6 Patching

6.1 Patching

Patching is the process where you tell the console

- What type of lighting units you have connected to it
- What DMX addresses they are operating at
- Which DMX line (universe) each unit is connected to (there are 64 lines, but the console itself can only output 16 lines; further lines can be controlled using networked DMX processors over TitanNet)
- Which buttons on the console you want to use to access them (either physical buttons or touch buttons)
- Particular option settings for each fixture.

> Before you start rigging, you can use the console to work out the DMX addresses for the fixtures in your rig. Patch them on the console (or simulator), then press <Open/View>, <Patch> to show the Patch View window. This will use the DMX channels as efficiently as possible without leaving any gaps.

If your fixtures are RDM equipped, the console can patch itself from the rig, see Patching by RDM (Section 6.2.7).

On older consoles with a System/Run/Program switch, the switch must be set to Program before you can patch.

By default in a new show, each physical DMX output socket (5 pin XLR) is connected to a DMX line. If you want to change this or use other lines, go to the DMX Settings (Section 19.6) window from the **System** menu.

> If nothing is happening to the lights when you make changes on the console it is worth checking the DMX Settings (Section 19.6.1) window to make sure the DMX lines are allocated to outputs.

6.2 Patching New Fixtures or Dimmers

6.2.1 Fixture Select Buttons and Handles

To control intelligent fixtures or dimmer channels, they must each be patched to a button (sometimes referred to as a “handle”). You can patch onto touch buttons in the Fixtures window, to a fader handle or to a Macro/Executor button. If the handle you patch to has a fader, the fader will control intensity.

If the Fixtures window is not shown, press <Open/View> then <Fixture> or double press <Open/View> then press [Fixtures] from the window select buttons.

Fixture buttons can be shown either in pages with Page buttons, or you can use the scroll bar on the right to show different pages. Use the [Pages Show/Hide] button in the context buttons on the right of the screen to select between page buttons and scrolling mode (these buttons drop down using the menu button in the window top bar for Sapphire Touch and Titan Go). You can change the fixture page at any time.

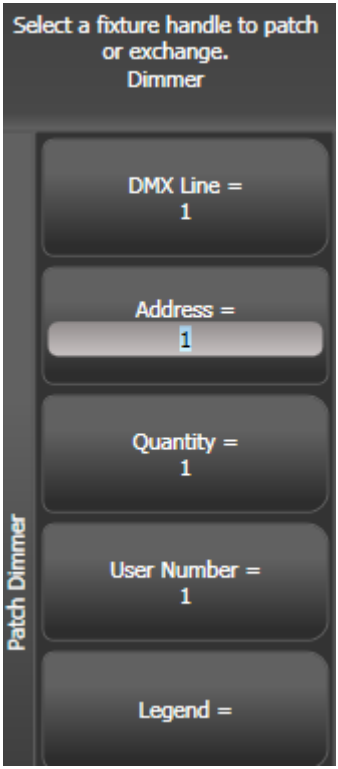
You can allocate fixtures and dimmers to Groups, which allows you to quickly select a set of fixtures with one button. Groups are described in the next chapter.

Once you have patched fixtures or dimmers, the Patch View (Section 6.3.1) screen shows you an overview of what is patched where and lets you edit the patch.

6.2.2 Patching Dimmers

Each fixture button can control single or multiple dimmer channels. You allocate a button using the Patch menu (described below) or the Patch View (Section 6.3.1) window.

1. Press <Patch>, then [Dimmers].
2. [DMX Line=] shows you which of the DMX output lines you are patching onto. Enter a new number to change the line. [Address =] shows the DMX address about to be patched. You can change this by typing in the new address on the numeric keypad and pressing <Enter>.



3. To patch a single dimmer, press a Fixture touch button, a Macro/Executor button or the **Select** button of a fader handle. To patch a sequence of dimmers each to its own button, press [Quantity] and set the number of dimmers then press the first select button. Alternatively, run your finger or draw a selection box round the touch buttons, or for physical buttons hold down the first button in the range and press the last button in the range. The range of dimmers will be patched to sequential DMX addresses.
4. A fixture button turns dark blue and shows fixture details when it is patched. If you patch to a fader handle the select button will light up dimly.
5. Repeat from step 2 for other dimmers.

- When setting the DMX address using [Address=], you can set the DMX line (universe) as well by entering {line}.{DMX}, for example 2.56 will set DMX address 56 on DMX line 2.
- To see how DMX channels are patched, press <Open/View> then <Patch> to show the Patch View (Section 6.3.1) window.
- [User Number = xx] allows you to set a user-defined number for each dimmer or fixture patched, to help you identify them later. You can also edit the User Number from the Repatch Fixture menu.
- You can patch multiple dimmer channels to a single handle. This can be useful if, for example, you

want to control all the lights for one area together. To do this, just press the same Fixture Select button again when patching the new dimmer channel. You can tell the dimmer channel has patched OK because the DMX address will increase by 1.

- If you need to remove a dimmer from multiple dimmers on a single handle without losing programming, make a copy of the handle then repatch the copy to the individual dimmer address.

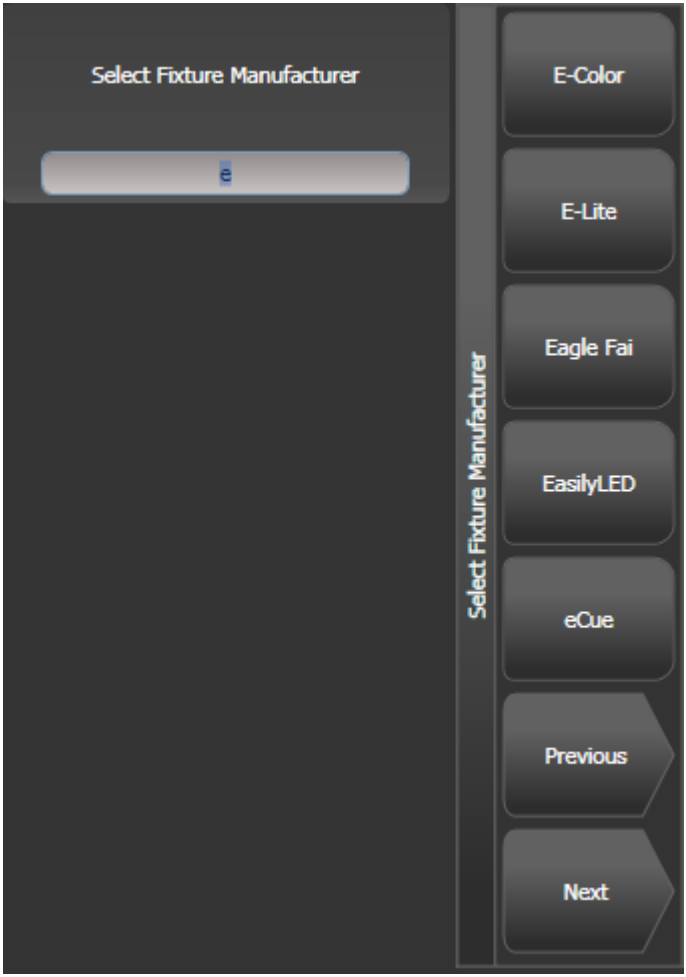
6.2.3 Patching Moving Light Fixtures

Moving light fixtures are more complicated to patch than dimmers because they have more attributes to control, such as pan, tilt and colour, whereas a dimmer channel just has intensity.

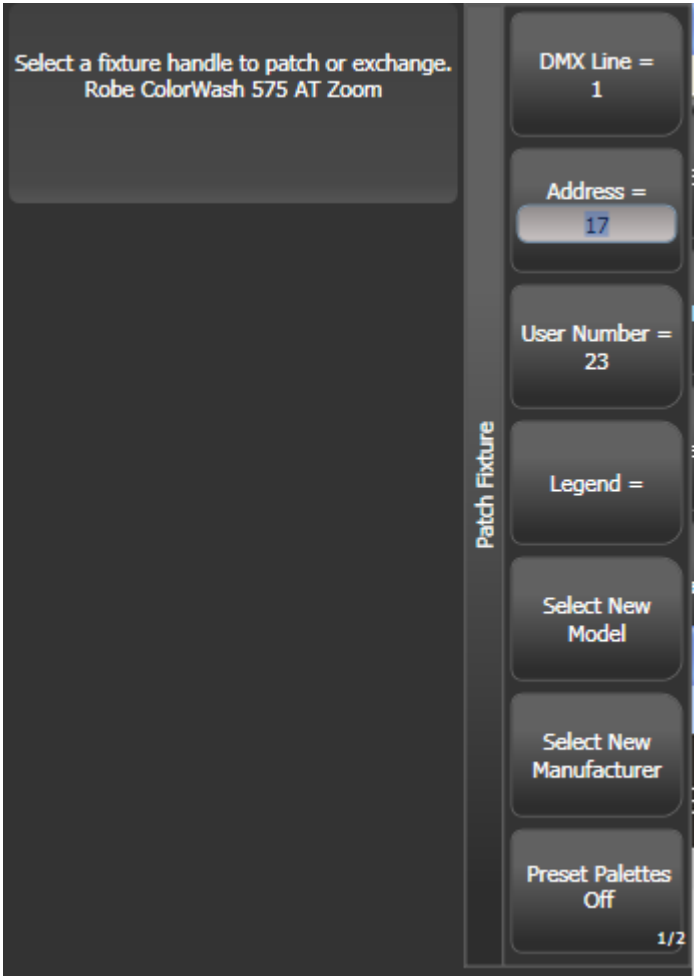
Avolites consoles use a "personality" system to control fixtures. This means you don't have to know how each fixture works, you just tell Titan what you want to do and it will send the right control commands. The console has built-in personalities for most types of fixture, which tell it what attributes are available and how to control them. If the console does not have the personality for your fixture, you can download further personalities from the Avolites website, create your own using the Personality Builder application installed on the console, or Avolites can create one for you. See the personalities section (Section 20.1) for details of how to find personalities.

You can patch either using the Patch menu (described below) or the Patch View (Section 6.3.1) window.

1. Press <Patch>.
2. Press [Fixtures].



3. Select the correct fixture manufacturer from the softkeys ([Previous] and [Next] page through the list of manufacturers). Or use Quick Search and type the first few letters of the manufacturer's name on the keyboard to find the one you want.
4. Select correct fixture from the softkeys (F and G show other pages). You can use Quick Search here as well.
5. Select the correct fixture operating mode from the softkeys.
6. [Address =] shows the first free DMX address. Type the new address on the numeric keypad if you want a different one. [DMX line=xx] lets you patch to a different DMX line, or you can enter the address as [line].[address], e.g. 2.45 would set address 45 on line 2.



7. Patch the fixture by pressing a Fixture touch button, a Macro/Executor button or the **Select** button of a fader handle (not the main playback faders).
8. A fixture touch button turns dark blue and shows fixture details when it is patched. If you patch to a fader handle the select button will light up dimly.
9. Repeat from 7 to patch more of the same fixture type. The DMX address automatically updates so you can just keep patching by pressing Select buttons.

- To patch multiples of the same fixture, use the [Quantity] option. Or you can run your finger or draw a selection box round the touch buttons, or for physical buttons hold down the first button in the range and press the last button in the range. The fixtures will be patched to sequential blocks of DMX

addresses.

- [Options], [Offset] allows you to leave gaps in the DMX channels between fixtures when patching multiple fixtures, which is useful if you are planning a show which may involve exchanging fixtures. The Offset number is the size of the block which will be allocated to the fixture, for example if you want to allow 32 channels for each fixture you would set Offset to 32.

- You cannot patch more than one fixture onto a handle. If the handle is already used, the patch will fail.

- If you are patching a fixture which uses a separate dimmer channel, such as a VL5, you can patch the dimmer channel onto the same handle as the moving light part of the fixture so you can control it all together. This is called a Pending Dimmer (in the Patch View (Section 6.3.1) window this is indicated with a flash symbol behind the user number).

- [Options], [Preset Palettes] sets whether the console will create default colour, gobo and position palettes for the new fixture. These are created in the Position, Colour and Beam workspace windows.. This option is turned off by default but can give you a useful starting point.

- [Options], [AutoGroups] sets whether the console will automatically create groups from the fixtures you patch. If Enabled, a group is created for all fixtures of the same type, and another if you patch a quantity of fixtures.

- To show the DMX address for fixtures, press <Open/View> then <Patch>. To show patch details for a single fixture press <Open/View> then the fixture select button. On touch buttons the DMX address is displayed on the top right of the button in the format {DMX line}.{Address} (this display can be disabled using the context menu).

- If a patch goes over the capacity of a DMX line, the console will patch at the beginning of the next line. For example if you try to patch a moving head fixture at channel 1.510, it will actually be patched at 2.1.

- The console will show a picture of the fixture you select in the prompt area to help you check you have got the right one (if provided in the fixture personality; some fixtures do not include this information)

6.2.4 Capture Visualiser Auto Patch

If you want to use Capture Visualiser, start it by double pressing <Open/View> then press [Capture Visualiser] from the window select buttons. Some consoles also have a dedicated <Visualiser> button. Capture will open in a workspace window with an automatic representation of your patch.

You will see the fixtures you have patched laid out on screen in handle number order. You can then use the Visualiser controls (Section 14.1) to reposition the fixtures if you wish.

- You can turn off Auto Patch in the Capture Visualiser Settings window (Stage tab).
- Fixture modes which will work with Auto Patch show a Capture icon in the button. If the icon is not shown, that fixture mode isn't supported in the integrated Capture.

- If you are using the console linked to the full version of Capture (Section 14.5) (Nexum or above) on an external computer, then changes to the patch on the console will automatically sync to the Capture show. Also changes you make in Capture will sync back to the console.

6.2.5 Patching Fixtures with Multiple Cells (sub-fixtures)

Some fixtures have multiple cells of control within a single fixture (for example an RGB LED batten). To avoid having to patch every cell as a single fixture, you can patch the whole fixture as one "super fixture" and each cell will then appear as a "sub-fixture". This is very useful when laying out fixtures for use with the

Pixel Mapper as it allows you to move and rotate the fixture as a single fixture, but keep individual control over the cells.

If you access the fixture using the handle it is patched on, all cells of the fixture will be controlled together. To access the sub-fixtures independently, use the Attribute Editor window or you can press <Unfold> then the select button of the fixture. In the Fixtures workspace, the current page of fixtures will be replaced by select buttons for each individual fixture cell.

If patched on a fader then the cells will start at fader 1. You can also select sub-fixtures from the numeric keypad. See the fixture control section (Section 7.1.4) for more details of working with fixture cells.

To go back to normal, press <Unfold> then [Exit Unfold].

> The Sub fixtures feature has to be defined in the fixture's personality. If sub-fixtures does not work on your fixture you may need to obtain the latest fixture personality from Avolites.

6.2.6 Patching Active Fixtures / Media Servers

For Ai media servers see the Synergy section (Section 15.1) which allows you to connect to Ai for control of the setup and media playback.

Other media servers which support CITP can be patched using the [Active Fixtures] command on the Patch menu. This allows the console to retrieve thumbnail images of the media clips to display in the Attribute Editor when you are selecting the clip to play.

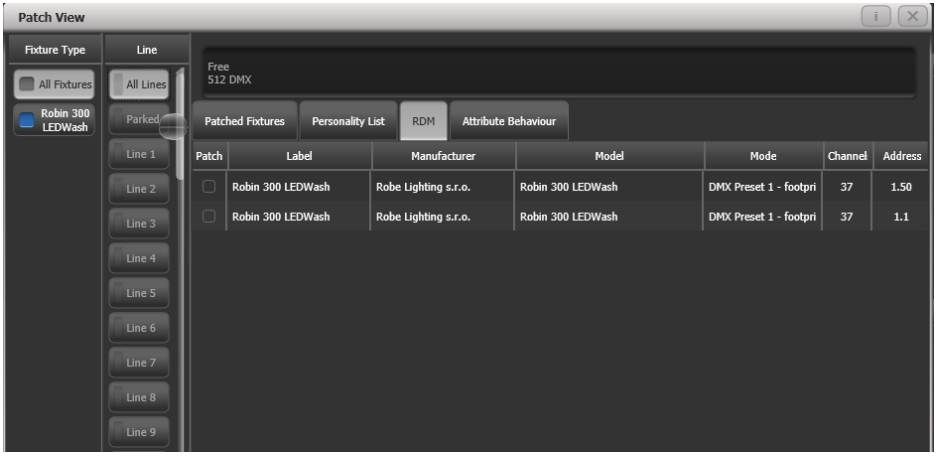
Once the media server is connected to the network, selecting [Active Fixtures] then [CITP Media Servers] will display a list of the available display layers on the connected server(s). Each layer can then be patched to a fixture button for control.

6.2.7 Patching by RDM

RDM (Remote Device Management) is a system which allows the console to interrogate the lighting rig to find out what's there. It can then patch itself to match the existing DMX addresses. You can also remotely change modes and other settings on the fixture.

> The fixtures need to be connected to the console by an RDM-enabled Art-Net node, the XLR connectors do not support RDM. Obviously the fixtures must be equipped with RDM for this to work; many fixtures are not. Also if you have DMX buffers or splitters in your rig, they must be RDM enabled or they will block the information being sent back to the console.

Press <Open/View> then <Patch> to open the Patch View (Section 6.3.1) window then select the RDM tab. All devices which support RDM will be listed here. Click the [Full Discover] context menu button to rescan the rig for RDM devices.



- Select one or more fixtures in the grid and click the Patch context menu button to patch the devices.
- Click on the Mode or Address cells in the grid to change these settings remotely.
- Click on the Identify button (at the right hand end of the screen, you might need to scroll to see it) to turn the fixture on so you can see where it is in the rig.
- Click on the RDM Quick Patch context menu button to automatically patch all RDM devices.

6.2.8 Parked Fixtures

If you attempt to patch, copy or move a fixture to a DMX address where its control channels would overlap one or more other fixtures, the console will give you the option to **Park** the conflicting fixture(s). Parked fixtures retain all their programming but do not output to the DMX outputs.

You can re-enable a Parked fixture by giving it a new DMX address using the Patch View (Section 6.3.1) window which has a button to display all parked fixtures.

6.2.9 Finding a Lost Fixture

Sometimes a fixture may be rigged with the wrong DMX address set, or connected to the wrong DMX line.

The Find Fixture function allows you to find the start address of the fixture by scrolling a “locate” state through all possible DMX addresses. When the fixture responds with its Locate state, you know its DMX address and might hopefully avoid a trip up the rig to look at it..

1. Press <Patch>, [Fixture] and select the type of fixture you are looking for.
2. Press [Options], then [Find Fixture] to enable the Find Fixture mode.
3. Turn Wheel B to go through all possible DMX addresses. Wheel A sets DMX lines.
4. When the fixture responds with its Locate state, you have found the correct DMX address.
5. Turn off [Find Fixture] mode and (if not already occupied) patch the fixture. The DMX address/Line will be automatically set to match the Find Fixture settings.

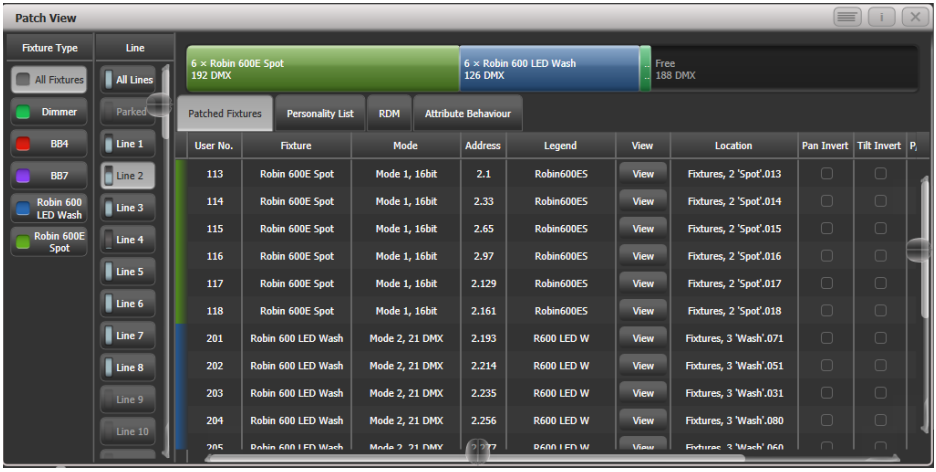
- Wheel C (DMX Slot) jumps through DMX addresses using the fixture channel count (for example if a fixture uses 16 channels, it will jump through in 16's).

6.3 Changing the Patch

6.3.1 Patch View

The Patch View window gives a full overview of how all the fixtures in your show are patched, and allows you to patch, repatch, legend, renumber, invert, pan/tilt swap, freeze, exchange, park and view fixtures. If you need to change the settings of multiple fixtures (for example, changing the DMX address of several fixtures) then it's really easy to do in one operation in the Patch View.

To show the Patch View window press <Open/View> then <Patch>, or double press <Open/View> and select [Patch View] from the window select buttons.



Fixture type: lists the different types of fixture in your show. Each fixture has a unique colour code. Click on these buttons to filter the view so it only shows one fixture type.

Line: lists the available DMX output lines/universes. The blue bar graph in the button shows how much of the line is used by patched fixtures and how much is free. Click a button to show the details of that line in the right hand side of the window.

The **coloured bar** at the top shows how fixtures are patched on the selected output line, using the unique colour code for each type of fixture. Click on a section of the bar to select those fixtures in the grid below.

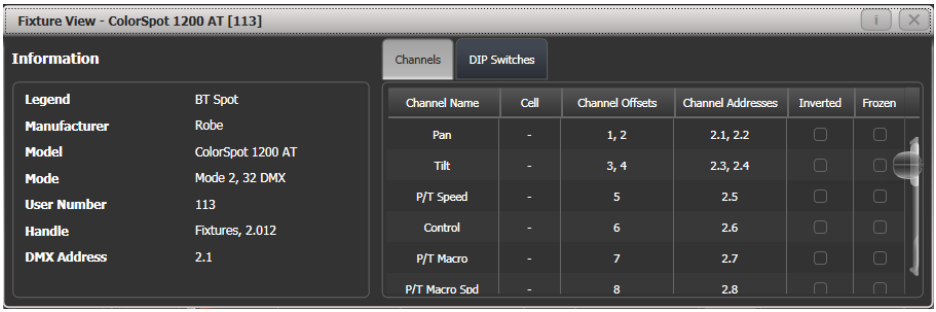
The **grid area** shows details for each patched fixture on the selected output line. Some parameters are editable by clicking in the grid, then the softkeys allow you to change the parameter.

> You can change parameters for multiple fixtures by dragging a selection box over the grid, or hold the Ctrl button on the keyboard and click on the required fixtures. Then edit the parameter on the softkeys, and use the [Set] context button or press <Enter> to update the selected fixtures.

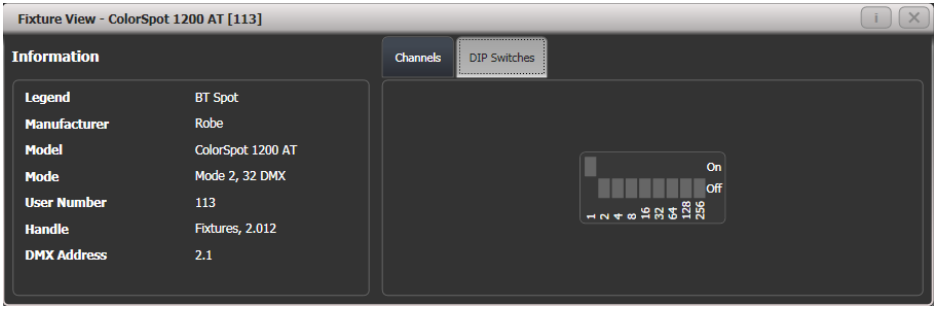
- You can switch off some of the display columns to make the Patch View simpler. Press the [Choose Columns] context menu button and then use the options on the softkeys to turn columns on and off.
- You can add notes to each fixture in the Patch View. Click on the Notes field and enter text using the keyboard.
- The tabs across the top allow you to switch the window to **Personality List** (lists all fixtures available on the console), **RDM** (allows you to patch devices using RDM) and **Attribute Behaviour** (allows you to set invert, freeze, curve, and limit. See the detailed fixture information section (Section 6.3.2) for Attribute Behaviour.
- A context menu option allows you to show or hide parked fixtures. If you show parked fixtures they will appear greyed out in the position they were originally patched.

6.3.2 View Detailed Fixture Information

In the Patch View window click on the View button for the fixture you wish to view, or press <Open/View> followed by a fixture handle. A Fixture View window will open showing details for that fixture, including the personality and mode used to patch, and the individual DMX channel addresses for each attribute. Attributes can be inverted or frozen by clicking on the checkboxes at the right hand side.



If the fixture address is set using DIP switches, the console can show you how to set the switches by clicking on the DIP Switches tab.



There is also a Personality tab (not shown in the pictures) which shows history information about the personality file for the fixture. This can be useful for checking the version of the personality file.

6.3.3 Changing DMX Addressing using Patch View

You can easily change the DMX address of one or more fixtures from Patch View. Select the DMX address cells you want to modify - draw a selection box over multiple cells to select more than one.

Type the new address for the first fixture in the selection and press <Enter> (using the format Universe . Address - if you miss out the universe part it will stay unchanged).

All fixtures will be renumbered keeping the addressing offset between the fixtures the same (in other words if each fixture takes 20 channels, the addresses will be set with an offset of 20 channels between each fixture).

The [Swap Fixture Addresses] softkey lets you swap the addressing between two groups of fixtures. This operates in two modes, [One For One] or [Retain Layout], which you can select by softkey after pressing [Swap Fixture Addresses].

Select one group, then press [Swap Fixture Addresses] and select the target group. In One for One mode the target must be the same quantity of fixtures or the console will display an error. In Retain Layout mode the console will attempt to add or remove fixtures to get the same quantity - if this conflicts with other fixtures it will give you the options to [Park Conflicting] or [Cancel].

6.3.4 Changing DMX address using Patch menu

As well as using the Patch View screen, you can use the Patch menu to re-patch a fixture to a different DMX address or a different DMX output line. All programming is kept.

1. Press <Patch> (if you're not already in Patch mode).
2. Press [Repatch Fixtures].
3. Press the Select button of the fixture you want to change.
4. To change DMX press [Address], type the new address and press enter. If this address is already in use, a warning icon will be shown.

5. To change the DMX output line, press [DMX Line=x] and enter a new output line number.
6. Press <Enter> or [Repatch] to confirm the change.
7. Repeat from step 3 if you want to change other fixtures.

- You can "Park" the fixture using [Park]. This removes the fixture from the DMX output map, but all programming is retained. The original DMX line and address is remembered and you can restore it using the [Unpark] option.
- If the new DMX address already has another fixture or dimmer patched on it, the console will warn you (unless this is disabled in User Settings (Section 19.5)). You can either press [Select another DMX address] to abort the change or [Park Conflicting Fixtures]. All programming for the parked fixture is preserved, but you need to repatch it to a free DMX address using the above procedure before you can use it again. If you press [Always Park Conflicting Fixtures] the console will park this and any future conflicting fixtures without warning you (you can change this option back in the User Settings).

6.3.5 Setting Legends

You can set a legend for each fixture or dimmer you've patched which is displayed in the touch button. This can be really useful to help you identify the fixture.

1. Press <Legend> (D9 only) or on the main menu press softkey [Set Legend].
2. Press the Select button for the fixture you want to legend.
3. Type the legend on the keyboard.
4. Press <Enter> when you have finished.

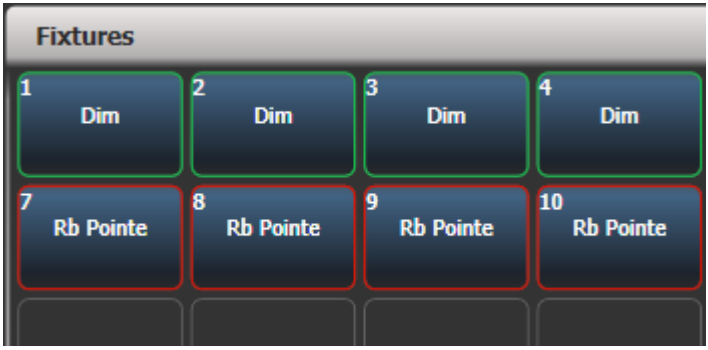
- You can also choose to have a picture legend using the softkey options.
- You can set the same legend for multiple fixtures by selecting a group of fixtures after pressing [Set Legend].
- You can change the User Number for the fixture using the [User Number] softkey on the [Set Legend] menu. User Numbers are used when selecting fixtures from the keypad theatre-style.
- You can automatically allocate User Numbers for multiple fixtures by selecting a group of fixtures, then setting [User Number]. The first fixture will have the User Number you entered, and the other selected fixtures will be given a number increasing by 1 for each fixture.
- You can set a legend for the current page of fixtures using the [Set Legend] function from the main Program menu, then [Page Legends], then the page tab which you like to change (if pages are not

shown you can enable this in the context menu). The legend is shown on the touch button for the page.

6.3.6 Fixture Button Halo

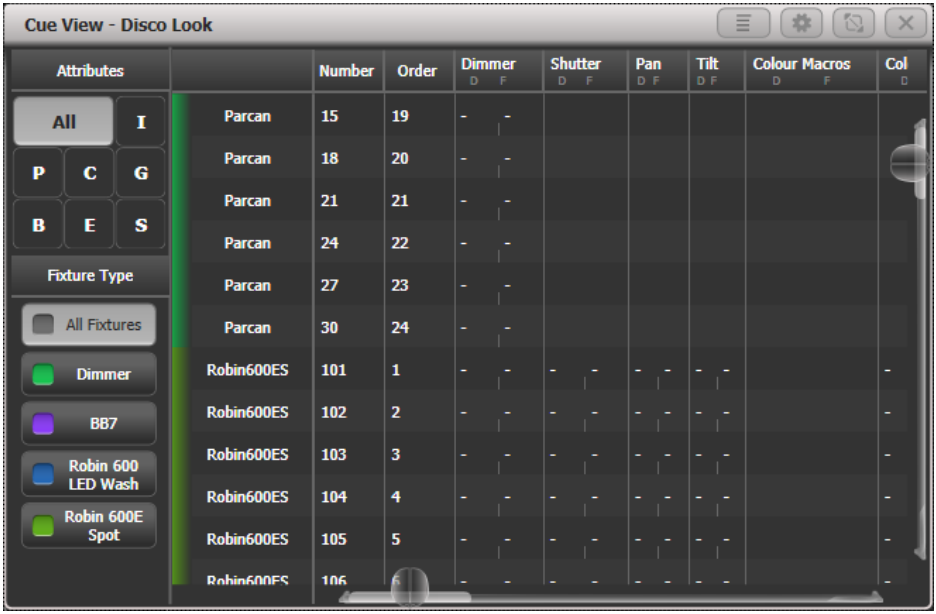
You can configure fixture buttons to have a “halo” colour which helps you to find them quickly. Halo colours can be set manually for each fixture (the default setting), or automatically by fixture type using the same fixture colours used in the patch window..

To set a manual halo colour, press <Legend> or click [Set Legend], click the fixture button (or select multiple buttons) then select the [Halo] option. A colour picker will open to let you set the colour, or pressing [System Colours] will give you colour options on the softkeys. A [Remove Halo] softkey lets you remove the colour.



To enable automatic halo colours, hold <Avo> and select [User Settings], then [Handles], then set Fixture Halos to [Auto]. Fixture buttons will then be coloured to match the automatic fixture colours used in the Patch window.

Halo colours are also shown in the Intensity View and Show Library workspace. In list views such as DMX, Channel Grid, Cue View and Palette view the halo colours are shown as a bar to the left of the list - this uses the user halo colour if one is set, otherwise the automatic colour is used. The User Setting does not affect this display.



6.3.7 DMX View Window

When you're having problems getting fixtures to work it can be useful to see the actual DMX output values coming from the console. Double press <Open/View>, then select [DMX] from the window select buttons.

The buttons on the left let you filter by attribute and by fixture type and select the different output lines from the console. Scrolling the window to the right shows more information about each DMX channel.

6.3.8 Fixture Exchange

The Fixture Exchange function enables you to repatch fixtures in your show using alternative fixtures, retaining important elements such as cue times, shapes and legends. This is very useful for touring shows and venues with a high turnover of events.

Fixture Exchange works best if you use Palettes to create your cues. This allows you to adjust for position

differences and so on by reprogramming a few position palettes, rather than having to reprogram every cue. Cues recorded with absolute values will need to be re-recorded, preferably using palettes.

The pan, tilt and dimmer will always be preserved from one fixture type to the next. For other attributes, the console will attempt to match the functions between the fixtures, but you can change the details of this using the Exchange Mapping function (see next section (Section 6.3.9)). All programmed items including palettes will be preserved, so the programming can be easily adjusted by updating your palettes as normal.

Fixture exchange also gives you a powerful way to re-use an existing show with new lights, so you can give yourself a programming head start when faced with a new fixture.

- It's a good idea to save your show before performing major changes such as fixture exchange. Should you change your mind or have problems, you will easily be able to return your show to its previous state.

1. Enter patch mode by pressing <Patch>.
2. Select the new fixture type you wish to use.
3. Touch the select button of the fixture which is to be exchanged.
4. The console will warn you that the fixture is in use. Press the [Exchange Fixture] option.
5. Repeat from step 3 to exchange other fixtures with the same type of new fixture.

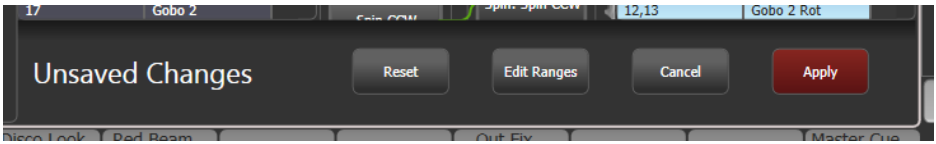
After exchanging fixtures you need to update the palettes which used those fixtures. If you have trouble switching values off in a palette, set new values for all the attributes in the attribute group and re-record the palette. You should then be able to switch off an attribute group as required.

6.3.9 Exchange Mapping

When you exchange fixtures the console will attempt to map the functions on the new fixture to the same functions on the old fixture so that your show does not look any different with the changed fixtures.

However, this may not always work out quite right, so using Exchange Mapping you can manually map functions between the fixtures. For example this allows you to map the old gobos to similar new gobos even if they are not in the same wheel position, and to ensure that rotation speeds work the same.

Any changes made will apply immediately to the show. Mappings are remembered and will be used whenever you exchange the same fixtures in the future (though you can restore to factory mappings at any time should you need to using the [Clear All Mappings] softkey).

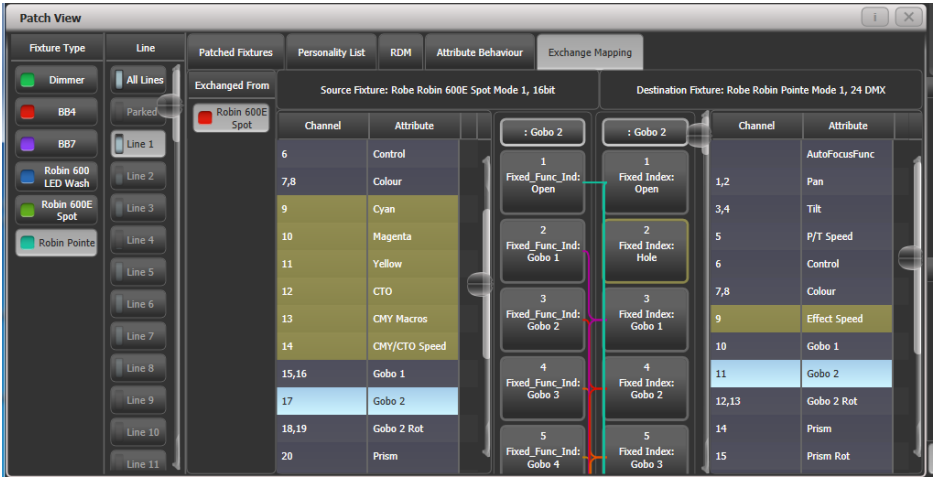


To set up mapping:

1. Press <Open/View> then <Patch> to show the Patch View screen.
2. Select the Exchange Mapping tab.
3. In the leftmost column, click the fixture type of the new fixture which you have changed to.
4. The view shows the old fixture on the left and the new fixture on the right with attributes listed for both fixture types. You can sort the list either alphabetically or in DMX channel order using the [Sort] context menu option.
5. Select an attribute to show the mapping. The mapped attribute on both fixtures will highlight in light blue. Brown controls are not mapped. The centre of the view shows the individual functions of the selected attribute, and coloured lines show how these map between the fixtures.
6. To map a function, click on a source function then a destination function. Any previous mapping will be removed. You can map multiple source functions to a single destination function.
7. To unmap a function, double click the source function. If there are multiple sources mapped, double click the destination function.
8. To move a mapping, click the existing destination, then click the new destination.

- Where a fixture has been exchanged from more than one source fixture you can switch between them by selecting the relevant source fixture under the 'exchanged from' column.
- When you change the mapping, the 'Unsaved Changes' options will pop up at the bottom of the screen. Here you can store the new mappings by pressing Apply, forget the changes by pressing Cancel or restore all mappings to Avolites factory default by pressing Reset. All these actions have to be confirmed by pressing the [Confirm] softkey.

Range Mapping



If the destination function has a range (for example 0-100%) you can adjust the range to which the source function is mapped.

Where multiple source functions are mapped to a single destination function with a range, separate destination buttons are shown allowing you to set a different destination range for each source function.

To set the range, first select a destination function, then click the Edit Ranges option at the bottom of the window. Then select the function whose range you wish to change. (Note that it is only possible to adjust the range of a mapped function. Any functions that are not mapped or are not ranges will grey out). You can then adjust the maximum and minimum values for the range either by wheel, by touching the wheel view on touch consoles or by selecting the relevant softkey and entering the value.

Once complete, click Apply then [Confirm] to commit the changes or [Cancel] then [Confirm] to forget.

6.3.10 Updating Patched Personalities

This option allows you to update the personality for a fixture used in your show. Normally a copy of each fixture personality in the show is saved in the showfile, so when you update the personality library (Section 20.1.2) on the console it does not update fixtures which are already patched.

- It's a good idea to save your show before using Update Personalities, then you will be able to undo any changes if you change your mind or have problems.

1. Install the latest personality library on the console or computer (see Updating the Personality Library (Section 20.1.2))
2. Enter patch mode by pressing <Patch>.
3. Press [Edit Fixtures].
4. Press [Update Personality].
5. Titan shows all fixture types which are patched in the show and which it has updates for in the installed fixture library. Select the type(s) you want to update, or click [Update All] to update all patched fixture types to the most recent version in the library.

- Updating a number of fixtures may take a little while.

6.4 Copying

6.4.1 Copying or moving a patched fixture

Using the <Copy> or <Move> buttons you can make a copy of an existing fixture or move it to a new handle. You cannot link fixture handles like you can with cues. You can copy or move multiple fixtures in one operation.

Fixture copying is very useful if you need an additional fixture of a type you've already patched and programmed because the new copy will come complete with all the cues and palettes of the original fixture

you've copied. The copied fixture will be "Parked" (have no DMX channel allocated) so you will need to set an address before you can use it (see changing the patch section (Section 6.3))

Move is useful for tidying up the console.

1. Press the <Copy> or <Move> button (on consoles which don't have a **Move** button press <Avo> and <Copy>).
2. Press the Select button of the fixture you want to copy/move. You can select multiple fixtures - use the <And> button to add more fixtures to the selection.
3. Press the empty Select button where you want it to go.

- The <Menu Latch> button latches the Copy or Move menu, so you can keep copying or moving things without having to keep pressing the <Copy> or <Move> button. Press again to unlatch.
- The [Retain Layout] or [Bunch Up] option is used when copying a group of fixtures with empty handles in the group - you can either keep the empty handles, or bunch up the used handles together. There is also a [Bunch Up With Offset] option which allows you to leave a gap in the DMX channels, if you are running a show where you need to exchange fixtures to ones which use more DMX channels.
- When in Copy mode, option [Copy Legends] can be changed to [Don't copy legends] so that the copied fixtures are given default legends.
- When in Move mode, [Swap Items if Required] will attempt to reposition any existing handles which are in the way of the move. This is useful when rearranging buttons on a page which is nearly full.

6.4.2 Deleting a Patched Fixture

You can delete a fixture or dimmer from a button if you patched it accidentally or if you change your rig and want to use the button for something else.

All programming for the fixture is also deleted. You cannot undo deletion of a fixture or get the programming back by repatching a fixture to the same handle. If you might need the fixtures again later, move them to an unused fixture page.

1. Enter Patch mode by pressing the <Patch> button.
2. Press the <Delete> button.
3. Press the Select button of the fixture you want to delete.
4. The button (if a touch button) will light up red and the console asks for confirmation. Press the Select button again to confirm.

- You can delete a range of fixtures in one operation.

6.5 Fixture Personality Options

Titan uses fixture personalities to tell the console how to operate each type of fixture. Avolites have created personalities for most fixture types in the known universe, but as new fixtures are being created all the time, you may need to add a new fixture personality. See the personalities section (Section 20.1) for details of how to find personalities if the console does not have a personality for the fixture you are using.

There are also various options you can set which affect how the fixture works. All of the options below can also be set from the Patch View window.

6.5.1 Swap Pan and Tilt

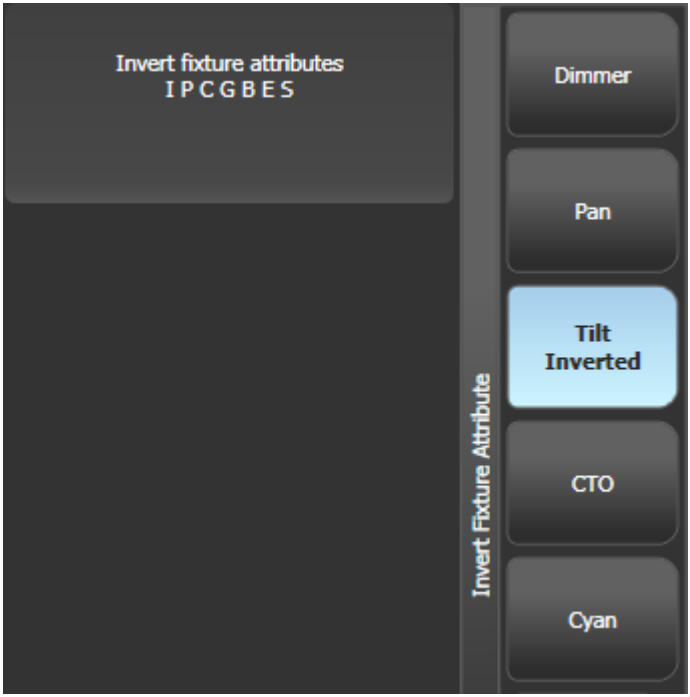
This allows you to make the pan channel control tilt and the tilt control pan. This can be useful for fixtures rigged in strange orientations.

1. Press <Patch>.
2. Press [Edit Fixtures].
3. Press [Swap Pan and Tilt].
4. Select the fixtures to be pan-tilt swapped. Press [Pan and Tilt …] to select either [Swapped] or [Normal] for the selected fixtures.
5. Press <Exit> when finished.

6.5.2 Invert Attributes

This option inverts individual attributes of fixtures. Useful if you have a fixture which pans right when the rest pan left, saving a trip up the rig to set fixture options.

1. Press <Patch>.
2. Press [Edit Fixtures].
3. Press [Invert Attribute].
4. Select fixture(s) to be changed.
5. Select the attribute to invert from the softkeys. The display shows [Inverted] when the attribute is inverted.
6. Press <Exit> to finish.



- You can change the invert on multiple fixtures by selecting more than one, but the “Inverted” display will not show if there is a mixture of inverted and non-inverted fixtures in the selection.
- Some attributes cannot be inverted.
- Invert can also be set from the Attribute Behaviour tab of the Patch View window.

6.5.3 Attribute Limits

You can set upper and lower limits for any attribute. This can be useful for example to limit the pan/tilt movement of a fixture, or if a fixture has a combined dimmer/strobe function and you only want the dimmer part of the operation.

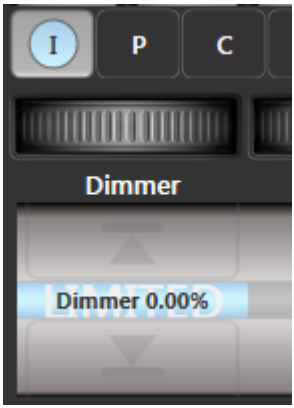
Attribute limits are set either from the Edit Fixtures menu or using the Attribute Behaviour tab of the Patch View window.

1. Press <Patch>.
2. Press [Edit Fixtures].
3. Press [Set Limits].

4. Select the fixtures to be set.
5. Use the softkeys to select which attributes are to be set, then select upper or lower limit.
6. Input a percentage value for the limit value, or press [Set To Current Value]. To remove a limit press [Remove Limit].
7. Press <Exit> when finished.

From the Attribute Behaviour tab, use the context buttons to set Attribute Limits.

It is still possible to put values into the programmer outside the limits. A “limited” watermark will appear on the wheel view behind an attribute when it is being limited.



6.5.4 Fixture Offset

You can set an offset to any attribute of any fixture. The normal use for this is to correct pan/tilt positions when fixtures are rigged in a different orientation to how they were programmed. The offset is applied to channels just before final output.

There are 4 ways to set an offset:

- Select fixture, <Locate>, then adjust attributes to the desired locate value. Then press <Record>, <Locate>, [Update Offset]. This does not change the actual locate value but sets the difference between the locate position and your set position as the offset. This is an easy visual way to set the offset.
- You can also set offsets using palettes. Select fixture, apply palette, adjust fixture to desired values then press <Record>, select the palette you have applied and click [Update Offset]. Again this does not change the palette, but sets the difference between the palette and the position you changed it to as the offset value.
- In the Patch View window, in the Patched Fixtures list there are cells for Pan or Tilt offset

- In the Patch View window, in the Attribute Behaviour tab you can select [Offset] from the context menu buttons. This lets you view or adjust offsets set by the first two methods.

6.5.5 Fixture / Attribute curves

Curves set how an attribute behaves over the full range of values. They are most often used for dimmer attributes to set the way the dimmer level follows a slider, but can be applied to any attribute.

Curves are set either from the Edit Fixtures menu or using the context buttons on the Attribute Behaviour tab of the Patch View window.

1. Press <Patch>.
2. Press [Edit Fixtures].
3. Press [Set Curve].
4. Select the fixtures to be set.
5. Use the softkeys to select which attributes are to be set.
6. Use the softkeys to select the type of curve required. The normal setting is Linear.
7. Press <Exit> when finished.

See the curves section (Section 19.7) for details of the different curves available.

6.5.6 Freeze Fixtures or Attributes

This option allows you to freeze individual attributes of a fixture, or to freeze the whole fixture. Attributes or fixtures which are frozen are not affected by playbacks or by the programmer.

1. Press <Patch>.
2. Press [Edit Fixtures].
3. Press [Freeze Fixture or Attribute].
4. Select the fixtures to be frozen/unfrozen.
5. Use the softkeys to select which attributes are frozen, or to freeze the whole fixture. Frozen attributes are indicated on the softkey.
6. Press <Exit> when finished.

- Freeze can also be set from the Attribute Behaviour tab of the Patch View window.
- A “Frozen” watermark is shown on the wheel display when an attribute is frozen.

6.5.7 Editing the Personality

Sometimes you may want to modify the way a fixture behaves, or you may find a fixture personality contains errors and needs editing. You can edit personalities directly on the console.