PRIME Switcher
Quick Start User Guide

Version 5.0

November 2024

SINCE DAY ONE.

Chyron PRIME Switcher Quick Start User Guide • 5.0 • November 2024 • This document is distributed by Chyron in online (electronic) form only, and is not available for purchase in printed form.

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Description

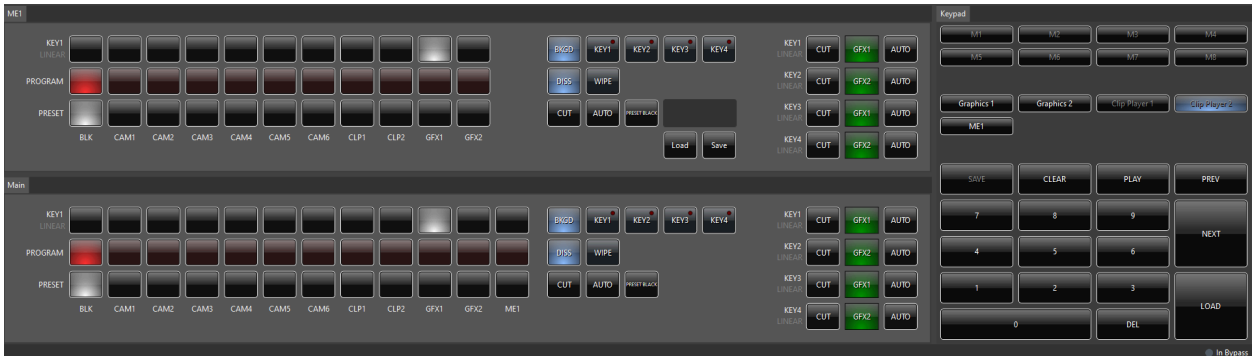
The PRIME Switcher is a fully software based switcher that can switch a variety of source types. The PRIME Switcher is an add-on to the Main PRIME application and supports all PRIME features and functions.

The PRIME Switcher is based on the Chyron PRIME technology. Built into the Switcher are many of the main PRIME's functionality.

For these features please refer to the main "PRIME User Guide".

- Graphics Players
- Clip Players
- Browsers
- Keyboard shortcuts
- Layouts
- Projects
- Automation
- Asset management
- Playlists
- And any other feature not described in this document

The PRIME Switcher main user interface



Switcher Basics

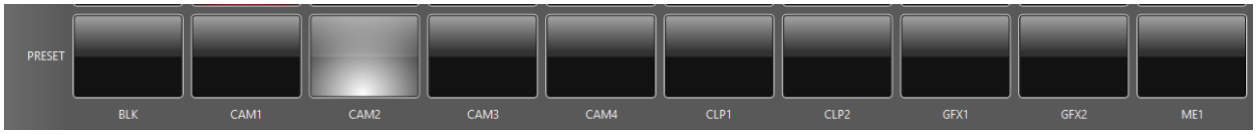
Video production switchers allow operators to switch between video sources, allowing for keying sources over other sources.

Switcher Bus

A bus is a row of buttons each representing a video source or graphic input.

Preset Bus

The Preset or Preview bus will show you what's about to go to air..



Program Bus

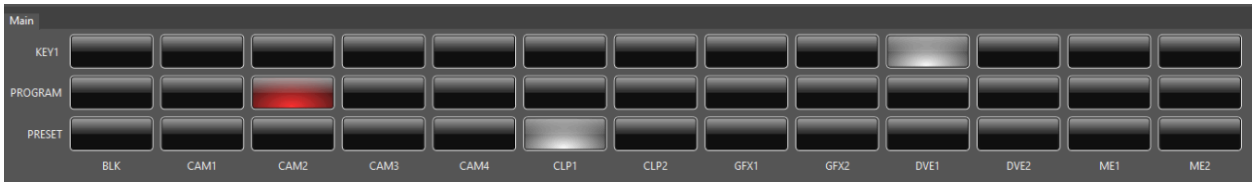
The program bus indicates what is selected and going to air.

Key Aux/delegation Bus

Allows for overlaying/compositing one source over another.

Switcher Bank

A Bank of switches consists of a Preset Bus, A Program Bus and a Key Aux Bus.

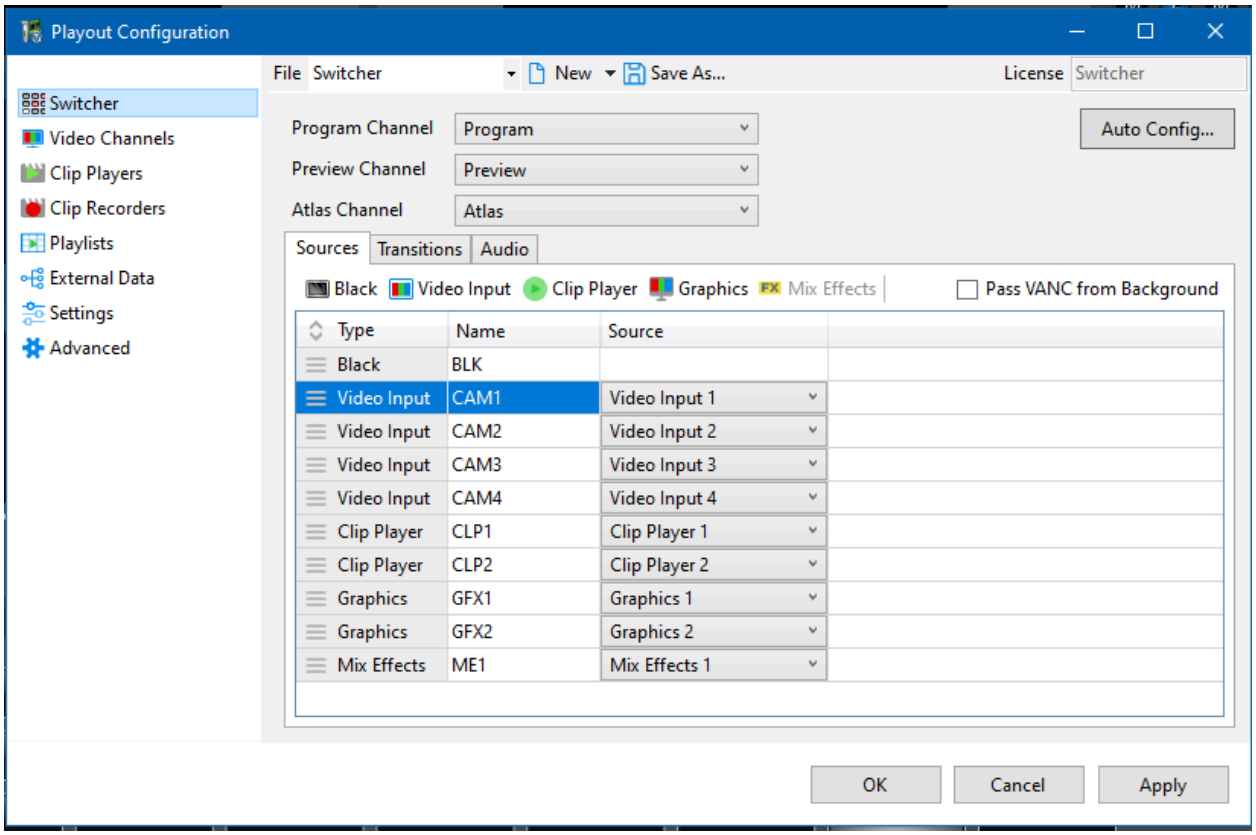


Mix Effects Bank

Allows additional bank to set up effects to be selected as a source on the Main bank

Switcher Channels

Sets the main channels to be used by the Switcher. These channel properties reference output channels that are configured in the Video Channels section



Program Channel

Specifies the main switcher output channel that displays the background program bus along with any enabled key buses

Preview Channel

Specifies the preview channel that displays upcoming output that will be displayed on program after a cut or transition is performed

Atlas Channel

Specifies the atlas channel to be used to output proxies of all of the main switcher channels, plus all of the configured source channels. Typically this channel is configured in the Video Channels section to output an H264 stream that can be used to monitor the inputs and outputs of the switcher. This stream can be played back in a web browser or streaming applications, including certain Chyron products.

Sources

Use this section to specify and order the sources to be available for each switcher bus.

Source Types

- Black
- Video Input
- Clip Player - Maximum 2 clip players
- Graphics - Maximum 2 graphics channels
- Mix effects- Maximum 1 additional ME bank

Input types

- SDI
- NDI
- IP2110-IP2020-6
- H264 (RTMP)
- HDR Inputs

Output types

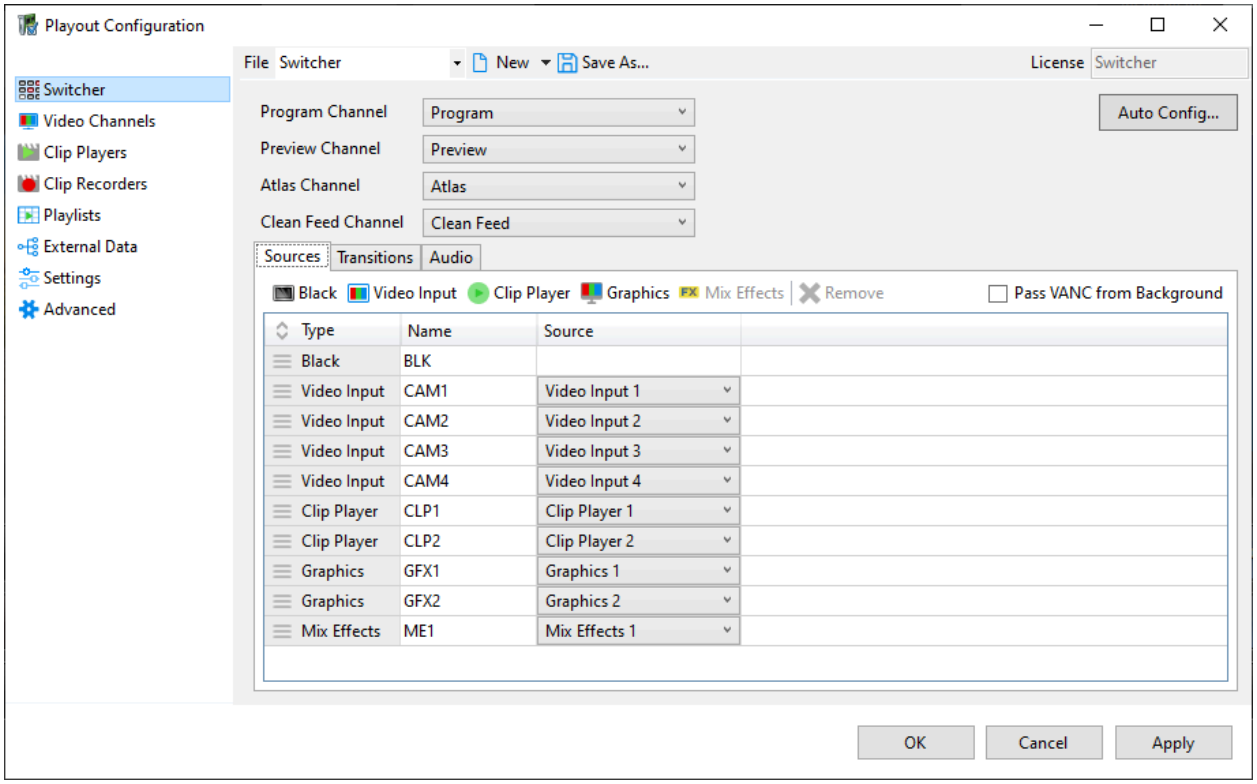
- SDI
- IP 2110-2020-6
- GPU
- 4K
- HDR outputs
- Clean feed

First time setup

Auto Config

It is highly recommended that users use the Auto Configuration!!

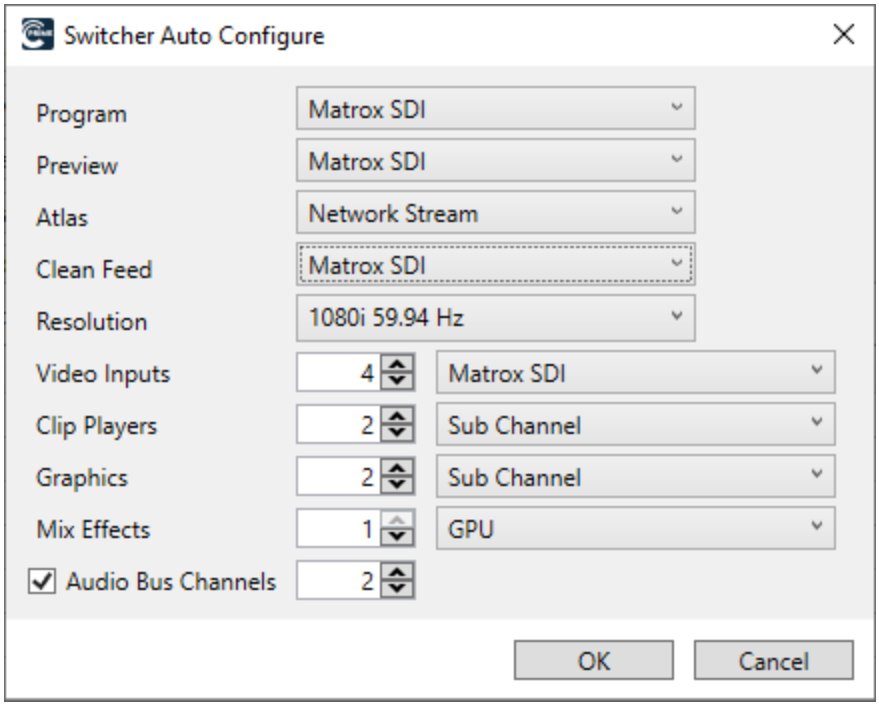
The Auto Config section will walk you through the setup of the PRIME Switcher.
Use the Switcher Auto Config section to configure the playout configuration to start with the appropriate amount of input and output channels including starting points for the device types. After using the Auto Config section, the Switcher config and Video Channels can be further tuned for the required configuration. To open the Auto Config section, click the Auto Config… button at the top of the Playout Configuration window.



For Program, Preview, Atlas and Clean Feed, choose the starting Device type for each output channel. Note: Clean Feed is optional and can be set to None.

For Resolution, choose the resolution to be set for each input and output channel. For Video Inputs, choose the number of input channels to be created, including device type.

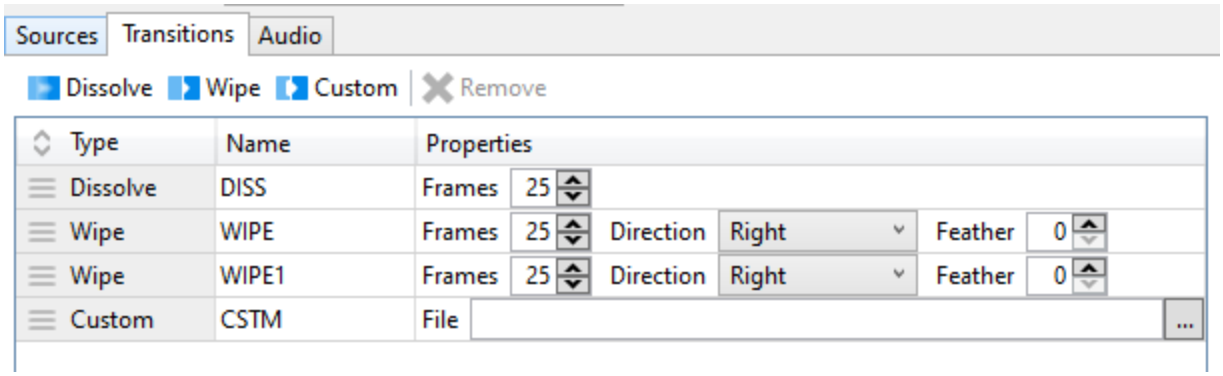
For Clip Players, Graphics and Mix Effects choose the number of output channels to be created, including device type. Note: if only an application proxy of the channel is required, then using the Sub Channel device type will give the best performance.



Transitions

Setup-Creating

Use the Transition configurator;



Dissolve

Performs a dissolve transition

Wipe

Performs a full screen hard or soft wipe in one of the fou directions, Left, Right, Up or Down.

Custom

Transitions can be created and saved in PRIME's Designer and then imported into the Switcher.

Cut

Cuts any preset transitions from preview to program

Auto

Transitions any selected sources based on the selected transition type, (ex: Dissolve).

Preset Black

Preset black is a special type of transition that allows a dissolve transition to fade the program source to black before fading up the preset source

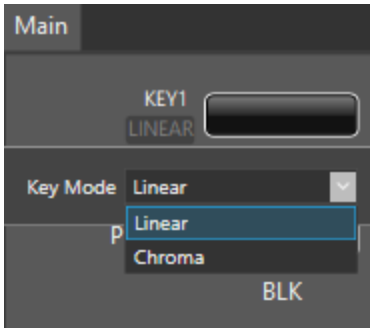
Transition selections can be:

Background

Flip flops the Program bus and the Preset bus

Keyers

Key Types

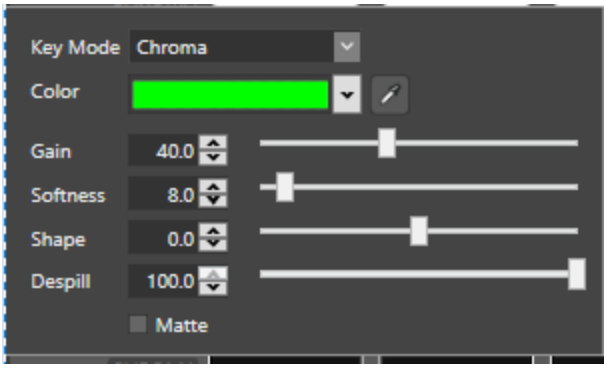


Auto Select Linear Key

Use the video and alpha source from the selected source.

Chroma Key

Removes the chromanance value from the selected source.



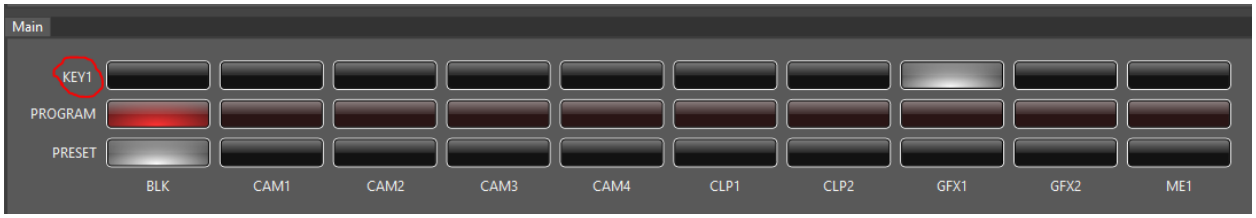
For best results use the Matte property to dial in the chroma key. Once set, uncheck the Matte property.

There are two ways to key sources

1. Key bus
2. Downstream key panel

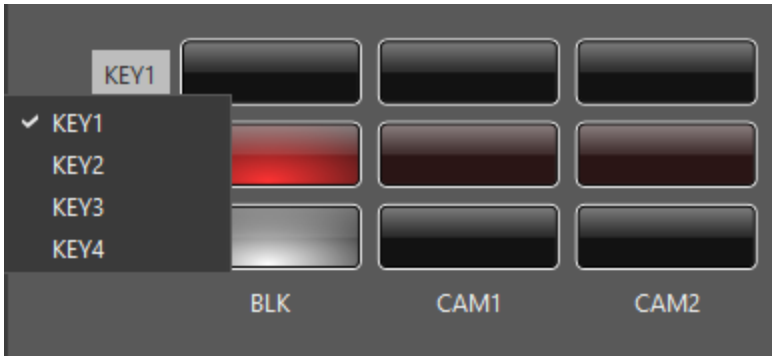
Key bus

The key bus allows keying any of the existing inputs plus graphics and clips



Each key bus has 4 keyers:

Key Priorities

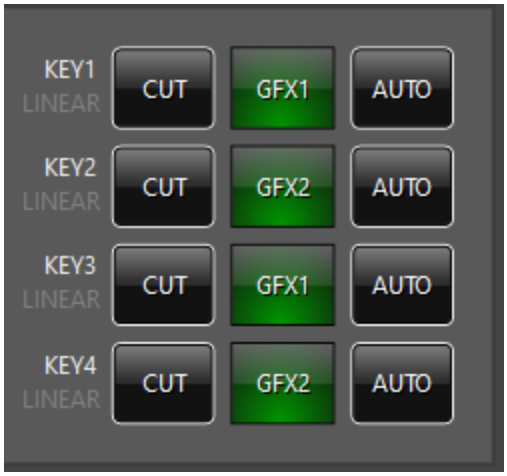


Key1 is top priority
Key 2 is behind Key 1
Key 3 is behind Key 2
Key 4 is behind Key 3

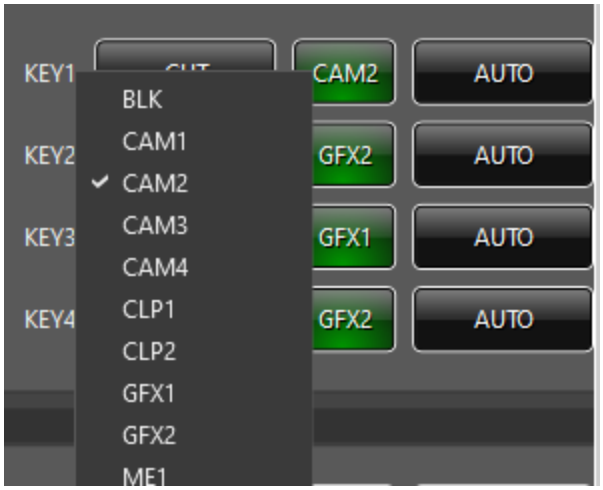
All keys sit on top of the program bus.

Downstream key panel

Each key bus source has a dedicated downstream panel to toggle the keyers on/off.



Clicking the middle green buttons allows key assignment



Clicking cut or auto will toggle the keyer on/off

Mix Effect Memory System

Store and recall memories (setups or configurations) within the ME bank.

Clean Feed Output

The Clean Feed is a separate and dedicated output that allows an output channel to be created. The clean feed output is only the source on the main program bus of the switcher. No key sources will be applied to the Clean Feed output.

Graphics Players

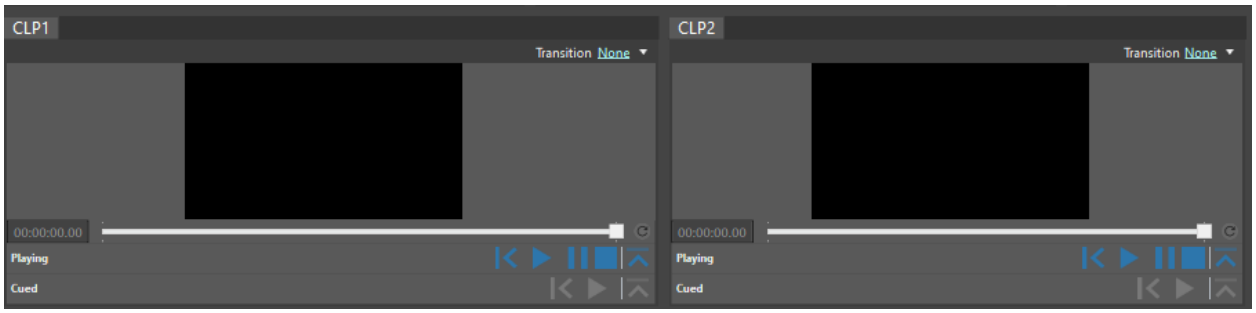
PRIME Switcher comes with two channels of graphics internally. Graphics can be controlled a few different ways:

- Drag and drop from the graphics/clips Asset Browser
- Using the graphic recall input box at the top of the Switcher UI. (See below)
- Another PRIME application. This can be an offline PRIME system
- A Chyron Panel. Can be requested by Chyron Professional services
- PRIME Commander application

These methods can be configured in the Switcher “Automation” section. Both clips and graphics can use “The Chyron Intelligent Interface” as the protocol. Clips supports VDCP. Both also support WebSocket using a JSON protocol.

Refer to the main “PRIME Users Guide” for more information on PRIME Graphics.

Clip Players



Refer to the main "PRIME Users Guide" for more information on PRIME Clips.

PRIME Switcher comes with two Clips players internally. Clips can be controlled a few different ways:

- Drag and drop from the graphics/clips Asset Browser
- Using the graphic recall input box at the top of the Switcher UI. (See below)
- Another PRIME application. This can be an offline PRIME system
- A Chyron Panel. Can be requested by Chyron Professional services
- PRIME Commander application

Graphics/Clips channel select and recall

Works identical to PRIME proper.

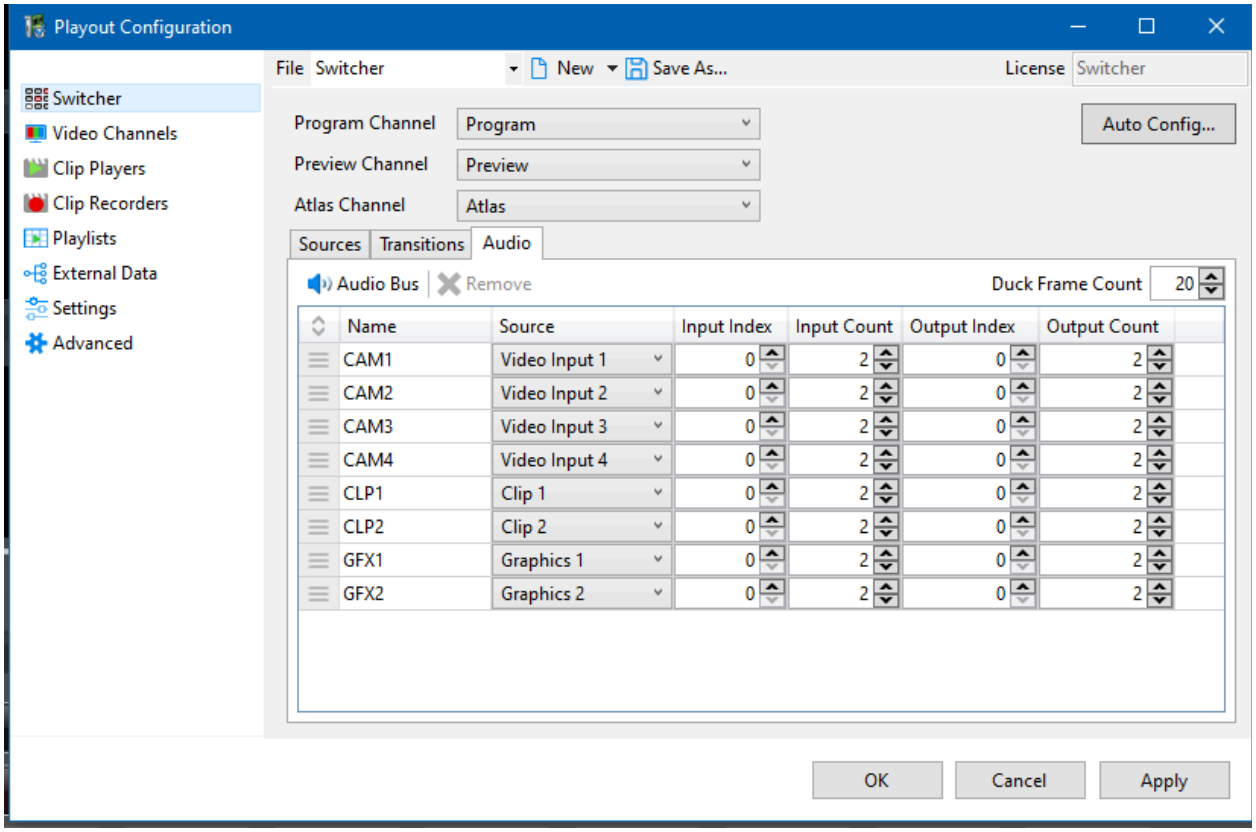
Keypad Playout

The numeric keyboard keypad allows users to select a target component for playout.
Select the component by selecting one of the buttons above the keypad. (Graphics 1, Graphics 2, Clip Player 1, Clip Player 2 or ME1).
The very top buttons (M1 - M8) are for future Macro functionality.

Audio

The PRIME Switcher includes an audio mixer with an array of functionality.

Setup



All inputs that have embedded audio will be supported. AES audio requires a specific hardware I/O board and needs to be purchased at time of sale.

The switcher supports “System Audio” as a source to support external audio products like Dante.

Name: User friendly name to be viewed on the audio mixer

Source: Select the source from the available input sources

Input Index: Channel index of the audio track. (Zero based)

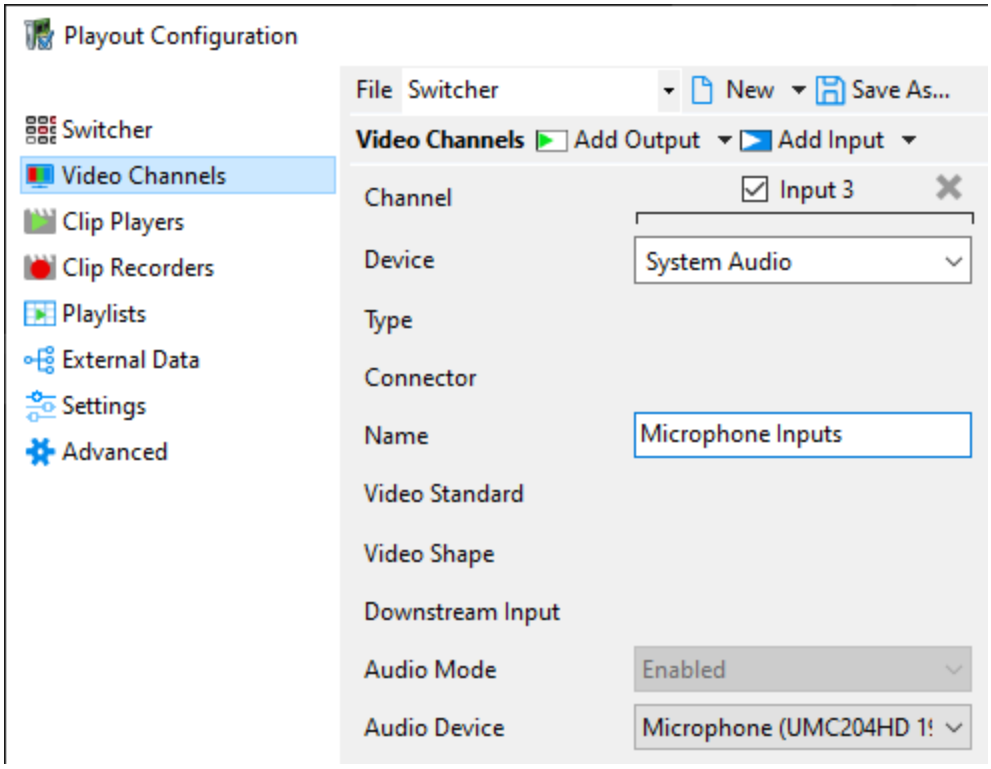
Input Count: Number of audio channels.

Output Index: Output channel track (Zero based).

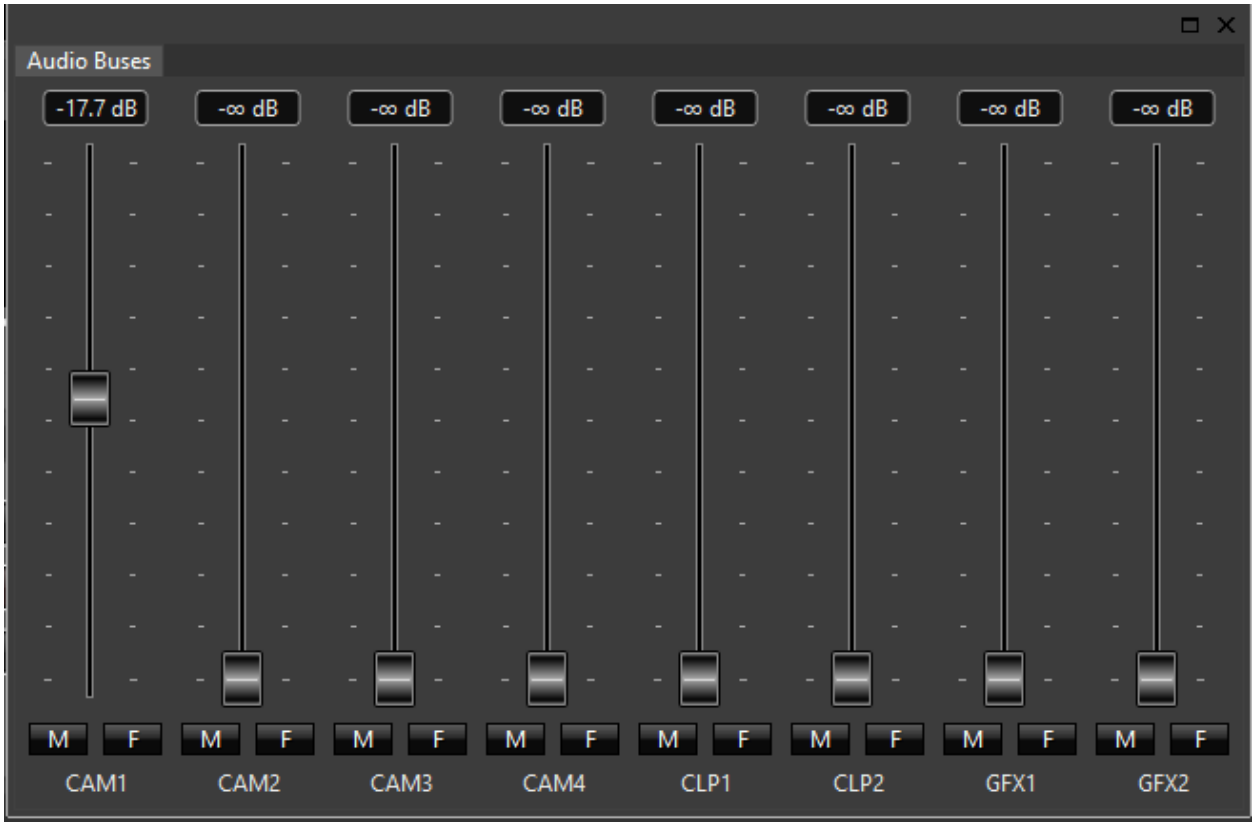
Output Count: Number of audio channels (Stereo pairs)

Note: The PRIME Switcher supports and external audio devices connected to the system via USB. These sources will show up as “System Audio” in the main PRIME Playout configuration window by selecting “Video Channels” in the above screen shot.. Example: An external Dante audio mixer.

The Dante audio inputs will be available to the PRIME audio mixer.



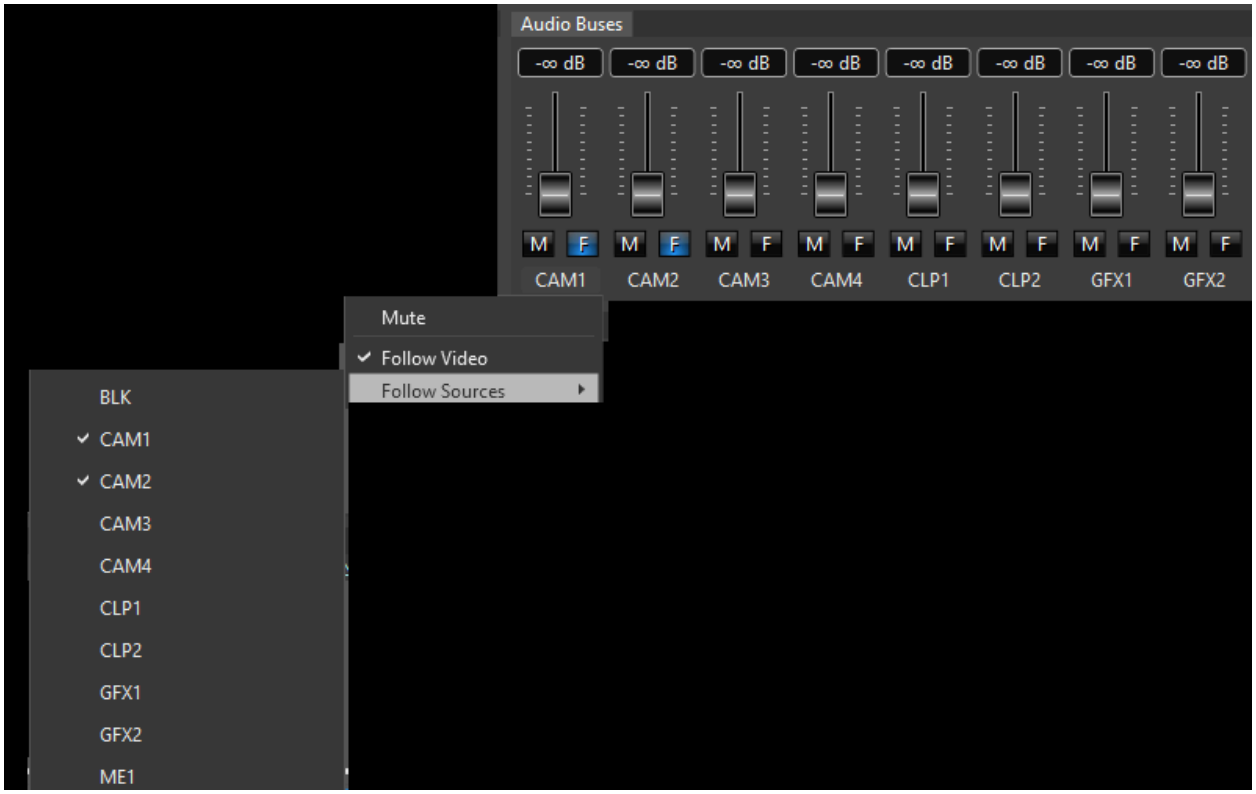
Audio Mixing



Each source will have a fader bar to adjust audio levels. External audio sources using “System Audio” will also have fader bars.

Audio Follows Video

Right click in the source label and select “Follow sources”. Audio can follow multiple sources. Audio levels will rise or mute based on Follow selections.



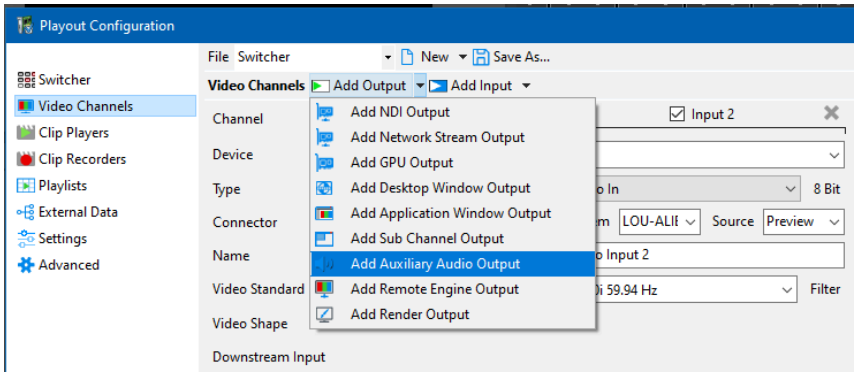
Auxiliary audio buses

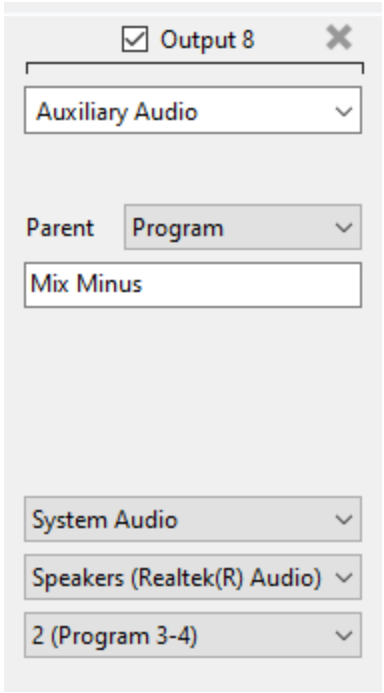
An **aux bus** is a signal path that is **auxiliary** to the main audio path of the mixer.

The PRIME Switcher allows users to create as many auxiliary audio channels as necessary. The aux bus can be used for Mix Minus channels.

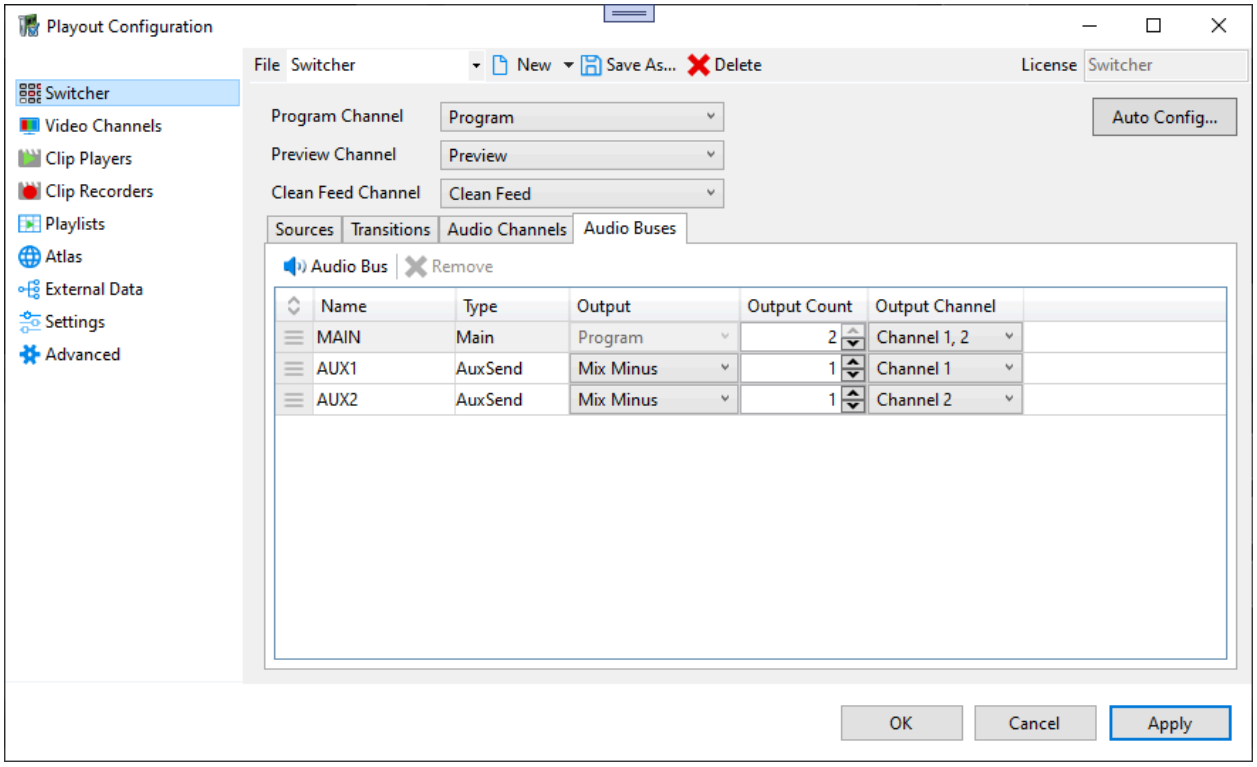
Setup

In the main Playout configuration add an “Auxiliary Audio Output”





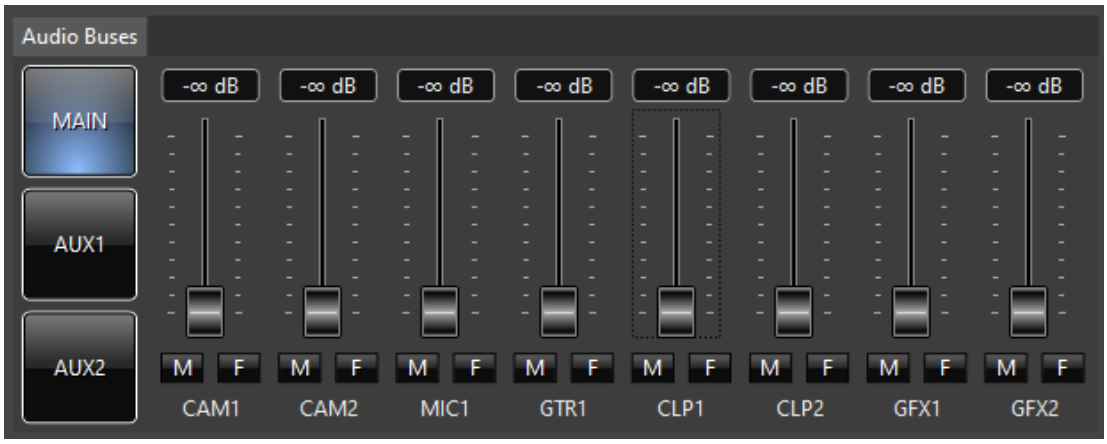
To configure aux channels go to Playout config->Switcher section -> Audio busses tab. Add as many audio busses as needed and configure each separately.



The "Output" field in the list above will enumerate all the channels defined in the main Playout Configuration.

Output Count: 1=Mono, 2=Stereo
Output Channel: Defines the audio channel output. In the screenshot above AUX 1 Output Channel is set to Channel 1 of the "Main" audio bus. Aux2 is output to Channel 2 of the Main audio bus.

The result of the above configuration will create an audio mixer as shown in the screenshot below.



ABOUT US

Chyron is ushering in the next generation of storytelling in the digital age. Founded in 1966, the company pioneered broadcast titling and graphics systems. With a strong foundation built on over 50 years of innovation and efficiency, the name Chyron is synonymous with broadcast graphics. Chyron continues that legacy as a global leader focused on customer-centric broadcast solutions. Today, the company offers production professionals the industry's most comprehensive software portfolio for designing, sharing, and playing live graphics to air with ease. Chyron products are increasingly deployed to empower OTA & OTT workflows and deliver richer, more immersive experiences for audiences and sports fans in the arena, at home, or on the go.

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