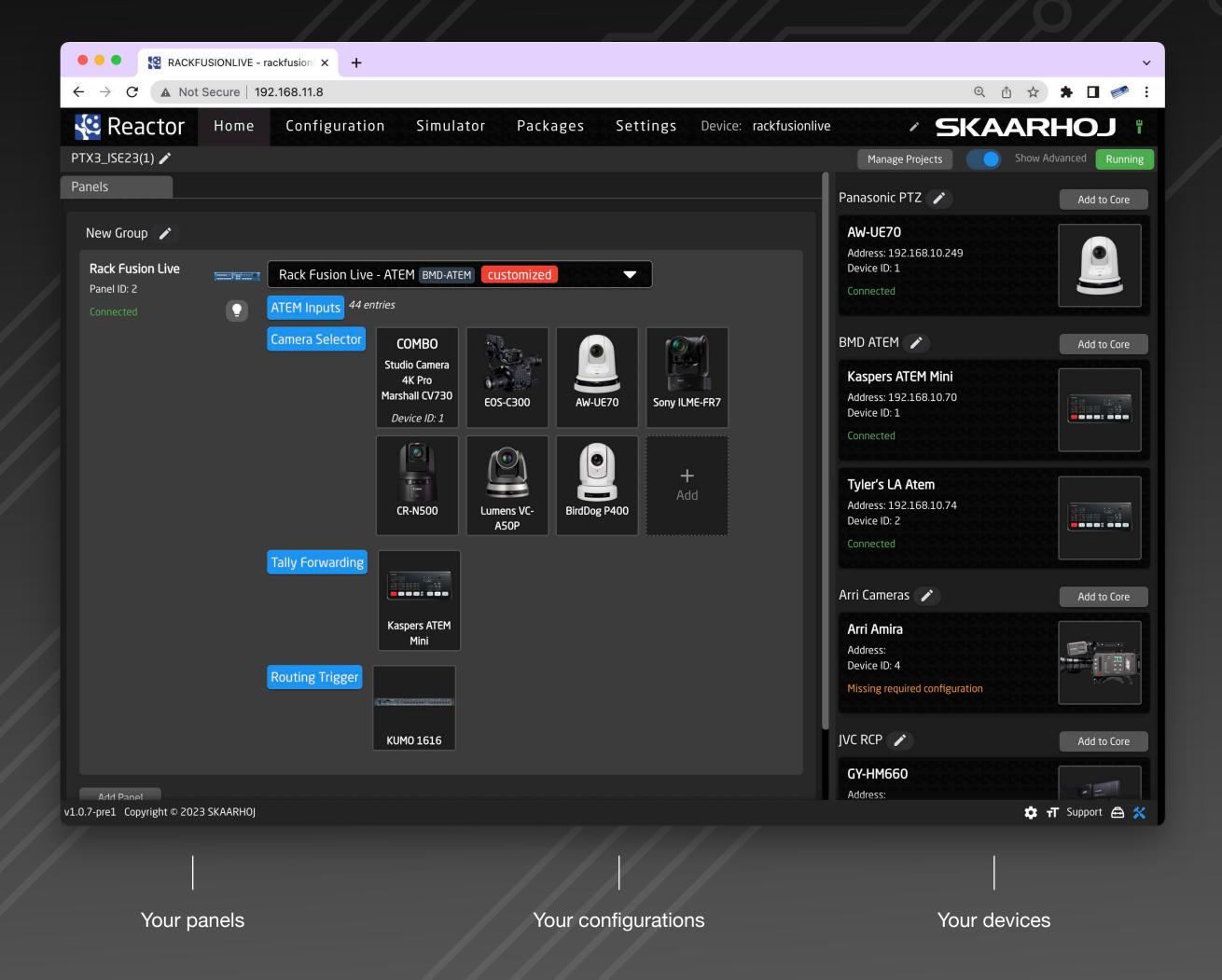


Reactor 2.0





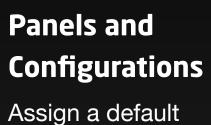
Limitless Broadcast Control



Wave Board

Reactor™, SKAARHOJ's comprehensive broadcast control and automation system, streamlines production workflows, control panels, and AV devices for varying scales of operations. Its web application interface facilitates the creation and management of multiple projects with customizable panels, and devices. Reactor's modularity ensures seamless integration with numerous broadcast and AV devices, while its customization options allow users to assign behaviors to hardware components for adaptable, unique control systems.

- Centralized management: Panels and devices in one place.
- Modularity: Integrate panels seamlessly.
- Sections and Pages: Build control like on Stream Deck.
- Event handlers: Define hardware actions.
- Virtual Triggers: Advanced system automations.
- Generators: Auto-create layers and behaviors.
- Scripting Engine: Custom automation with JavaScript.
- Simulator: Virtual panel in the web browser.



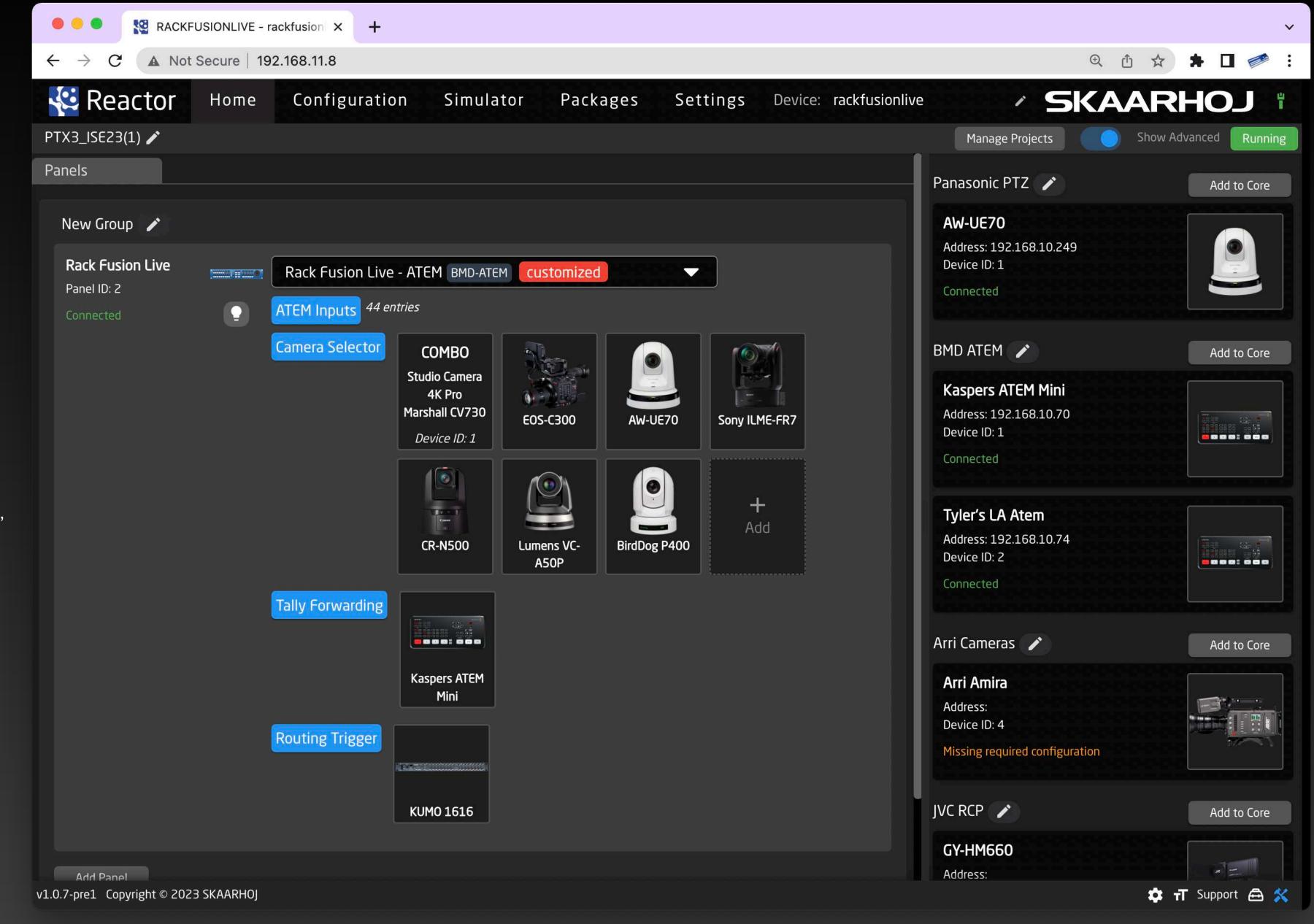
Assign a default configuration or create your own for any Raw Panel-compliant device.

Device Association

Effortlessly add devices like cameras, video switchers, routers, and audio processors depending on the configuration.

Additional Panels

Include more panels as part of existing configurations or manage them individually.



TOME AARHOJ Show Advanced Running Show Advanced Running

Reactor's Home Screen is the core of your production workflow. Effortlessly organize control panels, configurations, and AV devices, access high-level configurations through mapping tables or constant sets, and manage IP addresses and settings. Ideal for small or large-scale productions, the Home Screen serves as the central hub for integrating all components of your production environment.

Projects

Create numerous projects containing panel setups, configurations, and devices.

Devices and Device Cores

Device cores are applications connecting to specific device types. Add devices to projects from the Home Screen.

Settings

Reactor functions like a native app, allowing font size and setting changes, support team access, and advanced debugging tools.

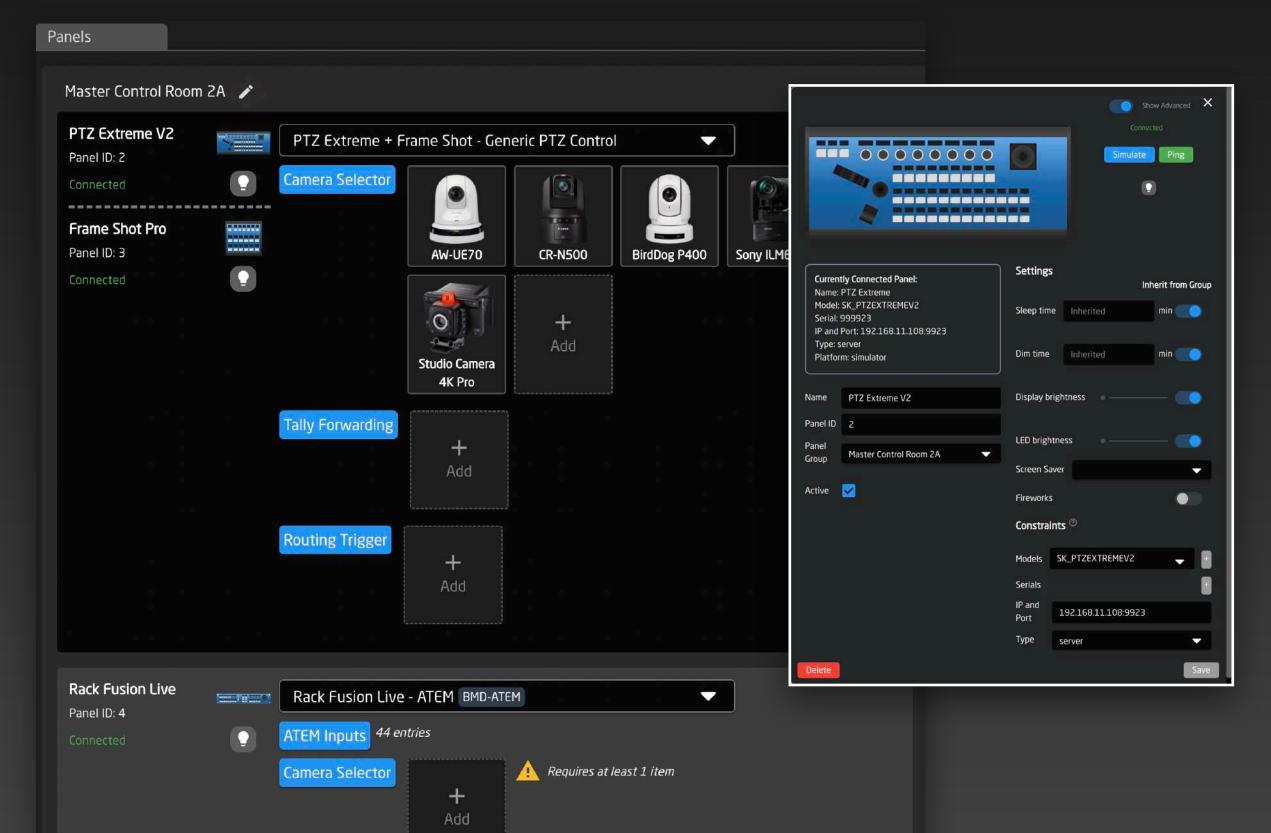
Panels

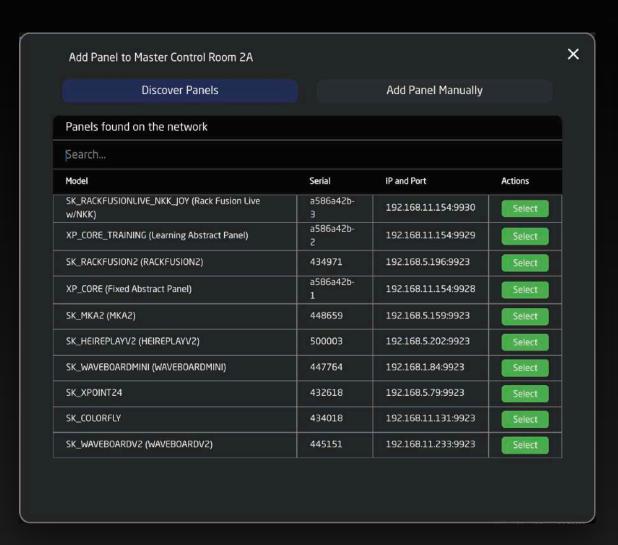
Modularity Reimagined

SKAARHOJ's modularity allows for seamless panel integration in Reactor's Home Screen. Panels like PTZ Extreme and Frame Shot Pro can be managed as a single unit with a shared configuration. The Rack Fusion Live panel is the host and runs the Reactor instance, while guest panels connect via the Raw Panel protocol, creating a versatile and powerful system.

Panels Settings

Reactor panels have customizable settings, such as sleep time, brightness, IP address, and model constraints, offering complete control over panel functionality.



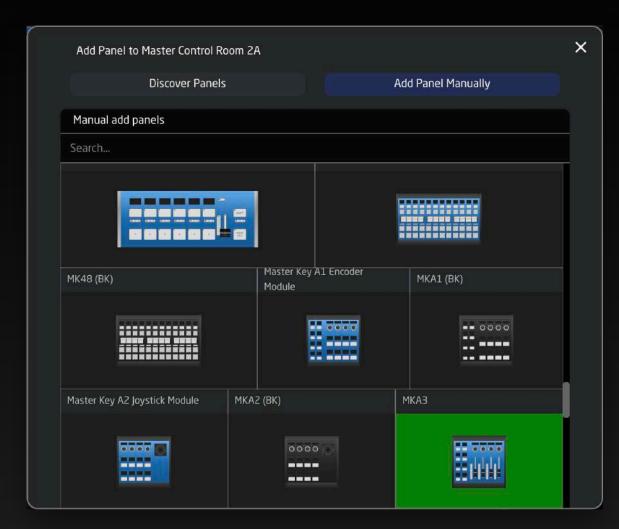


Adding Panels Made Easy

Adding panels to Reactor is easy, as it automatically discovers Raw-Panel compliant devices on the same network. Reactor's panel management system offers flexibility and seamless integration of new or unknown panels.

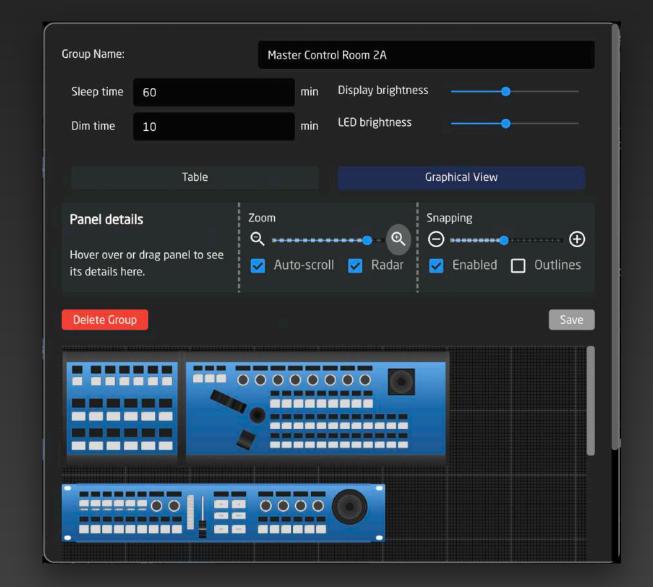
Panel Groups

Panels are organized into groups, simplifying alignment, and collective settings management, like sleep time and brightness. Groups represent modular panels, streamlining control for users.



Panel Database

Reactor's panel database enables adding offline panels.

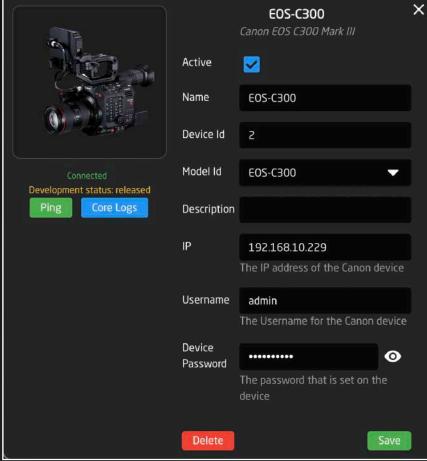


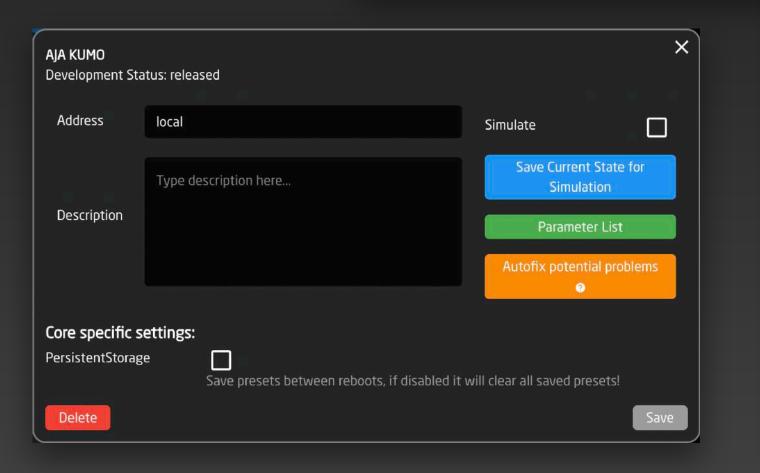
Devices

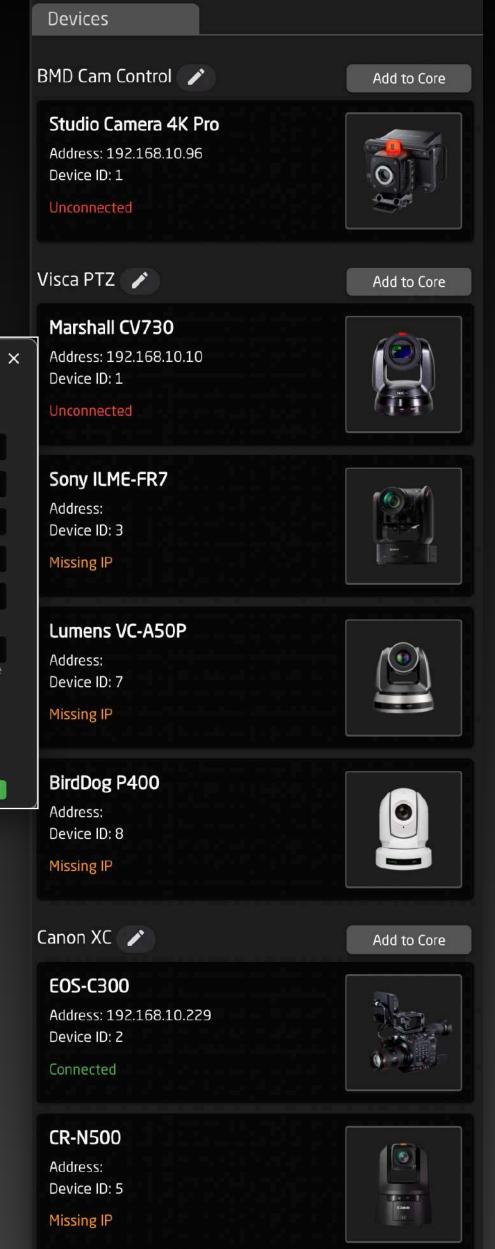
Reactor connects to various Broadcast and AV devices, mapping functions to Raw-Panel compliant control surfaces for versatile integration.

Devices and Device Cores

Devices feature
configuration details like
name, model, IP address,
and device ID, while
Device Cores, as software
components, provide an
overview of models and
parameters. They can also
run remotely on Blue Pillenabled units.

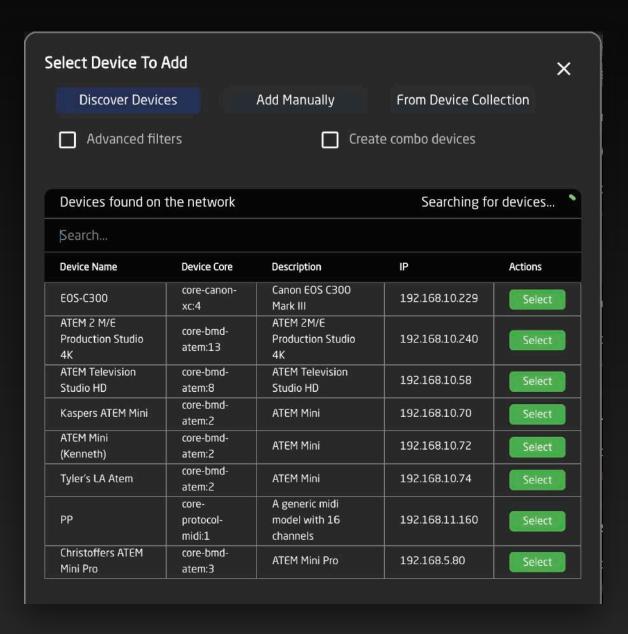






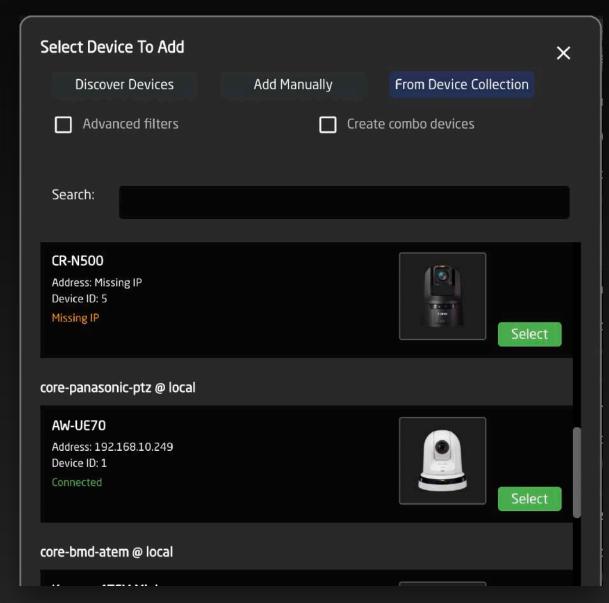
Adding Devices Made Easy

Adding devices is easy, as many can be discovered on the network and added with a single click.



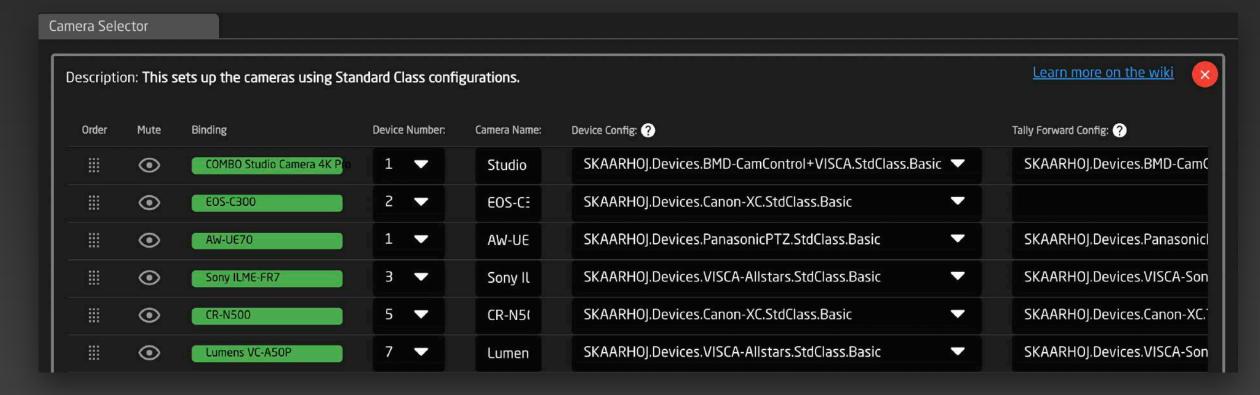
Reusing Devices in Configurations

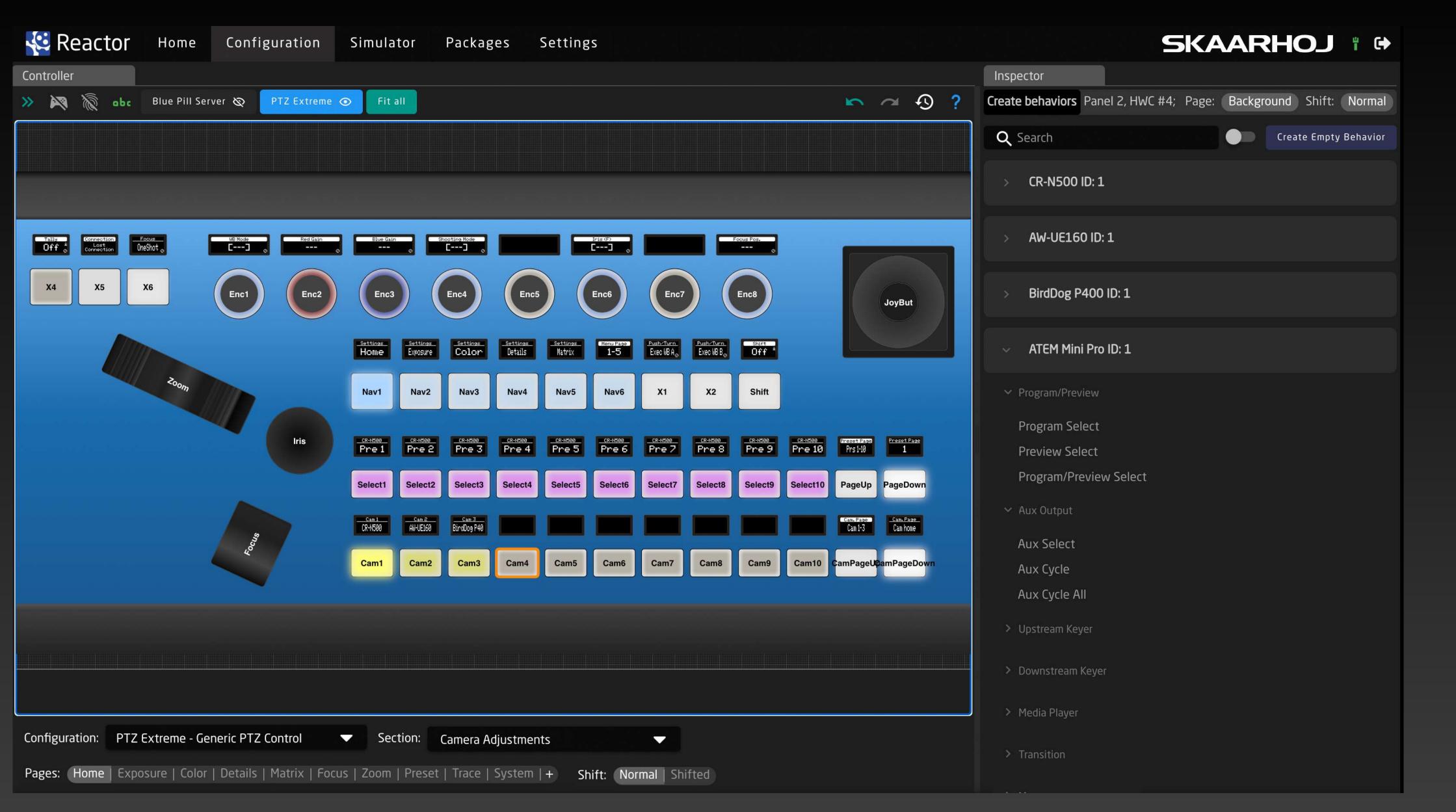
Devices in Reactor's collection can be reused in multiple configurations.



Mapping Inputs and Cameras to Buttons

Mapping inputs and cameras to buttons uses a tabular view or mapping table, covering all essential settings for device-panel integration, including names, device numbers, configurations, tally indexes, and button colors.



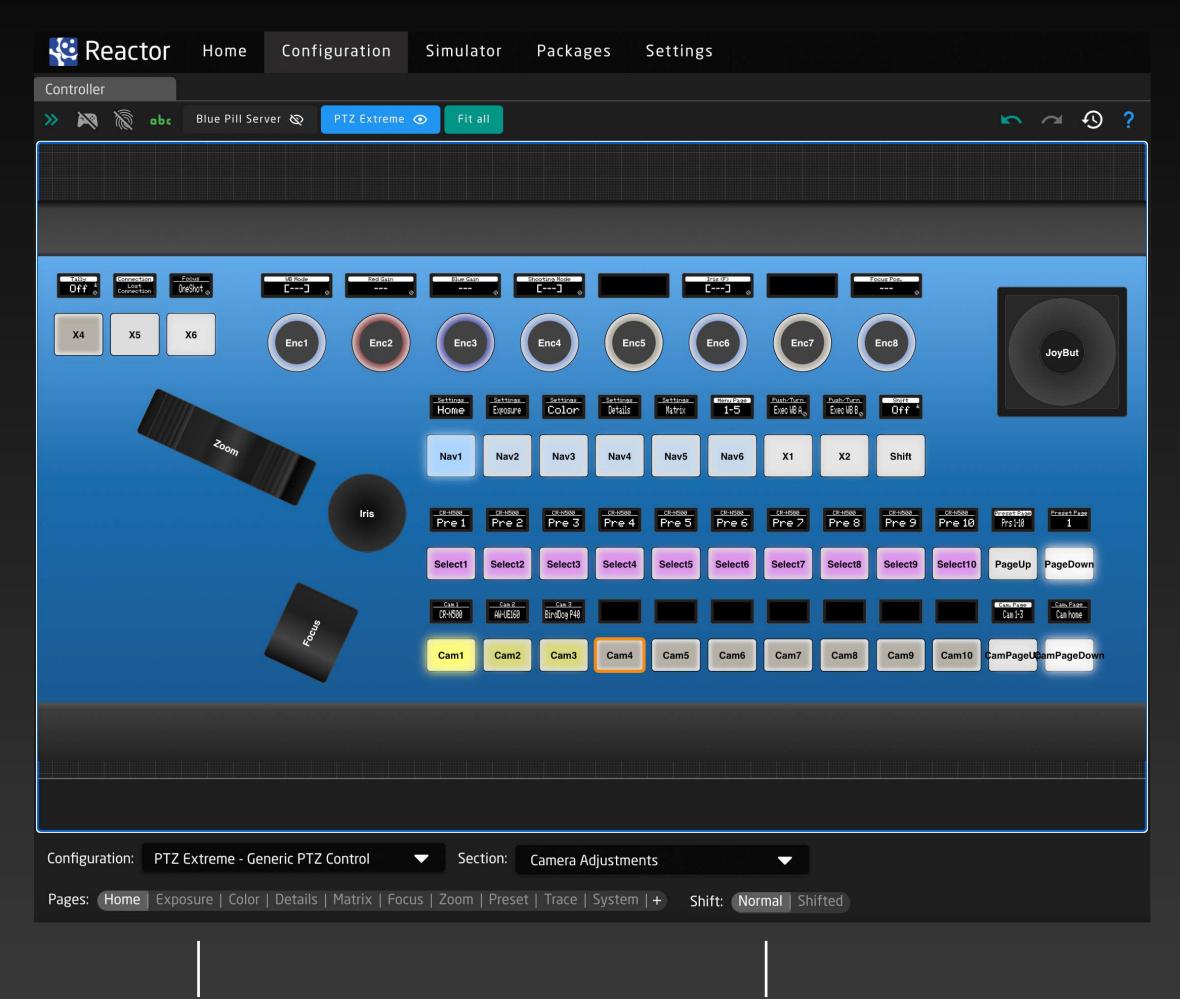


Make it Yours

Customizing configurations is an advanced option, as default configurations handle essential adjustments on the Home Screen.
Reactor's Configuration tab displays your controller graphically, enabling you to click on any hardware component to assign a behavior.

Components can be organized into sets of pages for additional functionality, allowing the creation of menu structures and adaptable control surfaces. Creating structures with pages and shift levels is generally straightforward, as you can assign behaviors specifying actions and feedback with a single click. The Configuration tab offers a user-friendly approach, grouping the controller's hardware components into sections.

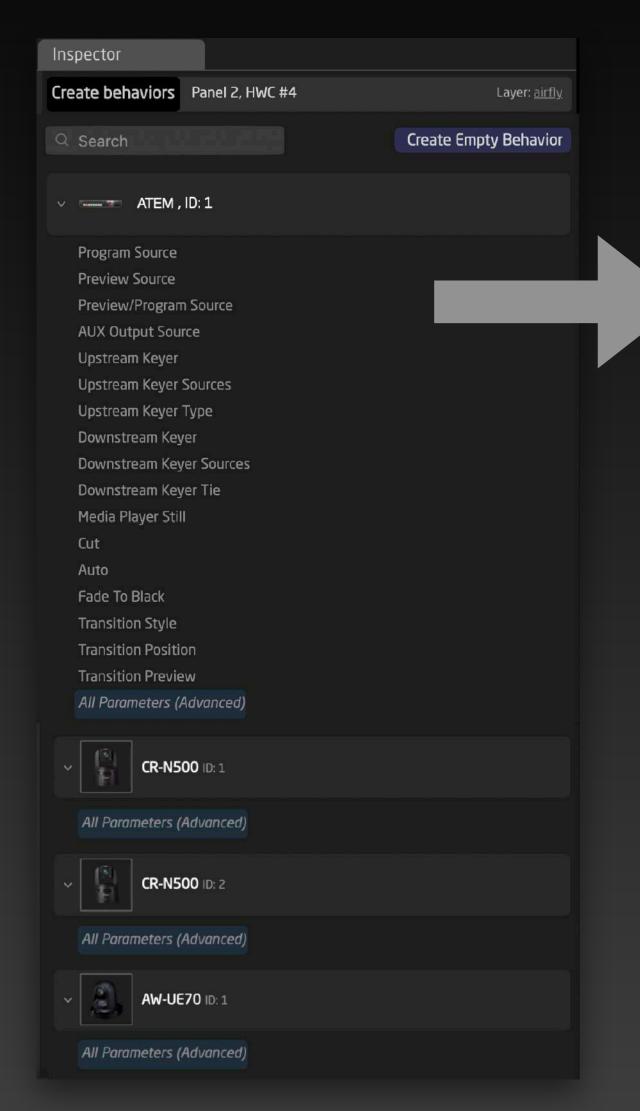
Pages and Sections

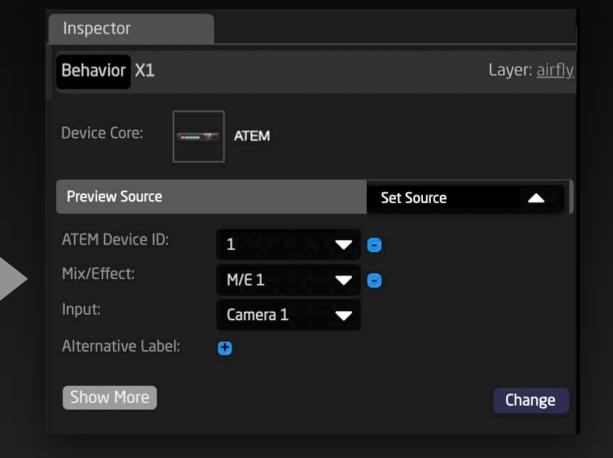


At the bottom of the screen, you can navigate between pages and add more pages within a given section.

Some sections can also include a Shift level for each page. The active page/shift level is where you add and edit behaviors in the Inspector.

One-Click Behaviors





Behaviors

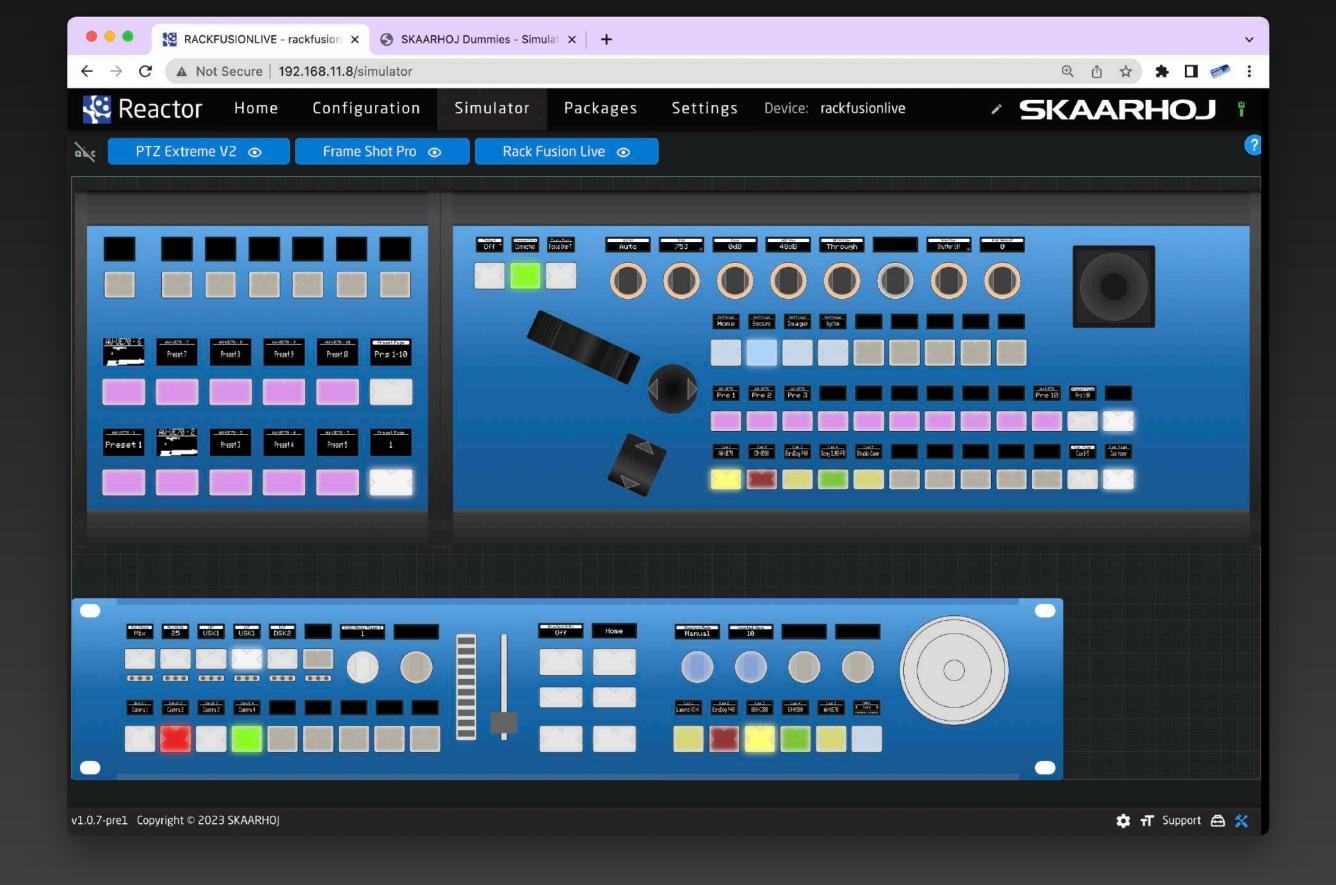
The Inspector allows one-click behavior creation for hardware components. Behaviors convert component events, like button presses, into device changes and set feedback (e.g., button color). Preset behaviors require simple inputs such as input number or mode. For advanced settings, click "Show more" and refer to subsequent booklet pages.

Multi Behaviors

You can easily chain multiple behaviors together to essentially form a macro.

Simulator

Reactor's advanced simulator provides a virtual, browser-based panel version for configuration, remote training, and occasional remote operation. The Simulator displays panels on their canvases, presenting modular controllers as a cohesive surface for seamless interaction.

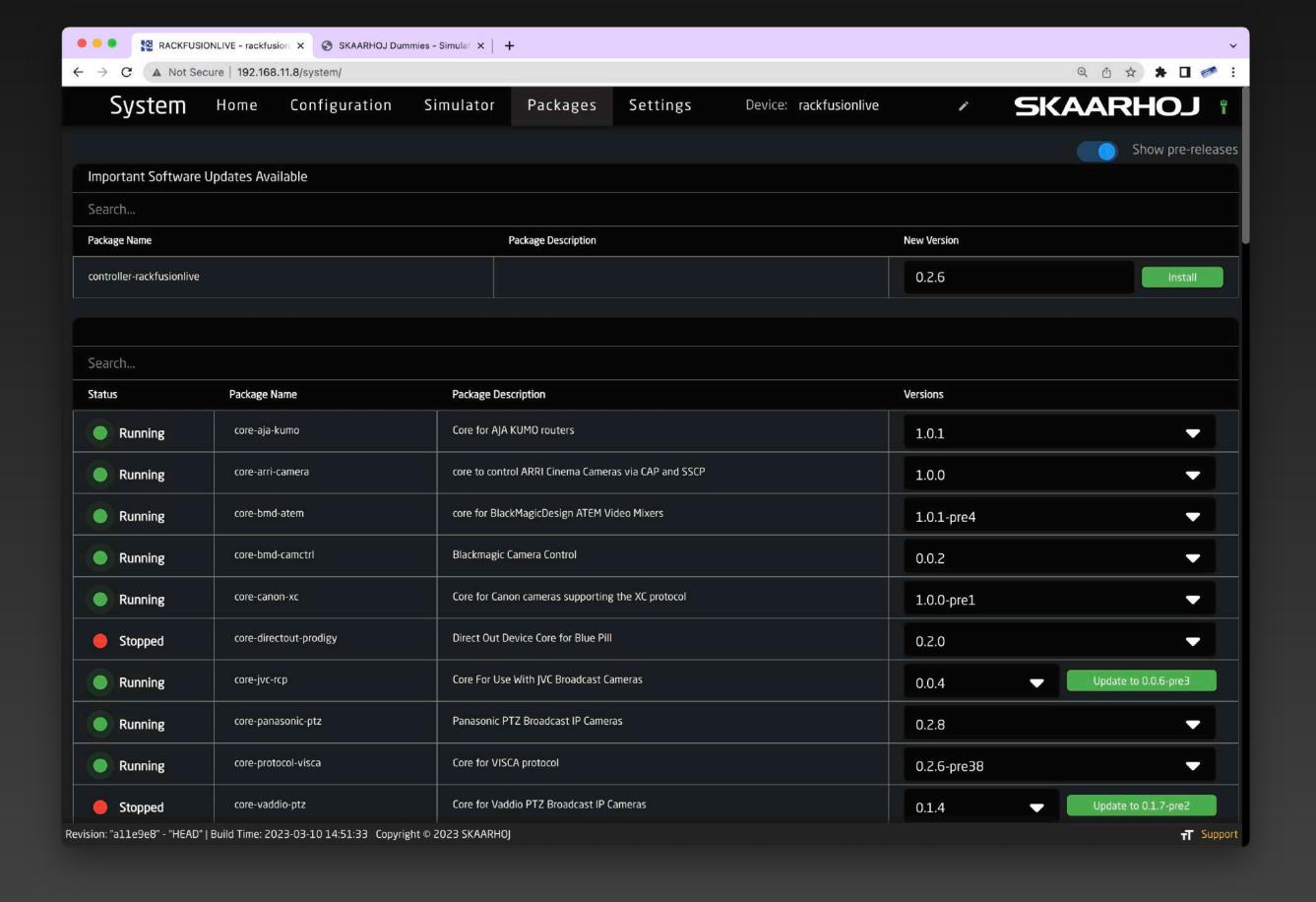




PTZ Extreme

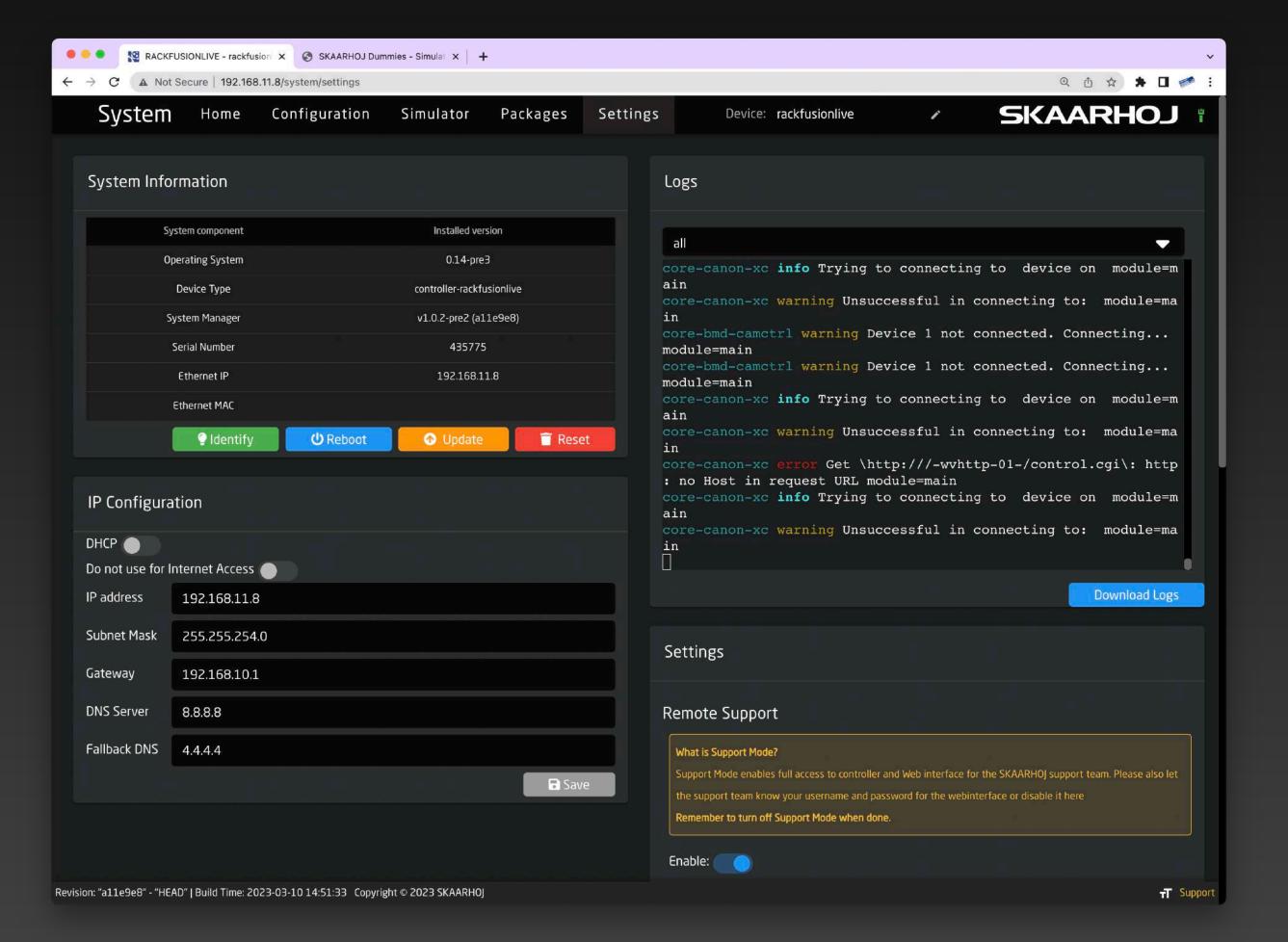
Packages

The Packages tab in a Blue Pill™ device, part of skaarOS™, serves as a package manager to install and update software packages. Connecting to SKAARHOJ's online repository for easy access or accepting uploaded package files for offline panels, it streamlines the process of managing your panel's software.



Settings

The Settings tab, a feature of skaarOS, allows configuring the panel's IP address, viewing system logs, updating the operating system, and rebooting the device. It also enables WiFi access, activates Remote Support, and unveils expert features with Advanced Mode. The Settings tab offers a comprehensive and user-friendly interface for managing your panel's core settings and optimizing its performance.



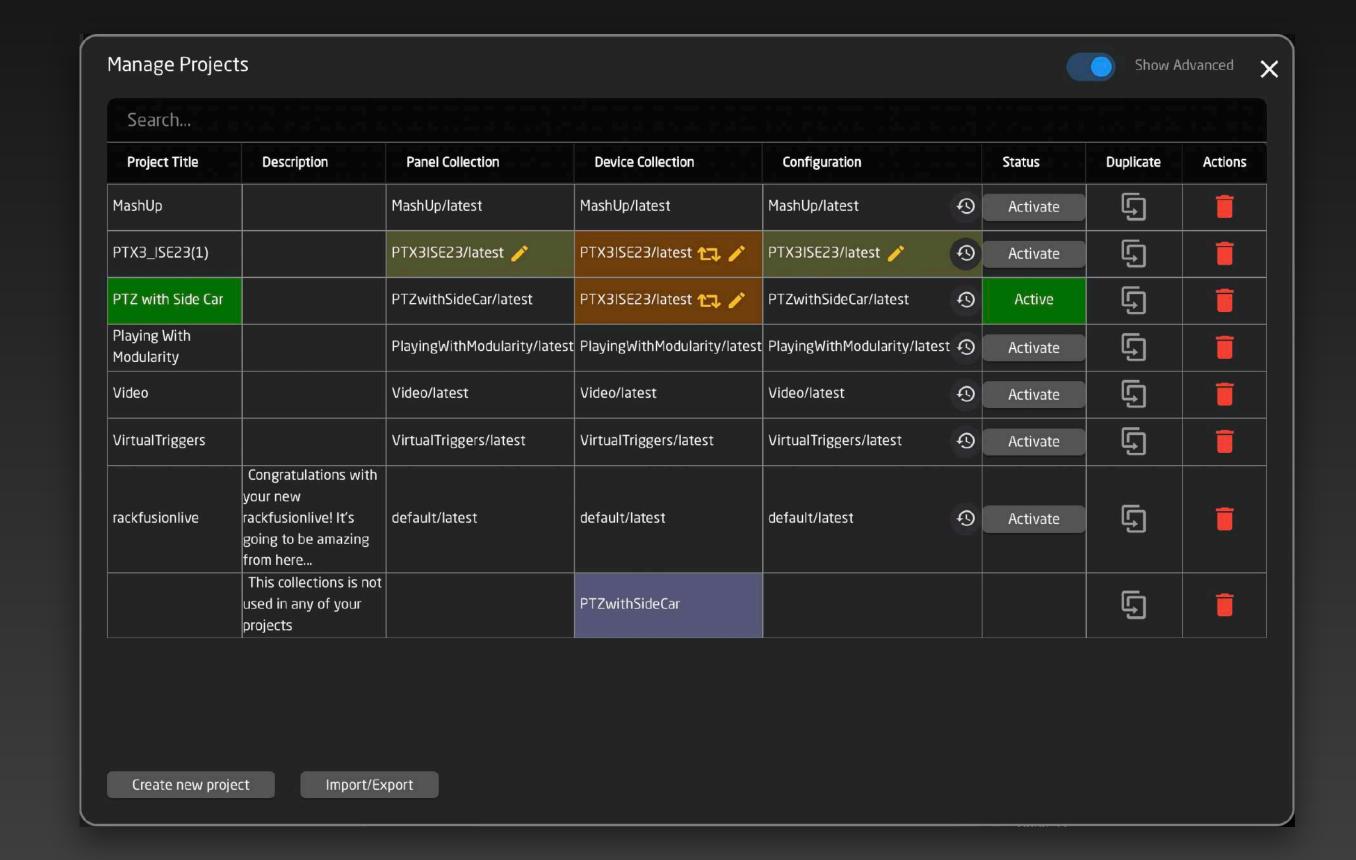


Air Fly Pro w/NKK

Projects

Projects organize panels, devices, and configurations, allowing swift switching to a new operational context. Blue Pill-enabled SKAARHOJ panels can host unlimited projects.

Advanced users benefit from collections grouping panels and devices. Multiple projects can reference the same collection, enabling reuse of device or panel sets. Reactor's efficient management showcases its power and versatility.





Connect It All



Inspector

Various

Name:

Description:

Constant Set:

"Name": "Menu",

"IOReference": {},

"EventHandlers": {

"adjustmenu": {

Active If:

Menu

Touch Devices





Stream Deck



Generic Footswitch

Blue Pill Server

Blue Pill, SKAARHOJ's next-gen platform, transforms broadcast and AV control. Integrated into most panels and available as a compact server device, it performs tasks like thumbnail frame grabbing, enabling UniSketch panels access to the Blue Pill ecosystem, and converting USB devices into Raw-Panel compliant entities. For example, network-enable X-keys and Stream Deck models as Rawpanel devices to complement SKAARHOJ broadcast panels by connecting them to Blue Pill and adding them to Reactor's panel collections.

JSON 4-way menu for PTZ Fly with Sony BRC-X400, e

Edit Raw!

Reactor's configuration system allows seamless transition between a modern web UI and a code editor for direct JSON data modifications. This flexibility is appreciated for speed and accuracy. Reactor's built-in editor understands symbols, field names, and permitted values for fast configuration "coding." Advanced search and replace features eliminate external code editor needs, making Reactor an all-in-one configuration management solution.

"Name": "Default BLUEPILL Configuration",

"I & ActiveIf

لا (Layers

], \(\mathcal{B} \) ManualDescription

"H / MasterBehaviors

ConstantSets

"N / FeedbackDefault

], β VirtualTriggers

√ Variables

} / S FlagGroups

₿ MetaData

"I / Generator

IICanatantCatalla (

```
"TimeWindowToPrevTrigger": 1000
```

Format Save

Show Parent Behavior

"Description": "4-way menu for PTZ Fly with Sony BRC-X400,

"Description": "Cycle menu pages",

"Default": {

"BinarySetMode": "CycleUpRollOver",

"Raw": "Var:SettingPage:All"

"Description": "Toggle Engineering Menu",

"ActDown": {

"Repeat": "Delayed",

"RepeatDelay": 1000,

"MaxRepetitions": 1,

"Raw": "Var:SettingPage"

"AcceptTrigger": "Binary",

"InputEdge": {

"Default": {

"ActDown": {

"ActUp": {

"OutputTrigger": "None"

"OutputTrigger": "ActUp'

"AcceptTrigger": "Binary",

"BinaryType": "ActUp", "BinaryEdgeFilter": "Top",

"BinarySetValues": {

"IOReference": {

"EventPreProc": {

"B2B": {

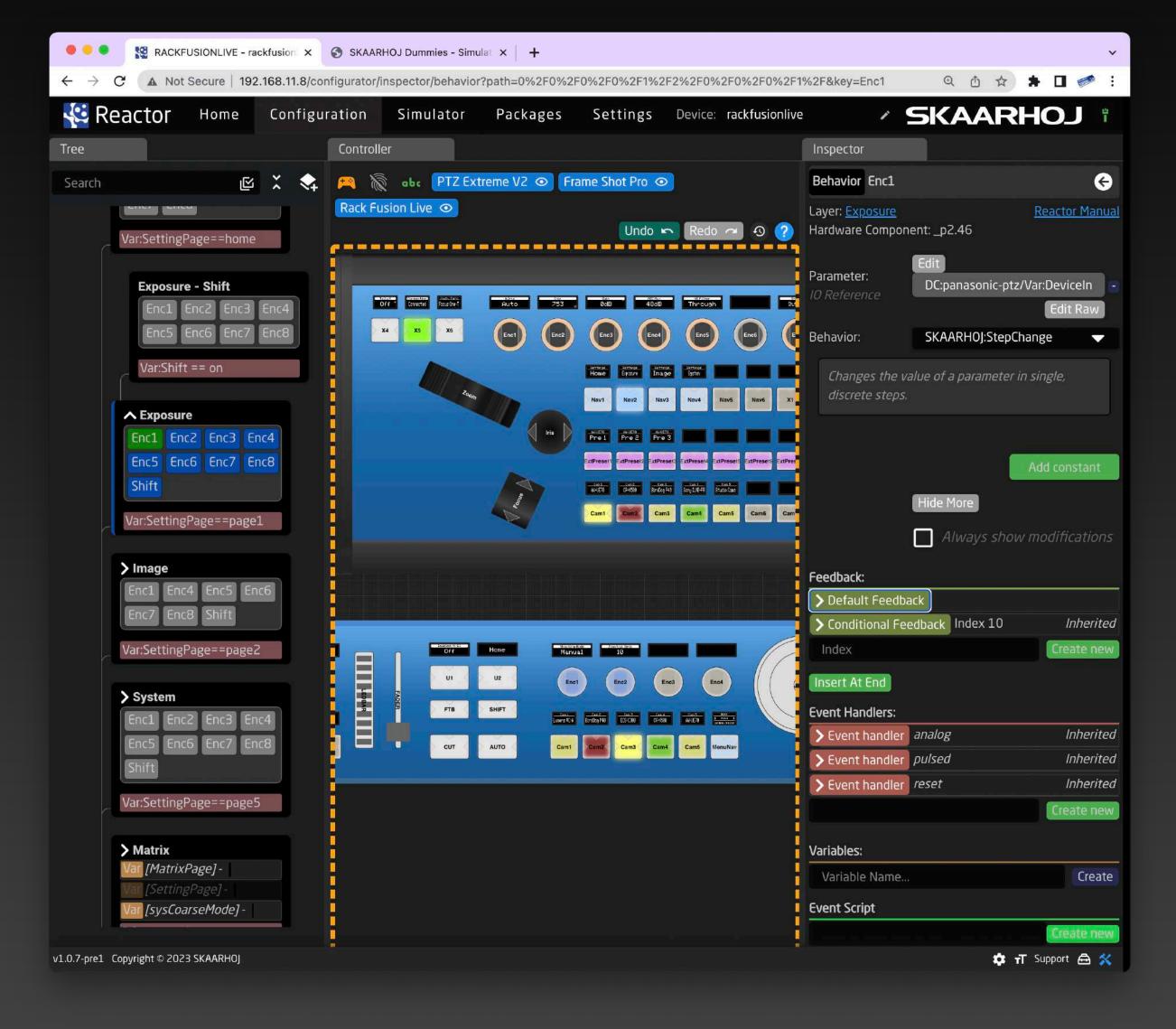
"InputEdge": {

"EventPreProc": {

"B2B": {

Layer View

Layer View shows the configuration as a nested layer structure of active or inactive behaviors based on their positions and visibility conditions. Layers act as the engine enabling interaction schemes in Reactor.





Behaviors like U1, U2, etc., are organized in layers, with active layers and behaviors highlighted in blue. Layers can be nested indefinitely; for example, "Navigation" and "PTZ Section" layers are children of the "Air Fly Pro Background" layer. An arrow on "PTZ Section" signifies it has child layers as well.

Layer visibility is crucial in Reactor's behavior selection for specific hardware components. Layers with visibility conditions, such as "Var:Shift == on", indicate the variable Shift must be set to 'on' for the layer and its behaviors to be active.

The "Air Fly Pro Background" layer has multiple behaviors assigned to different hardware components, including AUTO, CUT, DISP, KEY1, etc. A layer can also hold more than just behaviors, containing variables used to control menus, layer visibility (State and Shift), M/E Row selection for a switcher, device ID or camera number selection, and so on.

Master Behaviors serve as foundations for behaviors assigned to hardware components. By referencing a master behavior, a hardware component behavior can customize itself by changing specific attributes only, such as constant values (inputs, M/E row, channel, device ID, etc.), button color, or display label.

KeyMaps associate user-friendly aliases (e.g., CUT, AUTO, DISP) with a hardware component's numerical ID. KeyMaps enable entire configurations created for one panel ID to be remapped to another.

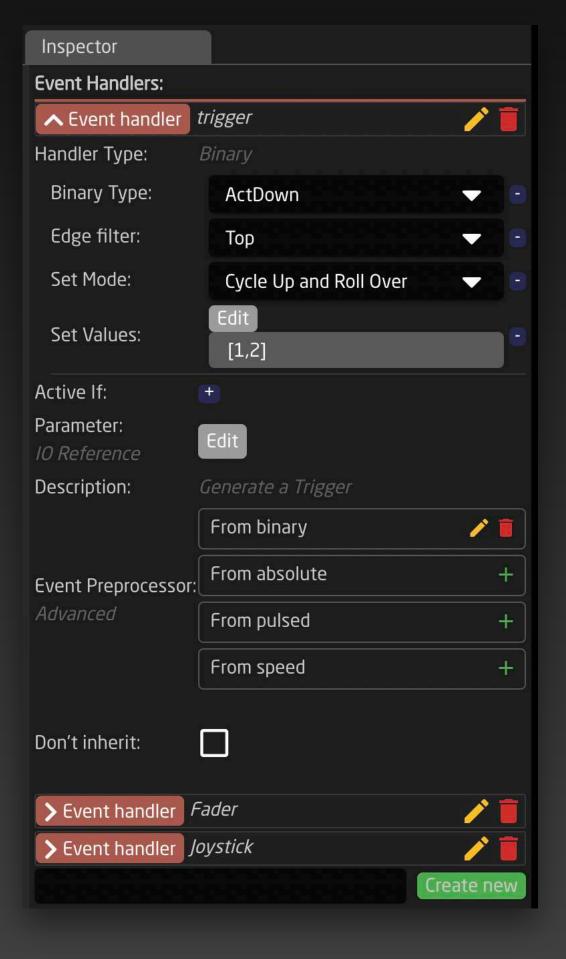
Layers can incorporate other layer files in the system, enabling the reuse and composition of larger configurations from smaller libraries of configuration.

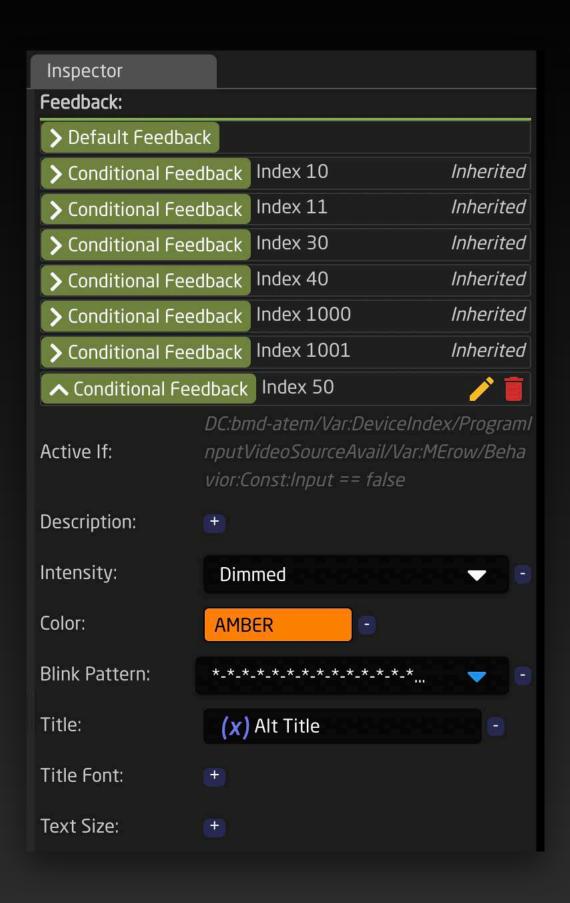
The layer structure is referred to as a tree, with its root at the bottom.

Event Handlers

Behaviors can contain event handlers, defining actions when buttons are pressed or knobs are turned.

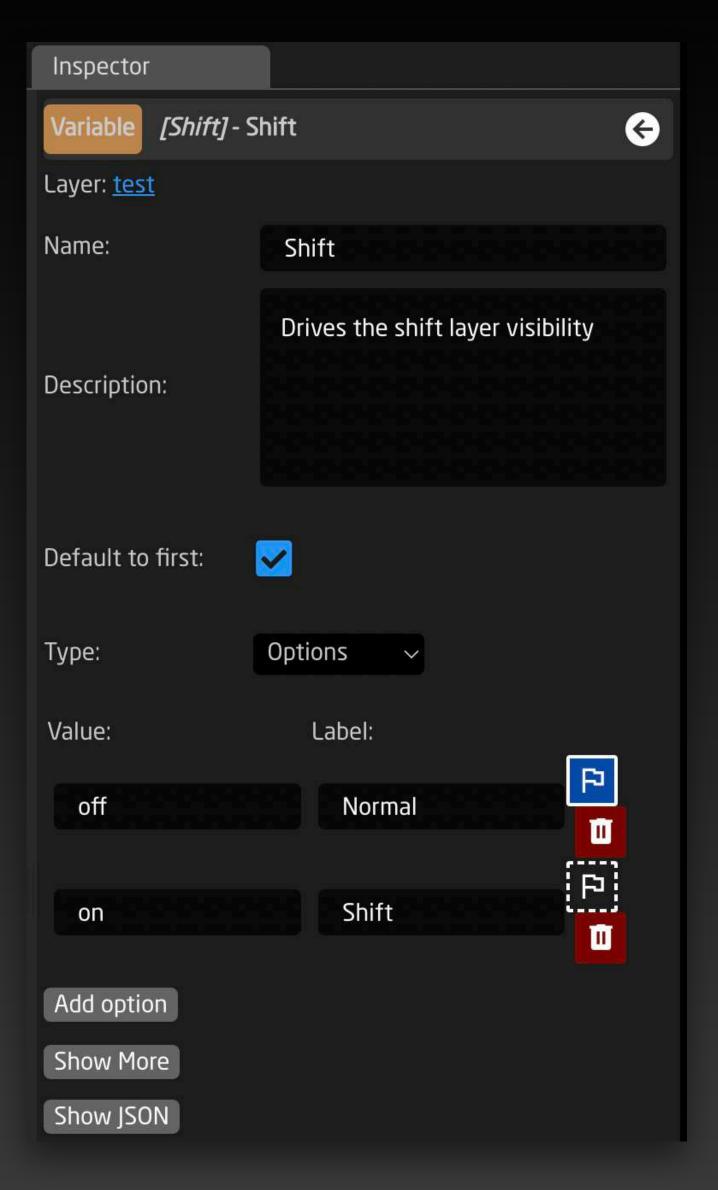
Handlers can filter on button edges and set values or cycle options. Sequences of actions with delays can also be configured. Unexpected triggers can be preprocessed and transformed into other triggers.





Feedback

Default Feedback determines a behavior's appearance, such as color and display content. Conditional feedback offers alternative settings based on parameter values and conditions similar to layer visibility.



Variables

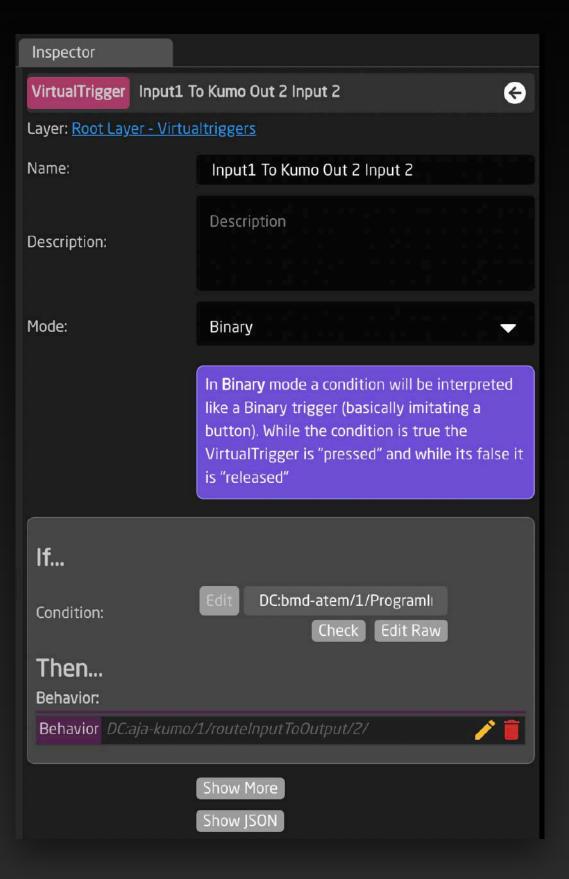
Variables are runtime-adjustable values in Reactor, modifiable via buttons or knobs. They can have friendly names and descriptions, specific options or integer value ranges, and default values. Persistent storage maintains variable values after a panel reboot.

Variables power menus, select cameras and devices, enable modes for buttons and knobs, and store device names. They are defined within the layer tree and valid only within their branch.

Variables and Constants

"Variables" might be unfamiliar to some; simply consider them as values that can change during panel activity, modified by panel events, and used for various purposes like making layers visible or selecting cameras. Constants, unlike variables, remain fixed in the configuration and cannot change due to panel events. They are used in mapping tables or "Constant Sets" from the Home Screen.



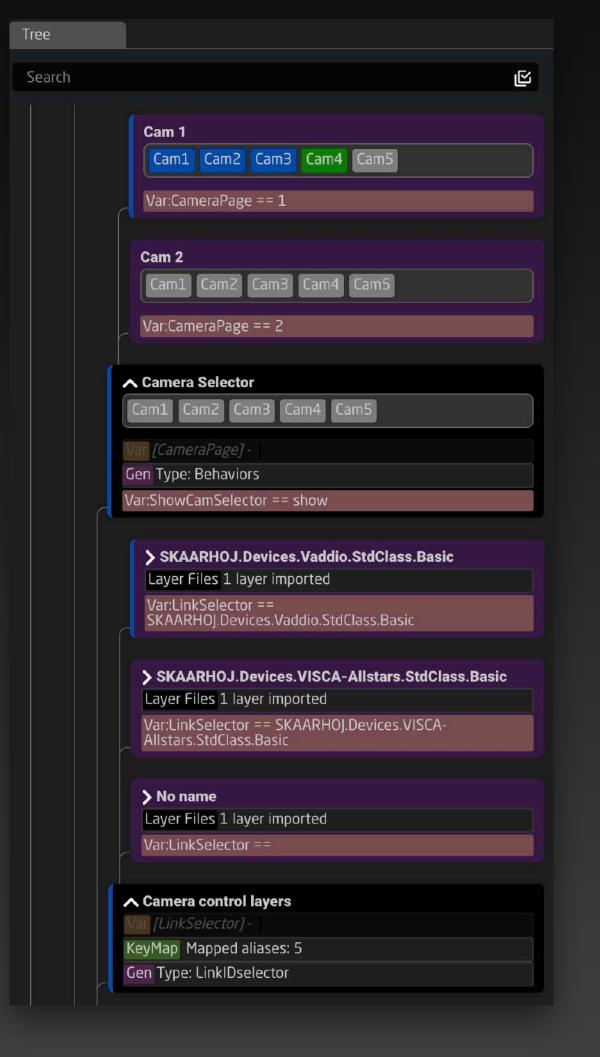


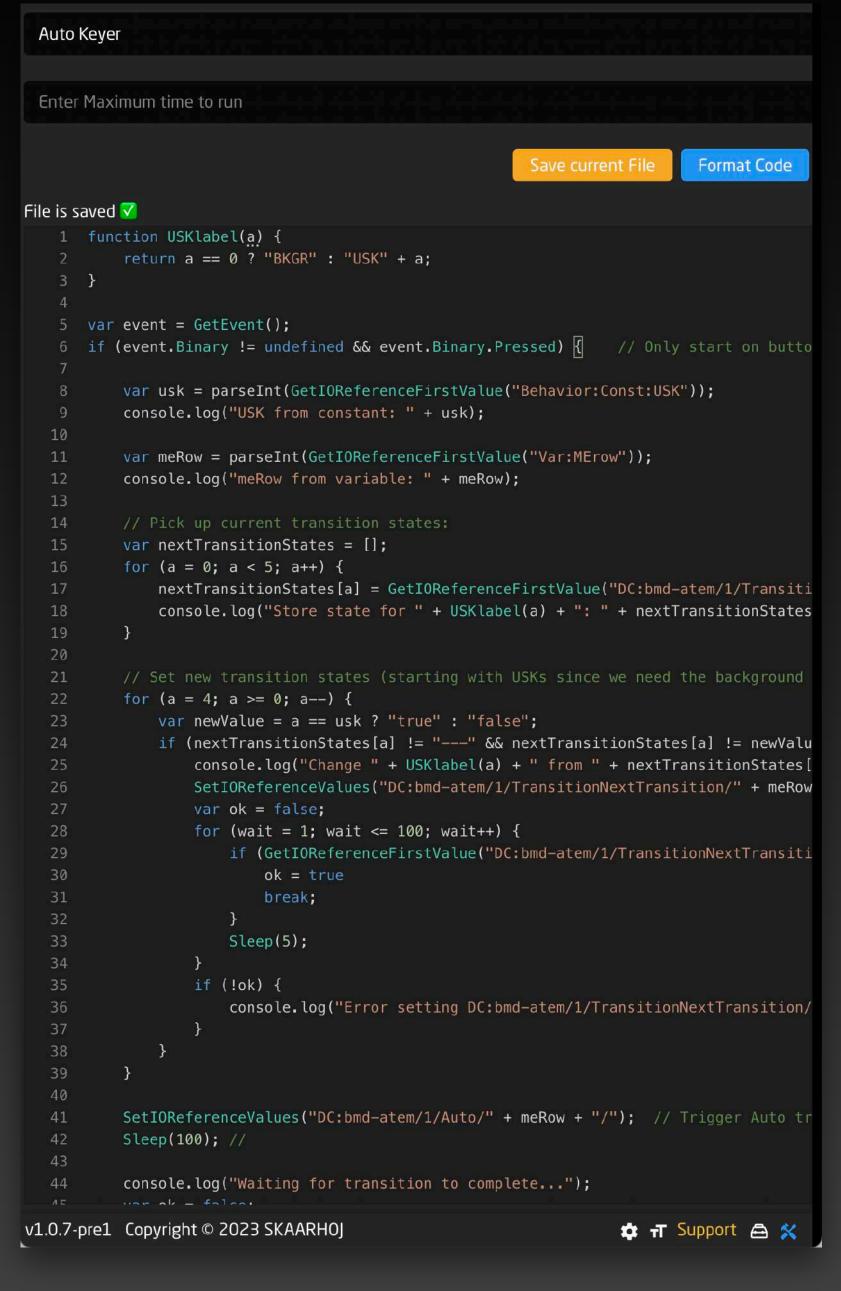
Virtual Triggers

Virtual Triggers in Reactor are software-generated events activating actions or behaviors, functioning like physical triggers but from internal processes or connected devices. This allows advanced customization, automation, and complex control scenarios.

Generators

Generators auto-create layers and behaviors using mapping table data for easy camera addition, input rearrangement, and preset page generation. They enhance default configurations for seamless experiences.

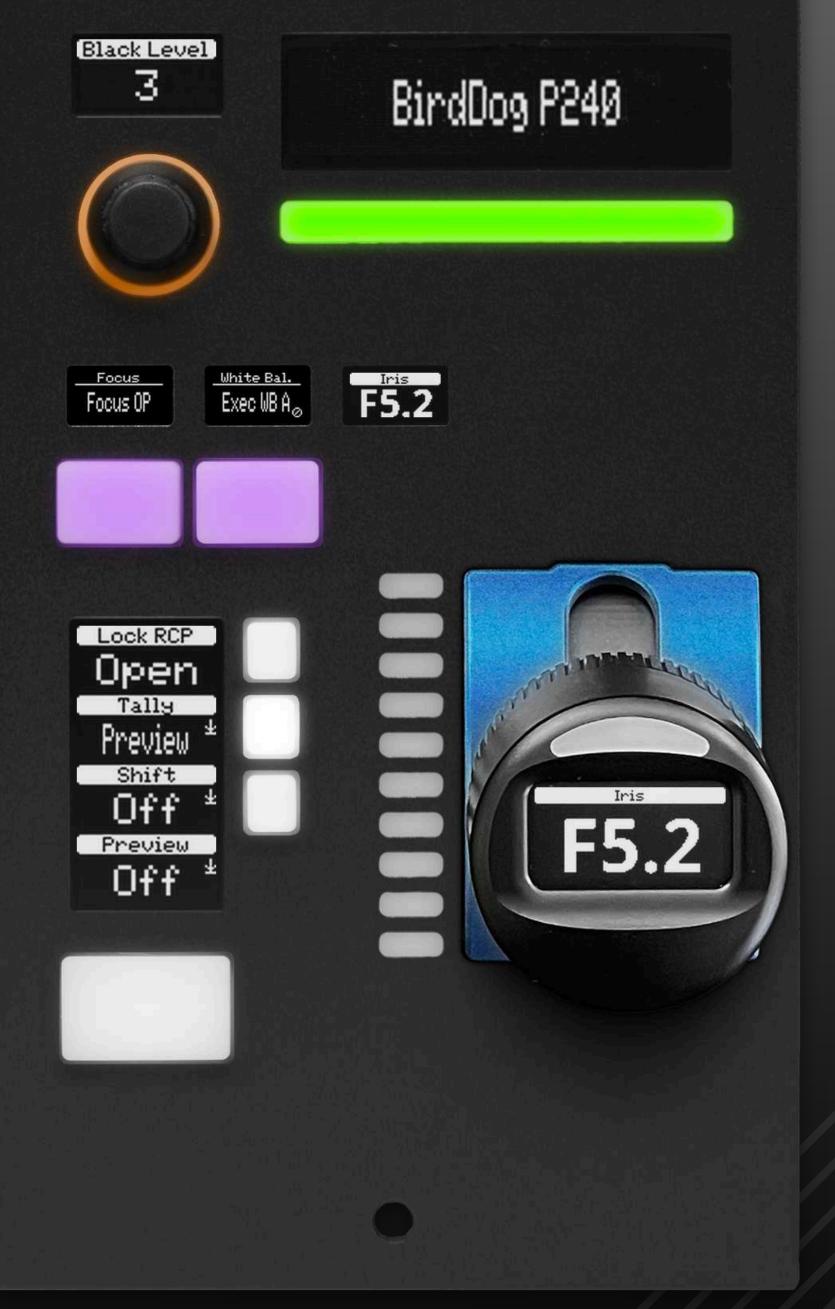




Scripting

Reactor features a built-in
JavaScript-based scripting
engine with an intuitive inbrowser editor for custom
automation and complex actions.
Users can retrieve and set
IOreference values and use the
sleep command to control the
flow. The scripting engine,
currently in beta, unlocks endless
creative possibilities.





RCP Pro



This Booklet