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	DEPARTMENT Engineering	CREATED BY: L. Brown	EFFECTIVE DATE November 9, 2020	REVIEWED BY: D. Eyre	

LS10 Software Updates

This document describes the latest software updates for the LS10. Software updates can be easily done on the LS10 through a USB memory stick, or through an internet connection (using a VNC viewer).

Software updates usually contain a variety of improvements, new features, and/or bug fixes. In some cases updates may affect the setup and operation. Please read the summary of updates for this release before updating the LS10. Additional information on features can be found in the LS10 Installation and Operating Guide, TM-H663.

How to Check if an Update is Required



The current LS10 software version may be found by selecting the Gear icon (setup) in the upper left corner of the LS10 Home screen. The current version is displayed in the bottom of the setup screen. If your LS10 has an earlier software version you will need to update the software to use the latest features available.

Current version: 102.06
 Build Date Mon Nov 9 13:08:25 PST 2020

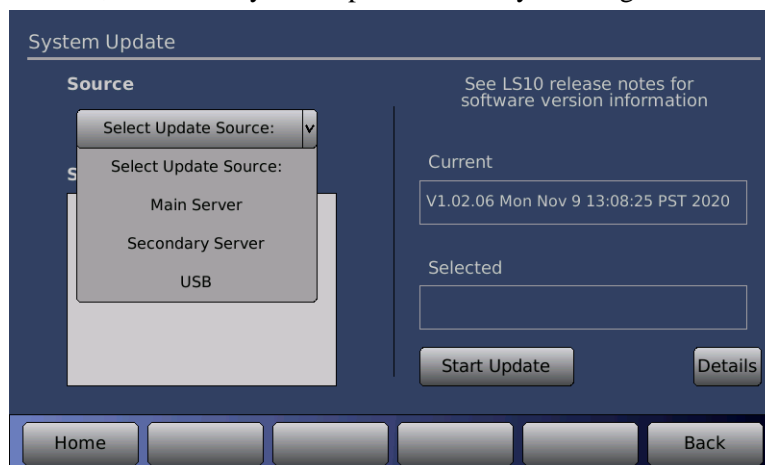
Check with Datasat Digital Entertainment, Technical Support for the latest update.

Software Update Procedure


Please see the LS10 Installation and Operating Guide for complete information. The easiest way to update the LS10 is through the network using a VNC connection. The LS10 can also be updated from the LS10 front panel, or via a VNC connection, using a USB memory device.

Updating to V1.02.06 through the network using a VNC Viewer

1. Login to the VNC screen for the LS10 on your computer. Note: To find the IP address of the LS10 select the gear icon on the LS10 units Home screen, then select the **Net** button. If a custom password has not been set up for the LS10, the default VNC password is the dash key “-“.
2. Once connected, select the System Update screen by entering Home → Update.



3. Using the Source pull down menu, choose Main Server, or Secondary Server. Both will provide the same information. If you successfully connect to the server a list will appear of all available software versions. The most current will always be at the top of the list. Click on the desired version to highlight it.
 The current version of software on the LS10 is displayed under **Current** on the right side of the screen. The highlighted software version to be loaded will be displayed under **Selected** on the right side of the screen.

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4. Press the Start Update button. The LS10 should immediately start downloading the update file. When the installation process is finished, the LS10 will automatically reboot.
5. Wait for the Home screen to appear when the reboot completes.
6. Check the Setup screen, by selecting the Gear icon, and verify that V102.06 with Build Date: Mon Nov 9 13:08:25 PST 2020 is installed.

Updating to V1.02.06 using a USB Device


1. Download the LS10 update file and copy it to a USB memory device in the root directory. The latest released version is available on the Datasat website: www.datasatdigital.com. The file may need to be unzipped. Check with Datasat Digital Entertainment Technical support for instructions if needed. The correct filename is: ciLS10v10206_rel.upd. NOTE: It is important that the only update file loaded on the USB memory device is for the LS10. Additional update files from other products may cause an error.
2. Connect the USB memory device to the USB Save/Restore connector on the rear panel of the LS10.
3. Select the update menu screen, from the LS10 front panel touch screen display, by selecting the **Gear icon** (Setup) → **USB** → **Update**.

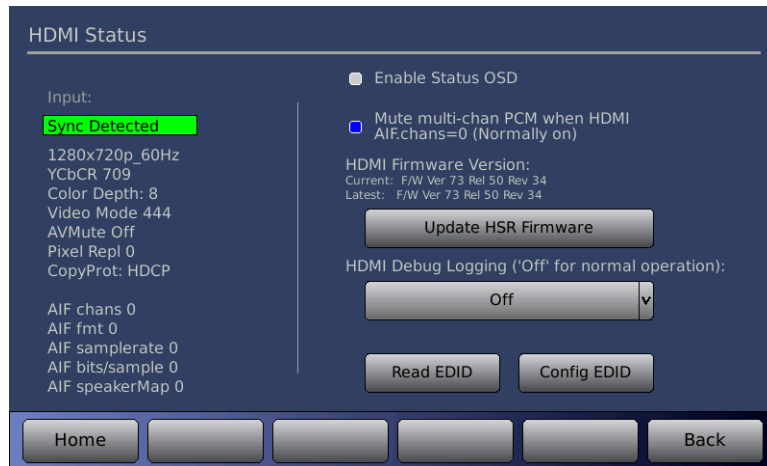


4. The update file information will appear on the screen. Verify that it is the correct file and select the **Continue** button. The LS10 should immediately start downloading the update file. When the installation process is finished, the LS10 will automatically reboot.
5. Wait for the Home screen to appear when the reboot completes.
6. Check the Setup screen, by selecting the Gear icon, and verify that V102.06 with Build Date: Mon Nov 9 13:08:25 PST 2020 is installed.

HDMI Firmware Update Procedure

Updating the HDMI board firmware requires a separate update procedure from the main LS10 software update. Update the LS10 software before updating the HDMI firmware. This will assure that the latest HDMI firmware is available. The firmware update menu is accessed through a VNC connection only. Select **Decoder** → **HDMI**. The current loaded version and latest available version for the installed HDMI board will be displayed. Select the **Update HSR Firmware** button if an update is needed. Once the update is completed, reboot the LS10. Verify that the latest version is installed.

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Updates for V1.02.06 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.02.06 since the previous software version V1.02.05.

Current version: 102.06
Build Date Mon Nov 9 13:08:25 PST 2020


1. Added **eARC** (Enhanced Audio Return Channel)
 - a. Added eARC as an input on the LS10.
 - b. eARC link state is displayed on the LS10 LCD if in error state.
 - c. New IR remote code added to select eARC: 0x31. Note: The existing LS10 remote may program eARC as one of the PRESET buttons.
 - d. eARC may be selected through network or serial automation with “INPUT eARC”.
2. Updated **HSR-82T HDMI board firmware**, now Ver. 73 Rel. 50 Rev. 34. This firmware fixes the following HDMI issues:
 - a. Fixed a rare issue with loss of audio channels if using an Apple TV 4K source. This was most often noticed in the center channel, but involved loss of all channels other than LR.
 - b. Fixed issue in which the hardware mute could be turned off if an invalid audio frequency was received.
3. Fixed issue which copied LCR Dirac sweeps onto upper channels.
4. Fixed issue with the 7th postprocessor button not being displayed on the LS10 front panel LCD.
5. Fixed issue with HDMI input 8 not being displayed for the HSR-82T board.

Updates for V1.02.05 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.02.05 since the previous software version V1.02.04.

Current version: 102.05
Build Date Tue Jun 9 14:03:44 PDT 2020

6. Updated **HSR-82T HDMI board firmware**, now Ver. 73 Rel. 50 Rev. 29. This firmware fixes the following HDMI issues:
 - Mute stuck ON when DSD audio extraction is active.
 - Powering off a TV when it is in off/standby would result in the loss of audio extraction from the currently active Source device.

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- Occasionally, with some Source devices, 1080p video would be selected instead of the expected video format.

Updates for V1.02.04 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.02.04 since the previous software version V1.02.03.

Current version: 102.04
Build Date Tue Jan 28 12:31:19 PST 2020

- Added support for HSR-82T with Ver. 73 Rel. 50 Rev. 25. The HSR-82T supports 8 inputs instead of the 7 inputs available on the previous version (HSR-72Q).
- Fixed an issue that caused Dolby Atmos to not be displayed on screen when DSU is enabled and the content is Atmos.

Updates for V1.02.03 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.02.03 since the previous software version V1.02.02.

Current version: 102.03
Build Date Tue Mar 12 15:52:51 PDT 2019


- Added latest version of HSR-72Q HDMI board firmware (release 46 rev. 52). This version improves performance with some equipment, notably Apple TV.
- Removed HDMI 8 label from LCD input screen when the LS10 is equipped with the HSR-72Q board. This board only has 7 inputs available.
- Added remote commands:
 - VIDRES displays current video resolution
 - VIDPROT displays current video security (HDCP, etc.).
- Fixed issue with Auro 5.1 content in which DTS decoder remapped and lost Auro information.

Updates for V1.02.02 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.02.02 since the previous software version V1.02.00.

Current version: 102.02
Build Date Fri Feb 23 15:02:39 PST 2018

- Adds support for HSR-72Q HDMI board software release 46 beta 40.
 - Output 2 is now the primary port on the HSR-72Q board. Output 2 is full HDMI 2.0a + HDCP2.2. Output 1 is HDMI 1.4 and HDCP 1.4. The previous HDMI board (HSR-82.2) had the primary port on output 1.
- Fixes an issue with EDID going to 2.0 PCM incorrectly with the HSR-72Q HDMI board.
- Implements new Dolby upmix restriction for Dolby Digital, Dolby Digital + and Dolby TrueHD. This restricts upmixing these Dolby technologies to height speakers with other brands of upmixer.
- Fixes a rare issue in which audio is decoded, but muted.

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Updates for V1.02.00 Software Release

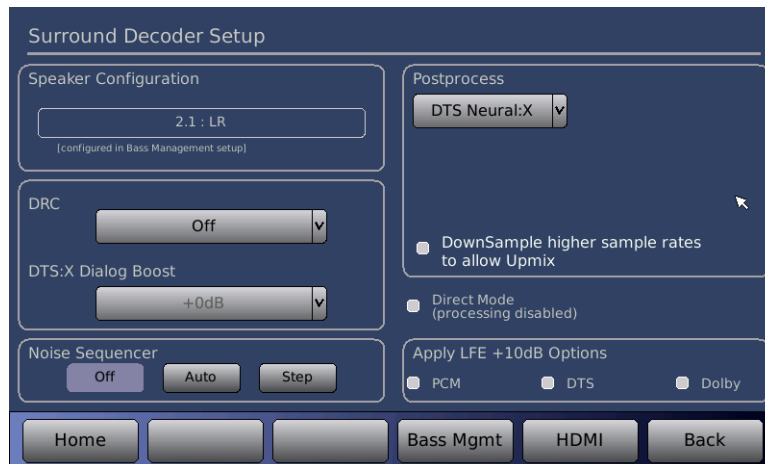
This section describes any new features, enhancements and bug fixes that are included in V1.02.00 since the previous software version V1.01.01.

Current version: 102.00
Build Date Mon Sep 11 15:34:56 PDT 2017

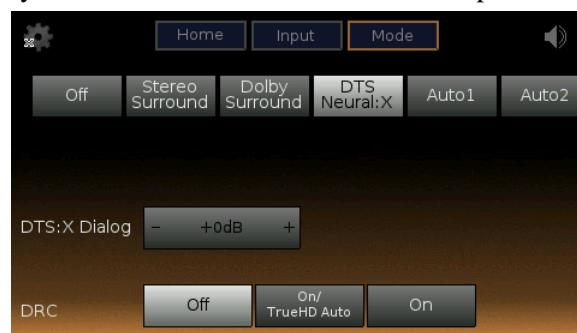
1. This version adds **DTS:X**, including **Neural:X upmixer**.

To access DTS **Neural:X** post processing, navigate to the Surround Decoder Setup screen (Home > Decoder) and select from the Postprocess dropdown menu. When Neural:X is selected, you may also choose to DownSample higher sample rates to allow Upmix.

DTS:X Dialog Boost level may also be selected from this screen. Dialog may be boosted by up to +6dB for content which supports this feature.



Post processor modes may also be selected from the LS10 front panel LCD touch screen



2. Added **auto postprocessor** modes for auto select of DTS Neural:X and Dolby Surround Upmix.


When **Auto1** is selected, DTS content will upmix with Neural:X, Dolby will upmix with Dolby surround and LPCM will upmix with Neural:X.

When **Auto2** is selected, DTS content will upmix with Neural:X, Dolby will upmix with Dolby surround and LPCM will upmix with Dolby surround.

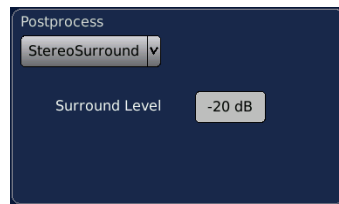
3. Renamed Atmos Speaker settings to Height Speaker settings. This removed the separate Atmos speaker configurations from the drop down menu. Removed settings will migrate automatically to the new ones.

4. Verified/updated **IR remote** Surround Mode buttons:

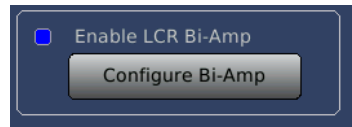
- a. DTS Neural:X is selected when Neo:X button is pushed and Neural:X is installed.

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- b. Dolby Surround upmix (DSU) is selected when PLII button is pushed.
5. Added “**Stereo Surround**” Postprocess mode. When this mode is selected, 2-channel content only will copy L to the all Left floor-level speakers and R to all Right floor-level speakers. An LR mix will go to Center. Note: Non 2.0 content will pass through without being changed (as if the Postprocess selection were set to “none”). There is also a Surround Level attenuation that may be set from 0 to -20dB for the speakers other than L & R themselves.
- To access this feature navigate to the Surround Decoder Setup screen (Home > Bass Management > Decoder) and select StereoSurround from the Postprocess dropdown menu.



6. Added **LCR Bi-amp** mode. When selected LS10 channels 10, 11, and 12 are re-assigned for bi-amping. To access this feature navigate to the Speaker Filters Configuration screen (Home > EQ Spk Filt) and select Enable LCR Bi-Amp.



The Configure Bi-Amp button will appear. Selecting this button will access the LCR Bi-Amp Configuration screen.

7. Added display of **HDCP type** to LCD main screen.
8. Increased maximum **Global Delay** from 120ms to 1000ms.
9. Support for new HDMI board HSR-72Q.

Updates for V1.01.01 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.01.01 since the previous software version V1.01.00.

Current version: 101.01
Build Date Thu Aug 18 16:13:14 PDT 2016


1. Corrected an issue with Bass Management not working correctly in the Auro mode when the new Atmos Decoder card H717 is installed.
2. Added speaker PEQ. Note: This feature is only available if the LS10 has the Dirac option installed.

Updates for V1.01.00 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.01.00 since the previous software version V1.00.03.

Current version: 101.00
Build Date Tue Jul 5 18:10:10 PDT 2016

1. Support for new Dolby® Atmos decoder card **H717**.
 - a. Added menu options for Atmos Speaker Configuration in the Bass Management screen.
 - b. Added Atmos configuration error display to relevant screens.
 - c. Added Bass Management for Dolby Enabled Speakers (DES).

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- d. Front panel LCD status screen options list now displays Atmos, when this option is installed.
- e. Added selection of Dolby Surround Upmixer using IR remote (press Dolby PLII button).
2. Dirac option:
 - a. Added support for temporary level adjustments (requires Dirac2 V1.00.02 or later).
 - b. Fixed an issue with Dirac noise being lost on some command sequences.
 - c. Fixed display of input on Dirac setup screen.
 - d. Fixed issue with Dirac pinknoise not being shut off when exiting Dirac setup with it turned on.
 - e. Front panel LCD status screen options list now displays Dirac, when this option is installed.
3. Added video display resolution to the front panel LCD status screen.
4. If an incorrectly sized screen saver jpg is used, an error message will now be displayed. This previously wasn't noted and could cause a crash.
5. If a non released software version is installed, it will now be noted in red on the front panel LCD screen.

Updates for V1.00.03 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.00.03 since the previous software version V1.00.02.

Current version: 100.03
Build Date Tue Nov 17 14:29:26 PST 2015


1. Support for new **HDMI HSR-82.2 board**. Note: HSR-82.2 supports a sub-set of the HDMI 2.0 spec. This board also supports HDCP 2.2 security on one input (input #1) and one output only (output #2). This board is currently an upgrade option on LS10:
2. **Channel Delays**: Changed resolution from 1ms to 0.1ms.
3. **EQ Menu**: Removed channel numbers, as this is inconsistent with LS10 usage; and fixed issue with incorrect channels being highlighted in the channel selector popup.
4. **Auro Listening mode enhancement**: When changing the speaker configuration through the GUI it now adjusts the Auro Listening Mode to the best setting for that configuration.
5. Improved coefficient calculations for **parametric filters**.
6. Improved content and format of **log files**.
7. Fixed issue of missing files when saving **diagnostics** from the front panel touch screen only. Note: Saving from setup menus did not have the issue.

Updates for V1.00.02 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.00.02 since the previous software version V1.00.01.

Current version: 100.02
Build Date Wed Sep 9 09:11:26 PDT 2015

1. **HDMI**:
 - a. New firmware for HDMI HSR82 board: Ver 34 Rel 42 Rev 11
 - b. Updated HDMI Status screen to list description of 4K resolutions, and correct reporting of 4:2:0 Chroma sub sampling, when present.
 - c. Added HDMI board watchdog – restart board if error occurs.

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- d. Added "HDMIESTART" automation command which resets the HDMI interface. This addresses site-specific sequencing problems.
 - e. Added detection and correction of some HDMI related error conditions.
 - f. HDMI debug logging – allow direction of HDMI board debug information to logs or serial out to aid with trouble shooting.
 - g. Improved reliability of HDMI board firmware updating to address issue seen on a small number of boards.
 - h. Added restart of HDMI interface when decoder reports a decode error for a prolonged time.
2. **IR codes.** Added recognition of additional codes:

Function	Code
Power Off	0x25
Power On	0x26
Stereo1	0x27
Stereo2	0x28
TosLink 1	0x29
TosLink 2	0x2a
SPDIF 1	0x2b
SPDIF 2	0x2c
USB	0x2d

3. **Pink noise.** Fixed issue where channels were incorrect in some configurations for application of multiple channels.
4. Fixed processing issue of 6.1 (LCRLsRsCs) content when Auro Post processing is enabled.
5. Fixed issue with trigger out function when the **Poweron** macro is executed, on cold startup, with power-up state = OFF.
6. Updated “**USB Save > Diagnostics**” to save additional log files.
7. Fixed an issue with InputTrim not being applied.
8. Fixed CopyEQ – **Copy EQ settings** channel to channel was only copying the first 3 filters, now copies all. **Clear EQ on all channels** was only clearing the first 3 filters, now clears all.
9. **Dolby Digital Plus:**
 - a. Fixed missing back channels when postprocessor engaged.
 - b. Changed 2.0 downmix from LtRt to LoRo.


Updates for V1.00.01 Software Release

This section describes any new features, enhancements and bug fixes that are included in V1.00.01 since the previous software version V1.00.00.

Current version: 100.01
Build Date Wed Nov 12 12:48:12 PST 2014

10. Audio Processing:

- a. Added ‘Native’ mode to the options for Auro-3D listening mode. Under Auro-3D Native mode, the processor decodes any Auro-3D content, but does not perform additional upmixing, or any upmixing on non-Auro-3D content.
- b. Fix handling of bitstream mono content for Auro and Neo:X.
- c. Fix an initialization problem where under certain circumstances the Auro configuration would not be properly set after a change in the primary decoder.

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- d. Fix +10dB LFE boost for HDMI multichannel PCM.
- e. The DRC setting is now set to 'Off' after a factory reset.

11. GUI Updates:

- a. On the main setup screen, changed text from 'HDMI Input' to 'HDMI Video Input'. This displays when Input is set to a non-HDMI source.
- b. On the HDMI Status screen there is text that shows the 'Current' and 'Latest' firmware for the HSR card, or HDMI interface card. The 'Current' version is what is currently running in the HSR card. The 'Latest' is the version to be programmed on the HSR card after selecting the 'Update HSR Firmware' button.
- c. A fix was made for the System Info screen so that it will always correctly display the Auro version when the Auro-3D license is installed.
- d. Open Source notice available on the GUI. See Info > Notices
- e. A screen was added to allow setting the system time and date. This should be used if the time is not set through the network using the NTP server. The time and date is useful to have proper timestamps on configuration files saved from the LS10, and timestamps for the log files. To set the time and date, navigate to the screen located at System > Date/ Time.
- f. Updated the style/color of the on-screen keyboard.
- g. Changed the touchscreen display text when using Dolby ProLogic to read PLIIx or PLIIz (instead of PL2).

12. Automation / Remote Control.

- a. Fixed the noise sequencer level to be -30dB
- b. Fixed the channel noise sequence to start on Left, and fixed the order for various speaker modes.

Updates for V1.00.00 Software Release

Current version: 100.00
Build Date Thu Aug 28 12:28:12 PDT 2014

The software version and build date shown above is the official first production release. Pre-release versions of V1.00.00, with earlier build dates, were sent out prior to August 28 2014 and should be updated.

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