RELEASE NOTES

Dolby LM100 Broadcast Loudness Meter Release Notes

Firmware version 1.4.2.0
Universal remote version V1.4.2.0
Release Date: January 2014

This document provides information about the Dolby® LM100 firmware release version 1.4.2.0 and universal remote version 1.4.2.0, including an overview of the product features, operational considerations, and known issues. For further information regarding the LM100, contact your Dolby account manager or Dolby Technical Support at broadcastsupport@dolby.com.

1 Background

LM100 firmware version 1.4.2.0 and universal remote version 1.4.2.0 includes one improvement from version 1.4.0.10. This document provides a high-level description of these changes.

2 Installation and Upgrade Procedure

Installation or upgrade occurs as follows:

- The universal remote installer installs the application and associated files in C:\Program Files\Dolby Laboratories\Universal Remote. If this folder structure does not already exist, the installer creates it.
- The installer installs the LM100 firmware in C:\Program Files\Dolby Laboratories\Universal Remote\LM100 Firmware. This folder contains all the files necessary to upgrade your LM100 unit.

  You will need the remote cable that came with the unit to upload the firmware in the LM100.

To upgrade your LM100:

1. Place the unit into upgrade mode by holding the **Setup** button during a power cycle. Alternatively, you can reboot the unit by holding down three buttons—Shift, right arrow, and Esc—for a few seconds, and then releasing them.
2. Connect one end of the remote cable to an available serial port on your PC, and the other end to the front panel remote port on the LM100.

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3. Double-click the Dolbyload.exe application found in the LM100 Firmware folder, and then set the correct COM port (only ports 1—4 will be valid).
4. Set the baud rate to 115.2k.
5. Click on the folder icon, and browse to the LM100 firmware folder to select the *.dld file for upload.

***Note:** If you are not running a version 1.4x build in your LM100, you must run and install the LM100patch.dld file prior to installing the main LM100.dld upgrade file.

6. Click on the **Play** triangle icon at the top of the Dolbyload application to begin the upgrade process.

   You should see activity on both the upgrade PC and the front panel display of the LM100 itself. If you do not see activity on the LM100 display, there is no communication between the PC and the LM100, and you will need to diagnose the issue before you can upgrade your unit. Make certain that you have selected the proper COM port and baud rate settings.

7. After the LM100 has completed the upgrade process, check the new software version installed by pressing the left arrow once to display the installed version number.

3 Feature Enhancements

The following feature enhancements are included in this release:

- Support for an added ITU-R BS.1770-3 loudness mode and measurement

4 Notes

The following notes apply to this release:

- These items are of special importance:
  - This new version of the universal remote is not backward compatible with earlier versions of firmware.
  - After installing the new firmware on the hardware unit, you must clear the system log prior to connecting the new version of the universal remote, as follows:
    - Press the **Setup** button on the front panel of the LM100 to enter the setup menu.
    - Scroll down to **System Log**, and then press Enter.
    - Scroll down to **Clear System Log**, and then press Enter.
    - Press Enter again to confirm.
- EBU mode, ITU-R BS.1770-2 and ITU-R BS.1770-3 mode relative gate is set to -10dB and is not user configurable.

- Short-term window is locked at 3 seconds in EBU mode, locked at 10 seconds in Leq(A) mode and ITU-R BS.1770-1 mode, and selectable between 3 seconds and 10 seconds in ITU-R BS.1770-2 and ITU-R BS.1770-3 modes.
- Dialogue Intelligence™ is only available in Leq(A) and ITU-R BS.1770-1 modes. Dialogue Intelligence is forced and locked to off in EBU, ITU-R BS.1770-2 , and ITU-R BS.1770-3 modes.
- Channel Select is only available in Leq(A) and ITU-R BS.1770-1 modes. Channel Select is forced and locked to all in EBU, ITU-R BS.1770-2 and ITU-R BS.1770-3 mode
- Digital Loudness Reference value is forced and locked to -23LUFS in EBU Mode, forced and locked to -24LKFS in ITU-R BS.1770-2 and ITU-R BS.1770-3 modes. It is forced (but not locked) to -24 LKFS in ITU-R BS.1770-1 mode, and forced (but not locked) to -24 dBFS in Leq(A) mode.
- Measurement method defaults to infinite term when selecting EBU, ITU-R BS.1770-2, or ITU-R BS.1770-3 modes. Measurement method defaults to short term when selecting Leq(A) or ITU-R BS.1770-1 modes.

5 Bug Fixes

This release includes the bug fixes listed in the following table.

Version1.4.2.0 Bug Fixes

Bug Number	Description
LM100_85	True Peak measurements no longer are limited to 0 dBTP.

6 Known Issues

This release includes the known issues listed in the following table.

Version 1.4.2.0 Known Issues

Description
Universal Remote generates log messages that an overrun was detected, leading to suspected packet corruption due to serial communication issues from the host PC. Dedicated add-on serial ports (PCMCIA, CF, among others.) are more robust against this issue.
Loudness measurement graph is offset after Y-axis scaling.
Inconsistent behavior has been observed when using USB-to-RS232 adapters to communicate between a Windows® 7 PC running the universal remote and the LM100 hardware. For mission critical applications, a dedicated or add-on serial port is advised. Tested USB-to-RS232 adapters are: • Digi International Edgeport/8 Driver version 5.58.0 • Ultimate Solutions: SeaLINK +232 USB to RS-232 Converter Driver version 2.08.02.0 (7-12-2010)
In the universal remote, DolbyE signal inputs of four to eight channels can cause the client refresh to be very sluggish. If the issue is encountered, try changing the latency

of the adapter using one of the following procedures:

- Windows 7 (to be done prior to launching the universal remote)

1. Click **Start**.
2. Select **Device Manager**, and then press Enter.
3. Open the tree under **Ports** (COM and LPT).
4. Right-click on the adapter in questions, and then select **Properties**.
5. Select the **Port Settings** tab.
6. Click the **Advanced…** button.
7. Find the **Latency Timer** (msec) dropdown. The default is probably 16 ms.
8. Change the default to 4 ms.

- Windows XP:

  The process is similar to Windows 7, where the Device Manager is accessed via Start > Control Panel > System > Hardware > Device Manager.

  Note: If the option to change the Latency Timer is not available, then it is likely that the adapter does not use an FTDI chip, and this solution therefore does not apply.