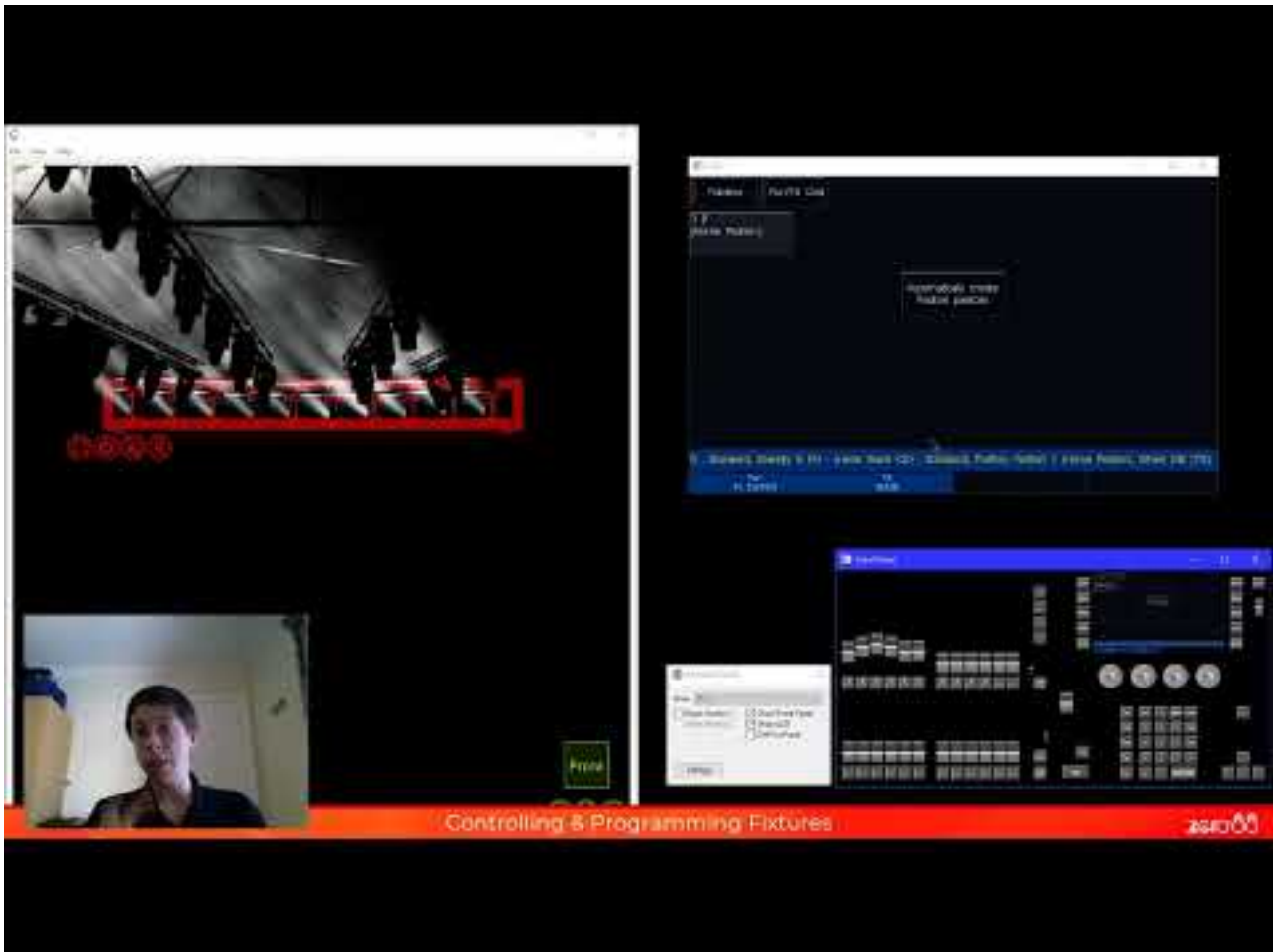# Controlling Fixtures

Each light/device connected to your lighting console, is known as a fixture. Once a fixture has been selected, you can then control the fixture's control functions, known as parameters. These parameters, are grouped together into "attributes" for easy access and control.

Take a look at the online training session for information on Controlling & Programming Fixtures...

https://youtu.be/cB-FgOEg1qY

Find out more about controlling your fixtures...

- Parameters
- Multicell Fixtures
- Colour
- Beam
- Shape
- Position
- Defaults
- Home

- [Max Level](#)
- [Attribute Settings](#)
- [Tagging](#)

Parameters

Each function of a fixture, that can be controlled remotely from your console, is known as a "parameter". Each fixture will have its own set of parameters, for example Dimmer, Red, Zoom, Gobo, Pan, Tilt etc. Each parameter, will use either one or two DMX channels. These parameters, are grouped into five "attributes", to allow them to be controlled more easily. Therefore each attribute could contain no parameters, one parameter, or many parameters, depending on the fixture you are controlling.
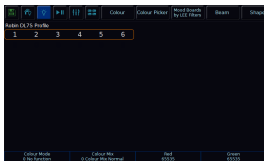
Choosing an Attribute & Controlling Parameters

Once a fixture, or group of fixtures, have been selected, you can choose an attribute to access the parameters.

These attributes are Intensity, Colour, Beam, Shape and Position.

On FLX, this is done by pressing one of the attribute buttons to the right of the internal display.

On FLX S, the relevant attributes will appear along the top of the touchscreen, to the right of the six icons. The attribute "tabs" will only be visible along the top of the touchscreen if the currently selected fixtures support that specific attribute. Depending on the number of attributes your fixture has, these tabs will scroll to give you access to all fixture controls.

Tapping an attribute button will open that attribute's window on the internal display and put the attribute's parameters onto the encoder wheels ready to be controlled. FLX series consoles have four physical encoder wheels for controlling a fixture's parameters. If a fixture has more than four parameters within an attribute, tap the attribute button again.

For example, if a fixture has six Beam parameters, tap Beam once to access the first four Beam parameters, and then tap Beam again to access the remaining two Beam parameters. Complex fixtures may have multiple pages of encoder wheels. Once you have reached the final page of encoders, another press of the attribute key will return you to the first encoder page.

> Holding SHIFT when tapping an attribute button will page back through parameters on the encoders

> Intensity does not need a dedicated attribute button. A fixture's Intensity parameter can be controlled via the fixture's channel fader, syntax, or the first encoder wheel by tapping **Z**

The parameters currently being controlled by the encoders are displayed in the four boxes along the bottom of the touch screen, just above the encoders.

Remember that each fixture will have a different range of parameters available, depending on its feature set. Consult the fixture's operating manual for details.

The sensitivity, mode and behaviour of the encoder wheels can be changed in the Attribute Settings.

Click here to find out more about the Attribute Settings.

Parameter Details
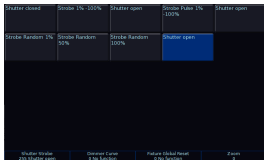
Some parameters are a continuous set of values, such as "Red", which will control no red at 0, through to full red.

Other parameters will instead have several different functions, accessed by different levels of the parameter. For example, the individual slots of a colour or gobo wheel. In these scenarios, the option to choose the exact slot you need is beneficial, without needing to use the wheel to cycle through all options. These parameters will have "details". This is indicated by two lines of text on the encoder display - the parameter name, and the detail name (or slot name for a gobo/colour wheel) below it with the current DMX value.

These individual details can be displayed on the internal touch screen by pressing the central encoder button. The touchscreen can then be used to tap the detail you need. The highlighted value (in blue) shows the currently active value. This is therefore particularly useful for Strobes and Prisms, as you can tap the encoder button of the parameter, tap which Prism/ Strobe you want, and then use the encoder to speed up or slow down the rate of the Strobe or Prism.

Tapping the same encoder button again closes the Parameter Details and takes you back to the palette window.

For parameters involved in colour mixing (Red, Green, Blue etc) the central button opens the colour picker page. For parameters involved in position (Pan and Tilt) the central button opens the position grid page.

Parameters and the command line

When you adjust parameters using the encoders, the changes are displayed in the command line as "Wheel Edits". For example, adjusting red will display:

Wheel Edit [Red],

This allows you to use the backspace button on your console <- to step back through your commands, and undo the most recent changes if required.

If you know the exact percentage you would like a parameter to go to, hold Shift and tap the parameter's name on the touchscreen above the encoder. This will bring that parameter onto the command line, allowing you to type @ x Enter,

where x is the percentage you would like to go to. For example:

Shift + *Red* @ 5 0 Enter

[Red] @ 50,

**Find out about more about each attribute...**

- Colour
- Beam
- Shape
- Position

Multicell Fixtures

Some fixtures, don't just have a single light output. Some fixtures may have two or multiple light sources, that can be controlled individually. These are referred to as "multicell" fixtures. On ZerOS consoles, there are many tools available, to allow you to control multicell fixtures just as easily as a "normal" fixture with a single light output.

Watch the introductory video to find out more...

https://youtu.be/rrRmOvqMCB8?si=A8yUK8tjcmDidPgH
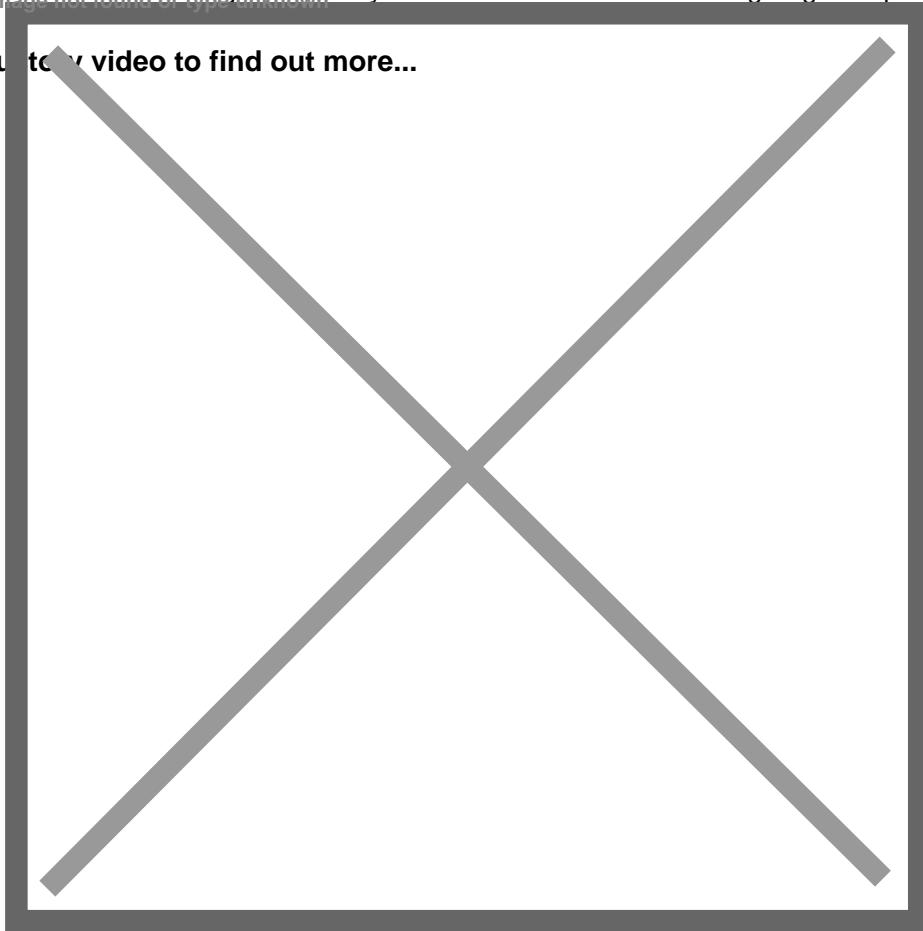
Pictured is an SL Bar 660. This fixture has multiple LEDs arranged linearly, that can be controlled individually.

This is a VL800 EventWash. This is a moving wash fixture, that has 7 LEDs that can be individually controlled. This is therefore also a multicell fixture.

When you raise a multicell fixture's fader, or select the whole fixture, you will be controlling all of the fixture's cells together, as if they are linked. "Cells" may also be referred to as zones, segments, pixels or groups.

Individual cells, can also be selected and controlled.

Click here for information on selecting and controlling the intensity of multicell fixtures using syntax commands.

Click here for information on selecting and controlling the intensity of multicell fixtures using the channel faders.

Once a cell has been selected, you will be presented with all of the parameters that control that cell, plus all the parameters that can affect that cell on the encoder wheels.

Going back to the example of the VL800 EventWash pictured at the top of this page, if you just select cell 1, which is the centre cell, this cell just has colour control, and intensity control. However, as the fixture's Pan and Tilt controls affect that cell, they will also be available to control on the encoder wheels.

Master Parameters vs Cell Parameters

On some fixtures, there will be parameters that affect the whole fixture, and then an identical version of the parameter for each cell. Parameters that affect the whole fixture are known as master parameters. To avoid confusion with having duplicate parameters for both master and cells, master parameters will be displayed in brackets on the encoders.

In this example, we can see the Red, Green, Blue and White master parameters that affect the whole fixture, shown in brackets. These will not be applied to the ZerOS Colour Mixing Tools.

In most cases, you can simply use the standard Red Green Blue and White parameters, which will control the colour of the cells.

Similarly, many multicell fixtures will have a master intensity, and then an intensity for each cell. In ZerOS, by default master intensities are frozen at full, and cannot be controlled. When you are controlling a whole fixture's intensity, you are therefore actually controlling all of the intensities of the cells together.

This avoids issues with scaling, as it means you won't get into the situation where the master intensity is accidentally scaling a cell intensity, which can cause issues when fading.
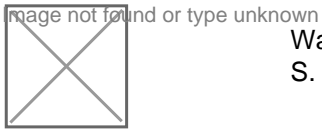
Master intensities can however be enabled in the Fixture Settings.

[Click here to find out more about Fixture Settings](#)
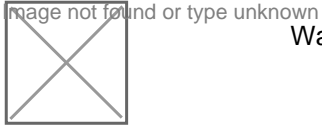
Watch this video for information on controlling multicell fixtures on FLX.
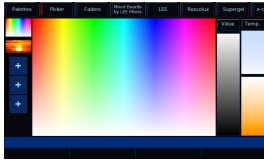
https://youtu.be/5s0hB-i3Ekw?si=WLHxjnBiWc0M5kW7

Watch this video for information on controlling multicell fixtures on FLX S.

https://youtu.be/7Onn1GSW-FY?si=z4jOru88SsjHhiw1

Colour

The FLX range of lighting consoles feature award winning colour control tools.

All colour parameters of your fixtures can be controlled using the colour encoder wheels, accessed by selecting the fixture and tapping ⬚Colour⬚ . If your fixtures have more parameters than available encoders, tap the ⬚Colour⬚ button again to page through. You are likely to find the following parameters in the colour attribute, depending on the currently selected fixtures:

- Additive colour parameters such as Red, Green, Blue
- Subtractive colour parameters such as Cyan, Magenta & Yellow
- Colour Wheels
- Colour Macros
- Colour Presets
- Colour Temperature

Colour Mixing

If your fixtures have colour mixing capabilities, the FLX range of consoles provide multiple colour mixing tools that can be used to control the colour of your fixtures. As well as using the colour encoders to colour mix, you will be able to use Automatic Palettes, Colour Picker, Image Picker, Colour Faders and Colour Filters. These colour mixing tools can be accessed on the internal touchscreen by tapping ⬚Colour⬚ but can also be found in the Colour window on the external monitor. The colour window is found top left of the "Palettes" desktop, and in the bottom half of the "Grp, FX, Colour" desktops.

Click here to find out more about the External Desktops

There are three types of fixtures with colour mixing capabilities that can use the ZerOS colour mixing tools: Additive, Subtractive and HSI/HSV.

Fixtures with additive colour mixing will often use Red, Green, Blue and White LED emitters. However, they may also include many other additive emitters. ZerOS supports over 20 different additive LED emitter colours, that if present in your fixture, will be used by the ZerOS colour mixing tools. Supported parameters include:

- Deep Red
- Red
- Red Orange
- Orange
- Amber
- Yellow
- Light Green
- Lime
- Green
- Mint Green
- Green Cyan

- Cyan
- Royal Blue
- Blue
- Indigo
- Deep Blue
- Congo Blue
- Purple
- Magenta
- Violet
- Pink
- UV

If using fixtures with subtractive Cyan, Magenta, Yellow mixing, the encoder wheels will display a "-" after the parameter name, to indicate these are subtractive parameters, not additive emitters.
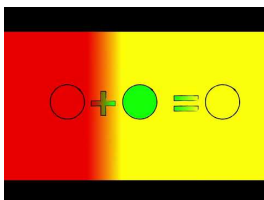
Find out more about the colour controls...

- Colour Palettes
- Colour Picker
- Colour Faders
- Colour Filters

Fixtures that can colour mix, can use two methods - subtractive colour mixing, or additive colour mixing. Take a look at the videos below for more information...

Subtractive Colour Mixing.

https://youtu.be/xppPHtNInEk

Additive Colour Mixing.

https://youtu.be/-h1LXYe8rfE
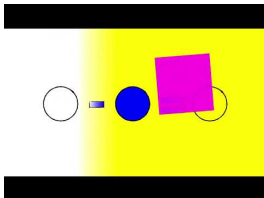
Palettes

When fixtures with colour mixing or colour wheels are patched, colour palettes can be automatically created.

ZerOS will create the following 15 "global" automatic colour palettes, if fixtures with colour mixing capabilities are patched:

1. White
2. Warm White
3. Cool White
4. Red
5. Orange
6. Yellow
7. Chartreuse
8. Green
9. Spring Green
10. Cyan
11. Azure
12. Blue
13. Violet
14. Magenta
15. Rose

These colour palettes will be available for all patched fixtures with colour mixing capabilities, and fixtures with colour wheels with a suitable slot (this is because the console compares the RGB values specified for each colour slot of colour wheels, with the RGB values of the automatic colour palettes. If the colour of a colour wheel slot is within a certain tolerance of the standard colour, the console will automatically add the relevant colour wheel slot to the relevant automatic colour palette).

This means you can select all fixtures, tap [Red], and even if you have a mix of fixtures with colour wheels and colour mixing, they'll all go red.

In addition to the "global" automatic colour palettes, the console generates an auto palette for each colour slot in each colour wheel of your patched fixtures. These palettes are labelled with the stock colour names as supplied by the fixture manufacturer, and are ordered by fixture number & colour slot position.

As well as the automatic colour palettes, you are able to program your own colour palettes, to quickly save and recall your custom colours, made by adjusting the encoders, or colour mixing features. When colour palettes are stored, they will display a colour splash preview of the saved colour on the palette tile.

For information on programming palettes, see the Palettes chapter.
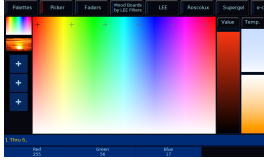
Picker

The "Colour Picker" tab, allows you to choose a colour when fixtures with colour mixing capabilities are selected. Just touch the picker using the touch screen, and the colour of the selected fixture will be set to the colour pressed.

The cross ("+") symbol on the picker indicates the current colour

values for the selected fixture. If multiple fixtures are selected, multiple
"+" will be displayed.

Fanning

You can select multiple fixtures and "fan" them across the picker by using two fingers and multi-touch. The first selected fixture (defined by the order of selection) will be at your first finger, the last selected fixture will be at your second finger, and all the fixtures in-between will spread between these two points.

Fanning across Multicell Fixtures

On multicell fixtures, colour colour can be fanned in two ways. Firstly, colour can be fanned across a multicell fixture, just like a standard fixture. This means that every light output of the multicell fixture is the same, resulting in a single cross (+) per fixture on the colour picker. Alternatively, colours can be fanned across the individual cells of a multicell fixture, resulting in a cross (+) per cell on the colour picker.

The way your fixtures will be fanned across the colour picker, will be dependent on whether they were selected as whole fixtures, or individual cells. When using the channel faders, fixtures will be selected as whole fixtures, unless your fixture is a linear multicell fixture, such as an LED batten, in which case the fixture will be selected as cells.

Click here for information on selecting fixtures using syntax commands for more information.

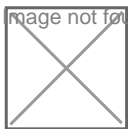Click here for information on selecting fixtures using the channel faders for more information.

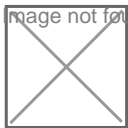For more information on controlling multicell fixtures on FLX S consoles, click here.

https://youtu.be/7Onn1GSW-FY?si=z4jOru88SsjHhiw1

For more information on controlling multicell fixtures on FLX consoles, click here.

https://youtu.be/5s0hB-i3Ekw?si=kbAcsqs-mojrGWG8
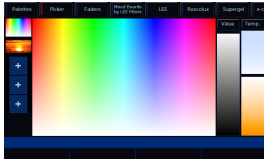
Value Fader

To the right of the colour picker is a "value" fader, which can be used to dim your colour, without lowering the fixture's intensity. You will find that if the value fader is at the bottom, your fixtures are still considered to be on, however in black. A preview of the colour you have created is shown at the top of the value fader.
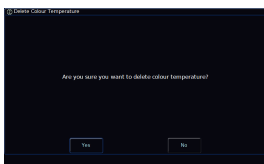
Temperature Fader
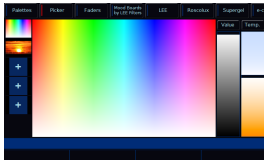
After picking a shade of white, the Colour Temperature fader can then be used to "warm up" or "cool down" the colour of your fixtures.

If your fixtures have a dedicated "Colour Temperature" parameter with a single, defined temperature range, the Temp. fader will control this. If your fixtures do not have a Colour Temperature parameter, the Temp. fader will adjust any white emitters your fixture may have, such as Cool White or Warm White. If your fixture does not have multiple white emitters, the Temp. fader will adjust the levels of your fixture's colour mixing parameters.

Tapping the ⟦ *Temp.* ⟧ button resets the fader to a default temperature of "50%". The default value of the ⟦ *Temp.* ⟧ button can be configured. To configure the ⟦ *Temp.* ⟧ button, set the Temp. fader to the required position, and then tap ⟦ Record ⟧ or ⟦ Update ⟧ , and then click on the ⟦ *Temp.* ⟧ button.


To remove a custom colour temperature and revert back to the default temperature of "50%", tap the Delete key, and then tap the Temp. button. You will then be asked to confirm the operation.

Image Picker
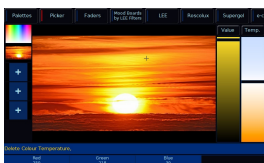
Images can be loaded into the colour picker, to allow you to choose colours from the loaded image. This is useful when wanting to use the colours of a companies' logo, or wanting to recreate the colours from a particular image you've photographed. Press one of the "+" symbols along the left hand side of the picker to open the "Load file" window which will display all the images on the connected external USB drive. Choose the image file you need, and load it in. The Image Picker also supports multi-touch for fanning across your fixtures.
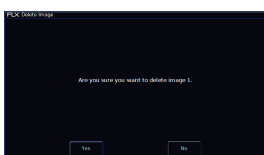
To remove an image from the Picker, just press the Delete button and then press the image from the left hand side. This creates space for a new image to be loaded.

Faders
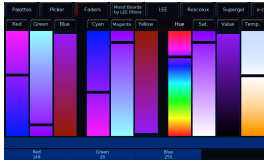
On-screen colour faders are available on FLX consoles, and allow you to mix in RGB, CMY or HSV, irrespective of whether your fixtures use additive, subtractive, or HSV/HSI mixing.

Moving one fader automatically updates the others, meaning it doesn't matter how your physical fixture works - as long as it has colour mixing you can use any of these methods to control its colour. Like the other ZerOS colour mixing tools, these faders will adjust all additive emitters that your fixture may have, providing a simple set of controls that will then be converted and applied to all emitters.

On FLX, the background colour of the faders automatically updates to show you the colour you'll end up at by moving that fader.

Each fader (apart from Hue), has a button above it. The buttons take each fader to full, apart from the *Temp.* button, which takes the temperature fader to default.

Click here to find out more about the Temperature fader

Filters

Mood Boards by LEE Filters

Clicking the "Mood boards by LEE Filters" tab displays a window which collates colours together in "moods". Selecting a mood will give a selection of several colours that work well together for that mood.

Some moods have more than one selection of colours, such as "Moonlight" which has "Realistic" & "Romantic" selections. After clicking on a mood, click the "Mood boards by LEE Filters" tab again to go back to the list of mood boards.

For more moods and colour ideas, click here to go to the LEE filters website.

Filter Libraries

As well as Mood boards by LEE Filters, on FLX you can also access seven different filter libraries. To access these, you can horizontally scroll the tabs along the top of the Colour window.

The available filter libraries are:

- LEE
- Roscolux
- Supergel
- e-colour+
- Cinegel
- GamColor
- Apollo

Filter References

Upon choosing a colour filter, all colour mixing parameters of the selected fixtures will be taken to the values required to recreate this filter colour.

On the encoder wheels, the filter number and name will be displayed, followed by the DMX value in brackets. Upon recording filters into cues, the reference is kept, meaning that if you go into a cue, and then select the fixtures, you will be able to view the filter that is in use on the encoder wheels.

The filter reference will also be shown in the parameter details table at the bottom of the Output window, when the fixture is selected or manually adjusted.

When you apply a filter, that instruction is written in the command line. This means you can backspace to undo.

Beam

Parameters which don't change the fixtures colour, don't move the fixture, and don't cut into the fixture's beam, live under the Beam attribute. Beam is therefore where controls for lenses such as Zoom and Focus live, and also other functions such as Control or Reset.

If your fixtures have a Shutter, you will have a button to allow you to *Automatically create Beam palettes* . This will create a "Shutter Open" and "Shutter Closed" palette for you to use. Custom Beam palettes can also be programmed, to store parameters, such as a specific beam angle for a Zoom.

If your fixtures have more than four beam parameters, tap the ⬚Beam⬚ button to page your encoders.

For information on programming palettes, see the Palettes chapter.

Shape

As a general rule, Shape parameters are parameters that cause a device to be placed into the fixture's beam. The most obvious of these is gobo wheels, but also includes animation wheels, prisms, irises and framing shutters. It therefore tends to be moving profiles, spots and beams that have parameters in this attribute.


If your fixture has gobos, you will be able to automatically create shape palettes, to generate a palette for each gobo from all of the fixture's gobo wheels. The first palette will be "No Gobo", allowing you to easily remove any gobos from the beam.

You can also record your own shape palettes, useful for if you want a certain gobo rotating at a certain speed, or useful to save your hard work if you have spent time getting your framing shutters just right.

For information on programming palettes, see the Palettes chapter.

Position
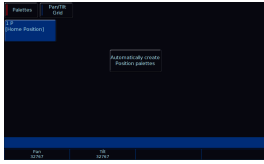
Parameters that can control the movement of your fixture, live under the Position attribute. Typically, this will be your Pan and Tilt parameters for moving lights, however you may see other parameters too, such as Pan/Tilt speed control.

Pan and Tilt will always be on the first two encoder wheels within the Position attribute. If there are more than four Position parameters available, tapping Position will page encoders three and four only.

Automatically creating position palettes, will create a single "Home Position" palette, for all of your fixtures. This can be used to set their Pan and Tilt to 50%.

Position palettes are incredibly useful, to allow you to build up your own palettes to quickly move your lights to different pre-defined locations.

For information on programming palettes, see the Palettes chapter.
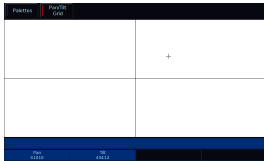
Pan/Tilt Grid

The Pan/Tilt grid gives you a touch based input method of controlling Pan and Tilt. The horizontal axis is "pan" and the vertical axis is "tilt". The + symbol indicates the current position values for the selected fixture. If multiple fixtures are selected, multiple + will be displayed. You can select multiple fixtures and "fan" them across the Pan / Tilt Grid by using two fingers and multi-touch. The first selected fixture (defined by the order of selection) will be at your first finger, the last selected fixture will be at your second finger, and all the ones in-between will spread between these two points.

Fanning Position

When controlling the position of multiple fixtures at once, Fanning is a very useful tool to quickly send different Pan/Tilt values to your currently selected fixtures. To fan your pan or tilt values across your fixtures, press and hold Shift, and dial either the Pan or Tilt encoders.

There are four fan options that can be chosen.

Fan Middle is useful if you have a row of movers, and wish to fan their Pan symmetrically, to send your fixtures in to centre stage, or out to the wings.

Fan V is useful if you wish to fan the tilt of your fixtures.

For more information see the Attribute Settings section
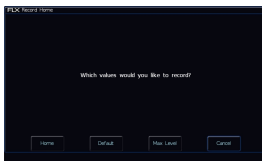
Defaults

Fixture Defaults

The "Default" values for fixture parameters, are the values that are output to each of a fixture's parameters when the fixture is not currently being controlled.

The initial values for all these settings are taken from ZerOS Library. They are set to values that will produce an open white beam (no colour, gobos or effects) at a central position (Pan and Tilt at 50%) but with an intensity of 0%. They are therefore important, as they ensure that when you raise the intensity of a fixture, first and foremost it illuminates, and you can control the fixture successfully.

Custom Default Values

The Default values can however be edited for individual fixtures, or groups of fixtures as required, to allow you to customise what the fixture does when no playbacks are running, and you are not controlling the fixture manually.

You can do this, by firstly adjusting the fixture's parameters to the values you wish them to be at by default. For information on how to adjust parameters, see each of the attribute sections for Intensity, Colour, Beam, Shape and Position.

Once the fixture's parameters are at the levels you wish to become the fixture's defaults, you can press Record, and then tap Home. The Home button is found top left of the internal touchscreen on FLX and FLX S consoles, however Home is an icon on the touchscreen on FLX S, whereas Home is a physical button on FLX. You can then choose Defaults from the window that opens.

As this is a normal record command, this means that normal Record options apply. The Record Options can be opened on the internal touchscreen by pressing and holding Record. In most cases when customising Defaults, you will need to ensure that the SmartTag option in the Record Options is disabled.

For information on how to do this, see the programming section
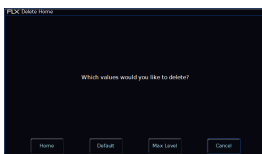
Removing Custom Default Values

To remove custom default values, and revert back to the console defaults, tap Delete Home, and then choose Default. This action can't be undone.

If intensities are defaulted above 0%, these will be indicated as yellow intensity percentages in the Output Window.

Home

Home

If you are unsure which fixture is which, the easiest way to see which fixtures you are controlling is to "home" them. This will set the fixture's colour, beam, shape and position parameters to the same values as "Default", but with an intensity of 100%. After selecting a fixture(s), press the ⌊Home⌋ button. This will send the fixture(s) to its 'home' values.

The Home button is found top left of the internal touchscreen on FLX and FLX S consoles. Home is an icon on the touchscreen on FLX S, whereas ⌊Home⌋ is a physical button on FLX.
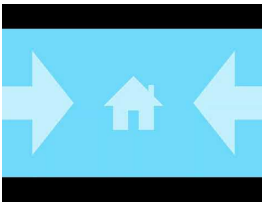
Take a quick look at this video for an introduction to Home.

https://youtu.be/9vKeuYHDdaY

Homing Attributes

On FLX, you can Home individual attributes, by holding ⌊Home⌋ and pressing an attribute key. For example:

⌊Home⌋ + ⌊Colour⌋

Home-Colour,

If you keep the ⌊Home⌋ key held, you can tap ⌊Colour⌋ then ⌊Beam⌋ , to home both Colour and Beam attributes.

You can also press and hold an attribute key, and then press Home. For example:

⌊Colour⌋ + ⌊Home⌋

Home-Colour,

Homing the Effect attribute is particularly useful for removing all effects from the selected fixtures:

⌊Effect⌋ + ⌊Home⌋

Home-Effect,

You can also use the syntax "attribute 0 Enter" to home that attribute. For example:

⌊Colour⌋ ⌊0⌋ ⌊Enter⌋

Colour 0,

Homing Parameters

To home an individual parameter, press and hold $\boxed{\text{Home}}$, and tap the button in the middle of a parameter's encoder wheel. This sends just the chosen parameter back to its Home values.

For example, if you are currently in the Position attribute, you could press and hold $\boxed{\text{Home}}$ and tap the second encoder button to Home Tilt. The following would be displayed in the command line:

Home [Tilt],

Custom Home Values

The Home values can be edited for individual fixtures, or groups of fixtures as required, to allow you to customise what the fixture does when it is selected and Home is pressed.

You can do this, by firstly adjusting the fixture's parameters to the values you wish them to be when homed. For information on how to adjust parameters, see each of the attribute sections for Intensity, Colour, Beam, Shape and Position.
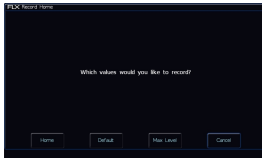

Once the fixture's parameters are at the levels you wish to become the fixture's home, you can press Record, and then tap Home. You can then choose Home from the window that opens.

As this is a normal record command, this means that normal Record options apply. The Record Options can be opened on the internal touchscreen by pressing and holding Record. In most cases when customising Home values, you will need to ensure that the SmartTag option in the Record Options is disabled.

For information on how to do this, see the programming section

Removing Custom Home Values
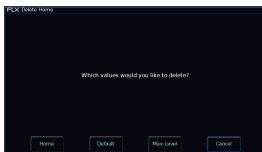
To remove custom default values, and revert back to the console defaults, tap Delete Home, and then choose Home. This action can't be undone.

Max Level

Parameter Max Levels

The Max Level (or, "topset") for each parameter is the maximum value which can be reached when adjusting the fixture using the wheels, command line, etc. This is set to a default value of 100%, meaning you have full control of every parameter.

Custom Max Levels

The Max Level values can however be edited for individual fixtures, or groups of fixtures as required, to allow you to customise the maximum level a parameter can go to. Useful if you only want a dimmer channel to go to 50% for example.

You can do this, by firstly adjusting the fixture's parameters to the maximum values you wish them to be able to go to. For information on how to adjust parameters, see each of the attribute sections for Intensity, Colour, Beam, Shape and Position.
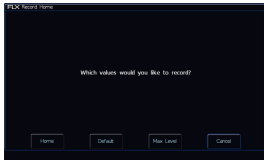
Once the fixture's parameters are at their maximum levels, you can press Record, and then tap Home. The Home button is found top left of the internal touchscreen on FLX and FLX S consoles, however Home is an icon on the touchscreen on FLX S, whereas Home is a physical button on FLX. You can then choose Max Level from the window that opens.
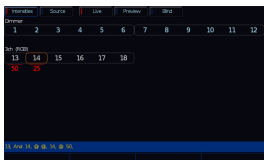
When setting a max level on intensities, this will be indicated in the Output Window, by a line above that fixture's intensity.

In the image to the left, fixture 13 and 14 have a max level set of 50%. Therefore setting the fixture to full takes them to 50%, and setting them to 50% takes them to 25%.

If you wanted to limit fixture 1 to 50% intensity, you could therefore use the syntax below...

$\boxed{1}$ $\boxed{@}$ $\boxed{5}$ $\boxed{0}$ $\boxed{\text{Record}}$ $\boxed{\text{Home}}$ *Max Level*

As this is a normal record command, this means that normal Record options apply. The Record Options can be opened on the internal touchscreen by pressing and holding Record. In most cases when customising Max Levels, you will need to ensure that the SmartTag option in the Record Options is disabled.

[For information on how to do this, see the programming section](#)

Removing Custom Max Level Values
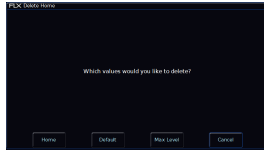
To remove custom Max Level values, and revert back to the console defaults, tap Delete Home, and then choose Max Level. This action can't be undone.
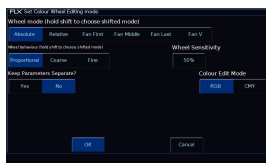
Attribute Settings

Attribute settings allow you to configure how your encoder wheels behave, for each attribute. The attribute settings can be opened by pressing and holding the Setup key, and pressing the button of the attribute you would like to configure. On FLX, you could therefore press and hold Setup and tap Colour, or on FLX S, you could press and hold Setup, and tap the Colour tab, at the top of the internal touchscreen which opens when a fixture with colour parameters is selected.

The attribute settings can also be opened via Setup, by tapping Setup -> Settings, and choosing the attribute under "Attributes".

The options in each Attribute's window are the same (apart from colour, which has one extra option), but the setting for each option can be changed per attribute independently.

Wheel Mode

"Wheel mode" allows you to change how the encoder wheel will affect the selected fixtures. The options are explained below. A secondary "shifted" option can be chosen whilst holding down the $\boxed{\text{Shift}}$ key on the console, which allows you to select how the encoder will work when you rotate it whilst holding $\boxed{\text{Shift}}$.

- "Absolute" will change all the selected fixtures to be exactly the same value for that wheel's parameter. For example, if all the moving lights have different gobos, changing the gobo wheel in absolute mode will switch them all to the same gobo, and then alter them all together. This is the default for Colour, Beam and Shape. The DMX value displayed on the encoder is sent to all fixtures.

- "Relative" will change all the selected fixtures relative to the values they currently have. For example, if lots of moving lights are all pointing centre stage, they are all at different angles. Moving them "relative" will move all their Pans and Tilts together rather than snapping them all to the same angle (which is what "absolute" would do). Relative is therefore the default wheel mode for Position. The DMX value displayed on the encoder is that of the first selected fixture.

- "Fan first" fans the change you make across all the selected fixtures, so the first fixture's parameter doesn't change, the last fixture's parameter changes as expected, and all the fixtures in-between will scale between these two values. This is the default shifted option for all attributes.

- "Fan Middle" will fan from the middle fixture, so the middle fixture's parameter doesn't change, the first half of the fixtures will change in one direction (again, scaling as you move away from the middle fixture), and the second half of the fixtures will change in the other direction.

- "Fan Last" fans the change you make across all the selected fixtures, so the last fixture's parameter doesn't change, the first fixture's parameter changes as expected, and all the fixtures in-between will scale between these two values.

- "Fan V" is similar to "Fan Middle", but the second half of the fixtures change in the same direction as the first half, rather than the opposite direction. Also known as "Fan Symmetrical".

Wheel Behaviour

"Wheel Behaviour" changes how responsive rotating the encoder is.

- "Proportional" uses an exponential algorithm to control attributes based on the speed of the encoder wheel movement. This is the default, and provides the best overall control.

- "Course" uses a linear algorithm to control attributes, with a low sensitivity to make large changes quickly.

- "Fine" using a linear algorithm to control attributes, with a high sensitivity to make very accurate changes easily. Every "click" of the encoder wheel will change the parameter by one DMX value.

Keep Parameters Separate

When SmartTag is disabled in the Record Options window, rather than the console deciding which parameters to record into palettes and cues, you decide. With SmartTag disabled, you choose which parameters get stored by "tagging" them. When moving an encoder wheel, you will notice the parameter goes from having a dark blue background in the encoder display, meaning untagged, to a light blue encoder display, meaning tagged. Therefore whenever you adjust an encoder, you know that value will be stored when you record a cue.

However using the "Keep Parameters Separate" option, you can decide if moving one parameter within an attribute should automatically tag all the other parameters within that attribute too.

By default, parameters are not separated for Colour and Position, as all the values within those attributes come together to create a single colour and single position. In most cases, you therefore need all of those parameters to be recorded at a time. Whereas the default is "Yes" for Beam and Shape, as often the parameters within Beam and Shape are completely independent from each other.

[Click here to find out more about SmartTag](#)

Wheel Sensitivity

"Wheel Sensitivity" allows you to change the sensitivity of the four encoder wheels. The setting is a value between 0% and 100%, with 100% being the most sensitive. Recommended use is between 50% and 60%. Increasing the sensitivity reduces the amount of wheel rotations required, and reducing the sensitivity increases the amount of wheel rotations required. Note Wheel Sensitivity is a global option, which can be accessed from each attribute's settings.

Tagging

What is tagging?

Tagging is the process of telling the console which parameters you would like to be recorded, when you tap the Record or Update buttons. It is very rare that you would want to include all parameters of all fixtures into your cues, as this would prevent you from being able to mix playbacks, and prevent things like Move On Dark from working. By default, SmartTag is enabled in the Record Options window. To open the Record Options window on the internal touchscreen, you can press and hold Record .

When SmartTag is enabled in the Record Options window, you don't need to worry about tagging parameters, as the console will do the work for you, and work out which parameters need to be recorded, to ensure that you achieve the current lighting state when played back. With SmartTag enabled, you can therefore ignore this section.

[Click here to find out more about SmartTag](#)

However when SmartTag is disabled in the Record Options window, rather than the console deciding which parameters to record into palettes and cues, you decide. With SmartTag disabled, you choose which parameters get stored by "tagging" them. When moving an encoder wheel, you will notice the parameter goes from having a dark blue background in the encoder display, meaning untagged, to a light blue encoder display, meaning tagged. Therefore whenever you adjust an encoder, you know that value will be stored when you record a cue, as the console automatically tags it.

In the settings of each attribute, you have the ability to choose whether adjusting one encoder will tag just that parameter, or tag all parameters within that attribute automatically.

[See the Attribute Settings section for more information](#)

In this image, you will notice that the first pair of parameters on encoders one and two are tagged, and the last pair of parameters on encoders three and four are untagged. This is shown by the colour of the encoder display background.

Manual Tagging

As well as the console automatically tagging the parameters or attributes of the parameters you adjust, you can also choose to manually tag and untag parameters, so that you can manually choose to include or not include parameters.

To manually tag or untag a parameter, you can tap on it on the internal touchscreen. This will display Tag or untag, followed by the parameter's name in the command line. For example tapping on red would give:
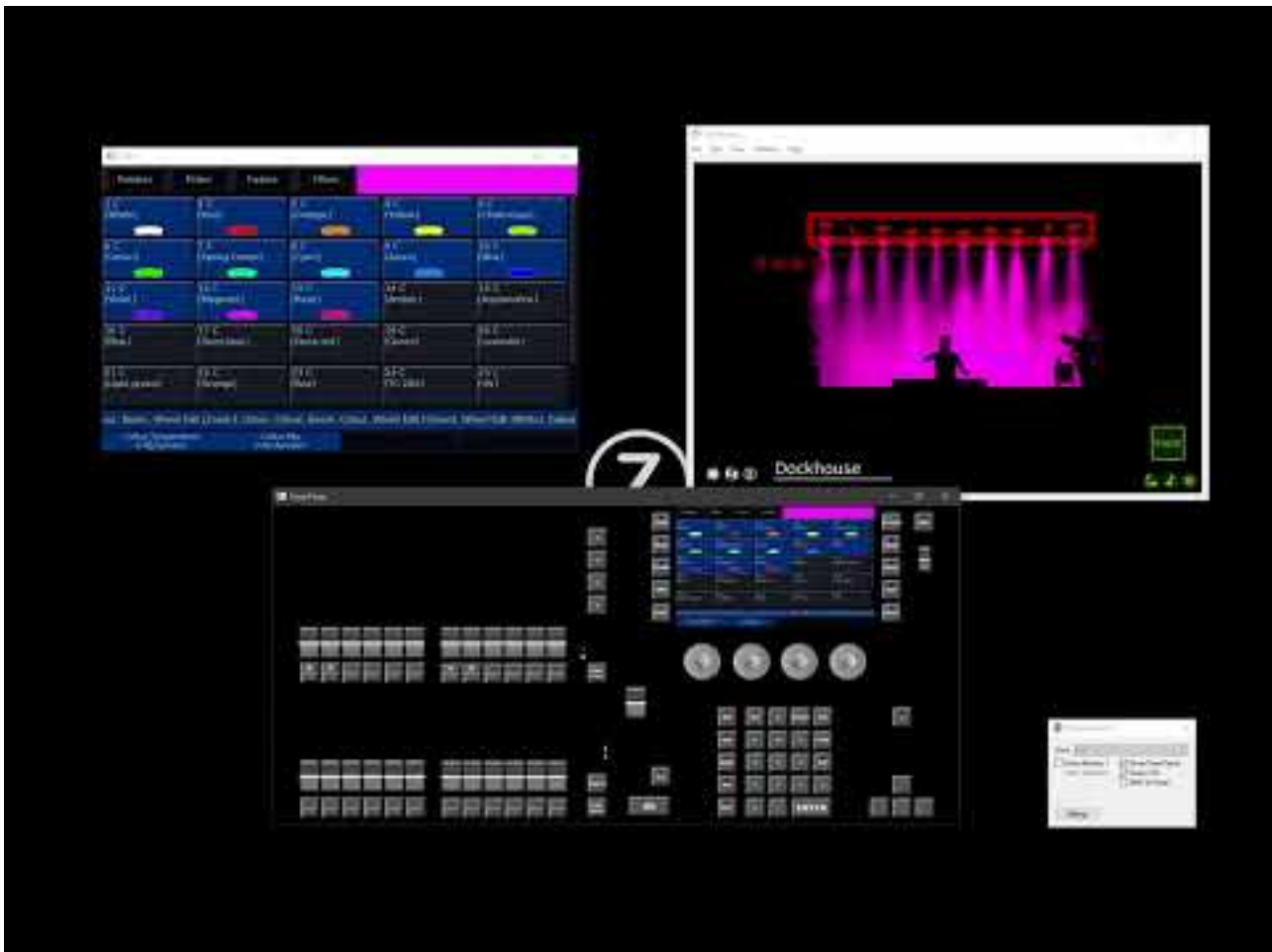
Tag [Red],

You can also manually tag or untag parameters by holding Clear , and jogging that parameter's encoder wheel.

To tag/untag intensity, you can tap the middle button of the intensity encoder.

On FLX, you can tag or untag whole attributes, by pressing and holding ⎣ Clear ⎤ , and tapping the attribute key on the console. For example, ⎣ Clear ⎤ + ⎣ Colour ⎤ .

To clear manual adjustments and untag whole fixtures, you can use "Clear Fixture". Click here for more information.

Watch the video below to learn more about Tagging...

https://youtu.be/b_X8mEuM--Y