

MANTRA^{LITE}

***Lighting Control
for LEDs, Moving Lights & Dimmers***

Quick Start Guide



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Mantra Lite Quick Start Guide

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1 Overview

This “Quick Start Guide” provides basic information on patching, controlling intensity, colour & position, creating a simple animation plus recording and playback. Training videos plus the “Mantra Operation Manual” containing full descriptions of all functions are available at: mantralite.lsclighting.com



Mantra comes with a “Demo” show pre-loaded so that you can familiarise yourself with the controls before patching your own fixtures. If you don’t need the demo show and want to patch your own fixtures now go straight to section 20.

Mantra can control up to 24 lighting fixtures. The fixtures that you control might be.....

- A conventional lighting dimmer.
- A multi-colour LED fixture.
- A multi-colour fixture with additional controls for pan and tilt and/or beam shapes.


Each fixture is patched to a Yellow fader and button.

2 Help

Context sensitive help is available on the touch screen for many functions of the Mantra. Tap the  button to open the help screen. Tap  to close.

3 Undo

To quickly undo the last action double tap .

To undo more than one action tap  once to see the list of your actions.

Touch **Undo** to undo an action and step down the list.

Touch **Redo** to redo an action and step up the list.

Tap the  [Back] button to finish.

Note: The undo list is automatically cleared whenever you save your show, start a new show or load an existing show.



4 Getting Connected

4.1 Power Input

Two models of MantraLite are available:

- The MANTRA/LT has an IEC mains input (90 volts to 260 volts).
- The MANTRA/LT/E has 12 volt DC power input. An external mains power pack is supplied.

4.2 DMX 512 Output

Connect a DMX data cable from the DMX512 output (one universe of 512 channels) to the DMX512 input of your first fixture (dimmer, LED or Mover) and loop to the next fixture/s. Only use specific DMX cable (never use audio cable) and always terminate the end of the DMX line. Set the required DMX addresses on your equipment. Patch each fixture to a yellow fixture fader. See section 20 for more details on patching.

4.3 Ethernet Network Connector

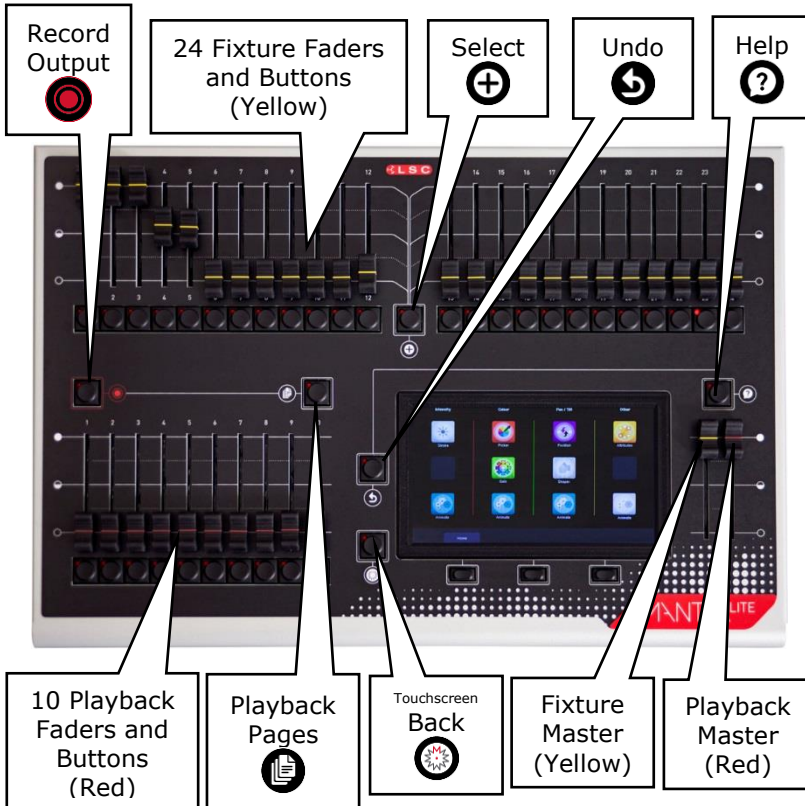
The RJ45 Ethernet connector can be used to output Streaming ACN (sACN) and ArtNet. These are lighting control protocols that send DMX lighting data over a network or to a lighting visualiser program running on a computer. It can also be used to connect the MantraLite to the internet to upload custom fixture templates. See the "Mantra Operator Manual" at mantralite.lslighting.com for details.

4.4 USB Connectors

The two USB connectors can be used to connect:

- A USB keyboard.
- A memory stick for show backup and software upgrades.
- A USB LED desk lamp (up to 250mA).

5 Front Panel





The 24 Yellow fixture faders control fixture intensity. Moving a fixture fader automatically selects that fixture allowing its other parameters such as colour or position to be controlled by Apps on the touch screen. Moving a fader to zero deselects the fixture. The Yellow "Fixture Master" has overall intensity control of the yellow fixture faders.

The current output can be recorded into any of the Red playbacks by tapping  **[Record]** then tapping a Red playback button of your choice **[1-10]**.

Different looks can be recorded on different Red Playback faders so that you can easily change the entire look on stage by using the Red Playbacks. See section 15 for more details.

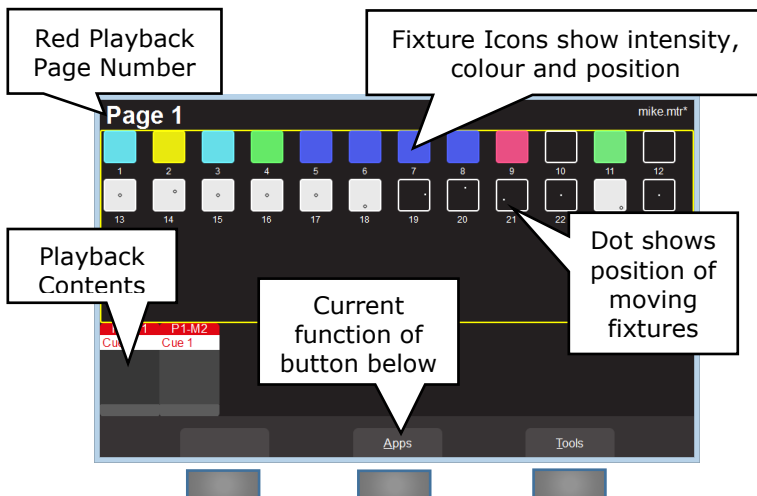
6 Touch Screen

If the touch screen is not on the “Home” screen, tapping the  [**Back**] button steps back through the screens to the “Home” screen.

Double tapping  [**Back**] quickly returns to the “Home” screen from any screen.

The “Home” screen is divided into two sections:

- The top section (yellow border) has fixture icons that show the intensity, colour and position (if applicable) of the patched fixtures.
- The bottom section shows the contents of the red Playbacks.



The 3 buttons below the touch screen have different functions for different screens. Their current function

is shown on the screen above each button. You can tap the button or touch the screen to operate them.

Touching anywhere in the top “fixtures section” of the “Home” screen or touching **Apps** opens the “Apps” screen. Apps are used to control the parameters of selected fixtures. Move a yellow fader to automatically select that fixture. Use an App to adjust the parameter. Other methods of selecting fixtures are described in section 9.

The bottom section of the “Home” screen has Playback icons showing the contents of each Playback (if any). Touching any playback icon to modify it. See 16.2

7 Controlling Fixture Intensity

The 24 (yellow) fixture faders (under the overall control of the yellow fixture master) control the intensity of the fixtures that are patched to them. To see the output of a fixture:

- Fade up the Yellow Master.
- Fade up a fixture fader to set its Intensity.

7.1 Flash

When the touch screen is on the “Home” screen, the buttons below the yellow faders act as intensity [**FLASH**] buttons. You can set the flash intensity level in the **Tools/Setup** screen.

If a red fader contains a single cue then its button acts as intensity [**FLASH**] button.

If a red fader contains a cue-list then its button “steps” the cue-list. See section 16.

8 Controlling Fixture Parameters

Mantra uses “Apps” on the touch screen to control the parameters of selected fixtures. From the “Home” screen, open the “Apps” page by touching anywhere in the top half of the touch screen or touching **Apps**.



Apps Screen

There are 4 columns that have Apps for their type of parameter:


Intensity, Colour, Pan/Tilt, Other.

Touch the App for the parameter that you want to control.

9 Selecting Fixtures

When you use an App, you need to select the fixtures that you want to control with that App. Fixtures that have attributes that can be controlled by the selected App will flash their buttons indicating that they are available for selection. When a fixture is selected its button is lit. Multiple fixtures can be selected at the same time. Fixtures can be selected using several methods:

- Move a yellow fader to automatically select that fixture. Move the fader to zero to de-select it.
- Tap the button below a yellow fader to select that fixture. Tap again to deselect it.

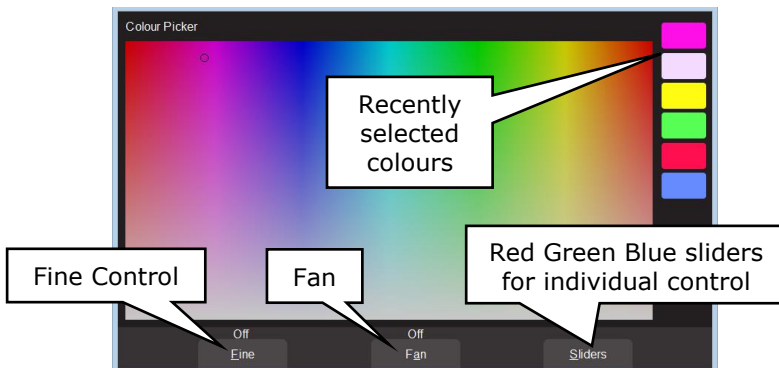
- To select a range of fixtures, hold the first button and tap the last button in the range. This work low to high number and high to low number.
- Tap  [Select] to use previous selections or to select **None**.

10 Controlling Colour

10.1 Picker

From the “Home” screen, open the “Apps” page (described above) then touch the colour **Picker** app icon. Fixtures that have colour attributes will flash their buttons. Select the fixtures (described above) then drag your finger to change the colour. The colour is selected when you lift your finger from the screen.

The side of the colour picker app shows the recently selected colours. Touch any of the recent colours to re-use them.



10.2 Fan


When multiple fixtures are selected you can fan their colours to create rainbow effects.

Touching **Fan** selects “Directional” fanning. Drag to fan the colours across the selected fixtures.

Touching **Fan** again selects “Symmetrical” fanning. Drag to fan the colours with your finish colour in the centre of your fixture selection.

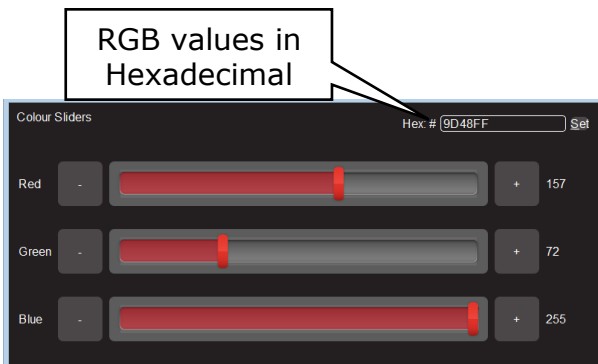
Touching **Fan** again turns fanning off.

Your fixture selection order is used by the Fan App. Experiment with different orders of selection to get different colour effects.

Previous selections can be re-used by tapping the  [Select] button.

10.2.1 Sliders

Touching **Sliders** opens the “Colour Sliders” screen that provides individual sliders for Red, Green and Blue allowing accurate setting of colours.



Colour Sliders

- + and – buttons are provided for small increments.
- Decimal values of the Red, Green, Blue sliders are shown on the right.

Hexadecimal values of the Red, Green, Blue sliders are shown at the top. If you touch inside the Hex: # box you

can enter exact values using the keyboard that appears. Enter your values (in Hex) then touch **Set**.

10.3 Gels

The colour **Gels** app is similar to the “Picker” app but has 100 commonly used colour gels to choose from.

11 Controlling Pan/Tilt

From the “Home” screen, open the “Apps” page then touch the Pan/Tilt **Position** app icon. Fixtures that have Pan/Tilt attributes will flash their buttons. Select the fixtures then drag your finger around the touchscreen to move the beam around the stage. You don’t have to touch the current position icon to move a fixture, you can touch and drag anywhere on the screen and the selected fixture(s) will follow your movements.

11.1 Flip

Touching **Flip Pan** or **Flip Tilt** reverses the direction of movement. These settings are useful if the fixture movement is opposite to the movement on the touch screen.

11.2 Centre

Touching **Centre** moves the selected fixtures to their centre position.


11.3 Fan

When multiple fixtures are selected you can fan their positions to create symmetrical patterns.

Touching **Fan** selects “Centred” fanning. Drag to fan the positions around the centre fixture.


Touching **Fan** again selects “Directional” fanning. Drag to fan the positions around the first fixture in your selection.

Touching **Fan** again selects “V-Shape” fanning. This pan works best when fixtures are already fanned into a line. Drag to pull the line of fixtures into a V shape. Touching **Fan** again turns fanning off.

Your fixture selection order is used by the Fan App. Experiment with different orders of selection to get different shapes. Previous selections can be re-used by tapping the  [Select] button.

12 Automatic Fixture De-select

When you open an App, fixtures that have attributes that can be controlled by that App flash their buttons indicating that they are available for selection. When you select fixtures their buttons are lit. After you have used the App to change any parameter of the selected fixtures, the buttons of the un-selected fixtures stop flashing. This tells you that selecting another fixture will cancel the previous selection and start a new selection process. This speeds up operations because you don’t have to de-select fixtures once you have set their parameters.

For example: Open the Colour Picker App and fade up fixtures 1 and 2. They are automatically selected. Pick a colour. Fade up fixture 3 and 4. This de-selects 1 and 2 and selects 3 and 4. Pick a colour for 3 and 4. Automatic fixture de-select can be overridden by holding the  [Select] button whilst selecting additional fixtures.


13 Animate Apps

Animate Apps provides a simple and intuitive way of creating chases and moving patterns. They work with 2 or more selected fixtures and they shift the parameters (such as colour or intensity or position) from one fixture to the next and loop the settings of the last selected fixture back to the first. There must

be at least one different setting amongst all of the selected fixtures so that you can see the different setting being shifted from one fixture to the next.

Example 1:

Let's create a 2 colour animation using RGB LED fixtures 1 through 4:

- From the "Home" screen, open the "Apps" page then touch the Colour **Picker** app icon.
- Fade up fixtures 1, 2 and 3. This automatically selects them.
- Select a colour (say Red) by touching the colour picker.
- Fade up fixture 4. This automatically deselects the previous selection and selects fixture 4.
- Select a different colour (say Blue).
- Tap  [**Back**] once to return to the Apps screen then open the Colour **Animate** app.
- Select all 4 fixtures by fading them up to full or tapping their buttons then touch **Create**.
- The animation runs and the blue steps through the 4 fixtures.

	Fixture 1	Fixture 2	Fixture 3	Fixture 4
Step 1	Red	Red	Red	Blue
Step 2	Blue	Red	Red	Red
Step 3	Red	Blue	Red	Red
Step 4	Red	Red	Blue	Red
Step 1	Red	Red	Red	Blue

Example 2:

Let's create a 4 fixture intensity animation (a chase) using fixtures 1 to 4:

- Fade up the fixture 1 to full and fade down fixtures 2, 3 and 4 to zero.
- Open the Intensity **Animate** app icon.

- Select fixtures 1 through 4 by holding fixture [1] button and tapping fixture [4] button (or tap them individually).

Touch **Create** and the animation runs as an intensity chase.

	Fixture 1	Fixture 2	Fixture 3	Fixture 4
Step 1				
Step 2				
Step 3				
Step 4				
Step 1				

All animation Apps have controls for:

- Speed in BPM (Beats Per Minute).
- Crossfade: When set to "0%", the animation snaps from step to step. When set to "100%", it fades from step to step. In between settings give a proportional crossfade and a pause.
- Direction: Forward, Reverse, Centre Out or Centre In.

The only limitation for animations is that there must be at least 2 fixtures selected and there must be at least one different setting in one of the fixtures.

Multiple animations can be running simultaneously.

14 Clearing Fixtures


If you have used any Apps to control fixture attributes such as selecting a colour or position or created an animation(s), you can clear these settings and restore the fixture(s) to its default settings (open, white, centred beam) and delete any animations.



From the "Apps" screen, touch **Clear** then make your choices from the screen.

Note: Recording a cue (see below) that contains an animation automatically clears that animation from the yellow faders.

15 Recording Your Work

When you have adjusted the intensity and colour of your fixtures and possibly created an animation(s) you can record the current output of the MANTRA onto a Red Playback fader.

To record the current output onto a Red Playback fader, tap  [**Record**] then tap the button below the Red Playback fader of your choice [**1-10**]. All of the attributes of any fixture with an intensity level greater than 0% will be included and the recording is called a cue.

To include fixtures with no intensity, after tapping  [**Record**], tap  [**Select**], then tap (and light) the buttons of any fixtures with no intensity that you want to include in the cue.



The look on stage can now be played back from the recorded cue (see Playback below). This frees up the yellow faders ready for you to create another lighting look and to record it into another cue.

If you record a cue to a Red Playback that already contains a single cue and choose "Add", then you automatically create a "Cue-list". See section 16.1

The Red "Playback Master" fader has overall intensity control of the Red playbacks.

15.1 Pages

There are 10 red playback faders and 10 pages of memory giving a total of 100 memories. Each memory can contain either a single cue or a "cue-list" which can contain up to 250 cues.

- Repeated taps of the  [**Page**] button will step through the 10 pages of memory.
- To switch *directly* to a page number; HOLD  [**Page**] and TAP a red fader button [**1 to 10**].

The current page number is shown in the top left corner of the “Home” screen and the contents of the red playback faders are shown along the bottom.

16 Playback

To playback a recorded cue, fade up the Red Playback Master to full and fade up the Red Playback fader where you recorded the cue (remember to select the correct page). You might want to fade down the Yellow master (or all of the yellow fixture faders) after you bring up the Red playback, so that you only see the recorded look on the output.

Different looks can be recorded in different cues so that you can easily change the entire look on stage by only using the Red Playbacks.

Unlike the Yellow Fixture faders that only control intensity, the Red Playback faders control all of the parameters of the fixture that have been recorded in the cue. This allows you to crossfade from one Playback to another with a smooth transition of intensity, colour and position. See Latest Takes Precedence (LTP) below.

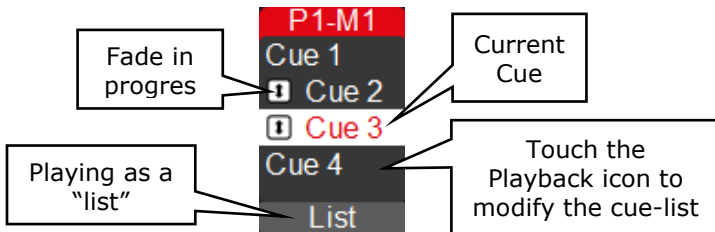
16.1 Cue-lists

If a Red Playback contains a cue-list you can crossfade to the next cue in the list by tapping its playback button (below its fader). The crossfade uses the “fade in” and “fade out” times in the cues (see below).



To crossfade in the reverse direction HOLD the [**Back**] button whilst tapping the playback button.

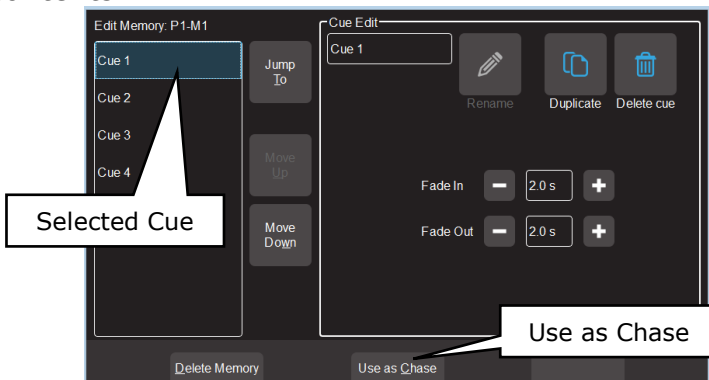
The current cue has a white background. A pointer indicates when a fade is in progress.



The cue-list can be manually played as a "list" or automatically played as a "chase" (see below).

16.2 Modifying Playbacks

If you touch a playback icon you can modify its contents.



Touch a cue to select/de-select it. Multiple cues can be selected. You can:

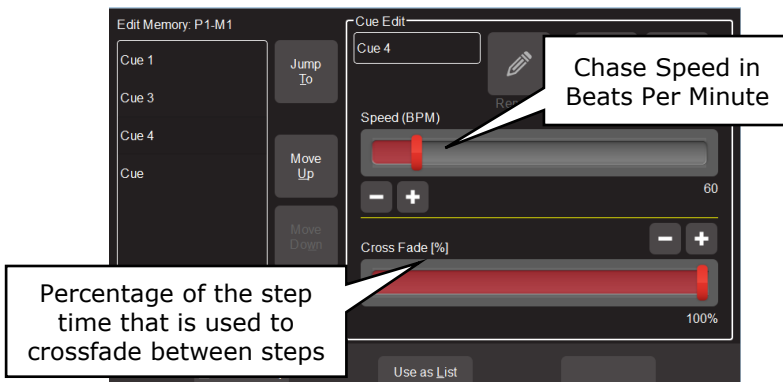
- Change "Fade In" time and a "Fade Out" times.
- Duplicate cues.
- Re-order the cues.
- Re-name cues.
- Delete cues.
- Delete the entire memory (all cues in the list).
- Jump directly to any cue in the list. Useful if you have a long cue-list and you want to quickly

playback a cue without stepping through all of the intermediate cues.


- Use the list as a chase or a cue-list.

16.3 Chase

To change a cue-list into an automatically stepping "Chase" touch its playback icon then select "Use as Chase". The list will automatically increment through the steps using the speed and crossfade settings. Traditionally chases will snap (instantly switch) from step to step but you may also set a crossfade value so that it will fade from step to step. Chases automatically stop when their red fader is at zero.



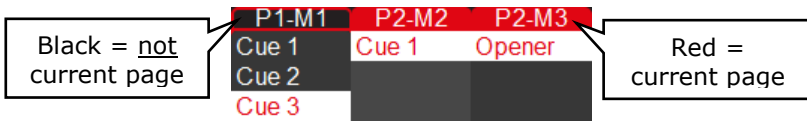
You can manually step a chase by tapping its playback button (below its red fader). Hint: Set a low speed if you want to manually step the chase.

To manually step in the reverse direction HOLD the  [Back] button whilst tapping the playback button.

16.4 Page Freeze

A "PAGE FREEZE" feature prevents the contents of an "active" Red playback fader from being changed if its

level is above 0% when a page is changed. Each playback icons colour shows its page status.



17 Latest Takes Precedence

The value for each parameter of a fixture (intensity, colour, position, etc.) that appears on the output is determined by a method known as LTP (Latest Takes Precedence) and by fader position. An LTP action occurs when a red fader is raised above zero. When this occurs, the fader will take control of its parameters and they will fade to their levels in that fader following the fader movement and fade times. When that fader reaches 100%, it fully overrides all other faders containing parameter values for the same fixtures.

For example:

We have 3 cues recorded on red playback faders 1 to 3 with a single LED fixture in each cue. In the first fader the fixture is red, in the second it is blue and in the third it is yellow.

- Fade up fader 1 to full. The fixture fades to red.
- Fade up fader 2 to full. The fixture fades to blue.
- Fade down fader 1 and nothing happens because fader 2 is the latest (LTP) and it is at full.
- Fade up fader 3 and the fixture fades to yellow because fader 3 is the latest.
- Fade down fader 3 and the fixture fades back to blue (the previous latest).

Remember that when the latest red fader to be raised from zero is at full, other faders controlling the same fixtures can be faded down without having an effect.

18 Editing Cues

Red Playbacks containing a single cue can be edited as described below in 18.1 and 18.2.

A cue in a cue-list cannot be edited. If you need to change a cue in a cue-list, playback that cue then use the techniques described below in 18.1 and 18.2 to get the desired look on the output. Next, record the output as a “new cue”. It will be inserted in the cue-list after the current cue. Now delete the cue you wanted to change. Change the name of the “new cue” if required.

18.1 Intensity

To edit the intensity of a fixture recorded in a single cue, fade up the cue (and fade down all other cues). Move the Yellow fader of the fixture to zero then raise it. When it matches the level recorded in the cue it will take control. Set the new level then record the output back to the same location and “overwrite” the original cue.

18.2 Parameters

To edit the colour or position of a fixture recorded in a single cue, fade up the cue (and fade down all other cues). Select the appropriate App (Colour, Pan/Tilt etc) then select the fixture(s) to be edited. Use the App to make the changes then record the output back to the same location and “overwrite” the original cue.

18.3 Animations

Recorded animations cannot currently be edited.

19 Save/Load

Shows can be saved/loaded to memory or exported/imported to USB. From the Home screen touch **Tools**.

20 Patching Fixtures

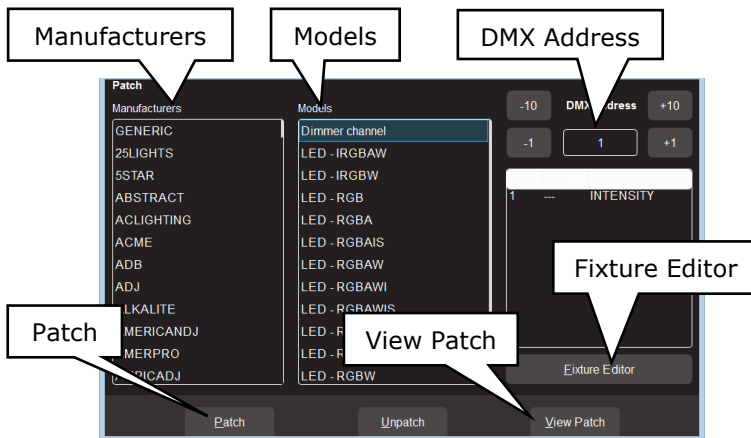
Mantra comes with a “Demo” show pre-loaded. To create a new show, from the Home screen touch **Tools/New**. This loads a new empty show with no patch.

To patch fixtures, from the Home screen tap **Tools/Setup/Patch**. In the Patch screen you tell Mantra the manufacturer, model and DMX address of the fixture that you want to patch. You tap a fixture number (1 to 24) (yellow fader button) then patch the fixture to that number by touching **Patch**.

Multiple fixtures of the same type can be patched in one operation. See the examples below.

In this “quick start” guide we will patch a typical rig consisting of 12 dimmers starting at DMX address 1 and 12 RGB (Red, Green, Blue) LED fixtures starting from DMX address 101.

From the “Home” screen touch **Tools/Setup/Patch**.



Patch Screen


To patch 12 dimmers as fixtures 1 to 12 starting at DMX address 1:

- Under "Manufacturers" touch "Generic" and under "Models" touch "Dimmer channel".
- Use the **+10**, **-10**, **+1** and **-1** buttons to set the DMX address to 1 (the address of the first dimmer).
- Fixture numbers are selected using the buttons below the yellow fixture faders. To select all 12 dimmer channels, hold [**1**] and tap [**12**]. They light to show they have been selected.
- Touch **Patch**. Mantra takes a few moments to make the patches and automatically increments the DMX address for each dimmer.

To patch 12 RGB LEDs as fixtures 13 to 24

- Under "Manufacturers" select "Generic" and under "Models" select "LED - RGB".
- Use the **+10**, **-10**, **+1** and **-1** buttons to set the DMX address to 101 (address of the first LED).
- To select fixtures 13 to 24, hold [**13**] and tap [**24**]. They light to show they are selected.
- Touch **Patch**. Mantra takes a few moments to make the patches and automatically increments the DMX address for each fixture by 3.


To see the details of your patch touch **View Patch**.

- To finish patching and return to the "Home" screen double tap the  [**Back**] button.

If the patch you have created will be used on a regular basis such as in a permanent installation, you should save it as the "Default show". If a "Default show" has been saved it will be automatically loaded whenever you select a "New" show. It includes the patch.

21 Fixture Editor

If you have a new fixture and it is not listed in the Mantra fixture library you can create a template for it, even if you don't know the functions of its DMX channels. Mantra's Fixture Editor allows you to use the red faders to directly control the DMX channels of the fixture and hence discover the function of each channel. You then select an attribute name for each channel, then name and save the new template.

More details can be found by opening the fixture editor and tapping  then reading the information on the touch screen.

22 Rig View

The fixture icons on the "Home" screen can be arranged geographically so that they are positioned on the screen as they actually are in your rig.

To arrange the icons, tap and HOLD any of the fixture icons for 2 seconds. A yellow flashing dotted box appears. You can now drag and drop individual fixture icons to position them on screen. You can also change the size of the icons or reset to the default positions.

Touch  to save your layout.

-End-