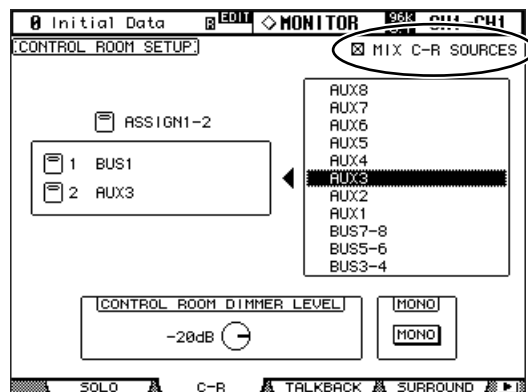


02R96 V2.1 Supplementary Manual

02R96 system software V2.1 contains the following changes from V2.0.

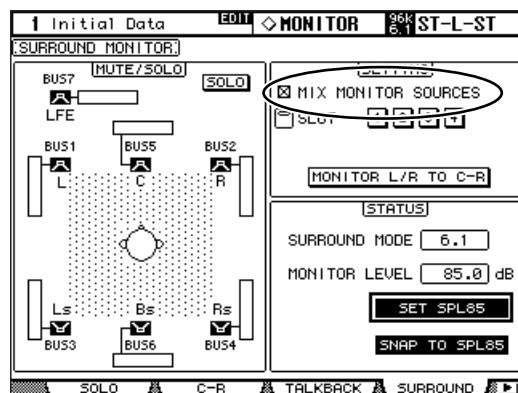
❑ MIX C-R SOURCES parameter added to Control Room Monitor (page 137)

A “MIX C-R SOURCES” parameter has been added in the CONTROL ROOM SETUP page. In V2.0, you could choose one item from 2TR D1, D2, D3, A1, or A2 as a monitor source, plus other sources (STEREO, ASSIGN1, or ASSIGN2). In V2.1, you can turn the MIX C-R SOURCES parameter off to disable this simultaneous selection.



❑ MIX MONITOR SOURCES parameter added to Surround Monitor (page 138)

A “MIX MONITOR SOURCES” parameter has been added to the SURROUND MONITOR page. In V2.0, you could simultaneously choose a BUS and SLOT as the monitor source, but in V2.1 you can turn this parameter off to disable this simultaneous selection.



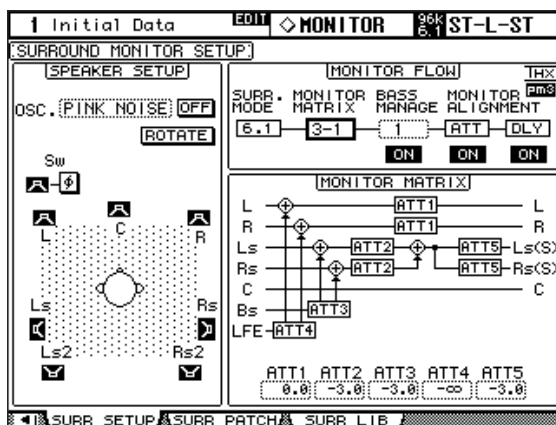
❑ THX presets added to Surround Monitor (page 139-141)

Presets for the THX pm3 monitor system have been added to the bass management settings for surround monitoring. Several supplements have also been added regarding the surround monitor settings, so please replace the corresponding pages with the following.

Configuring Surround Monitoring

Surround monitoring, including speaker setup, monitor matrix, Bass Management, and monitor alignment, is configured on the Surround Monitor Setup page.

- 1 Use the MONITOR [DISPLAY] button to locate the Surround Monitor Setup page.



2 Use the cursor buttons to select the parameters, and use the Parameter wheel, INC/DEC buttons, and [ENTER] button to set them.

SPEAKER SETUP: These parameters are for setting the volume balance of the surround monitor speakers. Select the OSC (Oscillator) parameter and choose from PINK NOISE, 500-2K (pink noise through a 500 Hz to 2 kHz BPF), 1K (1 kHz sinewave), or 50 Hz (50 Hz sinewave). Use the ON/OFF button to turn the Oscillator on and off. When on, the Oscillator outputs a signal at -20 dB to the Surround Channels whose icons are highlighted. You can turn on and off Oscillator output for speakers individually. Speaker icons can be selected by using the cursor buttons. The signal phase of the LFE Channel can be reversed by using the SW phase button. When ROTATE is on, the Oscillator signal is output by each speaker in turn in a clockwise direction (3 second signal, 2 second pause).

SURR. MODE: This indicates the currently selected Surround mode, which is set on the Surround Mode page (see page 85).

Note: If you had been monitoring with the surround mode set to 6.1 and the monitor matrix mode set to 6.1 on 02R96 units with system software earlier than V2.1, the playback may not always be correct on V2.1.

MONITOR MATRIX: This is used to select the Surround Monitor Matrix. In 6.1 Surround mode, you can select 6.1, 5.1, 3-1, or ST. In 5.1 Surround mode, you can select 5.1, 3-1, or ST. In 3-1 Surround mode, you can select 3-1 or ST.

When a down mix Monitor Matrix is selected, you can attenuate signals by using the ATT parameters.

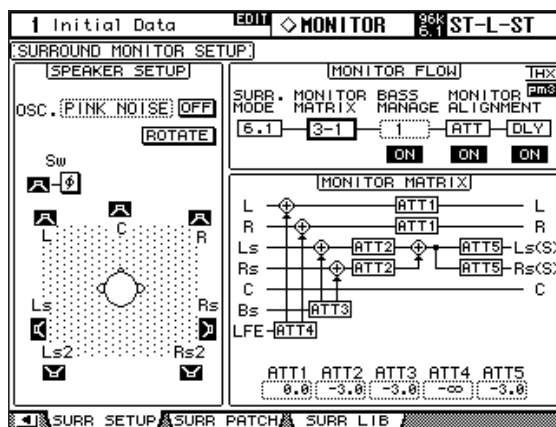
You can use the Surround Monitor settings in Stereo mode, but Monitor Matrix is fixed to ST.

Note: If you choose monitor matrix mode = 3-1, you must set the following three attenuation amounts to the same value.

- ATT1 for surround mode 3-1
- ATT4 for surround mode 5.1
- ATT5 for surround mode 6.1

These ATT values are not attenuators for down-mixing; rather, they are used as monitor adjustment attenuators for lowering the playback volume of the Ls, Rs, Ls2, and Rs2 speakers.

The following screen shows an example in 6.1 Surround mode and 3-1 Monitor Matrix mode.



• **BASS MANAGEMENT**

You can set the filter and attenuator settings for each Surround Monitor Channel using eight preset Bass Management modes. The following presets are available:

Presets		Parameters				
No.	Title	HPF 1, 2, 3	LPF1	LPF2	ATT 1 & 2	AMP
1	DVD LFE80Hz	80-12	80-24	80-24	0	10
2	DVD LFE120Hz	80-12	120-42	80-24	0	10
3	Movie LFE80Hz	80-12	80-24	80-24	-3	10
4	Movie LFE120Hz	80-12	120-42	80-24	-3	10
5	Bypass	THRU	THRU	MUTE	0	0
THXD	THX DVD	80-12L	120-42	80-24L	0	10
THXF	THX Movie	80-12L	120-42	80-24L	-3	10
THXM	THX Music	80-12L	120-42	80-24L	0	10

ATT1: Adjusts the level difference between LR and LsRs.

ATT2: Adjusts the level difference between C and Bs.

AMP: Corrects the LFE channel level.

HPF1-3: Cut the low range so that the speakers' supporting frequency ranges will not interfere with the subwoofer signals.

HPF1-2: Cut the high range so that the subwoofer's supporting frequency ranges will not interfere with other speakers' signals.

Note:

- If you select preset THXD or THXF, you cannot change the parameters.
- If you select preset THXM, you can switch AMP between 10 dB and 0 dB. However, you cannot change other parameters.

You can set the Bass Management parameters in the following ranges:

Parameters	Range
HPF 1, 2, 3	THRU, 80-12, 80-12L, 80-24, 80-24L
LPF1	THRU, 80-24, 80-24L, 120-42
LPF2	THRU, 80-24, 80-24L, MUTE
ATT 1 & 2	0 to -12 dB (1 dB steps)
AMP	0 to +12 dB (1 dB steps)

The HPF 1, 2, 3, and LPF 1 & 2 values indicate a cut-off frequency and a filter response. For example, "80-12" means a cutoff frequency of 80 Hz and a filter response of -12 dB/octave.

"L" means Linkwitz filter. Other filters are Butterworth.

About the Presets

(1) DVD LFE80Hz

This is a preset optimized for DVD-Video production. The LFE playback bandwidth is set up to 80 Hz. When using this preset, we recommend that you use an external device to apply an LPF ($f_c=80$ Hz, -24 dB/oct) to the LFE master source.

To monitor audio on DVD-Audio or SACD discs, change the LFE level (AMP) and LPF (LPF1) to 0 dB and THRU, respectively, if necessary.

The LFE output gain on some DVD players and decoders may already be set to +10 dB. To monitor the output from such devices, change the LFE level (AMP) to 0 dB.

(2) DVD LFE120Hz

This is also a preset optimized for DVD-Video production. This preset is the same as preset (1) mentioned above, except that the LFE playback bandwidth is set up to 120 Hz. Use this preset to monitor standard LFE signals recorded on DVD-Video discs that include the high-end frequency ranges (120 Hz).

(3) Movie LFE80Hz

This preset is the same as preset (1) mentioned above, except that the output level of surround channels is set to -3 dB when the Monitor Matrix mode is 5.1 or 6.1. This preset is suitable for movie production.

When using this preset, we recommend that you use an external device to apply an LPF ($f_c=80$ Hz, -24 dB/oct) to the LFE master source.

(4) Movie LFE120Hz

This preset is the same as preset (2) mentioned above, except that the output level of surround channels is set to -3 dB when the Monitor Matrix mode is 5.1 or 6.1. This preset is suitable for movie production.

(5) Bypass

Use this preset not only for bass management but to bypass all parameters, such as the LFE level & LPF, surround channel level, etc.

To disable only the bass management, select another preset, then turn off the BASS MANAGEMENT ON/OFF button.

■ THX Presets:

The following presets have been approved by THX™ Ltd. for use in THX pm3™ Certified Studios*. They are designed to provide dedicated parameters for the proper playback of multi-channel audio content in bass managed systems and to be compatible with subwoofer-satellite type consumer systems.

* Use of a THX preset does not permit a studio to use the designation - THX pm3 Certified Studio. The THX pm3 Studio Certification Program uses performance and design specifications to create calibrated environments for optimum sound and picture presentation. For more information, visit the THX website at <http://www.thx.com>

[THXD] THX DVD

This preset is configured for DVD-Video production. Use this preset when mixing and/or monitoring audio content not from a theatrical film source. The parameters cannot be changed.

[THXF] THX Film

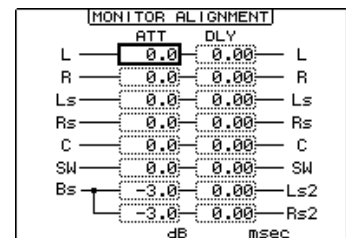
This preset is configured for Film pre-production. Use this preset when mixing and/or monitoring theatrical film-based content (such as a pre-mix for film). The parameters cannot be changed.

[THXM] THX Music

This preset is configured for DVD-Music production. Use this preset when mixing and/or monitoring multi-channel music content (including DVD-Audio and SACD). Only one parameter can be changed. The LFE gain (AMP) can be set to $+10$ dB (default) or 0 dB. Select the level that complies with the standards of the target media. Please note: The LFE output gain on some DVD players, receivers, and/or decoders may already be set to $+10$ dB. Select the 0 dB setting only if the destination environment (home theatre, etc.) has the LFE gain set to 0 dB. Otherwise, use the default setting.

• MONITOR ALIGNMENT ATT & DLY ON/OFF

These buttons are used to turn on and off the Monitor Alignment Attenuator and Delay parameters of all Surround speakers. The MONITOR ALIGNMENT diagram and Surround Channel Attenuator and Delay parameters, which are displayed when either of these buttons are selected, allow you to align the surround monitor speakers by attenuating and delaying Surround Channels as necessary. The Attenuator parameters can be set $-\infty$, -12 dB to $+12$ dB in 0.1 dB steps. The Delay parameters can be set from 0 to 30 msec in 0.02 msec steps.



Note:

- Please note that the above settings apply only to the signals being monitored. They do not affect the normal bus outputs.
- If you're monitoring in surround mode 6.1 and monitor matrix mode 6.1, you'll need to make the above settings separately from when in other modes.

Tip: The settings you make here can be stored in the surround monitor library.