SOLUTION

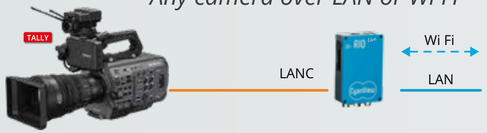
Live Productions with D-Cinema cameras

Live CyanView

Camcorders

PL lens control

Any camera over LAN or Wi Fi

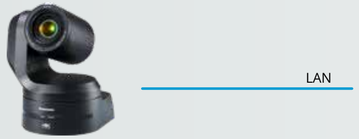


Mirrorless

Internal or External Tally

PTZ

Specialty cameras



Camera Control

+

TALLY

Switcher Integration

Atem
Tricaster
VMix

ARRI Blackmagicdesign Canon Panasonic SONY

Camera and Lens

IP cameras are controlled directly, serial, USB or Wifi cameras are controlled using RIO Live.
External PL lenses are controlled directly from RIO: Fujinon Cabrio, Canon CineServo, C-Motion, Chrosziel, Tilta

Wired and wireless

Any camera can be controlled using RIO Live over LAN or Wifi. Protocols include serial data, LANC, USB, wifi, Blackmagic SDI, SBUS
The full RIO license can also provide control over cellular or VHF.

Tally and Preview

Tally is received directly from the switchers or through TSL or GPIO. Tally is sent to the cameras that support it, or an external tally light or LED can be connected to a Rio Live
The RCP follows the preview selection made on the switcher

PTZ and Gimbals

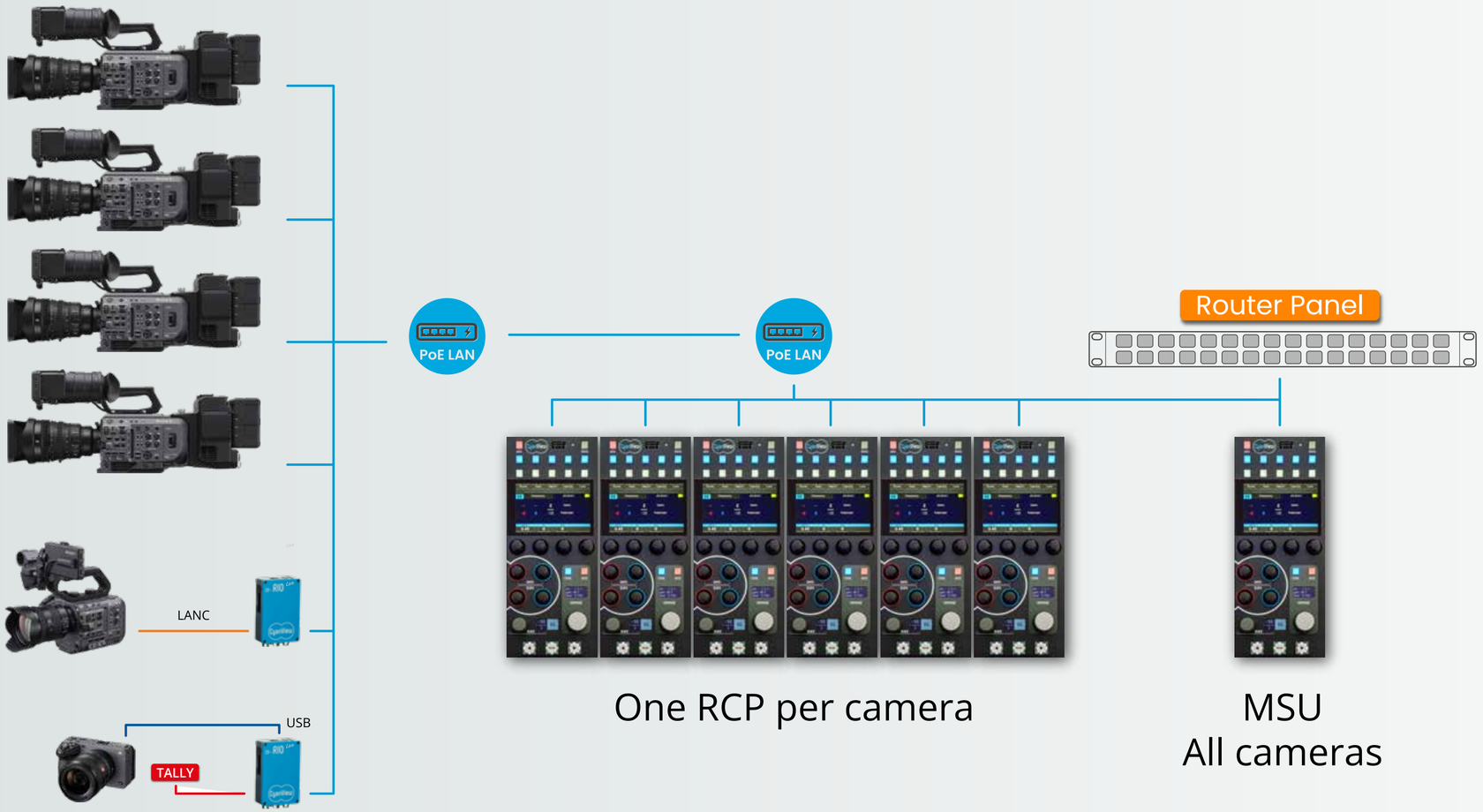
Shading, tally and pan/tilt/zoom/focus controls are all supported from the RCP.

SOLUTION

Multi-RCP Workflow

Live Productions with D-Cinema cameras

Live CyanView



Universal RCP

The same RCP can be configured to control any supported brand and model of camera

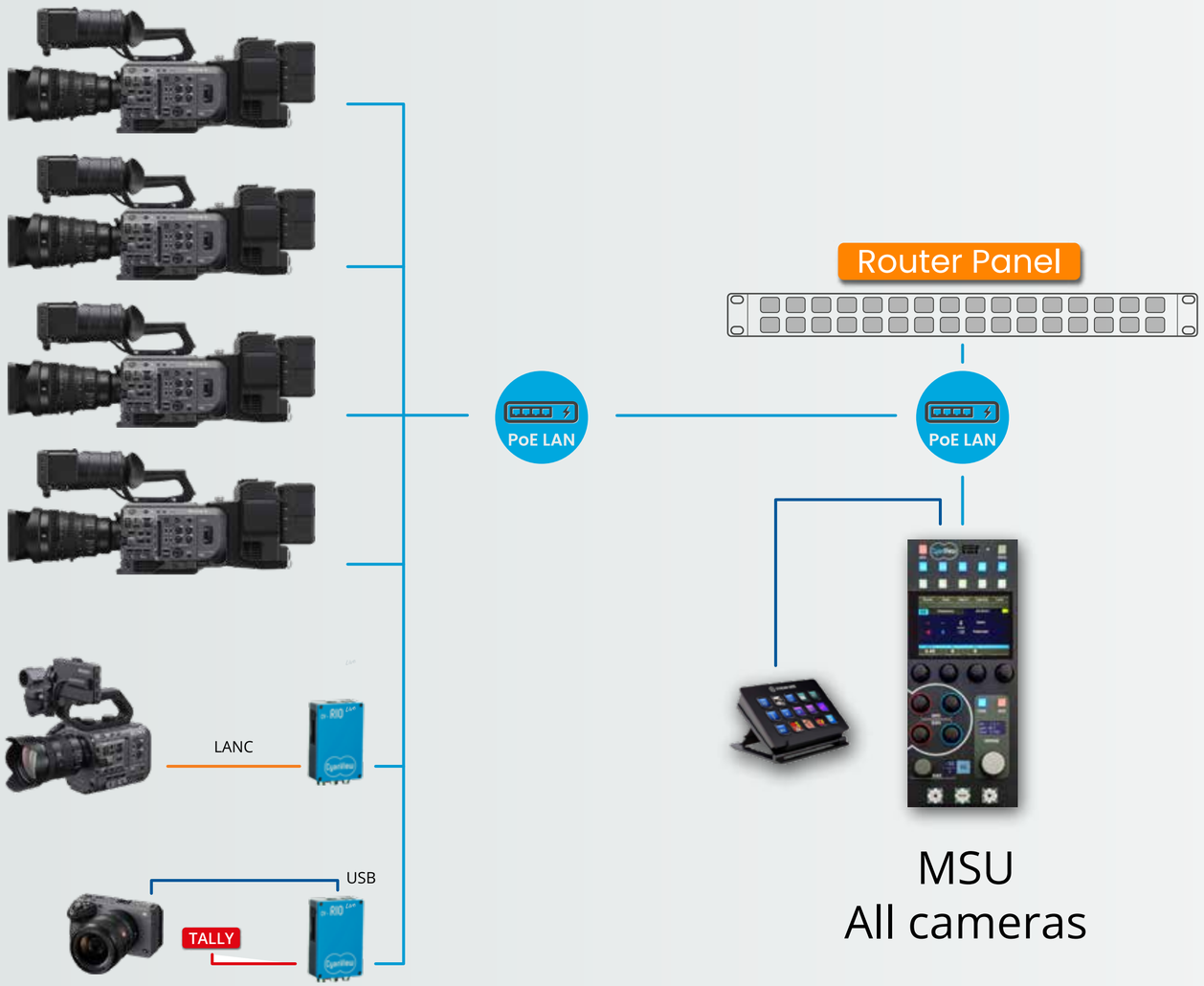
MSU for groups (REC all)

One or multiple RCPs are usually configured to control a group or all cameras. This can be used as an MSU to start record on all cameras at once or control a group of cameras in synchronization. This is also useful to access the camera menus from another position for configuration or erasing cards

SOLUTION

Single RCP Workflow

Live Productions with D-Cinema cameras



All cameras from one RCP

A single RCP is able to control any number of cameras with instantaneous switching between cameras. Brands and models can be mixed, as well as integrations with lenses, color correctors, mixers, gimbals, etc.

Router Integration

When a camera is selected on the router, the RCP will follow and automatically select that camera. Changing camera on the RCP also switches the router automatically so both stay in synchronization.

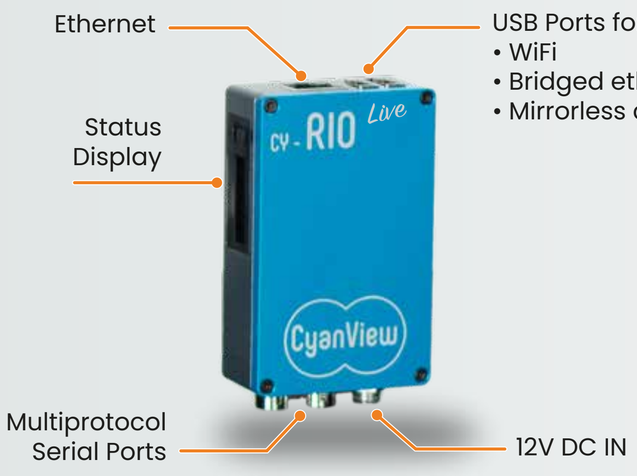
Camera selection

Camera can be selected from multiple panels: the router panel, the RCP itself or a stream deck connected to the RCP. A webpage is also available to switch cameras from a touchscreen.

SOLUTION

Rio Live - Communication

Live Productions with D-Cinema cameras



Wifi Station + AP

Dual WiFi interface: can create an access point for cameras to connect to it, and connect to another WiFi network at the same time.
The Bridged Access Point mode allows accessing connected cameras as if they were on an ethernet switch. This s typical used to keep a very short wifi connection between RIO and the camera and extending it over wired ethernet or fiber.

Bridged Ethernet

Rio is used to handle multiple interfaces on the camera side like lens control, serial ports, IP or WiFi, and USB.
When the camera has a wired IP connection, a USB ethernet dongle can be used in bridged mode to connect both the camera and the inbound connection as if they were on the same switch. It is then still possible to access the camera over its IP address as norma.

Upgrade to the full RIO license for remote features

Internet and Cellular

Camera shading over the internet is possible using the full licese which provides remote production capabilities. One RCP can control RIO cameras over a cloud relay and a simple 4G/LTE dongle can be used to control the camera wirelessly over cellular. Full control of camera and accessories remains identical, just as if it was local.

RF -VHF

When cellular can't be used, a second option will be available soon to provide shading controls over a VHF link which will work at the same time as the IP options (wifi or cellular)

SOLUTION

Rio Live - Lens Control

Live Productions with D-Cinema cameras

Live CyanView

B4 ENG lenses

B4 lenses can be controlled using the CY-CBL-6P-B4-01 cable and selecting the “B4 Generic” protocol in the interface. Control is done use the serial protocol, not the analog lines so the lens has to support digital control.

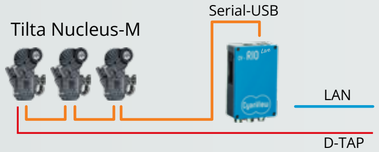
For Canon, RIO also supports another protocol called “B4 Canon” in the interface and using the 20-pin connector using the CY-CBL-6P-CN-REM cable. This is mainly useful when the lens is already controlled by a camera and RIO will handle zoom/focus controls only.

For Fujinon lenses, it is also possible to control zoom and focus only through the 20-pin AUX connector using the CY-CBL-6P-FUJI cable and selecting the protocol named “B4 Fuji” in the interface.

B4 Box lenses

Box lenses can be controlled using the same “B4 Generic” protocol and CY-CBL-6P-B4-01 cable. Use lens support Fujinon ELH-112A-35A or Canon SUP-NS3 which both have a switch to select serial control instead of normal/parallel. The switch has to be in the serial position to get control. The old Fujinon ELH-112A-18A will require a wiring modification as they don’t have the switch. Fujinon can provide the information though.

Tilta Nucleus-M Motors



Up to 3 Tilta Nucleus-M Motors can directly be driven by a RIO using the CY-CBL-TILTA-01 USB serial cable. Power is provided on the side from the Tilta D-TAP cable. Calibration of iris range is done through the configuration interface.

The Tilta remote can also be used on the RCP side to control zoom and focus of tilta motors but also of any other lens.

Canon CineServo

Canon CineServo have the same 12-pin connector as B4 lenses and control is done using the same cable and protocol.

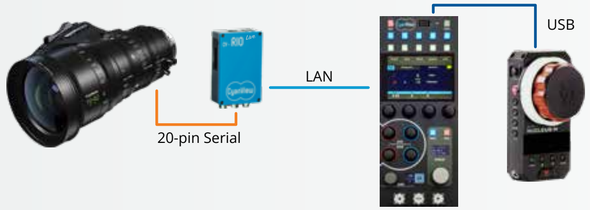
Fujinon Cabrio

Fujinon lenses can be controlled directly through the 20-pin AUX connector using the CY-CBL-6P-FUJI cable and selecting the protocol named “B4 Fuji” in the interface. It is also possible to use the CY-CBL-6P-B4-01 combined with the Fujinon 20-pin to 12-pin cable and using the protocol named “B4 Generic” ivn the interface.

C-Motion Broadcast Camin

C-Motion supports the “B4 Generic” protocol. You need the C-Motion RVI-9 cable to allow serial control of the unit, and the CY-CBL-6P-B4-01 cable to link it to the RIO connector.

Control from RCP and Tilta Remote



Any lens can be controlled from the RCP and optional remotes. Iriintegrated with the other camera control on the RCP interface. Zoom and focus can be controlled from the touchscreen.

A Tilta remote can be connected to the RCP to accurately control zoom and focus using the CY-CBL-TILTA-01 USB serial cable.

SOLUTION

Live Productions with Canon cameras

Universal Shading and Control solution

Live CyanView

Canon

EOS C300 Mark III

The C300 Mark III supports the new XC protocol over IP which provides more controls than the Remote-A port and real camera values like Iris are now displayed on the RCP. The EU-V1 or EU-V2 Expansion Units are needed to provide the ethernet connector.

C200 / C300 / C500

Control of the previous EOS-C models is done through the Remote-A 2.5mm jack port. This provides the same functionality as the RCV-100 remote. Most settings are controlled in relative mode which doesn't provide accurate readings of the camera settings.
A tally LED of box can be connected on the second RIO port.
Remote-B is not supported as it is only available to a few cameras and doesn't provide more features than Remote-A.

C70

The C70 can also be controlled over Remote-A. An external tally light can be added on the camera hotshoe. Tilta motors or C-Motion Broadcast Camin can be used to motorize lenses.

EOS R5

The Canon R5 can be controlled over USB. Control is rather good and bidirectional.
Tilta motors or C-Motion Broadcast Camin can be used to motorize lenses.

XF405

Just like the EOS series, the Remote-A port is used to control Canon camcorders.
Tally can be provided as an external light box of LED.

CR-N300 / CR-N500

The new CR-N series of PTZ cameras support the Canon XC protocol over IP.
The RCP can handle as many cameras as needed. Group of cameras can be configured in order to adjust multiple cameras at once.

ME200

The ME200 and ME200 camera box also support the Remote-A protocol and as such can be controlled like the EOS and XF camera series.

SOLUTION

Live Productions with Panasonic cameras

Live CyanView

Universal Shading and Control solution

Varicam

Control of the Varicam is done directly over IP. Panasonic has extensive and accurate camera control protocols which gives their cameras the best remote functionities. All models of the Varicam are supported.

AU-EVA1

The EVA1 has extensive camera controls and tally. Most of the amera settings, including the Multi-Matrix, are accessible remotely. The camera is connected over IP using one of the supported USB-RJ45 dongle or the USB Panasonic WiFi dongle.

CX Series

The CX Series provide the standard controls over IP: exposure, white and black balance. Menu navigation is possible so any other parameter can be configured that way. Tally isn't available though.

BGH1 / BS1H

BGH1 and BS1H are new Panasonic camera blocks based on their mirrorless series. Control is done over IP and covers white balance and exposure. The camera is PoE so a minimum set of cables is needed while the SDI out can be interfaced directly to broadcast equipment.

GH5S

The Panasonic GH5S can be controlled over USB. External lens motors from Tilta or using C-Motion Broadcast Camin are supported. This is useful on gimbals or drones. An external tally box or LED can be connected to RIO directly.

Panasonic

P2 camcorders

Control of the PX270 to PX5000 is supported over IP, including built-in tally.

P2 AJPX old series

Older P2 camcorders can be controlled using a CI0 or Rio Live and a 10-pin adapter cable. Exposure, white/black color balance are available remotely. Some other functions like saturation or menu navigation can be availlable on some models.

UB-300

The Panasonic UB-300 4K box camera can be controlled over IP and most camera functions are supported with direct access.

HE/UE PTZ Series

Very good control of most functions of the camera from the RCP using a simple LAN connection. Color settings, pan/tilt and tally are supported. As many cameras and models as needed can accessed from one RCP.

SOLUTION

Live Productions with Sony cameras

Universal Shading and Control solution

Live CyanView

Venice

Control of the Venice using a Rio Live which can control the camera over the 8-pin connector and can drive Tilta motors for lens motor-ization.

FX9

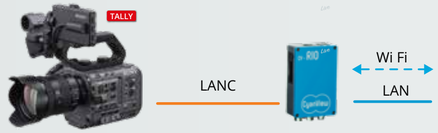
Control of the FX9 through LAN using the 700 protocol combined with some settings of the webpage like menu navigagtion, start/stop record.

The FX9 can also be controlled over wifi when connected to a wifi router, or using a RIO Live over LAN which will make a wifi access point in bridge mode near the camera.

Fujinon Cabrio
Canon CineServo
C-Motion/Chrosziel
Tilta Nucleus-M

A Rio Live can be added to control ENG or PL lenses directly or through C-Motion or Chrosziel systems, or drive Tilta motors directly.

FX6 / FS5 / FS7



The FX6 and smaller camcorders can be controlled using LANC. The protocol is limited to exposure (iris, electronic ND, gain), menu navigagtion, record and tally. No color settings unfortunately. The RIO Live can be connected on LAN or Wi Fi

FX3 / Alpha

The FX3 and A7S3 are controlled over USB through Rio Live and provide exposure and color settings. An external tally box or LED can be connected to RIO

SONY

System Cameras

System cameras can be controlled in bridge mode. This is useful using wireless systems or control over cellular or internet. The RCP only provides the most common paint settings, this is not meant to replace a Sony RCP

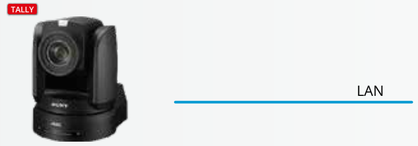
ENG Camcorders

Control of the camera over the 8-pin connector, can be used wired or over wifi. Built-in tally control and all settings provided by the protocol are covered.

Handheld Camcorders

Handheld camcorders can be controlled over LANC. Newer models have built-in tally but an external box or LED can be added. The protocol is limited to exposure (iris, electronic ND, gain), menu navigagtion, record and tally. No color settings.

PTZ



Good control of most functions of the camera from the RCP using a simple LAN connection. Color settings, pan/tilt and tally are supported.

RX0 II

Using the same control protocol as the A7S3/FX3, the RX0 II can be used as a controlled PoV which can also be placed on a small gimbal.

SOLUTION

Live Productions with Sony cameras

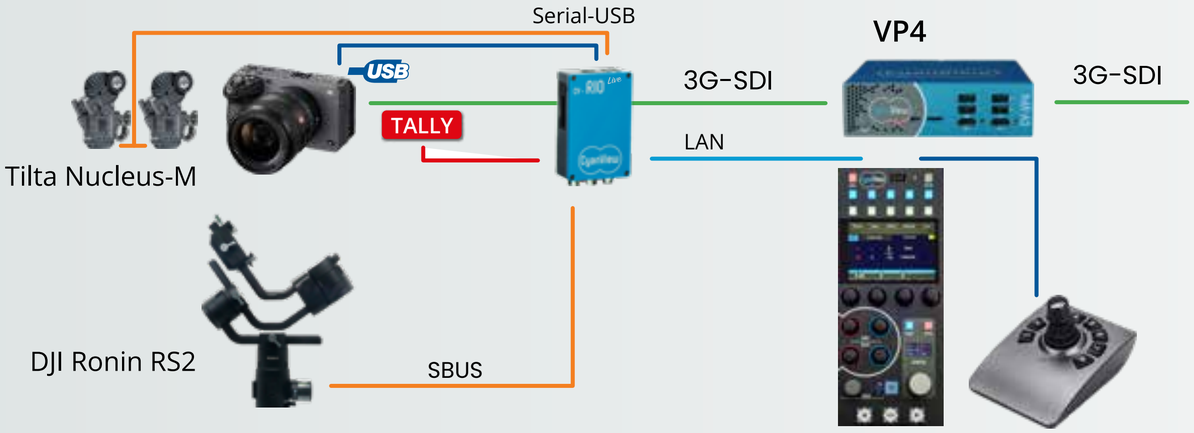
Universal Shading and Control solution

Live CyanView

FX9 and PL lens

- Lens and camera are controlled from the same RCP interface just like a standard camera
- Camera IP is visible through RIO, the webpage is accessible like usual
- Internal tally is visible on the viewfinder, an external tally box or LED can be added on RIO's second port

FX3, motorized lens and Gimbal



- Iris is controlled through the camera
- Zoom and focus are controlled from the Titla motors
- Pan/Tilt/Roll are available from the RCP or using a joystick
- An external tally box can be mounted on the camera hotshoe
- Converted from HDMI to SDI, the video signal can be processed through a video corrector for black balance, multi-matrix, detail, etc.

SOLUTION

Tally Configuration

Universal Shading and Control solution

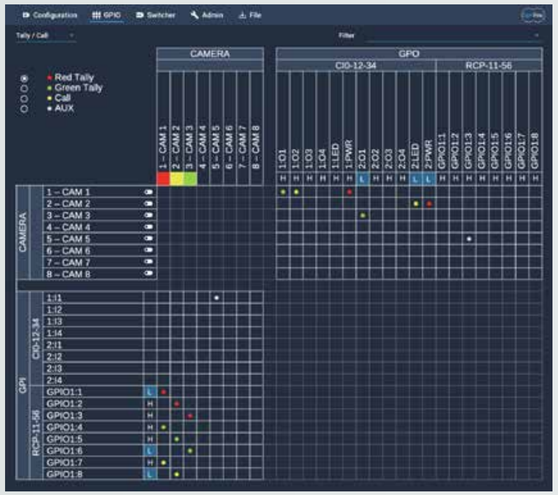
Live CyanView

Tally Light

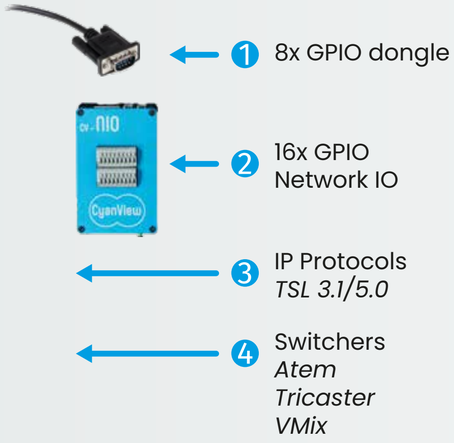
Tally Monitor

- The internal tally of the camera is controlled from the protocol when available
- An external tally box or LED can be added on a RIO or CI0

GPIO Configuration



Ingest



- Tally can be received using protocols like TSL or directly from mixers like Atem, Trickster or Vmix
- GPIO are available as an 8x GPIO dongle on the RCP or a separate network IO interface (NIO) with 16 GPIO
- GPIO can be configured as input or output and used for tally and camera preview or touchdown

SOLUTION

Color Correctors

Universal Shading and Control solution

Live CyanView

FX3 + VP4 as a CCU

Camera Controls:

- Iris
- Shutter
- Gain (ISO)
- Color temperature, R and B gains
- Record control

VP4 controls:

- White balance - Master, R, B gains
- Black balance - - Master, R, B pedestals
- Gamma - Master, R, B
- Saturation
- Black gamma
- Detail / Coring
- 16 vectors Multi-Matrix
- White clip
- Scene files

Missing controls and matching

A color corrector is usually added to give back the missing controls of some cameras but also to better match the main cameras with advanced controls like the multi-matrix

Unified interface

The RCP shows a single interface for both camera and post processing.
A quick selection of camera or post only shows the available controls of each side
If some settings are available in both the camera and post like color gains, the priority can be selected and quickly inverted.

Other correctors and 3D LUTs

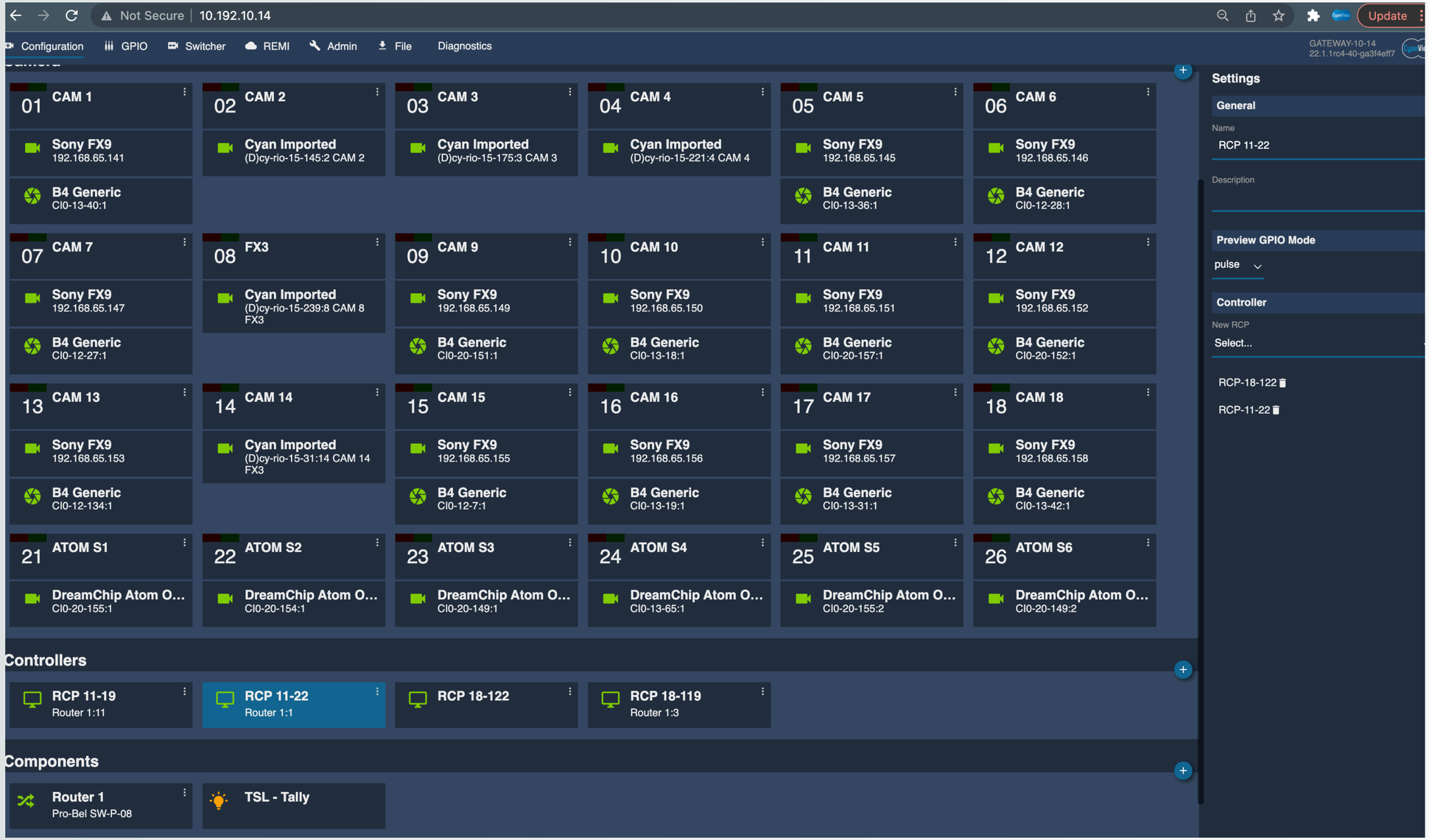
Other color correctors like the Aja FS-HDR are also supported. We're also working on integrating 3D LUT boxes like the Flanders BoxIO

SOLUTION

Configuration and dashboard

Universal Shading and Control solution

Live CyanView



Configuration

- Cameras and protocols
- External lens control
- Color correctors
- Tally
- Router and switcher integrations

Dashboard

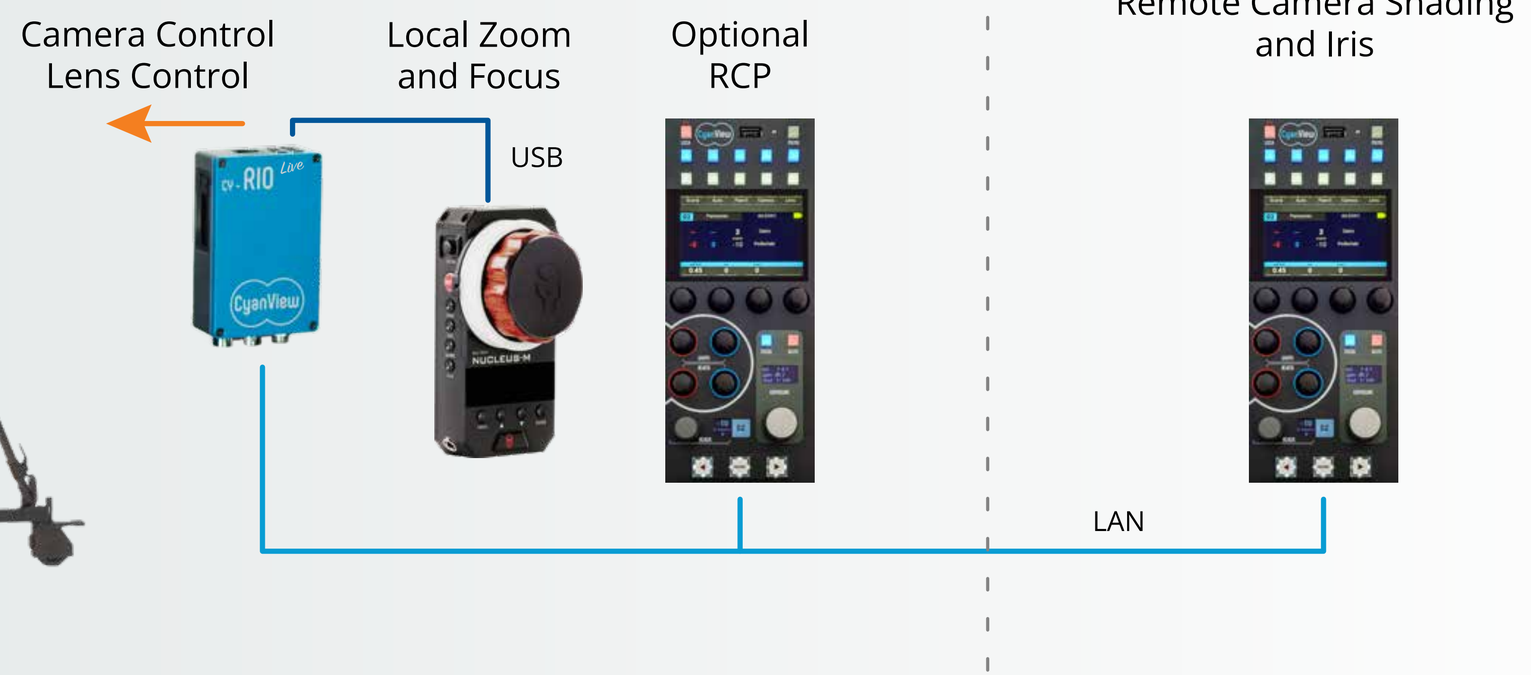
- Check if camera and lenses are always connected, green icons turn red as control is lost
- Monitor tally

SOLUTION

Specialty Applications

Universal Shading and Control solution

Live CyanView



Any camera and lens

On a Polecam, you have the choice of mini-cameras or small D-Cine cameras such as Red Komodo, Panasonic EVA-1, BGH1 or BS1H, Blacmagic Micro Studio, Sony FX3 or FX6, Canon R5 or C200. With Tilta motors, you can add lens control when required.

Control from both sides

Remotes can be connected either on the RCP or on the RIO itself. For applications such as Polecat, controlling zoom and focus from the camera side is necessary while camera shading and iris are accessed remotely from the control room

When required, it is also possible to add a second RCP on the camera side, both can work simultaneously.