

User Definable Keys



FLX and ZerOS Server provide four physical User Definable Keys (UDKs), numbered 1-4. On FLX these are located vertically above the **Fader Funct.** button, and on ZerOS Server these are the on the right hand side of the front panel.

These can be paged along with the playback faders, giving a total of 40 UDKs. By default, they are page locked, meaning you have four different functions available, irrespective of which playback page you are on.

UDKs can be configured as shortcuts, advanced functions, or you can record lighting states onto them.



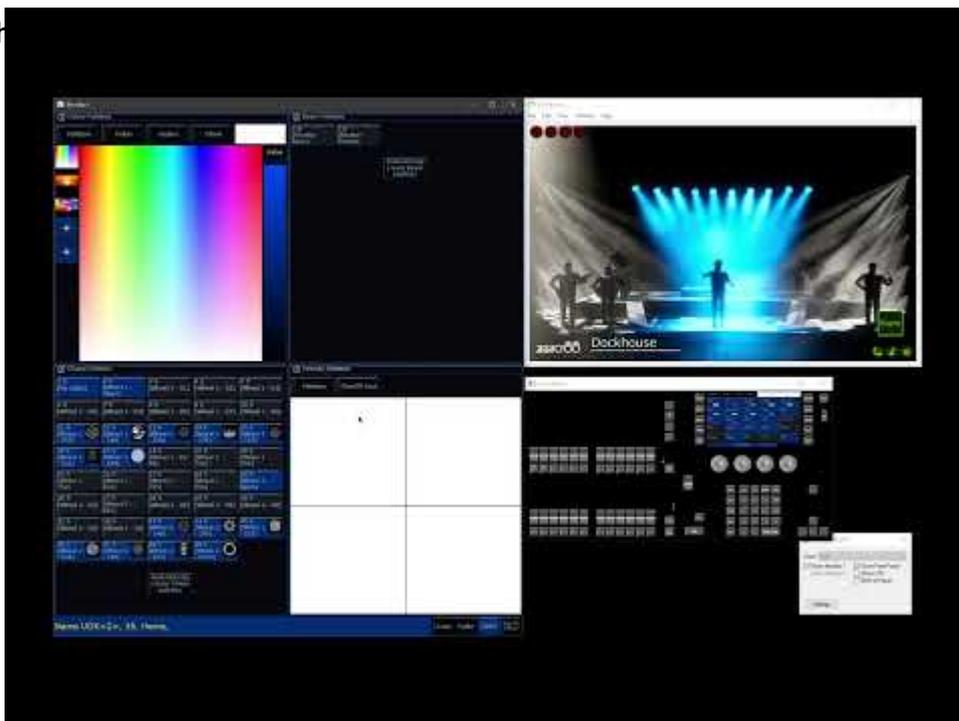
The functionality of the UDKs is displayed in the four boxes, running along the top of the Faders window.

Click the different available UDK functions to learn more...

- [Channel Data UDKs](#)
- [Shortcut UDKs](#)
- [Advanced UDKs](#)

You can delete any UDK by pressing the Delete key and then pressing the UDK button. After confirming, this cannot be undone.

Take a look at th



https://youtu.be/XWQ0_1CIne0

Channel Data UDKs

Recording Channel Data UDKs

In the same way you can record a lighting state onto a playback as a cue, lighting states can be recorded directly onto User Definable Keys (UDKs) as "Channel Data" UDKs. This allows you to record fixtures, with associated fade times, directly onto a UDK. First, set up the fixtures as required, in the same way as programming a cue.

Then tap **Record** followed by tapping the UDK you wish to store your lighting state onto. UDKs will flash after tapping Record if they are empty, and will not light if there is something on them already.



Tapping a UDK that is already recorded, will give you the option to cancel, or overwrite it. The console will state the "User Defined Key x/y is already recorded", where x is the UDK page, and y is the UDK number.



The Faders window will show you information about programmed channel data UDKs. It will display the UDK number, the fact it is a Channel Data UDK, and then a row of settings information.

Naming Channel Data UDKs

UDK's which have been recorded can be named by pressing **Name** and then pressing the UDK button. An onscreen keyboard will appear for you to type in the required name. Press **Enter** to complete.

The name will then be displayed in the onscreen UDKs in the Faders window.

Updating Channel Data UDKs

If you need to make a change to a UDK you can update it. As with updating cues, it is a good idea to output your UDK, make your changes, and then save the update. You may therefore wish to configure the UDK button to be latch rather than flash, if it isn't already.

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

Once set to latch, tap the UDK so that it is active and outputting, make your changes, tap **Update**, and then tap your UDK. Your manual values will be merged with the UDK.

Deleting Channel Data UDKs

To delete a UDK, tap **Delete**, and then tap the flashing button of the UDK you wish to Delete. You can then confirm by clicking **Yes**. Tapping the button of an unprogrammed UDK will display a message stating the UDK is not

programmed.

For example:

Delete **UDK1** **Enter**

Delete UDK <1>.

This deletes UDK 1.

[Once you have recorded a UDK, there are various settings available. Click here to find out about Channel Data UDK Settings.](#)

UDK Settings



Once you have programmed a channel data UDK, you can configure it. To do this, hold Setup and tap the UDK you wish to configure, to open the UDK Settings.

After making changes in the UDK Settings, click OK to save, or Cancel to discard.

Flash Mode

The flash mode can be switched between “Flash” and “Latch” using the Flash Mode drop down, and changes the button function of the UDK.

The default is “Flash”, which means the recorded lighting state is output by pressing and holding the UDK and released when the UDK is released (fade times, are ignored). This is useful for bursts of smoke, or flashes of blinders for example.

When set to “Latch”, the recorded lighting state will fade according to the UDK fade times configured. When the UDK is pressed the first time the lighting state will fade up and stay on, until the UDK is pressed for a second time, when the UDK will fade down and release.

The light in the UDK indicates if the UDK is active.

Mix Mode

The intensity channels in the data are mixed either HTP or LTP.

Release

The default Release option is Yes, meaning that when the UDK has been turned off, and the controlled intensities fall to 0%, the UDK will be released. This means the UDK will no longer be controlling those fixtures.

If the Release option is set to No then the fixtures will not be released when the UDK is released. The fixtures being controlled by the UDK can be released manually by holding down the **Clear** key and pressing the UDK's button, or by controlling the fixtures by triggering another LTP command from elsewhere on the console.

Holding down **Clear** and pressing **Fader Funct.** will release all playbacks 1 – 240 and all UDKs.

Page Lock

Page lock is used to lock a specific UDK to the button, no matter which playback page you are on. This is enabled by default, so can be disabled to access UDKs on additional pages. Some users may wish to page lock all of their playbacks, and not page lock their UDKs, so that the playback page control only changes the functions of your UDKs.

Fade Times

Fade times can be given to each attribute, and are used if the UDK is set to "Latch". All UDK fade times will default to 0 seconds. Any unprogrammed attributes, will be indicated by their fade followed by "-".

Fade times can be adjusted by using the up and down arrows to navigate through the times, and typing in the required timings. Fade Up is the time it takes for the UDK intensities to fade on after tapping the button, and Fade Down is the time it takes for the intensities to fade down after tapping the button again. Colour, Beam, Shape and Position times are used to get from the fixture's current values, to the programmed values. They are not used when releasing the UDK.

Shortcut UDKs

A UDK can be configured as a shortcut to a Group, Palette, or Macro. To do this, firstly make sure the Group / Palette / Macro is recorded first.

Find out more about the different Shortcut UDKs...

- [Group UDK](#)
- [Palette UDK](#)
- [Macro UDK](#)

Group UDK

Group UDKs are used for selecting a group. When the UDK is pressed, the group assigned to the UDK is selected – this is equivalent of selecting the Group within the Group Window. Selecting a group should not be confused with changing the intensity of those fixtures.

To record a Group UDK, type in your group, tap record, and then tap a UDK. For example:

`Group` `1` `Record` `UDK2`

This records a shortcut to Group 1 onto the second UDK.

Palette UDK

The Palette UDK can be used as an alternative method of outputting a palette for the currently selected fixtures. The palette assigned to the UDK is applied to the selected fixtures when the UDK is pressed. If Programmer Time is enabled, the palette will fade in over the programmer time.

To record a Palette UDK, type in your palette, tap record, and then tap a UDK. For example:

`Colour` `2` `0` `Record` `UDK3`

This records a shortcut to Colour 20 onto the third UDK. This syntax is available for all palette types; Colour, Beam, Shape, Position and Effect.

Macro UDK

The Macro UDK is used to run the user defined macro assigned to the UDK. The macro is run by pressing the UDK.

To record a Macro UDK, type in your macro, tap record, and then tap a UDK. For example:

`Macro` `1` `4` `Record` `UDK3`

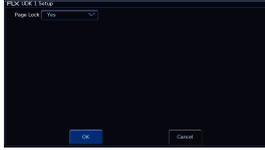
This records a shortcut to Macro 20 onto the third UDK.

When recording a Group, Palette or Macro UDK shortcut, you will notice that the playbacks do not flash after pressing Record, as the console knows you are not storing channel data.



MFF Window

The Faders window will display shortcut UDKs with the specified shortcut displayed, and the name of the group, palette, macro or fixture below. A shortcut for colour palette 10 "Blue" has been configured on UDK 2 in this picture.

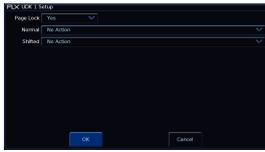


Page Lock

By default, Shortcut UDKs will be page locked, meaning whichever playback page you're on, that UDK will remain with your configured shortcut. However page lock can be disabled, giving you a maximum of 40 shortcuts, across the 10 playback pages.

To configure a shortcut UDK's page lock, hold Setup, and tap your Shortcut UDK. You can then use the Page Lock drop down, and click OK.

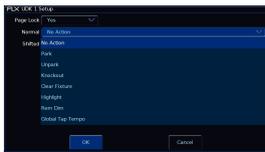
Advanced UDKs



A UDK can be assigned an advanced function. To do this, hold Setup, and tap a blank, empty, unprogrammed UDK. This will open the UDK Settings window where the function you wish to use can be selected.

The "Normal" drop down option is how the UDK will function when pressed normally, and the "Shifted" option has the same options, but is how the UDK will function when pressed whilst holding the Shift button.

As with all UDKs, you can also choose whether it is page locked.



Opening the Normal or Shifted drop down, will display the available functions. After choosing the required option, press OK. In the Faders window, the onscreen UDK will have the Normal function displayed, with the shifted function in (brackets).

The available options are detailed below:

Park/Unpark

A UDK can be configured to be Park or Unpark. Parking, is a method of temporarily "freezing" the DMX output to a fixture or cell, "parking" it in its current values. If Park is used, it is common for the normal function to be Park, and the Shifted function to be Unpark.

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

Knockout

Knockout can be used to release a fixture or multiple fixtures from a cue or channel data UDK. Therefore select the fixture, and tap the Knockout UDK, and the fixture is released from the cue or UDK. The fixture will be controlled by the cue or UDK again, the next time the cue or UDK is triggered. It will not clear the selected fixture from the programmer.

For example, to knockout fixture 3:

3. Knockout,

Select the fixture, and tap your UDK configured as Knockout.

Clear Fixture

Clear fixture can be used to remove a single fixture, or single cell of a fixture from the programmer, and remove all manual controls, allowing it to be controlled by active cues or UDKs. This is therefore very useful, as double tapping

will clear the selection and programmer information for all fixtures, whereas Clear Fixture clears both selection and programmer information for just the currently selected fixtures or cells.

For example, to clear fixture 4 through 6:

[4] [Thru] [6] [UDK4]

4 Thru 6, Clear Fixture,

Select the required fixtures, and tap your UDK configured as Clear Fixture.

Highlight

Highlight can be used as a method of quickly identifying the selected fixture or cell.

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

Rem Dim

Rem Dim is short for Remainder Dim, and is a method of dimming the remaining fixtures or cells that are not currently selected.

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

Global Tap Tempo

A UDK can be configured as a Global Tap Tempo, to tap along to music to set the speed of any chases assigned to use global BPM. The BPM value you have tapped will be shown on the third encoder wheel by tapping [Z]

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

Highlight & Rem Dim

Highlight

"Highlight" provides a quick method of finding/identifying/locating a fixture or cell of a fixture. As well as highlighting single fixtures or cells, multiple fixtures or cells can be highlighted at once.

To use Highlight, press and hold [Setup] and tap an empty UDK, and choose **Highlight** from the drop down menu. The "shifted" option allows a second function to be stored on the UDK, accessed by holding [Shift] and pressing the UDK.

You can then select the required fixture(s) or cell(s) and tap the Highlight UDK, for example if UDK 2 is configured as Highlight:

[1] [And] [3] [UDK2]

This will set the intensity of the currently selected fixtures and cells to the "High value". The High Value can be customised in `Setup` -> `Settings` , and choosing `High Value` under the Operational options. The default high value is 100%.

Any colour parameters of the fixture, will go to their library defaults, which should give you white light. Beam and Shape parameters will be left unchanged, apart from any Shutter parameters that will be opened.

Pan and Tilt, will also be left unchanged. While a fixture is highlighted, only the Pan and Tilt parameters can be edited using the encoders. This allows the position to be adjusted without affecting any of the other parameters. This can be particularly useful when creating or updating position palettes.

Watch the short



<https://youtu.be/vrWq3l231tU>

Rather than using a UDK to access Highlight, the shortcut for Highlight is hold Shift and tap Home. The Home key will flash when Highlight is active.

Next & Previous

Whilst Highlight is active, Next and Previous can be used to navigate between fixtures or cells, tweaking their Pan and Tilt in turn. The Next function can be accessed by holding `Shift` and tapping the right arrow key, and Previous can be accessed by holding `Shift` and tapping the left arrow key.

Next and Previous are written in the command line, bringing the added benefit of allowing you to backspace through

the commands:

1, Next, Next, Previous,



When a group is used to select fixtures, Next and Previous will select individual fixtures within the group, selecting in the order the fixtures were selected when the group was first recorded. Rather than the whole group being displayed as selected in the Output window with the usual orange box, a dark orange box is displayed around the group, with the currently selected fixture displayed in the usual orange box.

This is particularly useful for focusing the positions of a group of movers, as it allows you to select the group, select Next to select the first fixture in the group, and then choose Highlight. You can then work through the fixtures one by one by tapping Next, and when you get to the last fixture you will cycle back to the first in the group, in case you then need to fine tune the focus.

Once finished adjusting fixtures, press the Highlight UDK again (or **[Shift]** + **[Home]** again) to un-highlight the selected fixture(s). The other fixture parameters will return to their previous output level.

Rem Dim

Rem Dim is short for Remainder Dim, and is a method of dimming the remaining fixtures or cells that are not currently selected. This is therefore particularly useful to use whilst focusing fixtures, as a method of just turning the required fixtures on onstage, and turning others off. It can therefore also be considered as a method of soloing a fixture or cell.

To use Rem Dim, press and hold **[Setup]** and tap an empty UDK, and choose **Rem Dim** from the drop down menu. The "shifted" option allows a second function to be stored on the UDK, accessed by holding **[Shift]** and pressing the UDK.

You can then use this function by selecting the fixture(s) or cell(s) required, and then tap the Rem Dim UDK. For example if UDK 1 is set as Rem Dim:

[2] **[0]** **[UDK1]**

20, Rem Dim,

If the selected fixture or cell's intensity level is above 0% and Rem Dim is activated, it remains at that level. If the selected fixture or cell's intensity level is at 0% and Rem Dim is activated, the selected fixture or cell is taken to the "High Value".

If the remaining unselected fixtures and cells are above the Rem Dim low value, they will be taken down to the low value. If the remaining unselected fixtures and cells are below the Rem Dim low value, they will not be changed.

The High Value and Low Value can be customised in **[Setup]** -> **Settings**, by choosing **High Value** or **Low Value** under the Operational options. The default high value is 100%, and default Low Value is 0%.

Fixture	Scale	Lock	Power	Dim
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	

Output Window

Any values adjusted by Highlight or Rem Dim, whether that be fixtures taken to the High Value or Low Value, will be displayed as yellow intensity percentages in the Output Window.

Watch the short



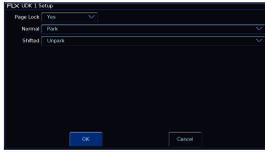
<https://youtu.be/MTTfd1fQAol>

Did you know, there is a free ZerOS Remote app for Apple Watches, that allow you to remotely Highlight and Rem Dim fixtures straight from your wrist, perfect for focusing.

Take a look...



Parking



To access the Park/Unpark functions, hold Setup and tap an empty UDK. It is common to configure the Normal UDK function to be Park, and the Shifted UDK function to be Unpark. After choosing Park and Unpark, click OK.



In the Faders window, the normal Park function will be shown, on the onscreen UDK, with the shifted Unpark function shown in (brackets).

This UDK can then be used to Park or Unpark your selected fixtures or cells. Parking, is a method of temporarily "freezing" the DMX output to a fixture or cell, "parking" it in its current values. Neither manual control, or any cues or channel data UDKs will be able to control parked fixtures or cells. The Grand Master and Blackout will also not affect a parked fixture or cell. To regain control, the fixture or cell can be unparked.

To park fixtures or cells in their current values, select them, and tap your park UDK.



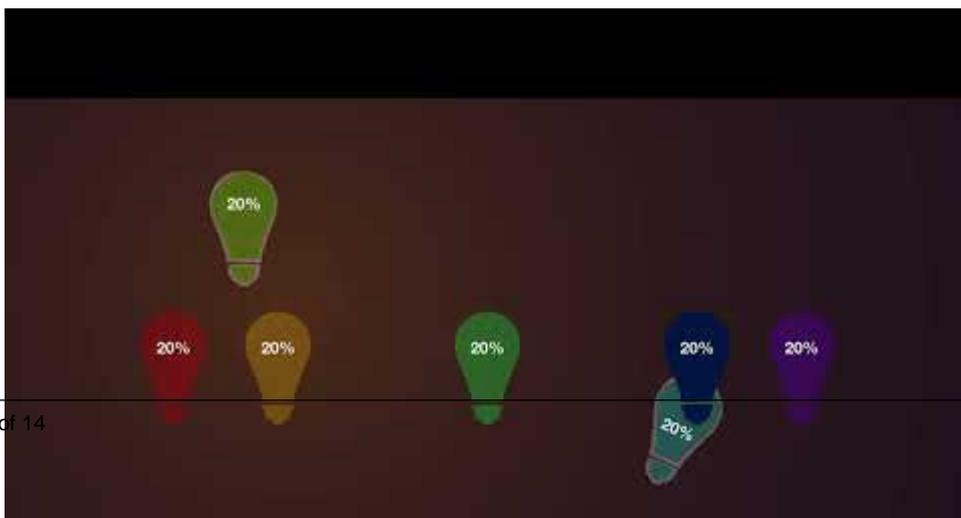
When a fixture is parked, its intensity percentage will be displayed in black in the Output window with a red background, as can be seen for fixture 5 in the image.

If the Output window is showing Sources rather than Intensities, "PARKED" will be displayed for the fixture. Parked fixtures will also be noted with "PK" at the start of their row in the parameter table at the bottom of the Output window, when the fixture is selected or tagged.

Whilst a fixture or cell is parked, it is still possible to modify the values associated with the fixture or cell in cues and palettes etc but the output values from the console will not change. You can therefore continuing to program parked fixtures or cells "blind".

To unpark a fixture or cell, select it and then hold **[Shift]** and tap the Park UDK. The fixture or cell will then jump to its currently defined parameter levels.

To find out more about parking, watch the quick video below...



<https://youtu.be/sXdhMqBIDas>