

Solid State Logic

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C10 HD

Digital Broadcast Console

V3.2/10 Software Update and Install Notes

Applicable to upgrades from V3.2/7 onwards

Packing List

Please ensure that you have the following items before attempting any part of the upgrade:

| | | |
|----------|--|--------------------------------------|
| 1 | V3.2/10 Update Notes | 82S6QC101G <i>(this document)</i> |
| 1 (or 2) | Software Licence String <i>(redundant systems will require two licence strings)</i> | P996C012G |

If any of the listed items are missing, please contact your local SSL representative before attempting the upgrade

Please download the software disk image from the SSL website: www.solidstatellogic.com

This document contains essential information – please read it carefully before making any attempt to upgrade the system

Solid State Logic

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E&OE

INTRODUCTION

This document describes the new features, new options and bug fixes incorporated in the V3.2/10 software upgrade and details the hardware and software installation procedure required to update your system to this latest release of C10 HD software.

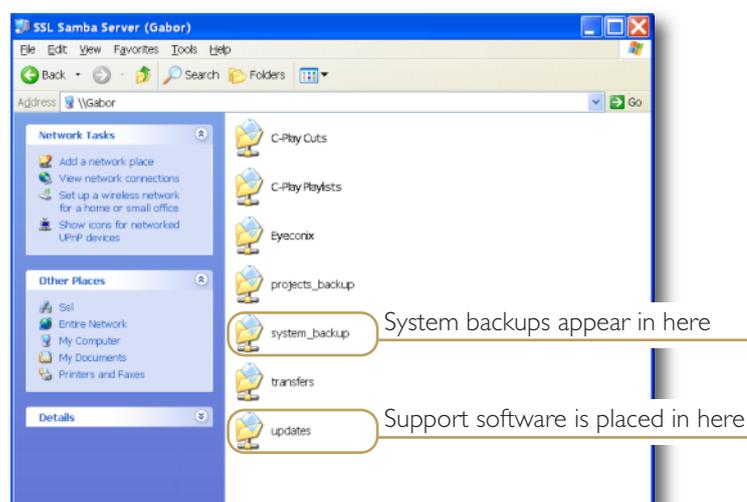
Please note that this release is only applicable to those systems that have previously been installed with V3.1/2 or greater software.

INSTALLATION PROCEDURE

Assumptions

The following points are assumed in these installation instructions:

- A1. This installation procedure details installation of new software and hardware on a running system, not a fresh installation.
- A2. During commissioning/installation of the C10 HD system, at least one networked computer within the studio facility – ideally located in the same room as the console – will have been configured to communicate with the system. Access to one of these computers will be required to run the software installation process. This will be referred to in the following text as the **'networked computer'**.
- A3. The network IP Address that has been assigned to the C10 HD system will be required. If you do not know either of these details, please contact your IT or Studio Maintenance Department.
- A4. The **networked computer** used for this installation should have an SSH client installed ('PuTTY', for example). This program will be used to communicate with the C10 HD system – login as 'sbc' using 'server' as the password. If you are unsure how to run this program, or the default password has been changed, please contact your IT or Studio Maintenance Department.
- A5. Backing up of the current system and installation of the new software will require that the **networked computer** has access to the folders exported by the C10 HD system. This can be achieved as follows:
 - a. Click on 'Run' in the Windows Start menu.
 - b. In the 'Run' box, type '\\<IP_Address> <CR>'
 - Where: '\\' indicates that we wish to mount a file share,
 - '<IP_Address>' is the IP Address of the C10 HD system,
 - '<CR>' indicates the 'Return' key on the computer keyboard.
 - c. At the resulting login prompt, enter the username ('sbc') and password (the default for this login being 'sbc123'). This will result in a view of the shared folders on the C10 HD system, similar to that shown below:



Firmware Update

The minimum firmware requirements for C10 HD software V3.2/10 are as follows:

| | |
|----------|--|
| T9960KF6 | PCIE ROUTING & SPI 256CH |
| T989RPLF | MADI MEZZANINE (B-RIO) CONTROL V15.0 – (for 626989X2 and 626989X3) |
| T989PCU9 | MADI MEZZANINE CONTROL UPPER V9.0 – (for 626989X4) |

Please check the version of firmware running on the SSL PCI-E card and MADI Mezzanine cards using the `firm` command in `tclient` and, if required, update the firmware to current revision.

- The UID numbers reported by `firm` will be as follows for the new firmware:

| | |
|----------|-------------|
| T9960KF6 | UID :- 922 |
| T989RPLF | UID :- 1446 |
| T989PCU9 | UID :- 1447 |

If Core MADI Redundancy is required then a firmware upgrade is needed. Please contact your SSL representative for further instruction.

SSL Service Personnel Only: If configuring a system with Core MADI Redundancy please refer to FSB 932 and FSB 933.

Software Installation on a Single Blackrock System

This installation procedure applies to single Blackrock systems only – the process for redundant systems is slightly different and so is detailed separately on page 5.

1. Ensure that you have all of the items shown in the Check List at the beginning of this document; if you are unsure about any item, please contact your local SSL office before proceeding further.

Archiving the System Disk

2. As with all software installations, we strongly advise you to generate a ‘mirror’ copy of the C10 HD System Disk before proceeding. Open the SSH client on the **networked computer** and login to the C10 HD system (ref. **Assumption A4**). Once you are logged in (as user ‘sbc’), type:

```
backup_system_disk <CR>
```

This will create a time and date stamped backup file in the ‘system_backup’ folder.

The backup process copies the entire C10 HD System Disk and so will take a considerable time (about 5min) to complete. It is of course also recommended that any backups created are stored off-line elsewhere.

3. To ensure that sufficient space is still available to contain the upgrade, type:

```
df -h /home <CR>
```

Check that the percentage used is less than about 90%. If it is higher, consider removing any old backups from the ‘system_backup’ folder.

Installing the Support Software

4. Connect the USB memory device containing the V3.2/10 Software Disk image to the **networked computer** and open a window to display the contents of the USB device.
5. Locate the ‘updates’ folder within the folders exported by the C10 HD system (ref. **Assumption A5**).
6. On the USB device, open the ‘C10_V3_2_10_Updates’ folder and drag the following three .rpm files from the USB device into the ‘Updates’ folder:

- kernel *SBC kernel and associated modules*
- ssl_console_files *Blackrock system software and files*
- ssl_host_tools *SBC support files and applications*

7. Once the .rpm files have been copied, return to the SSH client and type:

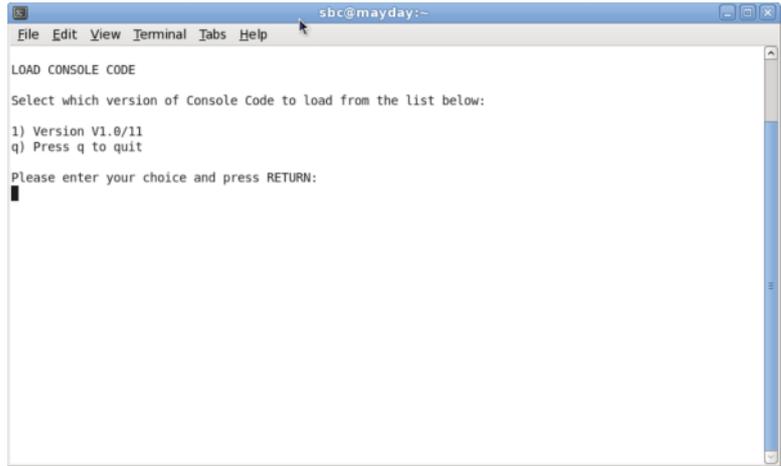
```
install_updates <CR>.
```

This will unwrap and install each of the .rpm archives. Follow the on-screen instructions to install them.

Installing the C10 HD System Software

8. Once the files are installed the system code will need to be copied to the flash memory on the Blackrock processor's PCIe card. At the terminal prompt typing `load_console_code <CR>` will result in a list of software versions similar to that shown here.

Select the version of code you wish to install by entering the number next to the software version, eg. 1 <CR> in the illustration opposite. The system code will now be copied to the flash device on the PCIe card. A percentage indicator on the terminal will provide an indication as to how far through the process the system is. On completion a prompt will request a key on the keyboard be pressed to shutdown 'p' or reboot 'r' the Blackrock processor.



It is strongly recommended that at this point the Blackrock processor be shutdown and re-powered if possible.

Enabling the New System

9. When the system has fully booted, a pop-up will appear on screen inviting you to enter a Software Licence string and so enable the software.

You will not be able to use the console until the Software Licence has been accepted.

Open the Software Licence envelope containing your Licence string and type this carefully using the on-screen keyboard. Once the system has verified the validity of the Licence, a Software Licence Agreement will appear on-screen. Stab on the 'I Agree' box at the top of the pop-up to complete the licensing procedure.

Reboot the processor to ensure the licence is correctly read.

10. Remember to store the Software Licence string in a safe place along with the C10 HD Software.

Once the update is complete and the console has rebooted, any Windows workgroup the Blackrock has been assigned to may need to be reassigned (updates performed by the SSL Host Tools package may erase various parts of the network integration settings) – you may need to contact your contact your IT or Studio Maintenance personnel to check this.

INSTALLATION ON A REDUNDANT BLACKROCK SYSTEM

Installation of software and support files on a redundant Blackrock system must be performed on one processor at a time with the other processor powered down. Do not attempt this process with both units running!

1. Ensure that you have all of the items shown in the Check List at the beginning of this document; if you are unsure about any item, please contact your local SSL office before proceeding further.

Archiving the System Disk

2. As with all software installations, we strongly advise you to generate a 'mirror' copy of the C10 HD System Disk before proceeding. Open the SSH client on the **networked computer** and login to the C10 HD system (ref. **Assumption A4.**). Once you are logged in (as user 'sbc'), type:

```
backup_system_disk <CR>
```

This will create a time and date stamped backup file in the 'system_backup' folder.

The backup process copies the entire C10 HD System Disk and so will take a considerable time (about 5min) to complete. It is of course also recommended that any backups created are stored off-line elsewhere. This must be done separately for both Blackrock processors – but this can be done on both processors simultaneously.

3. To ensure that sufficient space is still available to contain the upgrade, on each system type:

```
df -h /home <CR>
```

Check that the percentage used is less than about 90%. If it is higher, consider removing any old backups from the 'system_backup' folder.

Installing the Support Software

4. Connect the USB memory device containing the V3.2/10 Software Disk image to the networked computer and open a window to display the contents of the USB device.
5. Locate the 'updates' folder within the folders exported by the C10 HD system (ref. **Assumption A5.**).
6. On the USB device, open the 'C10_V3_2_10_Updates' folder and drag the following three .rpm files from the USB device into the 'Updates' folder:

- kernel *SBC kernel and associated modules*
- ssl_console_files *Blackrock system software and files*
- ssl_host_tools *SBC support files and applications*

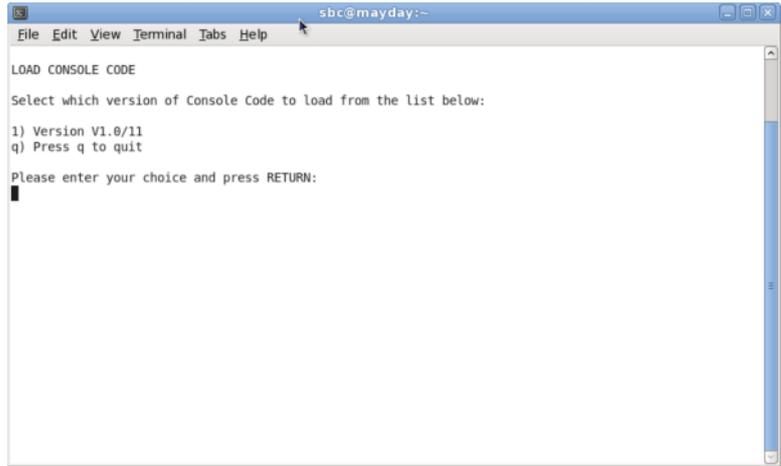
7. Once the .rpm files have been copied, return to the SSH client and type:

```
install_updates <CR>
```

This will unwrap and install each of the .rpm archives. Follow the on-screen instructions to install them. Ignore any error messages printed to the terminal during this time.

Installing the C10 HD System Software

9. Once the files are installed the system code will need to be copied to the flash memory on the Blackrock processor's PCIe card. At the terminal prompt typing `load_console_code <CR>` will result in a list of software versions similar to that shown here.



Select the version of code you wish to install by entering the number next to the software version, eg. 1 <CR> in the illustration opposite. The system code will now be copied to the flash device on the PCIe card. A percentage indicator on the terminal will provide an indication as to how far through the process the system is. On completion a prompt will request a key on the keyboard be pressed to shutdown 'p' or reboot 'r' the Blackrock processor.

It is strongly recommended that at this point the Blackrock processor be shutdown and re-powered if possible.

Enabling the New System

10. When the system has fully booted, a pop-up will appear on screen inviting you to enter a Software Licence string and so enable the software.

You will not be able to use the console until the Software Licence has been accepted.

Open the Software Licence envelope containing your Licence strings. Each processor will have a different licence; match the 5 digit PAL id. given with the licence to the Blackrock network ID on the sticker on the front face of the Blackrock unit and type this in carefully using the on-screen keyboard. Once the system has verified the validity of the Licence, a Software Licence Agreement will appear on-screen. Stab on the 'I Agree' box at the top of the pop-up to complete the licensing procedure.

Reboot the processor to ensure the licence is correctly read.

11. Repeat this process from Step 2. for the slave processor.
12. Once all updates have been performed, re-boot both processors together.
13. Remember to store the Software Licence strings in a safe place along with the C10 HD Software.

Once the update is complete and the console has rebooted, any Windows workgroup the Blackrock has been assigned to may need to be reassigned (updates performed by the SSL Host Tools package may erase various parts of the network integration settings) – you may need to contact your contact your IT or Studio Maintenance personnel to check this.

SYSTEM CONFIGURATION

7.1 Monitoring

Support for 7.1 monitoring requires a new Speaker Positions file to be copied from the Config V15 directory into the Laws directory on the hard drive:

- In the **Spanner/File** menu select **Copy**.
- In the resultant pop-up, stab on the large box beneath **Source**, will present the contents of the System Disk at root level; if not, stab the box next to **System** on the left of the pop-up.
- Select the **Config V15** directory and then the **Speaker Positions** file. Press **OK**.
- Select the small box beneath **Destination**, and select the **Laws** directory from the resulting pop-up.
- Select **Current Dir** and you will be returned to the **Copy** pop-up.
- Press **Start Copy** at the foot of the **Copy** pop-up and once the copy process is complete, reboot.

New Features

MOMENTARY PFL

There is a new **Momentary PFL** option in the **PFL Settings** display (opened by pressing the Touchscreen **Misc** button, followed by **Config PFL** from the display which appears).

When **Momentary PFL** is active, PFL buttons become non-latching. (In other words, PFL is active only while the button is held down.)

Momentary PFL can also be assigned to a Soft Key, either using the normal Free Assign system or via the GPI Free List.

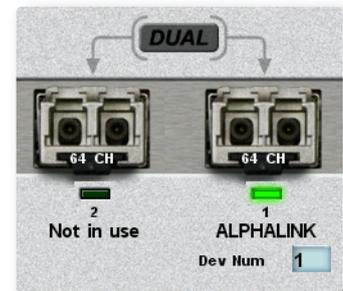


CORE REDUNDANCY

Note that this element of V3.2/10 software requires an SSL engineer to complete a firmware update on-site. Please speak to your SSL service representative for more information.

AlphaLink and Morse Stage Box connections can now be configured for Core redundancy without having to reserve additional I/O Ports for Loop redundancy. Simply connect each core to one of the two MAD1 ports on the AlphaLink or Morse Stage Box (using the same port number on each core), then open the **IO Links** page in the Toolbox **Route** menu and ensure that neither **DUAL** nor **LOOP** are active for that Link (the label over the link's MAD1 IO symbol should display **DUAL** greyed out).

In the event of a Core changeover, the inactive Core's MAD1 output will be disabled, allowing the AlphaLink to detect the changeover and switch to its other input.



Third party I/O hardware with redundant ports may be able to support Core redundancy changeover. Please contact your SSL service representative to determine compatibility.

7.1 SURROUND FORMAT

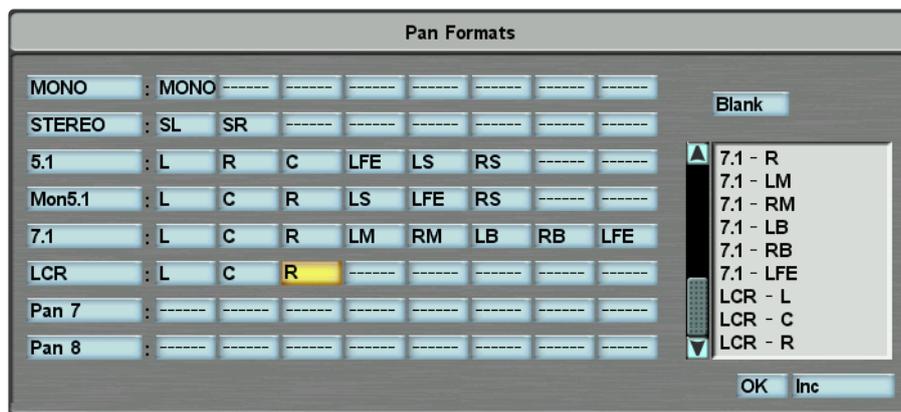
Feature Overview

C10 V3.2/10 adds support for the 7.1 Multichannel format, incorporating both side and rear surround speakers, as well as LCR for post production use. These new formats can be applied to Input channels, ASGs and Utility Busses via the **Channel Settings** menu. 8-Channel monitoring utilises the main and mini outputs simultaneously, with the link option enabled so that Monitor Level, Cut and Dim are controlled from the existing front panel hardware controls. Two dedicated 7.1 Monitor inputs are available which can be expanded using the External source selectors with the option of summing three 7.1 returns.

In conjunction with the DAW control option, C10 V3.2/10 offers powerful multichannel stem mixing and monitoring features to compliment a workstation-based postproduction workflow. In a studio production environment, programmes can be compiled with native support for the additional channels in the Dolby® Digital Plus codec as well as simultaneously delivering standard Dolby® Digital mixes.

Initial Configuration

In order for 7.1 and LCR formats to appear in the **Channel Settings** menu, they first must be configured in the **Pan Formats** pop up, accessed via the Toolbox **Config** menu:



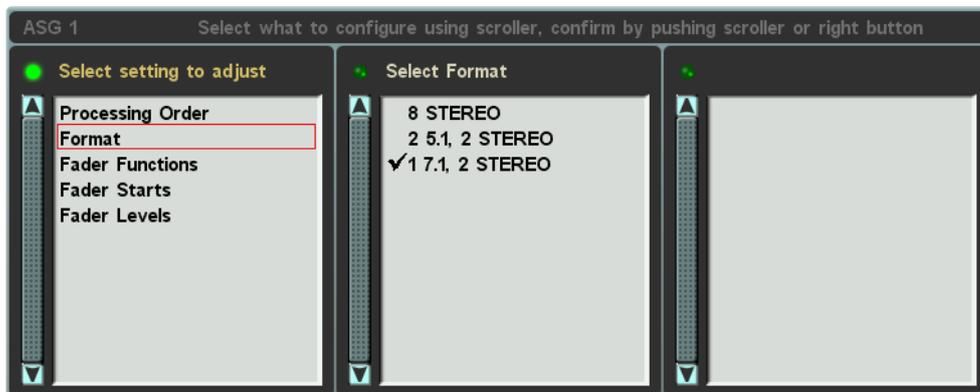
Formats 1 to 4 are system entered and cannot be edited, whereas Formats 5 to 8 are available for user formats. To create a 7.1 or LCR format, select the appropriate components in the display using the 7.1 or LCR entries in the scrollable list to the right. The speaker order is not fixed and can be what ever the user requires.

Note that once channels and busses have been formatted, this page should not be edited, or extremely bizarre pan routing will occur.

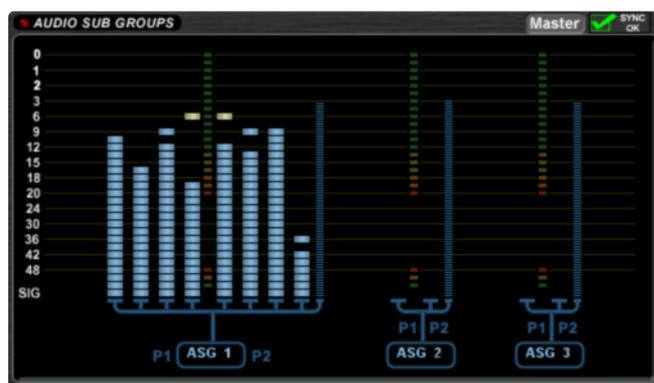
*Full details of the **Pan Formats** display can be found in Section 6 of the main operator's manual.*

Bus Configuration

7.1 ASGs are set up in the **Channel Settings** menu, not from the touch screen. Once an ASG has been 'attended', the **Format** entry contains a new configuration that delivers a single 7.1 mix bus with two additional stereo busses.



With the 7.1 option active, the ASG output meters are as shown below:

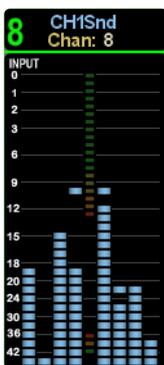
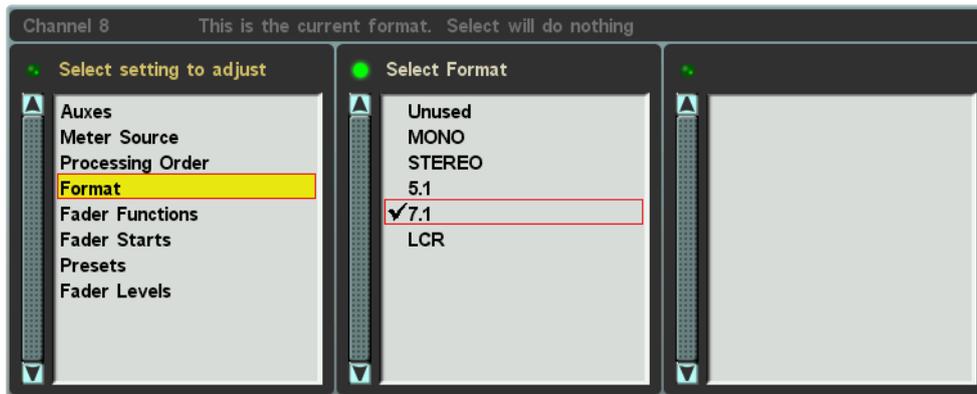


Channel Panning in 7.1

Channels routed to 7.1 busses will have full 7.1 panning via the existing pan controls and Touch Pan option. As a channel is panned from the front to rear, it passes through the side speakers at 50R/50F reaching the rear speakers at R100/0F. 5.1 Channels routed to a 7.1 bus map correctly with the rear signals assigned to the rear busses of the 7.1 sound field. The pan Depth control can then be used to distribute the rear signals to the side speakers.

Channel Configuration

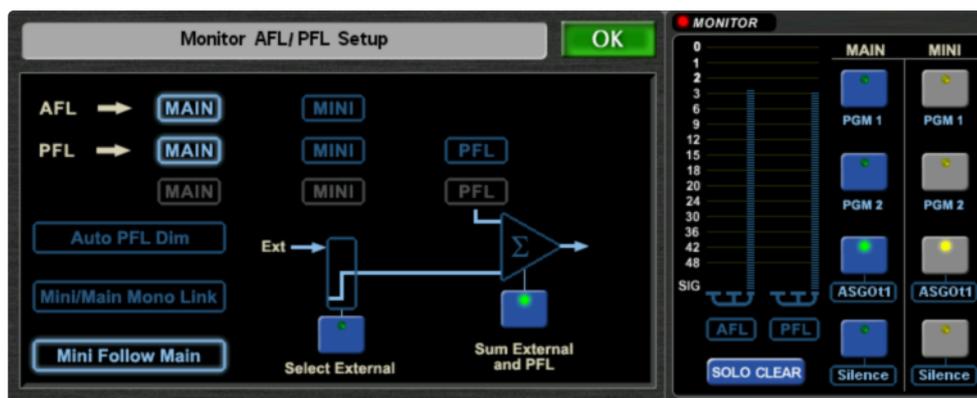
7.1 and LCR formats can also be used for channels, using the **Channel Settings** menu.



7.1 and LCR channels have similar functions to 5.1 channels and can be spilled onto multiple mono channels strips. Channel metering displays all component inputs.

8 Channel Monitoring

8-Channel monitoring utilises the Main and Mini outputs simultaneously. Enabling the **Mini Follow Main** option in the **Monitor AFL/PFL Setup** pop up allows level, cut and dim control of both Monitor outputs from the **MONITOR** panel simultaneously.



Using the console's standard routing procedures, the L R C LFE LB and RB signals from a 7.1 bus output need to be routed to **MAIN** External monitor input 3 or 4, and the LM and RM signals to the corresponding **MINI** External monitor input. Selecting the corresponding input on both monitor outputs activates full 7.1 monitoring.

BUG FIXES

- A crash when using Swap has been fixed.

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