

## Project Title: Mantra Lite

Software Released by: Richie Mickan

Created: 19 November 2015

Last Modified: 22 August 2024

This document is a cumulative list of bug fixes and feature enhancements for the Mantra Lite product family.

## Reporting Bugs

If you find a bug or feel that we could improve the product, then please let us know. If you find a bug that affects operation or crashes the unit, then could you let us know ASAP!! You can report it on our [MantraLite](#) Facebook page or by email to [techSupport@lsccontrol.com.au](mailto:techSupport@lsccontrol.com.au) or phone +61 3 9702 8000

## Obtaining Updates

If you wish to be updated about **Mantra Lite** software updates as they are released, then you can either follow the [MantraLite](#) Facebook page or follow us on Twitter.

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## Installation procedure

To install a software update, perform the following steps:

1. On a USB Stick (formatted as FAT32), create a folder and name it LSC
2. Copy the software release file (file named **mantra\_vN.nn.img** where 'N.nn' is the software version number) into the LSC on the USB stick.
3. Insert the USB Stick into the rear of the Mantra console.
4. If you have a Mantra Wing, make sure it is connected to the console, using a USB hub if you have more than one wing.
5. From the home page, navigate to '**Tools :: Setup :: Update Firmware**'.  
On consoles running v2.03 or later, navigate to '**Tools :: Setup :: Systems Settings::Update Firmware**'.
6. If your current show has unsaved changes, you will be prompted to save.
7. The process takes approximately 60-90 seconds. Once complete, the unit will prompt for restart.

[If the update appears to fail \(the console immediately returns to the main screen\) DO NOT turn off the console. Wait a minimum of 3 minutes before power cycling the console.](#)

8. **IMPORTANT: The console MUST be reset after the update.**



Simultaneously press and hold these three buttons for 0.5 seconds

The main screen will go blank and the LEDs below the faders will all start to chase. Wait for ~20 seconds and the Mantra logo will appear on the main screen and the console will restart.

**Release: v4.01 Date: 26-August-2024**  
**Reason for the Release: New Feature and Bug Fixes**

**IMPORTANT**

**The v4.x software will NOT run on very old Mantra Lite consoles!**  
**Installing it will render the console unusable and may require it to be returned to an authorised LSC service agent to recover it and you will be charged for their labour.**

To check compatibility, navigate to  
**'Tools :: Setup :: System Settings ::: About'**.

The About screen must contain the words **'CPU : Model 3'** or better  
e.g. 'Model 3A'  
'Model 3B v1.2'

**If the screen contains the words 'CPU : Model 2'**  
**you must NOT install this software.**

Contact your local LSC dealer for information and pricing  
on upgrading your console's CPU.

**New Feature:**

**Multi Intensity fixture control**

The Mantra now provides enhanced support for fixtures with multiple intensity channels. In the past the control of multiple intensities was only supported for fixtures that had a master intensity channel. The new software now supports all fixtures with multiple intensity channels, regardless of whether they provide a master/global intensity parameter.

The Multiple Intensity parameters now appear in their own 'Sliders' App, located in the Intensity column of the Apps screen. Previously they appeared in the Beam column's 'Other' App.

The yellow fader now acts as a master intensity over the multiple intensities.

**Bug Fixes:**

1. The fixture editor did not include the new 7+ colours in the selection list.
2. The fixture editor did not correctly default multiple intensity parameters to a level of 255 (100%).
3. After creating a new animation, the [Create] button is greyed out to show that it is inactive. Unfortunately no one told the button it was inactive, so it still responded to any presses, which annoyingly created duplicate animations.

**Components:**

· Mantra Lite Application	v4.01 r14572
· Mantra Lite Surface Firmware	v2.11
· Fixture library	v19.91m

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**Release: v4.00 Date: 15-July-2024**

**Reason for the Release: Major Update, New Feature and Bug Fixes**

**IMPORTANT**

**The v4.x software will NOT run on very old Mantra Lite consoles!  
Installing it will render the console unusable and may require it to be returned  
to an authorised LSC service agent to recover it and you will be charged for  
their labour.**

**New Features:**

**New Operating System.**

The underlying operating system has been updated to OSv6. This will allow us to upgrade to even more powerful CPU modules in the future, as well as providing faster boot times now. Most of the new features below are only possible because the updated OSv6.

**Extended Colour Mixing.**

The colour picker now controls all colour mix colours, including Lime, Amber, Cyan, Royal Blue, etc. These are automatically calculated by the colour picker and converted into 4/5/6/7/8/9 colour mix parameters on the fly.

The White parameter continues to be controlled by the vertical movement of the selection cursor.

**Extended Colour Animations.**

The original Mantra software only understood RGB and CMY colours. This meant that colour animations only controlled those colours.

With the addition of Extended colour mixing, colour animations have been expanded to also work across all colour mix parameters, including Lime, Amber, Royal Blue etc.

**Enhanced Colour Sliders**

Colour sliders now include a subtle colour band above the fader to graphically indicate the colour they control.

**HSI colour control**

The colour picker now supports fixtures that require HSI colour control. The RGB values are converted to HSI parameters on the fly.

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### **Chase Flash function.**

The button below the Fader of a chase was used for TapToTheBeat speed control. Since the introduction of the Live Speed app, this functionality has become less popular. In v4.0 it now operates as a Chaser Flash button. If the fader is at zero, pressing the button will start the chase (always at step 1) and keep it running for as long as the button is held down.

### **Slider app changes.**

The slider apps for Colour and Attributes have been reworked with several new features and refinements.

- Colour sliders now include a subtle colour coded stripe above the slider to give a visual indication of the colour they are controlling.
- The level information at the right side is now shown as both a decimal value (0-255 or 0-65535) as well as a percentage value (0-100%).
- The order of colours in the colour sliders app was not always logical. Colour mix parameters (e.g. Red, Green, Blue, Amber, Lime, White) now appear first, followed by other colour parameters (e.g. Colour Mode, Macros, etc).
- Sliders in the Colour Sliders app did not have an option for Snap/Fade. This is not required for colour mix parameters but was a problem for parameters controlling Colour Wheels and Macros, as the default behaviour was fade and often users would prefer these to snap.

### **Bug fixes:**

1. Filtered IFCB scenes did not work correctly with fixtures containing colours other than RGB when activated from the flash button. Any non-RGB colours would not respond to the flash button, causing a different look on stage to what was seen when the fader was activated.
2. Colour animations only worked with Red/Green/Blue. They now support all colour mix parameters (e.g. Cyan, Lime, Amber, White, etc).
3. If a fixture did not have a dimmer channel and was not RGB, but contained a Colour wheel parameter, the colour wheel was controlled by the yellow fader (i.e. virtual intensity).
4. sACN packets did not report a unique UUID.
5. The Mantra Editor fixture library update function looked for the incorrect .db file format, instead of the correct .dbe file extension.
6. A corrupted Custom Fixture database could cause the software to crash when trying to save a custom fixture.
7. Fixtures without Beam parameters would incorrectly flash their selection LEDs when the Beam/Other app was active.
8. The White parameter control from the Colour Picker had stopped working.
9. The software update routine has been revised to better recover if there is a power outage in the middle of the update.
10. Some fixtures showed 16bit home values for 8bit parameters. This was a cosmetic issue only and did not affect the operation of the fixture.
11. The colour sliders window displayed only the last four digits of 16bit values, so 65535 showed as 5535. This did not affect the operation of the fixture.
12. Mouse support has been tweaked so that all buttons and faders react to a USB mouse.
13. A warning has been added if a fixture is missing from the database when a show is loaded.
14. When deleting triggers, something the wrong trigger was removed from the list.
15. As the yellow/red faders get older they can become a little 'noisy', which in turn can cause the console to see a fader being at 1-3% when the fader is at zero. This confuses the automatic fixture selection in the Apps window. Noise filtering has been added to the yellow/red faders to resolve this issue.

16. Consoles with a fixed IP address could sometimes fail to initiate sACN transmission after a power cycle or reboot.
17. When deleting Remote Triggers, sometimes the wrong trigger would be removed from the list.
18. It was not possible to set Default (Home) values in the Mantra Editor software, as this is done using the sliders on a console. It is now possible to click on the value and manually enter the value (0-255) with the computer keyboard.

**Components:**

- Mantra Lite Application v4.00 r14318
- Mantra Lite Surface Firmware v2.11
- Fixture library v19.8

## **Release: v3.07 Date: 17-November-2022**

### **Reason for the Release: Bug Fixes**

#### **Bug fixes:**

1. The fixture editor in v3.06 offset the channels when saving a new fixture (but only if was created from scratch). This meant that the all the channel data was sent out on incorrect DMX slots and the first channel's data was ignored.
2. The Firmware Update process would sometimes report an error at Stage2. If this occurred, the user would also see a summary message stating the update failed. Both messages were incorrect, as the update worked perfectly.

#### **Components:**

- Mantra Lite Application v3.07 r13387
- Mantra Lite Surface Firmware v2.11
- Fixture library v18.25

**Release: v3.06 Date: 17-October-2022**  
**Reason for the Release: New Feature and Bug Fixes**

**New Features:**

**1. Delete Custom Fixtures.**

A new button in the Setup window has been added to allow the user to delete the entire custom fixture library. All custom fixtures are also saved in any show to which they are patched, so after deleting the custom database, reloading shows will automatically add those fixtures to the now empty database.

**Bug fixes:**

1. Creating an Intensity animation on fixtures that were being controlled by a playback cuelist did not always take control of the yellow fader, causing the animation to work incorrectly.
2. The first time a text field was edited after a power cycle, the pop-up keyboard failed to appear.
3. Cyan, Magenta and Yellow showed incorrect (255) home values in the Patch window.
4. In v3.05 Dipless crossfades weren't, but we had a little chat with them and now they are again.
5. Custom fixtures manufacturers with all lower case names were not correctly sorted in the patch window. i.e. A custom manufacturer AAA would appear correctly near the top of the list (before Aayden Technologies) but if the name was *aaa* is would appear at the bottom of the list (after Zylight).
6. 16bit RGB colours were not working correctly in the fixture editor.
7. Some channels would momentarily snap to zero when crossfading scenes.
8. If a cue was active in the playback, those fixtures were not able to change colours in the colour sliders windows – but worked perfectly in the colour picker.

**Components:**

- |                                |              |
|--------------------------------|--------------|
| · Mantra Lite Application      | v3.06 r13221 |
| · Mantra Lite Surface Firmware | v2.11        |
| · Fixture library              | v18.25       |

## Release: v3.05 Date: 2-May-2022

### Reason for the Release: Bug Fixes

#### Bug fixes:

1. Some custom fixtures would not appear in the library if fixtures with the same manufacturer had some with the manufacturers name in all capitals and others with the same name, but in mixed upper/lower case. E.g. Company / COMPANY. This bug was introduced in v3.04 update
2. Custom fixtures manufacturers with all lower case names were not correctly sorted in the patch window. i.e. A custom manufacturer AAA would appear correctly near the top of the list (before Aayden Technologies) but if the name was aaa is would appear at the bottom of the list (after Zylight).
3. There was an issue with some colour mixing fixtures that could cause the console to crash if they were patched and then controlled without first saving the show. If the show had been saved, or the console power cycled after patching, then the problem did not occur.  
This only happened with v17.x of the fixture library, users who updated to the latest 18.x fixture library would not see the issue.
4. The sliders in the Colour Slider window did not show the correct levels when users pressed the Next/Previous buttons. The DMX output was correct but the sliders did not display the correct information.
5. Custom fixtures with parameters that included the word colour/color (e.g. colour wheel, color speed) incorrectly appeared in the OTHER/BEAM app instead of the colour sliders app.
6. Cool White and Warm White parameters were sometimes displayed in the OTHER/BEAM app instead of the colour sliders app.
7. Link times were ignored when copying memories. They are now included in the copy process.
8. Press and holding the Page button on Wing 2 incorrectly flashed the LEDs on Wing 1. All operations worked correctly, only the flashing LEDs were incorrect.
9. Some fixtures (e.g. Robe:::Robin Perfect 100 – Mode 7) would not respond to the yellow fader when patched, until the show was saved/reloaded. If the user tried to alter the colours in the Colour slider app, the console would crash.

#### Known Issues:

1. The first time a text field is edited after a power cycle, the pop-up keyboard fails to appear. Reselecting the text field fixes the issue and the keyboard works normally thereafter.
2. Cyan, Magenta and Yellow show incorrect (255) home values in the Patch window. This is only a display issue in the Patch window, the correct home values (0) are used when the Clear/ClearAll buttons are operated.
3. Dipless crossfades are no longer dipless. This will be fixed in the v3.06 update.

#### Components:

- Mantra Lite Application v3.05 r12959
- Mantra Lite Surface Firmware v2.11
- Fixture library v18.13



## **Release: v3.04 Date: 28-February-2022**

### **Reason for the Release: Bug Fixes**

#### **Bug fixes:**

1. Some fixtures with Colour Wheels only (i.e. no RGB or CMY colour mix) would not show the Colour Wheel slider, making it impossible to change colour.
2. Some fixtures showed the incorrect Home value in the Patch window. This was only a display error in the Patch window, the correct home value was used when the Clear/ClearAll buttons were used.
3. Some fixtures in the library were missing certain attributes/channels (e.g. Martin:::Rush Par 2 RGBW Zoom - 9 channel)
4. The auto channel select in the fixture editor was broken. Normally moving any yellow fader auto-selected that as the active DMX slot, so that when a name was selected it was assigned to that channel number. This issue first appeared in the v3.02 update.

#### **Known Issues:**

1. The first time a text field is edited after a power cycle, the pop-up keyboard fails to appear. Reselecting the text field fixes the issue and the keyboard works normally thereafter.
2. Cyan, Magenta and Yellow show incorrect (255) home values in the Patch window. This is only a display issue in the Patch window, the correct home values (0) are used when the Clear/ClearAll buttons are operated.

#### **Components:**

- |                                |              |
|--------------------------------|--------------|
| · Mantra Lite Application      | v3.04 r12858 |
| · Mantra Lite Surface Firmware | v2.11        |
| · Fixture library              | v17.4        |

## **Release: v3.03**

**This version was never released to the public.**

**Release: v3.02 Date: 20-December-2021**  
**Reason for the Release: New Features and Bug fixes**

**New Features:**

- 1. Fixture library version numbering.**  
The fixture library now contains a version number that is displayed in the About screen. This is to aid users to check if their console has the latest library installed. The new library format is also provided with enhanced encryption to prevent tampering.
- 2. Colour Picker now controls White in the vertical axis.**  
The colour picker now controls the White colour parameter as well as RGB colours. Moving the pointer towards the white section at the bottom of the screen adds white proportionally in addition to the RGB colours.
- 3. Software upgrade enhancements**  
If the power was disconnected during the software update, it was possible to corrupt the internal SDcard. The upgrade process has been ruggedised to ensure that this is no longer possible.
- 4. 'Please Wait' pop-up message added.**  
During lengthy operations (e.g. show load, library update) the console screen was greyed out to show that an action was underway. Some users did not understand what this meant and thought that the console had frozen or crashed. A "Please Wait" message is now displayed during these operations.
- 5. Warning to update fixture patch for shows created in v1.37 software or earlier.**  
The fixture library used in the Mantra Lite v1.00 thru v1.37 was replaced in v2.0 with the superior Carallon fixture library. To minimise disruptions for existing shows, the old library was retained to allow existing shows to work without modification.  
Future versions of Mantra Lite software will include a number of powerful new features that are not compatible with fixtures from the old library. A warning message now appears when a show that contains old fixtures is loaded, asking the user to repatch the fixtures to use the new library. **If this task is not done, then the show will not load in future software versions.**  
Instructions for this task are available via this weblink.  
<https://www.lsccontrol.com.au/documents/Update%20MantraLite%20show/>

**Bug Fixes:**

1. If any memory was set to Chase mode it was impossible to edit the intensities of any other live memories on the console.
2. Unplugging a wing whilst a software upgrade was underway would cause the software to return to the home screen. The upgrade was still running in the background but the user was not aware of this fact. Removing the wing no longer causes this to happen.
3. Compound (multi-cell) fixtures did not work correctly when first patched. They only worked after the show had been saved and reloaded.
4. If a default show was saved with a PIN, that PINcode remained even after the default show was deleted. The PINcode is now deleted at the same time as the showfile.
5. It was not possible to delete a folder inside a folder, even if the folder was empty.
6. If a yellow fader was moved to the zero position slowly, the intensity level could remain a tiny amount above zero (e.g. 16/65535). The fixture would not output any light, but this low level would cause the light to be included in any new cues being recorded, potentially causing those lights to unexpectedly change level when the cue was played.

7. If a red fader was moved slowly to the zero position then it could also leave a small residual level on some lights, causing the playback of other cues to randomly misbehave.
8. Animations recorded to a red fader that was active did not play until the fader was cycled to zero and up again.
9. Selecting a large number of fixtures, each with more than 4 colours could cause the colour sliders screen to operate very slowly and/or show tiny slider controls.
10. The hardware THRU button did not work in the Select window.
11. Manufactures and fixtures in the Patch menu were sorted for Capital letters first (A-Z) then lower case (a-z). They are now in pure alphabetical order, regardless of whether there is a capital letter or not.
12. The fixture editor had all the parameter names in all uppercase, they are now lowercase with only the first letter capitalised.

#### **Known Issues:**

1. The first time a text field is edited after a power cycle, the pop-up keyboard fails to appear. Reselecting the text field fixes the issue and the keyboard works normally thereafter.

#### **Components:**

- Mantra Lite Application v3.02 r12737
- Mantra Lite Surface Firmware v2.11

#### **Release: v3.01**

**This version was never released to the public.**

## Release: v3.0 Date: 9-August-2022

### Reason for the Release: First version for Mantra Mini, New Features and Bug fixes

#### New Features:

- 1. Configure Art-Net and sACN universes.**

A new screen has been added to [Tools], [Setup] called [**Universes**]. This screen allows you to set the Art-Net and sACN output universes. Priority can also be set for sACN universes.
- 2. Tapping RigView no longer goes to Apps.**

The Apps screen can now only be selected by tapping the [**Apps**] button. Previously Apps could also be accessed by tapping anywhere on the fixture section. This has been done in preparation for fixture selection on the RigView screen in the next update.
- 3. Live override**

The consoles output/s can be overridden by an Art-Net or sACN input from another lighting console. See section 4.12.4 of the manual.
- 4. Fixture level display in RigView.**

Fixture intensity levels are now displayed on the RigView screen beside each fixture number. This allows you to accurately set and match intensity levels. See section 6.2 of the manual.
- 5. Mantra Editor App.**

The "Mantra Editor" program for Windows and Mac can be used to off-line edit a show from a Mantra Lite.
- 6. Remote Triggers.**

The Mantra Lite can now be controlled via TCP/UDP and OSC messages from 3<sup>rd</sup> party devices.  
See section 16 of the latest Mantra Mini manual.
- 7. View DMX Output**

A new screen showing the DMX output levels of each universe and every DMX slot. From the home screen touch Tools, Setup, Universes, View DMX See section 4.13 of the manual.
- 8. Chase Direction controls**

The Chase control screen has a new tabbed layout with additional directions of Reverse and Random. See section 13.13 of the manual.
- 9. Colour Sliders app moved**

The Colour Sliders app is now located directly on the Apps screen making it quicker to access. Colour Gels are now accessed from the Colour Picker app. See section 8.6 of the manual.
- 10. Copy Memory**

You can now make a copy of a memory (cue-list). See section 13.10 of the manual.
- 11. Name Memory (cuelist)**

You can now give each memory (Cue-List) a descriptive name instead of the default name of P#-M# (Page#-Memory#). See section 13.10 of the manual.
- 12. Select screen operation streamlined**

The "Select" screen has been updated and no longer has a [Set] button. See section 8.3 of the manual.
- 13. Sample show no longer loads by default on new consoles**

The Sample Show no longer automatically loads on first use

#### Bug Fixes:

1. Very large shows could cause the Mantra Lite to reset when New Show was selected.
2. Very large shows could cause the Mantra Lite to crash if a wing was unplugged whilst playbacks on the wing were active.

3. Rearranging the fixture icons in RigView with a wing connected, caused the UI to return to the home one second after navigating to a different window until either the console was power cycled or the wing was unplugged and reconnected.
4. Active chases failed to run if the Red master was faded to zero and back up again.
5. Live speed pause did not pause a playback set as a chase.
6. Some unlabelled buttons on particular screens were active, potentially confusing operators.
7. The PINcode for the default show was not requested when deleting the show. It now works on both Save and Delete.
8. When cross fading intensity animations in a cue stack, the intensity of the outgoing animation behaved correctly, but the cross fade of the incoming animation cue did not cross fade. Instead the first cue faded out (to a complete blackout) then the incoming cue blinked on at full.
9. Changed the operation of (Fade In, Fade Out and Link) time increment/decrement buttons when multiple cues are selected, and corresponding times aren't all equal):
  - when multiple cues are selected, text showing cue fade and link times is changed to "..."
  - when the user taps + or - button, the time is set to '2.0 s' for all selected cues. This way all cue times are modified in sync.
10. Animations in Playbacks were recorded as if the Red fader is at 100%, even if the red fader was at 1%. All animations coming from playbacks are now recorded with correct intensity levels.
11. Running Pan/Tilt and/or Colour animations with an intensity of 0% reported as being recorded even though they should not be recorded.
12. Pressing the [go] button rapidly on a cuelist with link times did very strange things.
13. Playbacks at very low levels (eg. 1%) were recorded into new memories, even though the user was probably unaware that they were running. This could potentially confuse new operators Playbacks are now only recorded if the Red fader is above 3%.

#### **Known Issues:**

1. The first time a text field is edited after a power cycle, the pop-up keyboard fails to appear. Reselecting the text field fixes the issue and the keyboard works normally thereafter.

#### **Components:**

- |                                  |             |
|----------------------------------|-------------|
| · Mantra Lite Application        | v3.0 r12367 |
| · Mantra Lite Surface Firmware   | v2.11       |
| · Mantra Mini Interface Firmware | v1.01       |
| · Mantra Editor Application      | v3.0 r12367 |

## **Release: v2.05 Date: 1-June-2020**

### **Reason for the Release: Bug fixes**

#### **Bug Fixes:**

1. Loading a show whilst playbacks containing Animations, Shapes or Chases were active could cause a reset, and cause the show load to fail on the first attempt.
2. Very slow finger movements on the touchscreen could cause random button presses to be processed, often resulting in random screen changes, or cues to be recorded.
3. Leaving multiple cues with animations playing continually, would crash the console after a number of hours.
4. Editing cuelists was broken. No matter which cue was playing, the record overwrite would alter Cue1.
5. Colour fanning in the Colour Picker window with more than 12 large compound fixtures was slow to respond.
6. Issues with connecting two wings. The wing order was not remembered after power cycling. Disconnecting wing 1 and leaving wing 2 connected could result in no wings working.
7. The Pan/Tilt and Colour picker windows were slow to respond with a large number of high channel count fixtures.
8. Could not add spaces to filenames.
9. Combinations of 8/16bit parameters in the Colour\Sliders window did not work correctly. Some sliders would jump to 0/100% when released, then snap back when another slider was moved.
10. Reloading a show could cause some fixtures to disappear until the next power cycle.
11. A hidden Time Set window was accessible via an unlabelled button in the Settings window. This feature is part of the soon to be released Mantra-Mini product and does not work with Mantra Lite consoles.

#### **Known Issues:**

1. The first time a text field is edited after a power cycle, the pop-up keyboard fails to appear. Reselecting the text field fixes the issue and the keyboard works normally thereafter.

#### **Components:**

- Mantra Application v2.05 r11026
- Surface Firmware v2.11

## Release: v2.04 Date: 9-Apr-2020

### Reason for the Release: New features and bug fixes

#### New Features:

1. **Link times added.**

Each cue in a cue list now has a Link Time. These are used to allow the next cue to automatically play after the programmed time. If the Link Time is set to NONE, then the flash button below the red fader must be used to play the next cue. If the Link Time is set to any other value, then next cue plays when the time expires. Note: It is possible to have a cue with a fade time longer than the link time. In this scenario the first cue will continue to fade in the background whilst the new cue commences to fade. This allows the user to programme multiple overlapping cue fades.

2. **Optionally record cues directly to playback displayers.**

The playback displayer can now be used to record cues. Press the [record] button and then tap the playback displayer where you want the cue recorded. The old method of pressing [record] and the [F/A} button below a red fader still works, users can use whichever method they prefer.

3. **Systems settings are now global.**

Network settings, screen brightness and language were stored in the show files. They are now stored in a separate configuration file on the console, making them global and independent of the loaded show.

4. **New Systems Setting screen added.**

Changes have been made to the layout of the Setup window to allow for new features being added for the forthcoming installation version of the Mantra Lite (the Mantra Mini). This has necessitated the addition of a new Systems Settings window and some items have been moved from Setup to the new window.

#### Bug Fixes:

1. Overwriting a memory caused the Shutter (and any other parameters set to SNAP) to go to Zero in the Live stage output. In the case of the Shutter channel, this usually meant the shutter closed and so no light would be seen on stage when the yellow faders were used for control.
2. A power brown-out could render show save unusable. The console would report 'Unable to save to \root\mantra\shows.....'. This was caused by the SD card being unmounted by the operating system.
3. Some compound fixtures (e.g. Showtec::Sunstrip) in the library started at DMX slot 2 instead of 1. Other fixtures could have duplicate channels (e.g. Martin::MacAura had two attributes using DMX slot 10 and nothing using slot 9).
4. The Fixture Editor allowed the same channel to be applied to both Coarse and Fine channels of a parameter.
5. The Mantra Lite always started in DHCP mode, then changed to Static IP later. It now starts in the correct mode.
6. The Green Wing page display skipped Page #1 when two wings were connected.
7. Editing the Rig View layout causes the Red playback memory display widgets to disappear until the show was reloaded.

**Components:**

- Mantra Application v2.04 r10873-1
- Surface Firmware v2.11

**Release: v2.03 Date: Dec-2019****Reason for the Release: Hardware Update****New Features:****1. Support for new touchscreen hardware.**

A new touchscreen controller is used in consoles shipped after mid-December 2019. This requires new hardware driver firmware. The firmware auto-detects which controller is installed and activates the correct driver to suit. Installing any software prior to v2.03 will render new consoles unusable as the touch screen will not respond. A one-time warning is issued if the user tries to downgrade the software to an earlier incompatible version.

**2. Improved Playback displayer.**

The playback displayer now shows the cue/s fading. This is achieved by the red highlight bar 'growing' from the left to the right side of the displayer.

**Bug Fixes:**

1. The Fixture Editor allowed the same channel to be applied to both Coarse and Fine channels of a parameter.
2. The Mantra Lite always started in DHCP mode, then changed to Static IP later. It now starts in the correct mode.
3. The Green Wing page display skipped Page #1 when two wings were connected.

**Components:**

- Mantra Application v2.03 r10589
- Surface Firmware v2.11

**Release: v2.02**

**This version was never released to the public.**



**Release: v2.01 Date: 31-Jan-2018**  
**Reason for the Release: Major Update**

**New Features:**

1. **Multi-patch.**  
It is now possible to patch multiple (identical) fixtures to a yellow fader.
2. **New OS.**  
The underlying operating system has been updated. This results in faster boot times, improved show load/save and easier to read fonts and graphics.
3. **Updated firmware for the hardware interface.**  
Reduces jitter on faders and provides smoother fader control. Flash button response is considerably faster.
4. **Simpler control of Compound Fixtures**  
RGB colours of multi-cell fixtures are now controlled from the colour picker. If other colours are selected (e.g. Amber) these are reset to zero when the colour picker is used. If each cell has different colours, they will all change to the same colour. Undo can fix any accidental changes.  
Individual control of cell colours is available from the [Sliders] button in the colour picker app.
5. **Default Fade Time.**  
A new slider in Tools\Setup allows setting of a custom default fade time.
6. **Non-Latin character support.**  
We now support non-Latin character sets for the onboard Help menus (eg. Chinese & Japanese).
7. **Search function in Patch Window.**  
It is now possible to search the fixture database when trying to find the correct fixture to patch.
8. **New faster fixture library update.**  
The fixture library now updates in less than 8 seconds, far better than the original 2+ minutes.
9. **Added a cursor to text edit windows for easier editing.**

**Bug Fixes:**

1. Removal of false error messages at boot up. Previous versions of software had 4 lines of text that appeared during boot-up reporting "*missing device node for....*". These were harmless but could cause concern for users. They no longer appear, and the console now boots straight into the splash screen.
2. Rig view did not always resize correctly when loading a show.
3. Rig View arrangement now saves in Default Show.
4. Improved the auto show save for more reliable operation with large shows.
5. Firmware updates would fail if the filename had extra characters - eg. mantra\_v2.00(1).img
6. Improved SD card handling to prevent possible data corruption.
7. Fade times greater than 66 seconds were truncated to 1 second.
8. sACN and Art-Net output did work correctly if the IP address was changed whilst they were active.
9. Duplicate cue copied the Live output, not the selected cue in the cuelist edit window.
10. Custom fixtures would sometimes disappear from the Patch window.

**Components:**

- Mantra Application v2.01 r10048
- Surface Firmware v2.00

**Release: v1.37 Date: 27-June-2018****Reason for the Release: Bug Fixes****Bug Fixes:**

1. Some fixtures in the library had the names incorrectly showing a 1 at the end (e.g. Red1, Blue1) which caused them to behave incorrectly.
2. Custom fixtures did not work correctly in some circumstances.
3. Custom fixtures may not have been saved with the show when exported

**Known Issues:**

1. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.

**Components:**

- Mantra Application v1.37 r9586
- Firmware v1.20

**Release: v1.36 Date: 12-June-2018****Reason for the Release: Bug Fixes****New Features:**

1. An 'Are you sure?' screen has been added to the 'delete cuelist' button functionality, to help prevent users accidentally deleting an entire cuelist (FYI. You can Undo a cuelist delete if you still

**Bug Fixes:**

1. The software could crash when scrolling rapidly back/forwards through a list of fixtures in the Patch window.
2. The software could crash when exiting the fixture editor.
3. Selection of cues in the cuelist edit window was not working correctly.
4. Very rare crash when cancelling the delete function in Animate/Shapes.

**Known Issues:**

1. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.

**Components:**

- Mantra Application v1.36 r9546
- Firmware v1.20

## Release: v1.35 Date: 4-May-2018

### Reason for the Release: New Features and Bug Fixes

#### New Features:

1. **Live Speed Controls.** The bottom left button below the Home screen, which was previously unused, is now used to access the Live Speed controls. Three encoders are provided for FadeTime, ChaseRate and X-Fade. Other controls allow for configuring whether changes affect all active playback/s (global) or selected playback/s, resetting the adjusted times and setting the sensitivity of the encoders.
2. **Tap To The Beat.** The Live Speed controls also features a Tap To The Beat button, to allow easy synchronisation of chase/s to the beat of the music.
3. **Carallon fixture library.** The Mantra Lite now uses the Carallon fixture (as used in LSC Clarity consoles). This provides over 5,500 fixtures, most with multiple operating modes, all included as standard with the console. A fixture request service is available via the LSC web page, to enable end users to request new fixtures for addition to the database. This process takes at least one month from the date of request. Users requiring an urgent template can continue to use the inbuilt Fixture Editor.
4. **New Shapes.** The Shapes App has two additional shapes (Square and Triangle) and Shapes can now be rotated, to set the apex to any orientation.
5. **More Intuitive Colour fader control.** The RGB faders in the Colours/Sliders app are now hidden if the fixture does not have any RGB parameters to control.

#### Bug Fixes:

1. RigView icons were not always correctly sized when loading a show.
2. Firmware Update window showed non-Mantra image files.
3. Animations did not play inside chases.
4. Fixtures patched to DMX slot 512 were incorrectly shown as being patched to slot 0 on the next universe.
5. It was not possible to delete show file folders using the [Delete Shows] button. Folders can now be deleted, but only if they are empty.
6. It was not possible to navigate into folders inside the file save window.

#### Known Issues:

1. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.

#### Components:

- Mantra Application v1.35 r9413
- Firmware v1.20

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## Release: v1.31 through v1.34

These versions were never released to the public.

## Release: v1.30 Date: 12-December-2017

### Reason for the Release: New Features and Bug Fixes

#### New Features:

1. **IPCB (Intensity, Position, Colour, Beam) filtering added.** Cues are still recorded with all parameters. To filter a cue, go into the cue edit window. The IPCB buttons are all enabled by default, and can be tapped to enable/disable the 4 filter types.
2. **Text fields (e.g CueName) now have all the text highlighted when selected,** allowing typing to instantly replace the existing text. Two new buttons on the pop-up keyboard allow the cursor to be moved back and forth in the text edit window.
3. **The time required to save a show has been reduced,** it is now more than 600% faster than in previous versions.

#### Bug Fixes:

1. The performance of the console would be reduced if there were more than 100 cues in any one cuelist that was displayed on the main screen.
2. Chases would occasionally flash to full between steps.
3. Red, Green, Blue colours would fade at different rates to White, Amber and UV (and other parameters) on fixtures with virtual intensity.
4. Virtual Intensity did not control non RGB colours (e.g. White, Amber, UV) of custom fixtures.
5. Clear All did not clear animations from fixtures patched to wings.
6. Bringing up the Red and Yellow masters at the same time would stop any Red playbacks from operating until the individual playback sliders were cycled.
7. Occasionally when entering custom text into the Attribute name field of the fixture editor it would change to INTENSITY when the keyboard was closed.
8. When opening the Cue Edit window sometimes the current cue was not automatically selected.
9. Some colours (Amber, UV, Lime) would appear in the Other app instead of the Colour app.
10. sACN did not work. The [enable] button did not actually do anything, meaning sACN was never enabled. This was found by the LSC R&D team, so obviously no one in the field has tried to use sACN on the Mantra Lite 😊
11. Dipless crossfades did not work correctly if there was another active memory which used the same fixtures.
12. Cues with an Intensity of less 100% did not play back correctly. Positions were relative to the intensity. If a cue had Pan at 100% and intensity at 65%, then the Pan would only go to 65% when played back.
13. Move In Black (MIB) cues did not work. As per (#10) the Pan/Tilt positions were scaled by the intensity, which being 0% in an MIB cue meant that Pan and Tilt never moved.
14. Intensity animations could stop other animations, particularly Pan/Tilt animations, from working correctly. This was also related to (#10) above.
15. Intensity animations stopped Shapes from working correctly. This was also related to (#10) above.
16. Recording three different types of animations to a single cue would break the first animation that had been created.

### **Known Issues:**

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light may momentarily flash to full at the start/end of the fade.
2. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.

### **Components:**

- Mantra Application v1.30 r9114
- Firmware v1.20

## **Release: v1.25 Date: 20-March-2017**

### **Reason for the Release: Minor Bug Fixes**

#### **Bug Fixes:**

1. The Record overwrite shortcut (Press and Hold the flash button for 1 second) changed the output on release.
2. It was not possible to scroll backwards past DMX-1 in Fixture Editor window when a Wing was connected.
3. The fixture parameter list in the fixture editor did not scroll and had buttons overlaid on it.
4. Any Shapes recorded to a playback crashed the console if the fixture was deleted from the Patch.
5. Plugging in two wings in quick succession whilst in Fixture Template editor could crash the Mantra Lite.
6. It was possible for the screen scrolling to get out of sync, leaving two half windows displayed. This is now fixed.
7. Shapes did not work when played back from a Flash button.
8. German help files have been added.

### **Known Issues:**

1. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
2. Cues with zero intensity do not play back correctly, making Move-In-Black impossible.

### **Components:**

- Mantra Application v1.25 r8580
- Firmware v1.20

**Release: v1.24 Date: 4-Nov-2016**  
**Reason for the Release: Critical Bug Fix**

**Bug Fixes:**

1. The DMX output did not work in v1.23 (on line of code was accidentally deleted) and somehow our testing routine did not discover this very important fact. We have now changed our regression testing routine.
2. It was possible that when loading a show, the auto-saved version (created when the console is powered off) was loaded instead of the most recently saved version of the show file.

**Known Issues:**

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light will momentarily flash to full at the start/end of the fade.
2. Some language buttons are greyed out – these languages will be added soon.
3. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
4. Cues with zero intensity do not play back correctly, making Move-In-Black impossible.

**Components:**

- Mantra Application v1.24 r8504
- Firmware v1.20

**Release: v1.23 Date: 1-Nov-2016**  
**Reason for the Release: Bug Fixes and Performance Enhancements**

**New Features:**

1. The Export function confirmation button is now labelled Export instead of Save, to avoid confusion.
2. Dutch Help file is now available.

**Bug Fixes:**

1. The Record overwrite (Press and Hold) changed the stage output on release.
2. The [Save Default Show] button remains active after saving a default show.
3. The Shapes control remain active on the last created shape, rather than moving to the New item.
4. It was possible to get a situation where the Mantra would not save any shows until power cycled.

### Known Issues:

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light will momentarily flash to full at the start/end of the fade.
2. Some language buttons are greyed out – these languages will be added soon.
3. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
4. Cues with zero intensity do not play back correctly, making Move-In-Black impossible.

### Components:

- Mantra Application v1.23 r8499
- Firmware v1.20

## Release: v1.22 Date: 18-Oct-2016

### Reason for the Release: Bug Fixes and Performance Enhancements

### New Features:

1. The Software Upgrade process now updates the firmware in the surface and wings.
2. Fader selection of fixtures is now disabled in the Patch window, to allow testing of fixtures that have been patched without re-selecting them.
3. Additional parameters (e.g. Gobo, Zoom, Focus) have been added to the list in the Fixture to make fixture creation faster.
4. The Warning message that appears when recording Animations if the Red playback is down, no longer stops the animation being recorded. The animation is now recorded and the warning message explains to the user to push up the red fader before recording the animation if they want the animation to remain live on stage.
5. The Fixture Editor can create fixtures of up to 48 DMX channels with or without Wings connected. There are now [-1] & [+1] buttons to increment/decrement the selected DMX slot to add the parameter to, as well the old method of moving a fader.
6. When importing a show, it is checked to ensure it is a valid show file, and the user is warned if there is an issue, then given a choice whether to continue loading it or not.

### **Bug Fixes:**

1. The Fixture Editor did not set the Home values correctly for faders that were located on the wing.
2. The Animation sliders did not update the speed and crossfade until released. They now update in real-time.
3. Plugging in a 2<sup>nd</sup> wing occasionally failed to connect on start-up.
4. If a Flash button on a Wing was pressed whilst the wing was disconnected the button remained 'jammed on' in software.
5. Icons in the Rig View flashed erratically when the Wing was disconnected. The icons now flash at a steady rate for 5 seconds, to warn that the wing has been removed.
6. Record Overwrite (holding down the flash button for 1 second) did not work on Wing playbacks.
7. The Export Show button exported the last saved copy of the current show, meaning that any recent changes made since the Save button was last pressed would be lost. The Export function now asks the user to save the show before the Export is allowed.
8. The DMX engine has been tweaked to provide smoother DMX fading for the majority of fixtures.
9. When creating more than one Shape, it was possible that the selection buttons would stop working correctly.
10. The 'Save Default Show' button remained active after a show was saved. Now you must delete the existing default show before you can save a new default show.

### **Known Issues:**

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light will momentarily flash to full at the start/end of the fade.
2. Some language buttons are greyed out – these languages will be added soon.
3. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
4. Cues with zero intensity do not play back correctly, making Move-In-Black impossible.

### **Components:**

- Mantra Application v1.22 r8488
- Firmware v1.20

## **Release: v1.21 Date: 8-Sept-2016 Reason for the Release: Major Bug Fix**

### **Bug Fixes:**

1. The RGB colour sliders did not work for some fixtures in v1.2

### **Components:**

- Mantra Application v1.21 r8446
- Firmware v1.02



## Release: v1.20 Date: 5-Sept-2016

### Reason for the Release: Support for Wings added, Bug Fixes and New Features

#### New Features:

1. **Wings** are now supported. Up to two wings can be connected to a single Mantra Lite console.
2. **Shapes**. The shape generator allows easy creation of Circles, Fig8, BallyHoos and other FX's on the Pan & Tilt of any moving light.
3. Unpatched fixtures are no longer shown on the rig view display.
4. It is now possible to record a blank cue in a cuelist. This is commonly required at the start and end of a cuelist, to enable a blackout.
5. The pop-up keyboard now has a larger font that is easier to read.

#### Bug Fixes:

1. Recording a memory left a blank entry in the Undo list
2. An Auto-saved would fail to load at power on if the console was powered off immediately after changing the show name with the Save-As function. The show was safely stored on the disc drive, but had to be manually reloaded.
3. The first time you selected a cue in the cue edit window it sometimes selected multiple cues.
4. Show import failed if the show already existed in the console.
5. If a new show was loaded or one was imported and no changes are made to it, the console did not remember this if power was turned off too quickly (less than one minute).
6. It was possible to crash the Mantra if you were adjusting a Slider in the Other app when the yellow fader for that fixture was set to zero (de-selecting the fixture).
7. Numerous precautionary measures are now in place to prevent possible crashes when editing cues that are live on stage.
8. Selecting multiple cues in the cue edit window and editing the name would crash the console.
9. In rare circumstances it was possible for a screen to become mis-aligned, so that parts of two different screens were showing (eg. Rig and App screens).
10. The Duplicate Cue button copied any live information (cues and fixtures on the stage) as well as the cue in the cuelist.

#### Known Issues:

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light will momentarily flash to full at the start/end of the fade.
2. Some language buttons are greyed out – these languages will be added soon.
3. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
4. Cues with zero intensity do not play back correctly, making Move-In-Black impossible.

#### Components:

- Mantra Application v1.2 r8433
- Firmware v1.02

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## **Release: v1.11 Date: 19-July-2016**

### **Reason for the Release: Bug Fixes and New Features**

#### **New Features:**

1. The crossfade engine for cuelists is now totally Dipless for all parameters.
2. It is now possible to record a blackout memory. If the user attempts to record a cue with all the lights at zero intensity, they are asked if they want to record a blackout cue before the record action is finalised.
3. A [Clear All] button has been added to the Centre soft button on the Apps screen, for quicker access to this feature.
4. The DMX update speed has been increased for smoother fading of LED fixtures.
5. Unpatched fixtures are now hidden in the RigView to reduce clutter.

#### **Bug Fixes:**

1. The Mantra console could crash after many hours of continuous operation if more than 2 chases were running and controlling the same lights (#1458).
2. A corrupted show file could stop the Mantra from creating a new show, or loading any other shows (#1552).
3. Tapping on an empty 'recent colour' in the Colour App would crash the Mantra (#1563).
4. The Autobackup function could sometimes create a multiple versions of a show. This manifested as a showname with multiple .sav extensions (#1550).
5. An Autosaved show would be lost if the Mantra crashed before the user manually saved the show (#1528).
6. The hidden [Clear] button on the Home screen has been removed (#1546).
7. Active cuelists were no longer controllable after a page change (i.e. when in Page Freeze mode), as the go button was disconnected (#1526).
8. Chases would stop running at certain speeds. E.g. 301-360 BPM (#1530).
9. Renaming a cue to the same name as another cue had issues in certain circumstances (#1527).
10. It was possible to have animations appear in a recorded cue even if there was no animation playing when the cue was recorded (#1484, #1519).
11. Chases with Other parameters set to Snap, would change the attribute at the end of a slow chase step instead of at the beginning (#1520).
12. Cues recorded in v1.0 software would be labelled as Chases when first loaded into v1.11 software (#1530).
13. The Yellow flash buttons would fail after a cuelist with those lights included was played on a Red playback (#1532).

#### **Known Issues:**

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light will momentarily flash to full at the start/end of the fade.
2. If a new show is loaded or one is imported and no changes are made to it, the console will not remember this if power is turned off too quickly (less than one minute). The show however is not lost; you just need to reload it using the Load function.
3. Some language buttons are greyed out – these languages will be added soon.
4. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
5. The pop up error message shown when tapping the colour picker with no fixture selected can act erratically.

#### **Components:**

- Mantra Application v1.11 r8384
- Firmware v1.02

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## **Release: v1.10 Date: 18-May-2016**

### **Reason for the Release: Bug Fixes and New Features**

#### **New Features:**

1. Cue Lists and Chases have been added.
2. Fixture Database updated – this happens with all releases.
3. Custom fixtures are now saved with the show when it is exported.
4. The help menu is now available in Italian. Other languages to follow.
5. The behaviour of cue fading has been changed. Playbacks no longer fade back to the Live Memory when faded out. They now retain their colour, to prevent the colour fading out to white.

#### **Bug Fixes:**

1. Only Red, Green and Blue colours appeared in the Colour Picker /Sliders app. All other colours were controlled from the Other app. Now all mixing colours (Red, Green, Blue, Amber, White & UV) and any other colours starting with those names (e.g Red1, Red2) appear in the Colour app. N.B. Colour wheels are still controlled from Other, as they are a stepped colour, not a mixable colour.
2. Fixtures in database with an external dimmer crash in Fixture Editor. Mantra Lite does not allow external dimmers at this stage. The channel associated with the external dimmer is ignored.
3. When creating and applying Custom fixture files, home values do not always display correctly. Home values for pre-defined parameters (e.g. Pan, Tilt, Red) are fixed. This is now shown as the home value being greyed out.
4. Home values for intensity channels are now shown as "---", since they do not have a home value.
5. The Patch View window showed the incorrect DMX range for fixtures.
6. Entering more than 250 animations (yes someone did it) caused the console to lock up when reloading the show.
7. Fade outs on the Red Masters were over-ridden by the fader. The output now fades according to the fade out time.
8. If a custom fixture was at the top of the displayed list, it was not possible to delete until another fixture was selected first.
9. Custom fixtures with White and a virtual dimmer did not work correctly. Any fixtures created in previous versions of software will need to be edited to update them to use the corrected White parameter and resaved.
10. A new show was not saved on power off unless it had been given a name.
11. The first time you play a cue after a page change, the fade in time was ignored.
12. When starting a new show, the rig view was not reset.

### Known Issues:

1. If a cue inside a chase contains an Animation, and the previous or next cue has the same light at 100%, then the light will momentarily flash to full at the start/end of the fade.
2. If a new show is loaded or one is imported and no changes are made to it, the console will not remember this if power is turned off too quickly (less than one minute). The show however is not lost; you just need to reload it using the Load function.
3. Some language buttons are greyed out – these languages will be added soon.
4. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
5. The pop up error message shown when tapping the colour picker with no fixture selected can act erratically.

### Components:

- Mantra Application v1.10 r8278
- Firmware v1.02

## Release: v1.05 Date: 11-Dec -2015

### Reason for the Release: Bug Fixes

### New Features:

1. Fade times on Cues are now possible.
2. Unwanted Custom Fixtures can now be deleted.
3. There is now a clear function in the Fixture Editor.
4. The Fixture Editor now prevents more than one attribute of the same name and type.

### Bug Fixes:

1. Recording a memory to a Page Frozen Playback loaded immediately. This meant the frozen playback continued to be played until the original page was selected and the fader taken to zero.
2. Virtual dimmers were only generated for RGB attributes in the Fixture Template.
3. The virtual dimmer function was not working for white. It snapped between 0 and 100%
4. The Fixture Editor default values were offset by one when moving between the Attributes and the Information tabs.
5. The listing of channels in the Fixture editor was not always sorted.
6. It was not possible to load an existing custom fixture into the Fixture Editor.

### Known Problems:

1. Issues may be experienced with USB keyboards where the keyboard loses focus when the Caps Lock on the USB keyboard is tapped.
2. The error up message shown when tapping a colour with no fixture selected can act erratically.

### Components:

- Mantra Application v1.05 r7967
- Firmware v1.02

## **Release: v1.04 Date: 25-Nov -2015**

### **Reason for the Release: Bug Fixes**

#### **New Features:**

1. Fixture Editor can now load existing fixtures as a starting point for new ones. Or it can edit existing custom fixtures.

#### **Bug Fixes:**

1. Fixture Editor does not crash when a channel is skipped.
2. WHITE, AMBER and UV attributes are now listed in the 'Other Attributes' if present.
3. Attributes now operate correctly after re-patching fixtures with different types.
4. LED blink rate tweaked.
5. Record mode is now cancelled whenever GUI page is changed, except when changing to Select and Home pages.
6. Pan/Tilt + and - buttons on the Shape App page do not roll over any more.
7. PIN removed from settings when the default show is deleted.
8. Flash level can now be set all the way down to 0.
9. Strange behaviour of slow Position animations fixed.
10. Backlight control changed to suit first batch of production units.

#### **Known Problems:**

1. None.

#### **Components:**

- Mantra Application v1.04 r7842
- Firmware v1.02

## **Release: v1.01 through v1.03**

**These versions were never released to the public.**

## **Release: v1.00 Date: Sept -2015**

### **Reason for the Release: First public release**

- Mantra Application v1.0
- Firmware v1.0

**--- END ---**

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