-sive" or have background hiss.

```
TONE CONTROLS
TREBLE FREQ:    6KHZ
```

```
TONE CONTROLS
TREBLE FREQ:    8KHZ
```

```
TONE CONTROLS
TREBLE FREQ:    10KHZ
```

```
Tone controls

  Bass      ——+——    0dB
  Treble    ——+——    0dB

> Treble freq      10 KHz
  Bass freq        80 Hz

  Exit
```
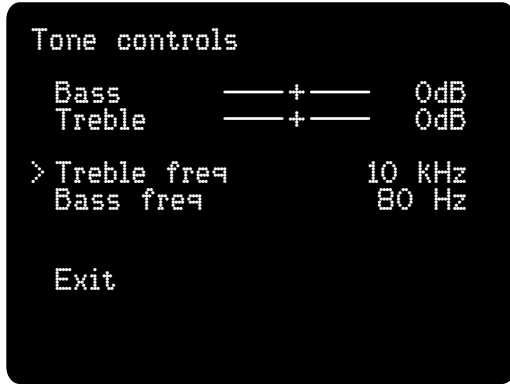
The upgraded **Bass tone control** offers you a choice of three frequencies where the bass tone control range is centered, **80 Hz**, **110 Hz** and **140 Hz**.

- **80 Hz setting**: The **Bass tone control** will make the least noticeable impact on the low frequencies in your music and movies. Decreasing Bass at the 80 Hz setting can compensate for room resonances that might exaggerate bass response and make it sound too heavy. Increasing Bass at 80 Hz can increase bass impact with the least added "thickness" or unwelcome exaggeration. It has the least impact on mid-bass frequencies.

```
Tone controls

 Bass     ——+——    0dB
 Treble   ——+——    0dB

 Treble freq      6 KHz
> Bass freq       80 Hz

 Exit
```

```
TONE CONTROLS
BASS FREQ:     80 HZ
```

- **110 Hz setting**: The **Bass tone control** will have a more noticeable effect on male voices. At the 110 Hz setting increasing Bass will add some richness, while decreasing Bass can reduce the "chesty" overly-heavy quality of voices. This enables the Bass control to compensate for the chesty quality that is a shortcoming in many loudspeakers.

```
Tone controls

 Bass     ——+——    0dB
 Treble   ——+——    0dB

 Treble freq      8 KHz
> Bass freq       110 Hz

 Exit
```

```
TONE CONTROLS
BASS FREQ:     110 HZ
```

- **140 Hz setting**: The **Bass tone control** will have the most noticeable effect on male voices and instruments. Increasing Bass at the 140 Hz setting can be useful to reinforce the low frequency output of smaller speakers and subwoofers, or speakers and subs whose room placement reduces their bass output.

```
Tone controls

 Bass     ——+——    0dB
 Treble   ——+——    0dB

 Treble freq      10 KHz
> Bass freq       140 Hz

 Exit
```
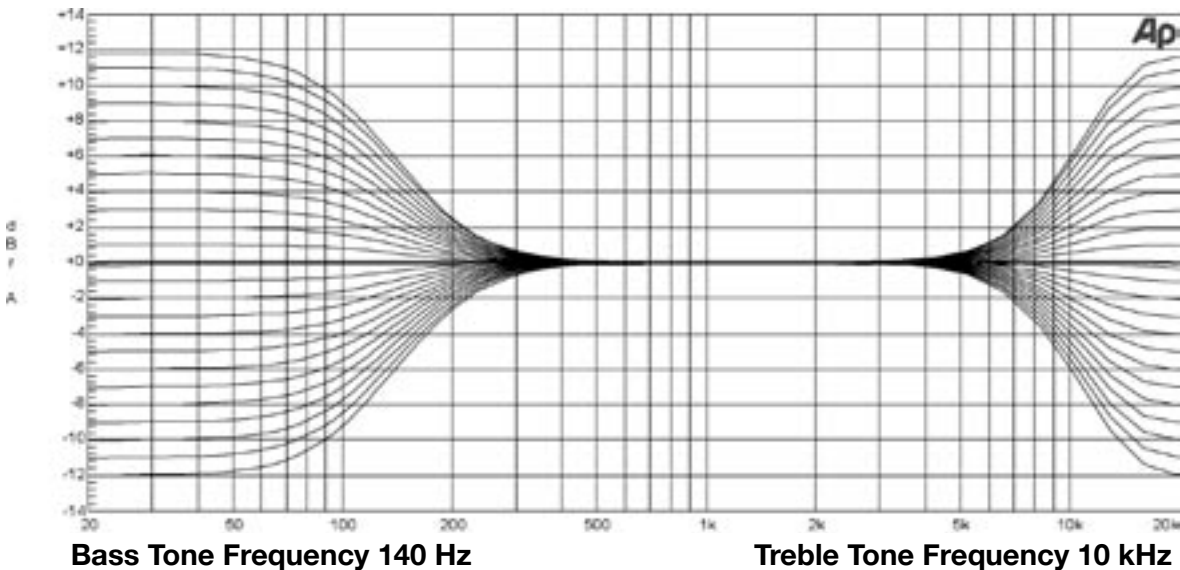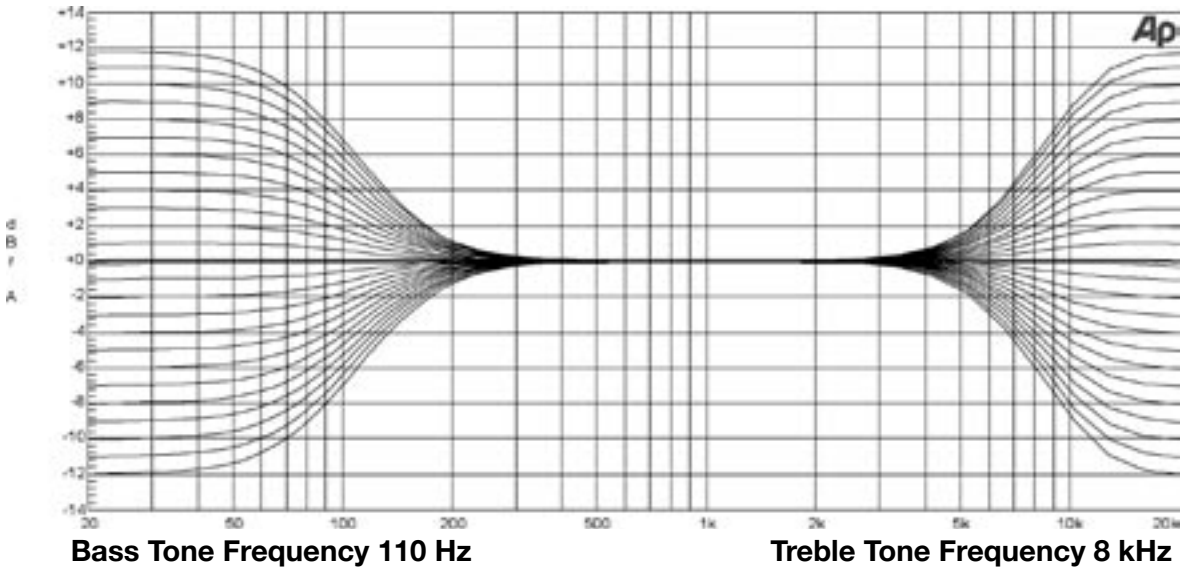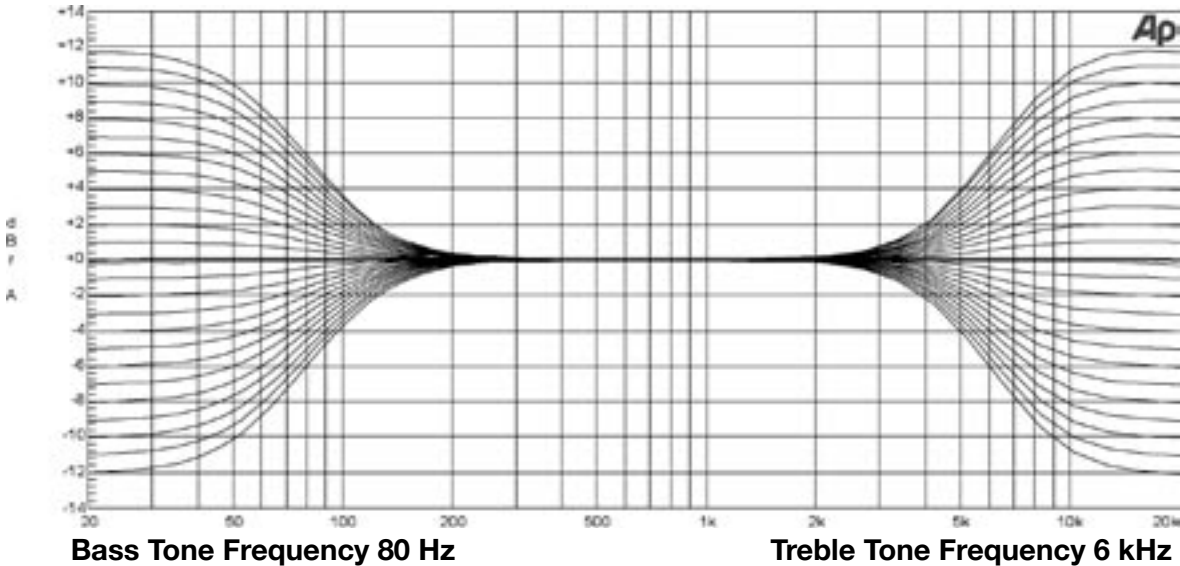
```
TONE CONTROLS
BASS FREQ:     140 HZ
```

Conversely, decreasing Bass at the 140 Hz setting can reduce heavy bass "boominess" that can occur when speaker placement, such as in a corner, gives too much of a boost to low frequencies.

Note: All of these descriptions are generalizations. The effects of the new settings may be quite different, depending on your speakers, your theater room, and where the speakers are placed in it. We invite you to experiment with the **Tone freq.** settings.

Bass Tone Frequency 80 Hz **Treble Tone Frequency 6 kHz**

Bass Tone Frequency 110 Hz **Treble Tone Frequency 8 kHz**

Bass Tone Frequency 140 Hz **Treble Tone Frequency 10 kHz**

Lip Sync

The image you see on your screen and the sound you hear must be properly synchronized. Since matching the picture with the sound is most noticeable when actors are speaking, it is often called **Lip sync**.

```
PRESET SETUP
LIPSYNC:          25 MS
```

Video signals may be delayed when they are processed within the DVD player, in an external line scalar, or in a High Definition TV. An example of such processing would be the de-interlacing that converts a 480i (interlaced) signal to a 480p (progressive scan) signal, or converting a 480p signal into a 1080i signal. The result is that you will see the picture a fraction of a second after you hear its corresponding sound. You can spot even a small video delay when actors are speaking, and it can be very annoying.

```
Preset setup

  Preset                     1
  Treble       ——+——      0dB
  Bass         ——+——      0dB
  Center       ——+——      0dB
  Surround     ——+——      0dB
  Subwoofer    ——+——      0dB
> Lipsync               25  ms


  Exit
```

Our **Lip sync** enables you to adjust and delay the audio signals to synchronize the sound with the delayed video signals. Adjustments are made in precise 1 mS (millisecond) steps, up to 150 mS.

You will find the **Lip sync** (shortened to **Lipsync** on the menu page) adjustment on the **Audio Setup** menu page, **Preset setup** sub-menu page. The **Lip Sync** adjustment is made on the **Preset** page so that you may "preset" five separate Lip Sync settings. Thus you can enjoy precise correction for as many as five different source components. If you go to the **Source setup** menu page you can associate a different Preset for sources (or assign the same preset to more than one source).

Note: The factory setting for Lipsync is **Off**.

Bass Management

Review: The original bass management selects the crossover frequency between the subwoofer and other speakers (when they are set to "small") in 10 Hz increments from 40 Hz to 140 Hz.

```
SIZE SETUP
SUB FREQ.:        45 HZ
```

What's New

You can now select the crossover frequency in 5 Hz increments from 20 Hz to 200 Hz. With more crossover frequencies available you may find a setting where your sub and other speakers blend together to integrate the overall sound more "seamlessly."

New settings for the Subwoofer frequency (abbreviated as Subwoofer freq.).are made on the **Speaker setup, Size setup** menu page.

```
Size setup

  Main speakers           Large
  Center speaker          Small
  Surround speakers       Small
  Back speakers         2 Small
  Subwoofer                 Yes
  Subwoofer filter           On
> Subwoofer freq.        45 Hz
  Enhanced bass             Off
  Exit
```

Discrete IR Codes for Second Zone

Applies only to remotes that have been re-programmed with Discrete IR Zone Code software.

Note: The following instructions do not apply to remote handsets that have not been re-programmed with Discrete IR Zone Codes. An unmodified remote will control the second zone the same way it did before the PLIIx/Lipsync software upgrade was installed into the actual C 1 or C 2 controller.

What's New

The C 1 or C 2 second Zone will now be set up as if it was a separate device that can be selected on the **MAIN MENU** page. This allows for discrete one button selection of second zone functions at any time; it is different than the previous second zone function described in the C 1 or C 2 Owner's Guide.

First press the **MAIN button**; **ZONE** will appear in the device display, along with **C 1/C 2, T3** and the names of seven other devices (which you can re-name and re-program for the components you actually have in your theater).

Press the **ZONE device key** next, after which you must press the **ON button**. This will activate the Zone function and will also turn on the C 1 or C 2, but for its remote zone only. You will see the page with the names of the ten source inputs that can be selected for the second Zone.

When you are on the **ZONE page**, with the zone function on, the remote handset's **VOL+** and **VOL– buttons**, **MUTE button** and **Source keys** control these functions only in the second Zone, without affecting the C 1 or C 2 main zone operation. If you press the **OFF button** while **ZONE** is displayed, it will turn off the zone function and turn off the C 1 or C 2 power if only the remote zone was in use. It will not turn the off the C 1 or C 2 power if it is playing in the main zone.

Here is a Q&A about Pro Logic IIx, prepared by Dolby Labs and reprinted from the Dolby Labs website, with permission.

1. What is Dolby® Pro Logic® IIx?

Dolby Pro Logic IIx is an extension of Dolby Pro Logic II technology. This highly sophisticated algorithm processes native stereo- and 5.1 channel material to produce 6.1 or 7.1 output channels.

Dolby Pro Logic IIx expands choice in playback system configuration (allowing 5.1, 6.1, or 7.1 playback channels) and, when incorporated into an audio/video (AV) receiver or processor, allows a convenient upgrade path from a traditional 5.1 channel sound system to 7.1 output channels.

2. Does Dolby Pro Logic IIx replace Dolby Pro Logic II?

No. Dolby Pro Logic IIx uses the same core technology as Dolby Pro Logic II, but extends its functionality. Dolby Pro Logic II technology will continue as the primary surround decoder for two to 5.1 channel material. Pro Logic IIx will be integrated by manufacturers into hardware components that offer 6.1 or 7.1 output capability.

3. Why does Dolby Pro Logic IIx sound more natural than competing formats?

For a few reasons. One is the newly developed approach in steering logic design, which provides unprecedented smoothness and precise dynamics. Another is the lack of signal coloration achieved by employing the simplest audio path, with as little filtering of the audio as possible.

4. What were the sonic goals in developing Dolby Pro Logic IIx?

- Improved surround envelopment
- Enhanced sense of spatial depth
- Improved directionality
- Larger listening area, commonly referred to as the "sweet spot"
- Compatibility of all native stereo and 5.1 channel content with 6.1 and 7.1 playback configurations

5. What are the key differences between Dolby Pro Logic IIx and other existing 6.1 channel and 7.1 channel offerings?

- Dolby Pro Logic IIx is the only technology package that covers both 6.1 and 7.1 speaker configurations.
- Dolby Pro Logic IIx maintains the sonic clarity of Dolby Pro Logic II across all sources and output modes, ensuring unmatched aesthetic consistency and purity.
- Dolby Pro Logic IIx introduces no artificial coloration during playback. It remains true to the artist's intent.

6. Are the Surround and Back channels full range?

Yes, with a 20 Hz to 20 kHz frequency response.

7. Will manufacturers offer Dolby Pro Logic IIx in a 7.1 satellite/sub configuration?

Yes. With proper bass management executed within the surround controller, a 7.1 satellite / subwoofer configuration — where all low frequencies are routed to the subwoofer — is indeed possible.

8. Will Dolby Pro Logic IIx process DTS 5.1 content, and is it compatible with DTS-ES discrete and matrix-encoded software?

Processing of DTS content is an available option. While Dolby Pro Logic IIx technology is fully compatible with DTS and DTS-ES, whether a product supports them is, of course, dependent upon DSP capability and hardware design.

9. Does Dolby Pro Logic IIx introduce any sound delay?

There is some surround delay in certain modes, as in all other Dolby Pro Logic decoder systems. Otherwise, no.

10. Is any front-channel information being mixed into the Rear speakers by Dolby Pro Logic IIx?

No.

11. What happens in signal processing behind the Center Width control?

When a logic decoder "steers" the Center signal, it is, in essence, removing Center channel signals from the Left and Right outputs. The Center Width control allows the amount of steering that is applied to Center signals to be modified. It reduces the "hard Center channel" that sometimes results from Center steering of stereo encoded soundtracks.

12. Is the Panorama mode more, or less, useful in a 7.1 environment?

The function of the Panorama mode is to create a more enveloping front surround field. It is equally useful when applied to Dolby Pro Logic IIx processing.

13. What are the differences between Music mode and Movie mode?

Surround programs are primarily mixed like movies. When shows are mixed in surround, they are monitored through the surround decoder that will be used for playback in the cinema or home. Movie mode is the reference decoder mode for any such surround-encoded program.

Music mode brings the benefits of a highly natural and balanced multichannel surround soundfield to content that was not specifically encoded for surround playback.

14. Is there a height element to Dolby Pro Logic IIx?

No, because content is not being made with specifically encoded height information. Without encoded content, any effect created, however pleasurable, would be mere speculation.

15. What is the effect of the Surround and Back speakers?

The Surround and Back speakers enable a more enveloping, more involving, and more precise listening experience.

16. Are the Surrounds and Backs stereo channels?

Yes, but they are not discrete. The Surround and Back channels are each derived from Dolby Pro Logic IIx logic decoding, so the separation varies in response to the input signal.

17. Does Dolby have a preference for Rear and Back Surround speaker configurations?

Not necessarily, since different rooms often benefit from different solutions. However, direct radiators often provide maximum clarity and detail and, therefore are often recommended.

18. Will you develop Dolby Pro Logic IIx matrix encoders for the entertainment industry?

Possibly. But it is worth noting that unlike Dolby Pro Logic II, which requires its own encoders to achieve maximum benefit, Dolby Pro Logic IIx can be fully exploited using today's encoding tools and mixing consoles.

19. What components are necessary to upgrade from Dolby Digital EX/Dolby Pro Logic II to Dolby Pro Logic IIx?

Aside from an A/V processor equipped with the new Dolby Pro Logic IIx algorithm, you would need an additional amplifier and an additional speaker matched to the existing back speaker for full integration of Dolby Pro Logic IIx.

Most A/V receivers equipped with Dolby Pro Logic IIx, on the other hand, will include the additional amplifier necessary to upgrade from 6.1 Dolby Digital EX to 7.1 channel Dolby Pro Logic IIx.

Would You Like to Know more About THX?

Please read the following explanation written by THX Ltd. It will help you understand and appreciate the substantial technical advantages and sonic benefits of THX technology.

THX Cinema Processing

THX is an exclusive set of standards and technologies established by the world-renowned film production company, Lucasfilm Ltd. THX grew from George Lucas' personal desire to make your experience of the film soundtrack, in both movie theatres and in your home theatre, as faithful as possible to what the director intended.

Movie soundtracks are mixed in special movie theatres called dubbing stages and are designed to be played back in movie theatres with similar equipment and conditions. This same soundtrack is then transferred directly onto Laserdisc, VHS tape, DVD, etc., and is not changed for playback in a small home theatre environment.

THX engineers developed patented technologies to accurately translate the sound from the movie theatre environment into the home, correcting the tonal and spatial errors that occur. On this product, when the THX indicator is on, THX features are automatically added in Cinema modes (e.g. THX Cinema, THX Surround EX):

Re-Equalization

The tonal balance of a film soundtrack will be excessively bright and harsh when played back over audio equipment in the home because film soundtracks were designed to be played back in large movie theatres using very different professional equipment. Re-Equalization restores the correct tonal balance for watching a movie soundtrack in a small home environment.

Timbre Matching

The human ear changes our perception of a sound depending on the direction from which the sound is coming. In a movie theatre, there is an array of surround speakers so that the surround information is all around you. In a home theatre, you use only two speakers located to the side of your head. The Timbre Matching feature filters the information going to the surround speakers so that they more closely match the tonal characteristics of the sound coming from the front speakers. This ensures seamless panning between the front and surround speakers.

Adaptive Decorrelation

In a movie theatre, a large number of surround speakers help create an enveloping surround sound experience, but in a home theatre there are usually only two speakers. This can make the surround speakers sound like headphones that lack spaciousness and envelopment. The surround sounds will also collapse into the closest speaker as you move away from the middle seating position. Adaptive Decorrelation slightly changes one surround channel's time and phase relationship with respect to the other surround channel. This expands the listening position and creates — with only two speakers — the same spacious surround experience as in a movie theatre.

THX Ultra2

Before any home theatre component can be THX Ultra2 certified, it must incorporate all the features above and also pass a rigorous series of quality and performance tests. Only then can a product feature the THX Ultra2 logo, which is your guarantee that the Home Theatre products you purchase will give you superb performance for many years to come. THX Ultra2 requirements cover every aspect of the product including pre-amplifier performance and operation, and hundreds of other parameters in both the digital and analog domain.

THX Surround EX

THX Surround EX — Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX Ltd.

In a movie theater, film soundtracks that have been encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the program. This channel, called Surround Back, places sounds behind the listener in addition to the currently available front left, front center, front right, surround right, surround left and subwoofer channels. This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience and sound localization than ever before.

Movies that were created using the Dolby Digital Surround EX technology, when released into the home consumer market may exhibit wording to that effect on the packaging. A list of movies created using this technology can be found on the Dolby web site at **www.dolby.com**.

Only surround controller products bearing the THX Surround EX logo, when in the THX Surround EX mode, faithfully reproduce this new technology in the home.

THX Surround EX operation

THX Surround EX will operate for any 5.1 channel source that has a Dolby Digital Surround EX auto trigger flag in the digital signal.

Note: THX Surround EX can only operate when the THX Cinema mode is ON and Surround Back speakers are selected in the system set-up menu.

Bass Mixing

In the bass output setup menu page, you have the flexibility to choose how bass information is distributed to your speakers only if you have large front left and right speakers and a subwoofer as part of your home theatre speaker system.

By selecting Enhanced Bass or Ebass [as it is called on the Model 7100], you will send the bass frequencies from the front left and right channels to the front left, right speakers AND the subwoofer. When Ebass is not selected, bass frequencies from the front left and front right channels stay in the front left and front right speakers and not sent to the subwoofer. Bass going to the subwoofer will only come from the LFE channel and any of the channels with speakers that you have designated as "Small." This selection is preferred by THX. To decide which setting is best for your room, once you have positioned all of your speakers, choose the option which gives you the most solid sounding bass.

ASA (Advanced Speaker Array)

ASA is a proprietary THX technology which processes the sound fed to two side and two back surround speakers to provide the optimal surround sound experience. When you set up your home theater system using all eight speaker outputs (Left, Center, Right, Surround Right, Surround Back Right, Surround Back Left, Surround Left and Subwoofer) placing the two Surround Back speakers close together facing the front of the room will provide the largest sweet spot. If, for practical reasons, you have to place the Surround Back speakers apart, you will want to re-optimize the surround sound-field. Go to the THX Audio Set-up setup menu page and select the setting that most closely corresponds to the speaker spacing.

ASA is used in the following three new modes; THX Ultra2 Cinema, THX MusicMode and THX Games Mode.

THX Ultra2 Cinema

THX Ultra2 Cinema mode plays 5.1 movies using all 8 speakers (7 speakers plus a subwoofer) giving you the best possible movie watching experience. In this mode, ASA processing blends the side surround speakers and back surround speakers providing the optimal mix of ambient and directional surround sounds.

DTS-ES (Matrix and 6.1 Discrete) and Dolby Digital Surround EX encoded soundtracks will be automatically detected in Ultra2 Cinema mode if the appropriate flag has been encoded.

Some Dolby Digital Surround EX soundtracks are missing the digital flag that allows automatic switching. If you know that the movie that you are watching is encoded in Surround EX, you can manually select the THX Surround EX playback mode, otherwise THX Ultra2 Cinema mode will apply ASA processing to provide optimum replay.

THX Music

For the replay of multi-channel music the THX MusicMode should be selected. In this mode THX ASA processing is applied to the surround channels of all 5.1 encoded music sources such as DTS, Dolby Digital and DVD-Audio to provide a wide stable rear soundstage.

THX Games

For the replay of multi-channel game audio the THX Games Mode should be selected. In this mode THX ASA processing is applied to the surround channels of all 5.1 channel encoded game sources such as analog, PCM, DTS and Dolby Digital. This accurately places all game audio surround information, providing a full 360 degree playback environment. THX Games Mode is unique as it gives you a smooth transition of audio in all points of the surround field.

Boundary Gain Compensation

If your listening room layout (for practical or aesthetic reasons) results in most listeners seated close to the rear wall, the resulting bass level can be sufficiently reinforced by the boundary that the overall sound quality becomes "boomy." THX Ultra2 surround controllers contain the Boundary Gain Compensation feature improve bass balance. Boundary Gain Compensation is active when you select "THX Ultra2 Subwoofer-Yes" in the "Boundary Gain Compensation" section of the THX Audio setup menu page.

Dialogue Normalization

Dialogue Normalization (Dial Norm) is a feature of Dolby Digital, which is used to keep the programs at the same average listening level so the user does not have to change the volume control between Dolby Digital programs.

When playing back software which has been encoded in Dolby Digital, sometimes you may see a brief message in the front panel display which will read "Dial Norm X dB" (X being a numeric value). The display is showing how the program level relates with THX calibration level. If you want to play the program at calibrated theatrical levels, you may wish to adjust the volume. For example, if you see the following message: "Dial Norm + 4 dB" in the front panel display, to keep the overall output level at THX calibrated loudness, just turn down the volume control by 4 dB. However, unlike a movie theater where the playback loudness is preset, you can choose your preferred volume setting for best enjoyment.

Online Sources for Further Information:

www.parasound.com, www.dolby.com, www.dtsonline.com, www.thx.com.

Are You Having Problems With The New Features?

USA and Canada residents: Call your Parasound dealer first. If your dealer can't help you with your problem we encourage you to call the Parasound Technical Service Department, 415 675-7272, or toll-free (USA only) at 866-770-8324 or Monday – Friday, 8am – 4pm Pacific time, or email to **Service@parasound.com**.

Outside North America: Call your local Parasound dealer where you purchased your C 1 or C 2.

We also recommend you visit our website, **www.parasound.com**, from time to time, as we may post new information and helpful hints.

Helpful Web Addresses

The following are the Web addresses for companies mentioned in this manual:

*   Parasound: **www.parasound.com**
*   Dolby Laboratories: **www.dolby.com**
*   DTS (Digital Theater Systems):**www.dtsonline.com**
*   THX: **www.thx.com**

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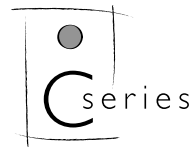
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