

KAIROS

Incredible **P**roductivity

IT/IP Centric Live Video Processing Platform

Operating Guide

Panasonic

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How to read this document

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■ Reference pages

- Reference pages in this document are indicated by (page 00).

Network security

As the KAIROS system intended to be used while connected to a network, the following security risks exist.

- ① Leakage or theft of information through the system
- ② Unauthorized operation of the system by persons with malicious intent
- ③ Interference with or stoppage of the system by persons with malicious intent

It is your responsibility to take precautions, such as those described below, to protect yourself against the above network security risks.

Panasonic does not accept any responsibility for damage of this type.

- Use the system in a network secured by a firewall, etc.
- Make sure that the system is not infected by computer viruses or other malicious programs (using a regularly updated antivirus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- After accessing the system as an administrator, be sure to close all web browsers.
- Change the administrator password periodically.
- To avoid passwords that can be guessed easily by third parties, set a password of at least 8 characters in length, including at least 3 different types of characters, such as upper case, lower case, numbers, and symbols.
- Restrict access to the system by authenticating the users, for example, to prevent setting information stored on the system from leaking over the network.
- Do not install the system in locations where the system, cables, and other parts can be easily damaged or destroyed by persons with malicious intent.
- Avoid connections that use public lines.
- The staff of our company and our affiliated companies will never ask for the password directly from the customer.

Note:

Notes on user authentication

- User authentication on the system can be performed via basic authentication. If basic authentication is used without the use of a dedicated authentication device, password leaks may occur.

Usage restrictions

- We recommend connecting the system, controller, and any computers to the same network segment. Events based on settings inherent to the network devices, for example, may occur in connections that include different segments, so be sure to perform checks prior to operation.

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1 Overview

1.1 General

Today, live video production needs to adapt new technologies to create more sense of reality and new technologies for improving productivity of video production. These technical evolution and requirements are remarkably advancing; KAIROS will be the solution to meet these requirements.

“KAIROS”—the IT/IP platform is a live video production platform that is developed based on a new concept and innovative architecture. It incorporates proprietary, ground-breaking software to maximize the CPU and GPU capacities for video processing.

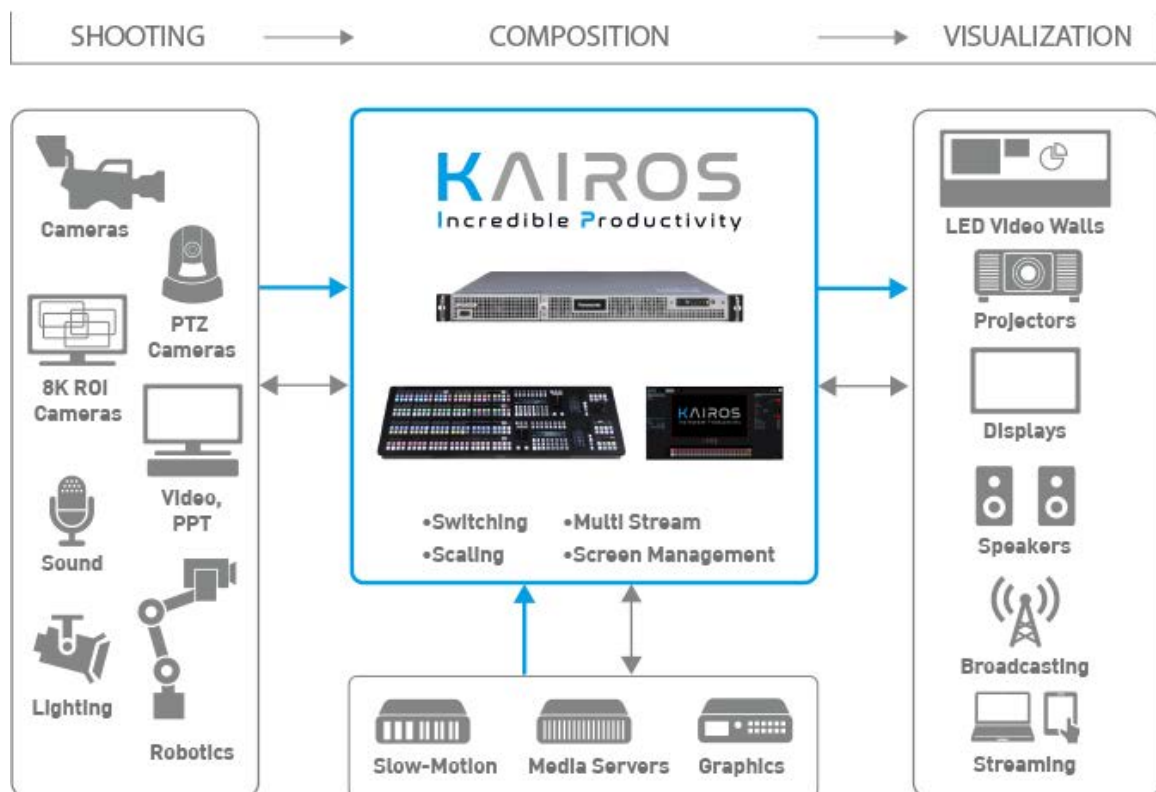
General-purpose IT equipment is deployed to run on CPU and GPU to take advantage of the most advanced IT technology. And the proprietary, innovative software technology has enabled unprecedented flexible live video processing with low latency executed on a GPU, while the open software architecture ensures excellent system flexibility and scalability.

A variety of video inputs and outputs are available with KAIROS to support not only baseband signals such as SDI but also new IP signals including ST 2110 and NDI® to realize remote live video production. KAIROS uses the GPU for the video processing, thus allowing flexible video production using multiple layers with unrestricted number of MEs or keys and the “CANVAS” screen unhampered by resolution or format.

Because KAIROS is an IT-based open architecture platform, it enables functional enhancements and control linkage with external devices by adding application software. With the system integration capability, KAIROS improves work efficiency and ensures future expandability.

Achieving flexibility in all levels of production unlike any existing hardware-based systems, KAIROS breaks new ground for live video production.

* NDI® is a registered trademark of NewTek in the United States.



1.2 Key Features

1.2.1 Transition

In a generic M/E architecture, each Mix/Effects Bus (BGD + a fixed number of Keys) has its own dedicated transition generator usually limited to one transition type at a time. KAIROS offers an advanced approach.

In KAIROS, there is no limitation on the number of transitions, types, and combinations of transition elements (BGD, Key/Layer) per Scene. A transition can be designed to affect multiple elements (usually layers), and each element can have multiple components. A wide variety of transition types can be applied to a single transition element simultaneously (e.g., mix and size), and each component of a transition has its own “Start” and “End” position called “Offset Transition,” which can be adjusted separately per transition element (BGD, Key/Layer) and transition component (Mix, Wipe, DVE, etc.)

The so-called “Next Transition” bits—selecting multiple transitions at once (e.g.: Trans-BGD, Trans-Layer-1, Trans-Layer-4, Trans-Layer-5)—will automatically monitor the corresponding LAH-PVW (Look Ahead Preview), and the multi-selection made can be saved as individual setting(s) within the provided memory systems (Macro, Scene).

1.2.2 Scene

A Scene is the equivalent of a ME on generic switcher with unique enhancements regarding:

- Number of Layers defined per Scene
- Source Options defined per Layer and per Scene (see next page “1.3 Naming Convention”)
- Unlimited Transitions and Transition-Combinations including combinable Transition-Types
- Cleanfeed adjustable per Scene and per Layer
- X/Y-Resolution adjustable per Scene
- Separate set of Macros per Scene
- Macro assigned to be executed when a Scene receives a tally
- Color-Theme per Scene
- Scenes can be treated like any other regular cross-point (e.g., Cameras, Video-Server, etc.)

1.2.3 Layer

A Layer is like a Keyer on a generic M/E-type switcher for the purpose of compositing. A Layer differs from a Keyer in that it can contain combinations of multiple Effects (attributes). A specific attribute can be repeatedly applied to the same layer with differing parameters. As an example, a single layer could have multiple chroma-keys applied with different key colors selected so as to fix a poorly lit chroma-key background. All Layers, including BGD-Layer and Aux-Buses, are capable of enabling Bus-Dissolve, whereby the dissolve-type—apart from Mix-Dissolve—can also select from Wipes, DVE’s, and User Transitions such as various programable Replay-Wipes.

Every Layer has the ability to link cross-point controls to any other Layer within the Scene. Every Layer provides its own Color-Theme for the GUI. Layers can be grouped for more refined control. Each Layer can treat its selected source to automatically fit into the specified Scene-Resolution, be kept in original size and position, or be adjusted by the user. “Source Options” allows the user to specify the required sources and their designated position per individual Layer-Bus, which will be reflected in the GUI and on the Control Panel.

Any Layer can become like the BGD-Layer. The “Preset enable” function is selectable per Layer, which turns a single bus layer into an A/B bus layer, where the user can preset a source on the B bus to transition to. Layers, which have “Preset enable” active (such as Background-Layer where this function is enabled by default), can also mimic a behavior mainly used in Automation (Run-Down) application:

- “**Swap**” mode is the default and behaves like any generic A/B-Bus. So, when executing a Cut or Auto transition, the sources selected on the A-Bus and B-Bus will swap after the transition is completed.
- The “**Next**” mode works like “Swap,” except that after the transition has been executed, the B-Bus source selection will auto advance to the next source in the bus as user-defined in “Source Options” in order to mimic an Automation system. If necessary, the auto-selected B-Bus cross-point can be manually overridden at any time. When reaching the last cross-point on B-Bus, the auto advance will stop and the B-bus will hold the same source selection.
- “**Loop**” mode works like **next** mode, but when reaching the last cross-point on B-Bus and executing a transition, the B-Bus next source selection will loop back to the beginning of the “Source Options” assigned to that bus.

1.3 Naming Convention

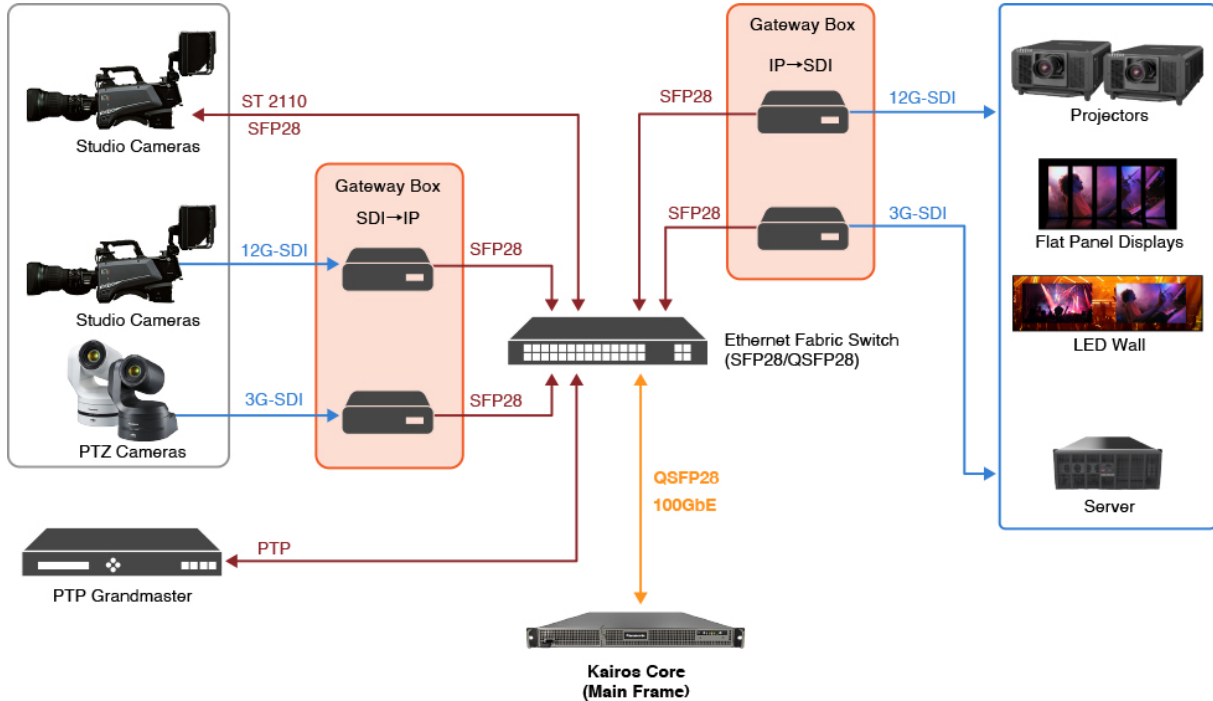
- Production = Stored file containing all production-related information including:
 - Input/output settings (except IP addresses and Type SDI, NDI, UDP, Format).
 - All Control Panel and GUI settings.
 - Multi-Viewer Layouts & Presets, Live View.
 - Effects, Color Correction.
 - Macros.
 - Ram Recorder, Clip Player, Stills.
- Environment = All engineering settings such as:
 - Input/Output (IP addresses and Type SDI, NDI, UDP, Format).
 - IP-Connection settings (Main Frames, Control Panels, Kairos Creators).
 - Engineering Input Names.
- Setup/Settings = Environment Settings.
- Ram Recorder = Uncompressed file-based Clip Player.
- Clip Player = File-based “visually lossless” Clip Player.
- Stills = File-based Still Store.
- FX-Input = Inputs that can contain pre-processed attributes (DVE, Color Correction, pre-processed Key, etc.). Source for FX-Input can be derived from a Physical Input or any other internal Source like Ram Recorder, Clip Player, Stills, etc.
- AUX = Programmable Output section.
- Live View = Multi-Viewer Monitoring in GUI.
- Layer = A Layer is treated like a generic Keyer for the purpose of compositing, but a layer differs from a Keyer in that it can contain multiple combinations of attributes—even of the same type—such as Luminance- and Chroma-keys, Masks, Wipes, DVE’s, Color Corrections, etc. (see section 1.2.3 Layer).
- Source Options = Individual available Sources per Bus & Scene.
- Scene = see section 1.2.2 Scene.
- Clean-Feed Plus = Every Layer within any Scene level, even when re-entered through multiple other M/E’s, has its individual (forwarded) attribute/flag declaring whether it is visible or not on any designated Output. Unlike a generic M/E architecture, it’s no longer an M/E by M/E setting, which was restricted by the number of available output cascades per M/E. KAIROS automatically selects the “correct” output cascade (A/B/C/D/...) in order to maintain the overall Clean-Feed rules.
- CP-Assignment = Dynamic assignment of Scenes, Buses, Delegations, and various controls.

1.4 System Integration

A typical system of KAIROS consists of the following components.

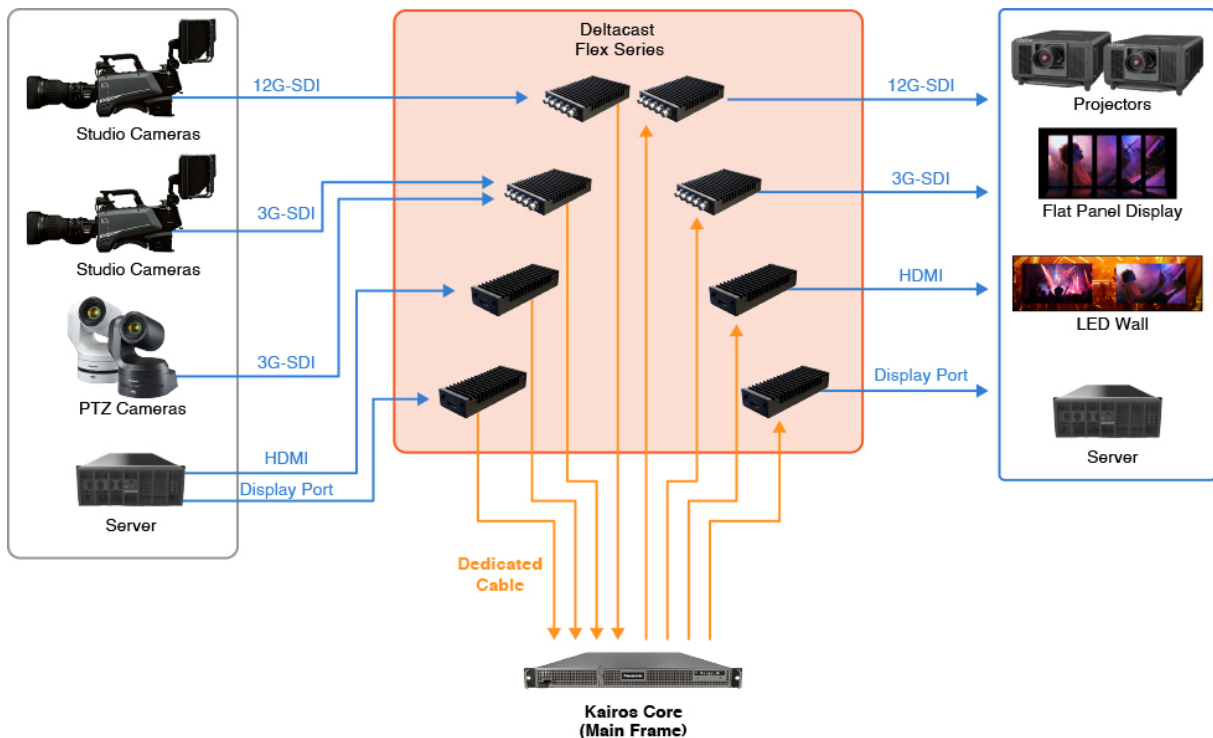
System Integration Example (IP-based):

This system is based on pure IP infrastructure with SDI/IP Gateway and Ethernet switch.



System Integration Example (SDI-based):

This system is based on SDI/HDMI/DP-only infrastructure with Deltacast Flex series.



Note: Install or remove Deltacast Flex modules with Kairo Core (Main Frame) turned off. If the modules are installed after booting, they may not be recognized.

IP-based and SDI-based components can also be used together in a KAIROS system.

Besides the Video I/O configurations described in the IP & SDI-based setup, the system can also grow into various aspects by adding additional KAIROS Cores (Main Frames), KAIROS Controls (Control Panels), and Kairos Creators (GUI Software installed Windows PCs). Please note that these items do not have to be physically adjacent and can be connected over a distance using fiber paths.

1.5 Peripheral Devices

Peripheral devices using the following protocols can be connected directly through the Network:

- AMP over LAN (Advanced Media Player)
- PTZ-Control (Panasonic)
- Tally over IP direct (Panasonic cameras)

1.6 How to get started

1. Once Kairos Core (Main Frame) is powered up, the Multi-viewer outputs can be seen from the display port terminals (MV1/MV2) on the rear.

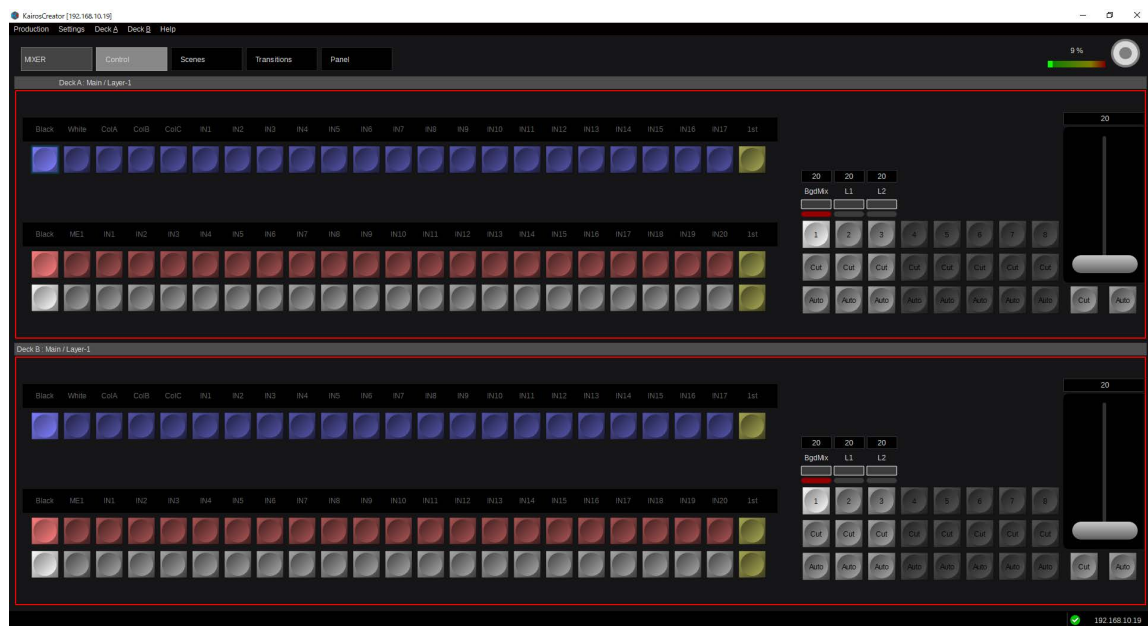


Note: Before turning on Kairos Core (Main Frame), it is necessary to connect the display port terminals and turn them on. If the display port terminals are connected after Kairos Core (Main Frame) is powered up, they may not be recognized.

2. Connect LAN1 of Kairos Core (Main Frame) and Kairos Creator (GUI PC) in the same network. Open the Kairos Creator and connect to the Kairos Core with appropriate IP address setting.

Default IP address of Kairos Core LAN1: 192.168.10.10

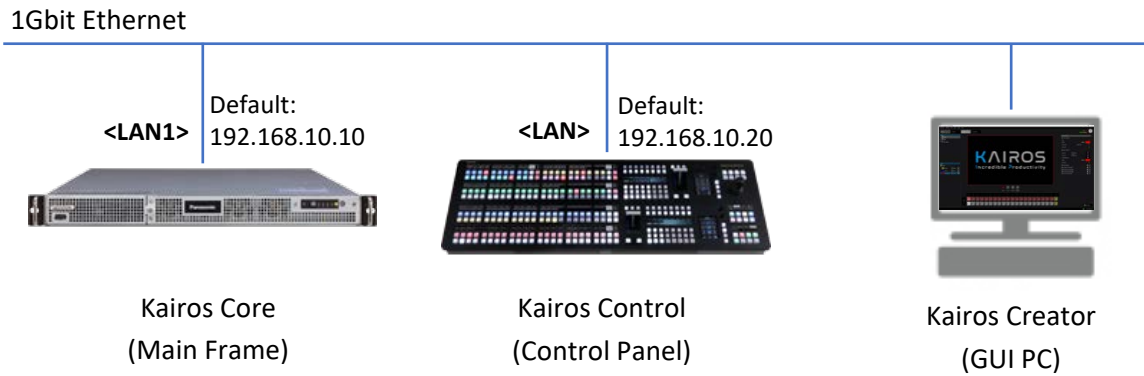
The “MIXER” – “Control” menu is displayed on the Kairos Creator.



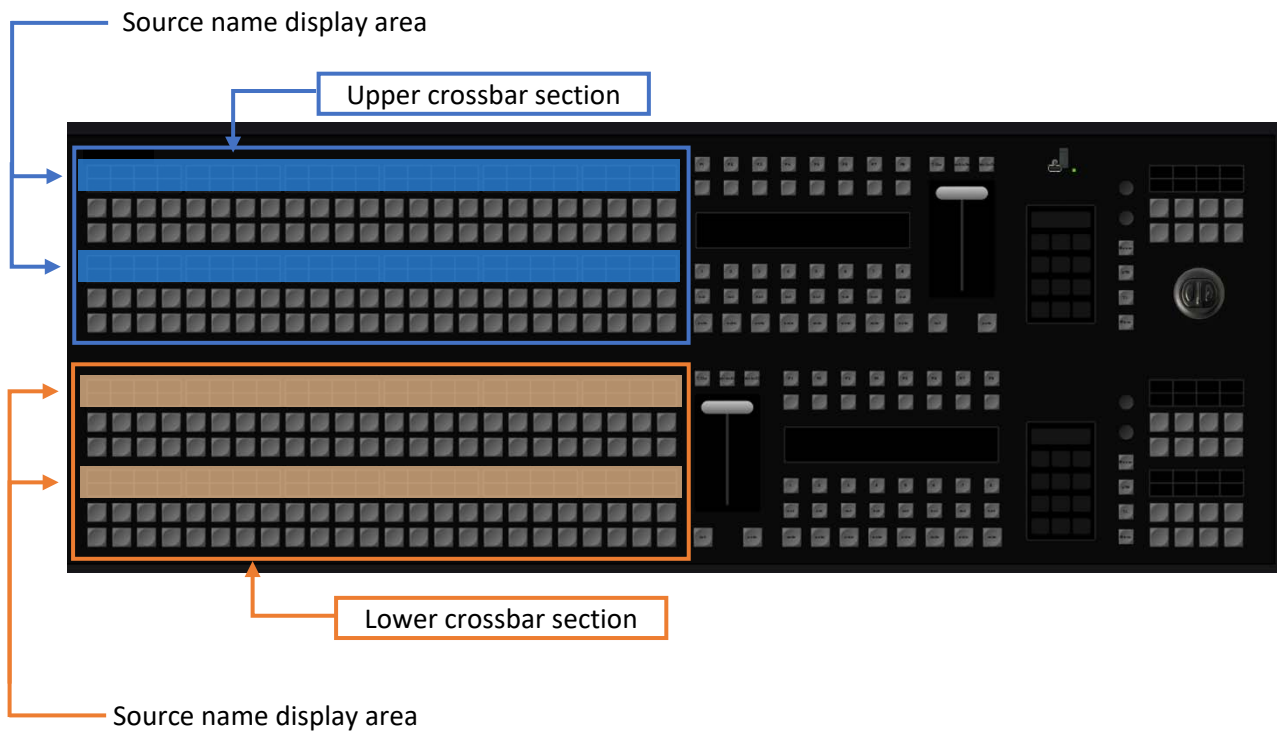
-
3. Connect Kairos Control (Control Panel) to the same network with appropriate IP address setting.

Default IP address of Kairos Control for its own: 192.168.10.20
Default IP address Kairos Control connecting to: 192.168.10.10

(Please see "4.6 Numeric Keypad Section "Menu":": for setting IP address.)



If the Kairos Control is properly connected to the Kairos Core, source names are displayed on the lower or/and upper crossbar section.



1.7 Load & Save Production Behavior

KAIROS remembers the last saved state of the system. When using the “Save” or “Save as...” dialog to save a Production file to an internal or external drive, the KAIROS Core will also save a local copy to the internal drive to load from after booting the system.

A factory “Default Production” can be re-established by selecting “New >” from the “Production” drop-down menu located in the upper left corner of the Kairos Creator GUI. This will open the Production Template with all factory default settings. By confirming on one of the individual selection buttons, a factory “Default Production” will be reloaded and started.

Default Production Templates are:

- Empty:

- Only a Main Scene is created.
- Scene “Templates” directory is empty.
- MV1 contains Main-PGM & Main-PVW followed by IN01 - IN08 (style: “10-Split A”).
- MV2 contains IN09 - IN24 (style: 16-Split).
- Main consists of BGD + 2 Layers.

- Basic:

- Main Scene with Scene examples (Templates) assigned to Bus cross-points.
- Background Layer “PGM PST mode” is set to “Swap.” This can be adjusted in the GUI/Mixer/Scenes page Parameter View panel on the right side under “Layer Settings”/“Advanced.” Make sure that the Main scene Background layer is selected in the “Layers” panel on the left before changing “PGM PST mode.” (for details, see Page 7 in section “1.2.3 Layer”).
- The example scenes 2Box, 4Box, OTS Left, OTS Right, Title, and Sidecar are derived from the “Templates” directory created by this “Basic” preset.
- MV1 contains Main-PGM & Main-PVW followed by IN01 - IN08 (style: “10-Split A”).
- MV2 contains IN09–IN24 (style: 16-Split).
- Main consists of BGD + 2 Layers.

- Automation:

- Scene Container is created for Main Scene with example Scenes from the “Templates” folder assigned to Bus cross-points.
- Background Layer “PGM PST mode” is set to “Next+Loop.” This can be adjusted in the GUI/Mixer/Scenes page Parameter View panel on the right side under “Layer Settings”/“Advanced.” Note that the Main scene Background layer must be selected in the “Layers” panel on the left.
- The example scenes 2Box, 4Box, OTS Left, OTS Right, Title, and Sidecar are derived from the “Templates” folder created by this “Automation” preset.
- MV1 contains Main-PGM & Main-PVW followed by IN01 - IN08 (style: “10-Split A”).
- MV2 contains IN09–IN24 (style: 16-Split).
- Main consists of BGD + 2 Layers.

- 2M/E:

- Scenes are created for Main Scene, M/E1, and the “Templates” folder is empty.
- MV1 contains Main-PGM & Main-PVW followed by IN01 - IN08 (style: “10-Split A”).
- MV2 contains IN09–IN24 (style: 16-Split).
- Main consists of BGD + 2 Layers.
- M/E’s consist of BGD + 4 Layers.

- 3M/E:

- Scenes are created for Main Scene, M/E1, M/E2, and the “Templates” folder is empty.
- MV1 contains Main-PGM & Main-PVW followed by IN01 - IN08 (style: “10-Split A”).
- MV2 contains IN09 - IN24 (style: 16-Split).
- Main consists of BGD + 2 Layers.
- M/E’s consist of BGD + 4 Layers.

- **4M/E:**

- Scenes are created for Main Scene, M/E1, M/E2, M/E3, and the "Templates" folder is empty.
- MV1 contains Main-PGM & Main-PVW followed by IN01 - IN08 (style: "10-Split A").
- MV2 contains IN09 - IN24 (style: 16-Split).
- Main consists of BGD + 2 Layers.
- M/E's consist of BGD + 4 Layers.

2 Software Installation & License

2.1 Software Installation:

Using Kairos devices requires membership registration to PASS. PASS is a website that provides support for Panasonic professional video products owners.

Please visit the following site for more details about software download and installation.
https://panasonic.biz/sav/kairos_e/

2.2.1 Licenses Required for KAIROS:

Every connected Kairos Creator and every participating Kairos Core requires a valid License file in order to function properly within the system.

The Kairos Creator (GUI Software for PC) needs:

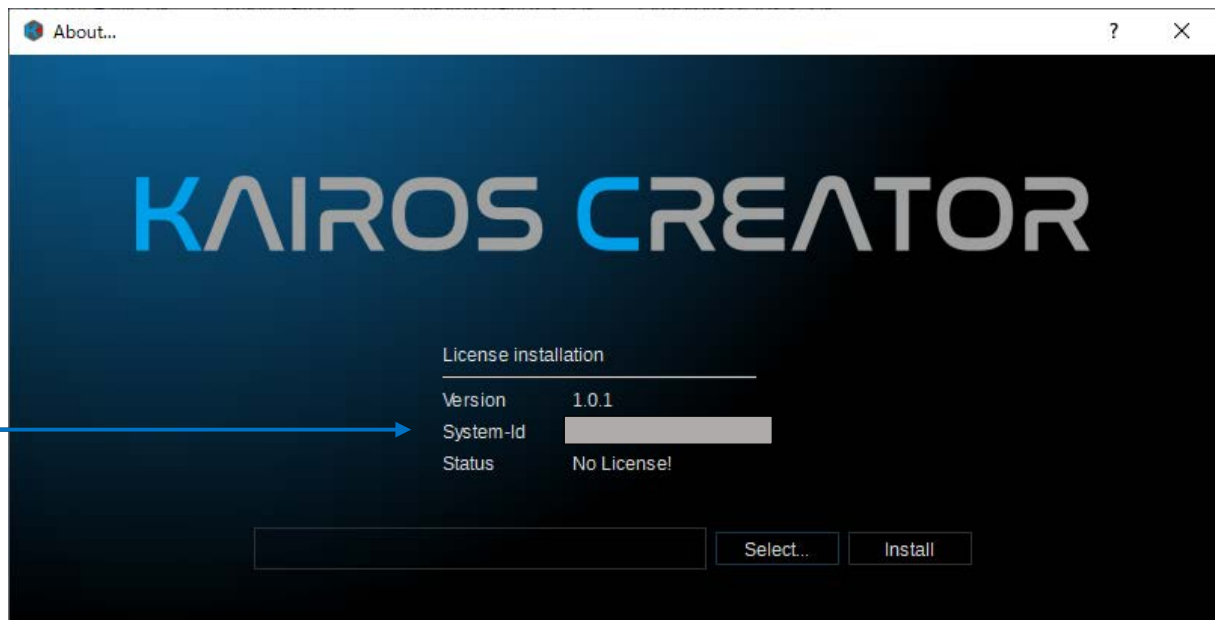
- AT-SFC10 (Software Key for Kairos Creator)

The licenses for Kairos Core (Main Frame) are divided into separate parts, which include several available License packages so far:

- AT-SF001 (4K Support)
- AT-SF002 (I/O expansion)
- AT-SF003 (Canvas Output)
- AT-SFE03 (NMOS)

The Kairos Control (Control Panel) does not need a license.

With no license, Kairos Creator displays below:

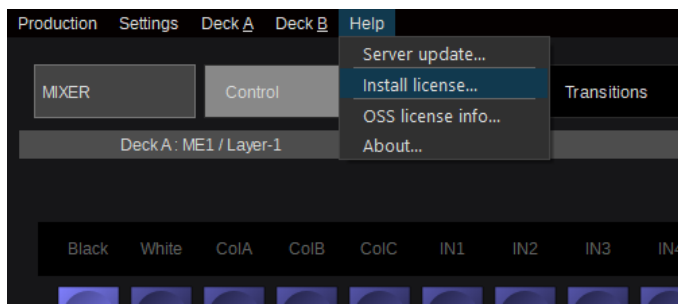


Picture 2.2.1

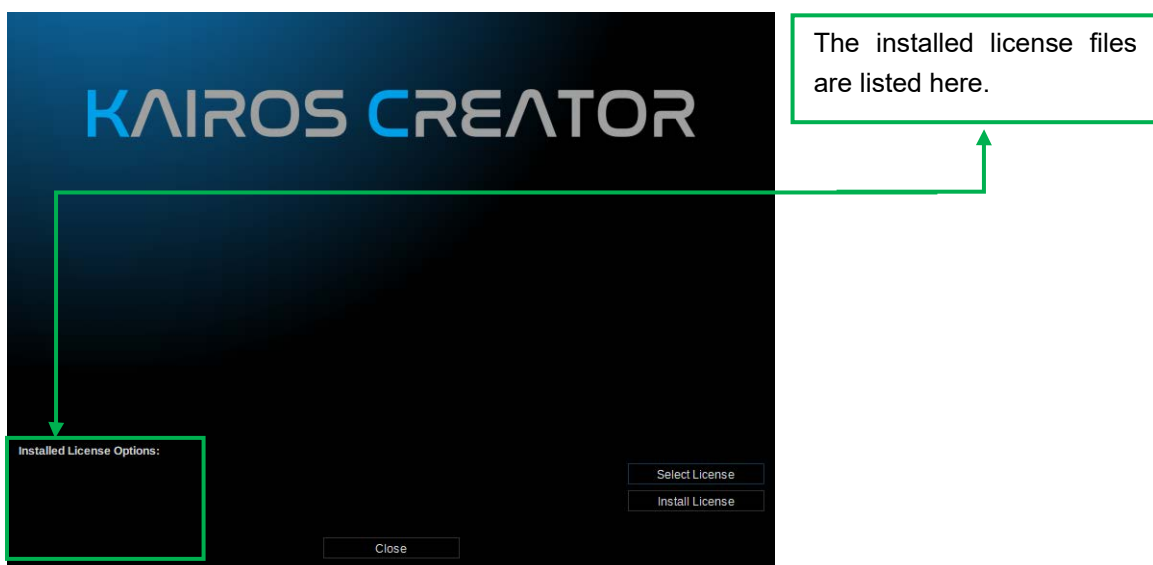
System ID is a specific ID for the PC.

2.2.2 Confirm Installed Licenses

Once the “Kairos Creator” App is running, the “Help” menu in the top left corner allows to select “Install License,” which is used for the connected Kairos Core.



Picture 2.2.2.1

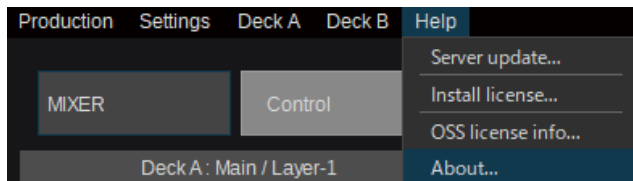


Picture 2.2.2.2

Please refer to the following site for license installation.
https://panasonic.biz/sav/kairos_e/

2.2.3 Confirm Software Version:

Once the “Kairos Creator” App is running, the “Help” menu in the top right corner allows to select “About...”



Picture 2.2.3.1



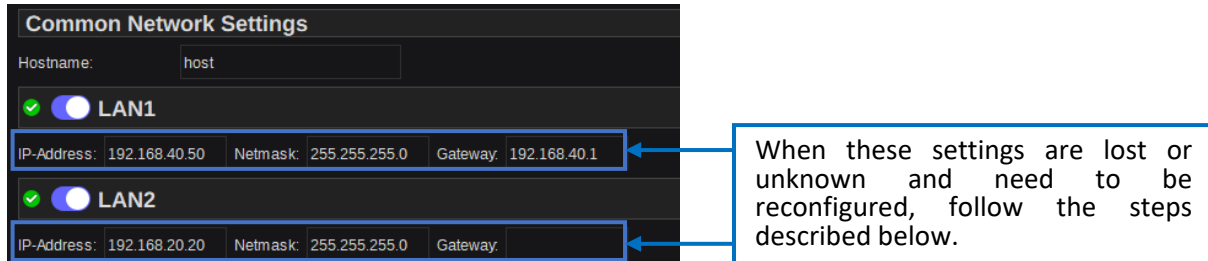
Picture 2.2.3.2

Software version of Kairos Creator.

Software version of Kairos Core.

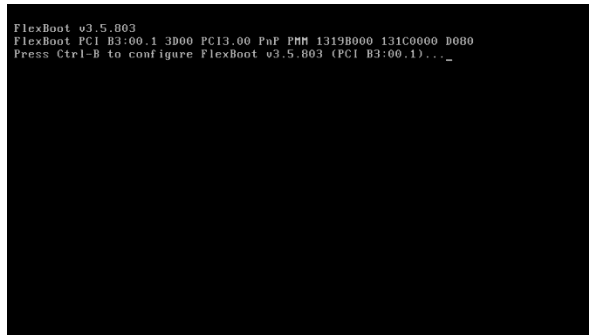
2.3 Emergency Procedure for Lost IP Settings:

In case the 1Gb network adaptor settings (in System Settings Menu) got lost and need to be reconfigured, here is the description how to proceed. Keep in mind, if those Network settings are lost or unknown, the actual displayed fields for IP address, Netmask & Gateway (Picture 2.3.1) would be empty, and as a result, the Kairos Creator can **NOT** connect anymore to KAIROS Core at all. Therefore, the Network configuration needs to be done directly on KAIROS Core.



Picture 2.3.1

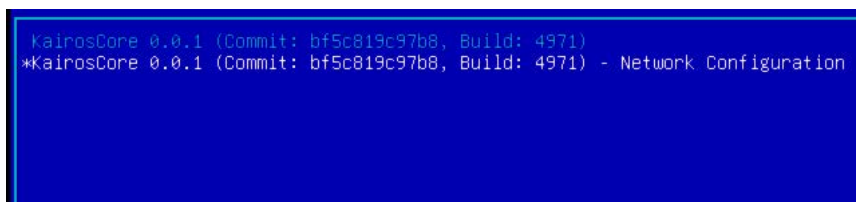
Before continuing, connect a Keyboard straight to the KAIROS Core and repower the system. There are Text and objects appearing on screen during boot, such as:



Picture 2.3.2

After a few minutes, a blue background screen is revealed with boot information (Picture 2.3.4). There is a time slot of approx. 2-3 seconds in order to hit the cursor “up-↑” or “down-↓”-button on the Keyboard in order to stop the time-out for the auto-boot sequence. Selecting “KairosCore....Network Configuration” will launch after confirmation of a subroutine to be able to access the 1Gb network adapter settings on KAIROS Core.

Note: All navigations from now on can be simply done using the arrow/cursor buttons (←↑↓→) on the connected Keyboard, and the selected item can either be confirmed or canceled using the “Return” or “Enter” key of the connected Keyboard.



Picture 2.3.4

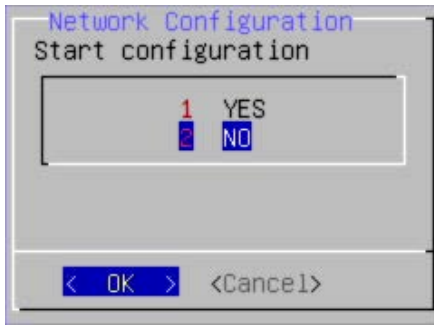
Use cursor up/down Keyboard buttons to select the 2nd listed item “Network Configuration.” Press the “Return” or “Enter” key to confirm (Picture 2.3.4).



Picture 2.3.5

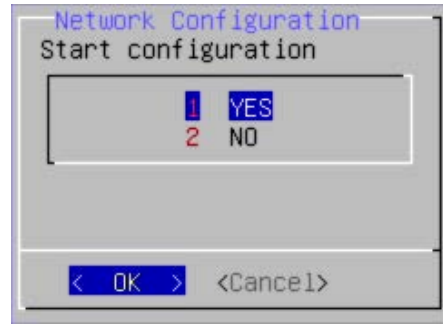
The next upcoming screen is only informing about the boot progress....

Finally, the main task appears:



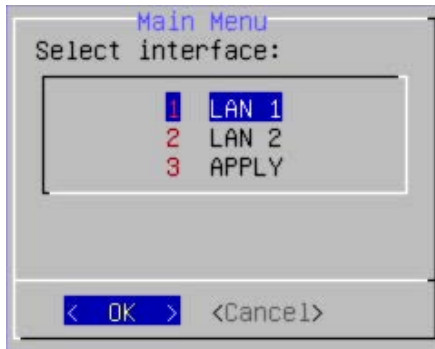
Picture 2.3.7

To change the upcoming selection "Yes/No," use the Keyboard cursor buttons Up/Down. For selecting "Ok/Cancel," the Keyboard cursor buttons "Left/Right" are used. The "Return or Enter" Keyboard buttons will confirm the selection.



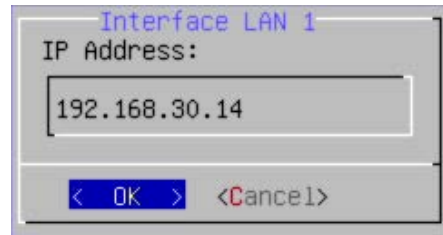
Picture 2.3.8

Continue with "Yes" and "OK" (Picture 2.3.8).



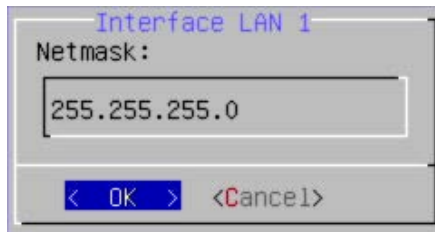
Picture 2.3.9

In this dialog, LAN adaptor 1 or 2 can be selected. After confirming the selected adaptor, the next upcoming box allows to enter an IP address using the connected Keyboard.



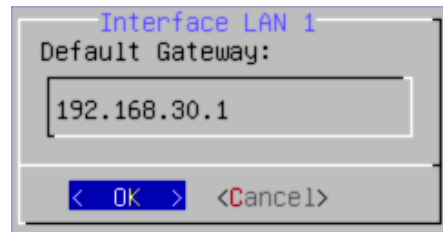
Picture 2.3.10

When finished, confirm "OK."

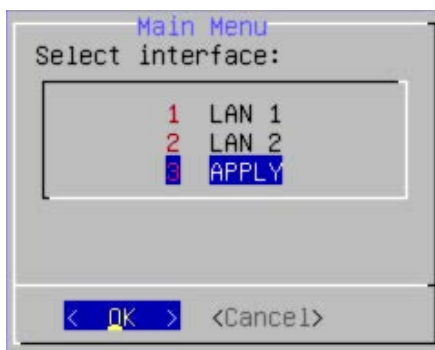


Picture 2.3.11

After entering the IP address and hitting "OK," the next 2 dialogs will handle the according "Netmask" & "Default Gateway" settings.



Picture 2.3.12

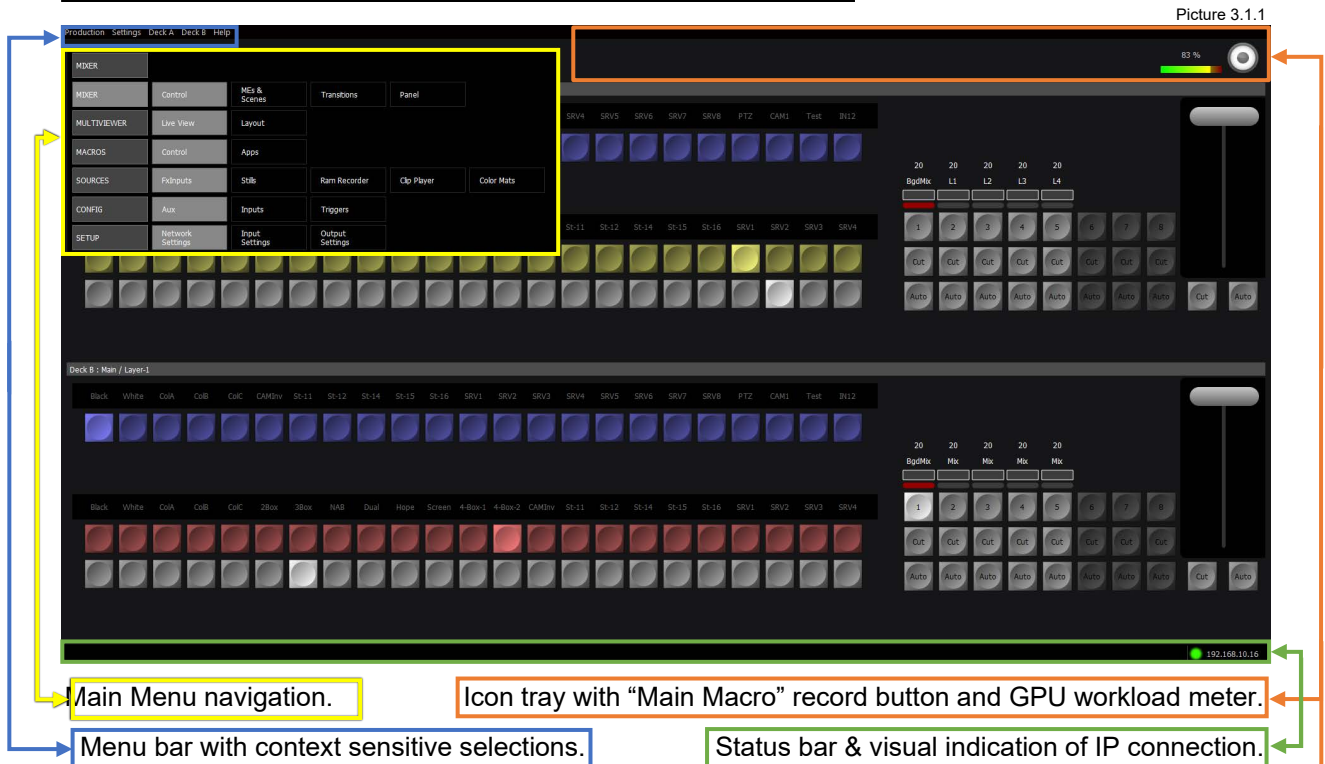


Picture 2.3.13

After confirming "OK" for the Netmask and Gateway, the final screen is used to "Apply" the new settings. Use the Keyboard cursor buttons to select "Apply" and confirm with "OK." This will use the new IP-settings and continue to boot KAIROS software. "Cancel" will ignore the changes and boot KAIROS with the network settings before this "Network Configuration" task was started.

3 GUI Operations (Graphical User Interface)

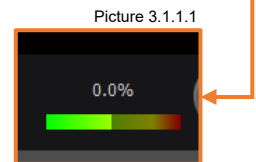
3.1 Generic GUI Screen Areas



3.1.1 GPU-Metering

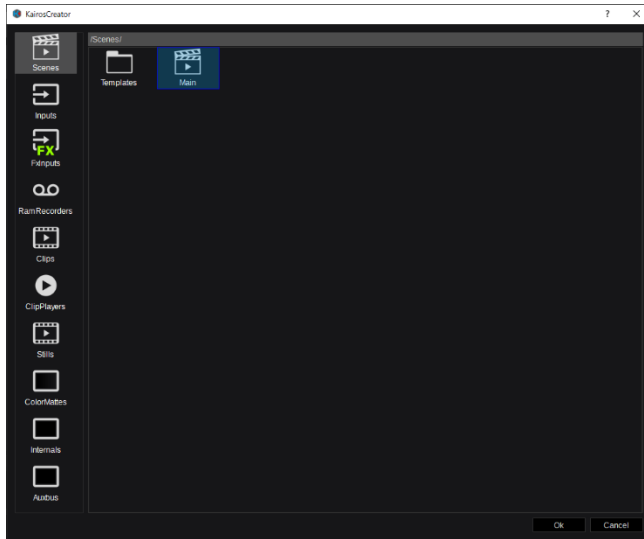
Depending on the amount of resources being used regarding numbers of Layers, Scenes, added attributes (e.g., ColCorr, DVE's, ChromaKey, etc.), Outputs, and so on, there is a GPU-Meter, located in the top right corner of every GUI Menu page, next to the Macro-Record button. This monitors the actual workload of the processing system GPU per connected KAIROS Core. GPU-Meters should not exceed 100% workload.

Note: Apart from the Kairos Creator GUI, the GPU-Meter can also be added and monitored within the MV's (see Pictures 3.3.5.2.6 & 3.3.5.2.8 on page 49).



3.2 Repeating Menu Patterns

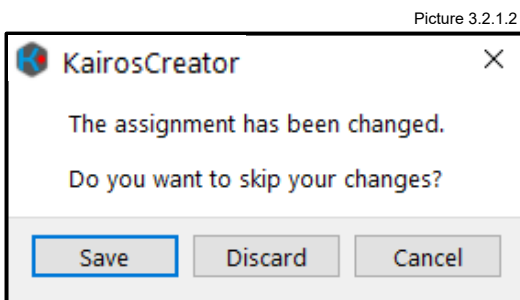
3.2.1 Source/Input Selection



Picture 3.2.1.1

In the “Source/Input” dialog, all KAIROS sources (including inputs) are listed in groups and are available for designation as source selections for Buses, Multi-Viewer windows, etc. Clips and Stills are available after loading to RAM.

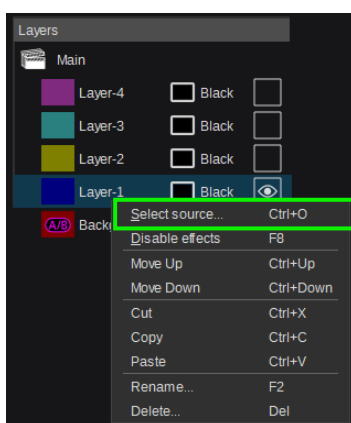
Single click on a source changes the cursor focus to the selected source, but the change will only happen after you click “OK” in lower right corner of the pop-up window to confirm the changes and close the window. Double-click on a source to set the focus and instantly change the source without closing the window. The “Cancel” button opens a new dialog (Picture 3.2.1.2 on next page) where the user can choose to “Save,” “Discard,” or “Cancel” the changes.




Picture 3.2.1.2

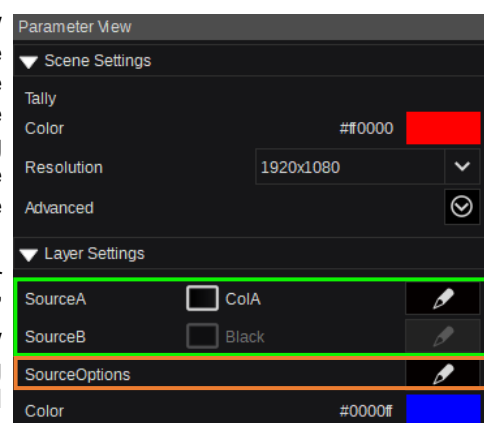
This dialog will only open if a Source selection changes. If no change is made to the Source before the “Cancel” button is clicked, the window will close immediately. Clicking the “Cancel” button after changing a source (Picture 3.2.1.1 on previous page) will open this dialog (Picture 3.2.1.2). Click “Save” to use the new source and close this dialog box as well as the “Source Select” window.

Pressing “Discard” will revert all source changes and close both this dialog box and the “Source Select” window. “Cancel” (in Picture 3.2.1.2) will close this dialog box without any changes and drop back to the “Source Select” window (Picture 3.2.1.1 on previous page).



Picture 3.2.1.3

The Source Select window (Picture 3.2.1.1) can be opened with a right mouse click on any layer in the “Layers” window and clicking on **Select Source** (Picture 3.2.1.3). It can also be opened by clicking on , the buttons in “Parameter View” of “Layer Settings.” The “Source Select” window will also open when selecting sources for Aux Buses and Multi-Viewer panes.

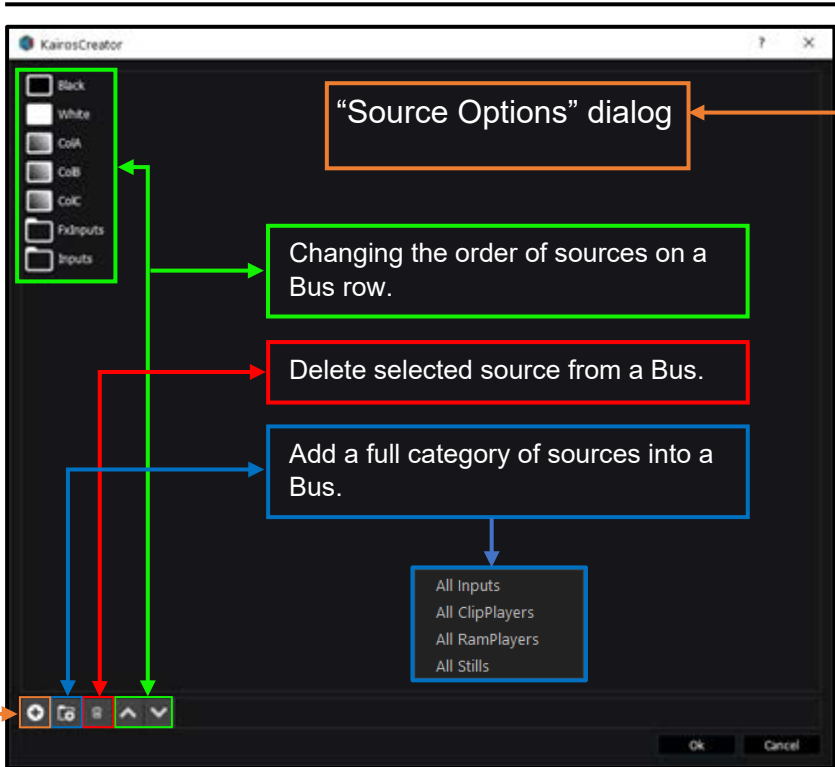


Picture 3.2.1.4


3.2.2 Source Options

Here, the operator can determine which individual sources are available per Bus.

Note: The available sources can be changed on a Scene-by-Scene and/or Bus-by-Bus basis!



Picture 3.2.2.1

Click the pencil  symbol in "Source Options" (Picture 3.2.1.4 on previous page), in order to open this dialog (Picture 3.2.2.1).

Changing the order of sources on a Bus row.

Delete selected source from a Bus.

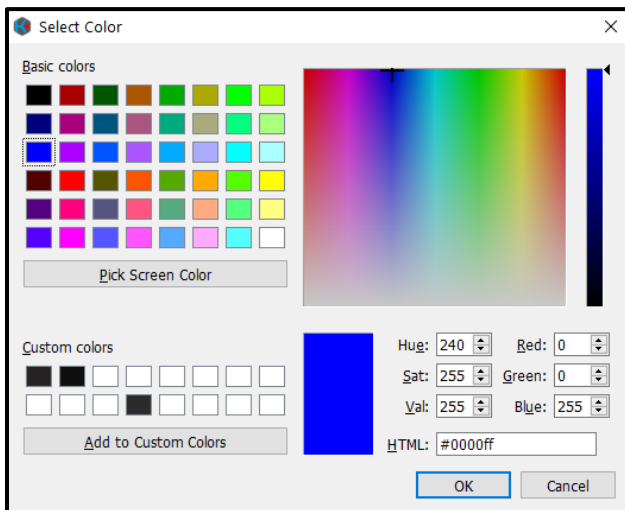
Add a full category of sources into a Bus.

- All Inputs
- All ClipPlayers
- All RamPlayers
- All Stills

Open the "Select Source" window (described in section 3.2.1) to add individual sources.

3.2.3 Color Adjustments

The "Select Color" dialog will open wherever color adjustments are required. Clicking a Color-Box in the "Parameter View" window, for example, allows you to set a specific color for every Background and Layer per Scene.



Picture 3.2.3.1

Color & Saturation can be adjusted in the Color pane together with the Luminance slider.

A Color can also be picked from the "Basic colors" section.

Decimal values can be entered for "Hue, Sat, Lum" or for individual "Red, Green, Blue." Hexadecimal color values can be entered in the "HTML" box. Any change in one area updates the other areas simultaneously.

Use the "Pick Screen Color" function to pick a color from anywhere on the computer screen surface, including outside the GUI menu.


Up to 16 Presets can be saved in the "Custom Colors" section.

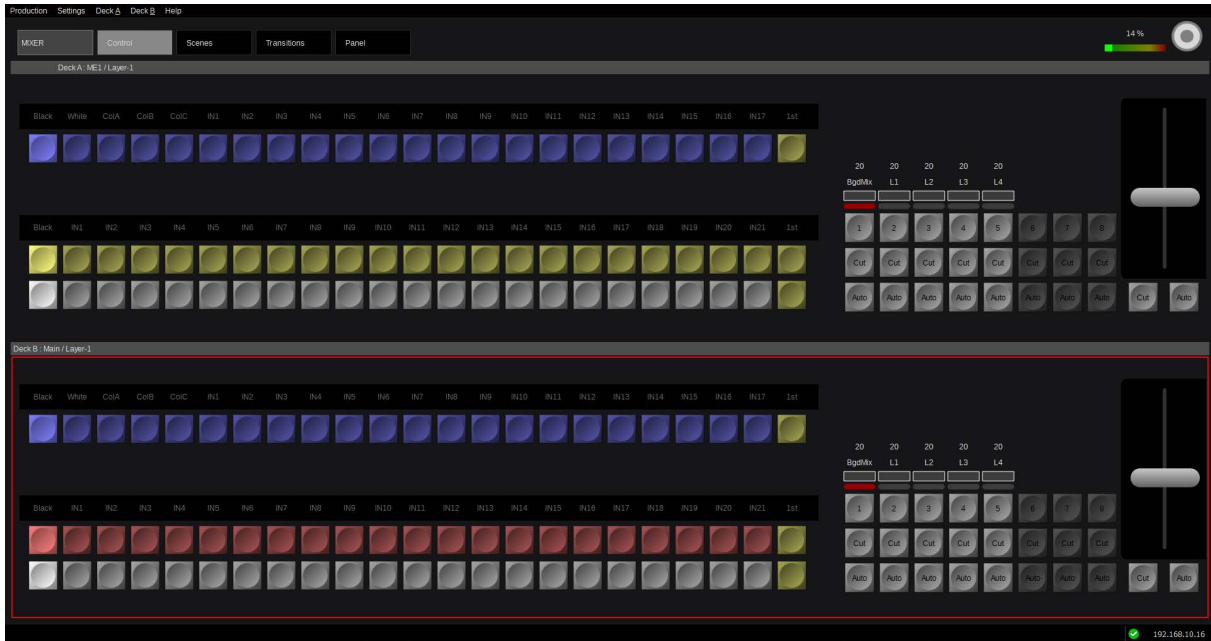
Hit "OK" to confirm selection or "Cancel" to abort.

3.3 Menu Delegation & Navigation

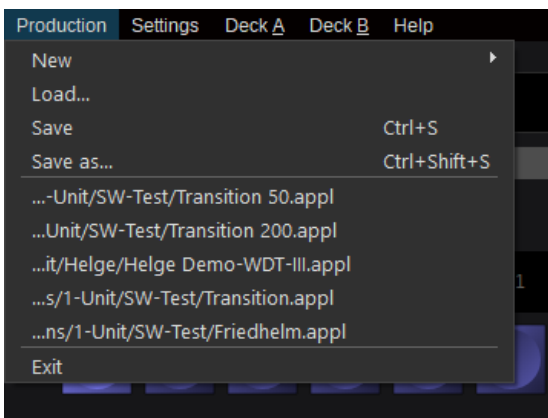
3.3.1 Top-Level GUI Menu Bar “Kairos Creator”

3.3.1.1 Production

The Kairos Creator software can be launched using the  icon, located on the Desktop or in the Windows Taskbar.



Picture 3.3.1.1.1



Picture 3.3.1.1.2

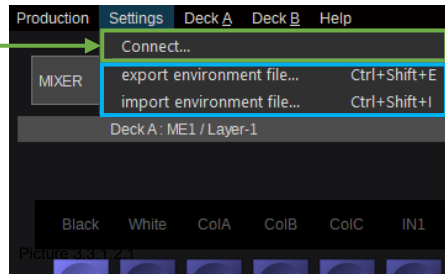
Click the “Production” tab in the upper left corner and a drop-down menu appears where Production-related tasks are handled including “New,” “Load...,” “Save,” & “Save As...” The five most recent Productions that were loaded are listed next. Choosing “Exit” will close the dialog.

For more detailed information regarding the individual items of the “Production” drop-down Menu, please refer to the individual sections in this Manual.

Note: The keyboard shortcuts (if available) listed to the right of some menu commands usually are the same as standard windows keyboard shortcuts for the same or similar functions.

3.3.1.2 Settings

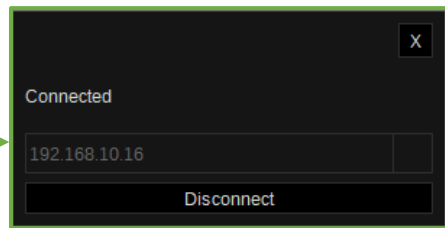
The “Settings” tab of the menu bar contains several functions related to IP connection, import & export environment (engineering setup) files:



Connect – IP-address for Kairos Core connection.

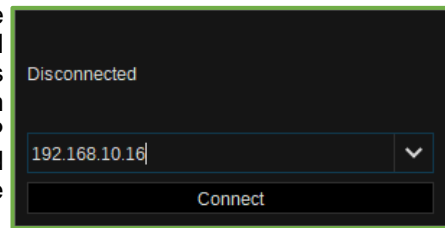
Export environment file—Saves the current Setup file with a new file name and path.

Import environment file—Opens a file browser to select & load a Setup file.



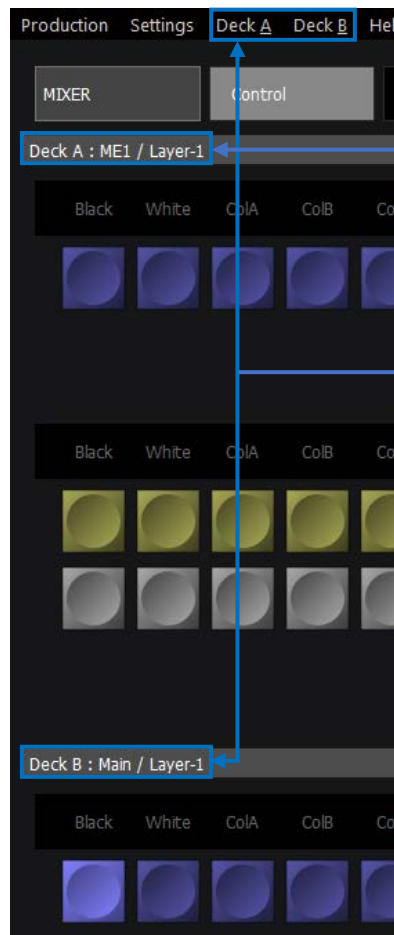
Picture 3.3.1.2.2

While “Connected” to the Kairos Core, the actual displayed IP address is grayed out. When “Disconnected,” the IP address can be edited and confirmed with the “Connect” button.

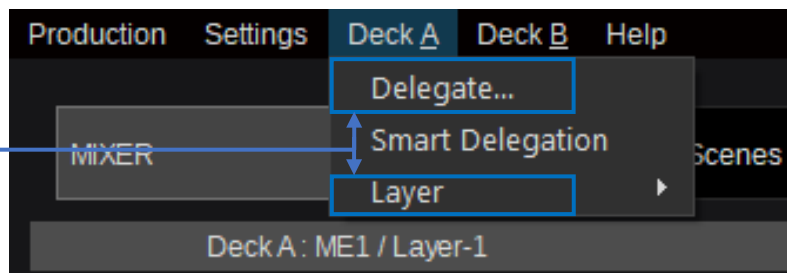


Picture 3.3.1.2.3

3.3.1.3 Deck A/Deck B

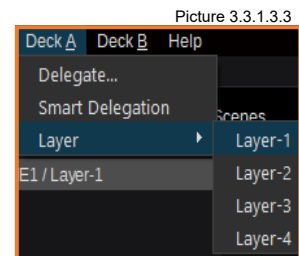


Picture 3.3.1.3.1

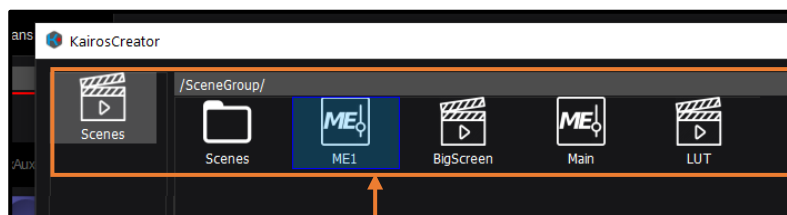


Picture 3.3.1.3.2

When the Mixer/Control page is active, the “Deck A” and “Deck B” tabs appear on the menu bar that contain tools to delegate resources to each control “Deck.” Deck A is on top and Deck B is the bottom one. Use [ALT]+A and [ALT]+B to open these menus.



Picture 3.3.1.3.3

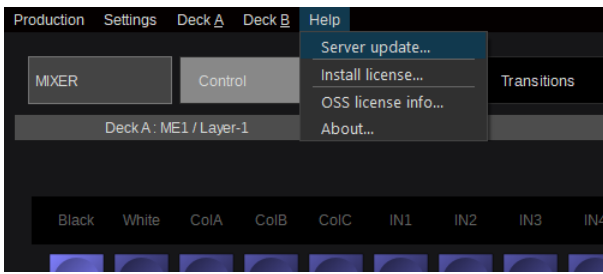


Picture 3.3.1.3.4

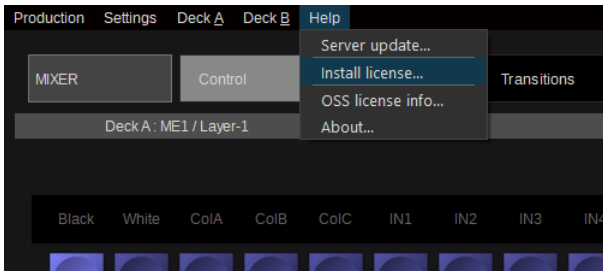
Click “Delegate...” to open a Selection window with all the Scene Directories and Scenes, which are available to be delegated to this Deck. Directories cannot be delegated, but Scenes within them can be selected.

Note: “Smart Delegation” is only available for the “Deck A” drop-down menu. This selects a special “Auto Delegation” mode for the GUI/Mixer/Control menu page. For more detailed information, refer to section 1.7 Load & Save Production Behavior in this manual.

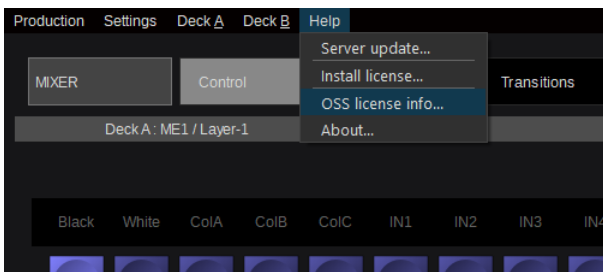
3.3.1.4 Help



Picture 3.3.1.4.1



Picture 3.3.1.4.2



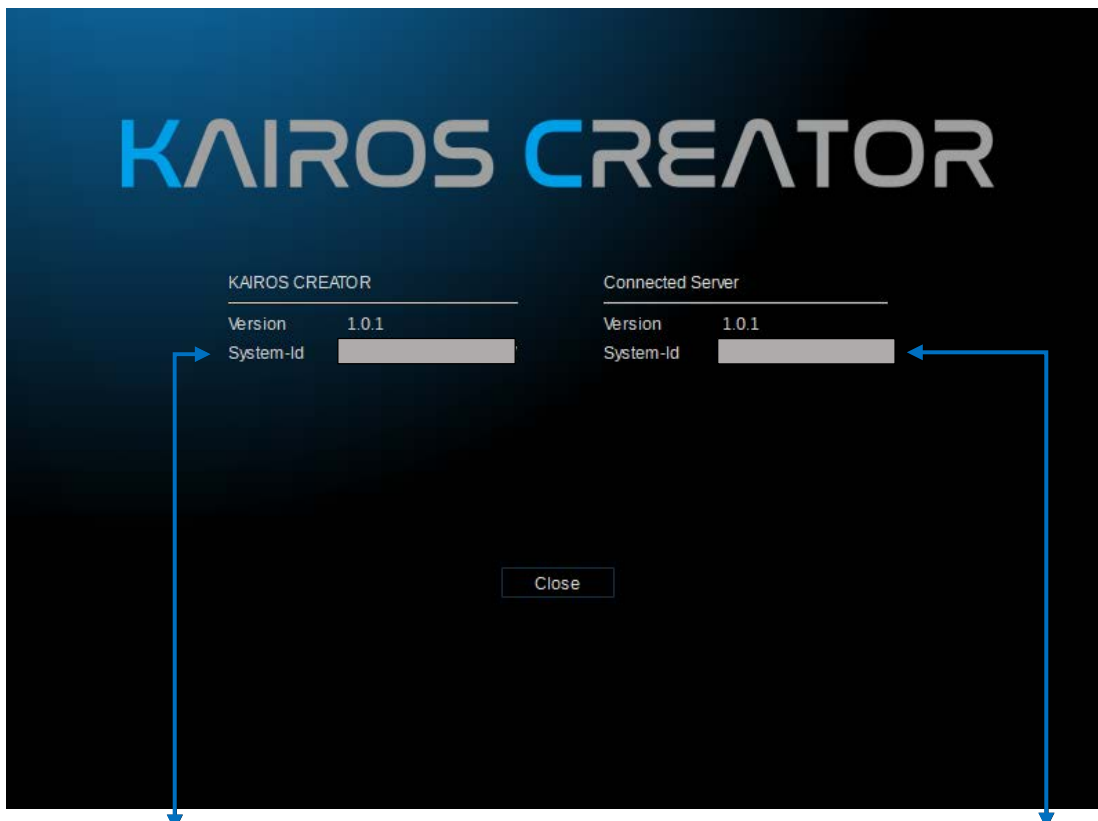
Picture 3.3.1.4.3

“Server update” within the “Help” drop-down menu offers the ability to update the Kairos Core software via Kairos Creator. For more details, please refer to section “2.1 Software Installation:”: starting on page 15 in this manual.

The operations for “Install license” within the “Help” drop-down menu is described in section “2.2.1 Licenses Required for KAIROS:”: starting on page 15.in this manual

“OSS license info...” from the “Help” drop- down menu will open a list of “Open Source Software Information” used in “KAIROS” product. Use the slider on right hand screen to scroll through the document.

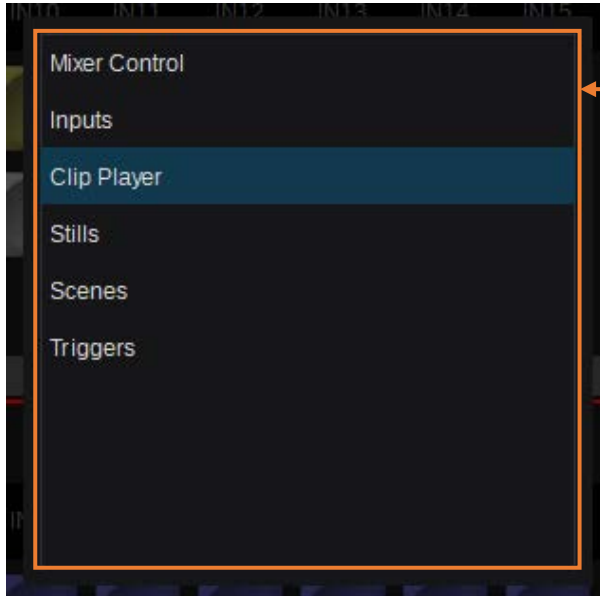
Select “About” from the “Help” drop-down menu:



Here, the “System-Id” information for the “KAIROS CREATOR” (PC) and the “Connected Server” (Kairos Core) are displayed, which are needed in order to create a valid License-Key for each device.

3.3.1.5 GUI Tab-Cycling/History

The Kairos Creator GUI menu system remembers the 10 most recent menu pages visited, allowing quick access or toggling between them. The keyboard shortcut is [CTRL]+[TAB]. Pressing [CTRL]+[TAB] once will toggle between the most recent menu page and the current one. Pressing [CTRL]+[TAB] keys opens a selection window in the center of the GUI showing the ten most recent menu pages after which holding the [CTRL] key and hitting the [TAB] key cycles through the list. When the [CTRL] key is released, the GUI will switch to the highlighted menu page and close the window.



Now, while keeping the “Ctrl” key pressed, use the keyboard “Tab” button in single steps in order to cycle through the displayed list. Releasing the “Ctrl” key will switch to the selected menu and also will close the menu selection window.

Picture 3.3.1.5.1

3.3.1.6 GUI Undo

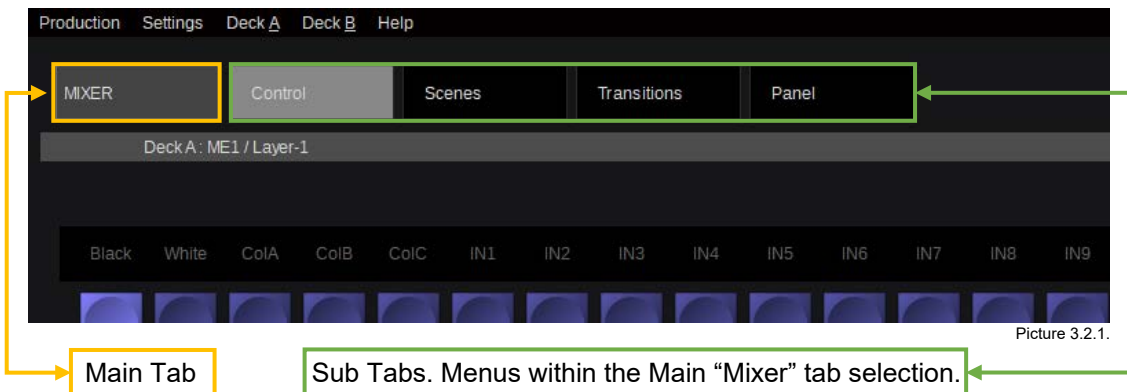
Kairos Creator GUI also supports multi-level “Undo” (CTRL+Z) functionality.

Note: Undo is not supported for “Insert” and “Delete” operations!

3.3.2 Kairos Creator Menu System

The start screen of Kairos Creator shows the “Mixer” Main Tab. The structure of KairosCreator is a revolutionary new menu paradigm designed to be only one level deep. This allows the user to jump directly from their current menu page to any other menu page in a maximum of two menu tab clicks!

Kairos Creator always starts up on the “Control” sub-menu of the “Mixer” main tab. To the right of the “Mixer,” main tabs are the sub-menu selections for the “Mixer” category. The rest of the main tabs are listed in the left column below the Mixer main tab.



The current main tab and a row of sub-tabs are always displayed across the top of the page.

To change to another menu with **one click**, select any other sub-tab within the same main tab. This will open the desired menu page without opening the menu overlay window. In the above example (3.2.1), the current main tab is “Mixer,” the current sub-tab is “Control,” and the rest of the sub-tabs in this category (main tab) are “Scenes,” “Transitions,” and “Panel.”

To change to another menu in **two clicks**, first click the upper left Main Tab (“Mixer” in this example) and an overlay selection window will expand to show all of the menu tabs:



Picture 3.2.2.

Main tab for current Menu page.

Current Main tab with current sub-selection in Light Gray.

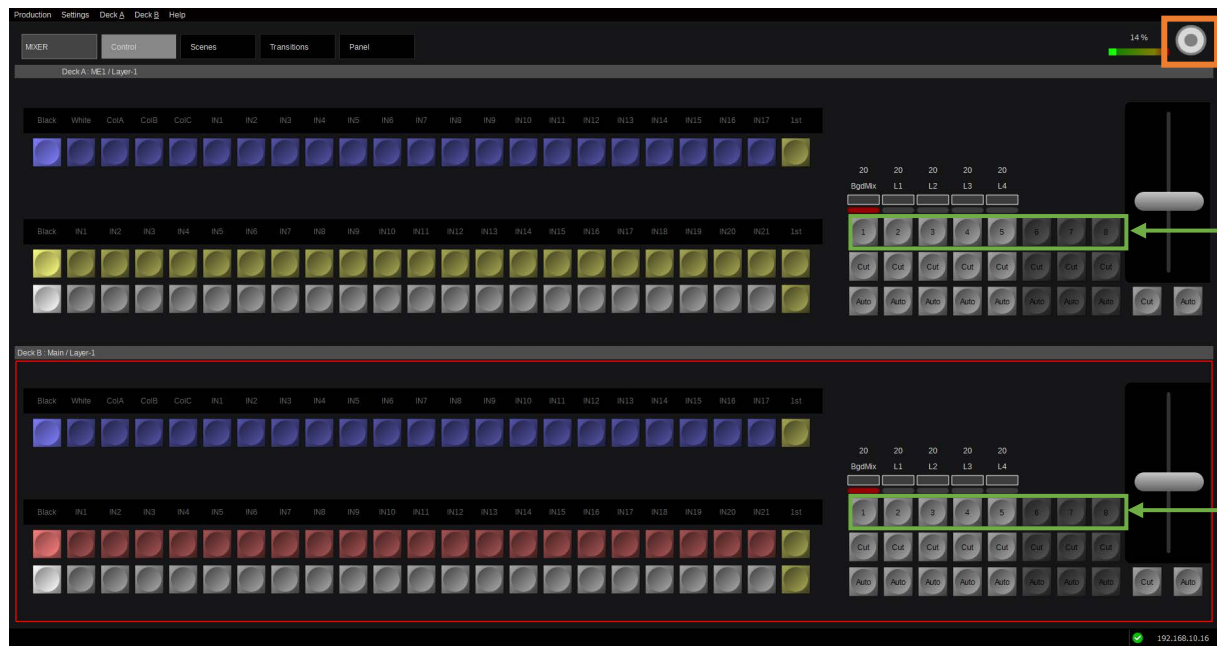
All other Main tabs in dark gray, displaying their previous sub-selections in Light Gray.

- Second, click any other Menu tab in the overlay to jump to that Menu page to change and close the overlay window.
- Or click on any Main tab (left column) to go to the last selected item from that row and close the overlay window. The last selection in each row is indicated by the Light gray button.
- To close the overlay window without changing the Menu page, simply re-select the current page. In this example, you would click the Main Mixer tab, the Main column Mixer tab, or the Control sub-tab within the Mixer row to close the overlay window without changing the current Mixer/Control menu.

3.3.3 Mixer Tab Selection

3.3.3.1 Control

The Mixer Main Tab contains all the sub-tabs for setting up and controlling the Mixer part of your production. This is where you unleash most of your creativity!



Picture 3.3.3.1.1

The “Control” page gives you a touch screen software Control Panel (CP). All the buttons displayed on screen can be used and operated like a hardware control panel. The lever arm (Fader) movement can be controlled with a left mouse click or using the touch screen by pressing and holding while moving it.

In the upper right corner of every menu page is a “Record Macro” button. Left mouse-click on it or use the touch screen button to start recording a new Macro in the Main-Macro section.

Right mouse click here to add or subtract elements controlled by the “Next Transition” principle. Objects selected for “Next Transition” also affect the LAH-PVW (Look ahead Preview) and are controlled via the Lever arm in addition to the “Cut” and “Auto” buttons below.

Look ahead Preview (LAH-PVW) is calculated from the component(s) including BGD and Layer(s) that are selected for “Next Transition.” These are usually operated with the Lever arm, the “Cut,” or “Auto” button below.

Beside the “Next Transition” selection method, each transition can still be executed individually, using the “Cut” and “Auto” buttons located directly below their respective transition components.

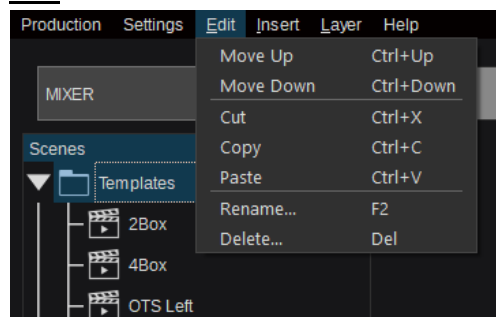
The LAH-PVW shows the expected result of the next transition on the Preview Output before execution:

- Preset Bus (B-Side of enabled A/B-Bus), also when enabled on Layer
- Layer is “Off” but enabled/selected for “Next Transition.”

3.3.3.2 Scenes

The “Scenes” tab activates three dedicated drop-down menus in the menu bar: Edit, Insert, and Layer.

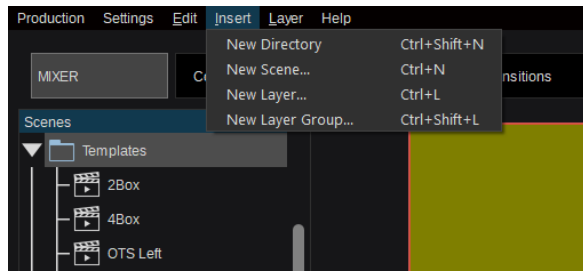
Edit



Picture 3.3.3.2.1

The Edit menu provides actions specific to modifying Layers and Scenes. An action selected from the “Edit” drop-down will be applied to the item that currently has cursor focus. This could be an item in either the “Scenes” or the “Layers” window. The list of Edit functions with their keyboard shortcuts is displayed to the left in Picture 3.3.3.2.1.

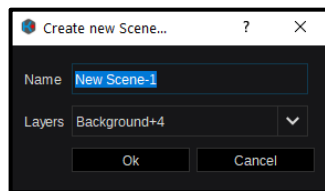
Insert



Picture 3.3.3.2.2

The “Insert” drop-down menu facilitates the addition of items to the scene tree. A newly created item will always be placed into the highlighted item unless it cannot be created there, in which case it will be placed at the end of the list at the same level as the currently selected item. The list of Edit functions with their keyboard shortcuts are displayed to the left in Picture 3.3.3.2.2.

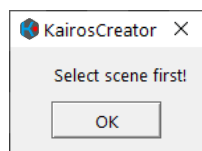
“New Directory” will open a dialog window to name the new directory. After typing in a name and confirming with the “OK” button, the newly created directory will appear inside the currently selected item, except if the current item is a scene. Because a scene cannot contain a directory, a new directory would be created at the end of the list at the same level of the tree.



Picture 3.3.3.2.3

“New Scene” will open a simple wizard allowing you to name the new scene and select the number of layers it should have. When closing the wizard with “OK,” the item will be dropped into the “Scenes” tree relative to the current cursor focus according to the abovementioned rules (Picture 3.3.3.2.2).

Note: Even though the drop-down selection for “Layers” in the wizard allows a maximum of 6 Layers + Background, once the scene has been created, Layers can be added and removed as needed.



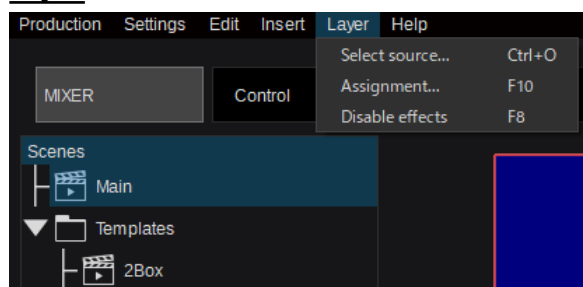
Picture 3.3.3.2.4

“New Layer” and “New Layer Group” only work when a scene is selected in the scene tree. If something other than a scene is currently highlighted, then selecting a Layer action from the Edit menu will open a Message Box telling you to “Select a scene first!” Click “OK” to acknowledge the error of your ways and close the box.

“New Layer” opens a dialog box for you to name the Layer. Click “OK” to close the dialog, and the new layer will be created on top of the list of layers in the currently selected scene.

“New Layer Group” creates an empty folder on top of the list of layers in the currently selected scene. Only layers can be placed into the folder, either by creating new layers inside it or by cut/copy/pasting them from elsewhere.

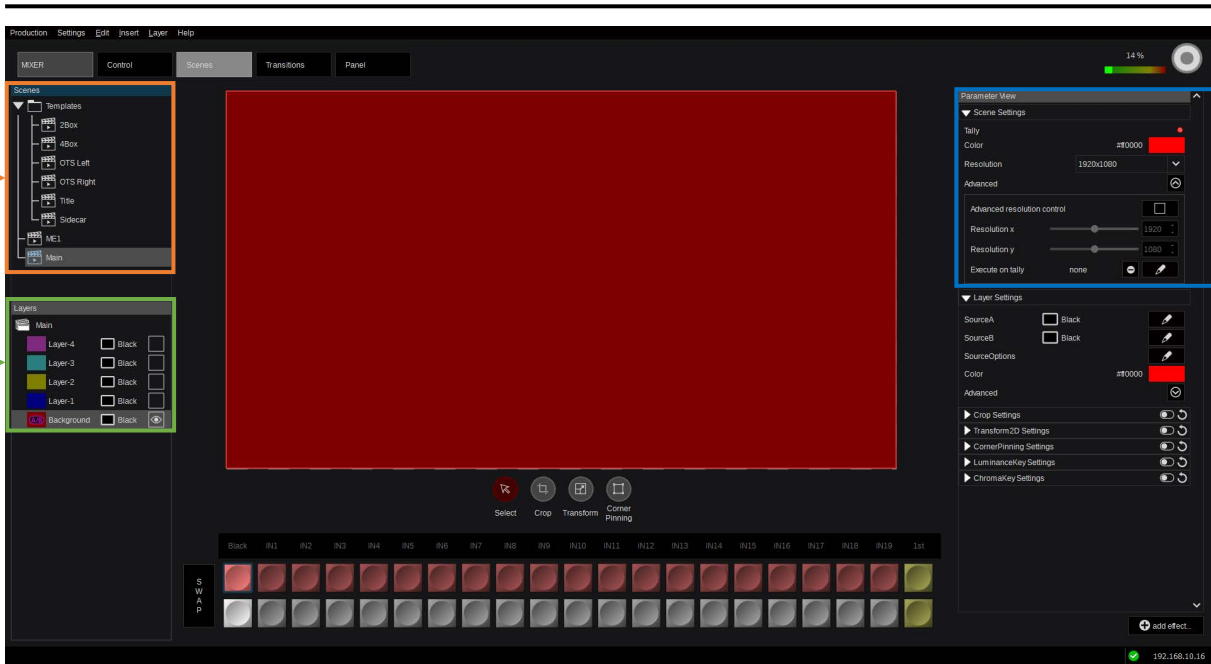
Layer



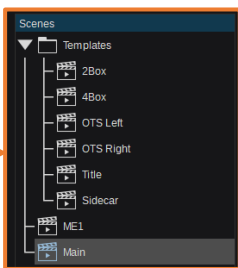
Picture 3.3.3.2.5

The following actions can be accessed from the “Layer” drop-down menu or directly from the listed keyboard shortcuts for selected Layer.

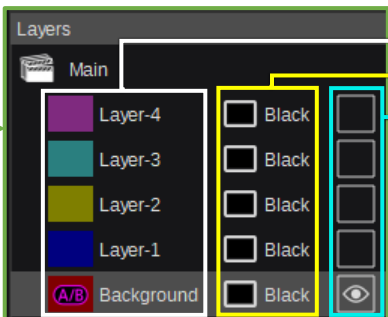
- Select Source [Ctrl+O]=Opens the “Inputs” selection (Picture 3.3.3.2.6 on next page).
- Assignment [F10]=Opens the “Source Options” dialog (Picture 3.2.1.4 on page 21).
- Disable Effects [F8] =Disables all effects on the selected Layer.



Picture 3.3.3.2.6



Picture 3.3.3.2.7



Picture 3.3.3.2.8

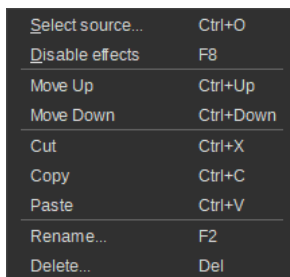
The “Scenes” panel, in the upper left, contains a hierarchical tree of the Scenes available in the current running production. The cursor focus in this example is on the Scene called “Main,” which in this case (derived from loading a Default Production) is being used as Main-Program output, showing “On-Air” tally in “Parameter View.” A right mouse-click on one of the items in the tree will open a context menu with options to change the order of the objects, access clipboard functionality, Rename or Delete the object.

The “Layers” panel displays the current status of Scene: “Main.” Layer names & priority plus individual color per Bus.

Selected source per Bus.

On/Off state per Bus.

Cursor focus is on the Background A/B bus (gray background).

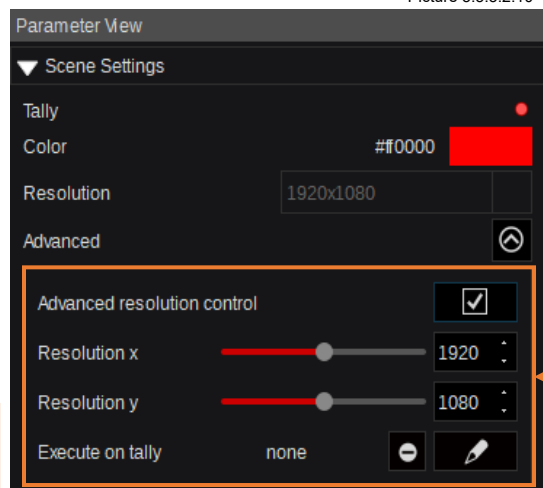


Picture 3.3.3.2.9

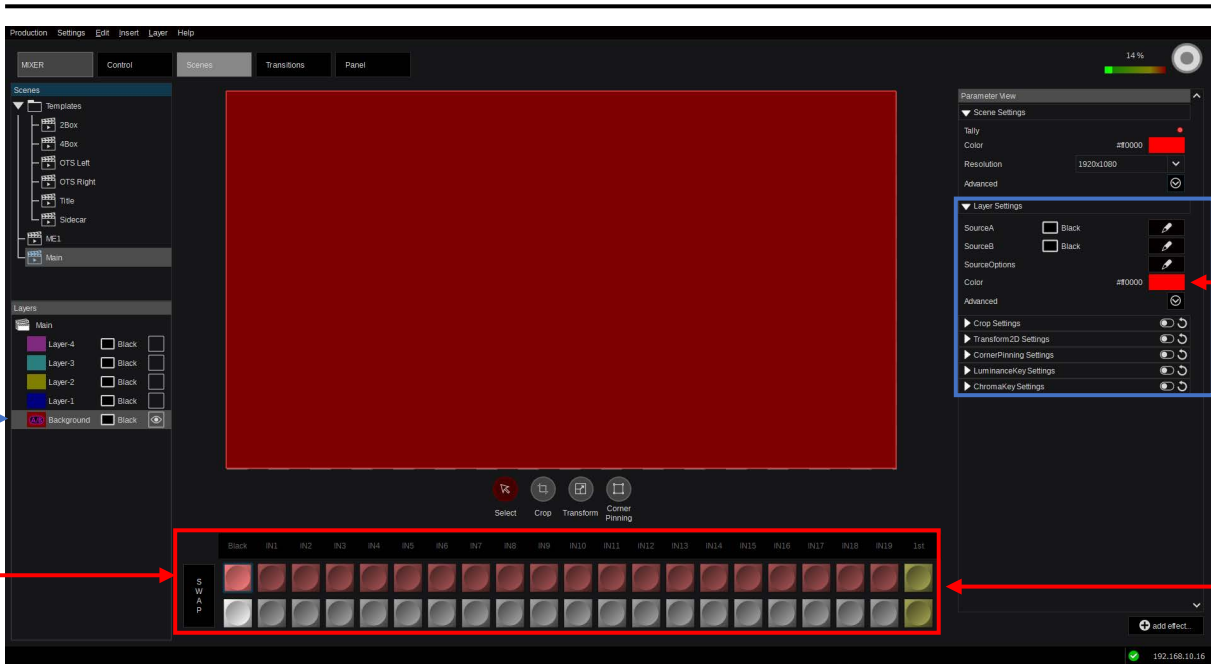
A right mouse-click on one of the layers will open a context menu with options to open the “Select Source” dialog, enable or disable layer effects, change the order of the objects, access clipboard functionality, Rename or Delete the object. The according keyboard shortcuts are listed to the right.

Due to the cursor selection in “Layers” window, the “Parameter View” window is only showing the relevant Scene settings. All settings here can be changed on a Scene-by-Scene basis. Resolution (1280×720; 1920×1080; 3840×2160), Scene Color and Tally indication. The Background Bus color is set to Red and is displayed in the “Layers” window at the bottom (Picture 3.3.3.2.8). Since “Background A/B” is selected in “Layers” window and the fact that there is no other Layer activated/visible (Picture 3.3.3.2.8), the working area (Picture 3.3.3.2.6 on top of this page) also shows a full red screen. The “Advanced” setting allows to Auto-execute a selected Macro, when this Scene gets “On-Air” tally.

When option “AT-SF003 (Canvas)” is installed, the “Advanced resolution control” can be activated for independent X/Y-Resolution adjustments.



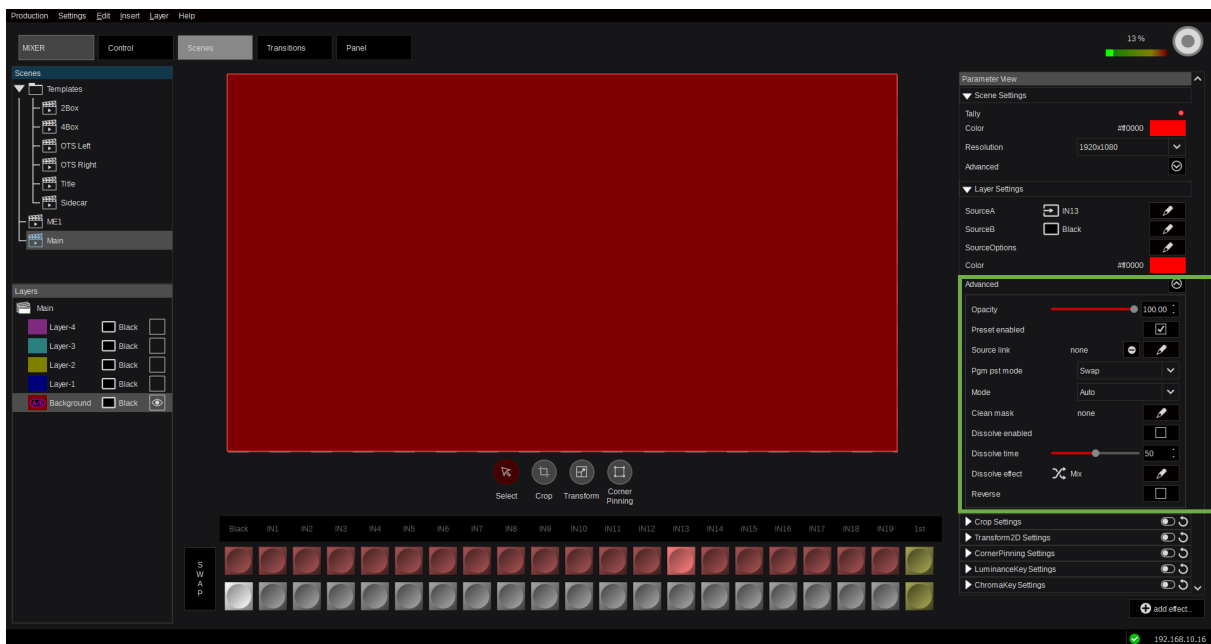
Picture 3.3.3.2.10



Picture 3.3.3.2.11

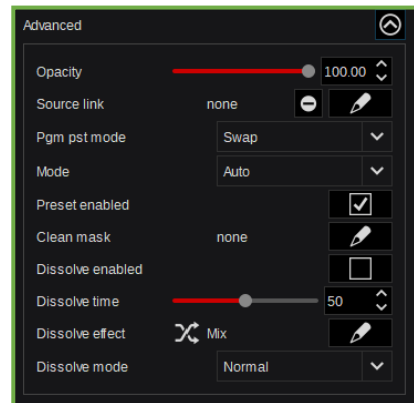
Since “Layers” panel in this example has the cursor selection on “Background,” there are also additional controls available in “Layer Settings” under “Parameter View.”

- Program/Presets bus rows indicated in Red according to the “Layer Settings”-Color.

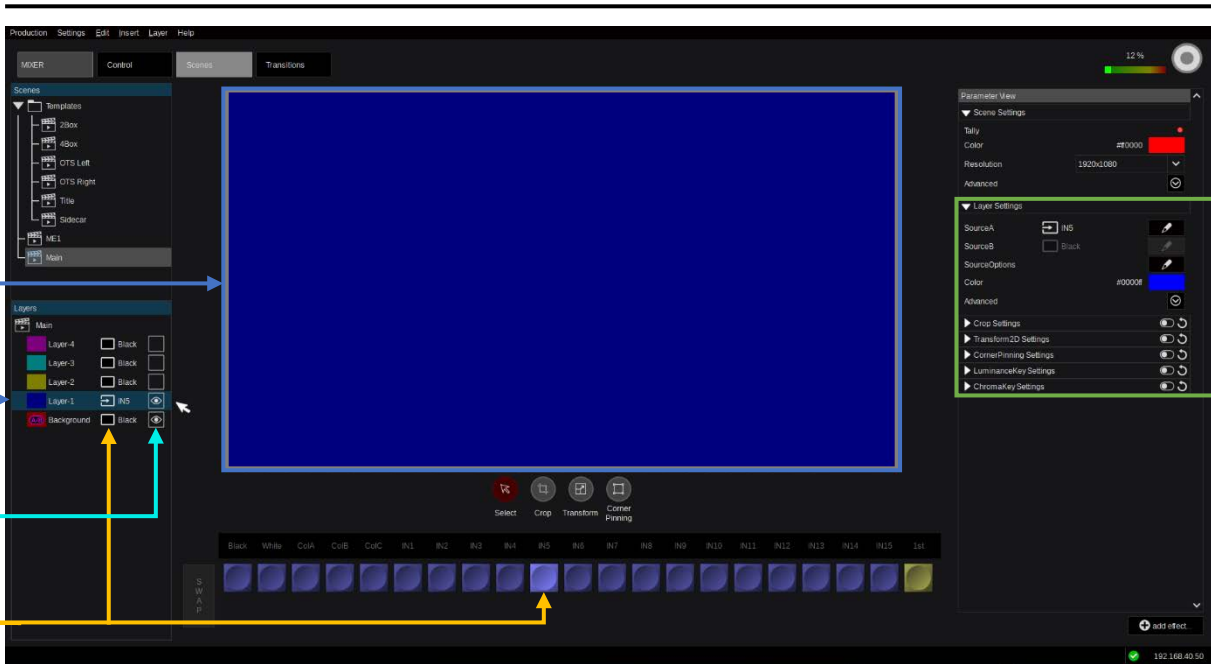


Picture 3.3.3.2.12

The “Advanced Layer Settings” unfolded in the “Parameter View” panel present additional Layer controls for **Opacity**, **Source link**, **PGM/PST mode** (see bottom of Page 7, section “1.2.3 Layer” in this manual), **Mode** = Size default settings per Layer (related to the “Scene Settings” X/Y Resolution), **Preset Enabled** (or B-Bus), **Clean mask** (to enable/disable a Layer from a designated Output), **Dissolve enable** per Layer (also available for Aux-Buses/Outputs and described on Page 7 in this Manual section “1.2.3 Layer”), adjustment for **Dissolve time** (duration), selection for **Dissolve effect type** (Mix, Wipe, DVE, User), selection for **Dissolve mode** (Normal, Reverse, Cross).



Picture 3.3.3.2.13



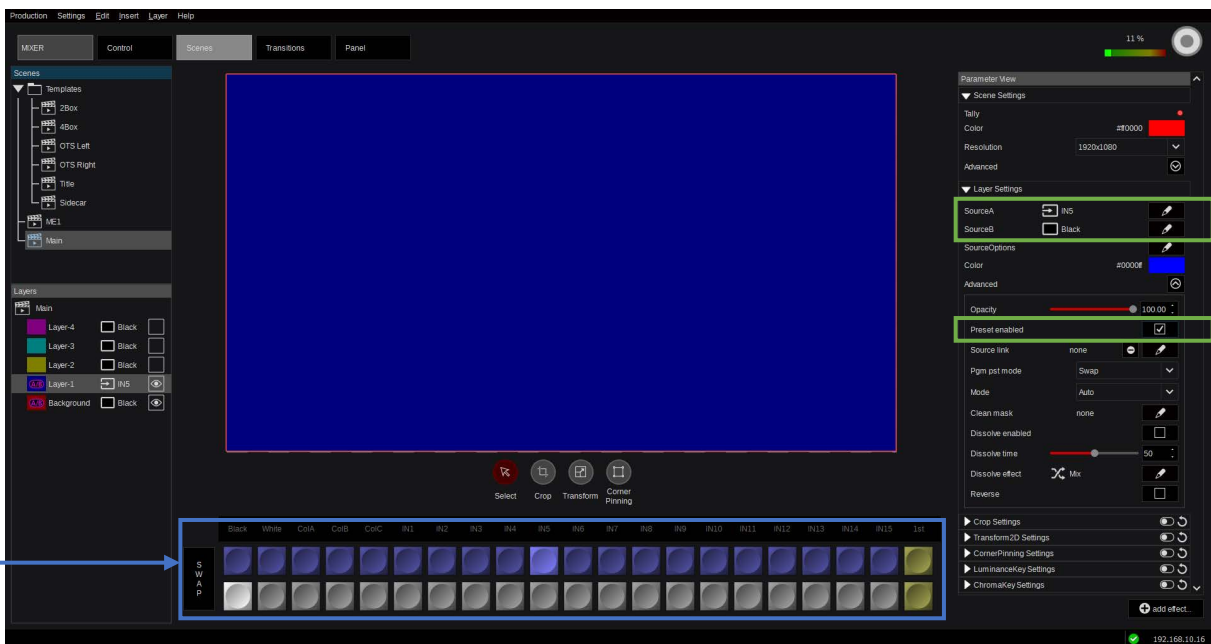
Picture 3.3.3.2.14

Changing the cursor selection from “Background” to “Layer-1” in the “Layers” panel changes the working area from Red (BGD-Color) to Blue (Layer-1 Color) in order to indicate the delegated controls.

The “Layer Settings” in the “Parameter View” panel are now showing “Layer-1” controls, also indicated by “Blue.”

The source on Layer 1 has been changed from “Black” to an Input named “IN5.” This is shown in the 2nd column of the Layers panel and in the virtual crossbar below the working area, which changes the layout and color to match the parameters of the currently selected layer.

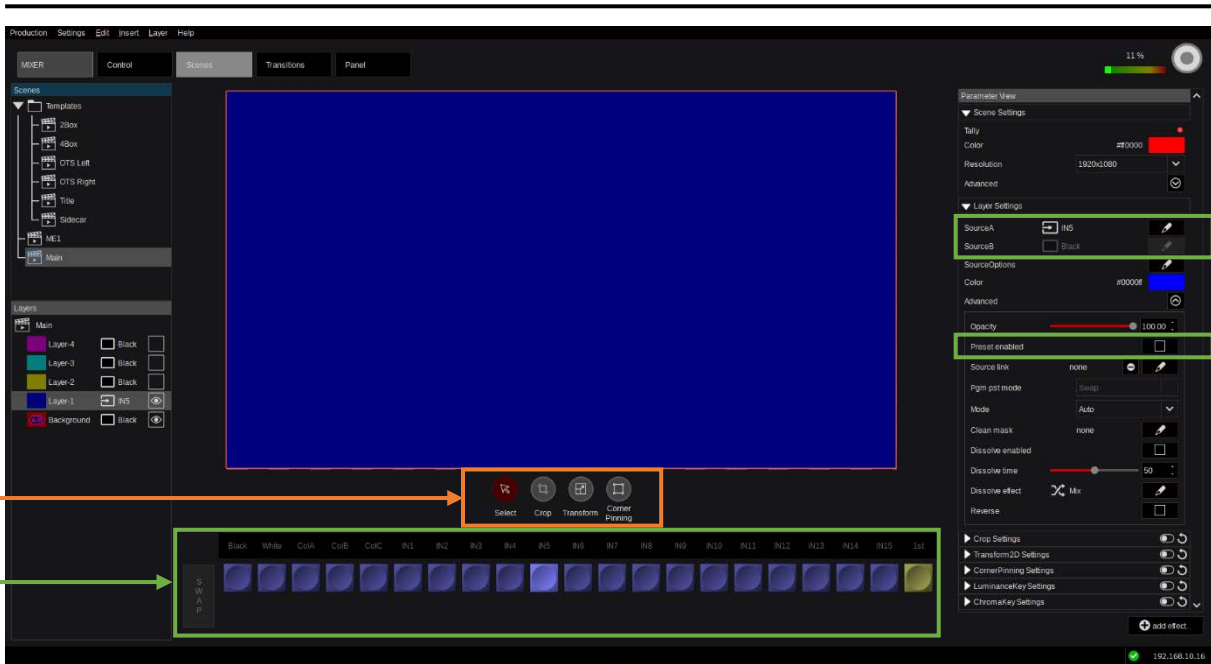
Notice that “Layer-1” is now visible as indicated by the “eye-ball” in the 3rd column of the “Layers” panel.



Picture 3.3.3.2.15

“Preset enable” adds A/B bus functionality to the source control for any layer. You can select a source on either bus by clicking the edit “pencil” , which will open the source selection dialog box. It also allows the user to execute any type of A/B-Transition (Mix, Wipe, DVE, User) directly on the Layer, a feature only available on BGD on other switchers.

Or simply use the automatically added “Preset”-bus control, located at the bottom of the page.

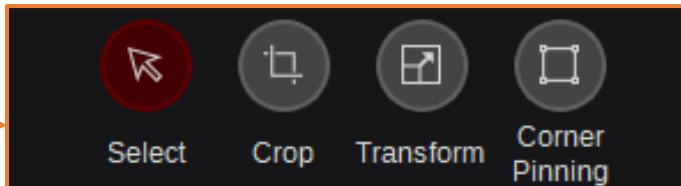


Picture 3.3.1.3.16

Turning off “Preset enable,” will deactivate the controls for “Source B” in the “Parameter View” panel and disable the “Preset”-bus control, located at the bottom of the page.

Note: Also, meanwhile created A/B transitions will be affected by turning off “Preset enable.”

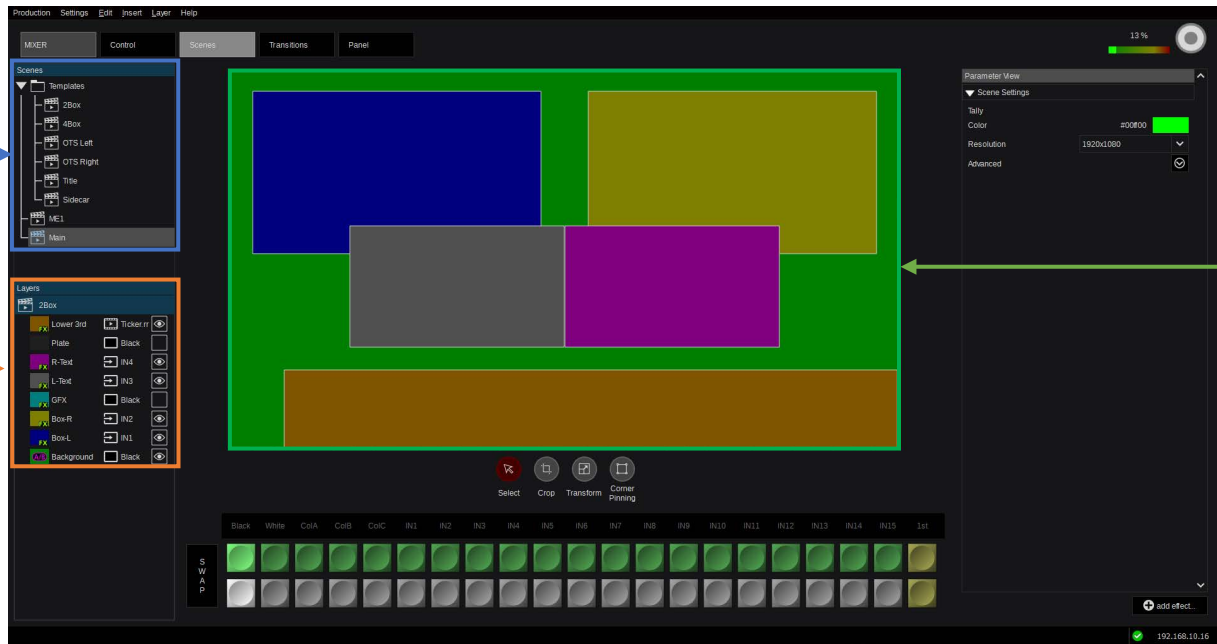
3.3.3.3 Tools in Working Area



Picture 3.3.3.3.1

Use the toolbox located under the working area for quick access to the “Select,” “Crop,” “Transform,” and “Corner Pinning” tools. Once selected, they can be controlled using the mouse and wheel controls in the working area. Additionally, all tools can also be enabled and modified in the “Parameter View” panel as described in the following examples.

3.3.3.3.1 “Select” tool

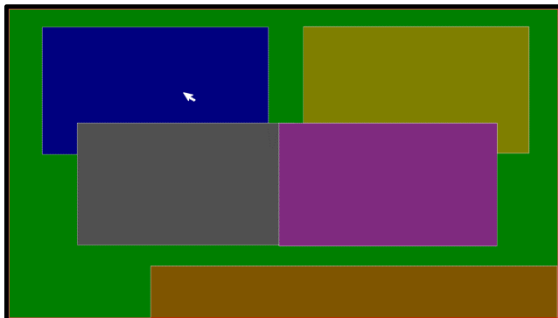


Picture 3.3.3.3.1.1

Selected Scene is “2Box.”

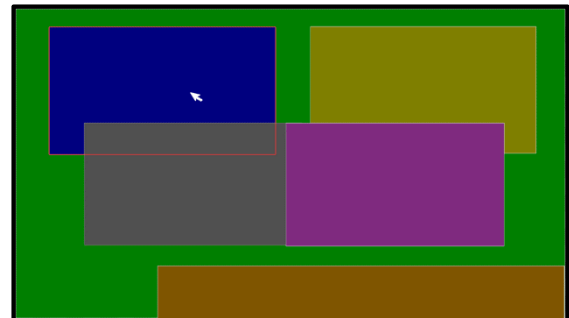
Working Area

The six active layers (including BGD) are displayed in the working area by their respective GUI colors. The two non-active “GFX” & “Plate” layers, as indicated by the missing “eyeballs” in the “Layers” panel, are not visible in the working area.



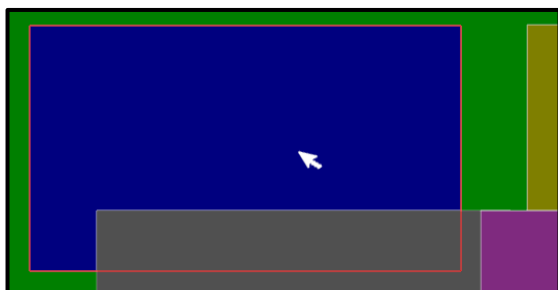
Picture 3.3.3.3.1.2

Left-click an object to select it, and it will be framed in a light red color. All the surrounding parameter panels will change to reflect the currently selected object.

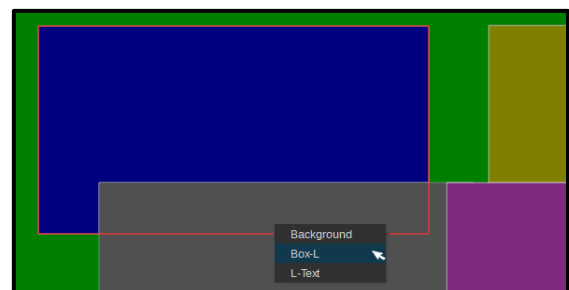


Picture 3.3.3.3.1.3

Where multiple layers overlap, a right mouse-click will open a context box allowing you to select the desired layer.

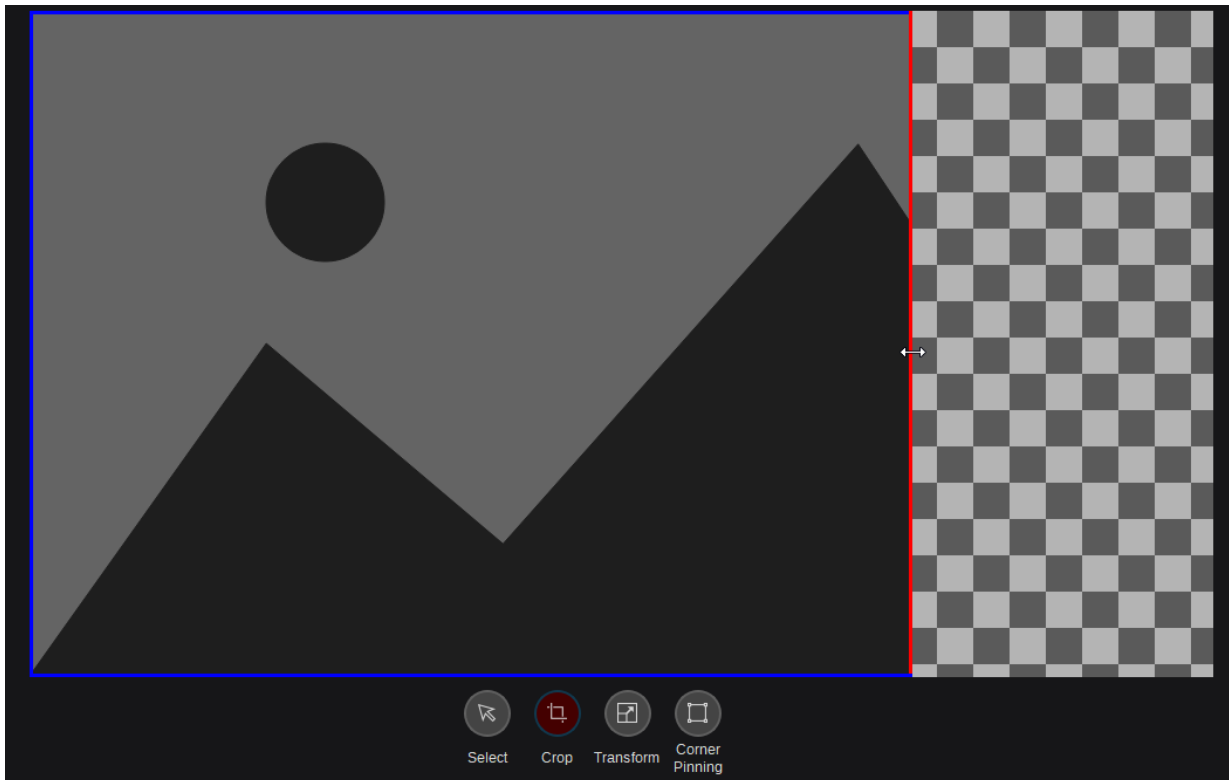


Picture 3.3.3.3.1.4



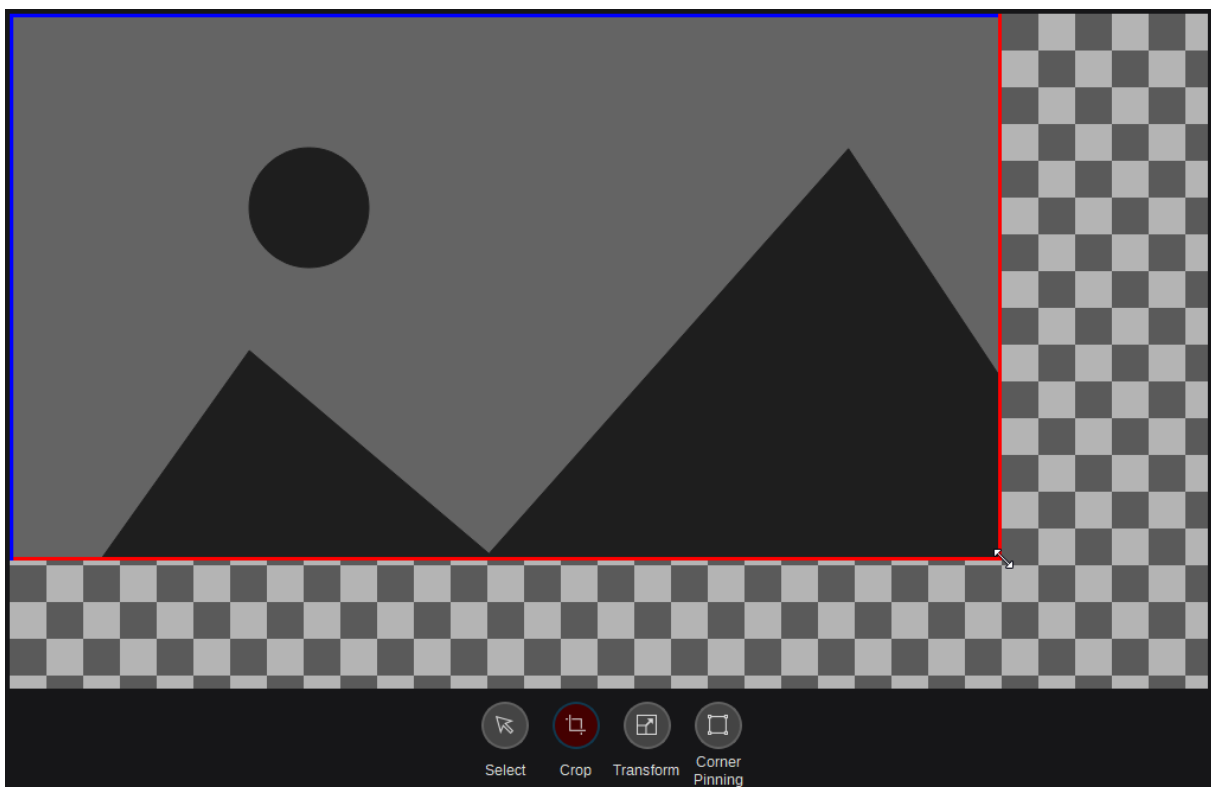
Picture 3.3.3.3.1.4

3.3.3.3.2 “Crop” tool

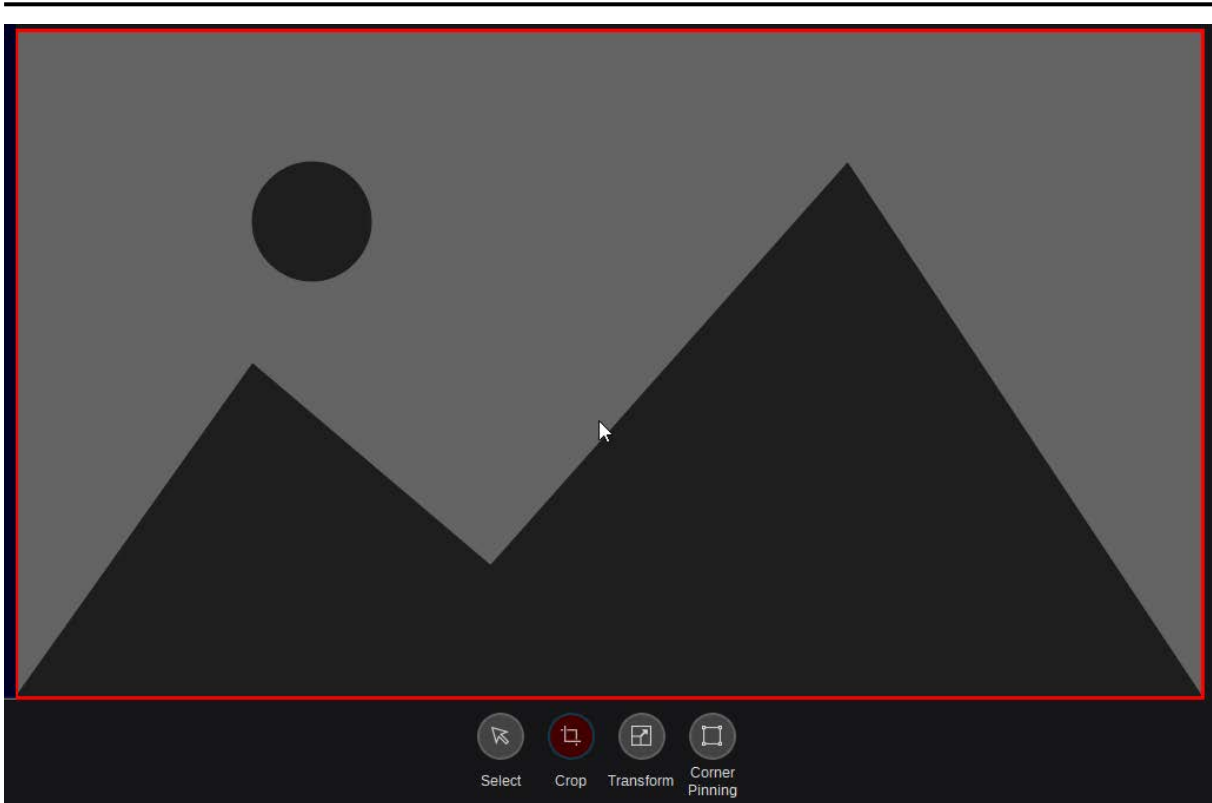


Picture 3.3.3.3.2.1

Select the “Crop” function in the toolbox to activate the Left, Right, Top, and Bottom crop edge controls. This will only work if the crop function has been enabled. See “Crop Enable” under “Layer Settings” described on page 37 in this Manual (Picture 3.3.3.3.2.6). When hovering the mouse over the crop edges, the focused edge can be grabbed with left mouse click and modified.

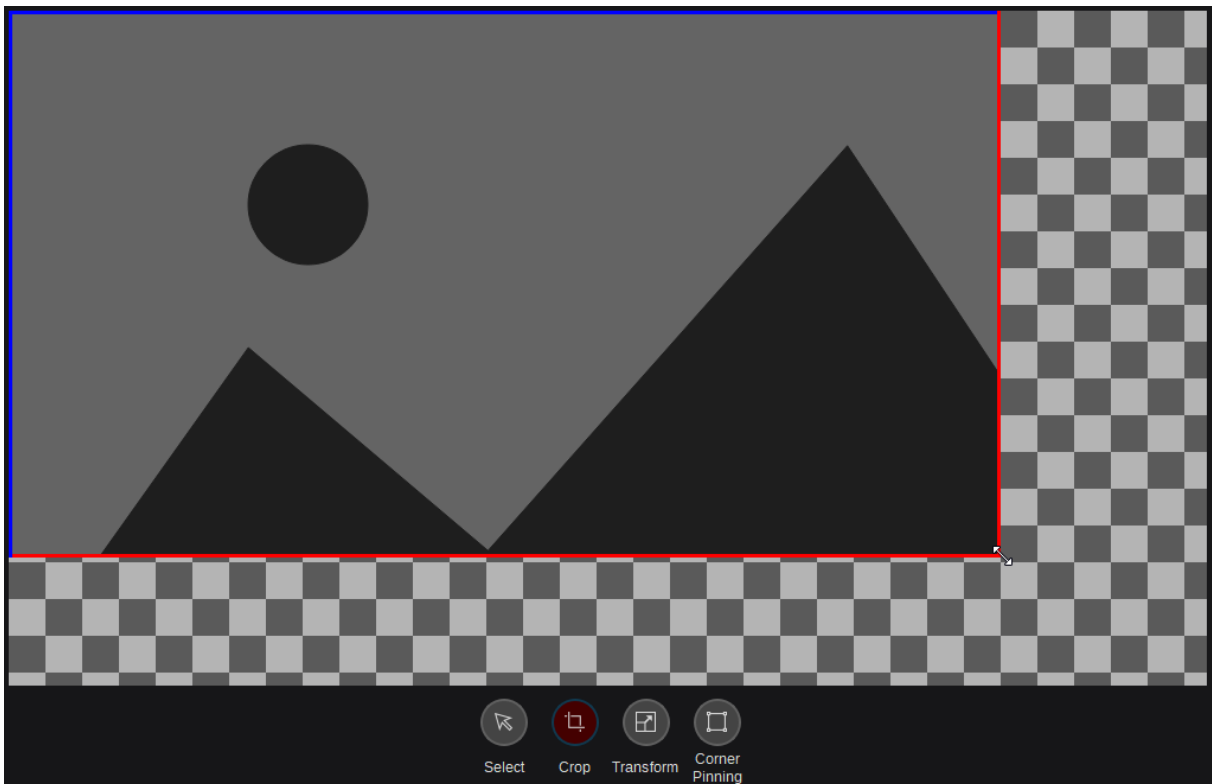


Picture 3.3.3.3.2.2



Picture 3.3.3.3.2.3

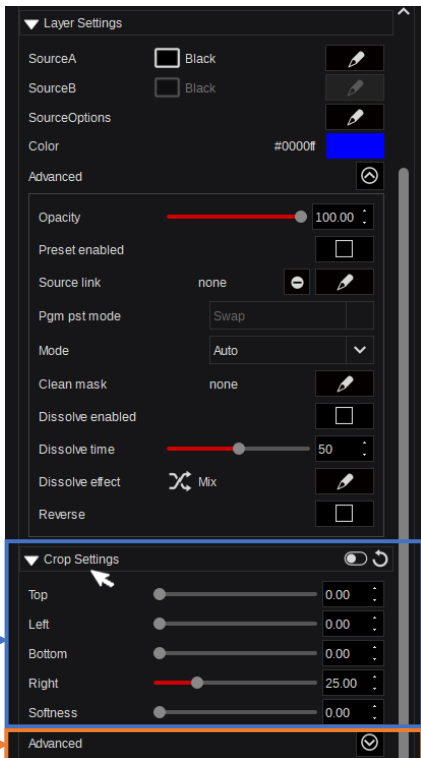
Positioning the cursor anywhere inside the crop-enabled image will activate focus on all edges as indicated in red. This allows click and drag repositioning of the entire crop frame.



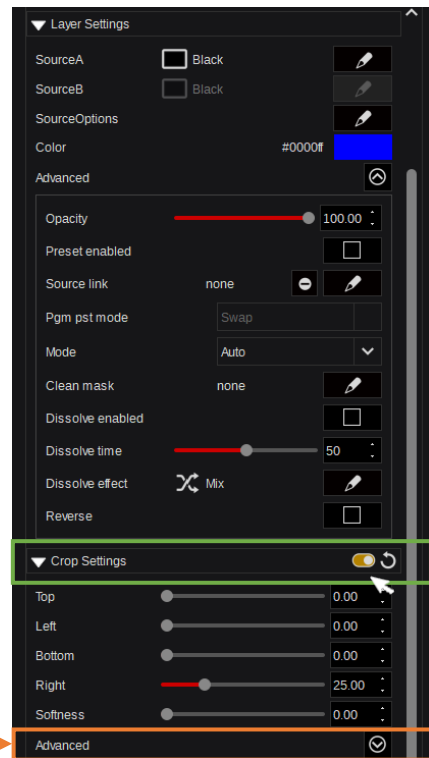
Picture 3.3.3.3.2.4

Now the image will crop when dragging the image—while keeping the left mouse button pressed—toward the screen edges.


Note: The crop automatically ends at the screen edges.





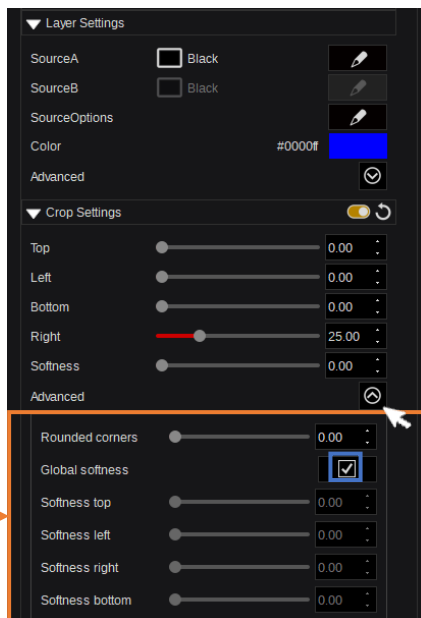
Picture 3.3.3.3.2.5



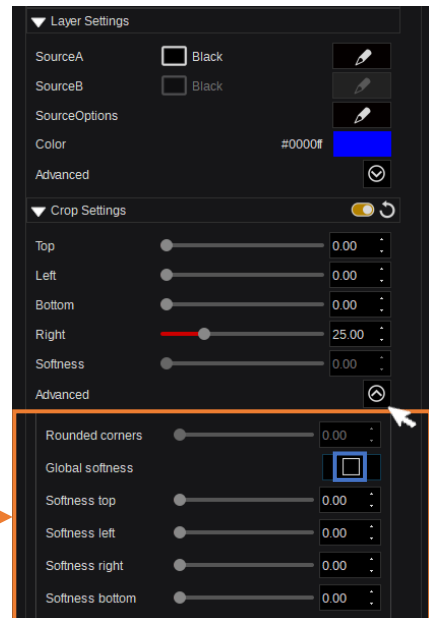
Picture 3.3.3.3.2.6

Expand the Crop settings in the “Parameter View” panel below “Layer Settings” to modify the values with the mouse (using slider or arrows ) or entering numeric values.





If the “Enable” button for Crop is not active , changes will not be visible on any video output, but a Preview will be displayed in the GUI viewing pane. Next to the “Enable” button is a “Reset to Default” values button .



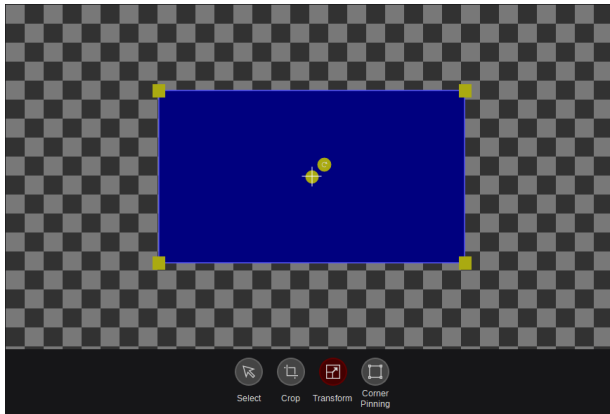
Picture 3.3.3.3.2.7



Picture 3.3.3.3.2.8

Unfold the “Advanced” controls () within “Crop Settings” to expose the “Rounded Corners” and individual Crop Edge Softness controls. By default, Global softness is enabled for crop edges as indicated by the checked box () next to “Global softness.” Untick the check box for “Global softness” () , to enable individual edge softness controls, which you can control with a mouse (using slider or arrows ) , or by entering numeric values. When “Global softness” is enabled, the controls for “Rounded corners” are also activated and can be applied to the Layer.



3.3.3.3.3 “Transform” tool





Picture 3.3.3.3.3.1



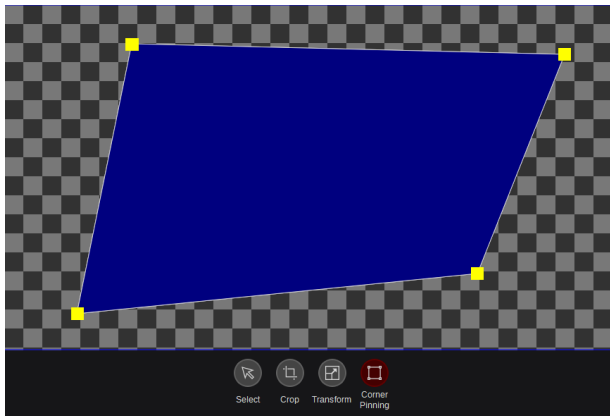
Picture 3.3.3.3.3.2

Select “Transform” tool underneath the working area to position and resize an image using the corresponding controls. Positioning the cursor in any cornered yellow box - with left mouse click and holding, 2D-Size of the image can be modified. Positioning the cursor straight inside the picture, with left mouse click and holding, allows positioning of the image in 2D space. The crosshair marked yellow circle  is identifying the “Rotation origin” position (aka Rotation-“Axis”), which can be adjusted while left mouse clicking and holding it and dragging it over the GUI screen in the working area. The other yellow arrow marked circle  can be used in the same style in order to adjust the “Z-Rotation” value within the GUI screen.

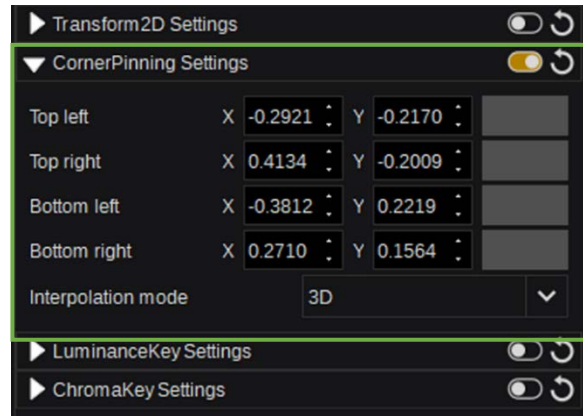
Apart from “Enable” or “Disable” and “Reset to Default,” the functions “Scale,” “Position” (X & Y or using the drag-pad right next to it) are also available when expanding the “Transform 2D Settings” within the “Parameter View” window, allowing to modify the values by mouse—using the slider or arrows  or by entering numeric values in the designated area right next to the slider controls. Rotation coordinates in “Parameter View” window are labeled “Rotation origin X/Y” (aka Rotation-“Axis”). Here, numeric values can be entered or modified using the drag-pad right next to it. Also, the “Rotation” value (Z-direction) can be modified using the slider or arrows —or entering numeric values in the designated area right next to the slider controls.

Note: When positioning a Layer, regardless of using the “working area” or the “drag-pad” controls, while holding down the keyboard “Ctrl”-key, only horizontal positioning is applied to the Layer object. When holding down the keyboard “Shift”-key instead, only vertical positioning is applied to the Layer object.

3.3.3.3.4 “Corner Pinning” tool



Picture 3.3.3.3.4.1



Picture 3.3.3.3.4.2

The “Corner Pinning” tool allows you to position every corner of an image individually by left mouse clicking on the corner and dragging it to the desired position within the viewing pane. Clicking the cursor inside the picture allows you to re-position the image, whether or not the corners are shifted.

In “Parameter View,” numeric values can be entered or modified using the drag-pads next to the value boxes for each individual corner (“Top left X/Y,” “Top right X/Y,” “Bottom left X/Y,” & “Bottom right X/Y”). Enable and Disable the effect with the switch and “Reset to Default” with the “rewind” button. Overall, the Corner Pinning “Interpolation Mode” can be changed between 2D and 3D.

3.3.4.1 Transitions

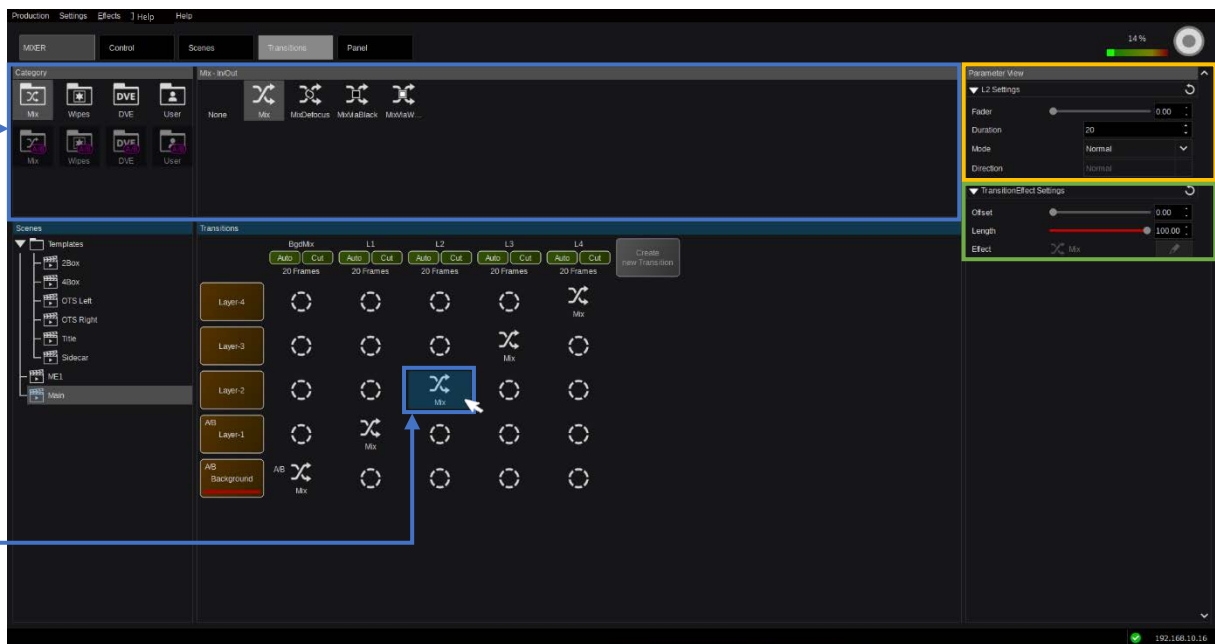


Picture 3.3.4.1.1

Selected Scene in main folder “Scenes”. Scene “Main” selected.

Layers & default names contained in Scene “Main” indicating ON/OFF (Red) and A/B-Bus availability.

Transition components selected per Transition.

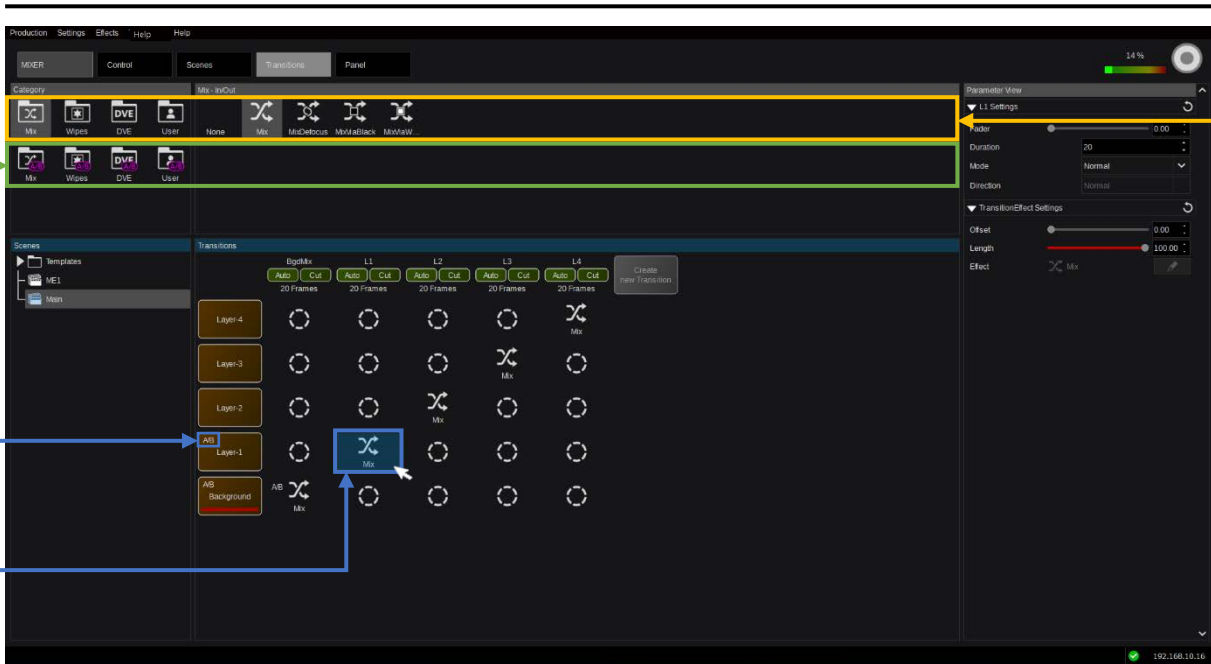


Picture 3.3.4.1.2

When a Transition component is selected, a list of the Transition categories available to that component is displayed in the “Category” panel. A specific transition can then be selected from the items published in the effects panel to the right of the categories panel. In this case, only “In/Out Effects” are available and the “Mix” effect—out of the “Mix In/Out category”—is selected.

Also, a “Parameter View” will show all available modifications for the selected transition type, such as: manual slider for “Fader” control, Transition “Duration,” the “Mode” for Normal—Reverse run direction, indicating next run—“Direction” display, which is not needed for “Mix” Transition types.

In the “Transition Effect Settings,” the “Offset” (Start position) and “Length” (Duration) for selected Transition can be modified. The “Effect” window shows the selected Transition type.



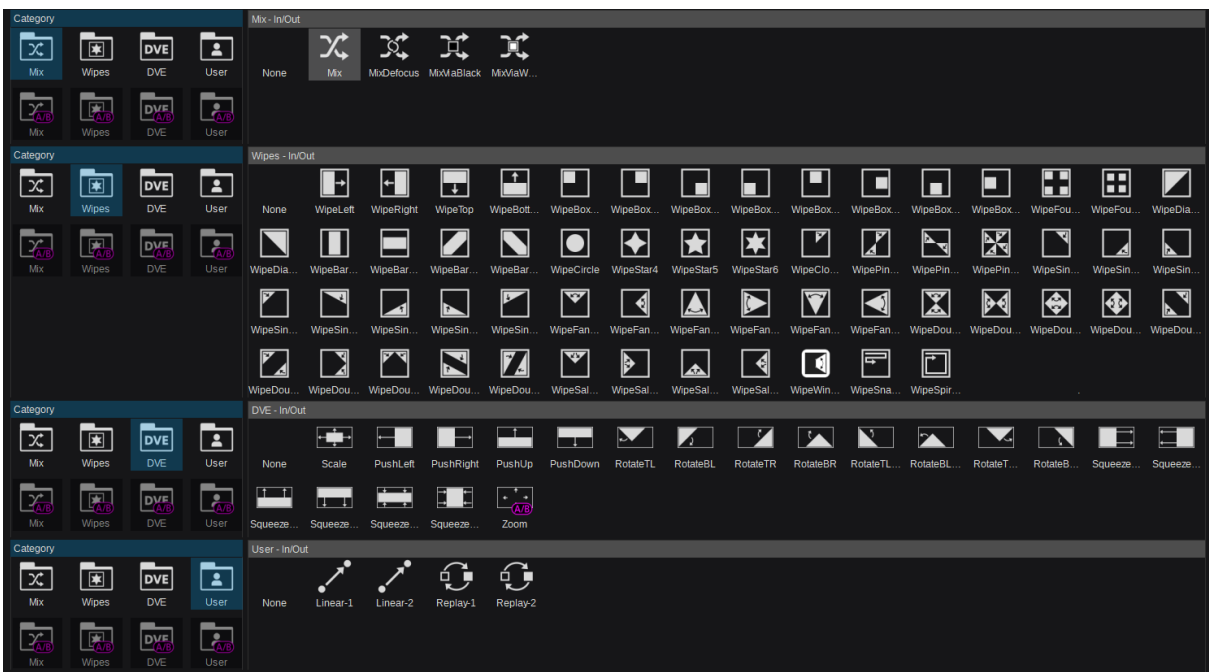
Picture 3.3.4.1.3

In this example, the selected Transition Component has “A/B-Bus” enabled on Layer-1. This results in 2 separate sections of Transition-Types, visualized in the categories “In/Out Effects” & “A/B Effects” area.

“A/B-Effects” showing a mix effect inside the Layer containing, for example, a PiP (“Picture in Picture”) or OTS (“Over The Shoulder” box).

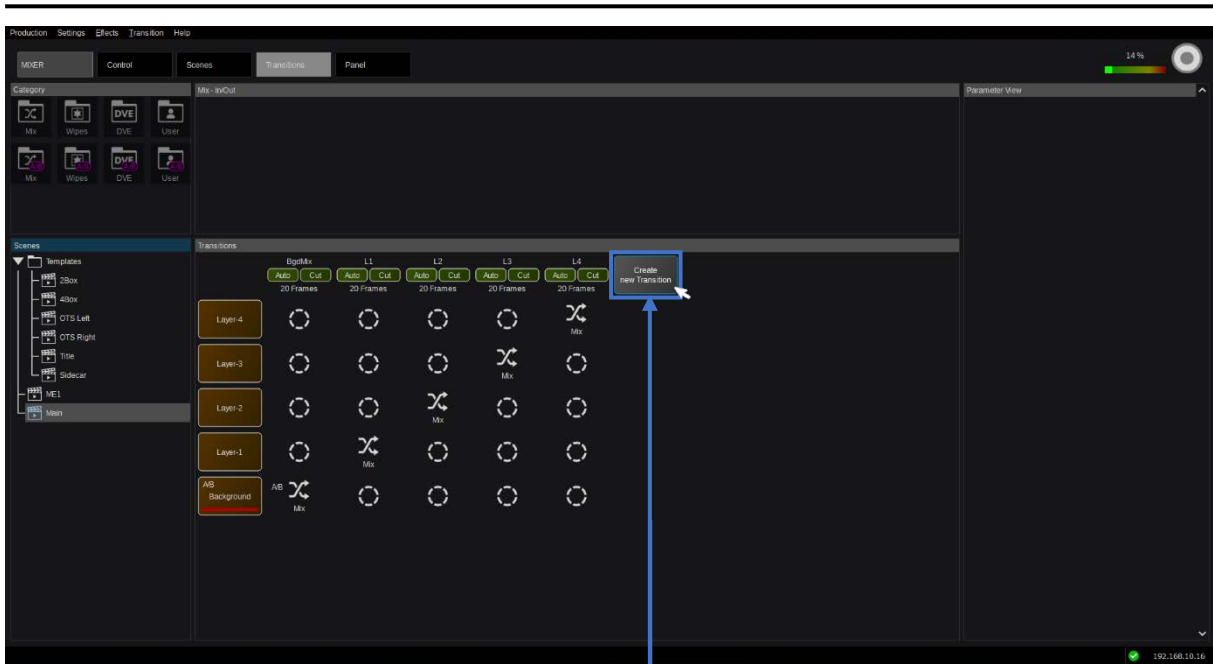
In addition to having “A/B-Bus” enabled on Layer-1, a separate “In/Out Effect” can be selected to bring the layer in and out. Combinations (e.g., “In/Out” & “A>B”) are possible as well.

Available Transition Types are:



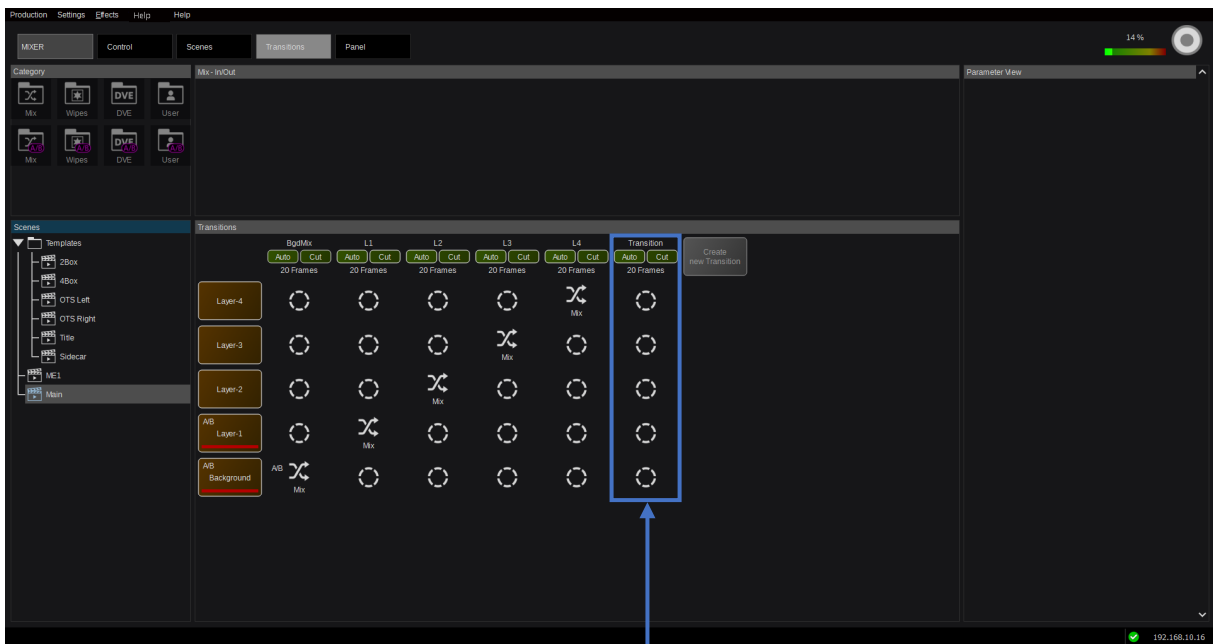
Picture 3.3.4.1.4

Note: This grouping of selections has been graphically composited and is not available as an actual GUI menu. However, all Transition types are available as “In/Out Effects” & “A/B Effects.” The selected “Category” for “User” at the bottom of “Picture 3.3.4.1.4” is User-definable. So, more effects can be created and added to the list or unwanted effects can be removed.



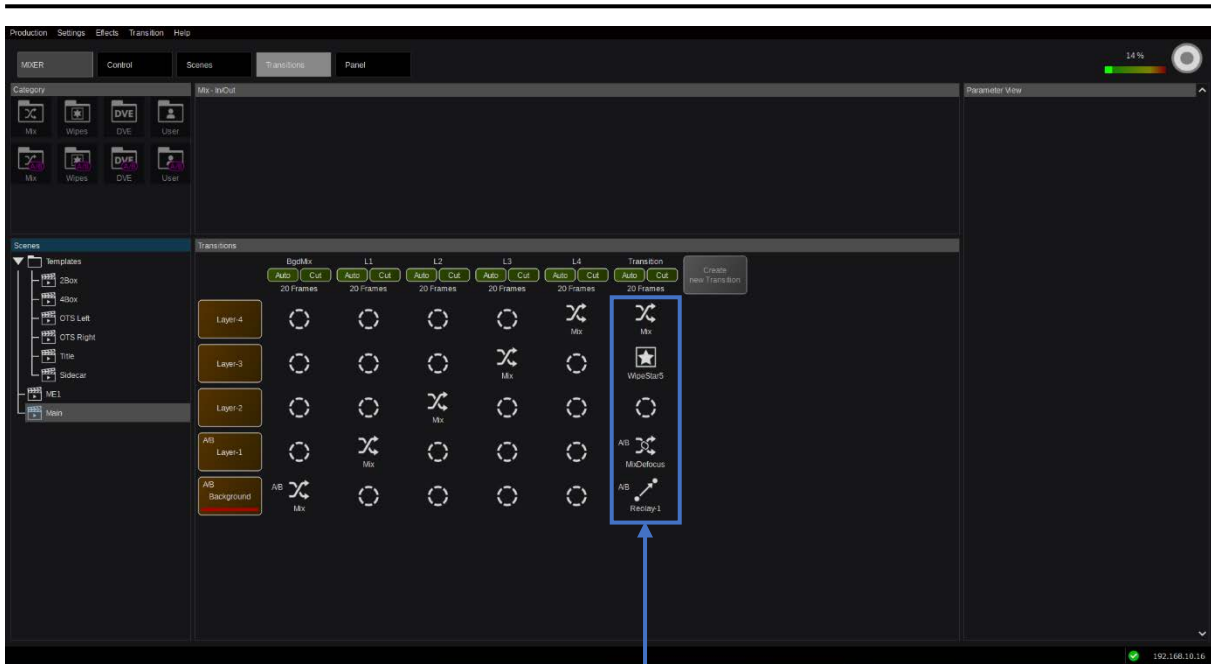
Picture 3.3.4.1.5

Click this button in order to create a new Transition.



Picture 3.3.4.1.6

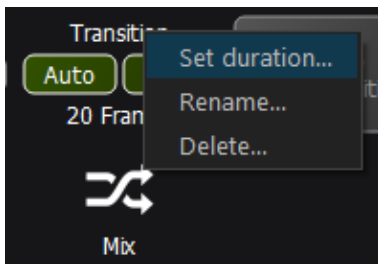
New Transition created (default name = Transition / Duration = 20 Frames), no Layer component enabled.



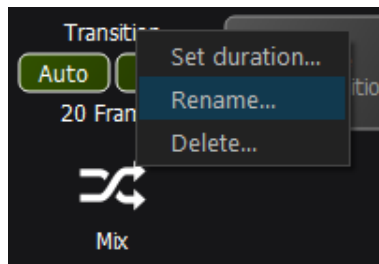
Picture 3.3.4.1.6

Various Transition-Types applied to Layer components. Layer-2 is not participating in this Transition.

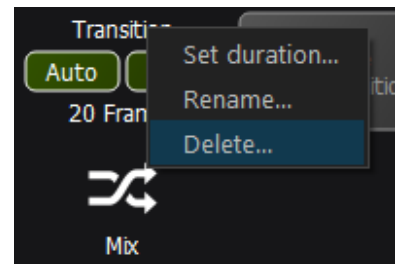
Left-click on a transition component to select a transition type. Right-click in a transition's column to open a context menu, which will allow you to set the transition duration, rename it, or delete it. With any transition component selected, you can left-click the Transition item in the menu bar of Kairo Creator to set the duration of the transition or use the keyboard shortcut "Ctrl+D."



Picture 3.3.4.1.7

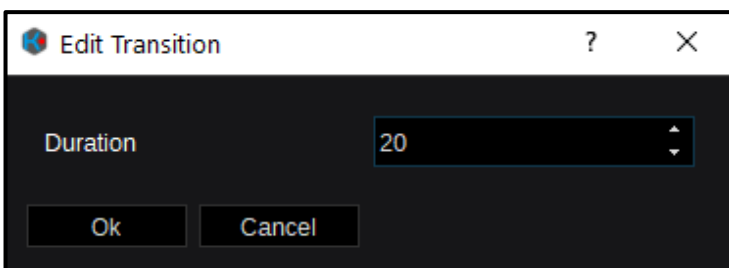


Picture 3.3.4.1.8

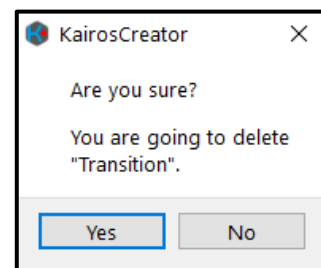


Picture 3.3.4.1.9

"Set duration" opens this pop-up window. Numeric entry and/or slider control to adjust. Confirm "OK." "Cancel" will abort the dialog without changes.



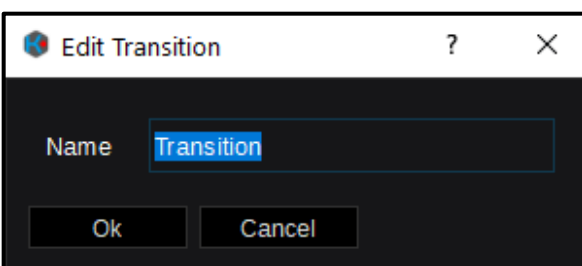
Picture 3.3.4.1.10



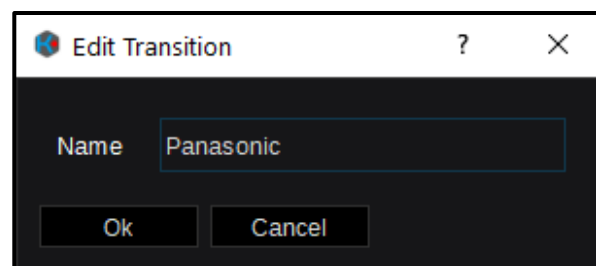
Picture 3.3.4.1.11

"Rename" opens the pop-up with actual name.

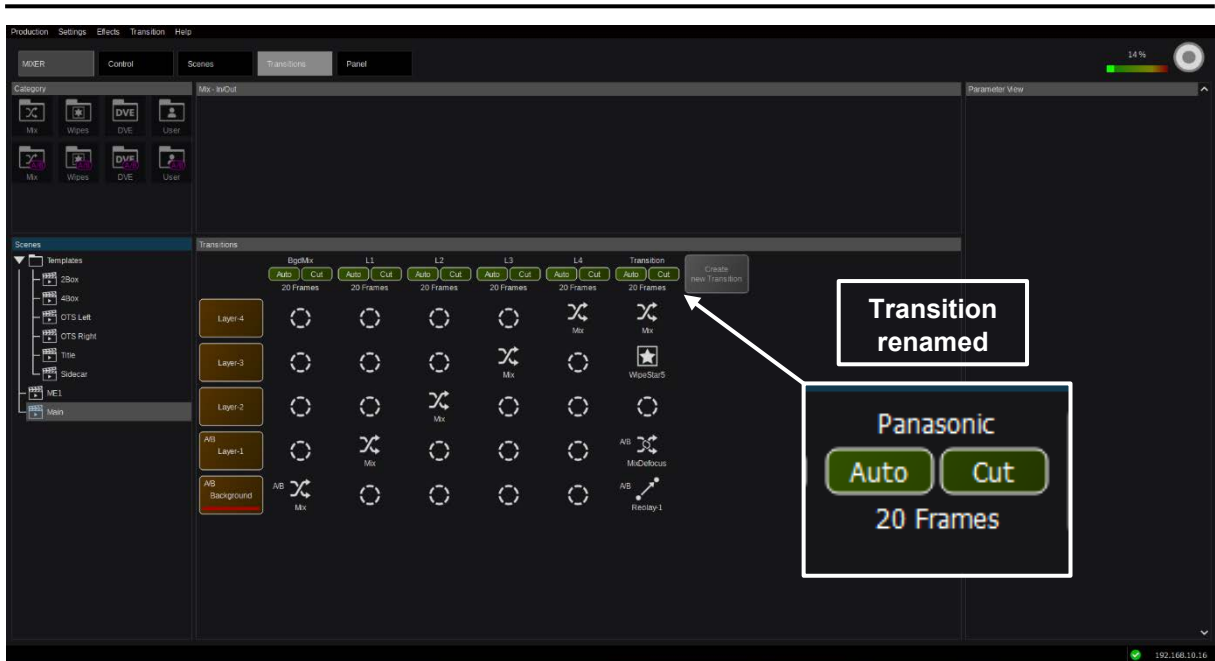
Enter a new name, confirm "OK," and abort with "Cancel."



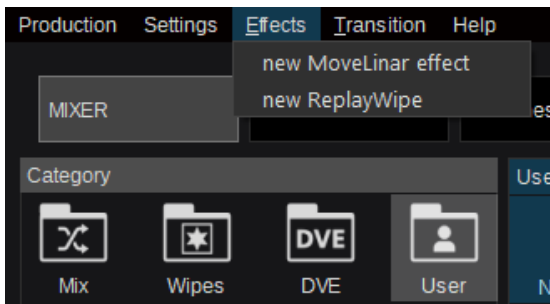
Picture 3.3.4.1.12



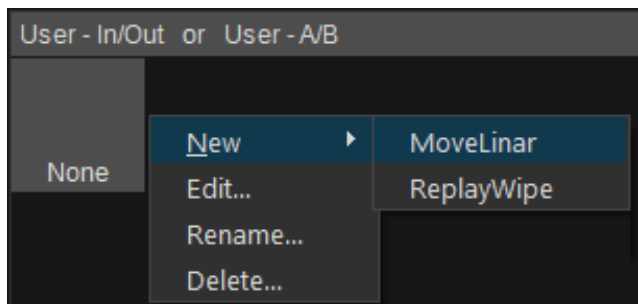
Picture 3.3.4.1.13



Picture 3.3.4.1.14

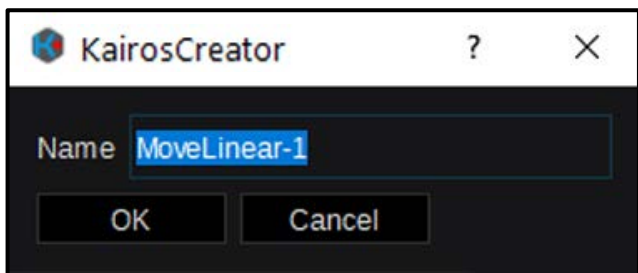


Picture 3.3.4.1.15



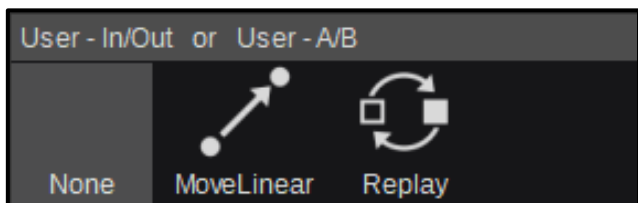
Picture 3.3.4.1.16

Open the “Effects” pull-down menu in the upper left corner of the Kairos Creator or right mouse click in the “Category User—In/Out or User—A/B” in order to create a “new MoveLinear effect” or a “new ReplayWipe.” A renaming dialog box opens to start with. The default name is simply “new effect,” which, of course, can be customized. Press “OK” to confirm or “Cancel” to abort the dialog. The according icon will appear in the designated “Category—User” area (Picture 3.3.4.1.19).



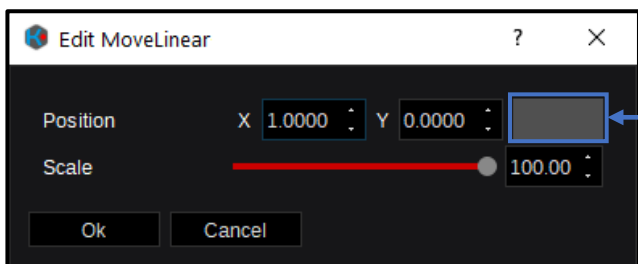
Picture 3.3.4.1.17

Right-click an icon in the User area to access the “Edit,” “Rename,” and “Delete” functions. (Picture 3.3.4.1.16).



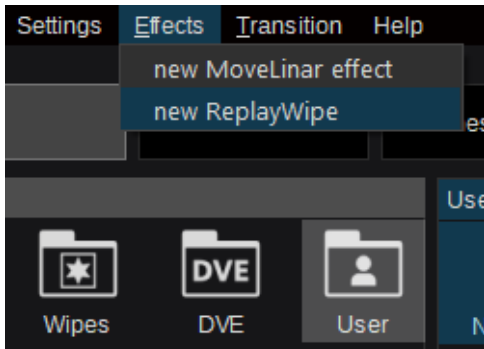
Picture 3.3.4.1.18

Entering the “Edit” dialog, a 2D start position can be adjusted, using numeric entries or the drag-pad for positioning X/Y, and the “Scale” slider for 2D-Size. Starting from those modified values will always force a Transition to interpolate to the former defined Layer position.

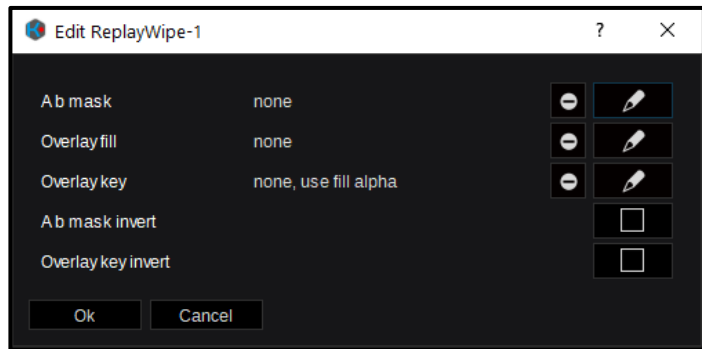


Picture 3.3.4.1.19



Drag-pad



Picture 3.3.4.1.20



Picture 3.3.4.1.21

Editing a “new Replay Wipe” opens the dialog box where desired Clips for Fill, Key, and Mask sources can be selected, by clicking the  symbol to open the menu for Clip selection. If a Video Clip contains an alpha channel (key signal), which is supported by KAIROS, it will not be necessary to select an “Overlay key” source unless you wish to override it. To perform an A-B transition that matches the Overlay, an animated mask signal can be associated with the “ReplayWipe” by selecting it as the source for “A b mask.” Both the Key signal and the Mask signal can be individually inverted by ticking their respective “invert” check-boxes <-> . In order to delete a selected Source, use the  box.

3.3.5 Multi-Viewer Tab Selection

3.3.5.1 Live View



Picture 3.3.5.1.1

→ Selecting the Multi-Viewer output to be monitored in real time in Kairos Creator GUI—Live View tab.

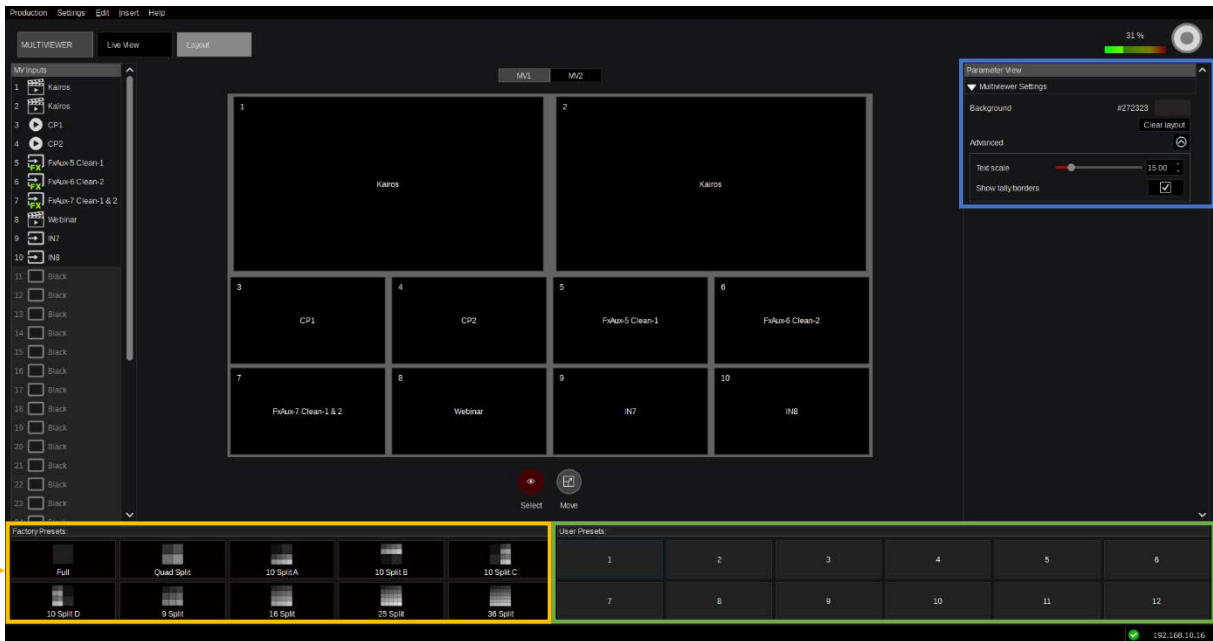
The Multi-Viewer “Live View” tab allows the user to monitor the Multi-Viewer outputs (MV1 or MV2) in a connected Kairos Creator GUI, once enabled in “System Settings” (described on page 72 in this manual).



Picture 3.3.5.1.2

3.3.5.2 Layout

The Multi-Viewer layouts can be customized in the “Layout” section. This page has a list view of the PiP sources in the MV Inputs panel on the left, the layout editor in the center, and the usual “Parameter View” panel on the right. Across the bottom are two layout Preset selector panels: “Factory Presets” and “User Presets,” which function as explained below.

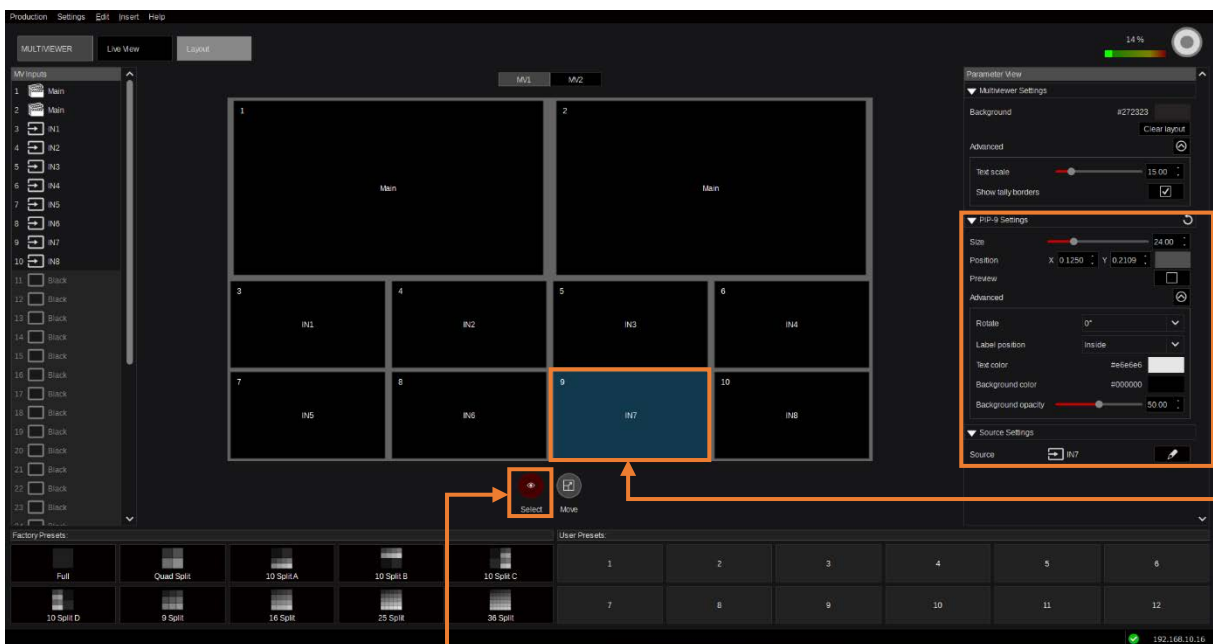


Picture 3.3.5.2.1

Use left mouse click to apply a Factory Preset to the selected Multi-Viewer canvas as a starting point.

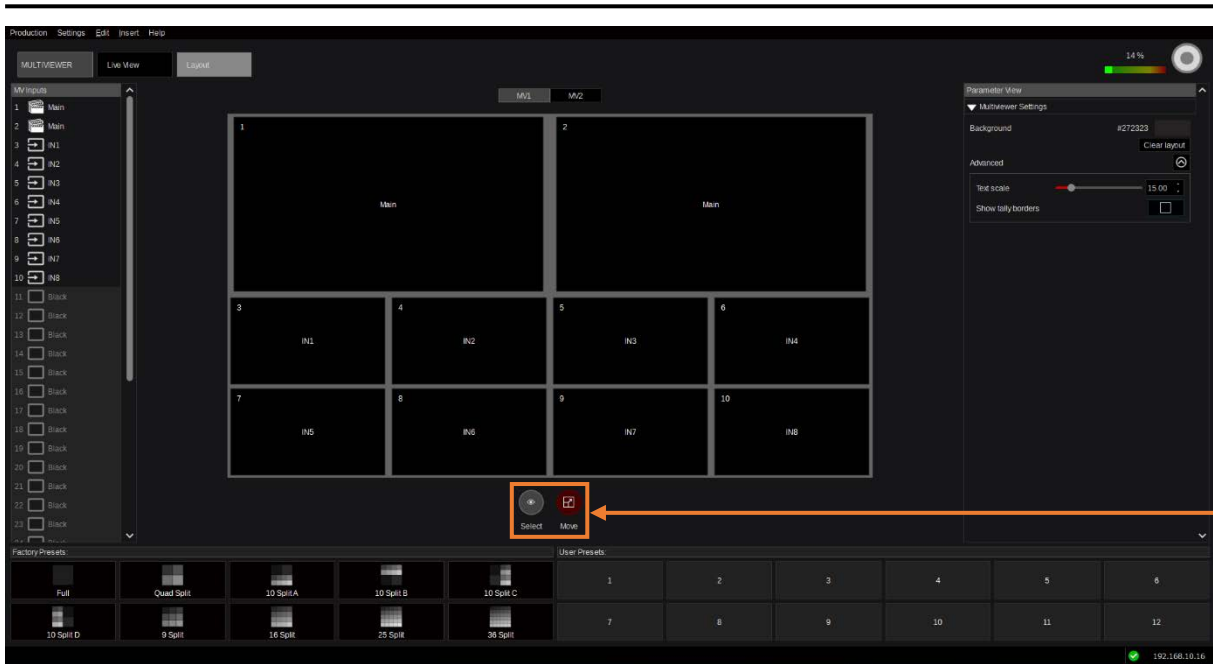
Clear a layout, changing the Multi-Viewer Background Color, adjusting the “Text scale” (Size) and enable or disable “Show tally borders” can be operated/adjusted in this GUI section per Multi-Viewer.

Up to 12 “User Presets” can be saved here. Right mouse click functions on a Preset position are “Store, Recall, Rename, Clear.”



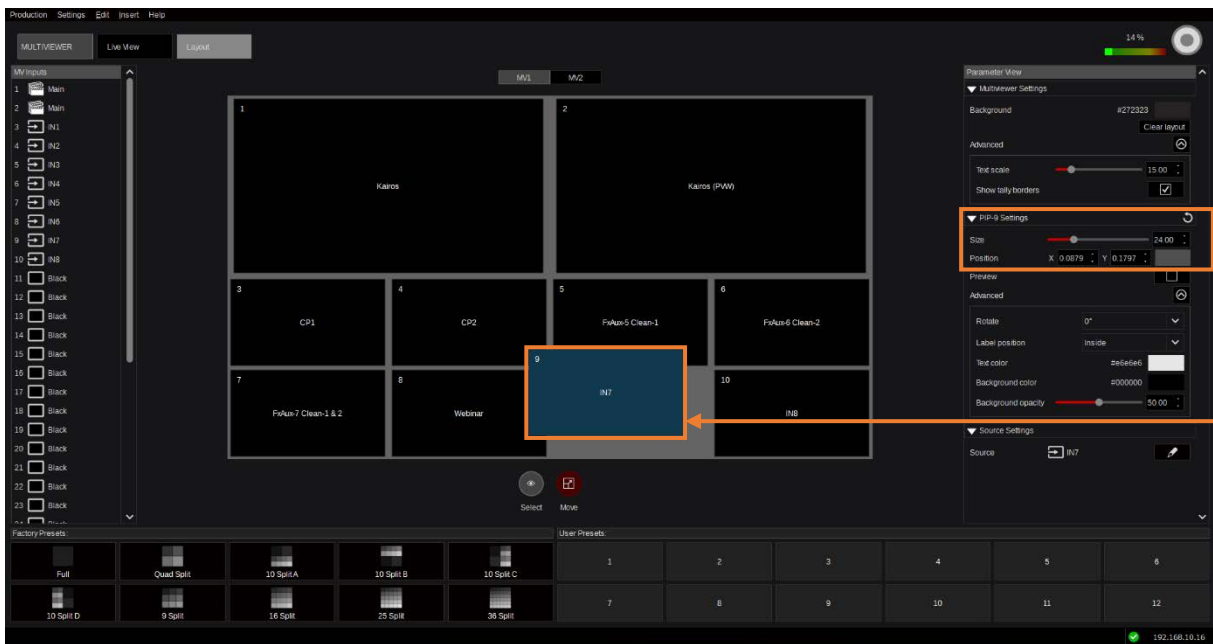
Picture 3.3.5.2.2

With the “Select” tool-enabled controls for “Size,” “Position,” “Preview,” On/Off become available by selecting a tile (tile 9 in this case). Opening the “Advanced” settings allows access to control “Rotate,” “Label position,” “Text color,” “Background color,” and “Background opacity.” When opening “Source Settings,” the source selection controls become available. These are independent settings per tile.



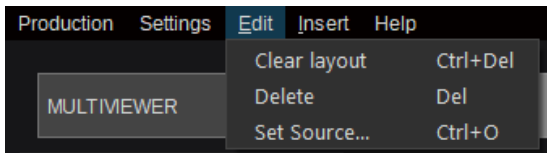
Picture 3.3.5.2.3

Select the “Move” tool to use mouse controls directly on the layout grid. Left mouse click, hold, and move for positioning. Use the mouse wheel in order to change the size.



Picture 3.3.5.2.4

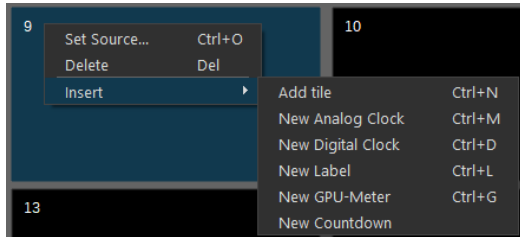
Changing “Position/Size” settings is reflected in “PiP Settings” column in the “Parameter View” panel. The drag-pad next to X/Y Position controls can be used as well.



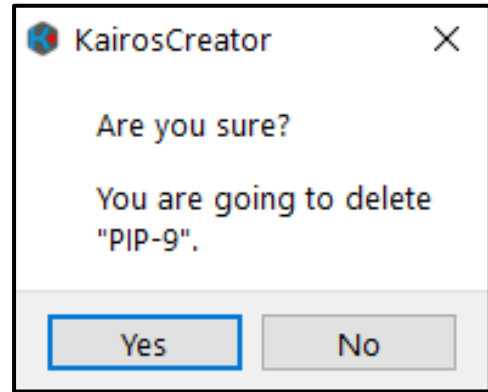
Picture 3.3.5.2.5

Opening the “Edit” drop-down menu in the upper left corner exposes a “Clear layout” operation, which will be executed without any further confirmation. The keyboard shortcut “Ctrl+Del” does the same thing. Also, a cursor-focused tile can be deleted or the “Set Source...” dialog can be launched.

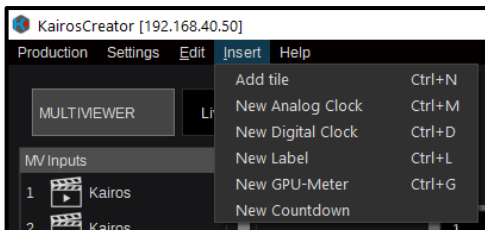
Right-click a PiP (tile 9 in this case), to access the context menu for that PiP. The “Delete” function where a pop-up window is asking for confirmation. Also, an “Insert” dialog or a “Set Source” operation can be launched (described in Pictures 3.3.5.2.6 & 3.3.5.2.7).



Picture 3.3.5.2.6

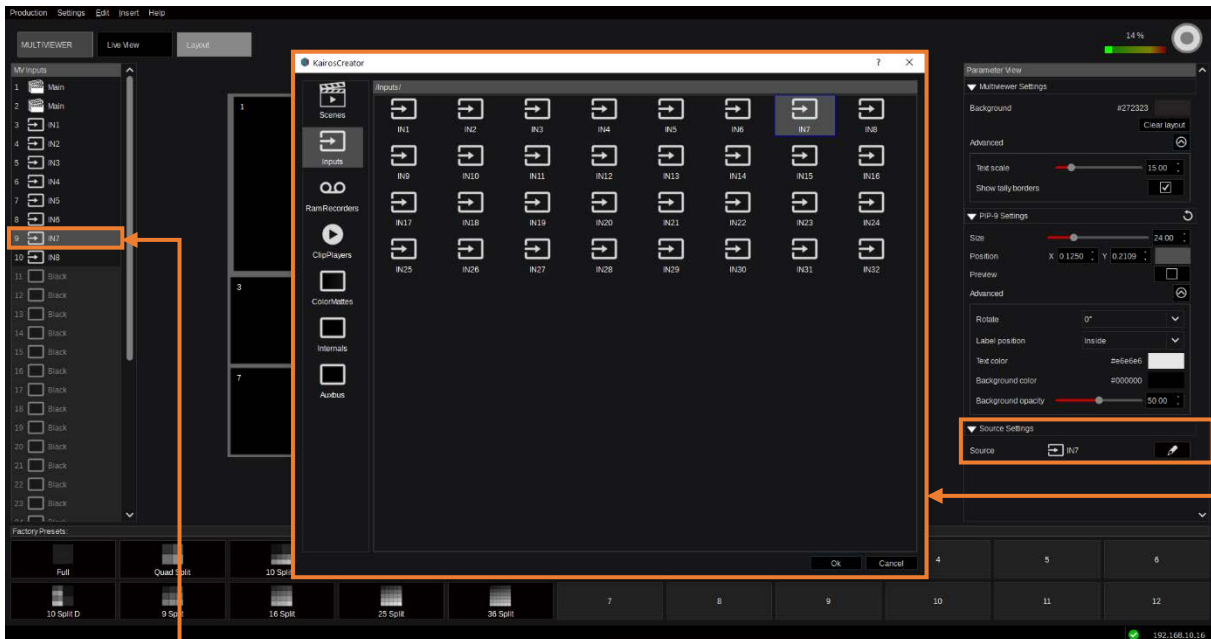


Picture 3.3.5.2.7




Picture 3.3.5.2.8

The “Insert” function provides the opportunity to add/insert a “New Window” (Tile), “New Analog Clock,” “New Digital Clock,” “New Label” (Text), “New GPU-Meter,” and a “New Countdown.” The individual keyboard shortcuts listed next to the items can also be used.



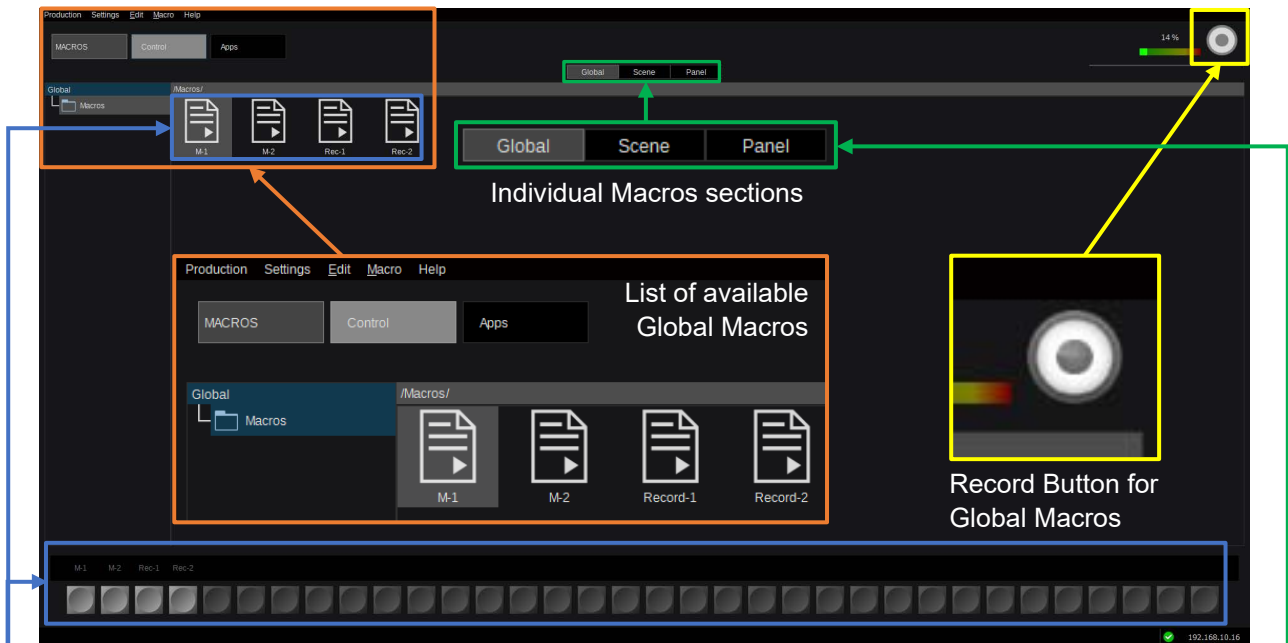
Picture 3.3.5.2.9

Click the “” symbol in “Source Settings” at the bottom of the “Parameter View” panel next to the “Input” icon (IN7 in this example) to open the “Inputs” overlay window for selection, listing all available sources. A double left mouse-click on a destination in the “MV Inputs” panel, a right mouse click on one of the items listed in the “MV Inputs” panel, or a double left mouse-click directly on a Multi-Viewer tile will open the “Set Source” selection overlay window.

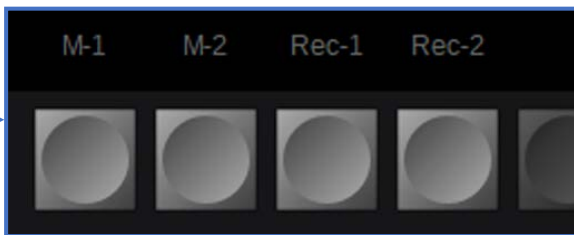
In the overlay, a single click on a source will only change the cursor focus, while a double-click will set the focus and change the source immediately. Select “OK” in lower right corner of the selection window to confirm the changes and close the window. “Cancel” terminates the dialog. For more details regarding source selection, please refer to section “3.2.1 Source/Input Selection” on page 21 in this manual.

3.3.6 Macro Tab Selection

3.3.6.1 Control

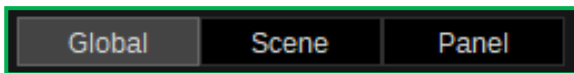


Picture 3.3.6.1.1



GUI Macro Bus row with name display for the selected individual Macro group (picture

Picture 3.3.6.1.2



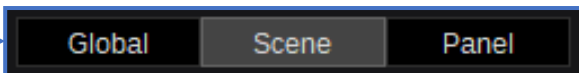
Individual programmable Macro sections for Global, Scene, and Panel Macros (picture 3.3.6.1.3).

Picture 3.3.6.1.3

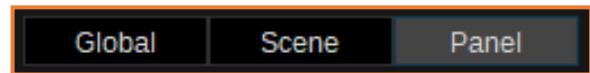
Note: “Global Macros” can be recorded and recalled at any time and are not assigned to a specific Scene (Picture 3.3.6.1.1). Global Macros operations allow to create user-defined subdirectories and are operated via Kairos Creator GUI only. Global Macros can be copied from/to any other Macro section, such as Scene Macros & Panel Macros.

“Scene Macros” are unlike “Global Macros,” which belong to their individual “Scene,” visible when selecting the “Scene” Macro section (Picture 3.3.6.1.2 & 3.3.6.1.3).

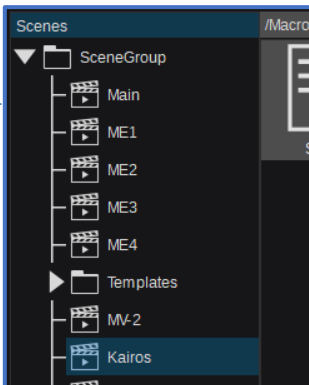
“Panel Macros” instead belong to their individual Profile (1-8) and can also be operated on their designated Control Panel with selected/activated “Profile.” See also section 4.6.1 Macros on page 103.



Picture 3.3.6.1.4



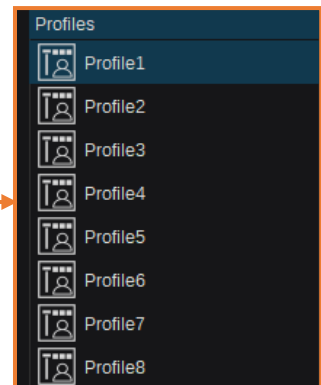
Picture 3.3.6.1.5



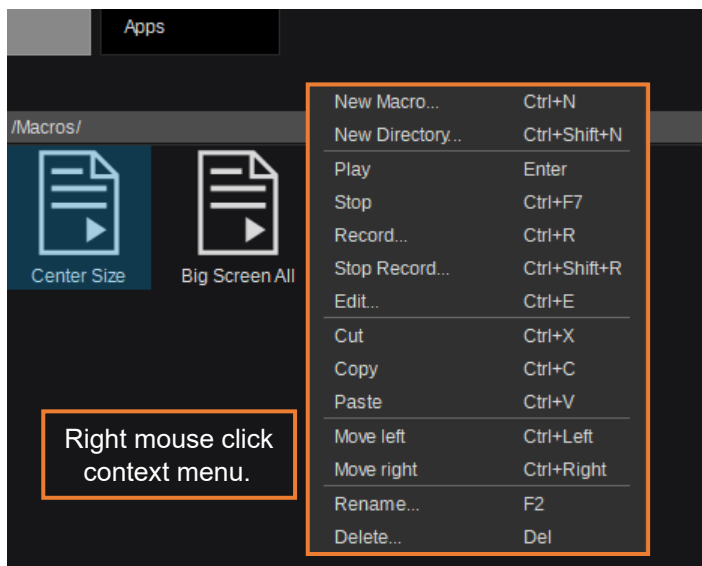
Picture 3.3.6.1.6

Selecting “Scene” for the individual Macro section will browse the actual Production, displaying all available Scenes, including Scene subdirectories (i.e., “Templates”).

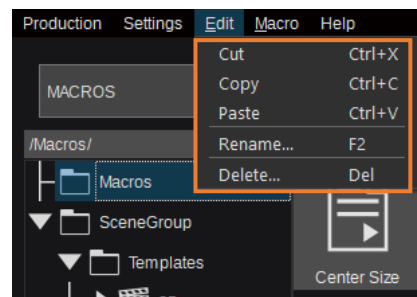
When “Panel” gets selected in Kairos Creator GUI as individual Macro section, all Profiles (1-8) are listed, showing their containing Macros when cursor focus on.



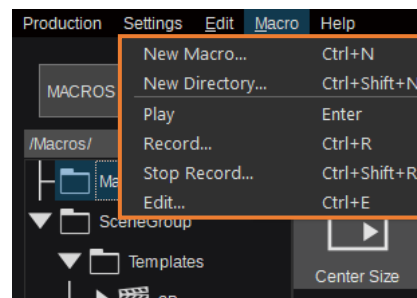
Picture 3.3.6.1.7



Picture 3.3.6.1.8



Picture 3.3.3.1.9

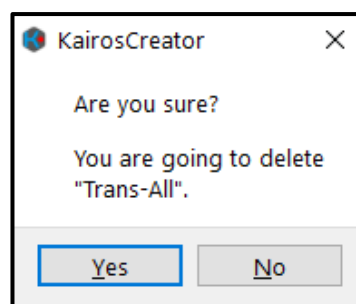


Picture 3.3.6.1.10

Use the “Edit” and “Macro” menus in the menu bar to access Edit and Macro management functions. Right mouse click on the macro icon to open a Macro context menu with all the relevant operations.

Note: The Macro context menu actually combines the “Macro” and “Edit” menu functions in one place. All actions are related to the cursor-focused object. If no object has cursor focus, the context menu is shorter. Also, more than one Macro can “Record.”

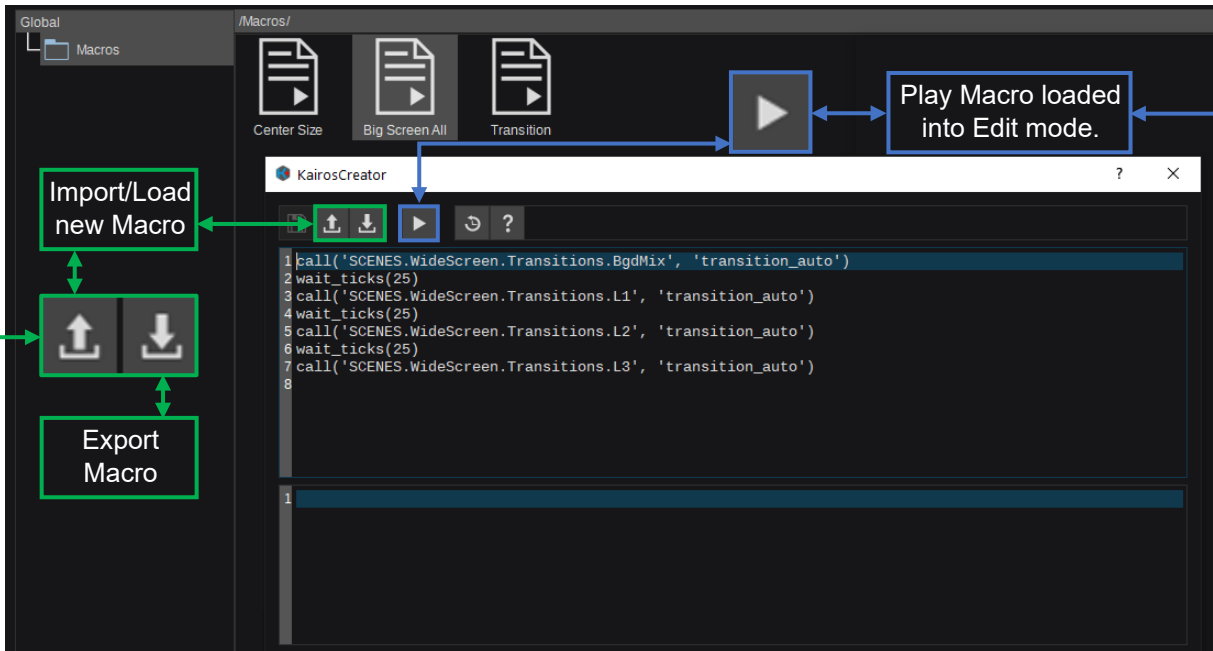
- New Macro (Ctrl+N): Will create a new, empty Macro in the preselected Macro destination. Default name “M-#,” indicating “M” for “Menu”-created Macro and “#” for numbering.
- New Directory: (Ctrl+Shift+N) Creates “New Directory” inside the selected directory.
AVAILABLE FOR “GLOBAL” MACRO SELECTION ONLY!
- Play (Enter/Return): Start playing the selected Macro using the keyboard “Enter” or “Return” key.
- Record (Ctrl+R): Will start recording a Macro, which is in cursor focus. Default name “Rec-#,” indicating “Rec” for “Record”-created Macro and “#” for numbering.
- Stop Record: (Ctrl+Shift+R) Stops recording Macro, which is in cursor focus.
- Edit (Ctrl+E): Opens up the “Edit” dialog window (see details on the next page).
- Cut (Ctrl+X): Is cutting out an object into the Clipboard.
- Copy (Ctrl+C): Copies a cursor-focused object into the Clipboard.
- Paste (Ctrl+V): Pastes the Clipboard content into the cursor-focused destination.
- Move left (Ctrl+Left): Moving a cursor-focused Macro to left direction.
- Move right (Ctrl+Right): Moving a cursor-focused Macro to right direction.
- Rename (F2): Rename the cursor-focused object.
- Delete “Del”: Will delete the cursor-focused object after confirmation with “Yes” in the next panel of this task. “No” will cancel the dialog and action.



Picture 3.3.6.1.11

3.3.6.2 Macro Edit

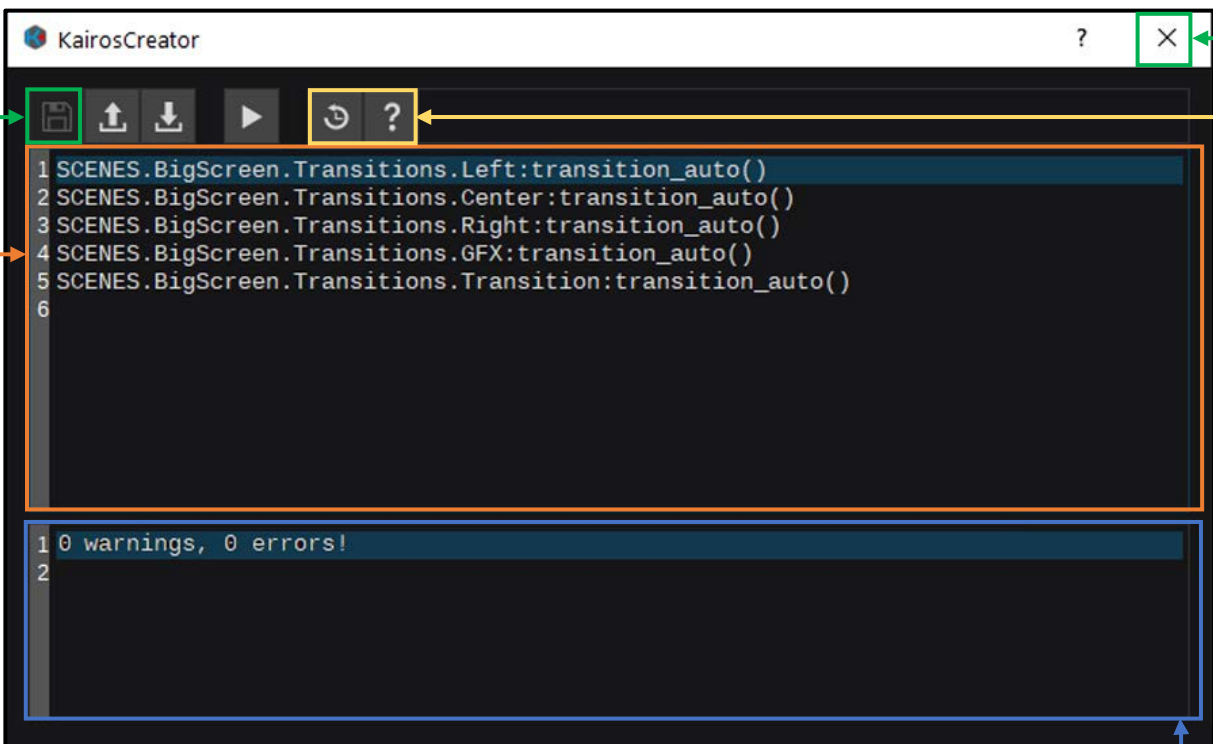
Right mouse click a Macro and select from the context menu “Edit” (Picture 3.3.6.1.8) will open according “Edit” dialog. The keyboard shortcut “Ctrl+E” on a cursor-focused Macro does the same thing.



Picture 3.3.6.2.1

The Macro can be played back while in Edit mode, for example, for testing

Launching the Import/Load or Export function will open a browser to navigate for file location or destination.



Picture 3.3.6.2.2

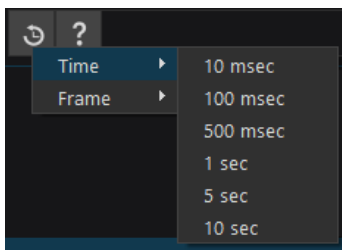
An editable list of commands (Kairos events) executed by the Macro.

Monitor box for any kind of errors during Macro-editing, such as logical, spelling, syntax, etc.


Save changes and not closing edit dialog.

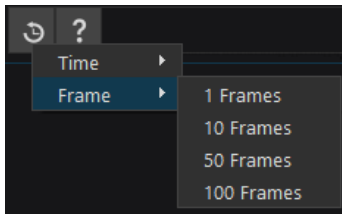
Close edit dialog without changes.

“Insert Wait” editable pauses in frames or seconds & open Macro Edit Help



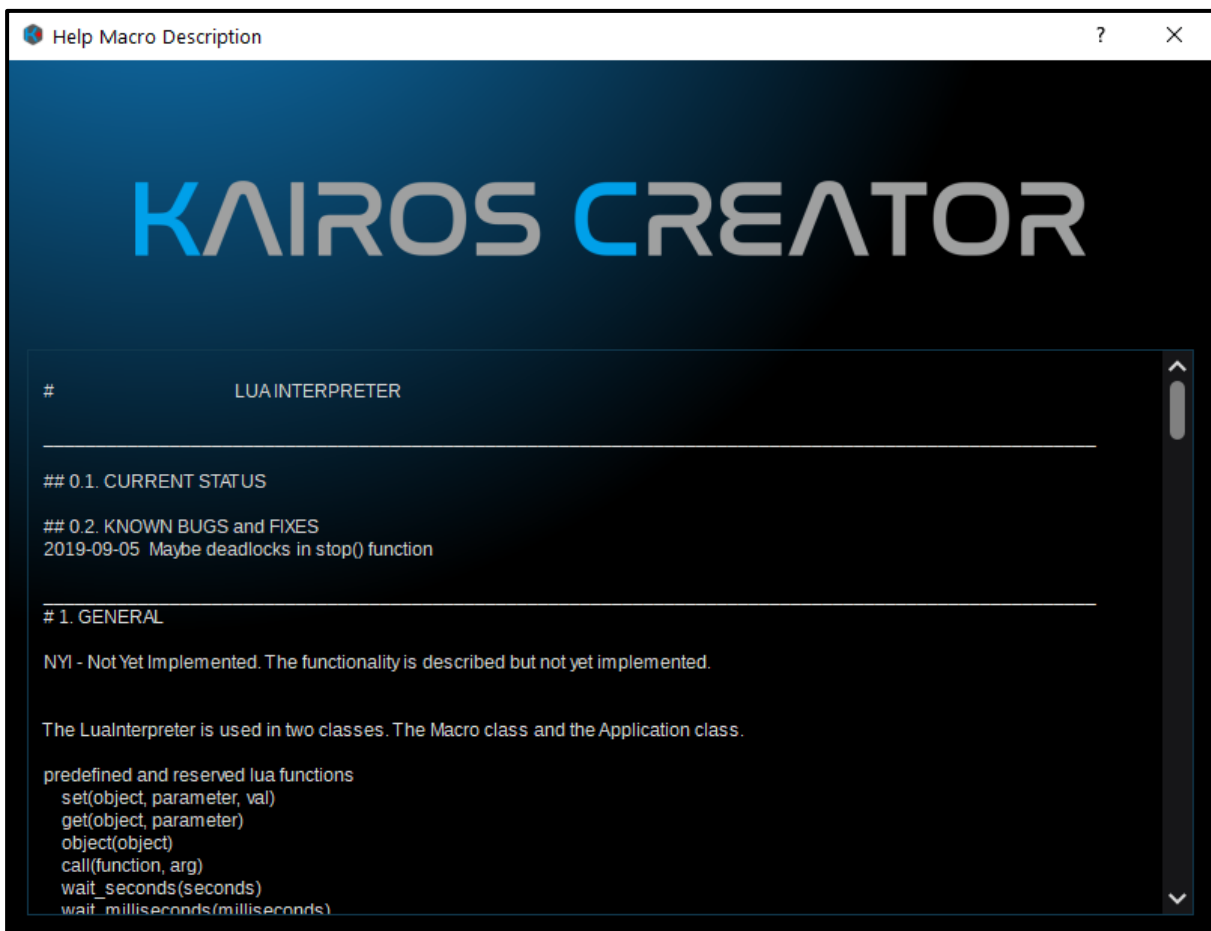
Picture 3.3.6.2.3

Opening Macro “Edit” dialog and clicking on the “Insert  Wait” button located in the headline reveals the sub-selection for “Time” with selectable presets in Microseconds (msec) and Seconds (sec). Once a pause (Wait state) gets inserted into a Macro, the numbers can be changed within the editor by simply overwriting and saving them.





Picture 3.3.6.2.4

The sub-selection “Frame” offers selectable presets in Frames. Again, once a pause (Wait state) gets inserted into a Macro, the numbers can be changed within the editor by simply overwriting and saving them.

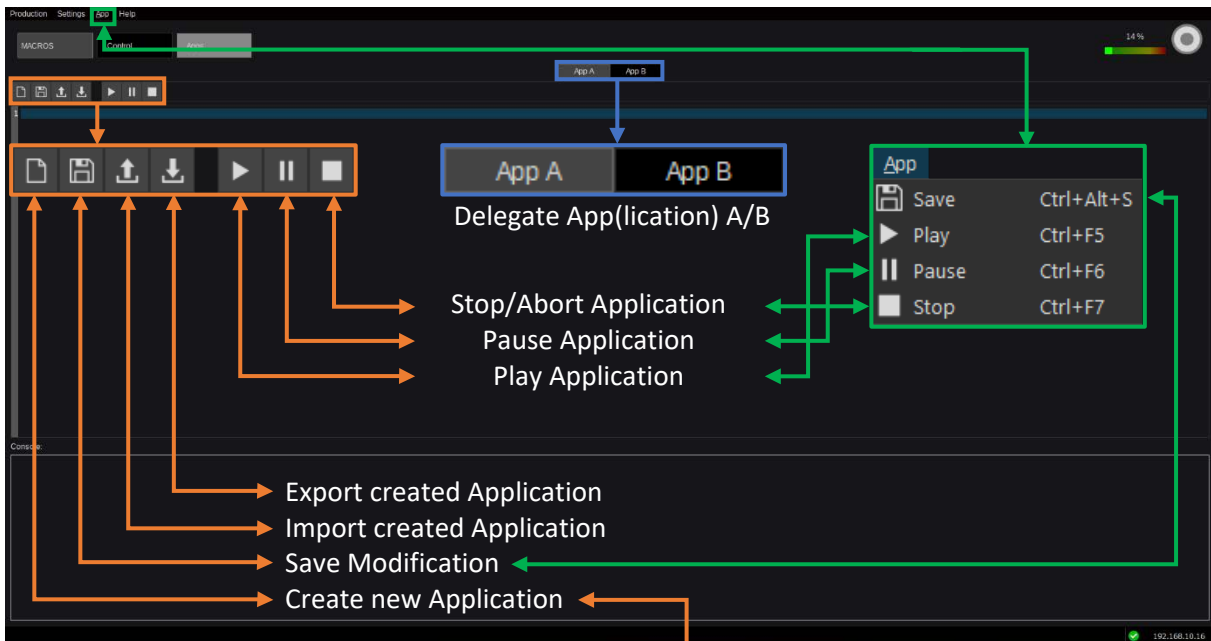


Picture 3.3.6.2.4

When in Macro Edit dialog, the “Help”  button located in the headline next to the “Insert Wait”  button opens the “Help Macro Description.” This “Help” window provides detailed information regarding the level of “LUA” interpreter implementation the Macro editor is based on. Using the slider on the right side in order to navigate through this document.

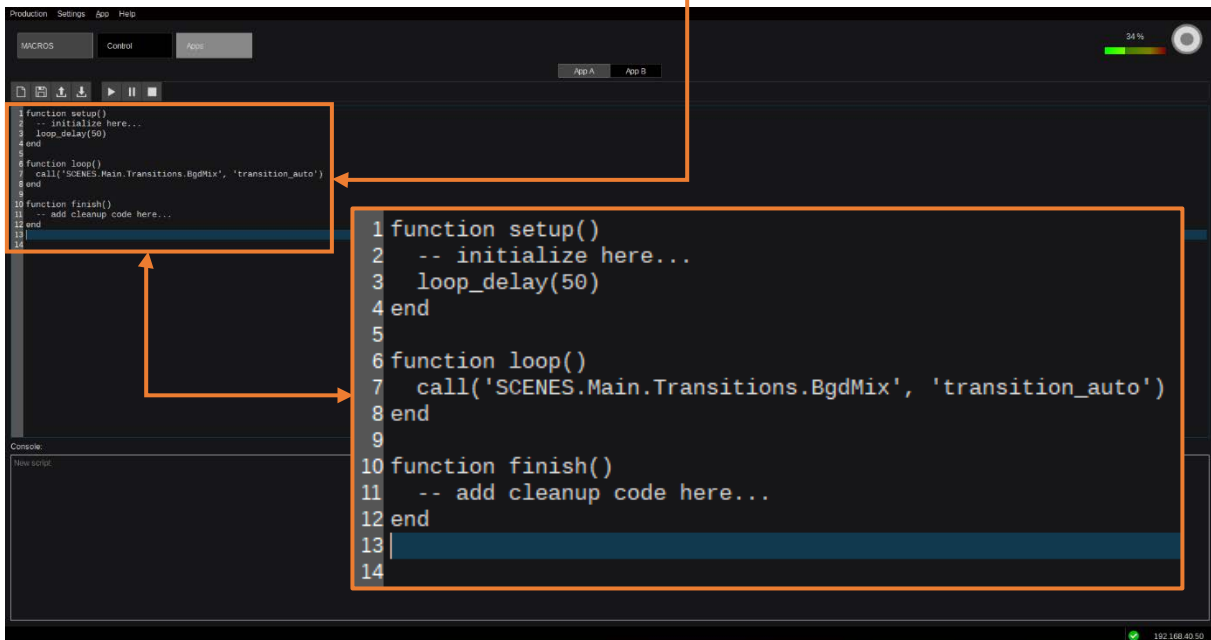
3.3.6.3 Apps

Apps are based on the scripting language LUA. Here, 2 independent scripts can be executed and run in parallel. When saving a production while LUA scripts are running, they will be automatically stored within the production file. By default, this menu page appears empty.



Picture 3.3.6.3.1

Pressing the “Create new” button will load a LUA example into the workspace for practicing purposes.



Picture 3.3.6.3.1

This example will work with all Productions containing a “Scene” in top-level directory named “Main” and a “Transition” called “BgdMix.” Productions created with the built-in wizard, when selecting “Production > New >” (in upper left corner of the GUI), will always provide these 2 elements. For more details regarding the available Production types within the wizard, see section “1.7 Load & Save Production Behavior” on page 13 in this manual.

See next page for more details regarding the LUA script implementation.

Following functions are available additionally to the regular LUA syntax:

Basic functions:

- setup: function is called before the first loop call after running an App.
- stop: executed when the App fails or App has been terminated (after the last loop call).
- loop: function that is executed in a specified cycle when the App is running.

Model access functions:

<object_path> | <object_id>

- set(, ,)
- get(,)
- call(, ,)
- call(,)
- parent()
- first_child()
- next_sibling()
- object() # get the ObjectID from a path
- object_type()
- path() # get the path from an ObjectID
- parameters() (optional)
- functions() (optional)

Note: An Application also provides an AutoStart parameter. If set to 1 (true), the application will be started after production load.

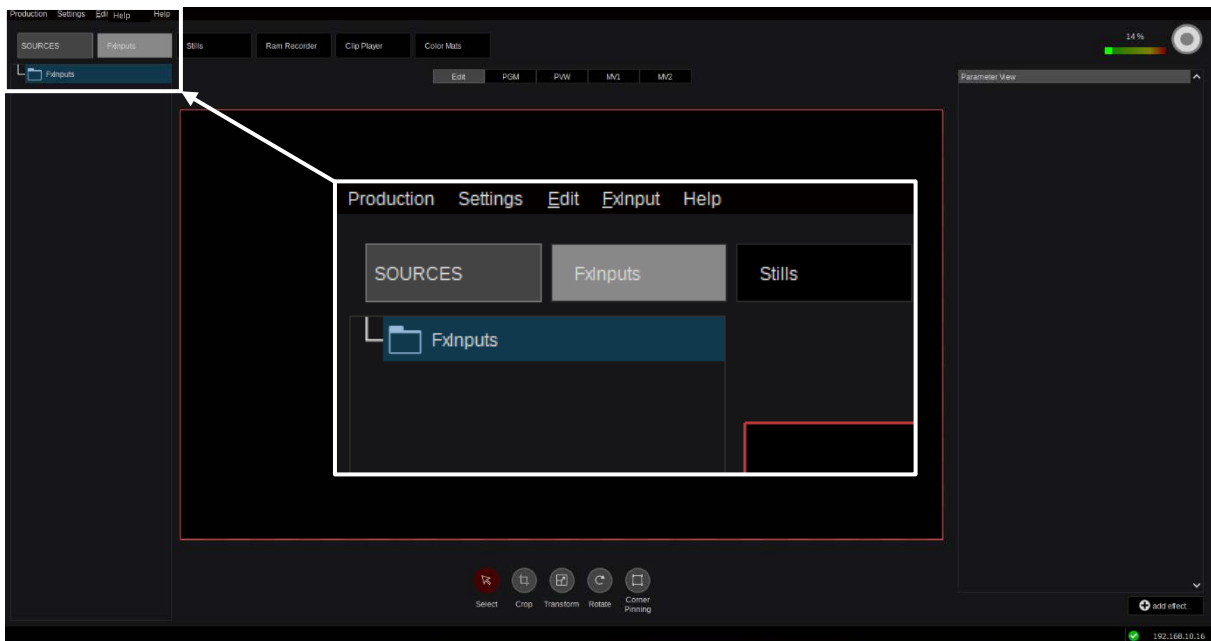
3.3.7 Source Tab Selection

3.3.7.1 FX-Inputs

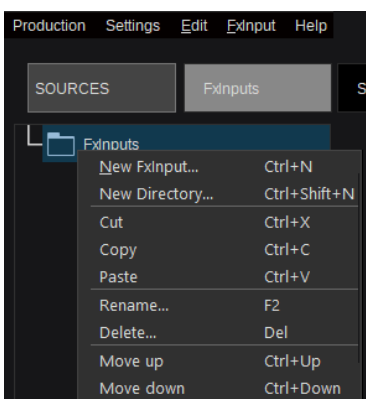
As previously described in Chapter 1.3 Naming Convention, FX-Inputs can be pre-processed, containing effects such as DVE's, Color Correction, pre-processed Key among others. A source for an FX-Input can be derived from a Physical Input or any internal Source like a Ram Recorder, Clip Player, Stills, etc.

FX-Inputs can be used to create multiple versions of a source with differing upstream attributes like, for example, an "Overlay" effect (e.g., CG-insert "Coach Cam") or having various color-corrected versions of the same source in parallel. There are numerous use cases for FX-Inputs and many different ways to create them.

To begin, select "FX-Inputs" under the "SOURCES" tab. The default Production has an empty container in the upper left section of the "FX-Inputs" tree labeled "FX-Inputs."



Picture 3.3.7.1.1

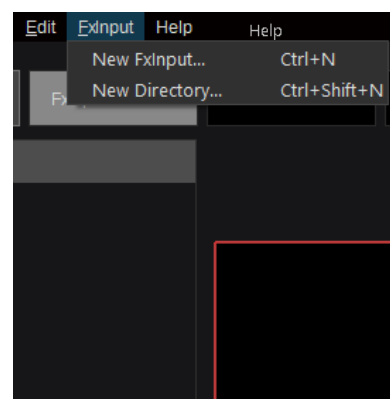


Picture 3.3.7.1.2

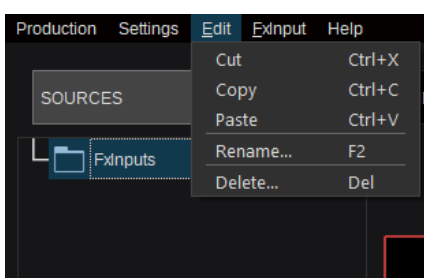
To create a new FxInput, right-click on the container icon into which you wish to add an item and select "New FxInput..." from the pop-up menu. Selecting "New Directory..." will create a new directory inside the current one. You can also use the "FXInput" drop-down menu (available with "Alt+F"), or the keyboard shortcuts:

"Ctrl+N" for "New FxInput"

"Ctrl+Shift+N" for "New Directory"



Picture 3.3.7.1.3



Picture 3.3.7.1.4

Click the "Edit" drop-down menu (picture 3.3.7.1.4) in the menu bar to gain access to the "Cut, Copy, Paste, Rename, and Delete" functions. As in most Windows applications, additional keyboard shortcuts from the "Edit" dialog are:

"Ctrl+X" = "Cut"

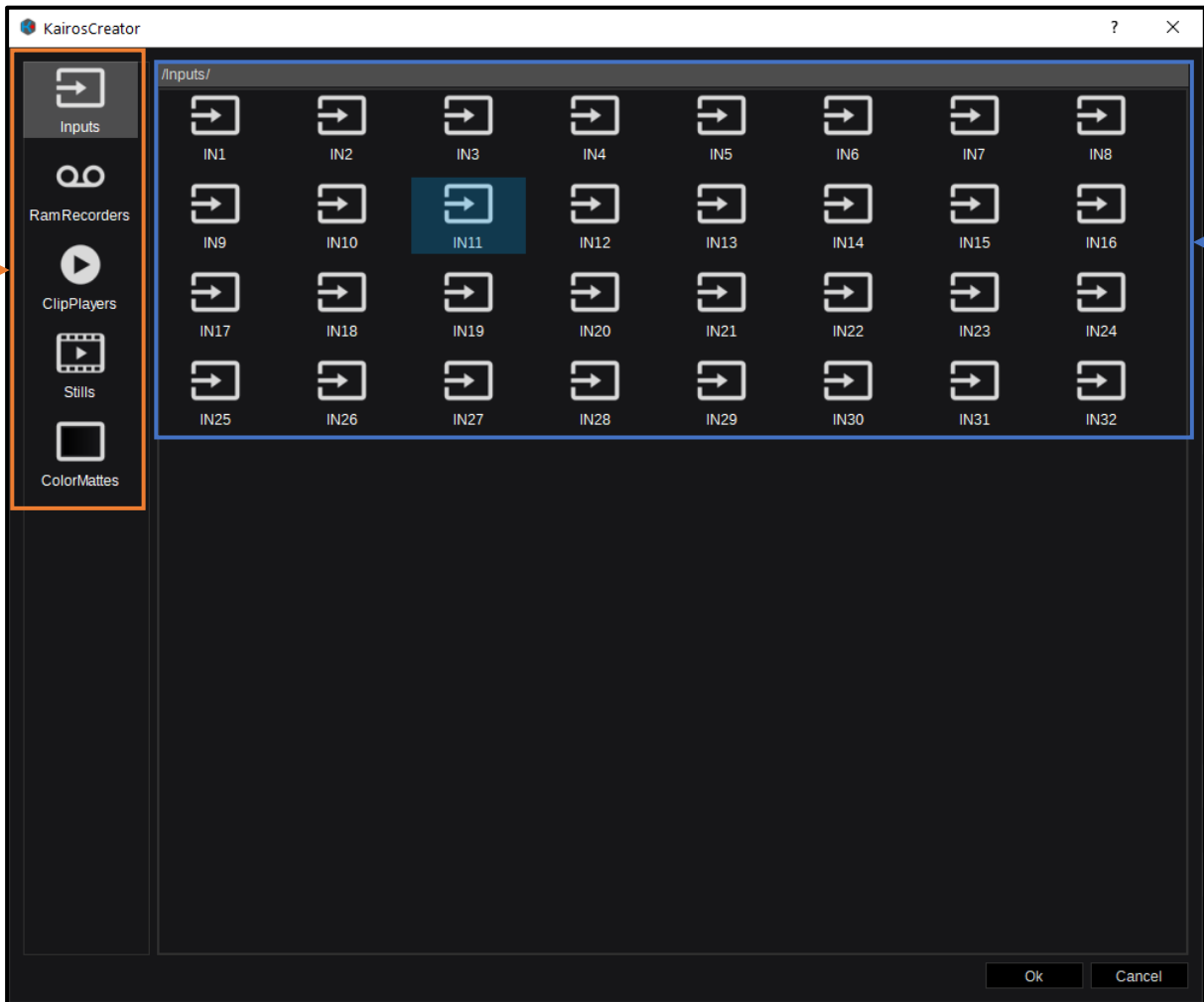
"Ctrl+C" = "Copy"

"Ctrl+V" = "Paste"

"F2" = "Rename"

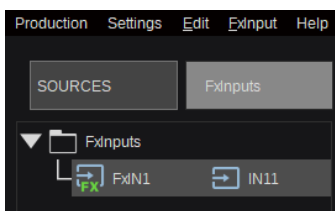
"Del" = "Delete"

Creating a “New FX-Input” as described on the previous page in Pictures 3.3.7.1.2 & 3.3.7.1.3 or using the keyboard shortcut “Ctrl+N” will open a pop-up window for further selection (see section “3.2.1 Source/Input Selection”).

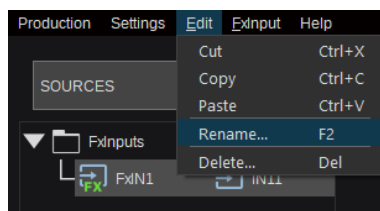


Available Source groups.

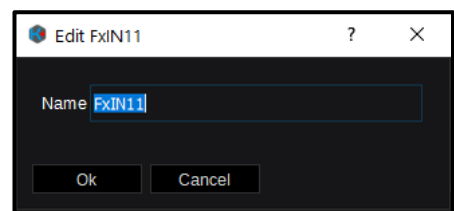
Sources available within “Inputs” group.



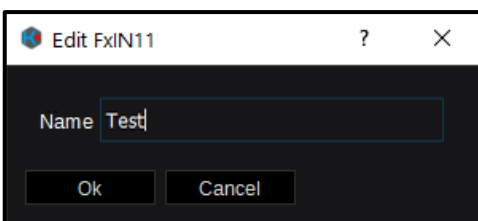
Picture 3.3.7.1.6



Picture 3.3.7.1.7

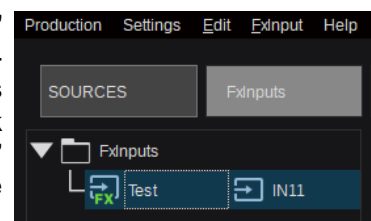


Picture 3.3.7.1.8



Picture 3.3.7.1.9

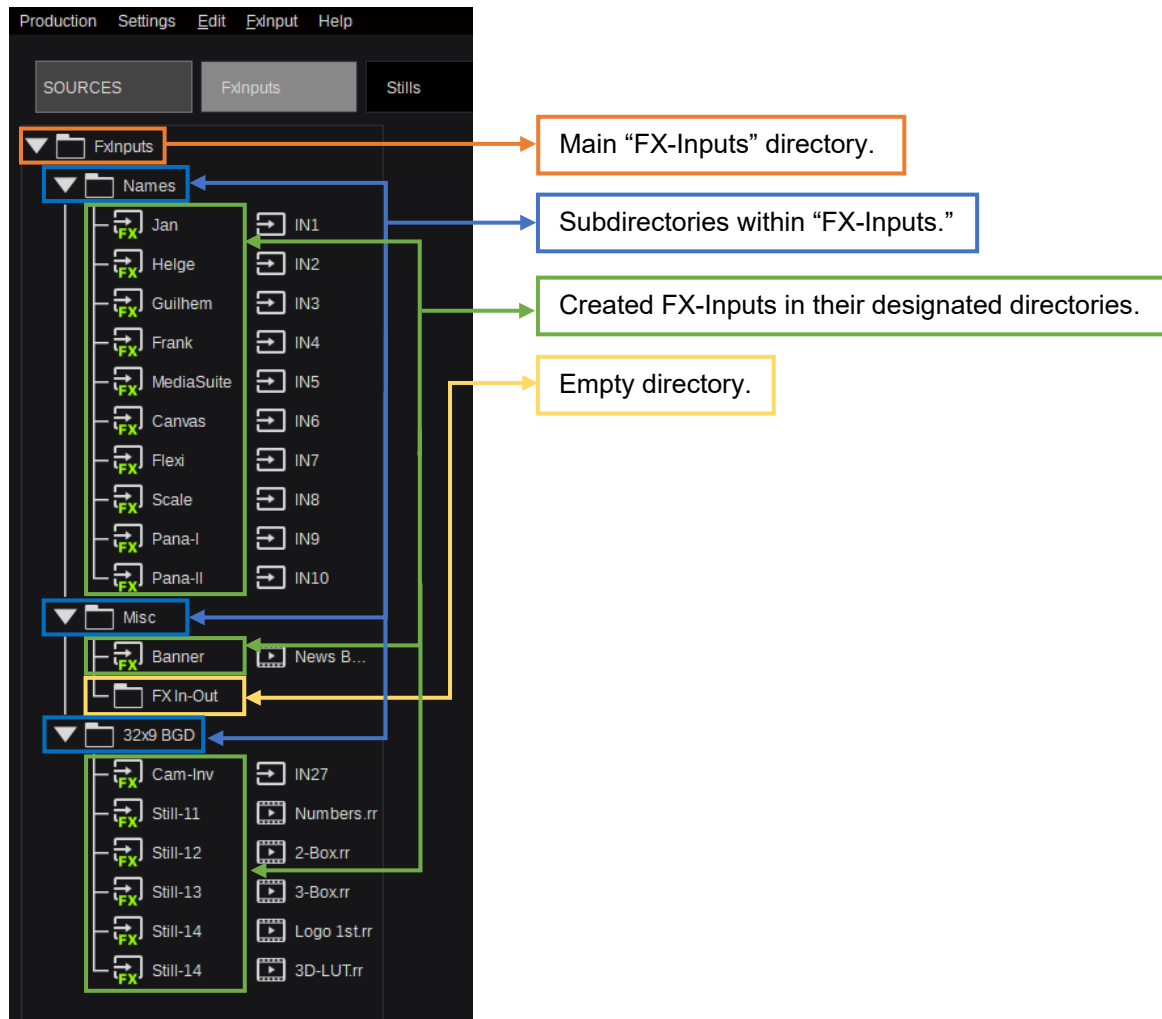
Rename with the “F2” keyboard shortcut or the pop-up/drop-down dialog as shown in the picture. Click “OK” to confirm and “Cancel” to abort without changing the name.



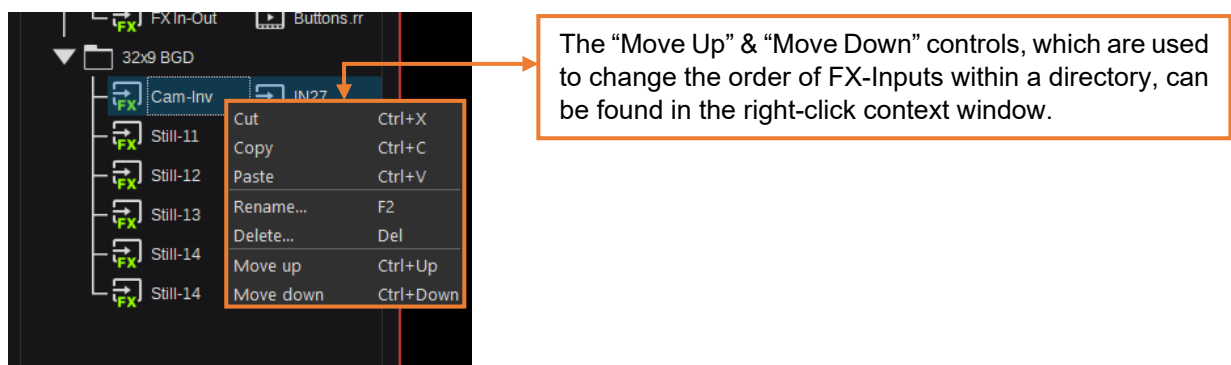
Picture 3.3.7.1.10

Note: For more detailed information, look at section “3.2.1 Source/Input Selection” starting on Page 21.

Here is an example with multiple directories of FX-Inputs:



Picture 3.3.7.1.11

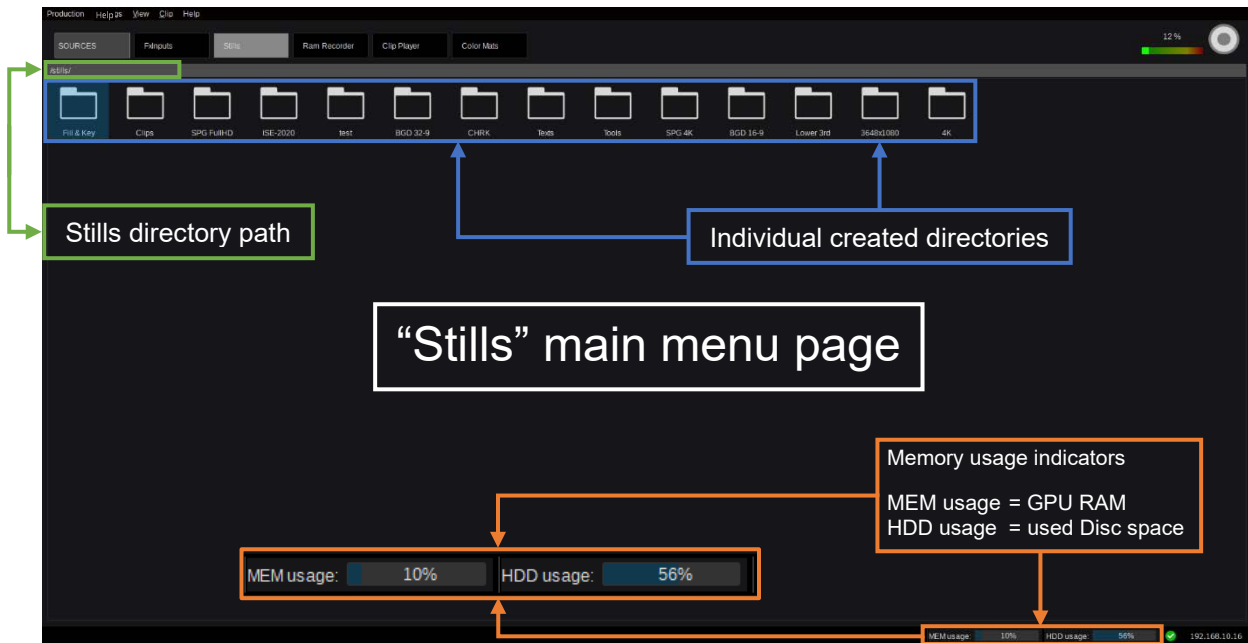


Picture 3.3.7.1.12

Note: In order to apply any modifications/effects to an FX-Input, use the same controls as previously described in section "3.3.3.2 Scenes" starting on Page 28 of this manual.

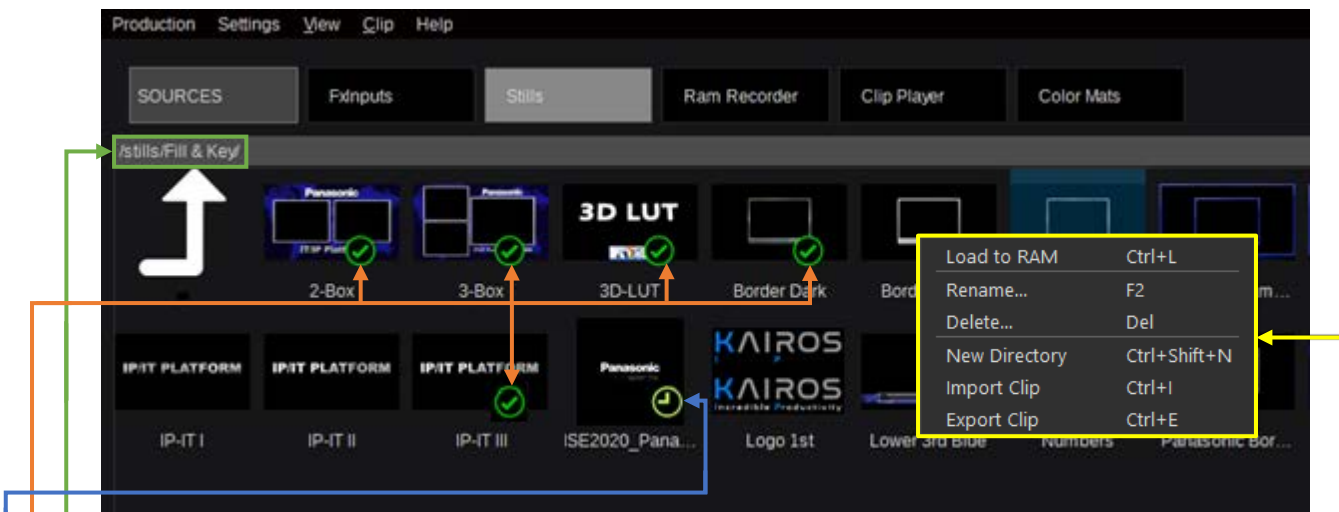
3.3.7.2 Stills

Note: Kairos Standard version supports a maximum of 4K-resolution only.



Picture 3.3.7.2.1

Opening the first folder where cursor focus is on “Fill & Key” by left mouse double-click on it. A thumbnail preview is generated per “Still” regardless of a Still is loaded into RAM or not.

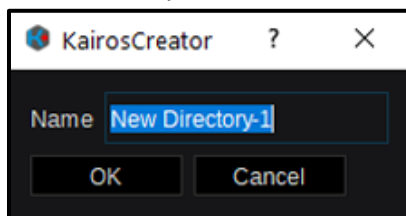


Picture 3.3.7.2.2

Right mouse-click context menu, allowing selected Still to “Load to RAM.” When selecting a Still, which is already loaded to RAM, the very first entry in the context menu will change to “Unload from RAM.” Select a Still in order to “Rename” or “Delete” it. To create a new folder, use “New Directory,” which will open a new pop-up window (Picture 3.3.7.2.3), asking for a new directory. Additional keyboard shortcuts are:

“Ctrl+L” = “Load to RAM”	“Ctrl+Shift+N” = “New Directory”
“F2” = “Rename”	“Ctrl+I” = “Import Clip”
“Del” = “Delete”	“Ctrl+E” = “Export Clip”

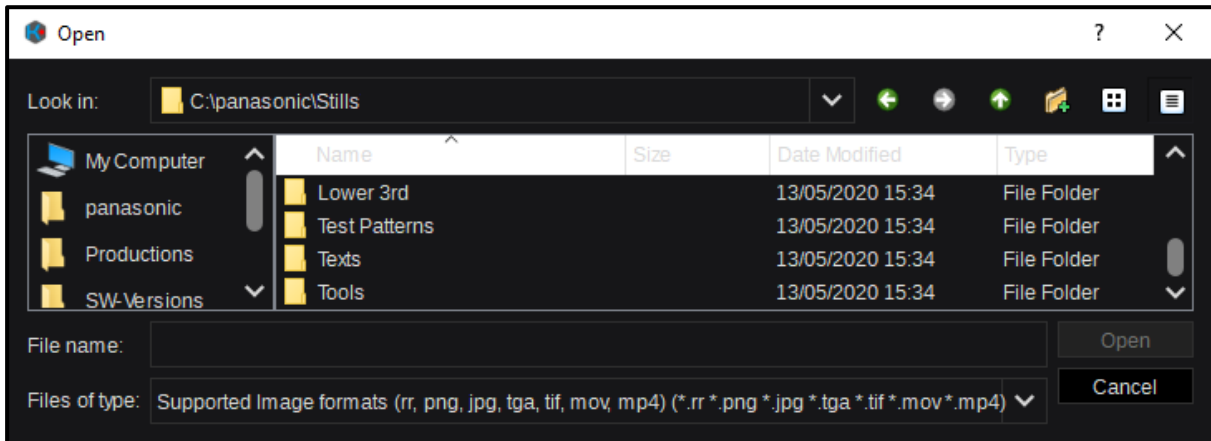
New Directory:



Picture 3.3.7.2.3

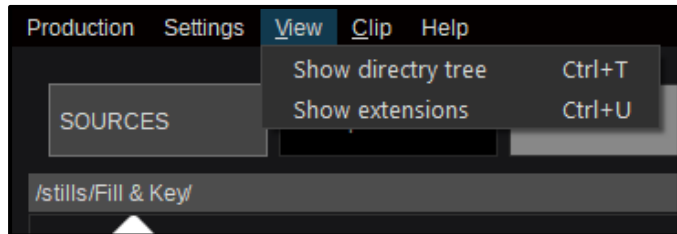
Note: Stills that are not loaded into RAM will not be visible in any of the “Source/Input” selection menus.

The “Export” or “Import” of a Still will open a file directory browser within the GUI to get the desired file location. When exporting a Still, the format will be the internal “*.rr” file format. When importing an image, the “rr,” “png,” “jpg,” “tga,” and “tif” file formats are supported.

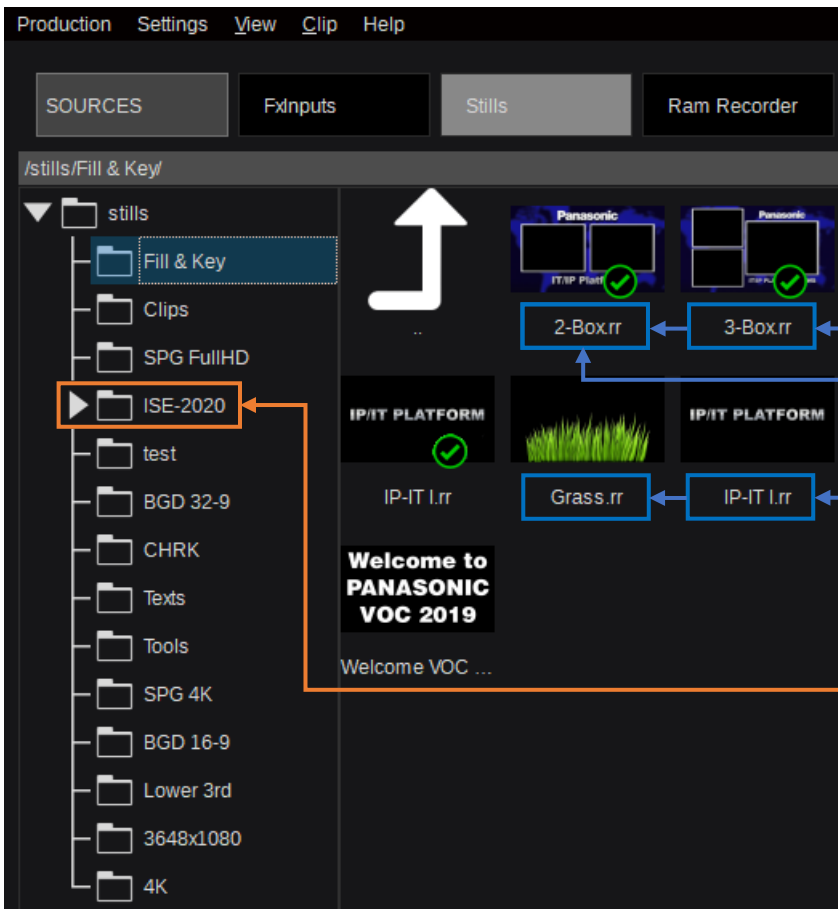


Picture 3.3.7.2.4

Use “show directory tree” from the “View” pull-down menu in the menu bar or the Keyboard shortcut “Ctrl+T” to show or hide the directory tree on the left of the Stills page (Picture 3.3.7.2.1 on page 59).



Picture 3.3.7.2.5



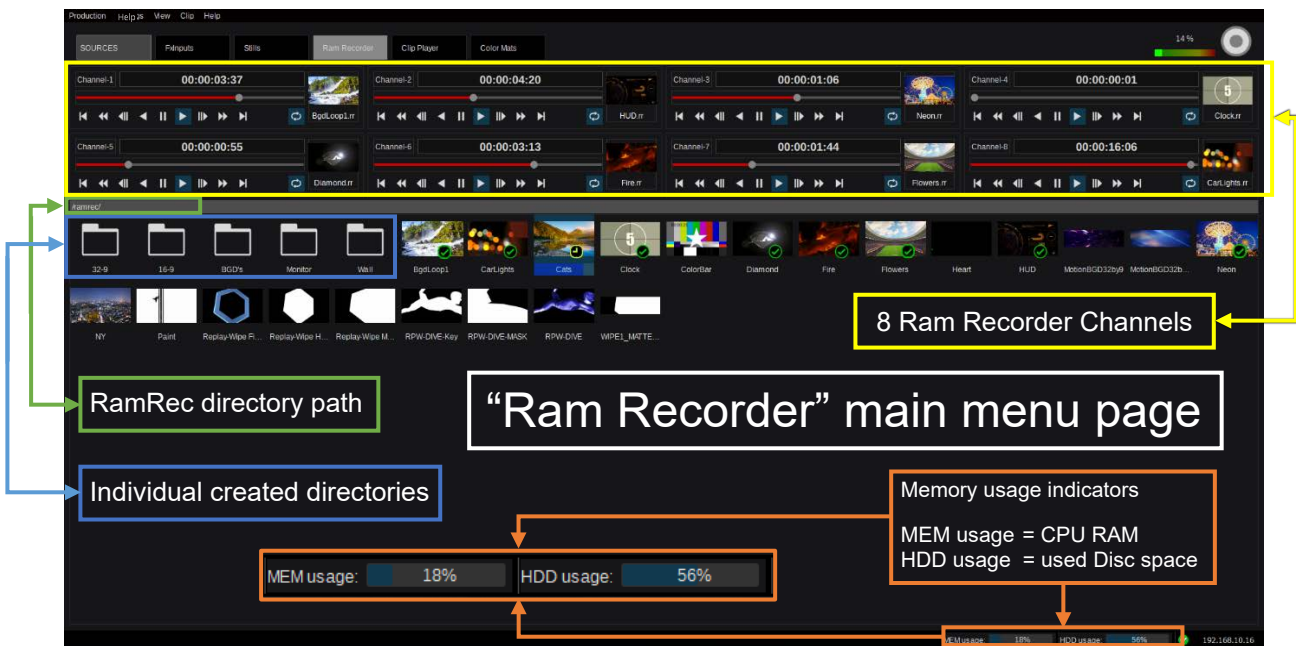
The “Show extensions” function from the “View” pull-down menu will toggle to “Show” or “Hide” the file-specific format, or use the Keyboard shortcut “Ctrl+U” to toggle.

This arrow marker is indicating that this folder contains at least one subdirectory, which is not visible in the plane view mode (Picture 3.3.7.2.1).

Picture 3.3.7.2.6

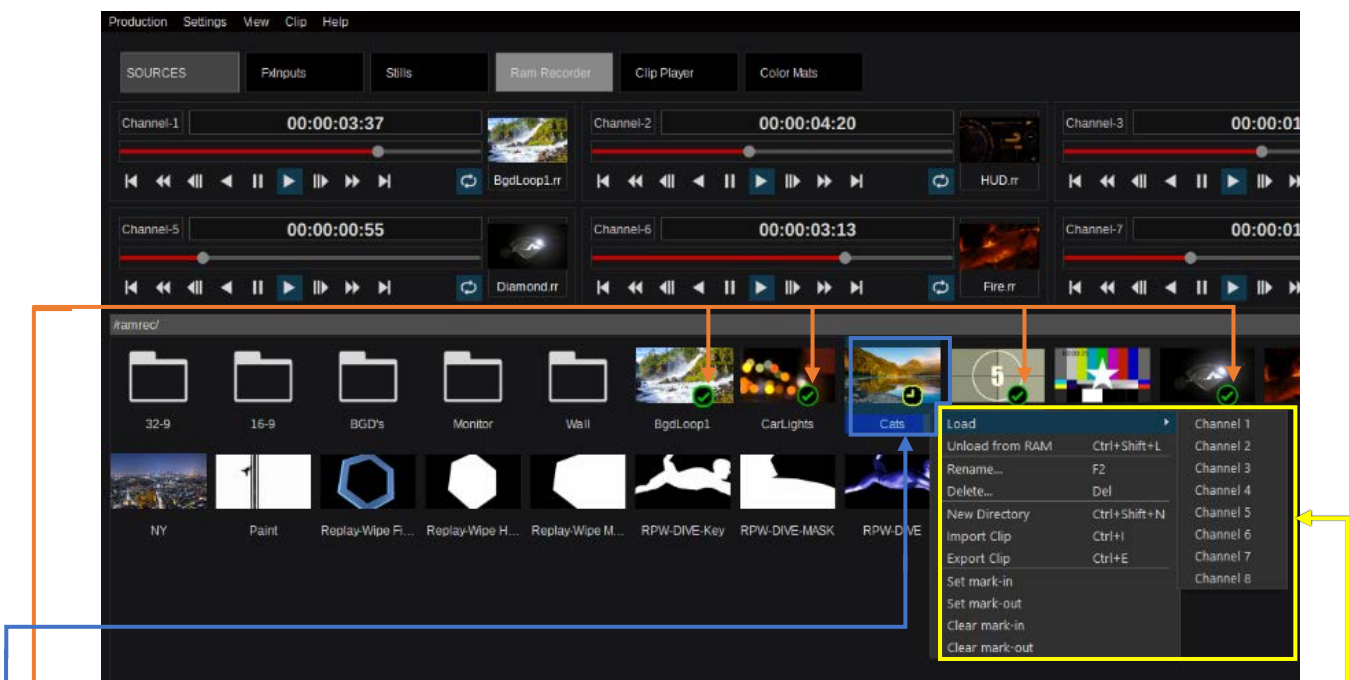
3.3.7.3 Ram Recorder

Note: Kairos Standard version supports a maximum of 2K-resolution only.



Picture 3.3.7.3.1

Note: Thumbnails are generated per “Clip” whether a Clip is loaded into Ram or not.



Picture 3.3.7.3.2

Clips loaded to RAM

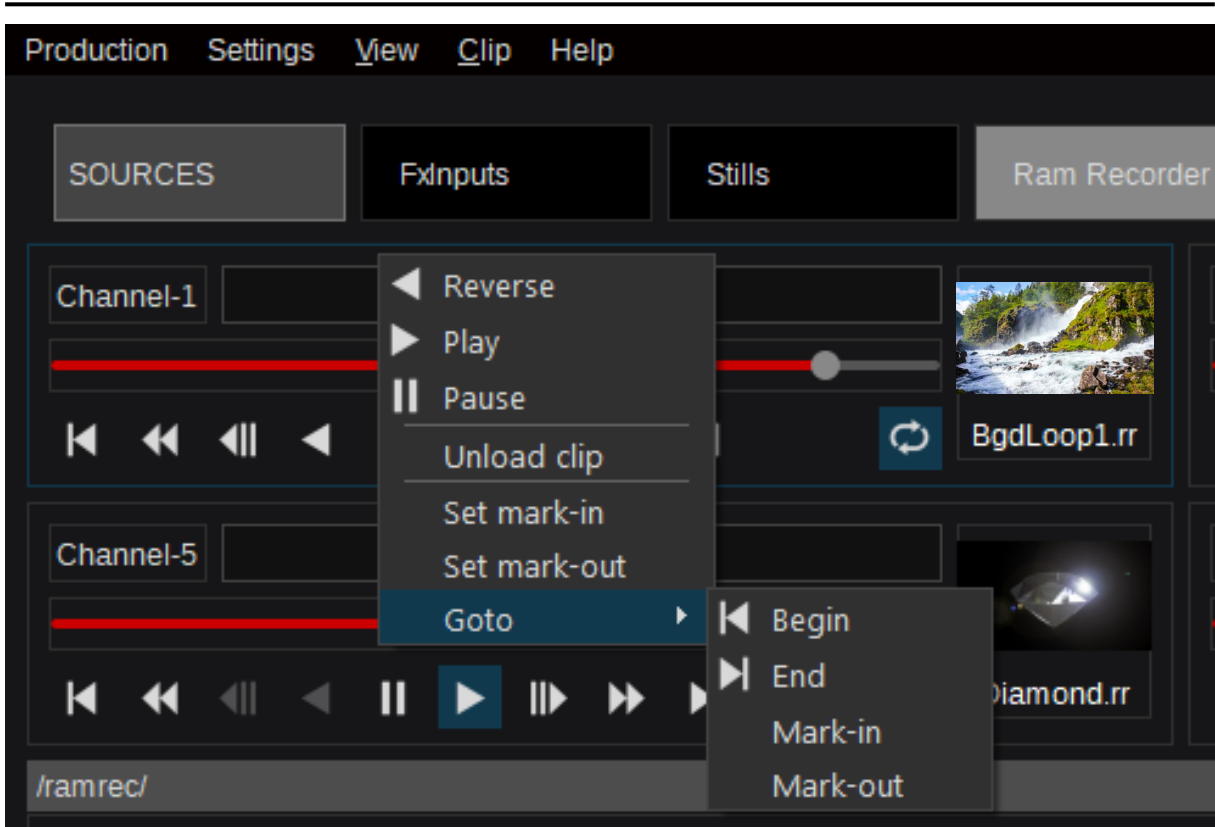
Clip loading to RAM in progress with according progress-bar

Right mouse-click context menu, allowing to “Load to RAM” a selected Clip. When selecting a Clip, which is already loaded to RAM, the context menu will change to “Unload from RAM.” A Clip already loaded into RAM can be directed to one of the 8 playout Channels using “Load” and picking a Channel 1-8 from the list. Select a Clip in order to “Rename” or “Delete” it.

To create a new folder, use “New Directory” as already explained in the “3.3.7.2 Stills” section on page 59 in this manual. A new Clip can be imported (“Import Clip”) or an existing Clip exported (“Export Clip”). The functions “Set mark-in/out” & “Clear mark-in/out” will be explained on the next page. Additional keyboard shortcuts are:

“Ctrl+L”	= “Unload from RAM”	“F2”	= “Rename”	“Del”	= “Delete”
“Ctrl+Shift+N”	= “New Directory”	“Ctrl+I”	= “Import Clip”	“Ctrl+E”	= “Export Clip”

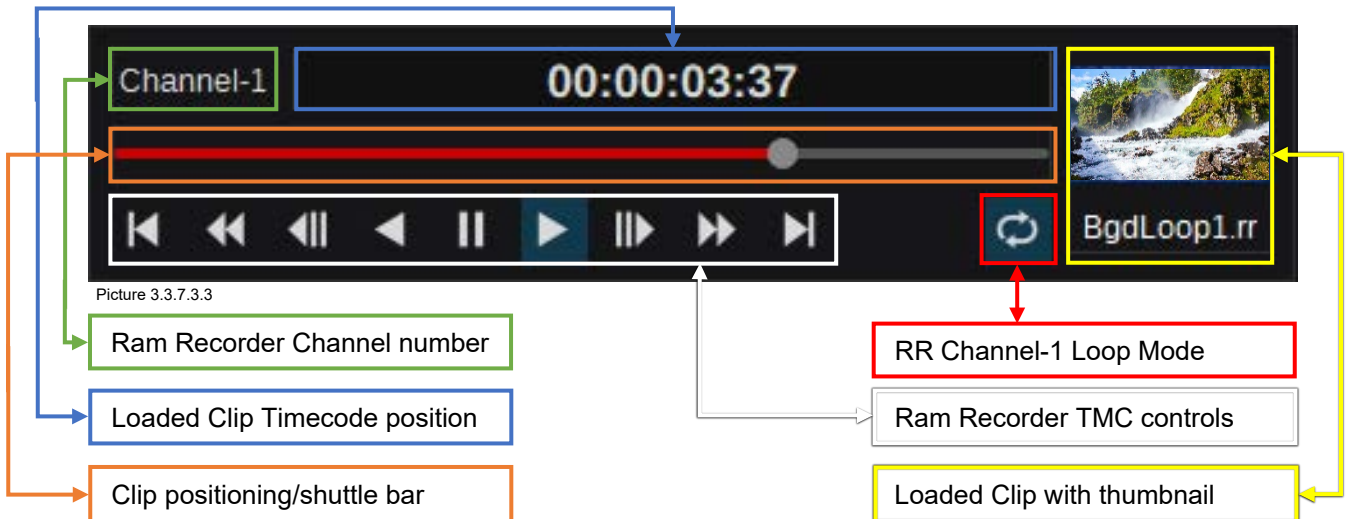
Note: The thumbnails of the displayed Clips are representing the center frame of the Clip.



Picture 3.3.7.3.2

“Set mark-in,” “Set mark-out,” “Clear mark-in,” & “Clear mark-out” are Clip-specific functions available in the Clip-context menu (Picture 3.3.7.3.1) as well as in the Channel-context menu (Picture 3.3.7.3.2) and are saved as Metadata per Clip. The “Set mark-in” & “Set mark-out” functions can be used in order to trim a Clip regarding Start-time (TC) and/or End-time (TC).

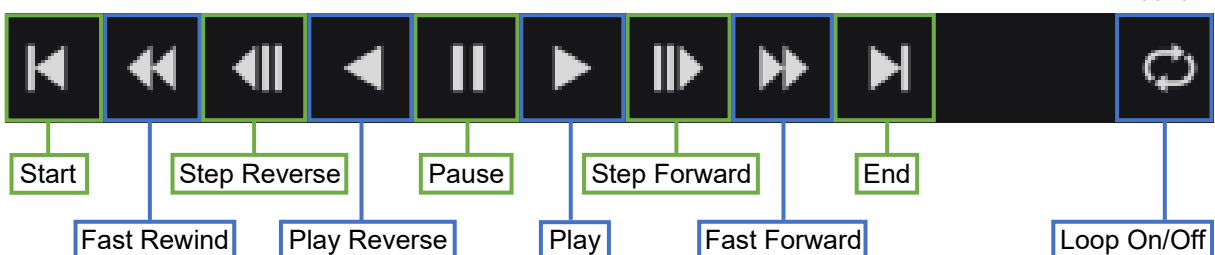
The “Goto” function can address specific Clip position as listed “Begin,” “End,” “Mark-in (TC),” & “Mark-out (TC).” The Channel-context menu additionally provides TMCs (Tape Motion Controls) for “Play,” “Reverse Play,” & “Stop.”



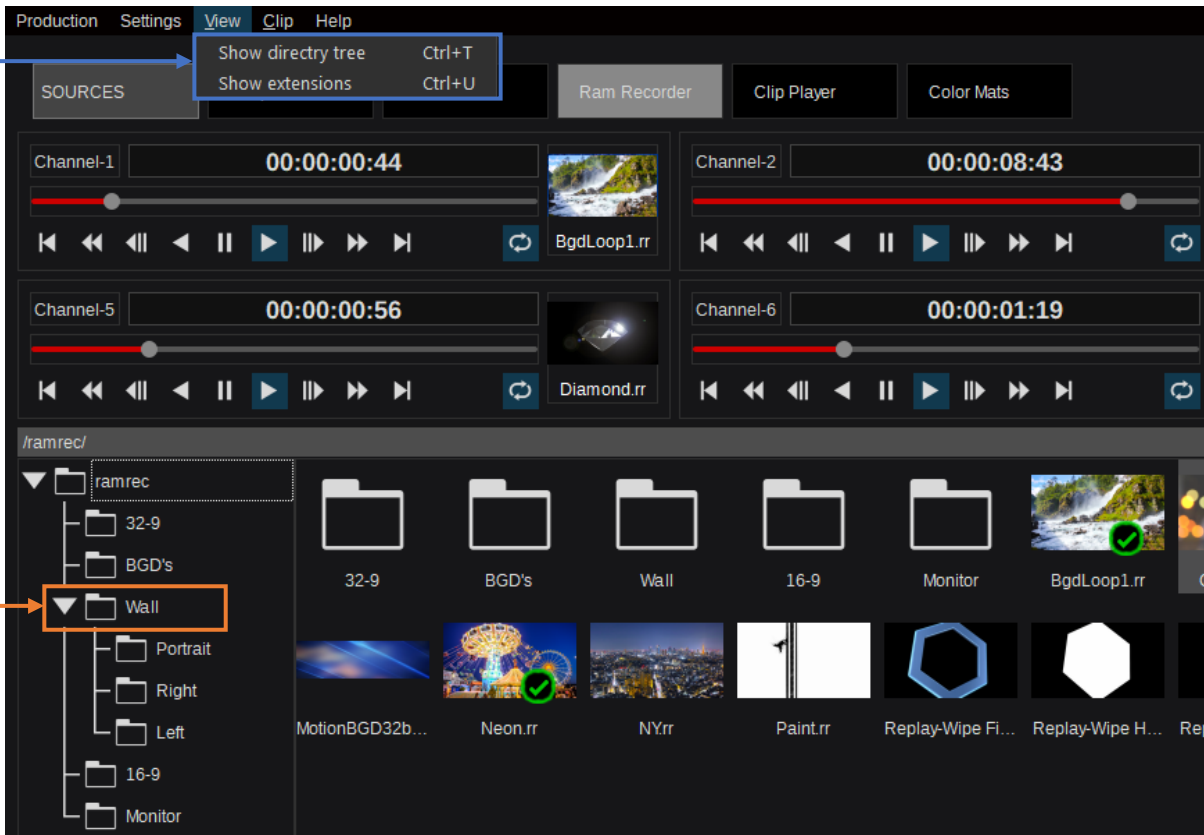
Picture 3.3.7.3.3

Ram Recorder TMCs:

Picture 3.3.7.3.4



Like in chapter “3.3.7.2 Stills” (Picture 3.3.7.2.4), selecting “show directory tree” from the “View” pull-down menu in the menu bar (here Picture 3.3.7.3.5), or using the Keyboard shortcut “Ctrl+T,” show or hide the directory tree on the left of the Clip Browser. Compare below with Picture 3.3.7.2.6 (from page 60 in this manual).

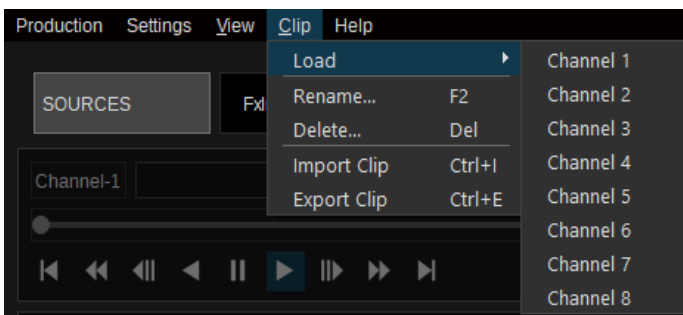


Picture 3.3.7.3.5

The arrow marker at the “Wall” directory is indicating that this folder contains at least one more subdirectory (3 in this case), which is not visible in the plane view mode (Picture 3.3.7.3.2).

The “Show extensions” function from the “View” pull-down menu will toggle to “Show” or “Hide” the file-specific format, or use the Keyboard shortcut “Ctrl+U” to toggle.

The “Export” or “Import” of a Clip will open a file browser within the GUI to get the desired file location. When exporting a Clip, the format will be the internal “*.rr” file format. When importing a Clip, the supported file formats are image sequences from “png,” “jpg,” “tga,” “tif” and clips originated from “mov,” “mp4,” or exported “rr” files.



Picture 3.3.7.3.6

The “Clip” pull-down menu allows to direct a selected clip straight into one of the 8 available Ram Recorder Channels, using the “Load” item and picking a Channel 1-8 from the list. Select a Clip first in order to “Rename” or “Delete” it. To create a new folder, use “New Directory” as already explained on page 61 in “Right mouse-click context menu” (Picture 3.3.7.3.2). New Clips can be imported (“Import Clip”) and existing Clips can be exported (“Export Clip”).

Note: Clips that are not loaded into RAM will not be visible in any of the “Source/Input” selection menus.

3.3.7.4 Clip Player

Note: Kairos Standard version supports a maximum of 2K-resolution only.



Picture 3.3.7.4.1

Unlike the Stills and Ram Recorder clips, which have to be loaded into RAM memory first, the Clip Players perform a “live” decompressed playback from the internal server disk. No additional operation in terms of conversion is required. Therefore, the clips have to be in “DNxHD,” “H264,” or “AVC-Intra” format.

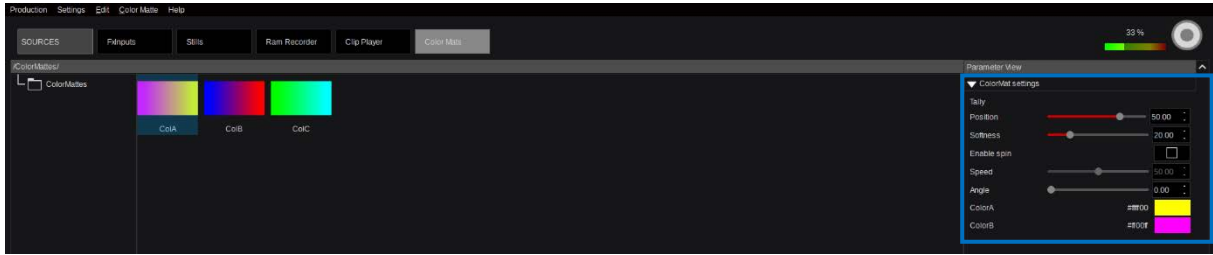
Codec	Resolution Formats				
DNxHD	YUV 422 10 Bit	YUV 422 10 Bit LE	YUV 422 8 Bit	YUV 420 10 Bit	YUV 420 8 Bit
H264	YUV 422 10 Bit	YUV 422 10 Bit LE	YUV 422 8 Bit	YUV 420 10 Bit	YUV 420 8 Bit
AVC-Intra	YUV 422 10 Bit	YUV 422 10 Bit LE	YUV 422 8 Bit	YUV 420 10 Bit	YUV 420 8 Bit

- = Supported Resolution
- = Not Supported Resolution

The TMCs are identical to the former described Ram Recorder controls (Page 61, Pictures 3.3.7.3.3 & 3.3.7.3.4). Also, the “View” drop-down menu behaves the same as previously described for the “Stills” and “Ram Recorder” sections. The “Clips” pull-down menu, with the exception of the number of available channels, behaves the same as described in the “Ram Recorder” menu on the previous page 63 (Picture 3.3.7.3.6).

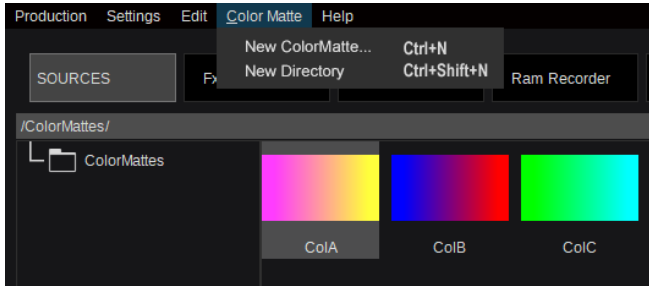
Note: Like in “Ram Recorder” menu, the thumbnails of the displayed Clips are representing the center frame of the Clip.

3.3.7.5 Color Mattes



Picture 3.3.7.5.1

These three colors are available by default in the Color Mattes tab. In order to create a new Color Matte, use the “Color Matte” drop-down menu in the upper left corner.



Picture 3.3.7.5.2

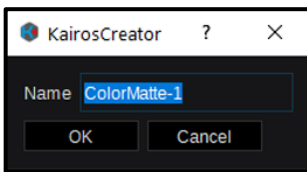
Selecting “New ColorMatte” for a new Color, or “New Directory,” to create one or several sub-folders.

Also, these keyboard shortcuts can be used:

“Ctrl+N” = “New ColorMatte”

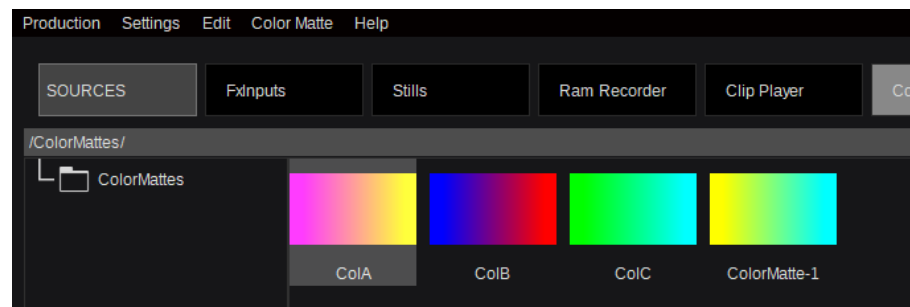
“Ctrl+Shift+N” = “New Directory”

When selecting “New ColorMatte”:

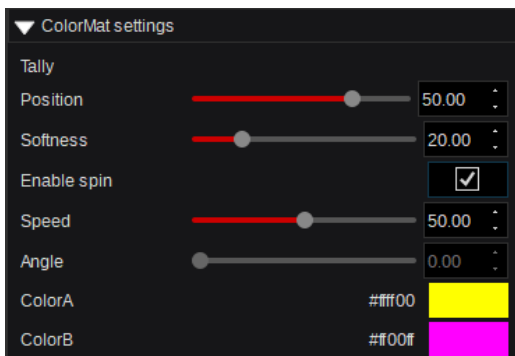


Picture 3.3.7.5.3

A pop-up window appears to enter a name for the “ColorMatte-1.” After entering the name and confirming with “OK,” the new Matte will be added to the list. “Cancel” will abort the dialog.



Picture 3.3.7.5.4



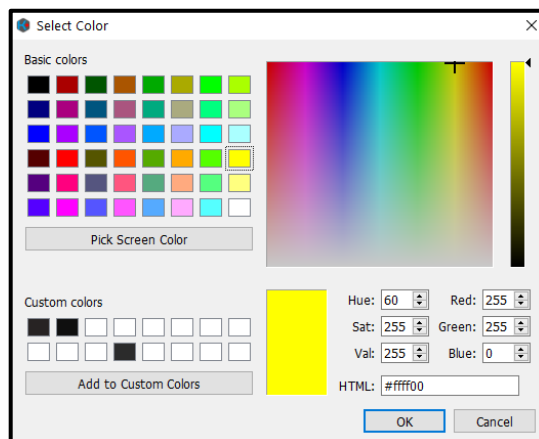
Picture 3.3.7.5.5

ColorA/B: Pick color pattern to adjust/select color tone. For more details regarding Color controls, please refer to section “3.2.3 Color Adjustments” on page 22.

The “ColorMat Settings” items are:

Tally: On/Off (Color) when visible on designated output.
Position: relative “Wash” position related to the “Angle” settings.

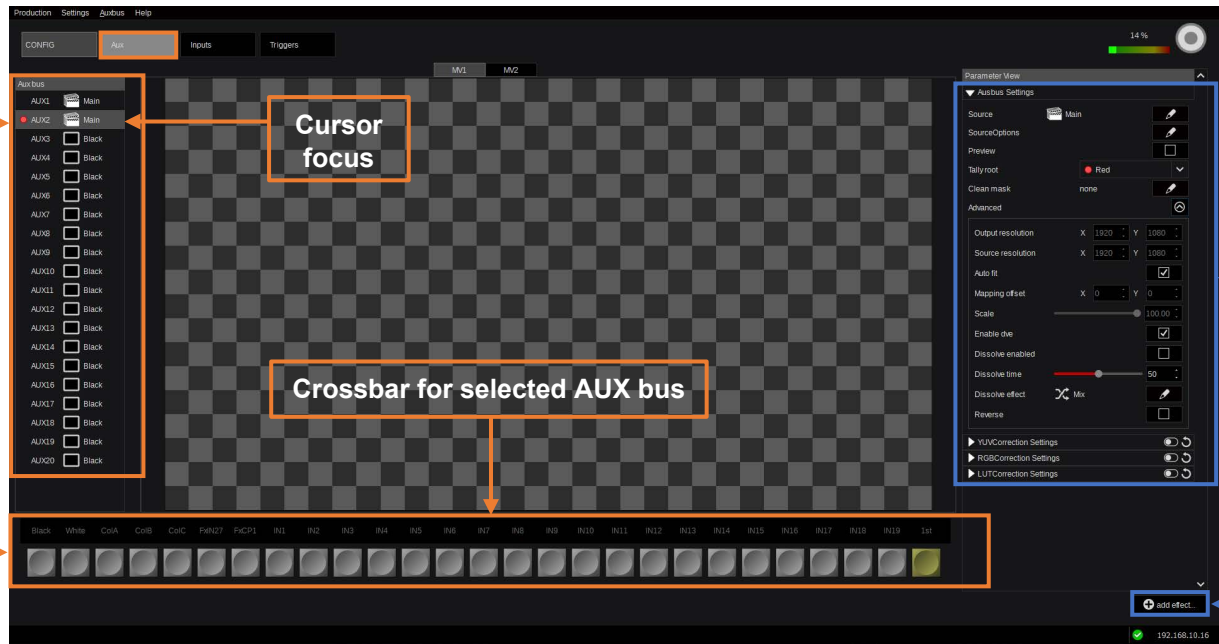
Softness: Wash-softness between “ColorA” & “ColorB.”
Enable Spin: Activates the “Speed” control and disables “Angle.”




Picture 3.3.7.5.6

3.3.8. Config Tab Selection

3.3.8.1 Aux

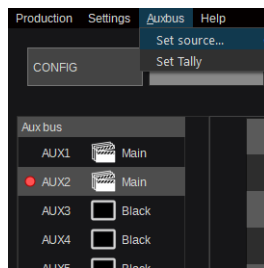


Picture 3.3.8.1.1

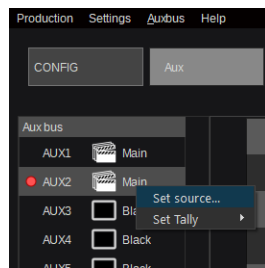
Aux-2 in cursor focus, indicating “Red”-Tally . Crossbar can be used for instant “Source-selection.”

Parameter selection per Aux-Bus under “Parameter View” in “Auxbus Settings” and “add effect...”

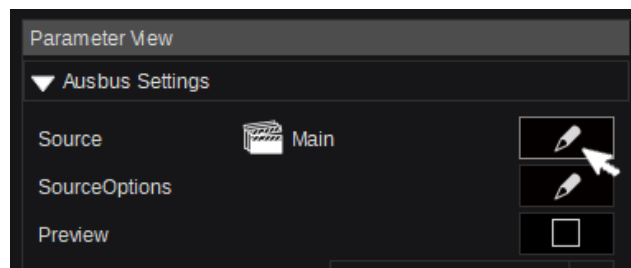
There are 5 methods to change a source for an Aux-Bus:



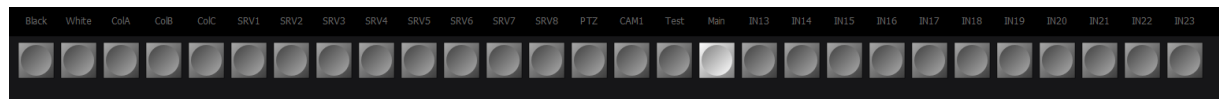
Picture 3.3.8.1.2



Picture 3.3.8.1.3



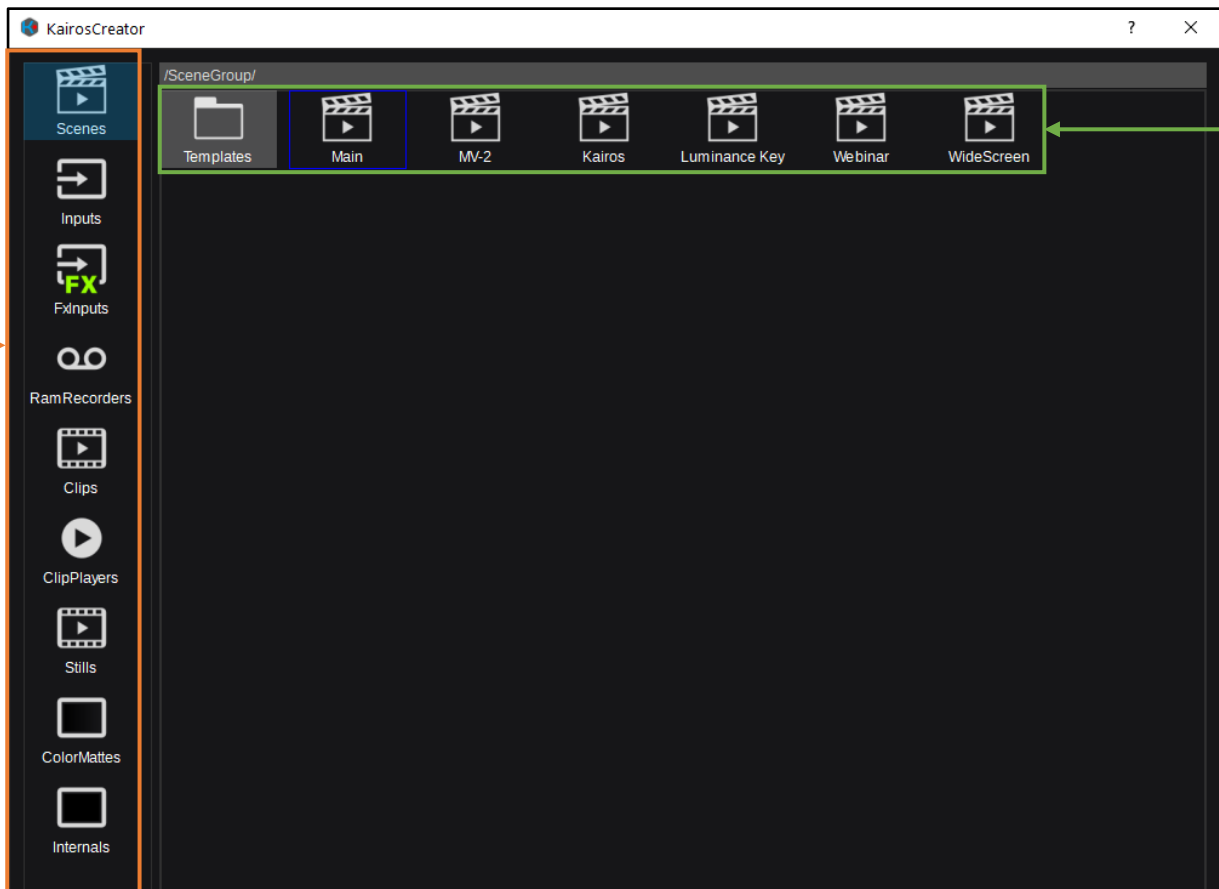
Picture 3.3.8.1.4



Picture 3.3.8.1.5

1. The Aux-Bus drop-down menu in the Kairos Creator menu bar (Picture 3.3.8.1.2),
2. Right-click the selected Aux-bus for a pop-up menu (Picture 3.3.8.1.3),
3. Click the “Set...”-source button in the “Parameter View” GUI section (Picture 3.3.8.1.4),
4. Click the graphic “Crossbar” section at the bottom of the GUI menu (Picture 3.3.8.1.1),
5. Use the “Ctrl+O” keyboard shortcut.

The Input selection dialog will come up next, except when using method 4 (graphic crossbar selection) as already described in section “3.2.1 Source/Input Selection” starting on Page 21.



Picture 3.3.8.1.6

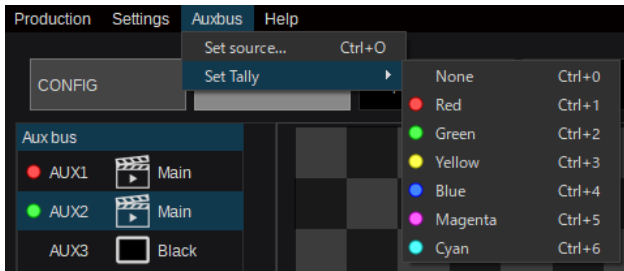
List of existing Input groups. Cursor focus on “Scenes” group.

Available sources in “Scenes” group. Actual selection for Aux-2 = “Main” (surrounded with blue border).

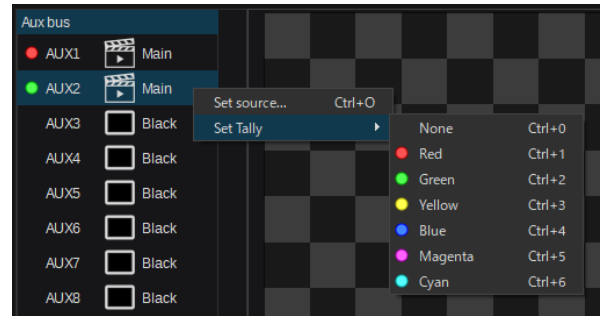
Note: Groups of sources can contain subdirectories!

3.3.8.1.1 Tally

There are 3 methods to assign Tally signaling for Aux-Buses/Outputs:



Picture 3.3.8.1.1.1

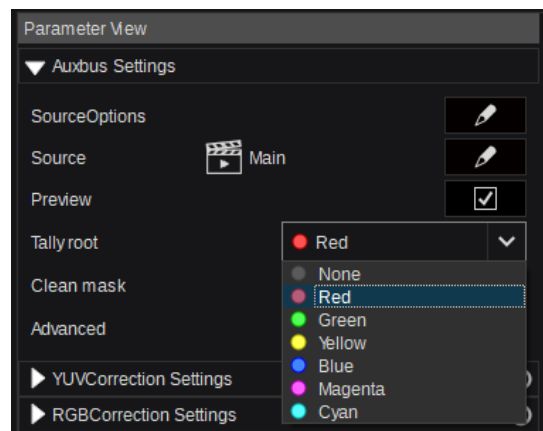


Picture 3.3.8.1.1.2

KAIROS offers 6 independent Tally systems, indicated in separate colors:

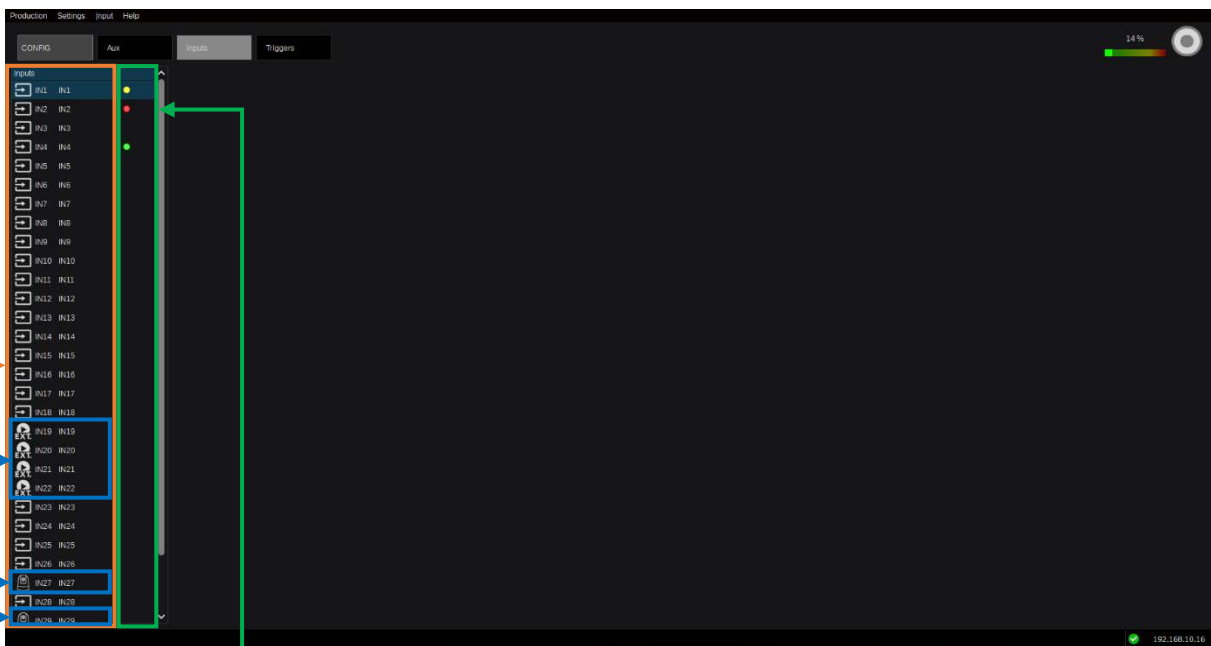
- Red** = default "On-Air," or "Ctrl+1"
- Green** = default "Preview," or "Ctrl+2"
- Yellow** = default "not used," or "Ctrl+3"
- Blue** = default "not used," or "Ctrl+4"
- Magenta** = default "not used," or "Ctrl+5"
- Cyan** = default "not used," or "Ctrl+6"
- None** = no Tally, or "Ctrl+0"

Tally can be modified for each individual Aux-Bus using the Aux-Bus drop-down menu in the menu bar, the right mouse click menu at the selected Aux-bus, the "Tally root" button in the "Parameter View" panel or Keyboard shortcuts.



Picture 3.3.8.1.1.3

3.3.8.2 Inputs



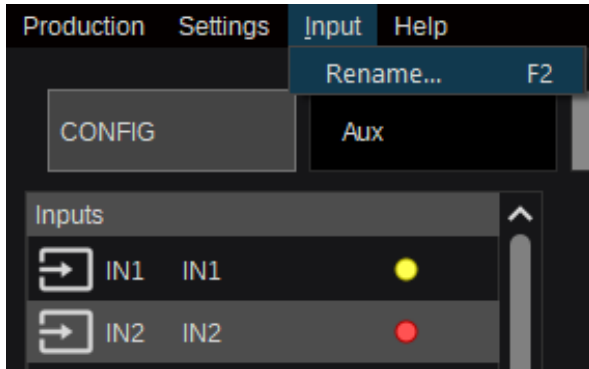
Picture 3.3.8.2.1

3rd Column displays Tally information per input

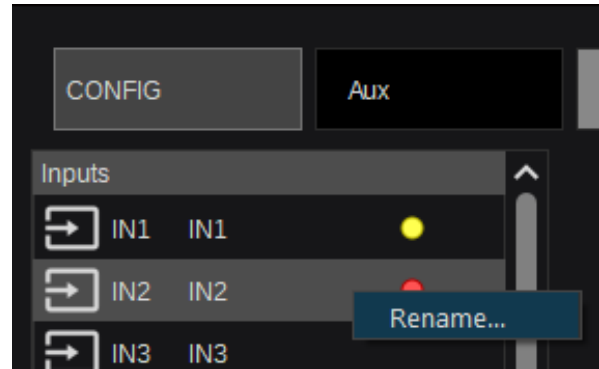
1st Column displays the physical input name; 2nd Column displays the user/production input name.

Symbol for connected remote (external) devices, such as VTR's, PTZ-Cameras, etc.

There are 3 ways to “Rename” Inputs:



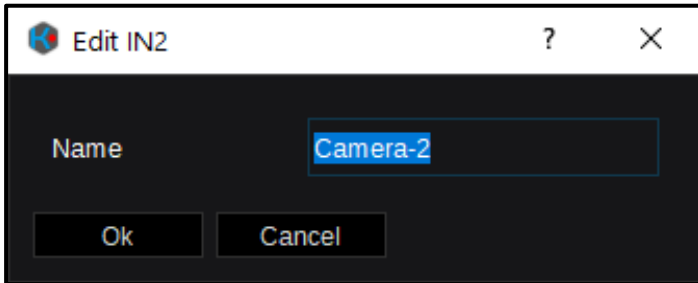
Picture 3.3.8.2.2



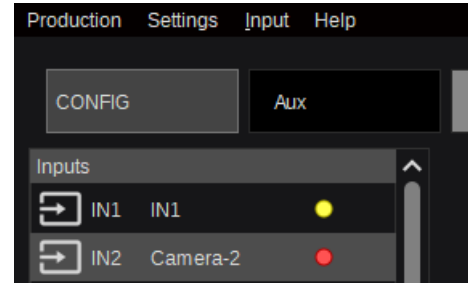
Picture 3.3.8.2.3

1. The “Input” drop-down menu in the Kairo Creator menu bar can be used,
2. the right mouse click menu at the selected “Input,” or
3. the Keyboard shortcut “F2” on focused item.

All dialogs would be continued as follows:

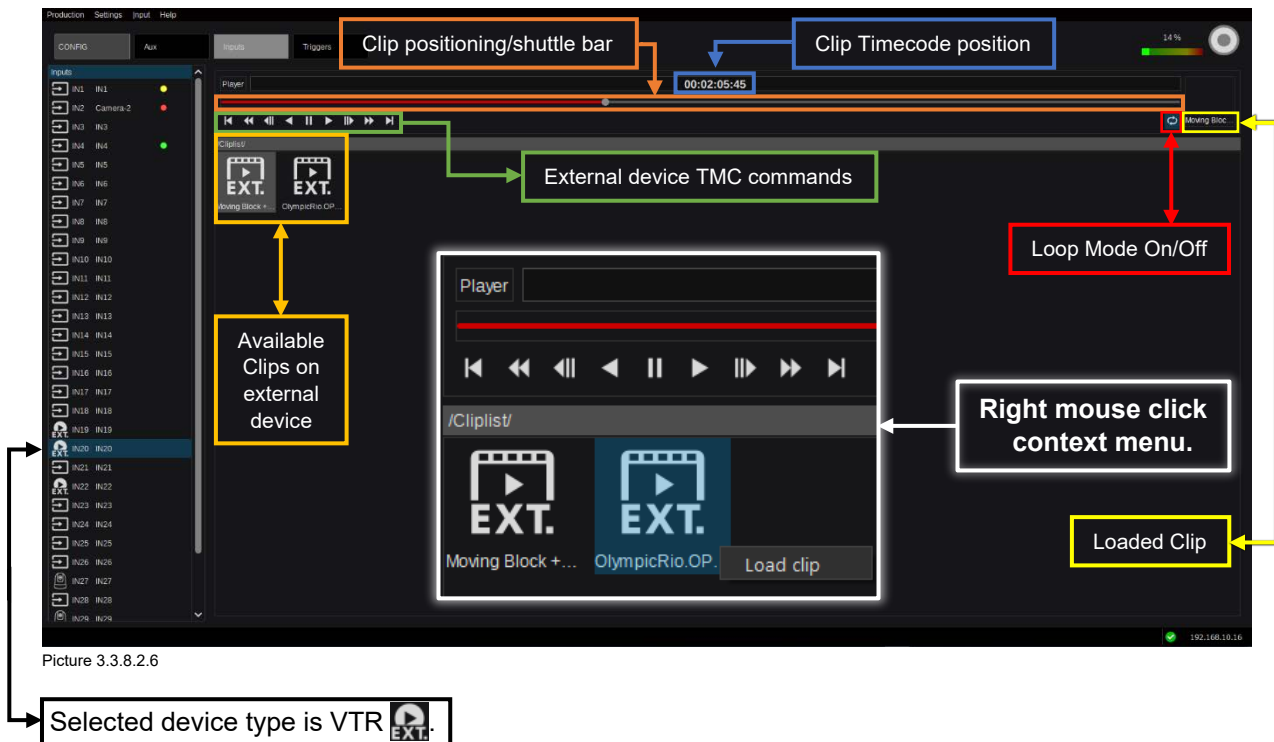


Picture 3.3.8.2.4



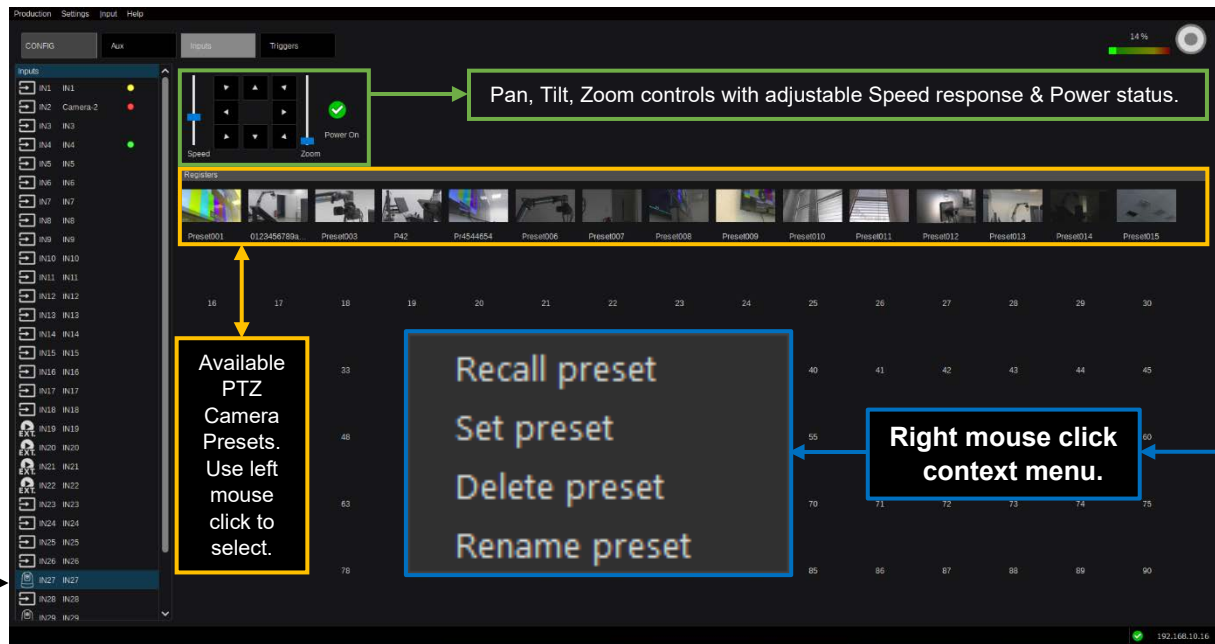
Picture 3.3.8.2.5

Selecting an Input where a VTR is connected will enable additional controls:



Picture 3.3.8.2.6

Selecting an Input with a PTZ-Camera connected will enable these additional controls:

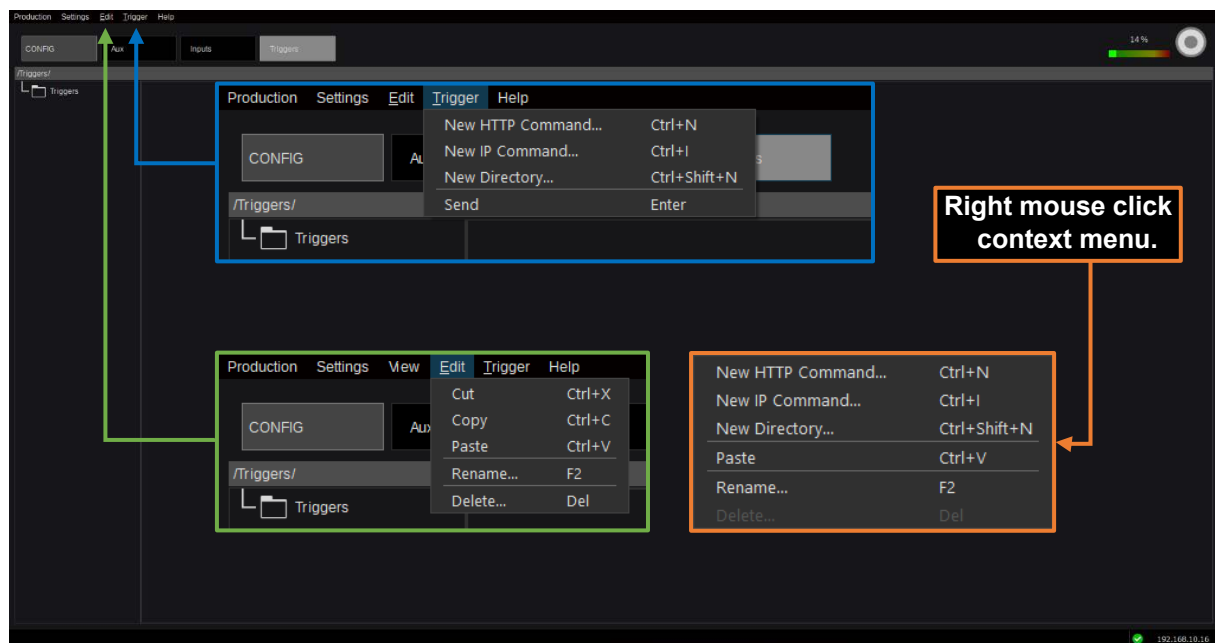


Picture 3.3.8.2.7

Selected device type is PTZ

The right mouse click context menu allows for selected item to “Recall preset,” “Set preset” (store preset), “Delete preset,” or “Rename preset.”

3.3.8.3 Triggers

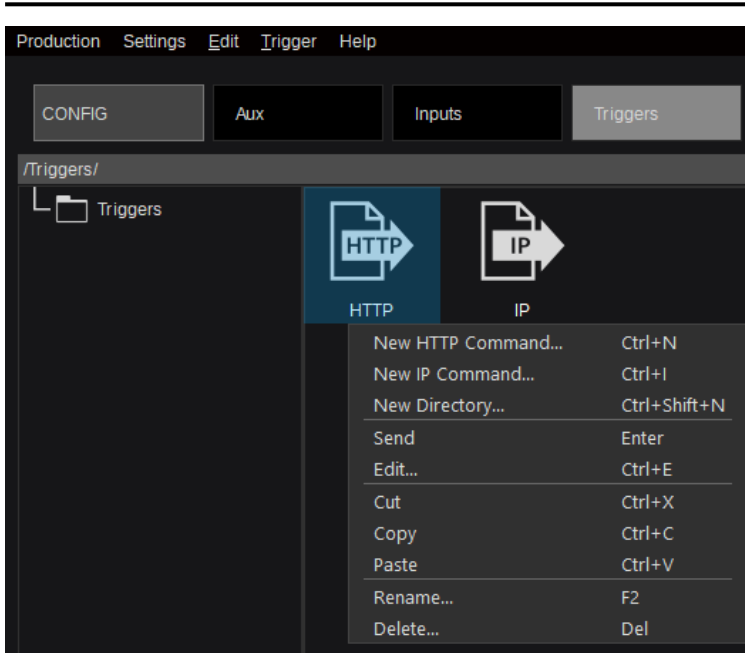


Picture 3.3.8.3.1

The “Triggers” selection within the “Config”-tab allows to create commands (Http or IP) in order to address specific functionality on connected network devices, for example, Robotics, Intercom, etc.

Creating a “New Directory...” is also available in order to help organize individual categories of commands and/or controlled devices (e.g., groups of Robots, PTZ’s, Video Servers, etc.).

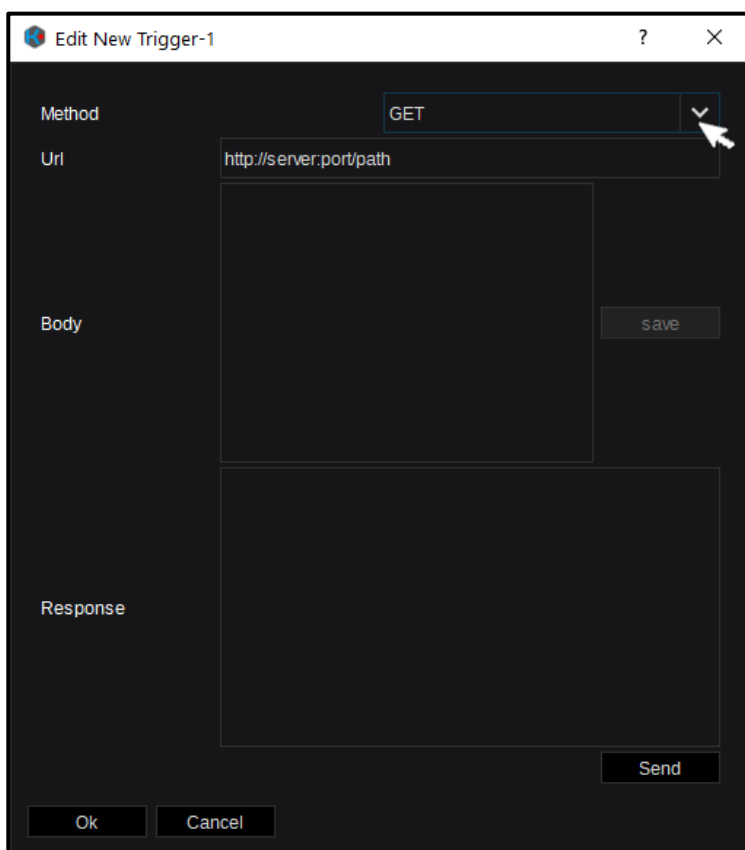
Note: The “Delete” function in right mouse click context menu is disabled, since there’s no object existing (e.g., “Directory,” IP-Command or HTTP-Command), which could be deleted.



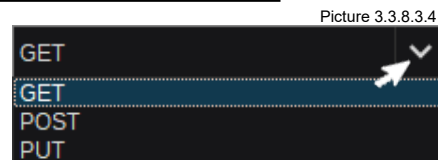
Picture 3.3.8.3.2

Once Triggers have been created (Http and/or IP), the right mouse click context menu changes (Picture 3.3.8.3.2), with additional actions. The existing “Paste” function from the “Edit” drop-down menu is now joined by “Cut” & “Copy.” The “Send” function for the selected command can be used for testing or execution. Additionally, the trigger can be sent by simply using the “Return” key on a connected keyboard while the designated command is selected.

Entering the “Edit” dialog from the right mouse click context menu on a HTTP-command:

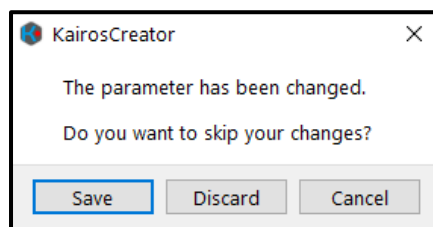


Picture 3.3.8.3.3



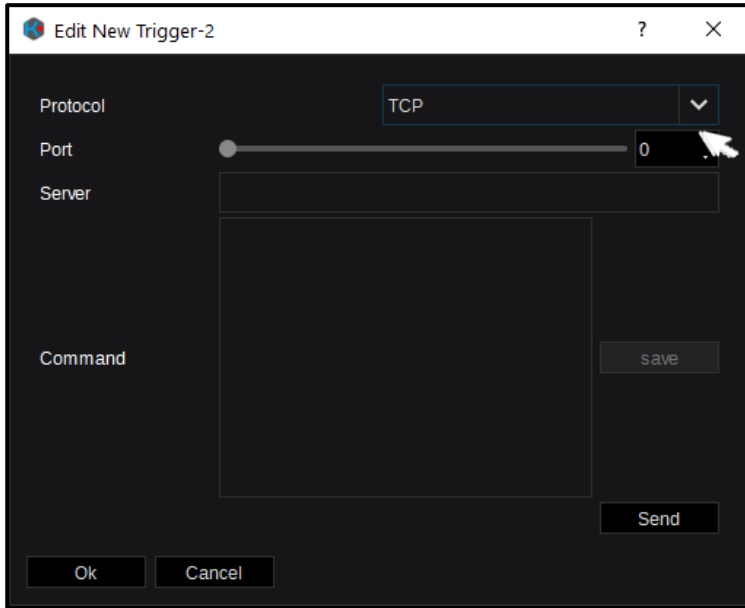
Picture 3.3.8.3.4

There are 3 different request methods available to select from: “GET, POST, PUT.” After editing the entries (Url, Body) relevant to the selected method, the dialog can be confirmed and closed with “OK.” Changes in the “Body” field must be confirmed by “save” before use. The “Send” button allows to send the entered command (probably for testing) before closing the dialog. Selecting “Cancel” brings up a pop-up window containing the selections for “Save,” “Discard,” & “Cancel” the action.



Picture 3.3.8.3.5

Entering the “Edit” dialog from the right mouse click context menu on an IP-command:



Picture 3.3.8.3.3

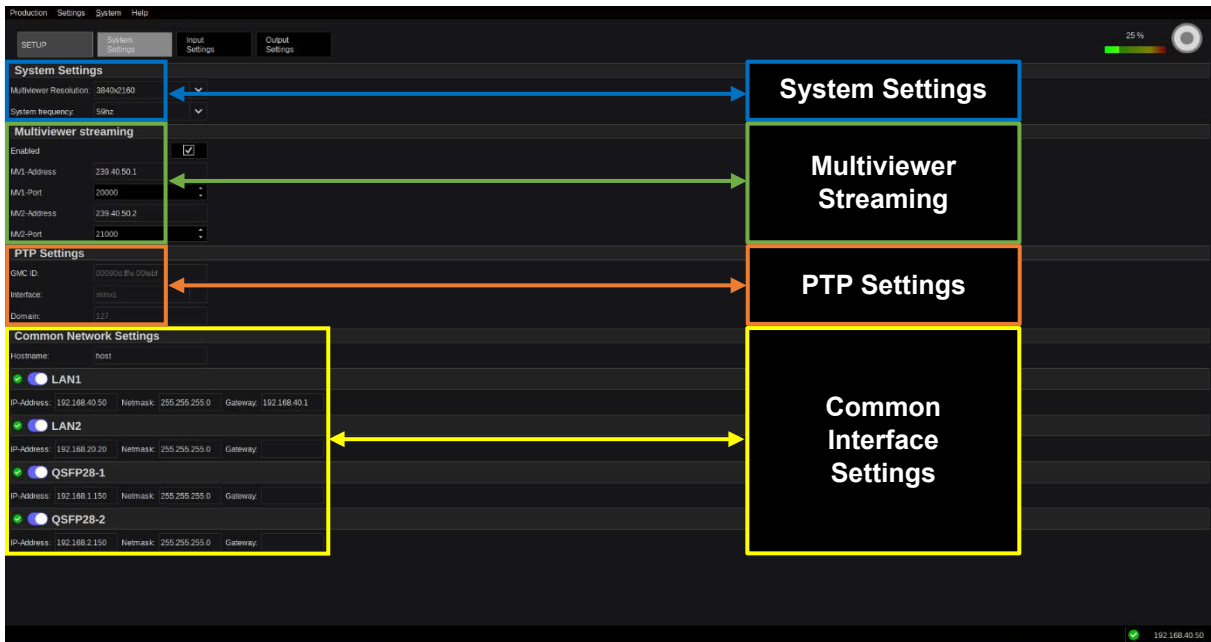


Picture 3.3.8.3.4

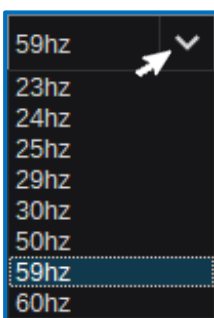
There are 2 different “Protocol”-types to select from: “TCP & UDP.” After editing the necessary entries (Port, Server, & Command), the dialog can be confirmed and closed with “OK.” Changes in the “Command” field need to be confirmed by “save” before use. Again, the “Send” button allows you to send the entered command (probably for testing) before closing the dialog. Selecting “Cancel” brings up a pop-up window containing the selections for “Save,” “Discard,” & “Cancel” the action, as described on previous page (page 71, Picture 3.3.8.3.5).

3.3.9 Setup Tab Selection

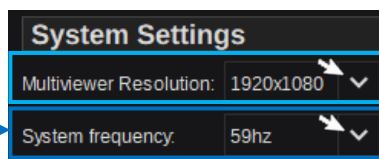
3.3.9.1 System Settings



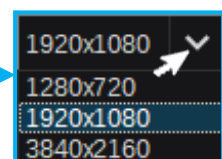
Picture 3.3.9.1.1



Picture 3.3.9.1.2



Picture 3.3.9.1.3

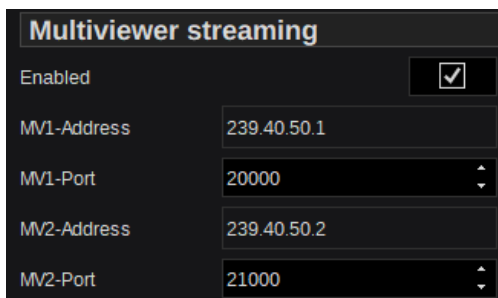


Picture 3.3.9.1.4

Multiviewer Resolutions can be adjusted separately from the AUX-Outputs.

The “System Frequency” determines the overall processed system framerate, applied to all Video-Outputs, including connected Multiviewer. However, every Output provides individual selectable framerates.

Note: This “System Frequency” is independent from the PTP synchronization and Video-Inputs.



Picture 3.3.9.1.5

“Multiviewer streaming,” in general, can be enabled or disabled using the designated check box (Picture 3.3.9.1.5). for the streams available in the GUI “Live View” in “Multi-Viewer” tab selection (see section 3.3.5.1 Live View on page 46 in this manual).

“MV1-Address” and “MV1-Port” address the stream for Multiviewer-1 output.

“MV2-Address” and “MV2-Port” address the stream for Multiviewer-2 output.

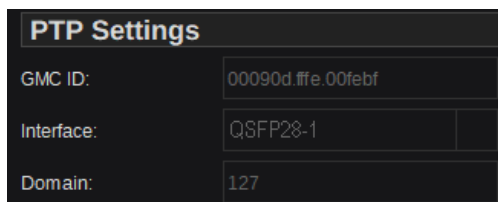
Note:

- Please make a difference of 2 or more between MV1-Port and MV2-Port (e.g., 50000 and 50002).
- When any setting is changed here, please restart Kairos Creator to monitor “Live View.”
- It takes approximately 30 seconds until streaming video can be seen after Kairos Creator boots.
- If “Live View” is not displayed, please check the Windows Firewall setting of the PC and make sure inbound rules for Kairos Creator are enabled.

When “Multiviewer streaming” is set up and enabled (Picture 3.3.9.1.5) the actual Kairos Core IP address (LAN1 from Picture 3.3.9.1.7) can be used in, for example, “VLC media Player” when selecting “Media,” going to “Open Network Stream,” and entering into the “Network”-tab:

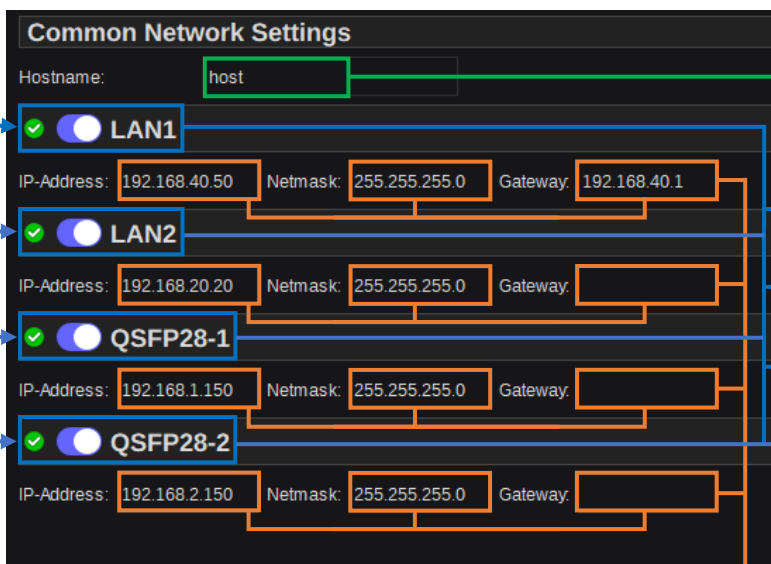
http://192.168.40.50:1234/multiviewers/0/sdp for Multiviewer-1
 http://192.168.40.50:1234/multiviewers/1/sdp for Multiviewer-2

Note: Multiple instances of “VLC media Player” can run in parallel on the same Kairos Creator GUI computer in order to monitor MV-1 & MV-2 simultaneously.



Picture 3.3.9.1.6

In “PTP Settings,” the “GMC ID” defines the “EUI-64” clock identifier of the grandmaster clock (including manufacturer and model). EUI-64 = 64-Bit Extended Unique Identifier. “Interface” determines where the physical connection to the KAIROS-Core is derived from (“QSFP28-1” in this case). The “Domain” settings define the appropriate PTP-Network.



Picture 3.3.9.1.7

All network configurations are set in the “Common Network Settings” area. Besides the “Hostname,” various Network configurations need to be set up in this menu:

“LAN1”: Onboard wired network adapter 1 (1 Gb-Lan).

“LAN2”: Onboard wired network adapter 2 (1 Gb-Lan).

“QSFP28-1”: High-speed Network interface 1 (100 Gb-Lan).

“QSFP28-2”: High-speed Network interface 2 (100 Gb-Lan).

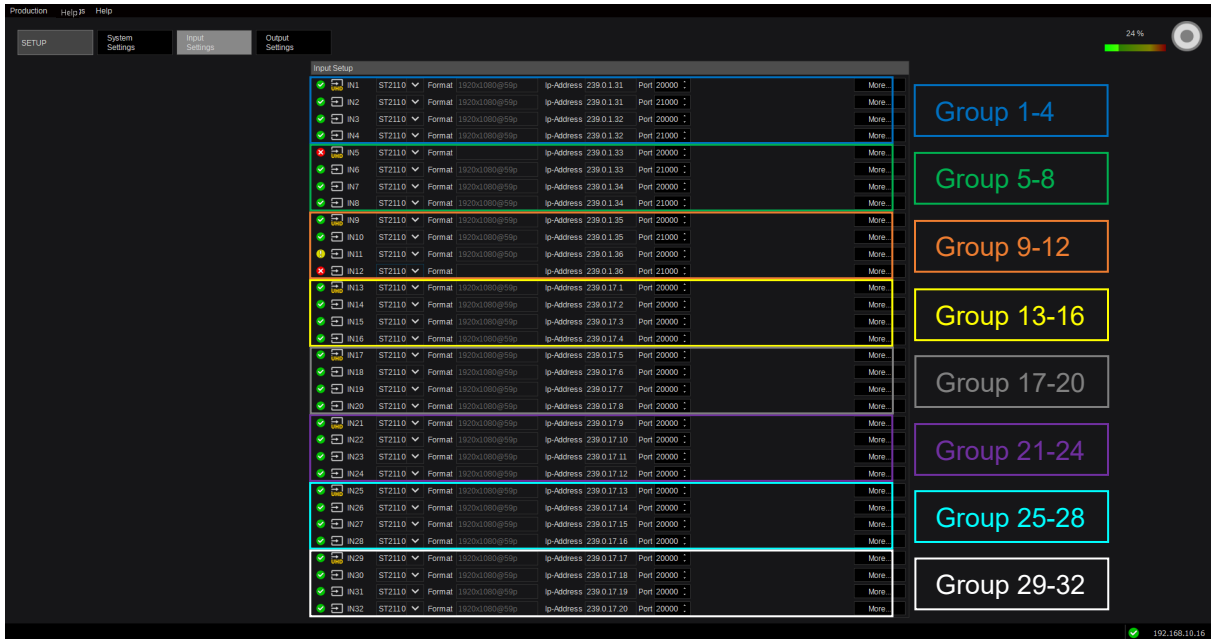
For all needed Network adaptors or interfaces, the IP address, Netmask, and Gateway (if necessary) need to be entered to function properly.

Network adapter settings:
 = Network adapter present.
 = Adapter enabled/disabled.

Note: Network adapter settings are not part of “export/import environment file” operations in Kairos Creator “Settings” drop-down menu! See section “3.3.1.2 Settings” on page 24 in this manual for details.

Note: QSFP28-2 function is not supported yet.

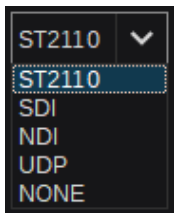
3.3.9.2 Input Settings



Picture 3.3.9.2.1

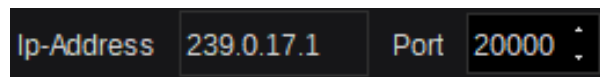
The “Input Settings” GUI menu shows a list of all 32 inputs, each capable of a 3G signal bandwidth.

Note: 32 Inputs are accessible only when license AT-SF002 (I/O expansion) is installed. By default, there are 24 Inputs available.

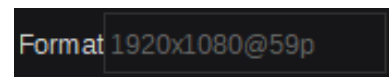


Picture 3.3.9.2.2

Each input format is selectable in between ST2110, SDI, NDI, and UDP (Picture 3.3.9.2.2). For “ST2110” input selection, the corresponding high-speed IP address and “Port” are required when not handled via NMOS settings (Picture 3.3.9.2.3). The format per input is auto-sensed and displayed (Picture 3.3.9.2.4).



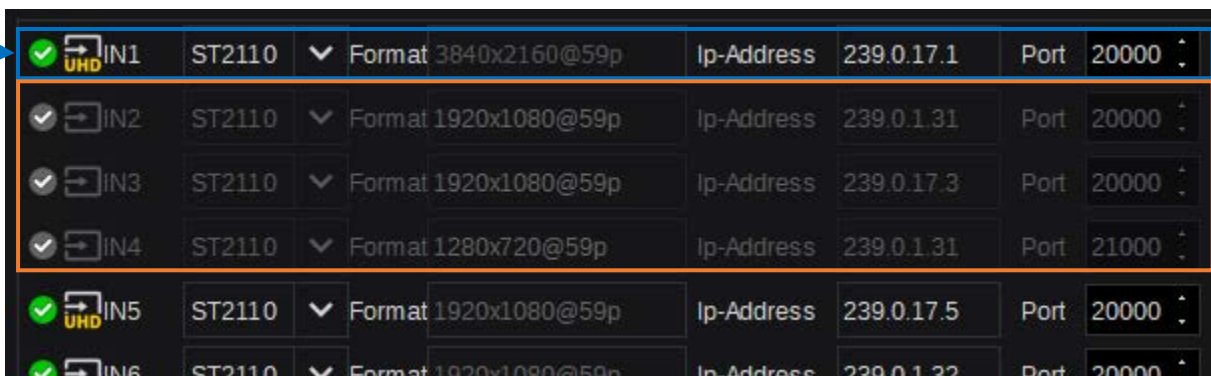
Picture 3.3.9.2.3



Picture 3.3.9.2.4

Note: Interlace format is not supported.

Only the first input out of a group of 4 can select 4K (indicated with the yellow **UHD** symbol), in which case all other inputs in that group will be disabled.



Picture 3.3.9.2.5

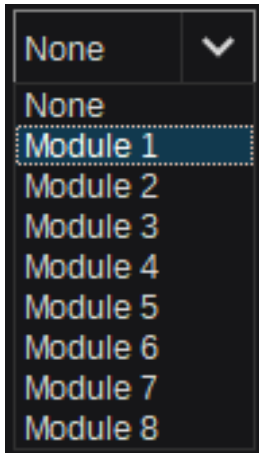
Auto-sensing format UHD “3840 × 2160@59p” for “IN1” in Group 1-4 will disable Inputs 2-4.

“IN02, IN03, IN04” are disabled because of “IN01” UHD format.

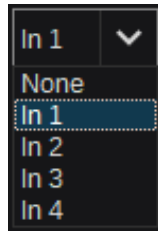
Note: The selection for “**UHD**” is only displayed when the license “AT-SF001” (4K Support) is installed. 4K NDI and 4K UDP are not supported.

Apart from ST2110 IP inputs (Picture 3.3.9.2.2), up to 8 modules (Deltacast)—4 Inputs each—can be connected for SDI input signal  Picture 3.3.9.2.5

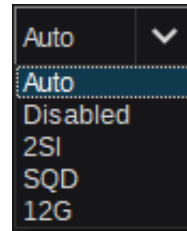
(Deltacast is also providing modules for HDMI & DP In/Out)



Picture 3.3.9.2.6



Picture 3.3.9.2.7



Picture 3.3.9.2.8

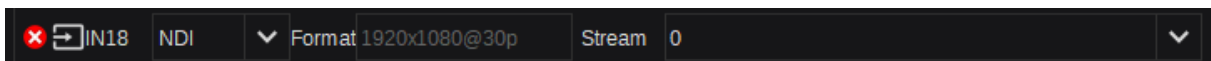
When selecting “SDI” as input format (Picture 3.3.9.2.5), the next selection defines the module number 1-8 (Picture 3.3.9.2.6). Each module provides 4 inputs to select from “In 1-4” (Picture 3.3.9.2.7). Finally, Kairos Core can auto-sense the connected input format, or you can choose directly between 12G (Single Link), 2SI (2 Sample Interleave), SQD (Square Division). You can also “Disable” the selected input (Picture 3.3.9.2.8).

For a UDP input selection, the entries for IP and Port number are required:



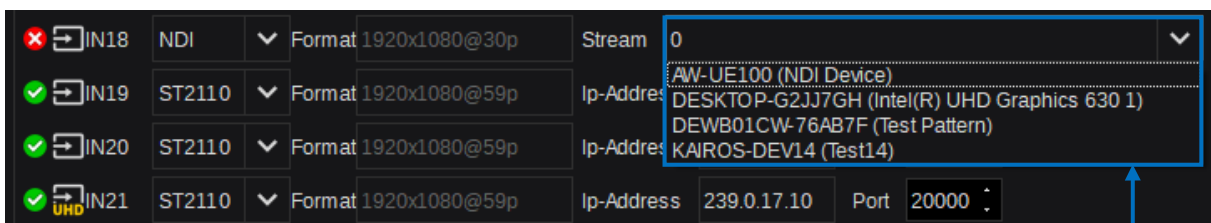
Picture 3.3.9.2.9

For an “NDI” input, an NDI stream can be selected from the NDI streams published on the network:



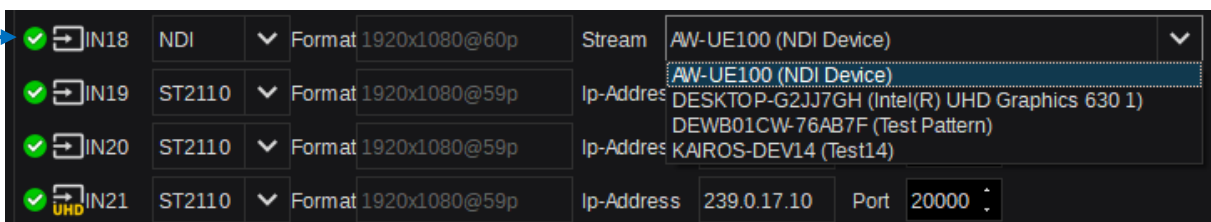
Picture 3.3.9.2.10

Default NDI stream selection is “None.”



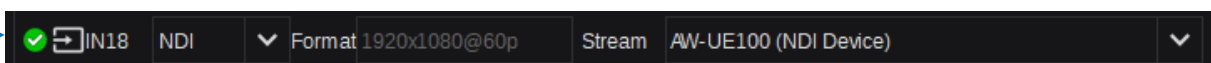
Picture 3.3.9.2.11

Selecting the drop-down menu on the far right shows the available NDI network streams.



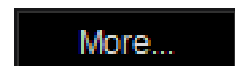
Picture 3.3.9.2.12

After selecting an available network stream and fetching the signal, the source indicator turns green .

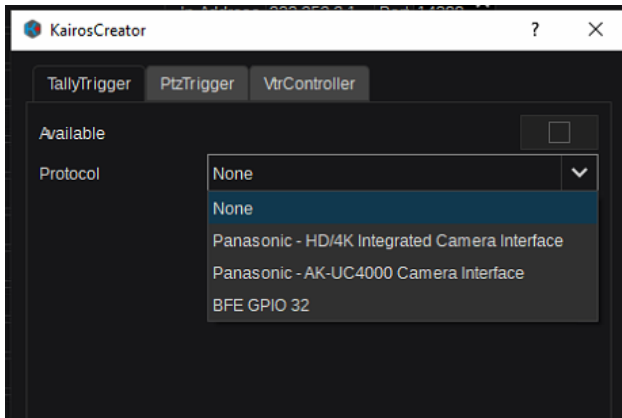


Picture 3.3.9.2.13

The “More...” button to the right of each input opens a pop-up window with advanced input setup options (Picture 3.3.9.2.14).



Picture 3.3.9.2.14



Picture 3.3.9.2.16

“TallyTrigger-Tab”:

In the TallyTrigger-Tab, an external Tally device such as BFE-GPIO Box, Panasonic Camera can be set up. The following settings are available depending on the device type:

IP address of the Tally device.

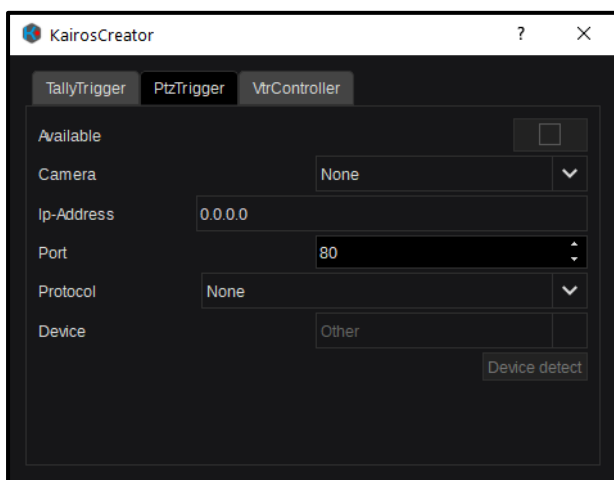
Port number of the Tally device.

Tally Channel (Red, Green, Yellow, Blue, Magenta, Cyan)

Device type supported by selected protocol.

Selected AUX-Bus (for Camera Return feed, if applicable).

Auto-detect device (when supported).

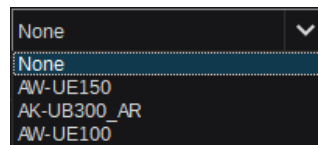


Picture 3.3.9.2.17

“PtzTrigger-Tab”:

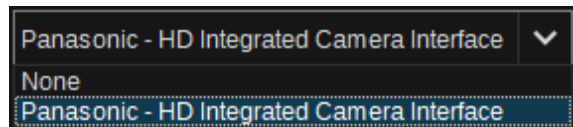
The “PtzTrigger” Tab addresses a wide variety of Panasonic Camera remote controls, including Tally over IP.

The “Camera” menu contains all Panasonic Cameras available in KAIROS network (Picture 3.3.9.2.17).

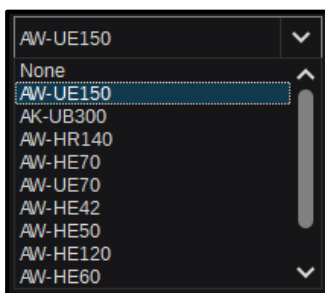


Picture 3.3.9.2.18

Simply select the model, for example, “AW-UE150,” KAIROS will complete all the settings automatically (Pictures 3.3.9.2.18 & 3.3.9.2.19), including the IP address and the designated Port number.

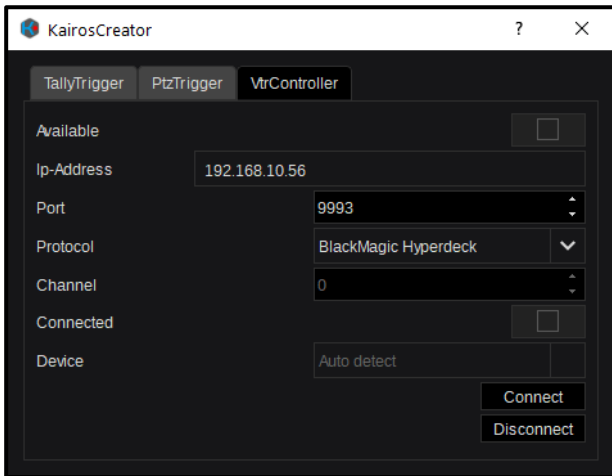


Picture 3.3.9.2.19

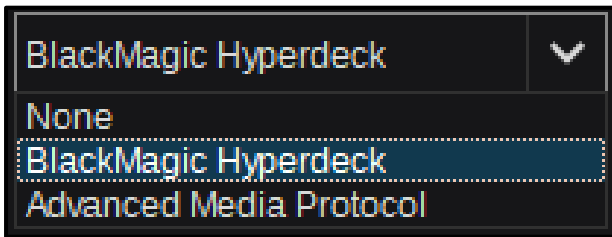


Picture 3.3.9.2.20

If necessary, all controls can be set manually by selecting from the currently supported devices in the corresponding drop-down menu. The “Auto detect” button in the main “PtzTrigger” Tab helps to explore and update the network camera device list. As soon as all necessary settings are completed, the “Available” check-box (first entry on top of the PtzTrigger-Tab) will be ticked .



Picture 3.3.9.2.20

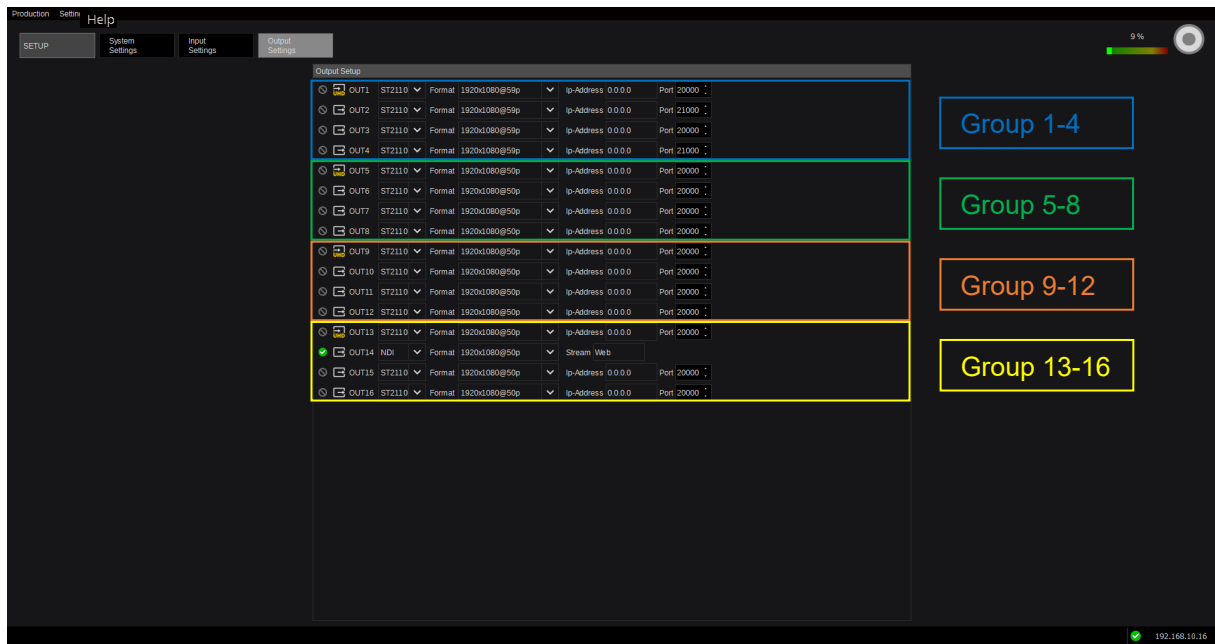


Picture 3.3.9.2.21

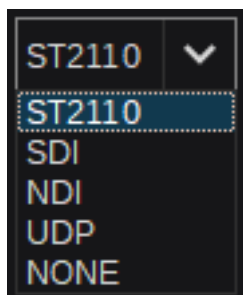
“VtrController-Tab”:

In the “VtrController” Tab, enter the individual IP address and Port number for a supported device and then select “Protocol” type for the device. A dedicated driver for BlackMagic devices, as well as AMP over LAN protocol (Advanced Media Protocol), is available (Picture 3.3.9.2.21). If the connected device supports a multi-channel infrastructure, it might be necessary to specify the channel number to “talk” to. When the settings are completed, hit the “Connect” button to establish communication. The “Available” and “Connected” check-boxes should indicate .

3.3.9.3 Output Settings



Picture 3.3.9.3.1

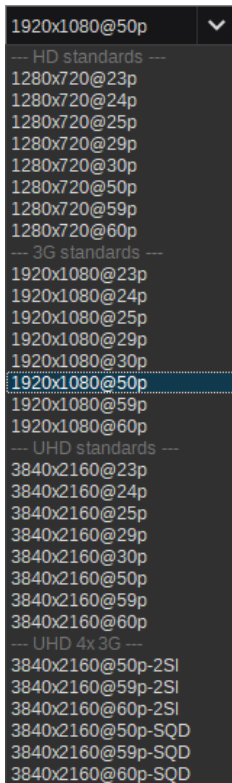


Picture 3.3.9.3.2

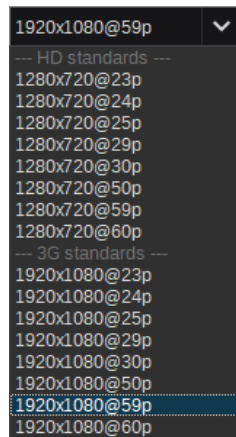
Similar to the “Input Settings,” the “Output Settings” GUI menu shows a list of all 16 outputs, each capable of a 3G signal bandwidth. The output types are selectable between ST2110, SDI, NDI, and UDP (Picture 3.3.9.3.2).

Note: 16 Outputs are accessible only when license AT-SF002 (I/O expansion) is installed. By default, there are 12 Outputs available.

Out of a group of 4, only the first output can select 4K (indicated with the yellow **UHD** symbol). In this case, all other outputs in that group will be disabled (see the list of available formats in Picture 3.3.9.3.3). Outputs 2-4 cannot select a 4K signal. Therefore, there are 2 individual drop-down menus provided to select the desired/available format (see Picture 3.3.9.3.4).



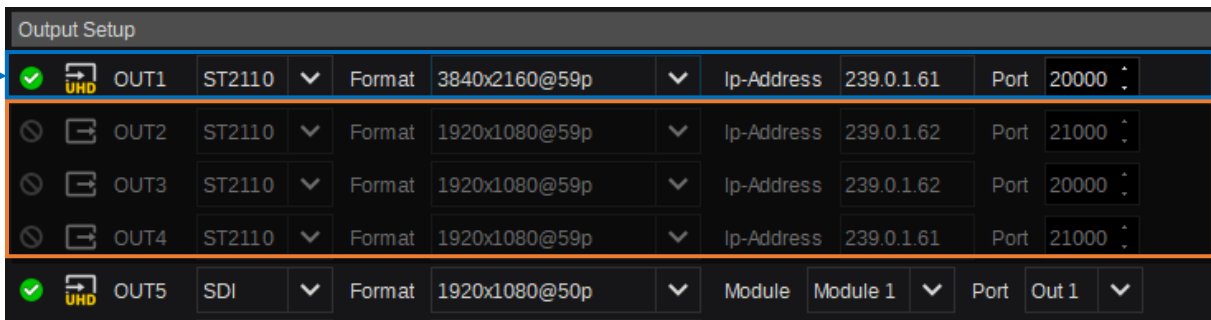
Picture 3.3.9.3.3



Picture 3.3.9.3.4

Note: Interlace format is not supported.

When Output-1 in Group 1-4 is set to any of the provided 4K formats, for example, “3840 × 2160@59p,” Outputs 2-4 will be disabled (Picture 3.3.9.3.5).

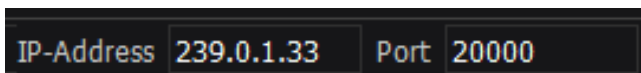


Picture 3.3.9.3.5

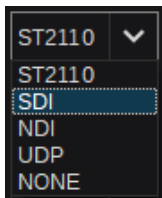
Output-1 format selected “3840 × 2160@59p” for 4K.

“OUT2, OUT3, OUT4” are disabled because “OUT1” is set to 4K format “3840 × 2160@59p,”

As described in “3.3.9.2 Input Settings” for IP signals, when an Output is set to IP-Type, the corresponding “IP-Address” and “Port” number also need to be specified (Picture 3.3.9.3.6).

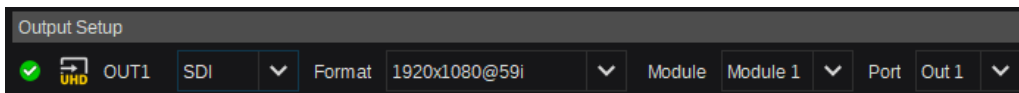


Picture 3.3.9.3.6

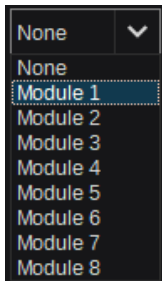


Picture 3.3.9.3.7

When configuring an Output-Type to “SDI,” the settings are almost the same like in section “3.3.9.2 Input Settings.” Start with selecting Output-Type first.

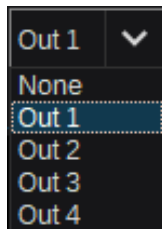


Picture 3.3.9.3.8



Picture 3.3.9.3.9

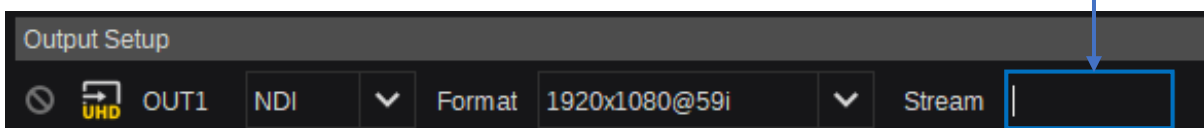
Select an Output Module 1-8, only available when Deltacast Modules are installed (Picture 3.3.9.3.9).



Picture 3.3.9.3.10

Define Output connector Out 1-4 (Picture 3.3.9.3.10).

When an NDI Output is created, a valid “Stream name” has to be entered in addition to specifying the Video-Format, in order for the stream to be identifiable throughout the NDI-Network (Picture 3.3.9.3.11)



Picture 3.3.9.3.11

Apart from individually specifying the Video-Format, NDI Output-Type settings are the same as previously described in section “3.3.9.2 Input Settings.”

Note: The general availability of **UHD** Inputs/Outputs as well as the total number of Inputs/Outputs is reflecting the various types of installed Kairos options/licenses:

AT-SF001 for 4K Support (default is 3G max)

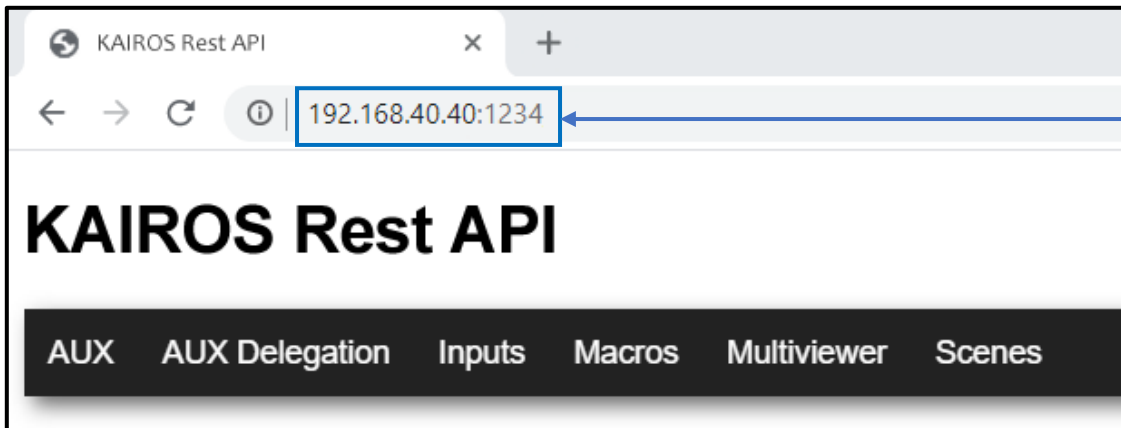
AT-SF002 for I/O expansion to 32 Inputs (default is 24×3G max) and 16 Outputs (default is 12×3G max).

4K NDI and 4K UDP are not supported.

3.4 KAIROS Rest API

3.4.1 Rest API Overview

In order to access and control KAIROS via a generic Web-browser, such as Chrome, Edge, etc., the implemented Rest API can be used. Typical browser shortcuts can be used as well (e.g., F5=refresh, F11=Fullscreen, etc.). For details, check the corresponding browser command information.

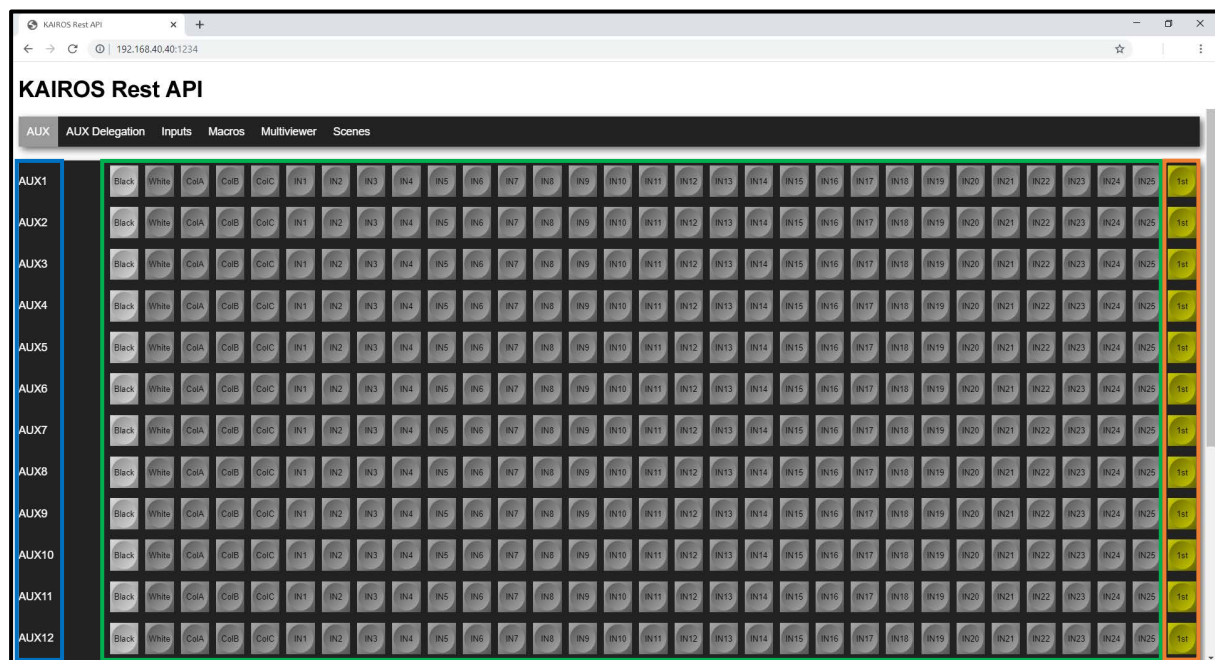


Picture 3.4.1.1

Type in the IP-address and Port-number (in this case, “192.168.40.40” for the IP-address and adding the Port-number “:1234”) and start browsing. For the upcoming dialog, the “User” (Kairos) and “Password” need to be entered. For the “Password,” the connected Server-System-Id is required. For details, see section “3.3.1.4 Help” in this manual.

3.4.2 AUX-AII

When selecting (mouse-click) the item “AUX” (Picture 3.4.1.1 above), the browser is showing all available Aux buses. Scroll up and down to navigate. Select any cross-point on any designated output (Aux). When there are more sources than source buttons available (see section 3.2.2 Source Options page 21), automatically a “Shift”-level is (or multiple “Shift”-levels are) applied to the far-right side of the source selection buttons.



Picture 3.4.2.1

Designate output (AUX)

Available sources per AUX

Shift levels per source selection

3.4.3 AUX-Delegation

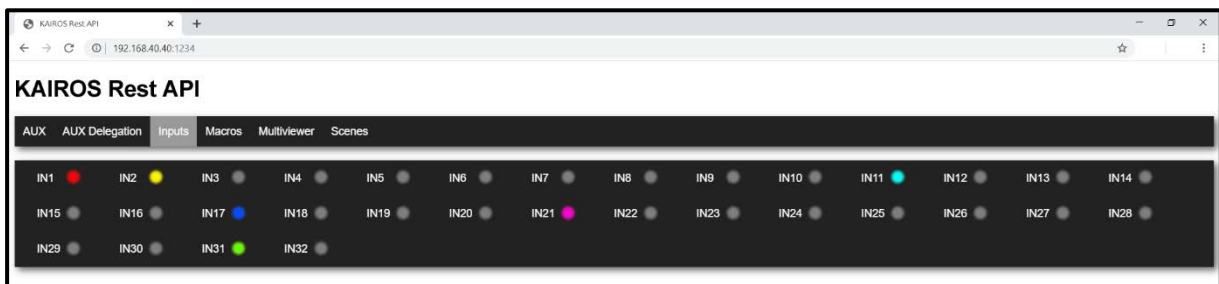
The “AUX Delegation” selection is providing the controls for AUX-buses in a X/Y style so that the upper Bus is used to select a specific AUX-bus and the lower bus is providing the individual available source. Again, when there are more sources (see section 3.2.2 Source Options page 21) than source buttons available, automatically a “Shift”-level is (or multiple “Shift”-levels are) applied to the far-right side of the source selection buttons.



Picture 3.4.3.1

3.4.4 Inputs (Tally Indication)

Selecting the tab “Inputs” will show a list of all available external inputs with their designated “Tally” signalization. In this example, Red-Tally (On-Air/PGM-1) for Input-1, Yellow-Tally (Preview/Preset) for Input-2, Cyan-Tally (PGM-2) for Input-11, Blue-Tally (PGM-3) for Input-17, Magenta-Tally (PGM-4) for Input-21 and Green-Tally (PGM-5) for Input-31.



Picture 3.4.4.1

3.4.5 Macros

The “Macro” tab contains all recorded “Global”-Macros for instant recall.



Picture 3.4.5.1

3.4.6 Multiviewer

When selecting the “Multiviewer” tab, a list of all Factory Presets and all User-defined Presets are displayed and can be directly applied to Multiviewer 1 and/or 2.



Picture 3.4.6.1

3.4.7 Scenes

The last tab called “Scenes” provides full cross-point control per Bus/Layer on delegated Scene. There is no Scene selected when entering this tab (Picture 3.4.7.1).



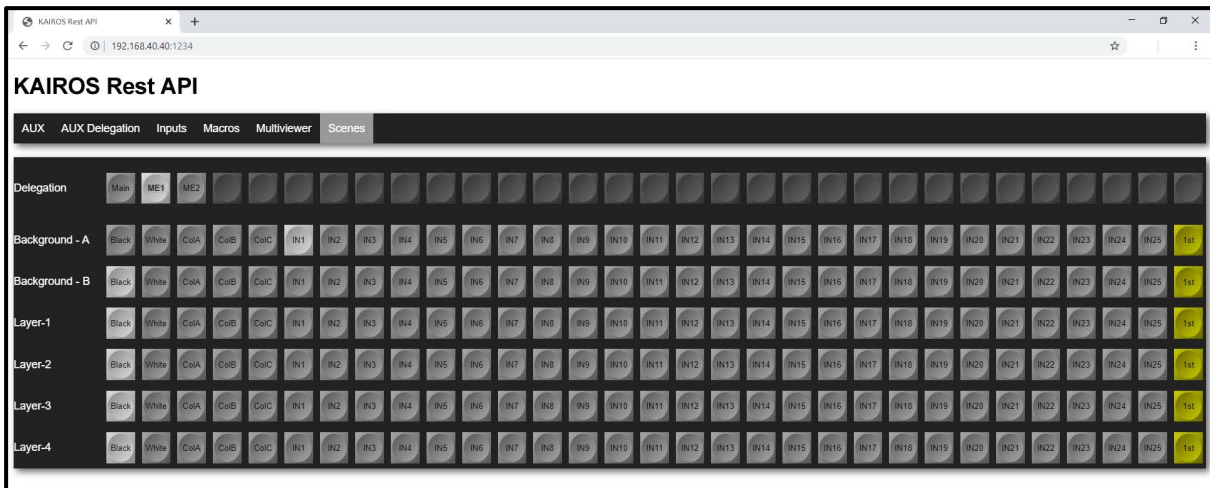
Picture 3.4.7.1

Scene “Main” delegated (Picture 3.4.7.2). Background A & B + 2 Layers.



Picture 3.4.7.2

Scene “ME1” delegated (Picture 3.4.7.3). Background A & B + 4 Layers.

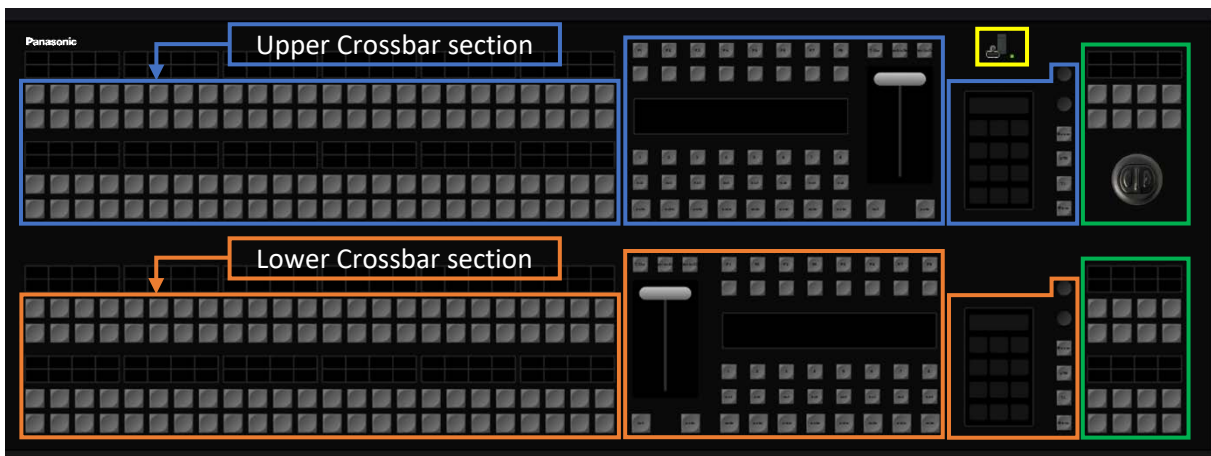


Picture 3.4.7.3

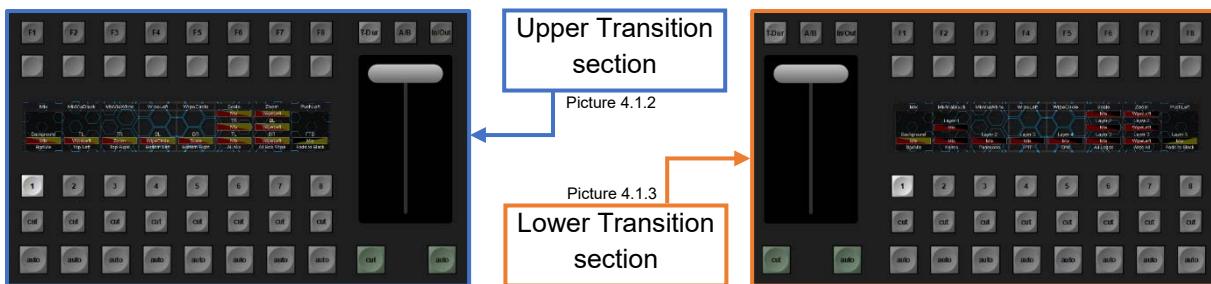
Note: Also in “Scenes” tab—once a Scene is delegated—when there are more sources than source buttons available (see section 3.2.2 Source Options, page 21), automatically a “Shift”-level is (or multiple “Shift”-levels are) applied to the far-right side of the source selection buttons.

4 Control Panel

4.1 General Panel Overview



Picture 4.1.1



Picture 4.1.4

The 2 multi-purpose delegable numeric keypads can be used in the upper as well as in the lower Control Panel section in order to control various elements within Kairos. At the upper numeric keypad section, there is a USB 2.0 connector located, and an additional connector can be found on the Control Panel backplane. The sections can be delegated using according buttons, labeled:

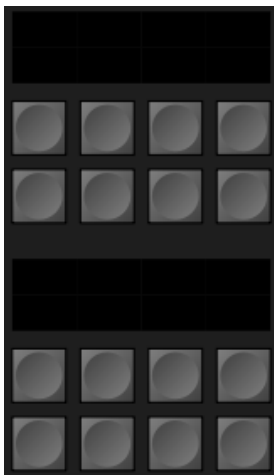
- “MACRO” = Control Panel Macros (individual per connected Control Panel).
- “VTR” = Tape Motion Commands (TMC) for Clip Player, RamRecorder.
- “TL” = Timeline (TL) controls (not yet implemented).
- “MENU” = “Connection” settings and various “Setup” items regarding IP-Address, Netmask, Gateway, Fader & Joystick calibration, Brightness, Profiles (Panel), Reboot & Restart.

Note: USB functions are not supported yet.



Picture 4.1.5

The Joystick section in the upper right corner of the Kairos Control Panel can be used for PTZ-Camera Control, Layer & FxInputs-Transformations & generic positioning controls. This section will be typically auto-delegated to the individual requested functionality and/or device.

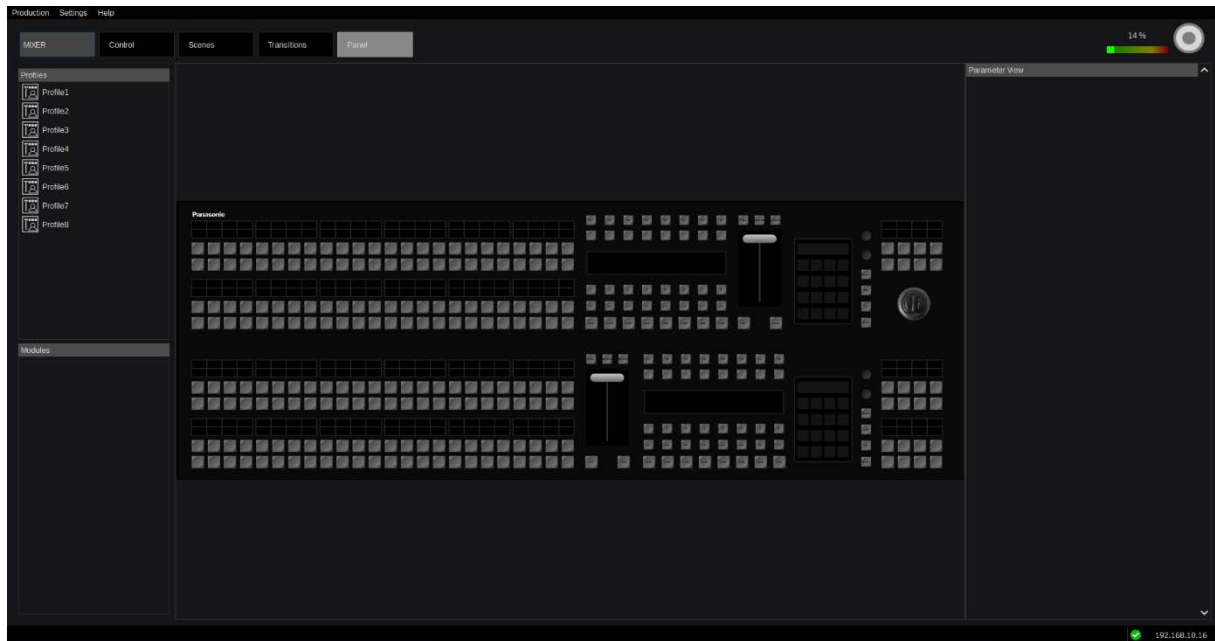


Picture 4.1.6

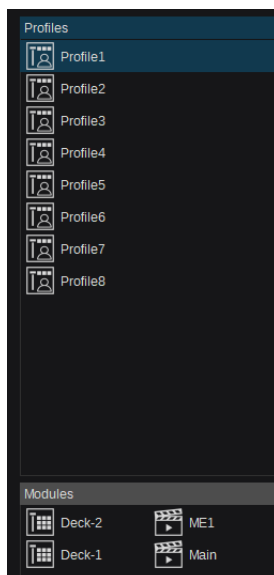
The programmable section in the lower right corner of the Kairos Control Panel can be used for various controls, such as delegating controls toward the above located Joystick, that is, FX-Inputs, PTZ-Presets, Layers, etc.

The default layout is working in upstream direction toward the Joystick section, in order to delegate the appropriate controls.

4.2 Kairos Creator GUI Panel Tab

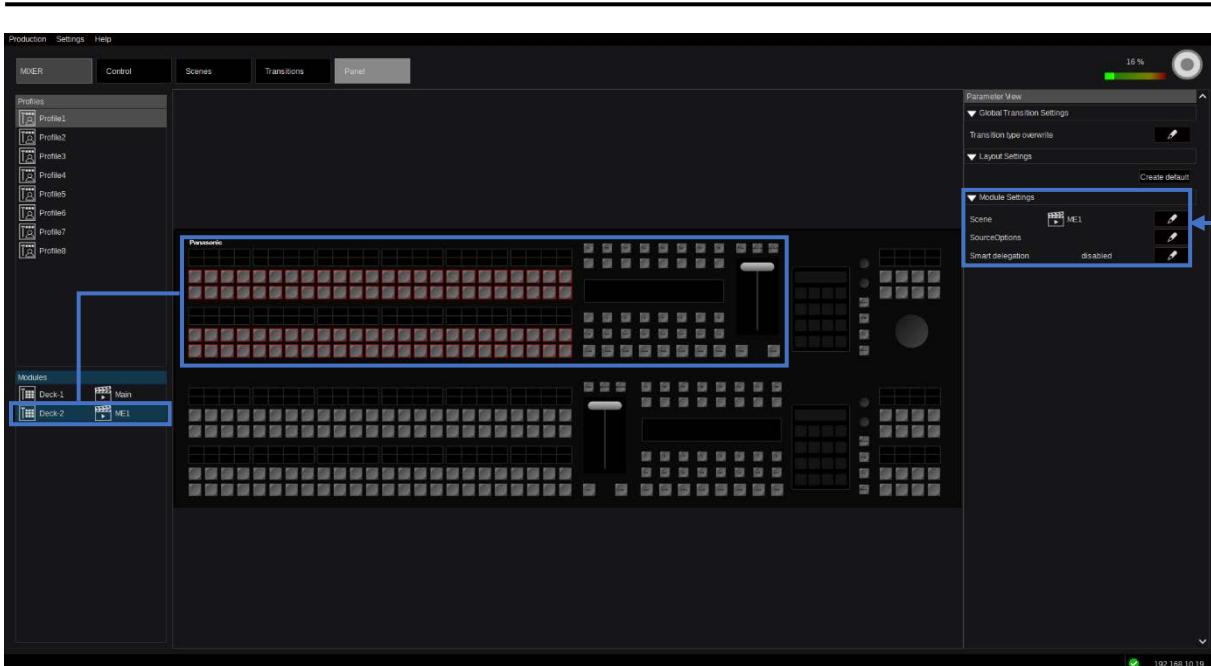


Picture 4.2.1



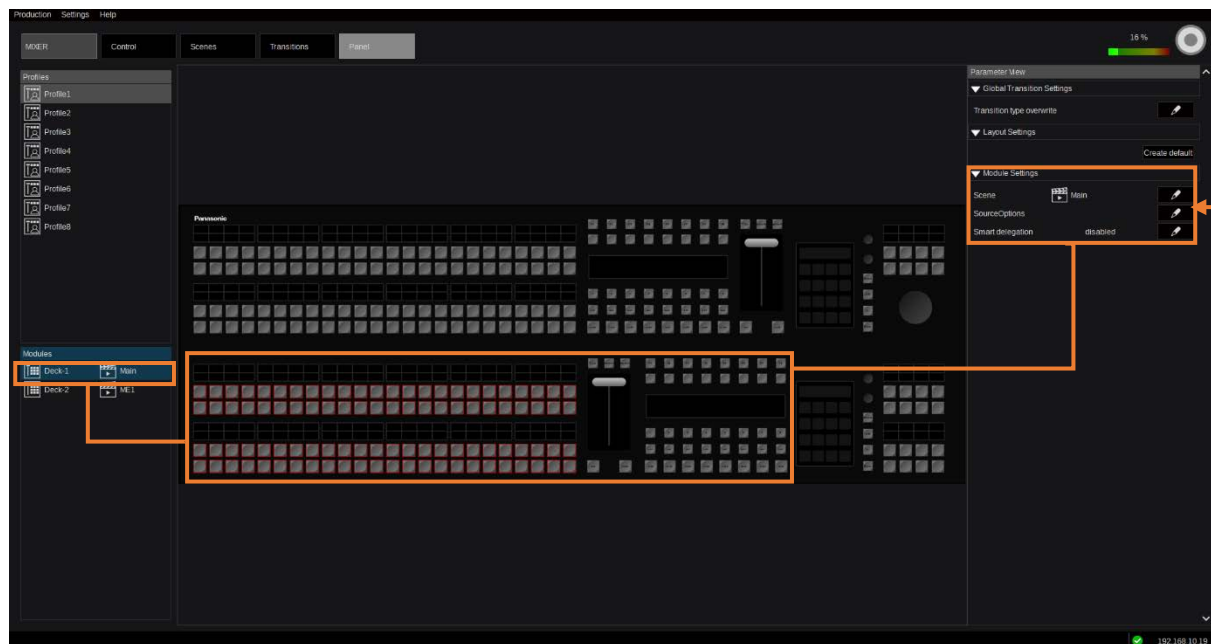
Picture 4.2.2

Entering the Kairos Creator GUI Mixer > Panel tab is showing a Control Panel overview with unselected Panel "Profile" (Picture 4.2.1 above). Selecting Profile1, for example, is showing the default "Deck-1" & "Deck-2" assignment. In this case, the upper Control Panel M/E (Deck-1) is delegated to control the Scene called "ME1," and the lower Control Panel M/E (Deck-2) is delegated to control the Scene called "Main" (Picture 4.2.2 on the left).



Picture 4.2.3

Selecting “Deck-2” with ME1 assigned to, is highlighting the designated Scene controls and allows to set up the individual “Module Settings” (Picture 4.2.3).



Picture 4.2.4

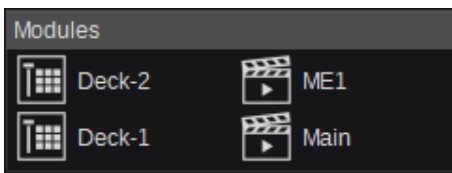
Selecting “Deck-1” with Main assigned to, will highlight the corresponding Scene controls and allows to access the available “Module Settings” (Picture 4.2.4).



Picture 4.2.5

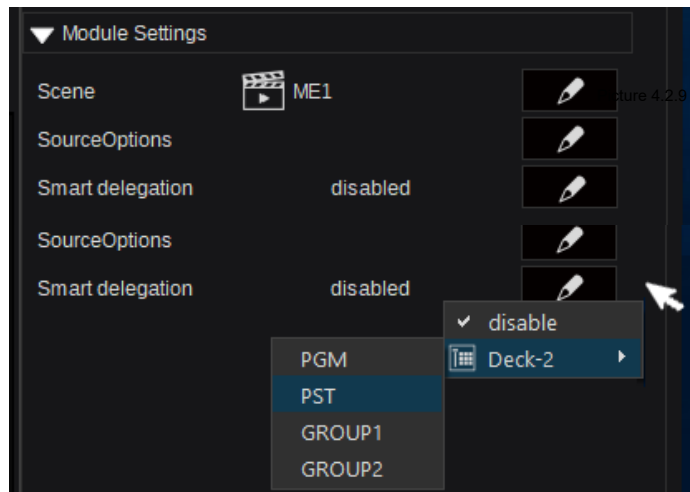
Using the right mouse-click context menu on either “Deck-1” or “Deck-2”(left) and select “Set Delegation”, or click on the “✎” symbol next to “Scene” in “Module Settings” (right), will open the “Source selection” window in order to delegate a static Scene per Deck-1 and/or -2 (Picture 4.2.5).

4.2.1 Smart Delegation

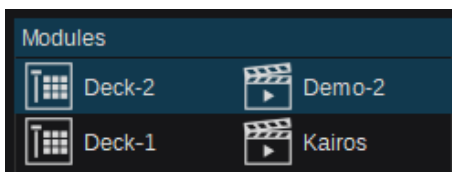


Picture 4.2.1.1

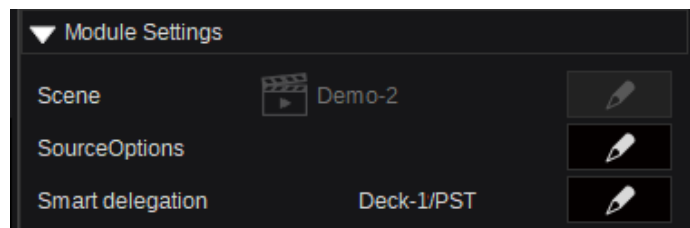
As long as “Smart Delegation” is “disabled,” the Modules “Deck-1 & -2” (Picture 4.2.1.1) will show the delegated Scenes. The “Module Settings” in the “Parameter View” is also reflecting this (Picture 4.2.1.2). Clicking the “Pen” symbol next to “Smart delegation” opens the available selections for the corresponding Control Panel M/E (PGM, PST, GROUP1, & GROUP2). Selection is “PST” from the lower M/E (Deck-1).



Picture 4.2.1.2



Picture 4.2.1.3



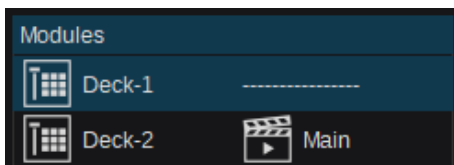
Picture 4.2.1.4

After enabling and defining “Smart Delegation” for Deck-2 with PST-Bus from Deck-1, the menu will update accordingly (Pictures 4.2.1.3–4.2.1.5).

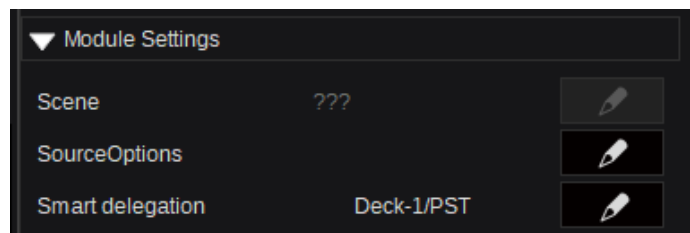


Picture 4.2.1.5

Note: When “Smart Delegation” mode is enabled and the selected cross-point on the defined/preferred Bus selection (PGM, PST, GROUP1, or GROUP2) is **not** a Scene (M/E#), such as a direct Input, RamRec channel, Still etc., the corresponding M/E (Deck-1 or Deck-2) will appear blanked/undefined in the Control Panel as well as in Kairos Creator GUI (Pictures 4.2.1.6–4.2.1.8).



Picture 4.2.1.6



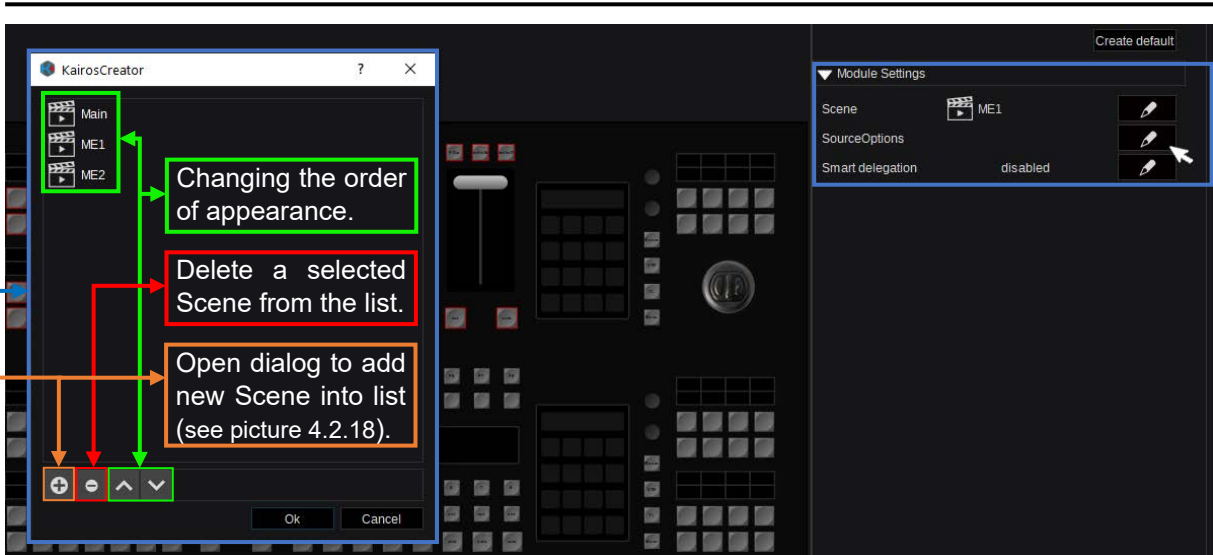
Picture 4.2.1.7



Picture 4.2.1.8

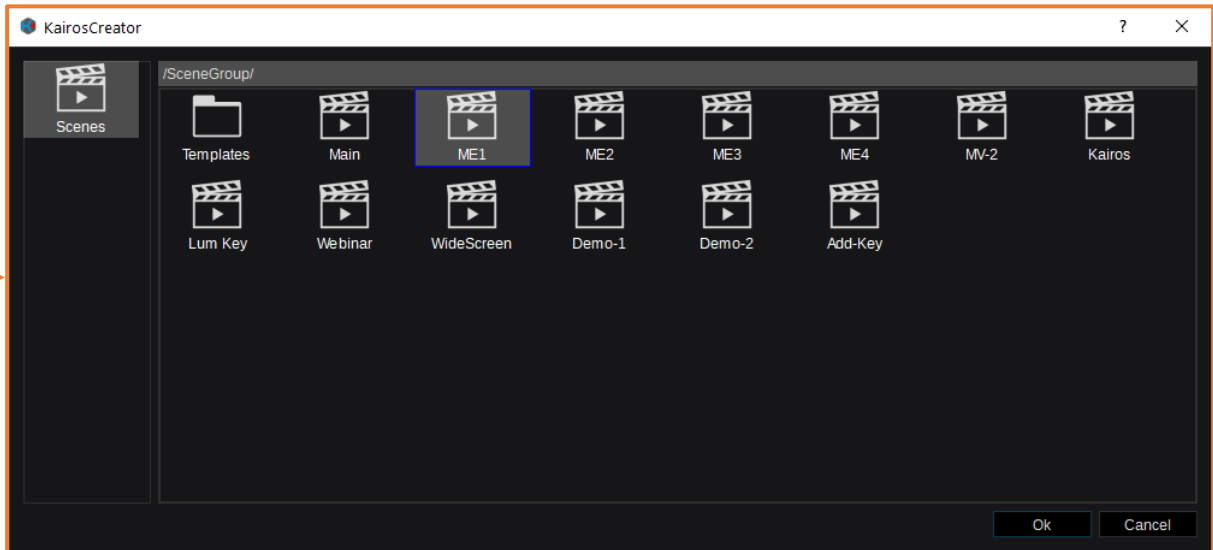
When multiple Scenes (M/E's) need to be selectable for instant delegation, the function “Source Options” within “Module Settings” in Parameter View is used for that.

Similar to the already described functionality in section “3.2.2 Source Options,” starting on page 21 in this manual, the “Source Options” operations for Scene delegations are almost equally identical.



Picture 4.2.1.9

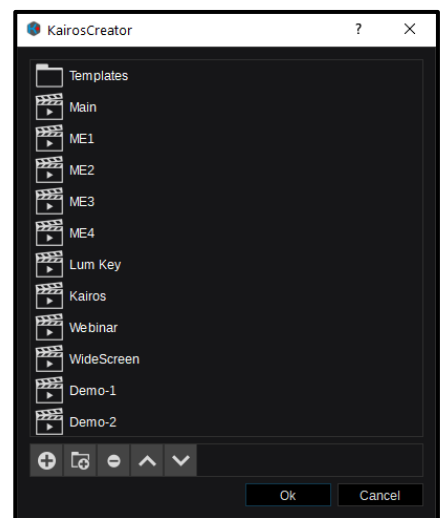
Left mouse-clicking on the pen “✎” symbol next to “Source Options” will open the dialog to organize the Scene delegation operations regarding adding, deleting, and order of appearance.



Picture 4.2.1.10

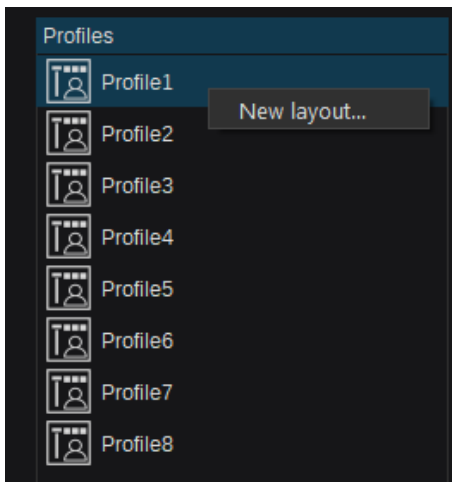
When finished organizing the “Source Options” list for Scene delegations, the selection could look like this:

Note: The content of Scene Directories within the “Source Options” list will be automatically unpacked when displayed on the Control Panel. In this case, the “Templates” folder (see Picture 4.2.11) is containing the Scenes: 2Box, 4Box, OTS Left, OTS Right, Title, and Sidecar.

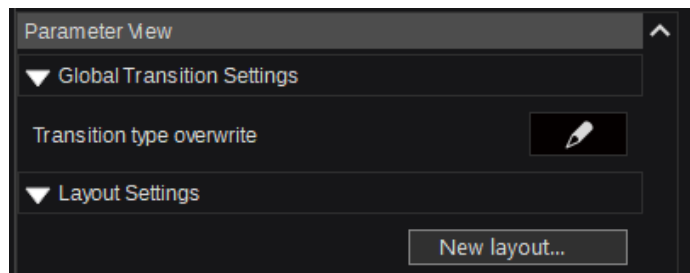


Picture 4.2.1.11

4.3 “New Layout” Wizard

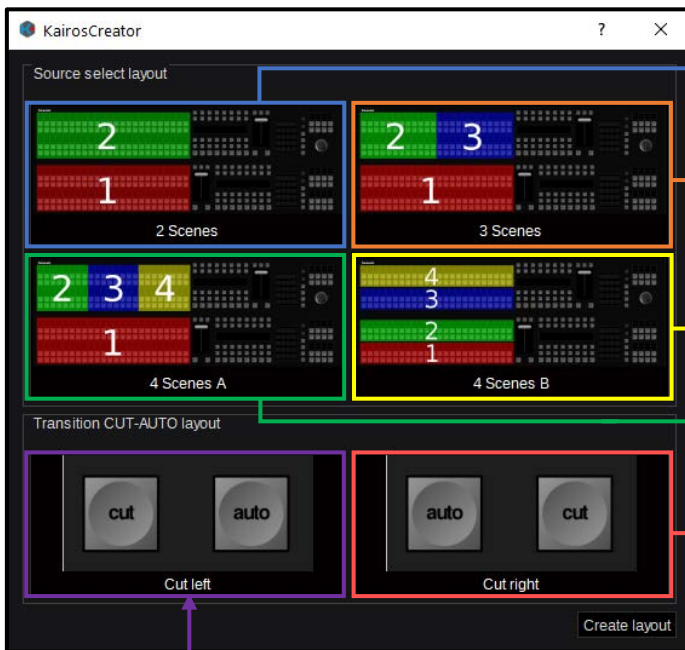


Picture 4.3.2



Picture 4.3.1

To create a “New Layout,” use the right mouse-click context menu on one of the Profiles 1-8 and confirm “New Layout...” Or use the “New Layout...” button in “Parameter View” section underneath “Layout Settings.” After selecting “New Layout...,” the Layout Wizard dialog will open for selection:



Picture 4.3.2

2-Scene layout with 1 = Main & 2 = ME1. At the bottom, the preferred location of the main “Cut” & “Auto” transition button can be selected.

3-Scene layout with upper CP-ME divided into 2 halves. 1 = Main, 2 = ME1 & 3 = ME2. Preferred “Cut” & “Auto” location—like described above.

4-Scene layout. Every A/B bus pair refers to a single Scene. 1 = Main, 2 = ME1, 3 = ME2, & 4 = ME3. Preferred “Cut” & “Auto” position—like described above.

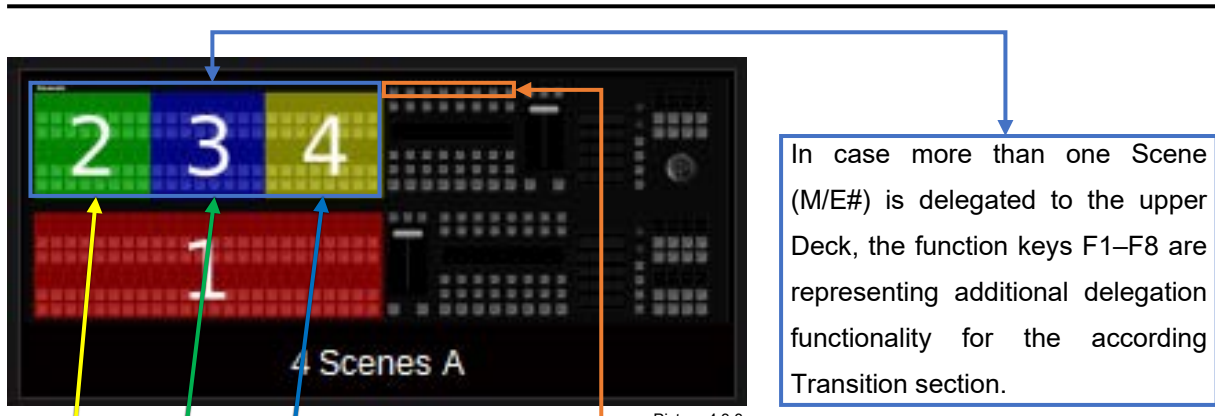
4-Scene layout with upper CP-ME divided into 3 parts. 1 = Main, 2 = ME1, 3 = ME2, & 4 = ME3. Preferred “Cut” & “Auto” location—like described above.

When selecting “Cut left,” the “Cut” transition function is defaulting to the left button beneath both lever/fader arms (upper & lower deck). Therefore, the “Auto” transition function will be located to the right button position.

When selecting “Cut right,” the “Cut” transition function is defaulting to the right button beneath both lever/fader arms (upper & lower deck). Therefore, the “Auto” transition function will be located to the left button position.

Note: Keep in mind that changing the “Cut” & “Auto” button position also requires to change physically (for accuracy reasons) the hardware Control Panel button labels according to the Wizard selection.

Note: The described layout settings are using the names “Main,” “ME1,” “ME2,” & “ME3” only as placeholders for any given Scene names. For that reason, the order and location of the delegated Scenes is obsolete compared to a generic M/E# type of a video switcher. Also, the colors used for identification/separation are selected randomly and are not representing the Scene (M/E#) colors used within a user-defined production.



Picture 4.3.3

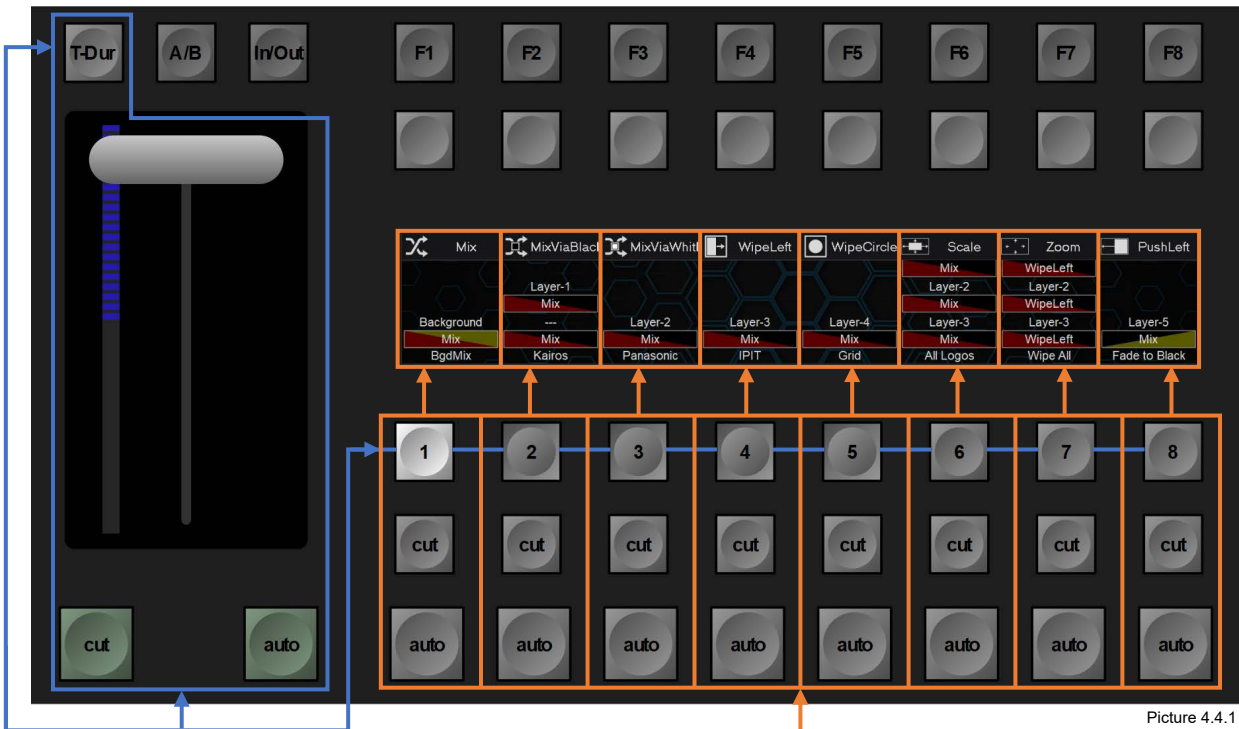


Picture 4.3.4

F1, F2, & F3 are representing the Scene (M/E#) mapped into the upper Deck. Selecting any of the F1, F2, or F3 keys manually will force the delegated Scene to be reflected and controlled by the upper Transition section. The “F8” button is representing an “Auto Delegation Mode.” When the “F8” button is lit, the “Auto Delegation Mode” is enabled, and any “cross-point action” within the mapped Scenes (M/E#’s) will auto-delegate and highlight the according F1, F2, or F3 key together with the belonging Transition section.

Note: This functionality can also be combined with “Smart Delegation” described in section 4.2.1 Smart Delegation on page 86 when using the example “3 Scenes” or “4 Scenes A” (Picture 4.3.2 on previous page).

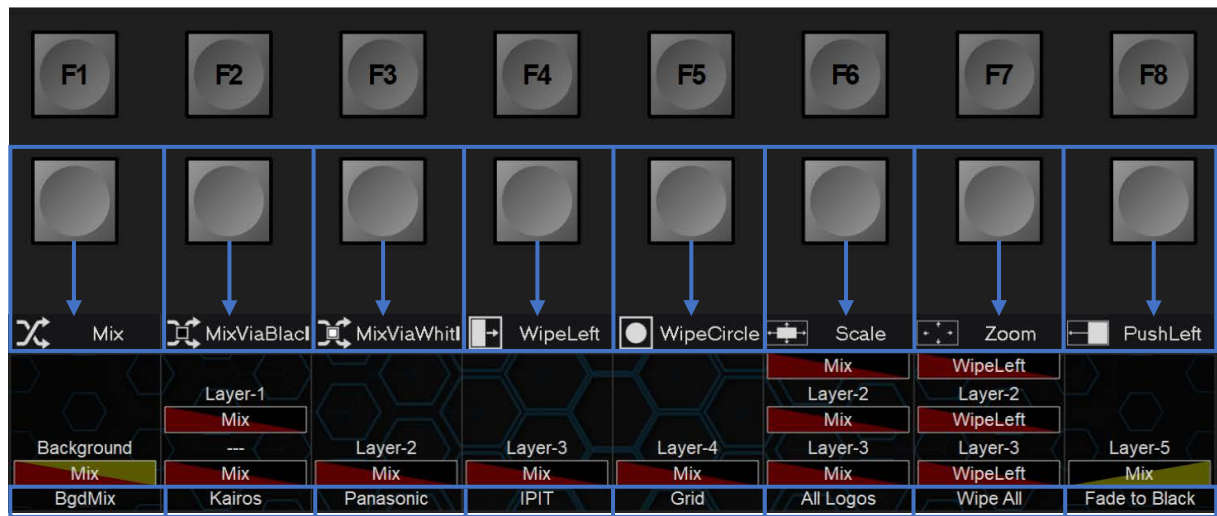
4.4 Transition Section



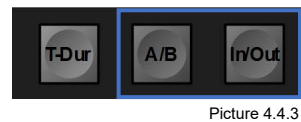
Picture 4.4.1

There is a dedicated pair of “Cut” & “Auto” buttons per Transition, each with their individual applicable “Transition Duration” rate. When press & hold one of the buttons labeled “1-8” right above the “Cut” & “Auto” pairs of buttons, the lower numeric keypad will be auto-delegated in order to enter a transition duration rate in frames, or to cancel the dialog.

Fader- (Lever-) arm with “Cut” & “Auto” function buttons in default position underneath (“Cut” = Left, “Auto” = Right).
 Transition delegation buttons 1–8, in order to define the next Transition executed with Fader, “Cut” or “Auto.” Multiple selections for next Transition elements are also applicable by pressing multiple delegation buttons at once or press & hold a delegation and add or subtract other delegations.
 “T-Dur” button in order to apply Transition duration rate for the “Auto” transition (Main) button beneath Fader- (Lever-) arm.



Picture 4.4.2



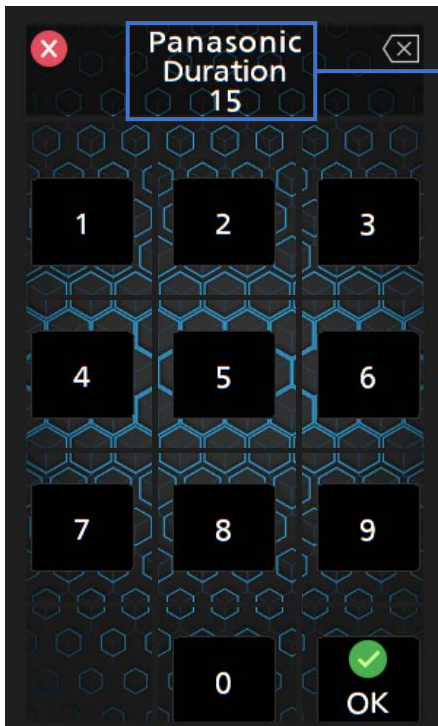
Picture 4.4.3

Right above the Transition display, a row of buttons is located, which are used to temporarily overwrite a user-defined Transition displayed in the bottom row (Picture 4.4.2). Together with the enabled buttons “A/B” or “In/Out,” one of the above-listed Transitions can be used instead and need to be executed with the main “Auto” transition button or the designated Lever/Fader arm. However, pressing one of the dedicated “Auto” buttons (Picture 4.4.1) will always execute the transition originally programmed.

Note: Selecting multiple “Next Transition” buttons 1–8 will also affect the LAH-Scene Preview output, displayed on Multiviewer or Aux-Output. LAH = Look Ahead Preview.



Picture 4.4.4



Picture 4.4.6



Picture 4.4.5

When pressing the “T-Dur” button next to one of the Lever/Fader arm locations in order to enter a Transition Duration rate (in Frames), the “Numeric Keypad” section of the lower Control Panel Deck-1 will be delegated. Or use the lower Digipot next to the Numeric Keypad of Deck-1 to enter value.

- = Confirm & close dialog
- = Backspace for entry corrections
- = 1. press confirmation; 2. press closing dialog



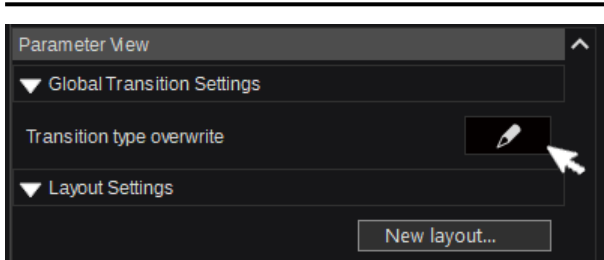
Picture 4.4.7

Press & hold one of the “Next Transition” selection buttons (1–8) in Transition section of Deck-1 or Deck-2, in order to enter a Transition Duration rate (in Frames), and the “Numeric Keypad” section of the lower Control Panel Deck-1 will be delegated. Or use the lower Digipot next to the Numeric Keypad of Deck-1 to enter value.

The Displays are showing the actual Layer-Name with actual Transition Duration rate.

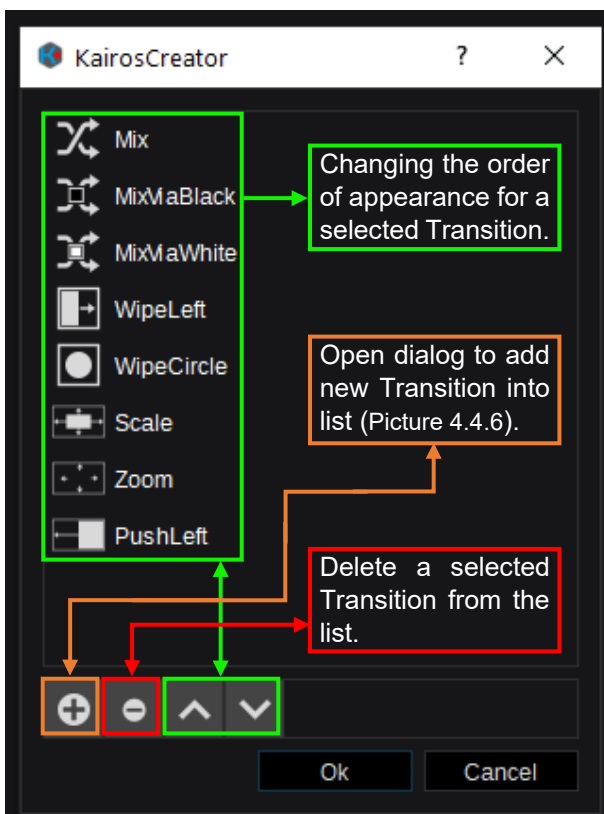
Note: When start modifying a Transition Duration frame rate, the displayed button turns into an button to confirm the new entered frame rate, (allowing multiple duration changes and try-outs), before closing the dialog with the final , or cancel dialog.

See more details regarding the numeric keypad in section “4.6 Numeric Keypad Section “Menu””: starting on page 97.



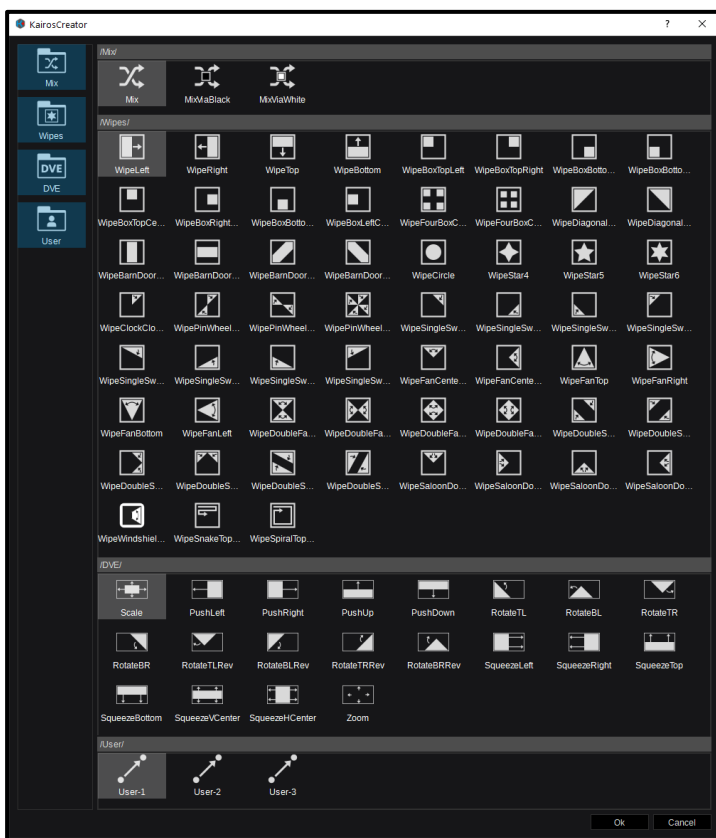
Picture 4.4.8

In order to modify/edit the available Transition types (Picture 4.4.2) used for temporary overwrite by default, left mouse-click the function “Transition type overwrite” on a selected “Profile” & “Deck” in Kairos Creator GUI in Mixer > Panel tab menu, located top right under “Parameter View.”



Picture 4.4.9

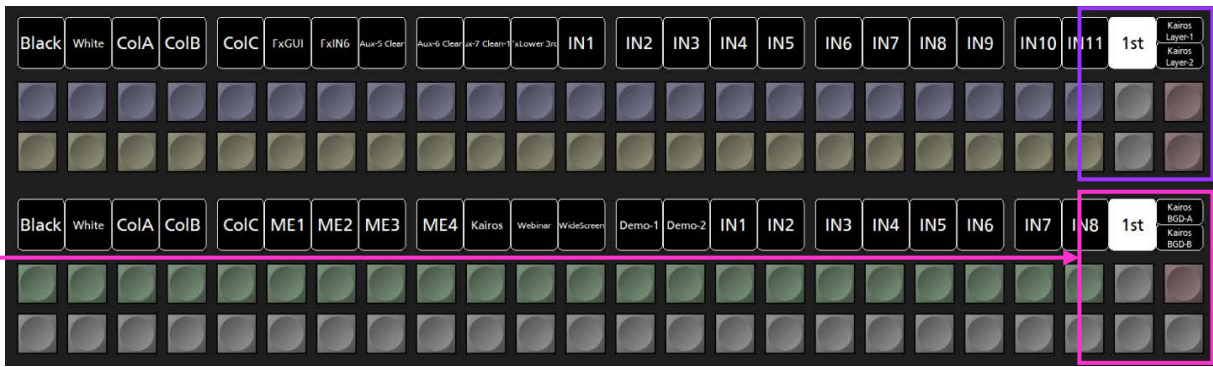
When opening the “Transition type overwrite” dialog, a default of 8 different Transition types is listed. The list can contain more entries, but only the first 8 will be displayed in according Transition display. Please see Picture 4.4.9 for more operational instructions.



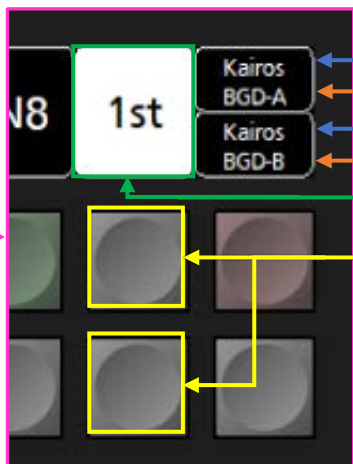
Picture 4.4.10

Note: This selection of all available transitions has been graphically composited and is not available as an actual GUI menu. However, all Transition types are available for “In/Out Effects” as well as “A/B Effects.” The selected “Category” for “User” at the bottom of “Picture 4.4.10” is User-definable and can be renamed. So, more effects can be created and added to the list or unwanted effects can be removed.

4.5 Control Panel Crossbar Section:



Picture 4.2.20



Picture 4.2.21

Name of delegated Scene

Delegated Scene Layer

Shift buttons per Layer

Shift level display

Note: Kairos will automatically create as many "Shift"-levels as required in order to represent all assigned cross-points.



Picture 4.2.22

Press & hold "Delegation" button in top row:



Picture 4.2.23

Available Layers and Buses in Scene "Kairos"

Bus delegation on "Layer-1" in top row.

Press & hold "Delegation" button in 2nd row:



Picture 4.2.24

Bus delegation on "Layer-2" in 2nd row.

Press & hold "Delegation" button in 3rd row:



Picture 4.2.25

Bus delegation on "BGD-A" in 3rd row.

Press & hold "Delegation" button in bottom row:



Picture 4.2.26

Bus delegation on "BGD-B" in bottom row.

Note: After press & hold any of the "Delegation" buttons, Kairos Control Panel allows to change the actual delegation of the selected Bus to any other listed Layer, such as "BGD-A," "BGD-B," "Layer-1," "Layer-2," etc. (default Layer names) or designated Scene- "Macros."

Press & hold "Delegation" button in top row and select "Deleg":



Picture 4.2.27

All available Bus delegations.

"Layer-1" is the actual delegation on this Bus.

Note: After selecting **Deleg** all button press & hold actions can be released.

After selecting “Deleg” (see last page Picture 4.2.27):



Picture 4.2.28

All Scenes in listed order created in “Source Options” (see 3.2.2 Source Options).

“Kairos” is the actual delegated Scene for this Deck.

Note: The content of Scene Directories within the “Source Options” list will be automatically unpacked when displayed on the Control Panel. In this case, the “Templates” folder (see Picture 4.2.19) is containing the Scenes: 2Box, 4Box, OTS Left, OTS Right, Title, and Sidecar.

Press & hold “Delegation” button in top row and select “Split”:

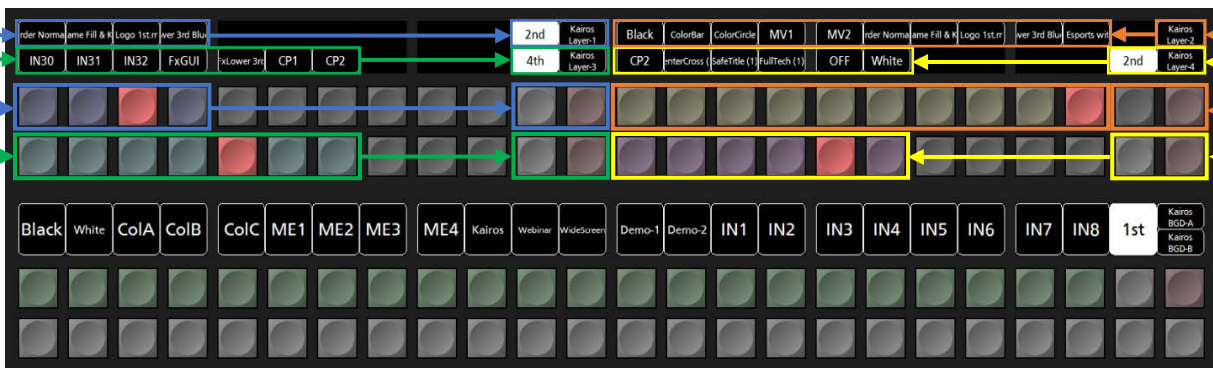


Picture 4.2.27

All available delegations.

“Layer-1” is the actual delegation for this Bus.

Note: “Split” operation allows to separate every Bus individually into 2 halves. So instead of controlling only one single Layer per Bus, 2 delegations per Bus are applicable.



Picture 4.2.29

Source displays	Shift	Delegation
Cross-points buttons	Shift	Delegation

Status upper left “Split” segment:
Scene = Kairos, Layer-1 delegated, 2nd Shift level, selected source = “Logo 1st.r”

Source displays	Shift	Delegation
Cross-points buttons	Shift	Delegation

Status upper right “Split” segment:
Scene = Kairos, Layer-2 delegated, Unshifted, selected source = “Esports with Alpha”

Status lower left “Split” segment:
Scene = Kairos, Layer-3 delegated, 4th Shift level, selected source = “FxLower 3rd”

Status lower right “Split” segment:
Scene = Kairos, Layer-4 delegated, 2nd Shift level, selected source = “Off”

4.6 Numeric Keypad Section “Menu”:



Picture 4.6.1

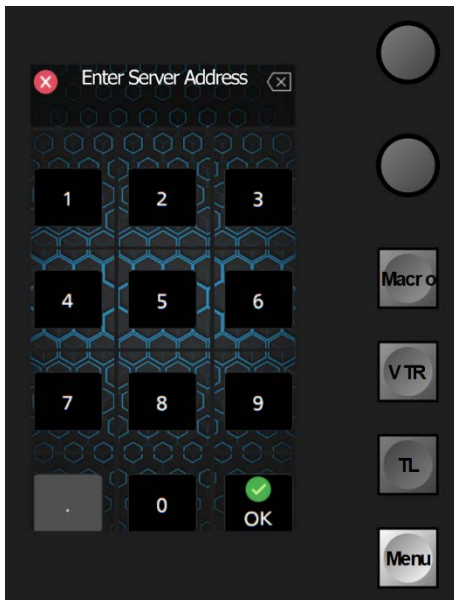
After powering up the Kairos Core and Control Panel, an IP-address needs to be entered in order to establish a network connection in between.

The delegation of the “Numeric Keypad” sections in upper and lower Deck are set to “Menu” delegation.

Once a connection is established, the system will remember the IP-address and auto-connect after reboot.

To establish an initial connection, press the “Connect” button in the upper or lower “Numeric Keypad” sections.


Note: Only the lower “Numeric Keypad” (Deck-1) will show the connected Kairos Core server address permanently in the main “Menu” dialog (Picture 4.6.1).




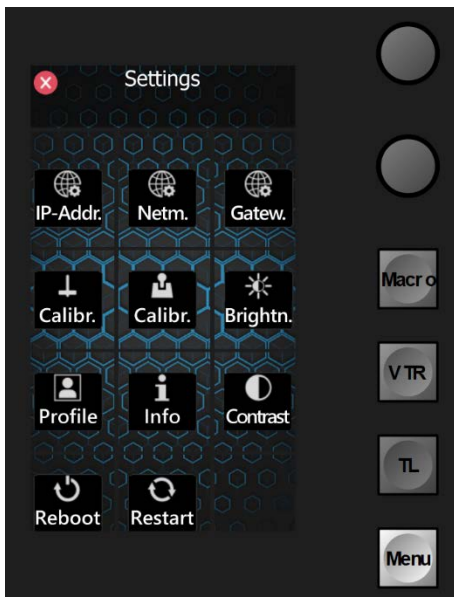
Picture 4.6.2

After pressing the “Connect” button in main “Menu” dialog of upper or lower Decks “Numeric Keypad” section (Picture 4.6.1), the upcoming dialog allows to enter an IP-address for a Kairos Core server in order to connect with the Control Panel (Picture 4.6.2).

Use the “Backspace”  button as needed.











Use the “Cancel”  button to abort the dialog.

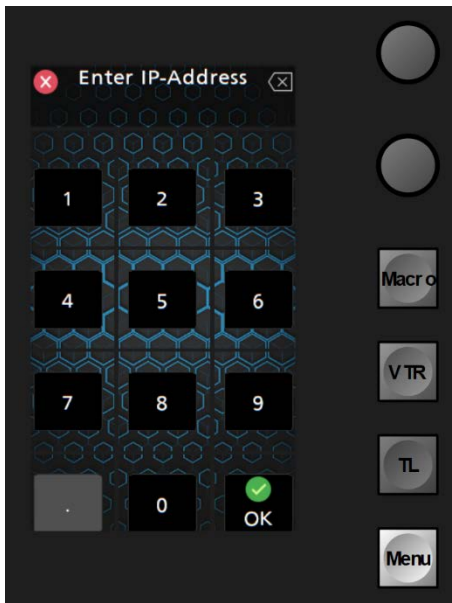
Use the  button to confirm and close the entry.



Picture 4.6.3

Pressing the “Setup” button in main “Menu” dialog of upper or lower Decks “Numeric Keypad” section (Picture 4.6.1), all relevant local “Settings” for this Control Panel can be monitored, accessed, and/or modified (Picture 4.6.3).

-  IP-Addr. = IP-Address setting for Control Panel
-  Netm. = Netmask setting for Control Panel
-  Gatew. = Gateway address setting for Control Panel
-  Calibr. = Fader Calibration dialog
-  Calibr. = Joystick Calibration dialog
-  Brightn. = Brightness adjustment (button backlight intensity)
-  Profile = Profile selection Control Panel 1–8
-  Info = Information Software Version (Read only)
-  Reboot = Reboot Control Panel
-  Restart = Restart Control Panel Application Software




Picture 4.6.4




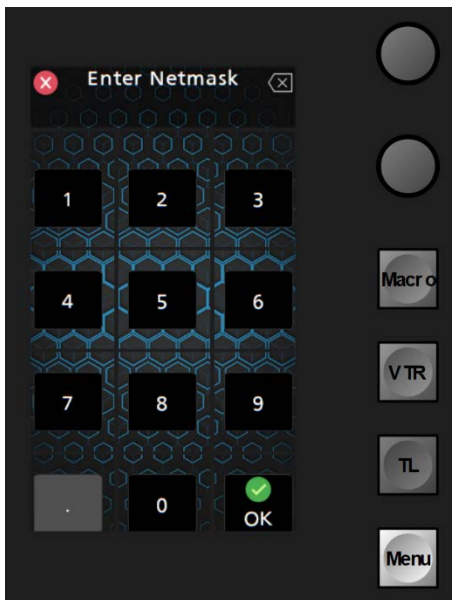
= IP-Address setting for Control Panel

Allows to set the Control Panel IP-Address.

Use the "Backspace"  button as needed.

Use the "Cancel"  button to abort the dialog.

Use the  button to confirm and close the entry.




Picture 4.6.5




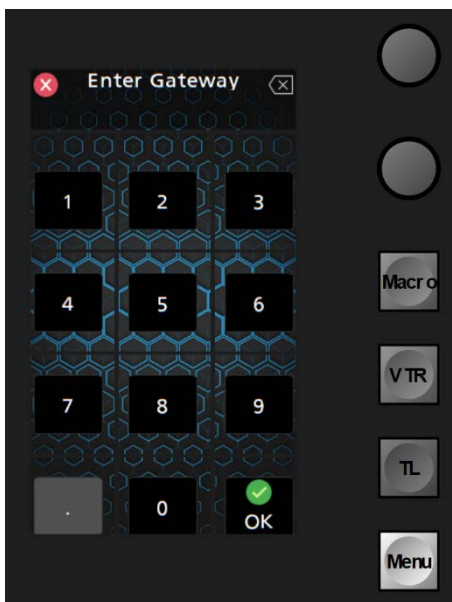
= Netmask setting for Control Panel

Allows to set the Control Panel Netmask.

Use the "Backspace"  button as needed.

Use the "Cancel"  button to abort the dialog.

Use the  button to confirm and close the entry.



Picture 4.6.6




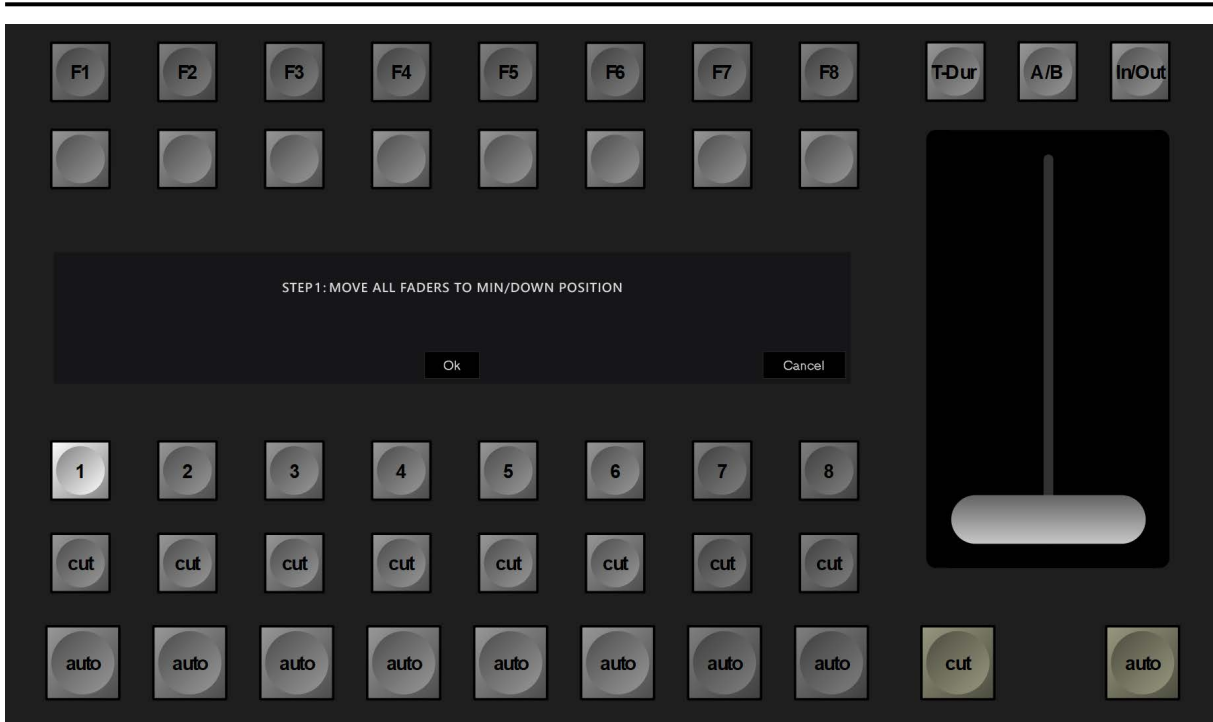
= Gateway address setting for Control Panel

Allows to set the Control Panel Gateway address.

Use the "Backspace"  button as needed.

Use the "Cancel"  button to abort the dialog.

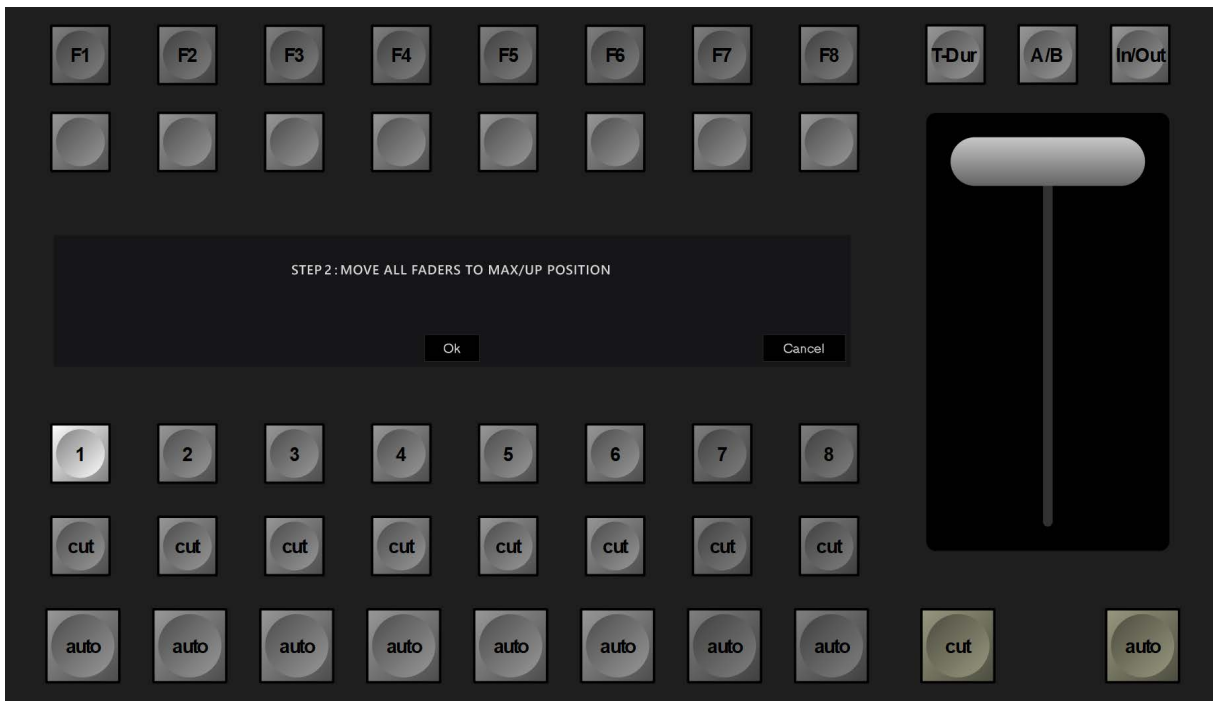
Use the  button to confirm and close the entry.



Picture 4.6.7

 = Fader Calibration dialog

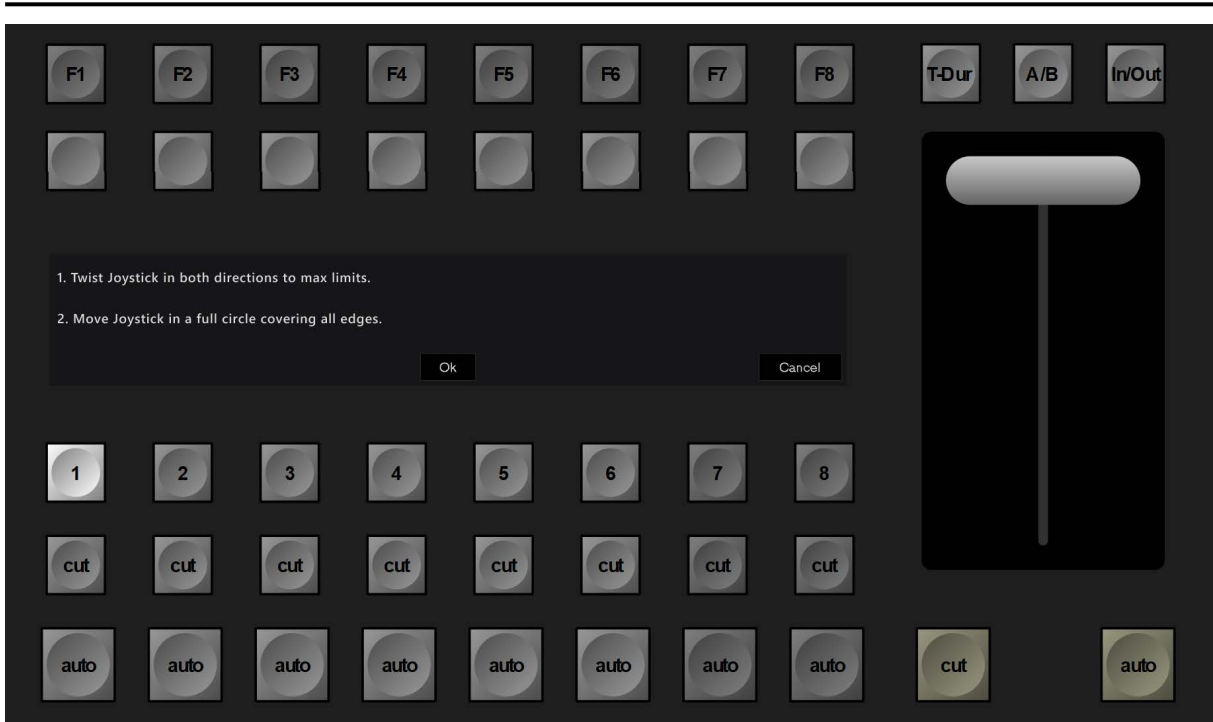
Follow instructions displayed in upper Transition section.
 “STEP 1: MOVE ALL FADERS TO MIN/DOWN POSITION”
 Press “OK” to continue or “Cancel” to abort.




Picture 4.6.8

 = Fader Calibration dialog

Follow instructions displayed in upper Transition section.
 “STEP 2: MOVE ALL FADERS TO MAX/UP POSITION”
 Press “OK” to confirm and finish or “Cancel” to abort.



Picture 4.6.9

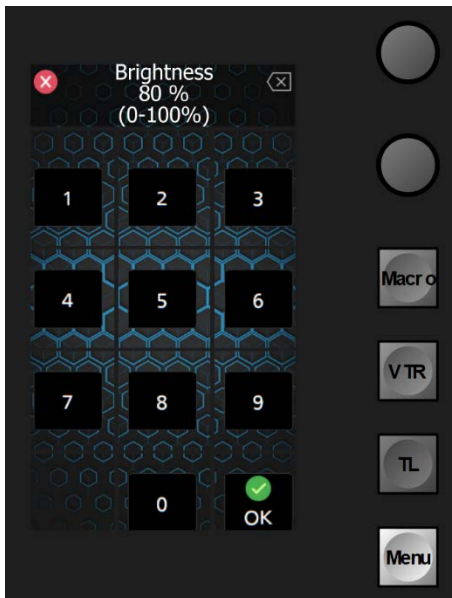
 = Joystick Calibration dialog

Follow instructions displayed in upper Transition section.


“1. Rotate Z axis in Clockwise and Counterclockwise direction to Max Limits.”

“2. Rotate Joystick Clockwise and Counterclockwise in a full circle 2–3 times to be sure.”

Press “OK” to confirm or “Cancel” to abort.



Picture 4.6.10


 = Brightness control

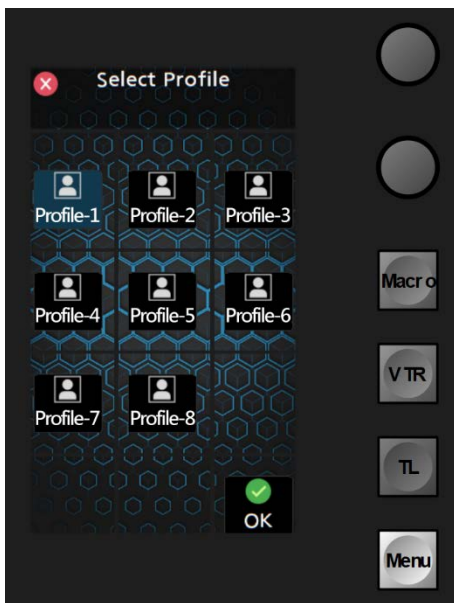
Brightness adjustment (button backlight intensity)

Use Numeric Keypad or lower Digipot to enter the value.


Use the “Backspace”  button as needed.

Use the “Cancel”  button to abort the dialog.


Use the  button to confirm and close the entry.





Picture 4.6.11

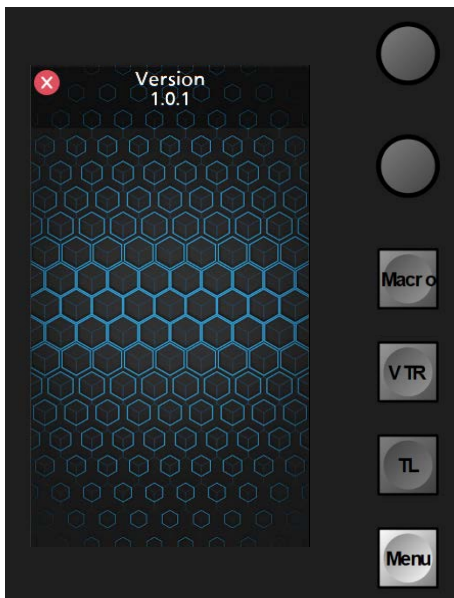
 = Profile selection Control Panel 1–8

Use button 1–8 in order to recall the designated Panel Profile (see section 4.3 “New Layout” wizard).


Use the “Cancel”  button to abort the dialog.

Use the   button to confirm and close the entry.


Note: If Profile setting is changed in the Kairos Creator, please reselect Profile-# on the Control Panel.

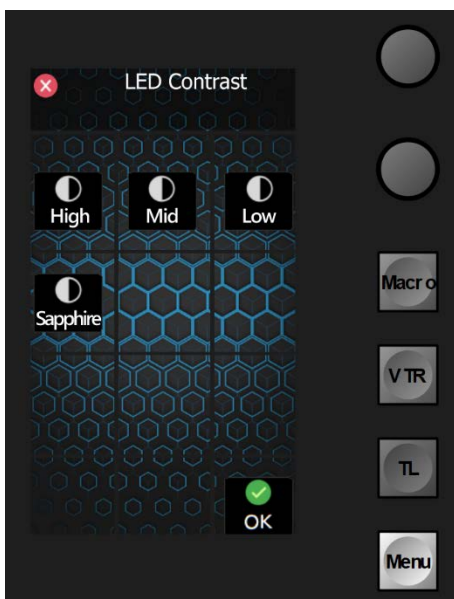


Picture 4.6.12

 = Info regarding Software Version

Information regarding installed software version. This is a read-only information.

Use the “Cancel”  button to abort the dialog.





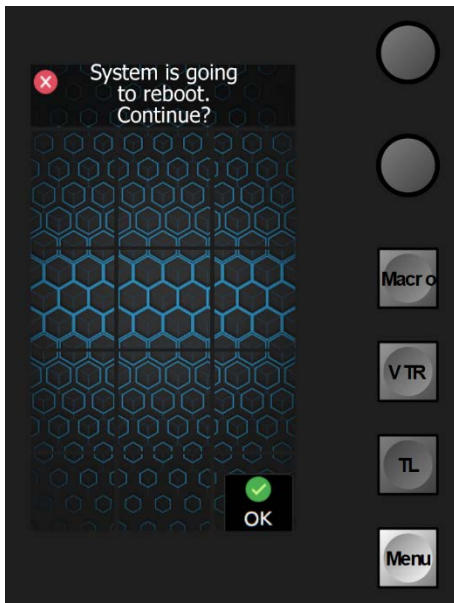
 = High/Low LED button Contrast

Use the buttons “High,” “Mid,” or “Low” in order to select the preferred contrast setting.

When selecting “Sapphire” mode, the Kairos Control Panel will disable all button colors, except “Tally On-Air” indication, and turns selection buttons into “Sapphire” (blue) color tone.

Use the “Cancel”  button to abort the dialog.


Use the   button to confirm and close the entry.




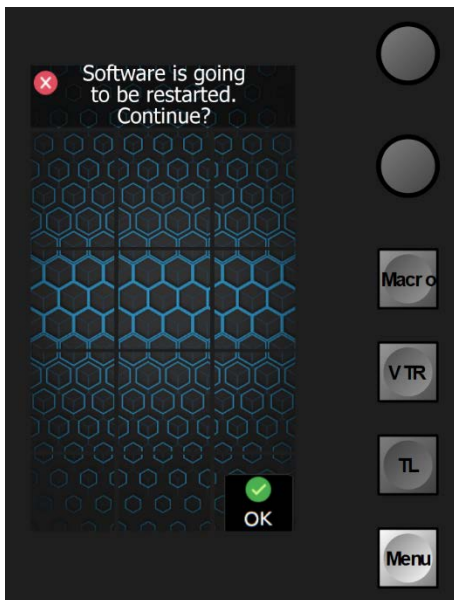
Picture 4.6.13

 = Reboot Control Panel


Note: This will cause a full reboot of the Control Panel, including Operating System and Application Software, similar to a power cycle.

Use the “Cancel”  button to abort the dialog.

Use the  button to confirm and close the entry.




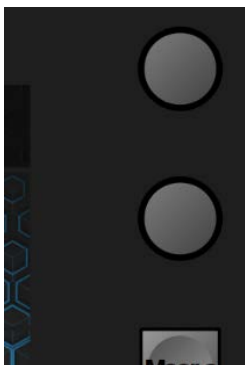
Picture 4.6.14

 = Restart Control Panel

Note: This will cause a restart of the Control Panel Application Software only.

Use the “Cancel”  button to abort the dialog.

Use the  button to confirm and close the entry.

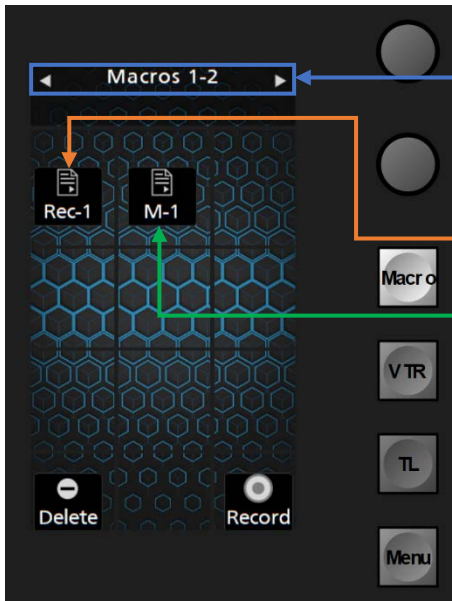


Picture 4.6.15

The 2 Digipots located above the Numeric Keypad delegation buttons can be used for mainly 2 things:

- the lower Digipot—in the upper as well as in the lower Deck—can adjust Transition Duration times, once delegated by according function. When delegated by one of the Main “T-DUR” buttons located right above the Fader arms, the upper Digipot does not provide any functionality (yet!).
- the upper Digipot—in the upper as well as in the lower Deck—once delegated by according “Next Transition” delegation 1–8, can adjust Transition attributes such as “Norm, Reverse, or Norm/Reverse” run directions for DVE or Wipe transitions, if assigned for designated “Next Transition” delegation.

4.6.1 Macros



Picture 4.6.1.1

When Numeric Keypad section is delegated to “Macro,” various operations can be executed such as Recall, Record, Insert Pause, select Bank, and Delete.

Note: Panel-Macros belong to their Panel-Profile (1–8).

◀ Previous Bank || Macros 1-2 (Bank1-2 Macros) || Next Bank ▶



Rec-1 = Macro recorded via Control Panel “Record” function.



M-1 = Macro recorded via Kairos Creator GUI Menu.



Record = Record new Control Panel Macro.



Delete = Delete Control Panel Macro.



Picture 4.6.1.2

When pressing the “Record” button, the Numeric Keypad display turns into an “Insert Delay” keypad with multiple different default selections in numbered in Frames: 1, 3, 5, 10, 30, 50, 100, 300, & 500.

Note: The listed delay times can also be pressed multiple times to result in a specific time.

So, for example, the requested “Delay” time is 46 Frames: Press 30 + 10 + 3 + 3 = 46, or any other comparable/reasonable combination.

Press “Record” again to stop recording.



Picture 4.6.1.3

Once recording is stopped, the display shows the Macro recall page with an added new “Panel Macro.”



Rec-2 = Added new “Panel Macro” with default name.

Note: Kairos Creator GUI can be used for renaming Macros and sort the list of appearance. Also Cut, Copy, and Paste functionality is supported by Kairos Creator GUI across all available Macro locations & destinations.

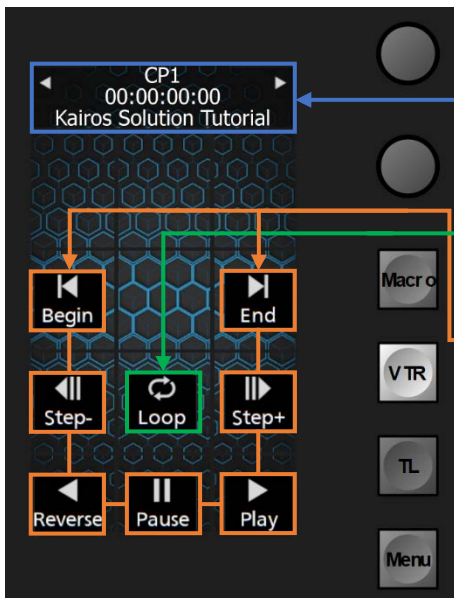


Picture 4.6.1.4

To “Delete” a Control Panel Macro, press and hold the “Delete” button in the lower left corner of the numeric Keypad section (when delegated to “Macro”) and click on the Macro, which needs to be deleted. This is executed instantly with no further safety request.

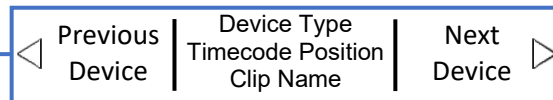
Note: Press and hold the “Delete” button allows multiple Macros to be selected in a row, which will be instantly removed after selection.

4.6.2 VTR



Picture 4.6.2.1

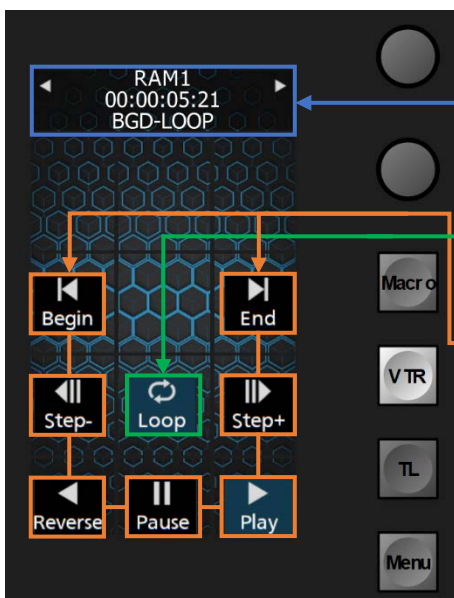
When Numeric Keypad section is delegated to “VTR,” all internal and external VTR/Server type of devices can be controlled. Using the arrows “Left” & “Right” to cycle through all available device list.



Selected device is Clip Player Channel-1.

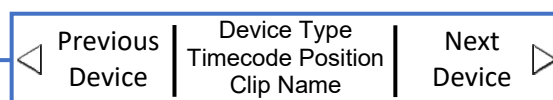
TMC = Tape Motion Commands (Stopped after Clip load)

Loop = Loop Mode On/Off (Off)



Picture 4.6.2.2

When Numeric Keypad section is delegated to “VTR,” all internal and external VTR/Server type of devices can be controlled. Using the arrows “Left” & “Right” to cycle through all available device list.



Selected device is Ram Recorder Channel-1.

TMC = Tape Motion Commands (Play with Loop On)

Loop = Loop Mode On/Off (On)

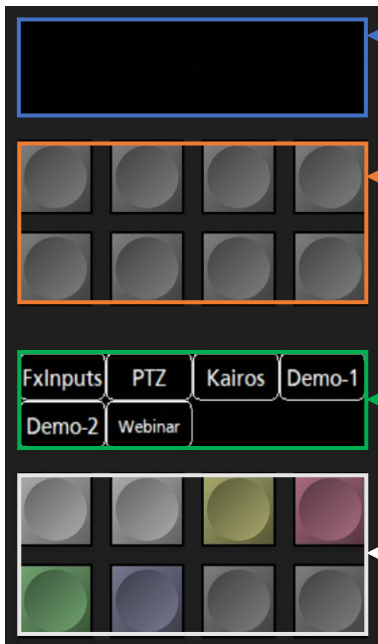
4.6.3 TL

Not implemented yet.

4.7 Joystick Delegation:

The programmable section in the lower right corner of the Kairos Control Panel can be used for various controls, such as delegating controls toward the above-located Joystick, that is, FX-Inputs, PTZ-Presets, Scenes (M/E#s), Layers, etc.

The default layout is working in upstream direction toward the Joystick section, in order to delegate the appropriate controls.



Picture 4.7.1

Display for selected item.

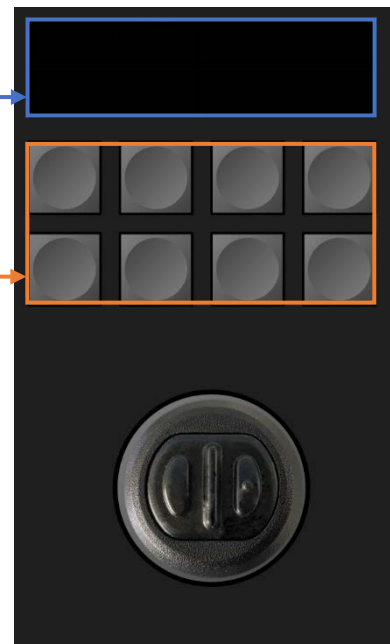
Joystick delegation.

Sub-selection for selected item (FxInputs, PTZ, Scenes, etc.).

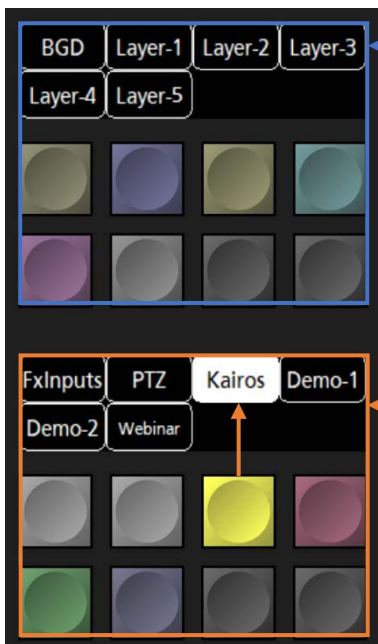
Selectable Joystick controls.

Selectable items for Joystick delegation (e.g., FxInputs, PTZ, Scenes, etc.).

Selection buttons for the above-listed items.
Note: If more than 8 items are available, the last button in the lower right corner turns into "Shift" functionality.



Picture 4.7.2



Picture 4.7.3

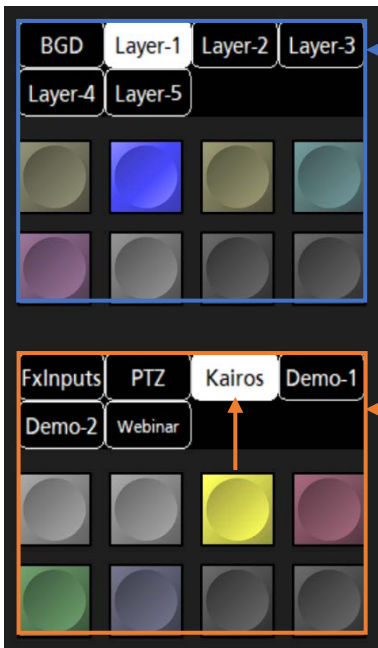
Selectable Layers within Scene "Kairos" for Joystick delegation.

Joystick delegation remains empty until Layer with enabled Transforms gets selected.

Scene "Kairos" is selected and highlighted in Joystick delegation section.



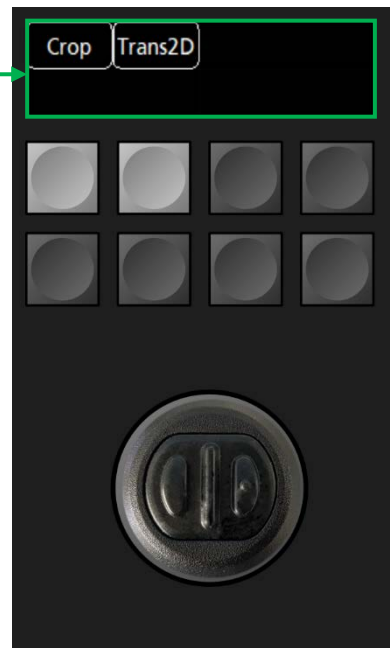
Picture 4.7.4



Picture 4.7.5

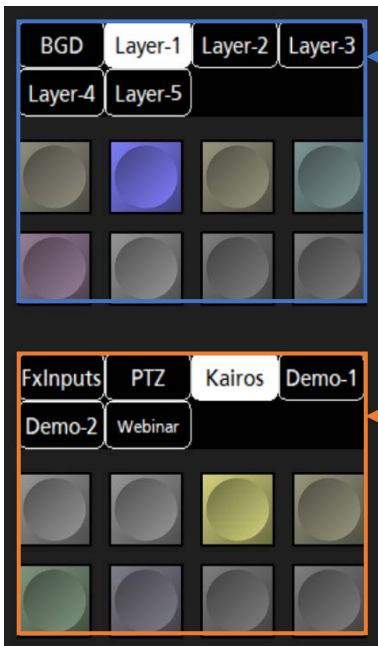
“Layer-1” in Scene “Kairos” is selected and highlighted in Joystick delegation

Joystick delegation shows available Transforms for “Layer-1” (Crop & Trans2D).



Picture 4.7.6

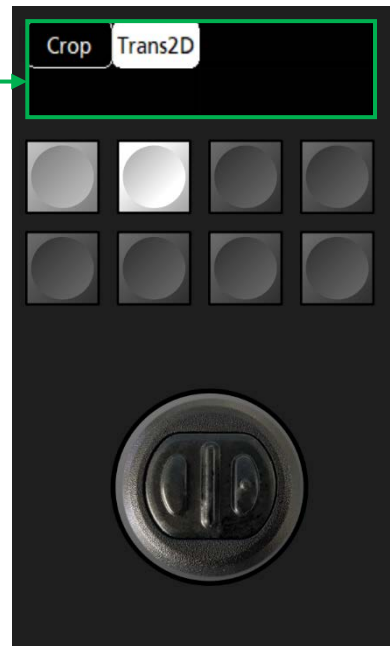
Scene “Kairos” is selected and highlighted in Joystick delegation section.



Picture 4.7.7

“Layer-1” in Scene “Kairos” is selected and highlighted in Joystick delegation

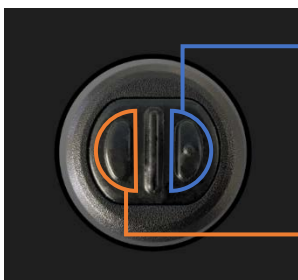
Delegation enabled for “Layer-1”—“Trans2D” Joystick controls.



Picture 4.7.8

Scene “Kairos” is selected and highlighted in Joystick delegation section.

Note: Kairos will remember the last delegated Joystick control per selected Layer. To disable Joystick control, deselect the Transform control (Crop, Trans2D, etc.), the selected Layer or the entire main selection for “FxInputs,” “PTZ,” “Scene,” etc.



Picture 4.7.9

The right Joystick button acts like an acceleration button for all Joystick control axis and assigned function, such as Transform2D, Crop, etc.

No function implemented yet on the left Joystick button. For future SW-Release, a “Clear to Default” function for selected control (such as Transform2D, Crop, etc.) is under investigation.

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