7 Controlling Fixtures

7.1 Selecting Fixtures

When you are programming a show, and sometimes when you are running a show, you need to manually control the fixtures and dimmers to set the intensity, position, colour, etc. To do this you first select the fixtures you want to change. The following section (Section 7.2) tells you how you can set the attributes of those fixtures to get the look you want on stage.

7.1.1 Selecting Fixtures and Dimmers for Control

To select which fixtures or dimmer channels you want to control, you use the Fixture Select buttons in the Fixtures window. You can also select items using Layout windows, see Layouts (Section 7.5). You can select fixtures or dimmers individually, or several at once. You can also put fixtures into Groups (Section 7.4) which allow you to quickly select different combinations of fixtures.

If the fixture is patched on a fader handle, press the **Select** button to select the fixture.

1. Press the Select buttons for the fixtures you want. Touch buttons will light up pale blue when selected, physical buttons will light brightly.
2. To select a range of fixtures, slide your finger across the touch buttons to draw a selection box. For fixtures patched on faders, hold down the Select button for the first fixture then press the

Select button for the last fixture.

Here are some other useful things to know:

- Press <Locate> to light up the selected fixtures in open white and move them to a central position. Locate options are described in detail in the next section (Section 7.1.2).
- You can deselect a fixture by pressing the select button again.
- In the top bar of the screen, the console will show you which fixtures are currently selected.
- Press <Clear> (right of numeric keys) to deselect all fixtures and remove all changes from the programmer. See the next section (Section 7.1.3) for more Clear options.
- Once you have changed any attribute, pressing a Select button will deselect all fixtures and start the selection process again. All changes you made to fixtures (since you last pressed <Clear>) stay in the programmer. Once a fixture has been changed, Fixture buttons show a darker blue. The picture above shows the first two fixtures selected, with the next three in the programmer and the others unselected.
- You can select fixtures on another page by touching one of the page buttons to the left of the fixture buttons, if you have 'Pages' set to Show (using the context button). Otherwise you can use the scroll slider to show more buttons. On fader handles, Page buttons are provided to change pages – on the Pearl Expert these are above the numeric keypad, on other consoles they are next to the faders.
- Using Key Profiles (Section 19.4) you can set the fixture touch button to latch mode so that it turns the fixture's dimmer channel on (like putting a preset fader to full).

7.1.2 Setting Fixtures to a Start Position (Locate)

The <Locate> button is used to put the fixture into a known position with light coming out, so that you can start programming it.

A quick press of the button will move all selected fixtures to a central position and reset all the attributes so that you get a white light. However you sometimes might not want to move the fixture, or may want to keep some other attributes unchanged. By holding down the <Locate> button rather than a quick press, you get some more options:

- You can mask off some of the Locate settings (such as only turning the fixture on, but not changing its position or colour) by holding down <Locate> and pressing [Set Mask to Exclude All]. Then (still holding <Locate>) turn on the Attributes you want to change using the Attribute buttons. Only the lit attributes will be changed by Locate. Pressing the <Options>/<Attribute Options> button will clear the mask.

- Option [Auto Reset Mask] sets the mask to be automatically reset to include everything each time Locate is pressed, or you can toggle the option to [Remember Mask] which will keep the mask setting you used last time.

- Option [Clear/Don't Clear Located Attributes] sets whether the attributes changed by the Locate function will be saved into any cues you store. If the option is set to "Clear" then the Located attributes will not be stored in the Programmer unless you modify them using the wheels. This is useful if for example you want to program a cue which sets the position of fixtures, but does not turn them on. The <Locate> button will light up the fixtures for programming, but the lit state will not be stored in any cues you save.

> To quickly locate **without changing pan/tilt**, hold <Locate> and press the Pan/Tilt (or Position) button, then release <Locate>.
>
> To quickly locate **pan/tilt only**, hold <Locate>, press <Options> (<Attribute Options> on some consoles), then press <Position> (<Pan/Tilt> on some consoles), then release <Locate>.

Changing the Locate State

You can change the default locate state of each fixture in a show by recording a new Locate State. This can be shared (you set the values for one fixture, and then it applies to all fixtures of the same type) or individual (you can set different values for each individual fixture). To store, set up the desired locate state on the fixture(s) you want to change, then press <Record>, then <Locate>. Select [Shared] or [Individual] from the softkeys. Press <Record> or <Locate> a second time to confirm.

7.1.3 Clearing the fixture selection and the programmer

The <Clear> button (on the right of the numeric keypad) is used to remove all changes from the programmer and deselect all fixtures.

Normally a **quick press** of the <Clear> button clears the fixture selection and also clears from the programmer all the fixture changes you've made. However you can change this so that the button operates in two stages when some fixtures are selected, and also there are some changes in the programmer - a **first press** of the button will clear only the fixture selection, then a **second press** will clear the contents of the programmer, or the other way round. See Action Precedence (Section 7.1.3.2) below in the Clear Options menu.

Clear button hold-down options

If you hold down the <Clear> button, then more options are available on the softkeys. These will take effect when you release the <Clear> button.

The **Set Mask** options let you choose which attribute groups are to be cleared (for example, you could leave the pan/tilt in the programmer but clear everything else). The top [Set Mask] button lets you choose which

attributes will be cleared - or you can use the attribute group buttons to set the mask. [Set Mask to Clear Nothing] disables all attributes from being cleared to give you a clean slate to start with and [Set Mask to Clear All] enables all attributes to be cleared.

You can also clear all the mask attributes by pressing the <Options>/<Attribute Options> button will clear the mask.

The **Time** mask option allows you to clear or retain the fade/delay times in the programmer for all attributes (clearing individual attributes will also clear times for that attribute, for example setting a P mask will clear position times).

When you release the <Clear> button the attributes selected in the mask will be cleared and the mask will reset to **Clear All** - you can change the Auto Reset Mask option as described below so that the mask is remembered next time you press <Clear>.

- Hold <Clear> and press <All> to deselect all fixtures, but leave the changes in the programmer.
- [Clear Options] opens a submenu showing some further options (described below).
- [Clear All Fixtures/Selected Fixtures] sets whether all fixtures will be cleared from the programmer, or if only currently selected fixtures will be cleared. This is useful if you want to clear specific fixtures.
- [Individual Attributes] gives you a list of attributes currently in the Programmer - press the appropriate softkey to clear that attribute. This lets you clear individual attributes rather than the whole group, for example you could clear Pan but leave Tilt. You can press the attribute buttons to filter what's shown in the list.
- [Clear All Programmers] will clear all programmers that are currently active on the console, including Multi-user programmers from other users, and the Titan Remote programmer.

Clear options menu

The options in the "Clear Options" submenu are as follows. These options are stored with your user profile and can also be set in the Clear tab of the User Settings (Section 19.5.12).

- [Auto Reset Mask] sets the mask to be automatically reset to clear everything each time Clear is pressed, or you can toggle the option to [Remember Mask] which will keep the mask setting you used last time.
- [Leave/Zero Preset Fader Levels] is used to set whether latched fixtures are cleared (the fixture key profile (Section 19.4.1) can be set to "Latch" mode, which turns on the fixture dimmer channel when the fixture button is touched.)
- [Freeze current values] sets what happens to LTP (non-intensity) channels you have modified. If set to [Freeze Current Values] the channels remain as you set them. If set to [Release To Playback Values] the channels will go back to how they are set in the current playback. For example: you have an active

playback making some lights green, then you select the lights and change them to red. If you press Clear with this option set to [Freeze] then the lights remain red. If the option is [Release] the lights will go back to green.

- [Clear/Maintain Cue Times] - determines whether or not to clear the cue time information from the programmer (this will not affect fixture attribute times in the programmer).
- [Clear/Maintain Rate Settings] - sets whether rate settings will be cleared from the programmer.
- [Clear Direction] - sets whether direction will be cleared from the programmer.
- [Action Precedence] - Sets a two-stage action for presses of the <Clear> button:
  - Selection With Programmer: **(default)** Any press of the button clears both the fixture selection and all fixture changes in the programmer
  - Selection Then Programmer: If any fixtures are selected, fixture selection is cleared on button press. If no fixtures are selected then the programmer is cleared.
  - Programmer Then Selection: If there are any changes in the programmer, then the programmer is cleared on button press. If there's nothing in the programmer then fixture selection is cleared.

> If you type a number then press <Clear>, HTP values in the programmer will fade out over that time, for example 5 <Clear> would fade over 5 seconds. This can be very useful if you are trying to be subtle when making changes during a show.

Directly removing attributes from fixtures

You can use the Channel Grid (Section 7.3.1) window to selectively view and remove attributes from fixtures.

7.1.4 Fixtures with Multiple Cells/Sub-Fixtures

If a fixture has multiple cells of control (for example an RGB LED batten) and its personality supports it, you can select and control the fixture either as a whole or as independent cells. This is particularly useful when using Shapes or the Pixel Mapper.

If you select the fixture using the handle it is patched on, all cells of the fixture will be controlled together.

You can use the buttons which appear at the top of the attribute editor window to select the main fixture, or individual cells for control (double press <Open/View> to open the Attribute Editor window from the window select buttons).

You can also use <Unfold> to expand the cells onto individual select buttons. In the Fixtures workspace, the current page of fixtures will be replaced by select buttons for each individual fixture cell. On fader handles, the unfolded fixture cells will start at handle 1.

There are two ways to unfold fixture cells:

- Press <Unfold> then select range of fixtures. The cells will immediately appear on the handles.
- Select fixtures, press <Unfold>, then press [Selected Fixtures]. This method allows for non-consecutive fixtures to be unfolded.

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

You can also use the numeric keypad to quickly select cells. The syntax is as follows: (<THRO> is called Through on some consoles)

Keypresses	Selection
<.>	All sub-fixtures of selection
n <.>	All sub-fixtures of fixture **n**
<.> <THRO> <.> **j**	Sub-fixtures 1 - **j** of all selected fixtures
n <.> <THRO>	All sub-fixtures of fixture **n** through last consecutive of that type
n <THRO> <.> **j**	Shorthand for above
n <.> <THRO> **i**	Sub-fixtures 1 - **i** of fixture **n**
<.> **m**	Sub-fixture **m** of all selected fixtures
n <.> <THRO> **i** <.> **j**	Sub-fixtures 1 - **j** of fixtures **n** - **i**
<.> **m** <THRO>	Sub-fixtures **m** through last of all selected fixtures

Keypresses	Selection
n <.> **m**	Sub-fixture **m** of fixture **n**
<.> **m** <THRO> <.> **j**	Sub-fixtures **m** - **j** of all selected fixtures
n <.> **m** <THRO>	Sub-fixtures **m** through last of fixture **n**
<.> **m** <THRO> **j**	Shorthand for above
n <.> **m** <THRO> **i**	Sub-fixtures **m** - **i** of fixture **n**
n <THRO> **i** <.>	All sub-fixtures of fixtures **n** - **i**
n <.> **m** <THRO> **i** <.>	Sub-fixture **m** through last of fixtures **n** - **i**
n <THRO> **i** <.> **j**	Sub-fixture **j** of fixtures **n** - **i**
n <.> **m** <THRO> **i** <.> **j**	Sub-fixtures **m** - **j** of fixtures **n** - **i**
n <THRO> <.> **j**	Sub-fixture 1 - **j** of fixture **n**
n <.> **m** <THRO> <.> **j**	Sub-fixtures **m** - **j** of fixture **n**

- Fixture cell selection state will be saved with a group, this provides a quick way to select cells / sub-fixtures without having to use the Attribute Editor or Unfold.

7.1.5 Selecting Fixtures and Dimmers by number (Channel)

In some situations, for example when programming lots of dimmers, it can be easier to type in the dimmer channels you want to program. The Channel menu allows you to do this for dimmers or fixtures. To access the Channel menu, press the <Fixture> button on the top left of the numeric keypad. You can also simply start typing numbers on the keypad, when you press Through, And or @ then the Channel menu will be shown.

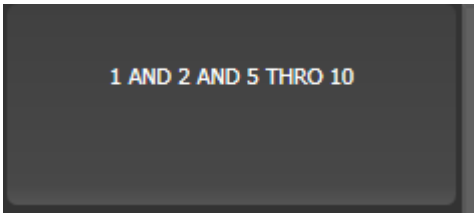
Through, And and @ are provided as softkey functions or (depending on console) are buttons adjacent to the numeric keypad.

Fixtures may be selected by User Number, Handle Number or DMX Address, as set by the option on Softkey A.

When using the Channel menu it is helpful to latch it by pressing <Menu Latch>.

- To select a fixture, type the number and press <Enter>.
- To select more than one fixture, press the [And] softkey between each number. For example 1 And 2 And 5 <Enter> will select 1, 2, 5.
- To select a range of fixtures, press [Through]. For example 1 Through 8 <Enter> will select 1-8. If you miss out the last number it will select all remaining fixtures of the same type.

- To miss out fixtures in a range, use [Not], for example 1 Through 4 Not 3 <Enter> will select 1, 2, and 4.
- The @ softkey sets a dimmer level to the selected fixtures, for example 1 Through 8 @ 5 <Enter> will set 1-8 at 50%. (You can choose whether 50% is entered as “5” or “50” in the User Settings (Section 19.5) - When you press @ there are softkey options for Full, Off and +/- (increase or decrease brightness).
- You can work with Groups using the Group button, for example Group 1 And Group 2 Not 5 <Enter> will select all fixtures in group 1 and group 2 except for fixture 5.
- You can use <Locate> instead of <Enter>, to select fixtures and locate them. For example 1 Through 4 <Locate> will select fixtures 1 to 4 and locate them.

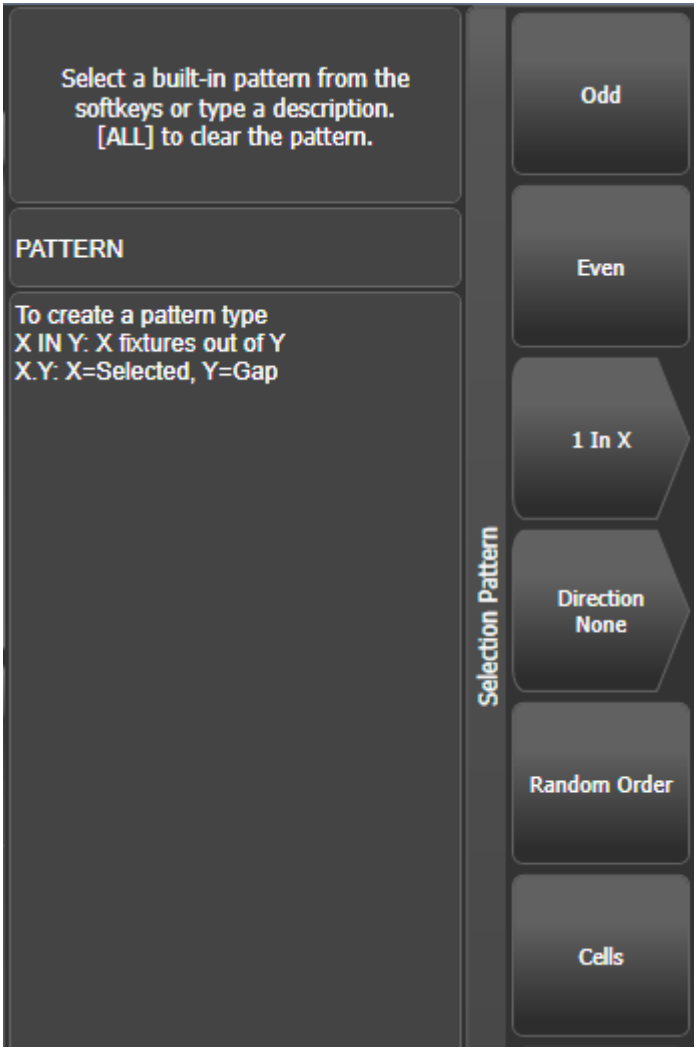


- When entering a command, the command line is shown on the display. You can go back using the grey Back button and you can abandon the line using the grey @ button.
- The AND, THRO and @ functions are also provided on the grey buttons either above or below the numeric keypad, as printed on the legend next to the buttons.

7.1.6 Selecting Fixtures using a Pattern

When programming you will often want to select patterns of fixtures from within a Fixture Group (Section 7.4.1) or a range of manually selected fixtures. Rather than having to individually select and deselect fixtures, Titan has an easy way of selecting patterns of fixtures within a range.

1. Select some fixtures.
2. Press the <All> button (labelled Odd/Even on some consoles).
3. Select a pattern from the softkeys. Your selection is modified so you will only be controlling, say, the odd fixtures.



4. Press the <Fix +1> or <Fix -1> button to change the selection to the next stage of the pattern (<Next> and <Prev> on some consoles).
5. To end the pattern selection, press <All> twice.

- The Direction option allows you to set the fixture selection order to go in a specific direction (using the group layout). This is useful for selecting symmetrical pairs of fixtures and for quickly creating cues using Fixture Overlap (Section 10.5.1).

- Direction will return to “None” when you press Clear. You can change this by setting [Clear / Maintain Direction] in the [Clear Options] menu (hold the Clear button down to see this option).
- For example, if you are programming a chase using 16 fixtures and you want every 4th fixture to do the same thing, you just select the 16 fixtures, then press <All>, then [1 in x], then [1 in 4]. You will see that the 1st, 5th, 9th and 13th fixtures are now selected, and you can create the look for those fixtures. Then press <Fix +1>, and the 2nd, 6th, 10th and 14th fixtures will be selected ready for programming. After you have programmed the fourth set of fixtures, the pattern will go back to the first position again, until you press <All> twice to end.
- You can enter your own patterns using the numeric keypad and softkeys, for example “2” [In] “6” <Enter>.
- You can also get to these options by holding down a group selection button for the fixtures.
- When using a pattern selection, for example 2 in 10, holding down the <Avo> button while pressing <Fix +1> or <Fix -1> will jump the selection forward or backward in blocks.

7.1.7 Selecting Fixtures which are in a Playback

To select fixtures which are controlled by a particular playback use the **Select If** function.

To select fixtures used in a playback, press <Select If> then the playback button. (If the console does not have a <Select If> button, press <Fixture> then [Select If]. The <Fixture> button is at the top left of the numeric keypad and may be labelled <Channel> on older consoles.)

You can also use <Select If> with the <@> and <Through> buttons and the numeric keypad to select fixtures set to a particular intensity.

<Select If> <@> 5: select fixtures set to intensity 50%

<Select If> <@> <Through> 5: select fixtures with intensity 0 – 50%

<Select If> <@> 5 <Through>: select fixtures with intensity 50% – Full

<Select If> <@> 5 <Through> 7: select fixtures with intensity between 50% and 70%

<Select If> <@> <@>: select fixtures with intensity above 0.

Intensity levels may be input as 0-9 or 00-99 depending on the User Setting (Section 19.5) [Channel Levels Set In].

7.1.8 Stepping through selected fixtures one at a time

If you have selected a range of fixtures, or a group, the console has functions to step through the selected fixtures one at a time. This can make it easier to program a range of fixtures because you don’t have to select each one manually.

This mode uses the All/HiLight/Fix +1/Fix -1 buttons.

1. Select a range of fixtures or a group.
2. The <Fix +1> and <Fix -1> buttons will select the fixtures in the range one at a time (in the order you selected them). Buttons are labelled <Prev> and <Next> on some consoles.
3. The <All> button will select all fixtures in the programmer (everything which has been selected since <Clear> was last pressed).

- The HiLight function can be used to highlight the output of the selected fixture (make it brighter on-stage), see the next section.

7.1.9 Highlighting the Selected Fixture with Prev/Next

When stepping through a fixture selection using <Fix +1>/<Fix -1>, you can highlight the selected fixture on stage. This makes it very easy to see which fixture you are controlling. The other fixtures in the selection go to a dimmed "lowlight" level.

- Press <HiLight> to enable highlight mode. Press <HiLight> again to disable. When you are in highlight mode, the highlighted attribute is overridden and any changes you make to it are not stored in the programmer (so if the highlight uses intensity, you cannot change the intensity of the fixture).
- You can change the levels used for Highlight/Lowlight by pressing <Record> then pressing <HiLight>, [Store Highlight State] or [Store Lowlight State].

7.1.10 Turn Off Unselected Fixtures (Remainder Dim)

To turn off all unselected fixtures use the Remainder Dim function by pressing <Rem Dim> (<Avo>+<All>). The zero intensity is placed in the programmer and will be recorded into any cue. This is useful when removing fixtures from cues.

7.2 Changing Fixture Attributes

Once you have selected the fixtures you want to operate, you then have various options for controlling them.

7.2.1 Changing Attributes Using The Wheels

"Attributes" are the functions of the fixture, like pan, tilt, colour, dimmer, etc. You select which attributes you want to modify using the **Attribute Bank** buttons - Intensity, Position, Colour, Gobo, Beam, Effect, Special, FX (abbreviated as IPCGBESFX) and then set values using the wheels. The attributes available depend on the fixture type. Dimmer channels only have a dimmer attribute.

The touch display above the wheels shows the current attribute bank (grey background) and the current values on the wheels. The light blue circles show attributes which you have changed and which are in the programmer. The roller graphics show the different attributes which are available, which may be a percentage for a variable attribute, or named ranges for something like a colour or gobo wheel.

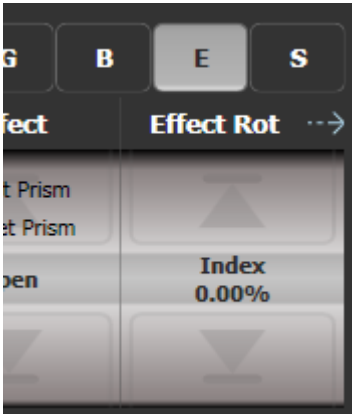
You can also set attributes using the Attribute Editor workspace window (Section 7.2.4).

> On the Pearl Expert the wheels on the Touch Wing are used instead of the wheels on the console, unless you change this using the User Settings.

Each attribute button controls several attributes, one on each wheel. On Diamond 9 and Sapphire Touch the trackball controls pan/tilt of the selected fixtures, with the ring controlling dimmer by default. You can change this by pressing the <Assign> button next to the trackball.

1. With some fixtures selected, press the button for the attribute to be changed.
2. Turn the wheels to set the attribute. The settings which are available scroll up and down on the wheel display as you turn the wheels.
   You can also touch the roller image on the screen to change the attributes up or down by one step. For continuously variable controls like a dimmer, touching the roller will set the attribute to full or zero.
3. Repeat from **step 1** to change other attributes of the selected fixtures.

Some other things to know about attributes:



- If the wheel display shows a small arrow next to the legends as shown above, this means that there are more than three attributes to control in this bank. Press the attribute button again to toggle through the attributes (for example some LED fixtures have Red, Green, Blue, Amber, White - so on a console with three wheels, when you press <Colour> you would first get Red, Green, Blue on the three wheels, then if you press <Colour> again you will get Amber and White.)
- If an attribute is in the programmer, the value in the programmer is highlighted in pale blue on the wheel display and the IPCGBESFX button also has a pale blue highlight. This provides a quick way to see which attributes are in the programmer.
- If the display above the wheels does not show the attribute when you press the button, that attribute is not available on the selected fixtures.
- The wheels operate in an “acceleration” mode. If you spin the wheel fast, the fixture changes in larger steps. If you move the wheel slowly, the fixture moves in its smallest increment.
- Holding down the <Avo> button while turning a wheel puts the wheel into “Fast” mode. When in this mode, a single rotation of the wheel changes the attribute you are controlling over its full range. For example, if while moving the Pan wheel you hold down <Avo> the fixture will make a complete pan movement between end stops in one rotation of the wheel.
- Some LED colour mixing fixtures have a Virtual Dimmer function (using the Intensity wheel) which offers intensity control by mastering the RGB levels when the fixture itself does not provide an intensity channel.

7.2.2 Trackball (Diamond 9 and Sapphire Touch only)

The trackball normally controls Pan and Tilt of selected fixtures, with the Z-ring controlling intensity. You can assign the trackball to different attributes like this:

1. Select some fixtures having the attribute you want to assign (this is just so the wheel functions are displayed on the roller view).
2. Select an Attribute Bank so that one of the wheels is controlling the attribute you want to assign.
3. Press <Assign>.
4. Press the softkey for the function you want to assign, [Track Ball X], [Track Ball Y] or [Wheel Z].
5. Press the <@> button of the wheel which has the function you want to assign.

The attribute is assigned and the assign menu closes. To check the assignment has worked you can press <Assign> again and the softkeys should show the new attribute.

- You can also switch the trackball to control the mouse pointer on the touchscreens, see Trackball (mouse control) (Section 5.2.7).

7.2.3 Intensity wheel (Diamond 9 only)

On the Diamond 9 a dedicated wheel is provided to set the intensity of selected fixtures. A display above the wheel shows the wheel display for intensity. This wheel always controls intensity and is not changed by the Attribute Bank buttons (unless you reassign it as described below).

Below the wheel is a <Level @> button which shows the Adjust Attribute Value menu for intensity (see Adjusting Attributes with @ button).

- You can assign this wheel to control a different attribute - see the trackball section above, but at step 4 use the [Level Wheel] softkey to assign the attribute. The display above the wheel will change to show the controlled attribute.

7.2.4 Attribute Editor Window

For attributes with fixed values such as gobos and fixed colour wheels, the Attribute Editor window can be easier to work with than the wheels as you can directly choose gobos or colour slots. It also offers a colour picker window for fixtures with RGB or CMY colour mixing.

The Diamond 9 has a dedicated Editor touchscreen to show the Attribute Editor, on other consoles you open it as a workspace window - Double press <Open/View> then [Attribute Editor] from the window select buttons to show it. As a shortcut you can also show it by touching the attribute name text just below the on-screen IPCGBES buttons.

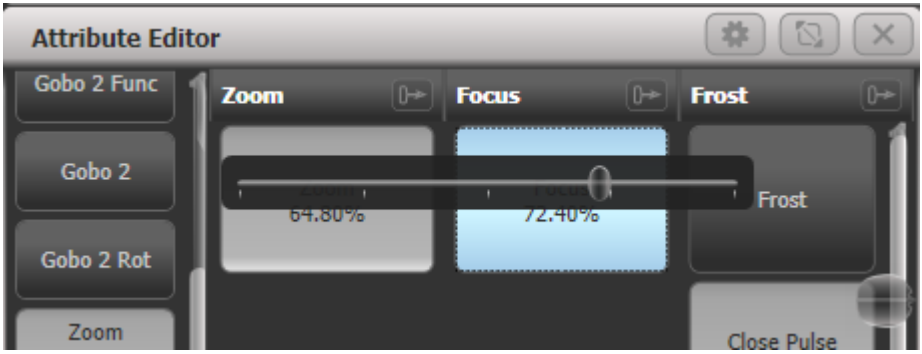
The buttons on the left of the window select the attribute to change.

The rest of the window contains buttons or controls to set the attribute value. For attributes such as gobos and fixed colours, a button is provided for each one, making selection a lot quicker than scrolling through on a wheel.

When you apply an attribute, the button turns blue to show that the attribute is in the programmer. If you touch the button again, the attribute will be removed from the programmer.

Touching the title of an attribute (such as “Gobo 2”) expands the attribute to the full window, displaying more buttons as shown below. Gobo images will be shown if the fixture personality has the information included (not all do).

If an attribute has a range of values, sliding your finger left and right on the button will show a horizontal slider which allows you to adjust the attribute.



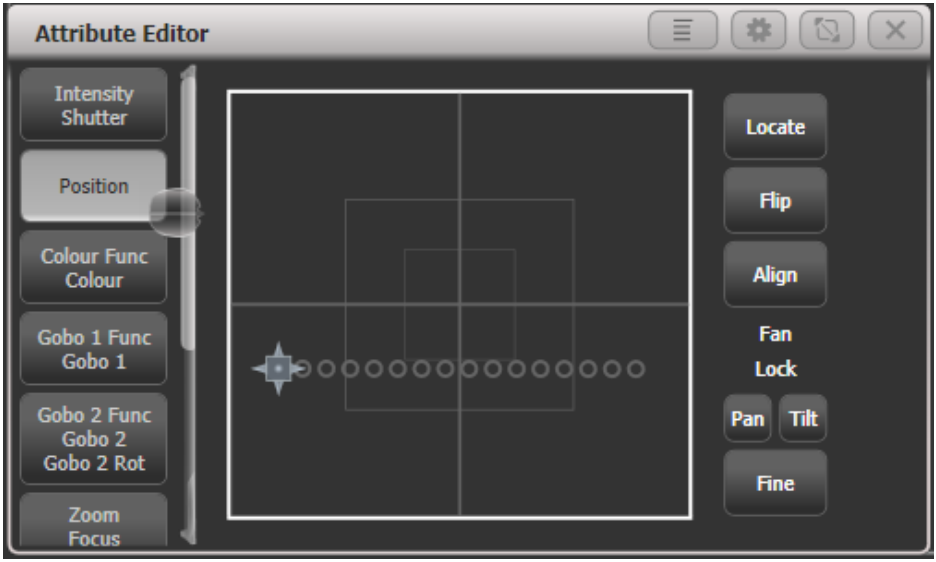
When the selected fixture has sub-fixtures or cells, buttons appear at the top of the attribute editor window allowing you to select the whole fixture (left hand button), or individual cells for control. The layout of the cell buttons matches the layout set in the pixel mapper to help you locate the correct cell on the fixture.

Some types of attribute have special displays as follows:

Intensity/Shutter

Provides an easy slider for Dimmer, also buttons for 0%, 100%, up and down 5%, and intensity locate (affects only the intensity).

Position



Provides a way to set the position from the touchscreen using an X-Y grid. Positions of selected fixtures are shown as circles on the grid which is useful to check positioning or spacing of fixtures. Other controls are provided:

- Locate sets 50/50 position (other attributes not affected),
- Flip (Section 7.2.9) sets a moving head to its opposite yoke position.
- Align sets pan/tilt to match the settings in the programmer of the most recently selected fixture. For example if you want to match the tilt of 4 fixtures to the first fixture, select fixtures in the order 2-3-4-1 and press [Align].
- Pan/Tilt lock buttons are helpful when setting positions of multiple fixtures using the X-Y grid. For example if you have 10 pan-fanned fixtures and you want to just move the tilt, select Pan lock. Otherwise the fixtures will all move to the position you click on, losing the fan effect.
- Fine button switches to fine control mode for more precise positioning.

Colour Mix: Channel

The Colour mix editor has 4 different ways of selecting colours, which are useful in different ways (on Diamond 9, and on other consoles if you resize the window to a portrait shape, the sliders are horizontal rather than vertical as shown in the pictures.)

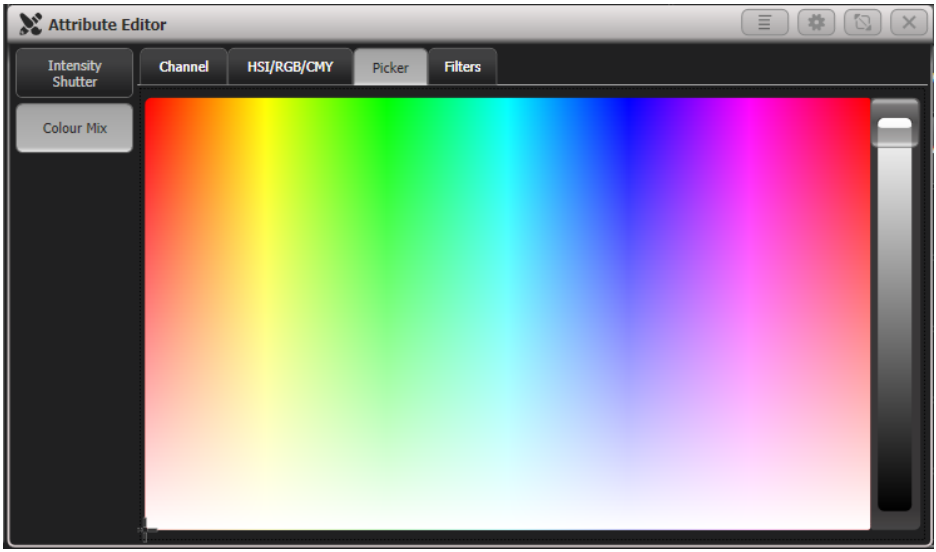
The **Channel** tab provides a colour picker, with a slider for each colour control channel in the fixture. The sliders shown will vary depending on what is provided in the fixture - this example is an ETC Lustr fixture which has 7 independent LED emitter colours. This mode is useful to obtain colours such as tints of white or UV/Congo Blue which are hard to mix from a picker or colour wheel.

Colour Mix: HSI/RGB/CMY

HIS/RGB/CMY provides a colour wheel with interactive sliders for changing Hue/Saturation/Intensity, Red/Green/Blue, and Cyan/Magenta/Yellow. Changing any slider or clicking on the wheel will adjust all other sliders to match that colour, allowing you to make easy small adjustments of colour using whichever control is easiest; for example use the Saturation slider to create a pastel version of a colour without affecting the hue.

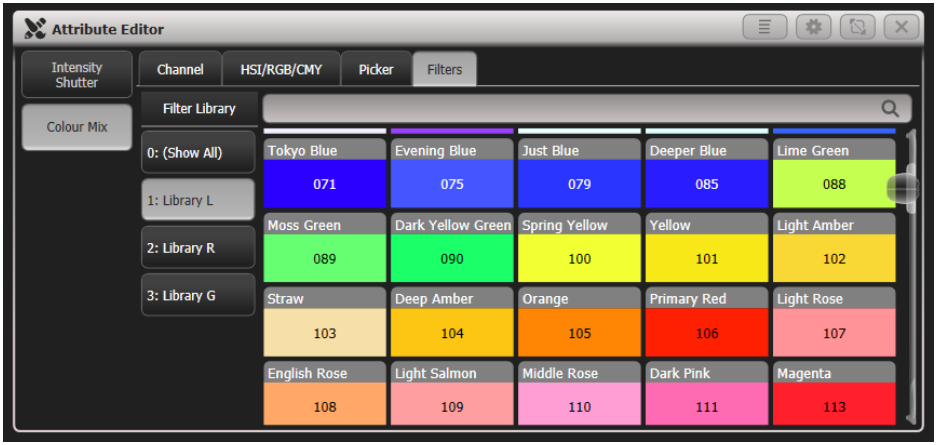
All types of slider work for all fixtures, so a fixture with CMY mixing can still be controlled using the RGB or HSI sliders.

Colour Mix: Picker



This is the classic colour picker from earlier versions of Titan which provides a picker for hue and saturation, with a slider on the right hand side to set the intensity.

Colour Mix: Filters



Lets you pick a gel/filter colour from commonly used ranges of filters. You can search for a particular colour by name or by number using the search bar. There is a context menu button to [Order Filters by Number] or [Order Filters by Hue].

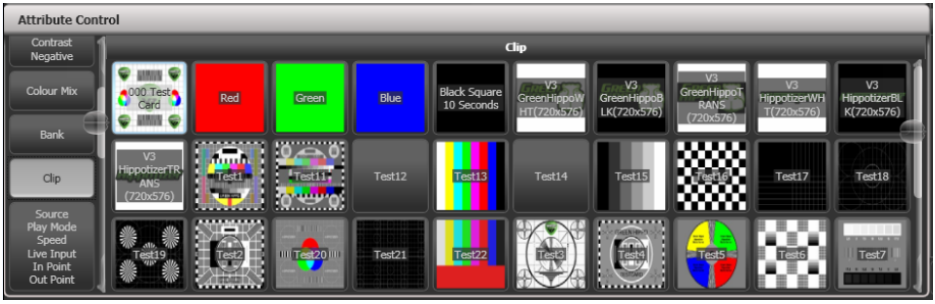
- Using the keypad you can directly select a gel/filter by its reference number by typing <@> *library number* </> *Gel number*. For example to set all selected fixtures to 106 from "Library L" you would type <@> *1* </> *106*. Or you can select fixtures as part of the command, for example 10 <@> 1 </> 106 would set the fixture with user number 10 to 106. For this command 1=Library L, 2=Library R, 3=Library G. If your console does not have a hardware </> button you will need to use an external keyboard or the touch keyboard.

> For LED fixtures with additional emitters for Warm/Cool white, Amber, UV, Lime or Cyan, Colour Mix will automatically control all the colour channels to obtain the colour. In versions previous to Titan v9 only RGB elements were controlled by the colour picker and other colours had to be set independently.

Media Servers/Active Fixtures

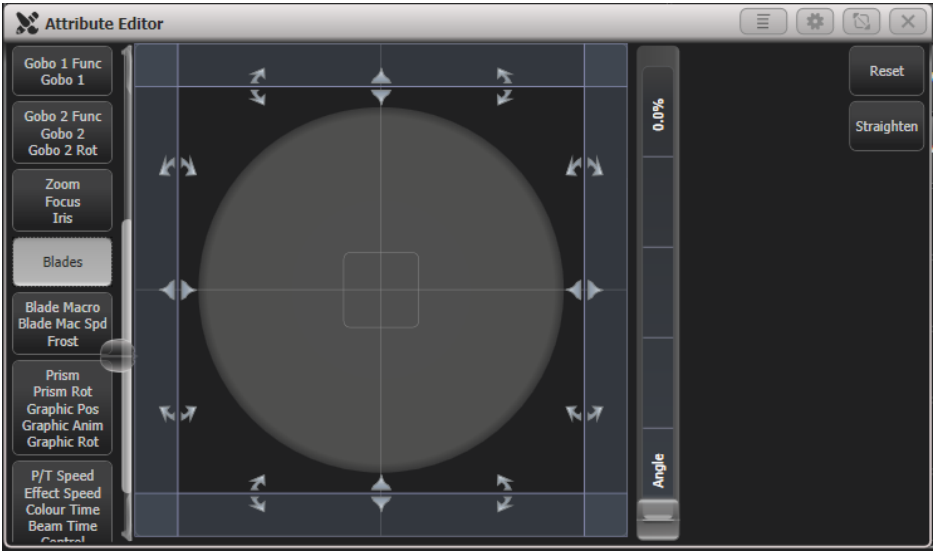
Active fixtures such as media servers will display a thumbnail of the media clip in the button. The media server must support CITP and be patched as an active fixture for the thumbnails to work.

For Ai media servers please see the Synergy (Section 15.1) section for more details of how Synergy allows you to control the setup and media playback.



Shutter Blades/Keystone

Fixtures which support keystoning or blades/shutters can be controlled graphically in the attribute window. Select and drag the corners or sides of the image to control the fixture. This control can have various different appearances depending on the control channels in the fixture.



Updated personality files may be required to support the keystone/blade functions. If the functions are not shown in the Attribute View, try downloading and installing the latest personality library, then update the personalities (Section 6.3.10) in the Patch menu.

7.2.5 Setting Attributes from the Softkeys

You can directly enter a numeric value for the attributes which are live on the wheels. You must be at the main Program menu to do this (keep pressing <Exit> until the vertical menu bar shows “Program Menu”).

Type a number on the numeric keypad then press one of the softkeys to set the value to the fixture. The Softkey legend will show what effect your value is going to have (such as [Gobo 5], or [Deep Blue]).

For attributes displayed in percent, such as Dimmer, or Colour Mix, you enter a value from 0-100 to set the percentage output (you can change the User Settings so that you enter a single digit 0-9 for 0-90% - see the Formatting tab of the User Settings (Section 19.5.10)).

For attributes where the output is divided up into ranges, such as colour wheels, you enter the index of the range you want. For example to select the 3rd colour (as displayed in the list above the wheel) you would enter 3.

You can use the <@> button by the numeric keypad to set Dimmer levels in theatre-style programming, so <@> 50 <Enter> would set selected fixtures to 50% intensity.

7.2.6 Adjusting Attributes with the @ buttons

Pressing the <@> button next to a wheel opens the Adjust Attribute Value menu for that attribute.

You can also open this menu by touching the centre of the on-screen wheel view for the attribute, or by clicking on the attribute in the Channel Grid window.

(On Tiger Touch 1 the three buttons between the wheels act as @ buttons. On the Pearl Expert you will need to use the touch screen method.).

The menu gives you the following functions:

- Select Function: gives you shortcuts on the softkeys to the possible settings for the attribute (for dimmers, a range of values is provided).
- Touch/Clear: places the attribute in the programmer or removes the attribute from the programmer
- Locate: locates the attribute (does not place in programmer)
- Release: releases the attribute
- Off: sets the attribute to Off. This temporarily disables the attribute, though its value is stored and can be restored with On.
- On: sets the attribute to On (when merged to a cue or palette, On will restore a value which has previously been set to Off)
- Freeze/Unfreeze: freeze or unfreeze the attribute

7.2.7 Attribute Groups - IPCGBES-FX

To make life a bit simpler, the console groups together attributes which have similar effects, using the letters IPCGBES-FX.

I-Intensity (dimmer, strobe shutter)

P-Position (pan, tilt)

C-Colour (colour wheel, CMY mixing)

G-Gobo (gobo wheels, gobo rotate, gobo position)

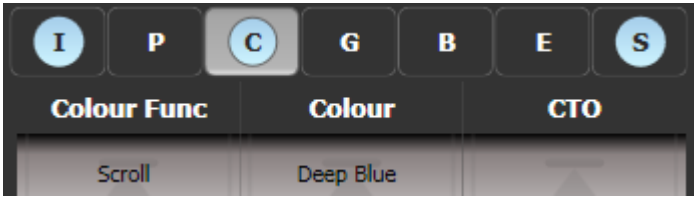
B-Beam (iris, focus, zoom, beam shaper)

E-Effects (prism)

S-Special (motor speeds)

FX-Shapes, Pixel Mapper

These groups are used to select which attributes you want to work with in many of the functions on the console, particularly when you are “masking off” certain attributes from being saved.



Above the attributes roller on the screen, the console shows you which attribute group you are currently changing (the grey box). The Attribute Group is also highlighted in blue if the programmer contains any of those attributes. For example in the image above we are currently changing Colour attributes, but Intensity and Special attributes have also been modified.

7.2.8 Align Fixtures

You can copy attributes from one fixture to another using the Align Fixtures function. This is useful for example if you accidentally left a fixture out of a cue, you can use Align to copy settings from its neighbour.

You can align multiple fixtures to others in one operation, either using groups or individual selection. If you are aligning different numbers of fixtures there are options to set how this is handled, see below.

1. Select the fixtures you want to Align either manually or using a group.
2. Press <ML Menu> then [Align Fixtures] (on Diamond 9 press <Align>).
3. Set the mask to include the attribute groups you want to copy (using the Attribute Bank buttons, or using the softkey options for exclude and include all attributes).
4. Touch the select button of the fixture or group you want to copy the settings from.
5. Press [Align].

The fixture selection order is used to determine how the aligned values are copied.

- The [Auto Reset Mask] option will always set the mask to Include All whenever you enter the Align Fixtures function. The alternative option [Remember Mask] will leave the last mask set.
- [Spread Attributes] will try to spread out the attribute changes if there are a different number of fixtures in the source and target groups (best for positions). [Repeat Attributes] will repeat the source selection on extra fixtures, or attempt to mirror the fixtures if there are fewer.
- [Add To Programmer, Matching Source] will only align the attributes which are in the programmer, [Add All Attributes To Programmer] will align all the attributes which are enabled by the mask. So for example if you want to align the tilt of some fixtures and you have set the tilt you want on an example fixture, [Add To Programmer, Matching Source] would only change the tilt; but [Add All Attributes To Programmer] would copy the pan setting from the source fixture as well.
- [Palette References Maintained] will copy palettes from the source fixtures. [Palette References Lost] will convert the palettes to absolute values in the target fixtures.
- If the fixture you are copying the settings from is also one of the fixtures being aligned, it's difficult to tell what you are doing as all the fixture buttons light up red. However if you look at the top line of the screen, there is a list of the fixtures you have selected.

7.2.9 Flip

Moving head fixtures can point at the same stage position from two possible yoke positions. Sometimes to get the fixture moving the same as other fixtures, you need to swap to the opposite yoke position and the Flip function lets you do that.

1. Select the fixtures you want to Flip.
2. Press <Fixture> then [Flip Pan and Tilt].

- The Position window in the Attribute Editor also has a [Flip] button which does this.
- On consoles with a <ML Menu> button you can also use that menu to access Flip.

The settings used for Flip are defined in the fixture personality. If Flip doesn't work you may need to update to the latest personality.

7.2.10 Fan Mode

Fan mode automatically spreads out the values on a selected range of fixtures. If used on pan and tilt, the result is spreading out "rays" of light beams. The first and last fixtures of the range are affected most, and the central fixtures are affected least. The amount of fan can be set using the attribute wheels.

As with shapes, the order in which you select the fixtures sets how the fan effect works. The fixtures you select first and last will be the ones which change most. If you use a group to select the fixtures, the order you selected the fixtures when you recorded the group is used.

The fan effect, while normally used on pan or tilt attributes, can be applied to any attribute.

1. Select the fixtures you want to fan.
2. Press <Fan>.
3. Select the attribute you want to Fan using the attribute bank buttons.
4. Set the amount of fan using the attribute wheels.
5. Turn off Fan by pressing the Fan button again when you have finished. Fan will turn off automatically if you change the fixture selection.

If you have selected fixtures from multiple groups, you can choose whether the fan effect works with or ignores the groups. For example if you have 12 fixtures across the stage in 3 groups of 4, you may want a fan of light beams spread evenly across the stage, or you may want 3 groups of separately fanned light beams.

By holding down <Fan> you can select:

- [Ignore Groups] All fixtures are fanned as one large group

- [Fan Group as Fixture] All fixtures in a group take on the same value.
- [Fan Within Group] Fan runs across individual fixtures in each group.

Holding down <Fan> also allows you to select the Curve used for the fan. The different curves allow you to obtain different fan effects.

Fan mode needs to be used on at least 4 fixtures to give good effects. If you have an odd number of fixtures, the central fixture will not change in fan mode.

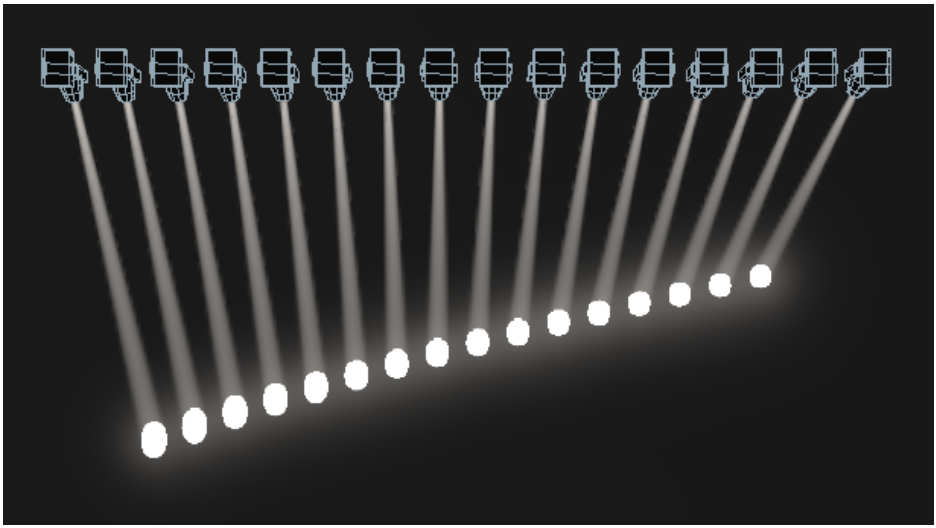
Press <Fan> again to leave Fan mode. Any effects you have set will remain in the programmer.

> It's all too easy to accidentally leave Fan mode turned on and be very confused about why the wheels aren't working properly, so turn it off as soon as you have completed the effect. To avoid this there is a User Setting (Section 19.5) 'Press and hold Fan'. If enabled, you have to hold down <Fan> to enable Fan mode.

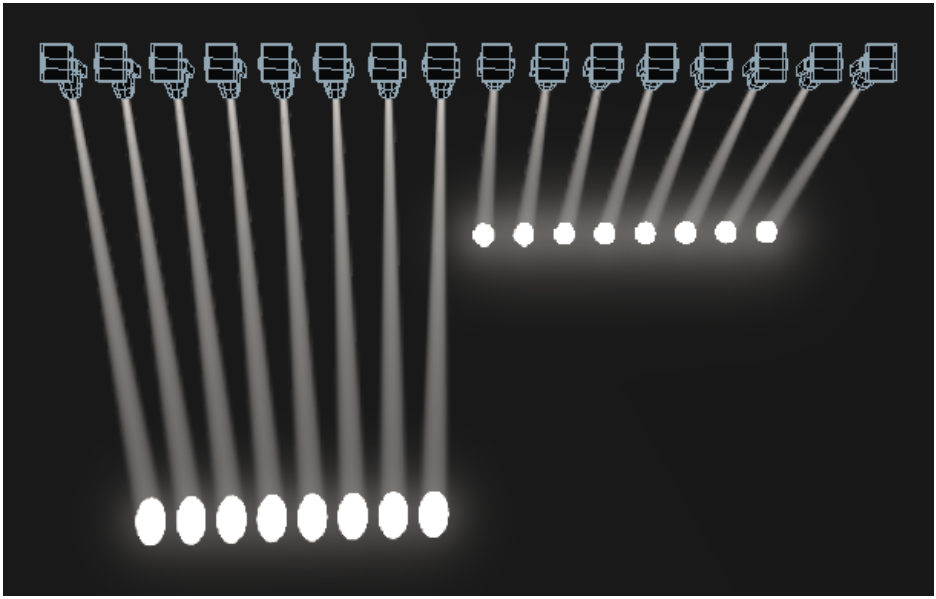
Fan Curves

You can select different curves to use when in Fan mode. Hold down <Fan> and select [Curve], the options are:

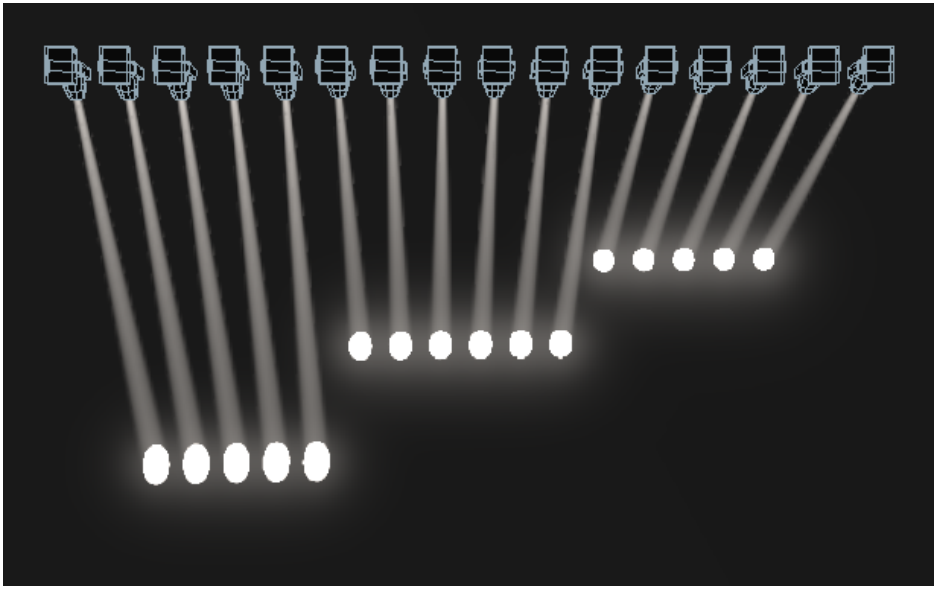
- Line: Traditional fan, the first and last selected fixture are affected equally in opposite directions, the midpoint remains unchanged. This is most useful for pan.



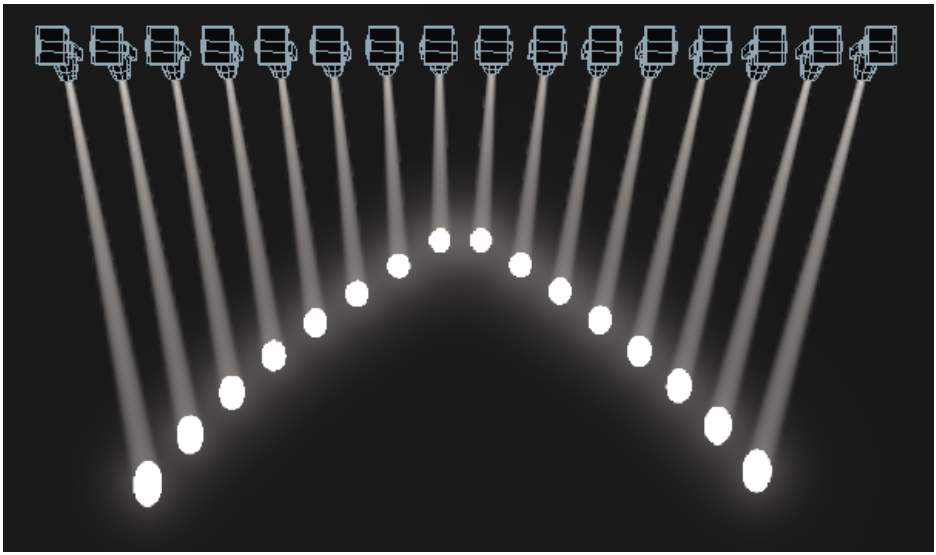
- Mirror- Divides the selection into two halves, the position in each half is the mirror of the other half



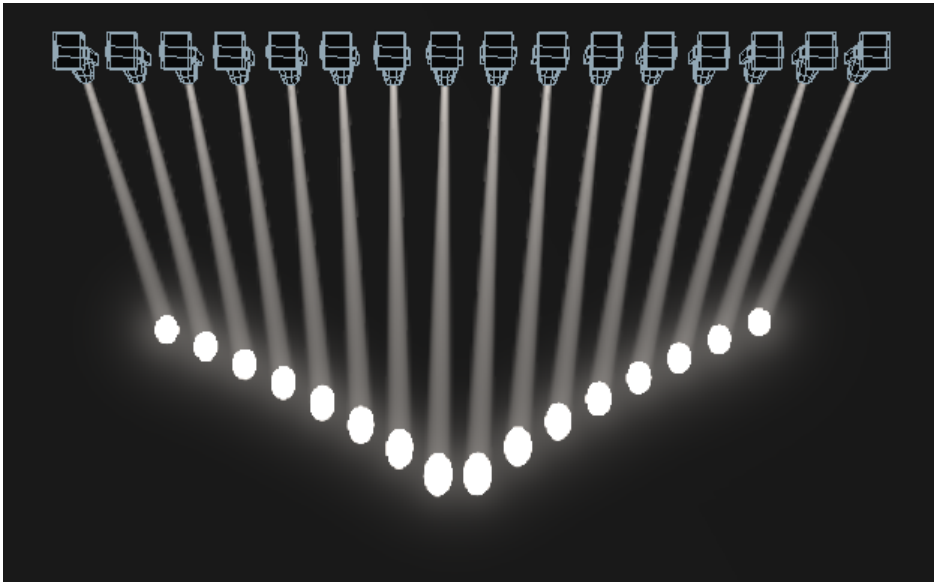
- Wings – Divides the selection into three parts, the positions in the outer two parts mirror each other and the central part does not change.



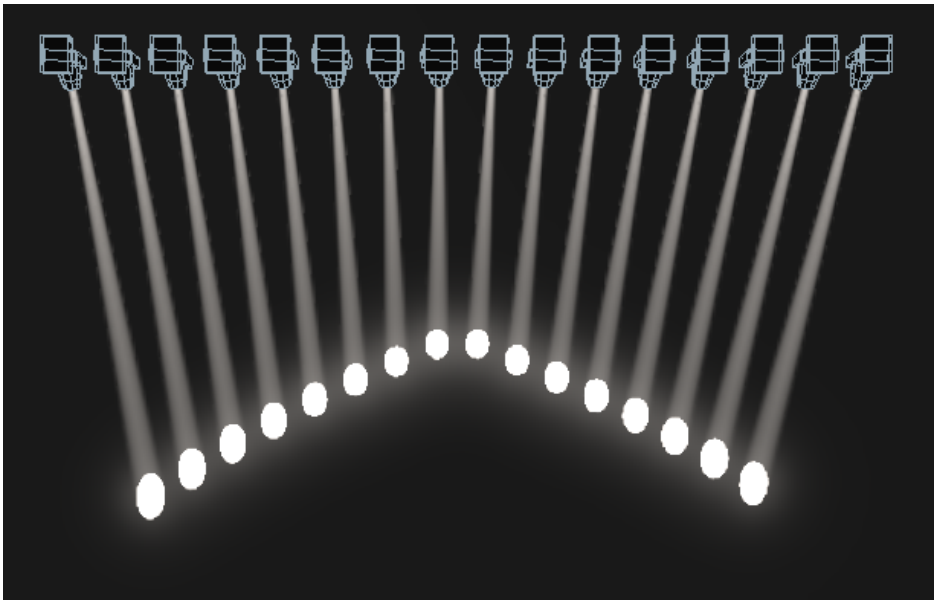
- Arrow - The first and last selected fixture are affected equally to the midpoint fixture but in the opposite direction. This is useful for colour mixing, tilt and dimmer.



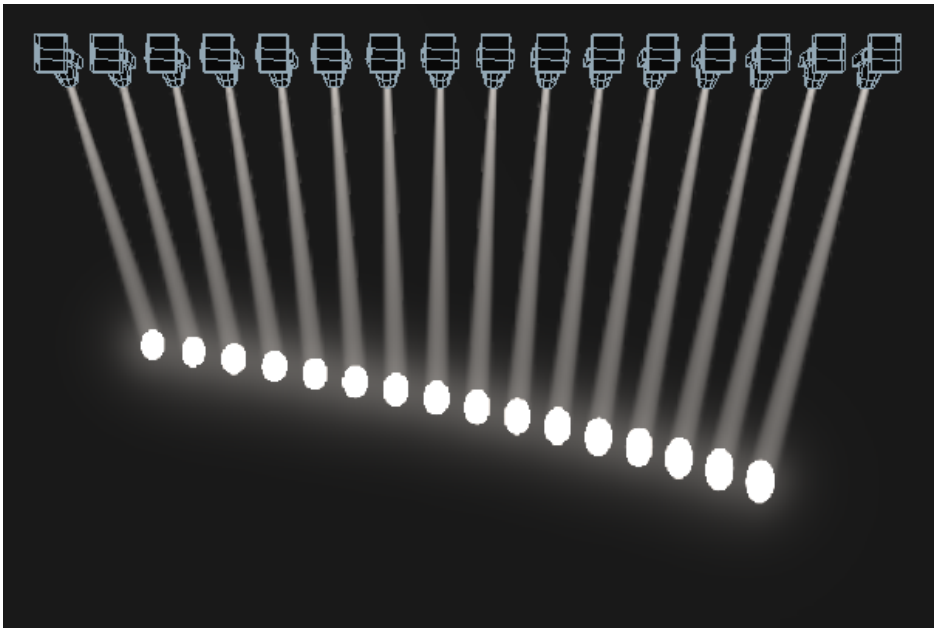
- Pull Middle - The first and last selected fixture remain at the current value, the midpoint is affected most. This is useful for colour mixing, tilt and dimmer.



- Pull Ends - The first and last selected fixture are affected most, the midpoint is unchanged. This is useful for colour mixing, tilt and dimmer.



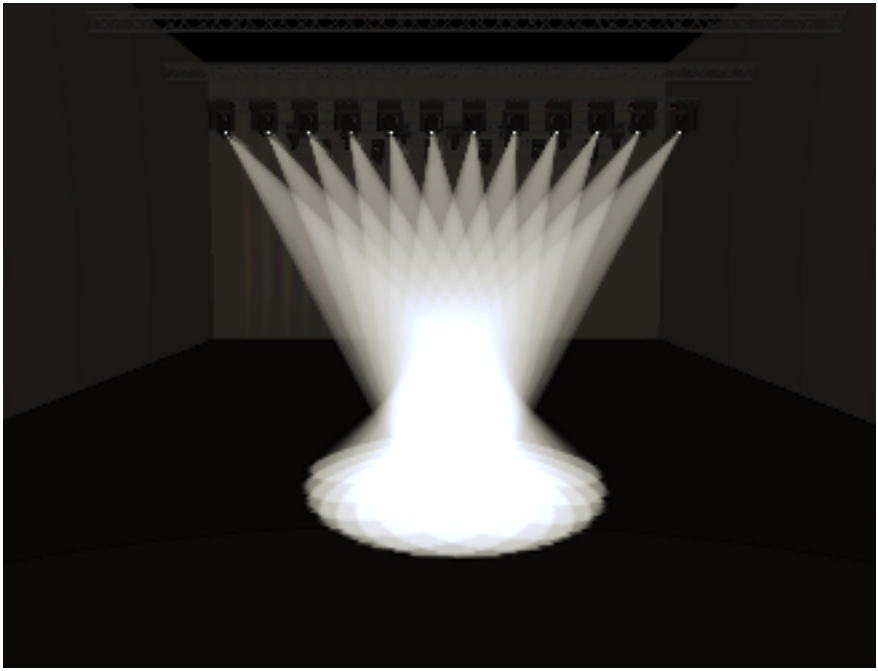
- Pull End – Like pull ends but only from one end, the other end does not change



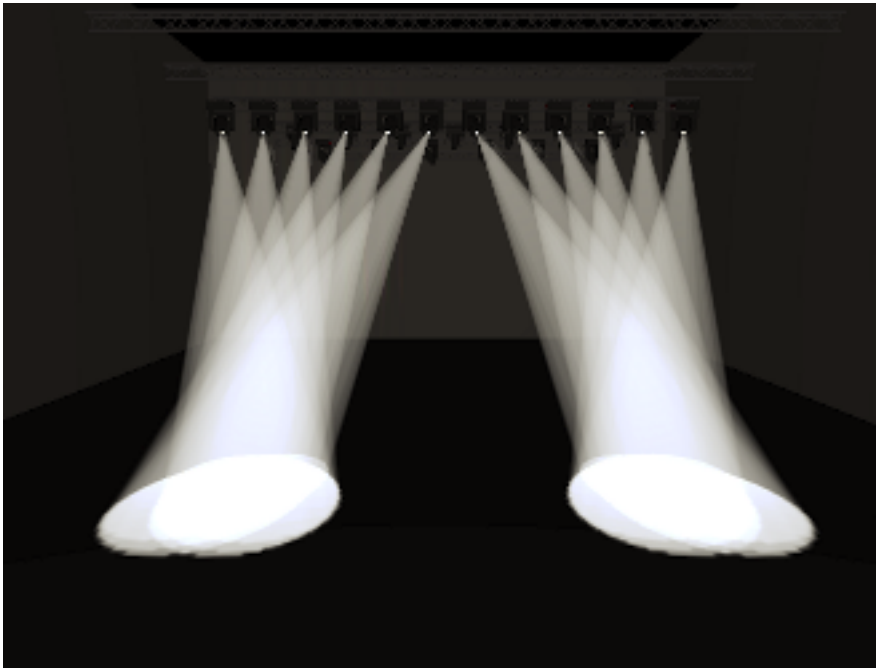
Fan Parts

When using the Fan function you can split the fan into a number of groups. Select all the fixtures, hold down <Fan> and type a number on the numeric keypad. The Fan will divide into that number of parts, for example:

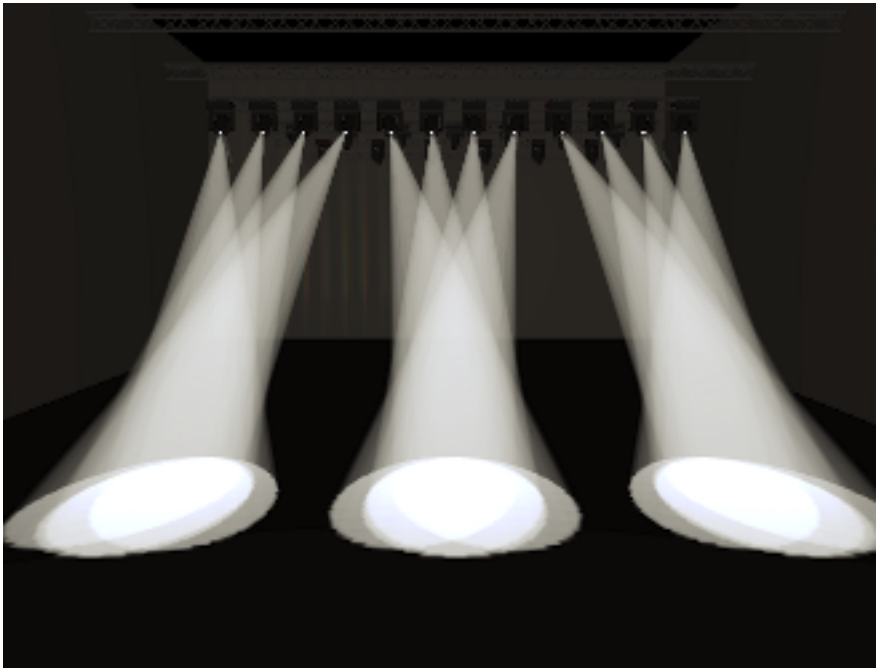
Normal (1):



2:



3:



7.2.11 Setting Fixture/Attribute Times

Fade and delay timings can be directly set for each fixture or individual attributes of a fixture. When you store the settings into a cue, the time settings will then become part of the cue.

There are a number of ways to set the times:

- You can set individual attribute times by switching the wheels to Fade Time / Delay Time mode using the [Wheels=] softkey on the root menu. The Diamond 9 has a <Fade / Delay> button to the right of the wheels to set this mode.
- Individual attribute times can also be set using a combination of the wheel @ keys and the <Time> key.
- They can also be set by selecting fixtures and entering into the attribute times submenus from the <Time> key.
- There is also command syntax that allows various options to set attribute time values - e.g. <Time> <Fixture> <Position> 5 @ 3 would set a 5s fade, 3s delay time onto the current fixture selection P group. Wheel @ keys can also be used in the syntax. Fan options are also available through syntax using THRO.

Setting a time attribute value will cause the 'in programmer' indication to light up.

The Channel Grid window has a Times context menu button which allows you to view or edit all the attribute times currently in the programmer. You can set a time to Off to temporarily disable it; the On option will restore the previous setting.

You can try out time settings by pressing <Avo> + <Time> or double tap the <Time> button. (previously the <Set> button on Titan Mobile/Sapphire Touch and the <Next Time> button on Tiger Touch/Pearl Expert).

7.2.12 Clearing Attributes Using "Off"

Once you have changed an attribute, the value you set will be in the programmer and will be stored in any cues or palettes you create. If you've accidentally changed something and don't want to store it, you can use the Off function to remove it from the programmer.

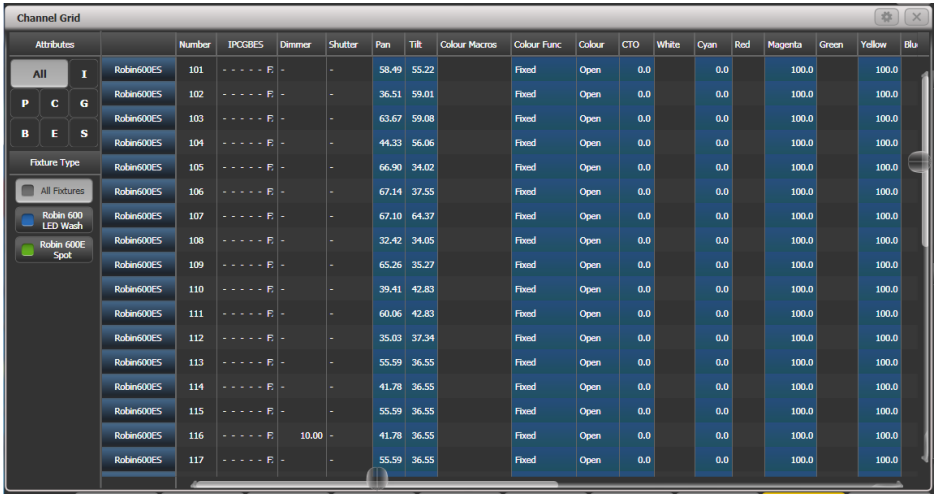
1. Press <Off> to display the Off menu.
2. Use the Attribute Bank buttons to toggle which attributes you want to change. Then press the [Attributes Off] softkey to set them to Off.
3. The softkeys also give you options to turn off active attributes, such as [Dimmer Off].

- To remove complete fixtures, select the fixtures, press <Off> then [Selected Fixtures Off].

7.3 Viewing and Editing Fixture Values

7.3.1 The Channel Grid Window

It can sometimes be useful to display and edit exactly what each fixture is doing. The Channel Grid window allows you do to that. Display it by double pressing <Open/View> then [Channel Grid] from the window select buttons.



The window can be set to different modes using the context buttons to the left of the menu. The modes are:

- All / Stage / Programmer / Selected: lets you filter which fixtures are shown in the list. Stage lists all fixtures with dimmer above zero.
- Sort: Sets the list order as User Number, Last Selected or DMX Address
- Open Intensity View: Opens the intensity view window. You can swap back to the Channel Grid by pressing the Open Channel Grid button in that window which is in the same position.
- Show/Hide Palettes: lets you show which palettes are allocated to fixture attributes
- Playbacks / Levels / Shapes / Effects / Times: Only one of these buttons can be selected, and sets what is displayed in the columns.

You can **select** fixtures by touching the fixture names on the left of the screen, or if you select any fixture values, the appropriate fixture will automatically be selected.

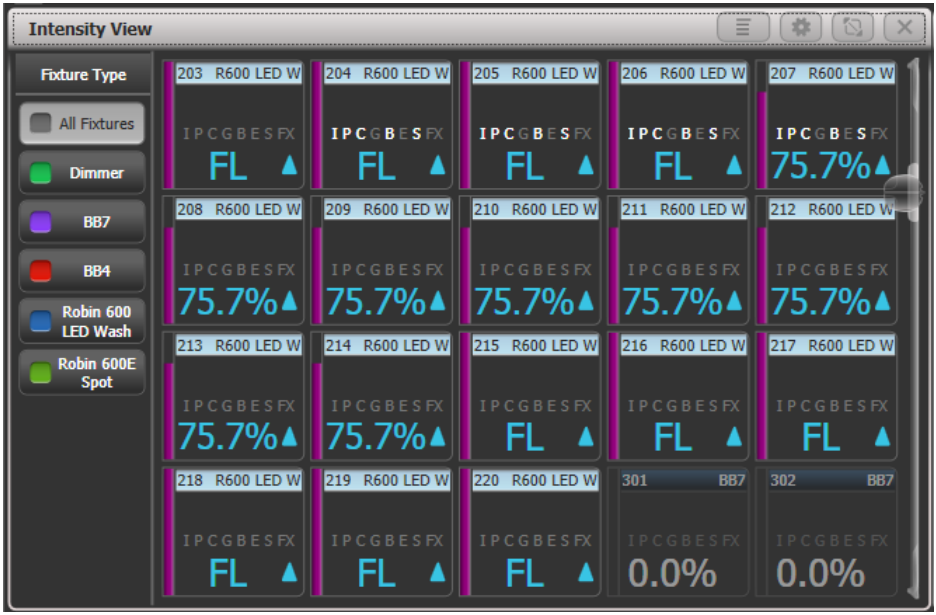
You can **clear** attributes in the channel grid by selecting them (touch or touch and drag to select multiple attributes). Then press <Clear>.

You can **edit values** by selecting one or more values in the grid, then modify the values using the wheels, or type a new value on the numeric keypad and press <Enter>.

You can filter what is shown in the grid either by IPCGBES attribute (using the buttons top left) or by fixture type (using the buttons below that).

7.3.2 The Intensity View Window

If you want to see at a glance the intensity setting of each fixture, the Intensity View window is the place to be. To show the window, double press <Open/View> then select [Intensity View] from the window select buttons.



Each fixture has a block showing the intensity as a number and as a bar down the left side. The header bar shows selection/programmer state like fixture buttons – blue for selected and cyan for in programmer.

Rising or falling intensity is shown with a blue up arrow or a green down arrow.

Tracked values from previous cues are shown with a magenta equals sign.

In a solo or block cue a red “not permitted” symbol is shown.

If intensity levels are controlled by an effect they are shown in yellow with a tilde symbol (~).

If the intensity is controlled from a cue or cue list the name of the cue will be shown.

The IPCGBESFX states of the fixture are also highlighted if any attributes have been set in the programmer.

If colour halos are set for the fixture buttons, the halo is also displayed around the fixture intensity. This option can be changed to show the automatic fixture colours, see below.

- Filter the view to show only a certain type of fixture using the buttons on the left
- Change the display order of the fixtures using the [Sort] context menu buttons - User Number, Last Selected or DMX Address.
- Click on a fixture to select it, you can then edit the intensity directly.
- Press <Open/View> followed by a fixture button to show more detailed information about the fixture.

Filtering the fixtures shown

The context menu options give you settings to change how the window is displayed.

The first option lets you only show fixtures in a particular state:

- All - all fixtures (default)
- Stage - fixtures with intensity above zero
- Programmer - fixtures in the programmer
- Selected - fixtures which are selected
- Live cues - only intensities coming from active cues
- Connected cue - only fixtures in the currently connected cue (for cue lists or chases)
- Frozen - fixtures with frozen intensity

The second option changes sort order as described above.

[Search] allows you to enter characters to search for in the legend or user number, matching fixtures will be shown as you type. When Search is active a search bar is shown at the top of the window, click the {X} to remove the search filter or click on the text to modify the search string.

[View If] lets you click on a group and/or playback to show only the fixtures in that group or playback. For a chase or cue list, this will include all fixtures in all the cues of the chase/list. The filter settings are shown in a bar at the top of the window, click the {X} to remove the filter or click on the bar to change the group/playback.

[Open Channel Grid] opens the Channel Grid (Section 7.3.1).

Window appearance settings

In the **Window Appearance Settings** ({Cog} button) there are further display options. Turning off some of the options will reduce the size of each fixture button which may be useful if you want to get more fixtures on the screen.

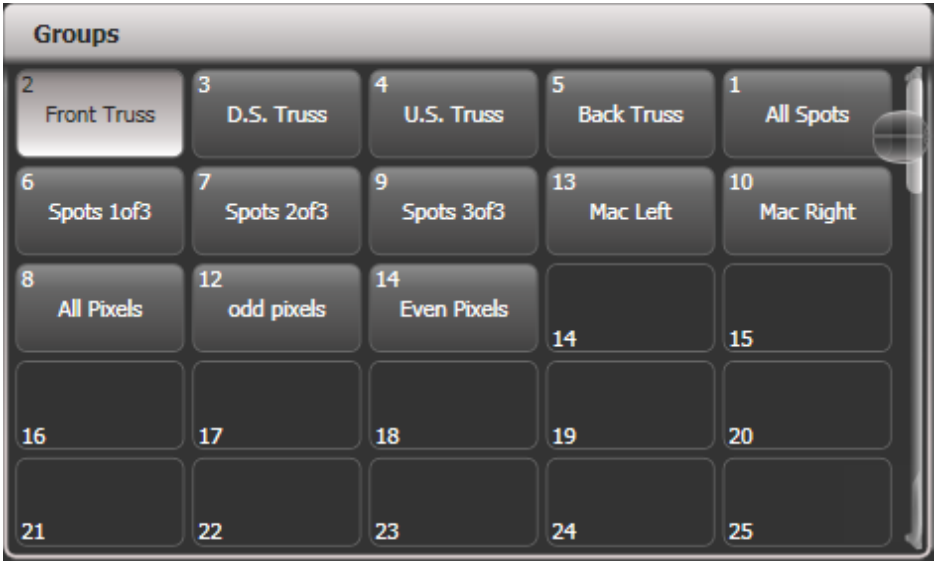
- Filter Fixtures Shown/Hidden: Shows or hides the fixture selection buttons on the left
- User Number Hidden/User Number Shown/DMX Address Shown: Sets what information is shown in the top left corner of the button
- Legend Shown/Hidden: Sets whether the fixture legend is shown in the top bar
- Cue Information Shown/Hidden: Sets whether the button shows the current cue information
- Attribute Mask Shown/Hidden: Sets whether the button shows the IPCGBESFX settings
- Halo Colour Custom/Auto: If set to Custom, buttons will have a halo colour if you have set one, otherwise they will not have a halo. If set to Auto, buttons will be coloured using the automatic fixture type colour used in the filter buttons on the left.
- Fixture Cells Shown/Hidden: If set to Shown, separate buttons are shown for cells (sub-fixtures) of any multi-celled fixture, along with a master intensity.
- Tracked Fixtures Shown/Hidden: (This option only appears when the view is filtered to Live Cue or Connected Cue). Sets whether fixtures with tracked intensity are shown or not.

7.4 Fixture Groups

7.4.1 Using Fixture Groups

You can create groups of fixtures or dimmer channels, which can then be quickly selected together by pressing a single button or typing the group number. You can, for example, make a group for each type of fixture, then also group by stage left / stage right, etc.

If you have a lot of fixtures, clever use of groups will greatly increase your programming speed.



Groups can be stored in the Groups window, on fader handles or on Macro/Executor buttons.

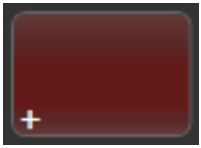
If you assign a group to a handle with a fader, the fader becomes an intensity master for the group. You can also set different functions for the buttons using Key Profiles (Section 19.4).

Record a Group

If the Groups window is not visible, you can show it by pressing <Open/View>, <Group> (above numeric keys).

1. Select the fixtures/dimmers you want in the group (the order in which you select them will also be stored in the group).
2. Press <Group> (top right of the numeric keys) then [Record Group]. You can also press <Record> then <Group>.
3. Use softkey A to enter a number for the group, or B [Provide a legend] to set a legend.
4. Touch an empty button in the Groups window, or press the Select button of a fader handle where you want to store the group, or press [Store] to store as a numbered group.
5. Press <Clear> then repeat from 1 to store other groups.

- You can also press <Avo> and <Group> to go directly to the Record Group menu, or on the screen touch the button twice to use Quick Record - on the first touch the button will turn red with a +, on the second touch the group will be recorded.



- To select all the fixtures/dimmers in a group, just press the button for the group.
- The order in which you originally selected the fixtures when creating the group is also stored. This takes effect when you use the last fixture - next fixture functions described in the next section (Section 7.4.2), and when you use Shapes, Fan mode and Fixture Overlap functions. You can change this later, see the next section (Section 7.4.2).

  You can override the selection order while recalling a group by holding down the group button and using the softkey options.
- You can also recall a group by its number:

1. Press <Group>.
2. Type in the number of the group you want to recall.
3. Press [Recall Group].

- The <Group> button also gives you facilities on the softkeys to edit and delete groups.
- You can use <Select If> to deselect a group of fixtures from a selection. This can be useful to select a subset of fixtures from a group. For example if you have a group for the outside edges of a 5x5 matrix, and a group which selects odd and even pixels from the matrix, you can select the outside edge, then use <Select If> with the odd/even group to remove the alternate pixels round the edge.

Deleting Fixtures from Groups

To remove fixtures from a group:

1. Press <Group>.
2. Press the button for the group you want to change. All fixtures currently in the group will be selected.
3. Deselect the fixtures you want to remove from the group.
4. Press <Exit>.

The group will now only contain the fixtures which remained selected.

Auto Groups

When patching multiple fixtures, the console automatically creates groups for you. A fixture type group is created which contains all fixtures of the same type (for example, [All Robe Pointe]). Another group is created each time you patch a quantity of fixtures (for example, [4 BB4].) This function can be turned off using [Auto Groups] in the User Settings.

- “All” fixture type groups can’t be deleted - when you press Delete the group will become unassigned and be moved to the Show Library. This is also the case if a group has been used in a pixel effect. Titan shows a warning message.

7.4.2 Fixture Order and Fixture Layout in groups

Fixtures in a group are stored with a two-dimensional position layout which is used by Shapes and Pixel Mapper. Initially fixtures are arranged in a row in the order you selected them when you created the group, but you can edit this to reflect the actual physical location of fixtures. The horizontal (X) position of each fixture is used to create a Fixture Order which the console uses with Fan and Overlap.

You can edit fixture positions in the group either by Fixture Order or by the Group Layout editor, but remember that the fixture order is set by the x-position of the fixture so changing one will automatically change the other.

The Group Layout can also be used when creating Layout screens as described in the next section.

Fixture Order

To change the numerical fixture order:

1. Press <Group>.
2. Select the group you want to edit.
3. Press [Fixture Order].

The fixtures in the group will be shown numbered in the fixtures window.

To change the order, select [Auto Increment] to On, then select the fixtures in the order you want. If you press a fixture twice, it will show an X indicating that it is not part of the sequence.

Group Layout

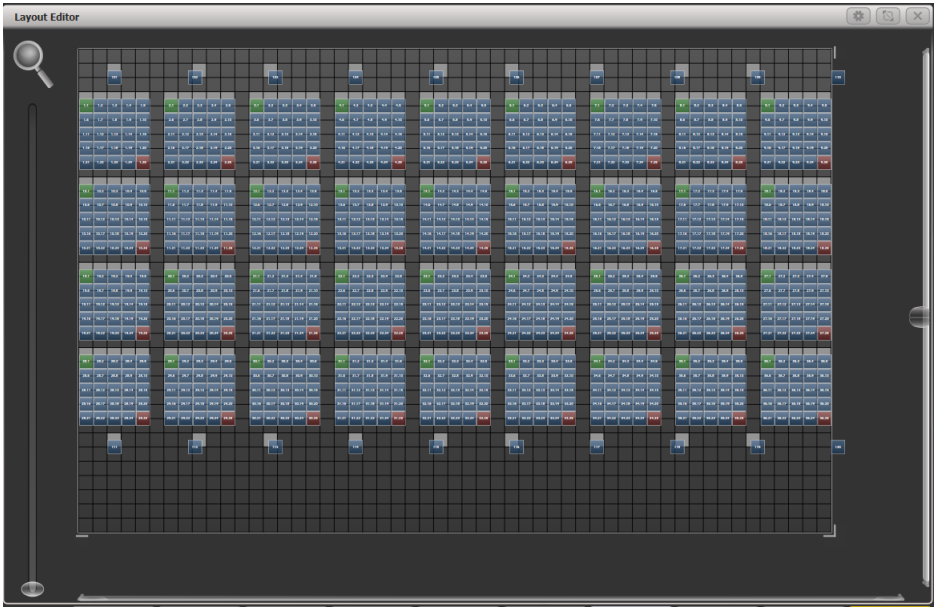
To change the 2D fixture layout for the group:

1. Press <Group>
2. Select the group you want to edit.
3. Press [Edit Layout]. The Group Layout Editor window will open.

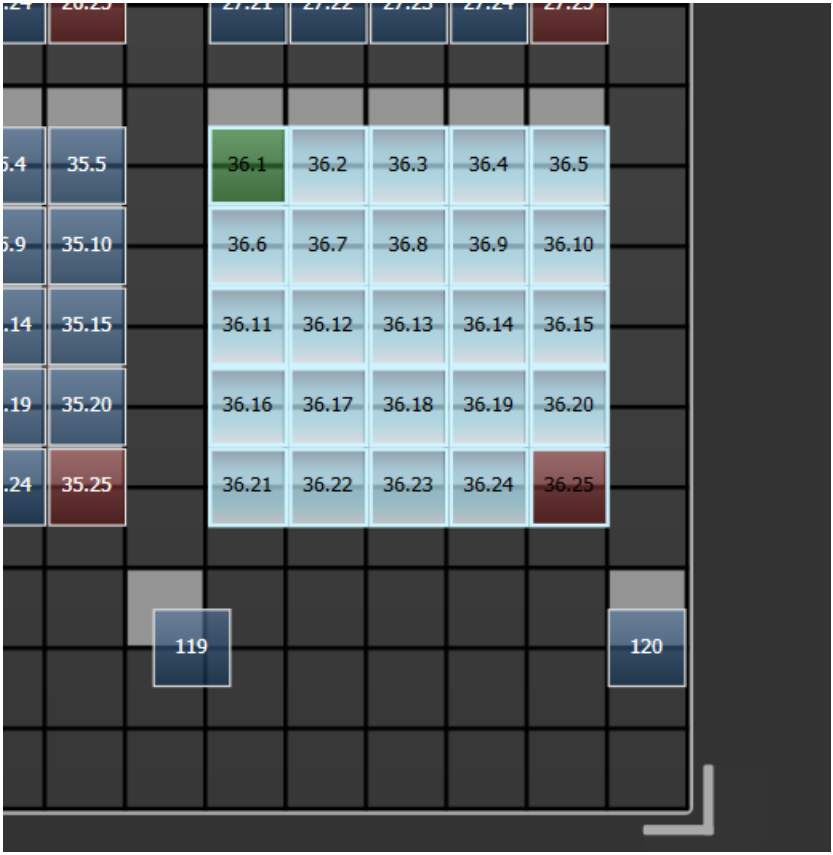
Initially fixtures will be all in a row. You can reposition the fixtures anywhere on the screen by dragging them. Or press a fixture to select then use the wheels to move it around the grid. You can resize the grid by dragging the bottom or right sides.

Multi-celled fixtures appear showing all the cells but when moved or rotated, move as a block. Depending on the fixture personality, sometimes the cells may not match the actual physical layout of the cells on the fixture.

The [Arrange Fixtures] context command will automatically place the fixtures in a rectangular block, you specify the number of rows (Height) and columns (Width).



- The X-coordinate of the fixture layout is the same as the Fixture Order. Changing one will cause the other to change.
- When setting the grid size, think about leaving space between fixtures to more accurately match the real world layout, and make sure you have enough cells in the grid for all the cells of the fixtures you need to fit in.
- It is possible to accidentally overlay one fixture on another, making the bottom fixture hidden. To access overlaid fixtures, drag off the fixture which is hiding it, or select the hidden fixture and use the wheels to move it somewhere visible.
- You can use the Fan button to evenly spread fixtures in the layout.
- To move or rotate fixtures, select and drag, or use the wheels. You can click on the “up” and “down” areas in the wheel display to nudge the values up and down - 1 pixel for position and 45 degrees for rotate. If you press the @ button for the wheel, a window opens allowing you to type in the values numerically.
- If you click the context menu button [Position and Angle] it will change to [Scale] which allows you to spread out or compress the cells in a multi-cell fixture. This is useful to get cells located correctly if you have some fixtures with large cell spacing and some with small spacing.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- The Group Layout Editor is described in more detail with examples in the Pixel Mapper section (Section 9.4). There are also some features to help with Synergy/Ai mapping.

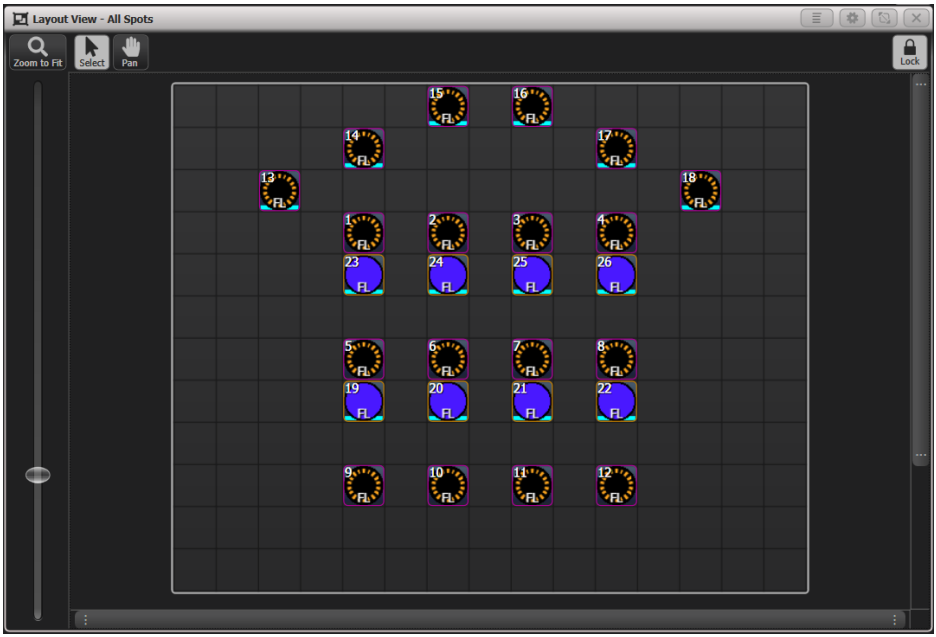
> You can temporarily randomize the fixture order when selecting fixtures using a group by holding down the group button and pressing [Random Order] which appears as a softkey option while the button is held.

7.5 Layouts

When you are selecting fixtures for control, it's often useful to refer to a plan of where the fixtures are positioned to help you identify them. The Layouts window allows you to make one or more control screens

with freely-positioned fixture mimics. You can also import a lighting plan on which the fixtures can be overlaid. As well as allowing you to select fixtures, the fixture mimics also show the current intensity, colour and gobo being output by the fixture (where applicable to the type of fixture.)

You can also include playback, group and macro buttons on a layout to give you a quick way of selecting these items without having to change the workspace view.



7.5.1 Creating a layout

You can create any number of different layout screens and store them in handles on the Layouts window.

1. Select the fixtures you want to be included in the layout (if no fixtures are selected you can add them later).
2. Double tap the <Open/View> button and select [Layouts].
3. Press an empty handle button on the Layouts window.
4. Enter or draw a legend for the Layout.
5. Press the handle button again or [Record Layout].
6. Now the Layout handle has been created, press it again to open the Layout View window.

If you used Groups to select the fixtures to be included, the group layout will be used to initially position the fixtures. See Adding fixtures from group layouts using Record (Section 7.5.2.2) below for more details.

> If you only have one screen, you may find it useful to create a workspace for the Layout Editor window so you can swap between windows while copying fixtures from the Fixtures window.

Fixture mimics

On the layout, fixtures are represented by a square “element” which uses the fixture halo colour (Section 5.2.5).

- The fixture number is shown in the top left corner and the intensity at the bottom.
- The centre of the fixture shows the current colour and gobo (if it has gobos, and if the fixture personality includes the gobo patterns). This can be disabled using the *Show Fixture Mimics* setting in the Elements tab of the Layout View options (press the {Options} context button).
- If the fixture is in the programmer, a cyan highlight is shown at the bottom.
- If an effect is running on the fixture a tilde symbol is shown in the top right corner.
- If a dimmer effect is running the intensity value will be shown in yellow.
- An arrow is shown indicating the front of the fixture.

For a dimmer, the mimic will normally show as white. You can change the mimic colour to match the gel colour of the dimmed fixture by selecting the fixture(s) then set [Wheels=Visualiser] on the root menu, then select the Colour attribute bank and change the Red, Green, Blue colours to your desired setting.

Layout View functions

The Layout View can be locked or unlocked using the {Lock} button in the top right corner.

- To position items in the layout, select **unlocked** - you can move items around the screen by clicking on the item then dragging it, or using the wheels but you can’t select fixtures for control.

- To use the layout to select fixtures, select **locked** - you can select fixtures for control by clicking on them but items can't be moved. Playback/Group/Macro buttons only work in locked mode.

The Layout View can be zoomed in or out using the zoom slider on the left of the window, or you can set it to fill the screen using the {Zoom to Fit} button.

The {Select} and {Pan} buttons set whether dragging on the screen will draw a marquee box to select fixtures or will pan the screen view.

7.5.2 Adding items to the layout

There are several ways to add items to the layout. Items can be deleted by pressing <Delete> then selecting the item(s).

Adding fixtures using Copy

Press <Copy>, select fixtures, then touch in the Layout View where you want the selected fixtures to be placed. - The fixtures will be placed in a row starting at the position you touched - you can rearrange them later.

Adding fixtures from group layouts using Record

If you select fixtures using groups, and you have set up a layout for the group (see Group Layout), then the group layout will be used to position the fixtures.

Select fixtures using groups, press <Record>, then press a Layout handle. Pick one of the options from the softkeys: - [Replace] will remove all items from the layout and replace them with the selected fixtures. - [Merge] will add the selected fixtures to the layout. - [Update Fixture Positions from Programmer] will reposition selected fixtures using the layout information stored in the group.

Fixtures will be placed starting in the top left corner of the grid. If groups don't have a stored layout or if you select fixtures individually, then the fixtures will be added in a row in the order you selected them.

Adding playbacks, groups and macros to the layout

You can include buttons for playbacks, groups and macros on a layout to give you a quick way of selecting these items without having to change the workspace view.

Press <Copy>, select the playback, group or macro, then touch in the Layout View where you want the button to be placed. You can select multiple items to be copied.

- When the layout is in *Unlocked* mode, press <Delete> then the button in the Layout View to remove the button. This will not affect the original handle.

7.5.3 Arranging elements in the layout

You can arrange the items on the layout manually, or using a variety of automatic tools. The positioning works for both fixtures and group handles.

Arranging elements manually

Select one or more elements, then drag them to the desired position on the grid. Elements will always snap to the grid.

You can also use the wheels to position selected elements and rotate them. Wheel positioning can be disabled using the context menu option {Position & Angle} (which toggles with {No Wheel Control}).

When using the wheels to position, you can move elements off the grid by toggling the context menu option {Wheels Move Full Pixel} / {Wheels Move Sub Pixel}. Once elements are offset from the grid they will keep their offset when moved in Full Pixel mode or by dragging, until you set them back on the grid using the wheels or the context menu option {Snap Selected Elements to Grid}.

When rotating elements, if the {Wheels Move Full Pixel} option is enabled then the elements will rotate in 45 degree increments, otherwise you can set any angle. If you have selected multiple elements for rotation, the context menu toggle {Wheels Rotate Individual Elements} / {Wheels Rotate Selection} sets whether each individual item will rotate on its own centre or whether the whole selection will rotate about the centre point of the selection.

Arranging elements using shapes

You can automatically arrange elements into a rectangle, circle/oval or triangle:

1. Press the context menu button {Arrange Elements}.
2. Select the context menu option {Shape}.
3. Choose whether to arrange all elements or only selected elements by toggling the softkey option [All Elements] / [Selected Elements].
4. Select the shape you want (rectangle, oval or triangle) using the softkey [Shape=].
5. Set the number of rows / columns you want to have using the softkeys [Width=] and [Height=].
6. Choose whether elements should be placed across then down, or down then across by toggling the option [Arrange in Rows] / [Arrange in Columns].
7. Press [OK].

Arranging fixtures using visualiser layout

If you have fixtures set up in the onboard Capture visualiser, you can use the visualiser positions to arrange fixtures in the layout.

1. Press the context menu button {Arrange Elements}.
2. Select the context menu option {From Capture}.
3. Choose whether to arrange all elements or only selected elements by toggling the softkey option [All Elements] / [Selected Elements].
4. Choose which view/projection to use from Capture (Top, Front, Side) using the softkey [Projection=].
5. If necessary adjust the [Scale=] option for best results (to prevent having overlapping fixtures).
6. Press [Apply] to preview the changes.
7. When the layout is OK, press [Apply and Exit] to save the changes.

Grid options

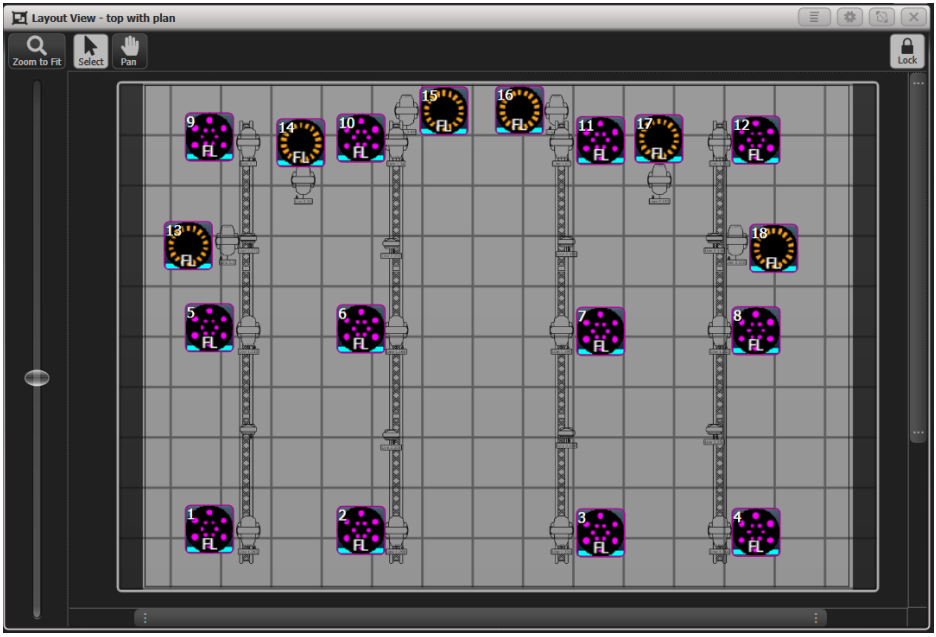
The grid displayed on the layout screen can be extended to allow more fixtures, and can be hidden.

To extend or shrink the grid area, drag the corner handles (while in Unlocked mode). The context menu {Crop Grid} button can be used to shrink the grid area so that it just encloses all the fixtures with no spare space.

To show or hide the grid, from the context menu select {Options} then go to the Layout tab and set the {Show Grid} toggle.

Loading a lighting plan

You can import a lighting plan image to show behind the fixtures.



1. Save your plan as an image file (png, bmp, jpg - not PDF).
2. From the context menu {Options}, go to the Layout tab.
3. Click on the Background Image to open the image browser.
4. Select the image you want to use.

Click on Background Image and Use the softkey [Scaling Mode] to select - None (image displayed full size, overflow will be lost) - Letterbox (Fit the largest of height or width, fill other side with black bars) - Fill (Fit the smallest of height or width, the other side will overflow and be lost) - Stretch (stretch to fill height and width without preserving the aspect ratio of the image)

You can set the opacity of the image if you want to fade the plan into the background, by entering a number in the Opacity option on the Layout tab, or use Wheel A. 0% = fully transparent, 100% = fully opaque. The fixture mimics are always overlaid on top of the background.

7.5.4 Swapping layout views

You can change to a different layout view either by selecting another handle in the Layouts window, or by using the {Open Layout} context menu button - this shows a list of available layout views on the softkeys for you to select.

7.6 Fixture Advanced Options

7.6.1 Fixture macros and Lamping fixtures on and off

Many fixtures have a control channel which allows you to perform functions like lamp on, lamp off, fixture reset, and so on. This can be useful to shut down fixture lamps at the end of a show while the fans continue to run, or to reset a fixture which has gone haywire.

The console allows you to access these functions using Fixture Macros (not to be confused with keypress macros).

1. Keep pressing <Exit> until you are at the top level menu (or <Avo><Exit> takes you straight to the top).
2. Select the fixtures you wish to control. Macros may not work across groups of fixtures from different manufacturers so it's best to do each type of fixture separately.
3. Press <Macro> then [Fixture Macros] (for consoles with <ML Menu> button you can also find the [Fixture Macros] function there).
4. The softkeys show a list of the functions available. Press the one you want to action.

- Some macros involve timed sequences and can take up to 30 seconds to execute.

7.6.2 The ML Menu button

Some consoles have a button labelled <ML Menu>. When the console is at the top level menu, this button opens the Moving Light Actions menu which contains options to Locate Fixture (same as the Locate button) and to run Macros on fixtures such as Lamp On, Lamp Off, Reset etc. The Align Fixtures and Flip functions as described above are also in this menu.

On the Pearl Expert and Tiger Touch 1, this button also latches the current menu when the console is not at the top level menu. Press <Exit> to get back to the top menu so that you can access the Moving Light menu. On other consoles there is a dedicated <Latch Menu> button.