CyanView

Professional Live Broadcast Controls

Shade **Any Camera** from **Anywhere**

Ideal shading conditions

For a perfect camera matching

When shading isn't available

Specialty cameras or lower-tier productions
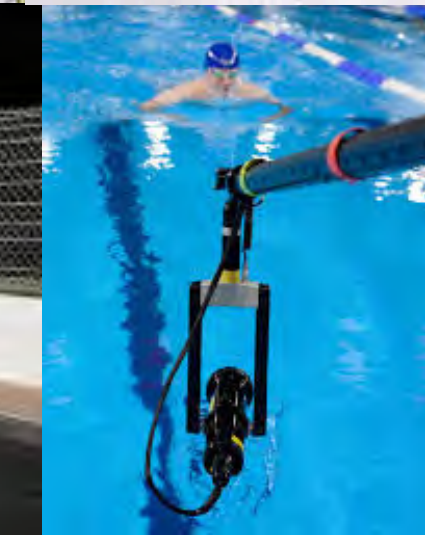

Specialty Cameras

PTZ

Camcorder

D-Cinema

Wireless or Remote

Substitution technologies

Various solutions are put in place to improve camera matching: converters to bring data control to cameras, software control, frame sync with color correctors, etc.

Colors still don't match!

Even with these solutions, a good color matching between different cameras isn't usually achieved

Solutions for top-tier productions

Shade your Specialty Cameras

CyanView

Mini cameras	Robotics

PTZ	RF - Wireless

Hi-Motion	Drones

Color Correctors	CCU

Shade all your specialty cameras from a single panel integrated for vision/video engineers

Solutions for lower-tier productions

Main production cameras

Compact Camcorders

Mini cameras

ENG Camcorders

Gimbals - Robotics

D-Cinema

PTZ

Blackmagic

CCU

Solutions for remote productions

Shading from one camera to a full production

CyanView

- Compact Camcorders
- Robotics
- ENG Camcorders
- PTZ
- System Camera
- Mini cameras
- D-Cinema
- CCU

Solutions to shade and match live cameras

Mini Cameras

Control mini-cameras from Blackmagic, CIS, Camera Corps, Dreamchip, IO Industries, Marshall, Toshiba

PTZ and Robotics

Panasonic, Sony, Lumens, Marshall cameras can be controlled both for shading and PTZ. Gimbals and some robotic heads are now supported as well as specialty cameras from Agile and Camera Corps.

Color Correction for Camera Matching

Control standard color correctors from Axon, Aja, Evertz, Fora, Lawo or use Cyanview's advanced corrections for better camera matching!

Camcorders

Mix control of any camcorder and Studio camera for your Flypack and Light Scale productions on a single or multiple RCPs

@ Home / Remote Production

Control any camera over the internet, wirelessly over cellular 4G/LTE, and integrate with Cellular Video Transmitters

D-Cinema cameras

Control Arri, Blackmagic, Canon C200-C700, Panasonic EVA-1 and Varicam, Sony FS5/FS7/FX9 . Combine with tally and control of B4 lenses.

Specialty Cameras

ENG

OB

Large Sensor

CyanView

Mini-Cameras

Shade your Specialty Cameras

Mini cameras

AIDA

AJA
VIDEO SYSTEMS

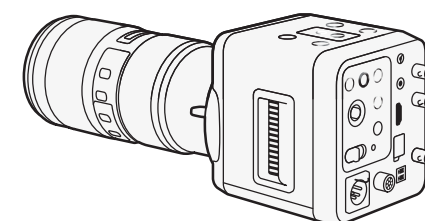Blackmagicdesign

CAMERA CORPS

Canon

CIS

Dream CHIP

IOI
IO INDUSTRIES

Marshall
BROADCAST & PRO AV

SONY

TOSHIBA

SERIAL + 12V

RS232
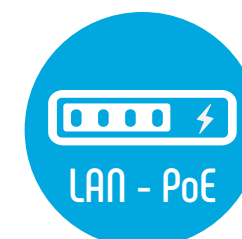RS422
RS485
SONY LANC
CANON
SBUS

CIO

LAN + PoE

LAN - PoE

LAN + PoE

RCP

PTZ

agile
REMOTE CAMERAS

AIDA
IMAGING

BirdDog

BOLIN
TECHNOLOGY

CAMERA CORPS

Lumens
Brilliance by Design

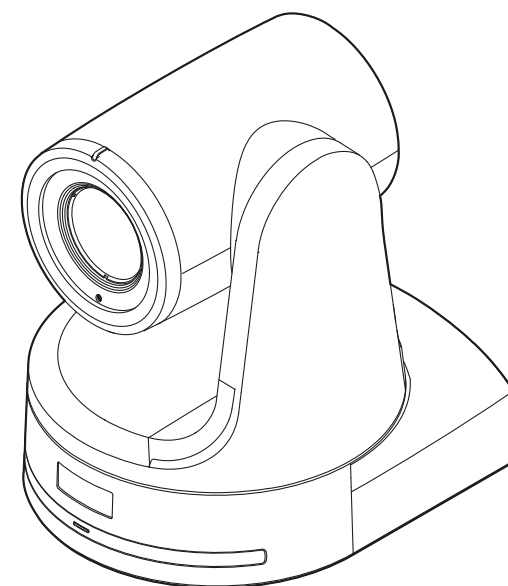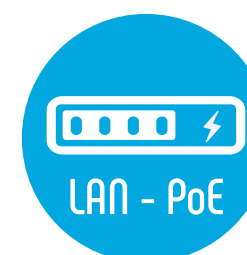Panasonic

Marshall
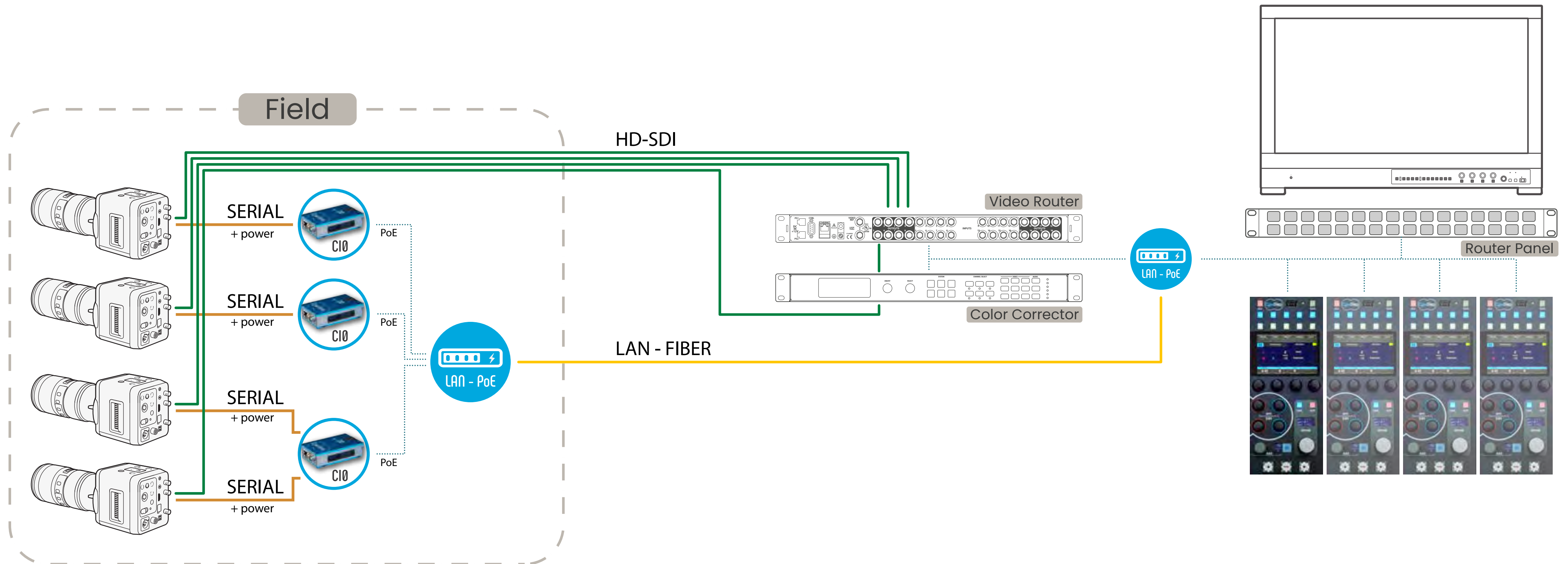BROADCAST & PRO AV
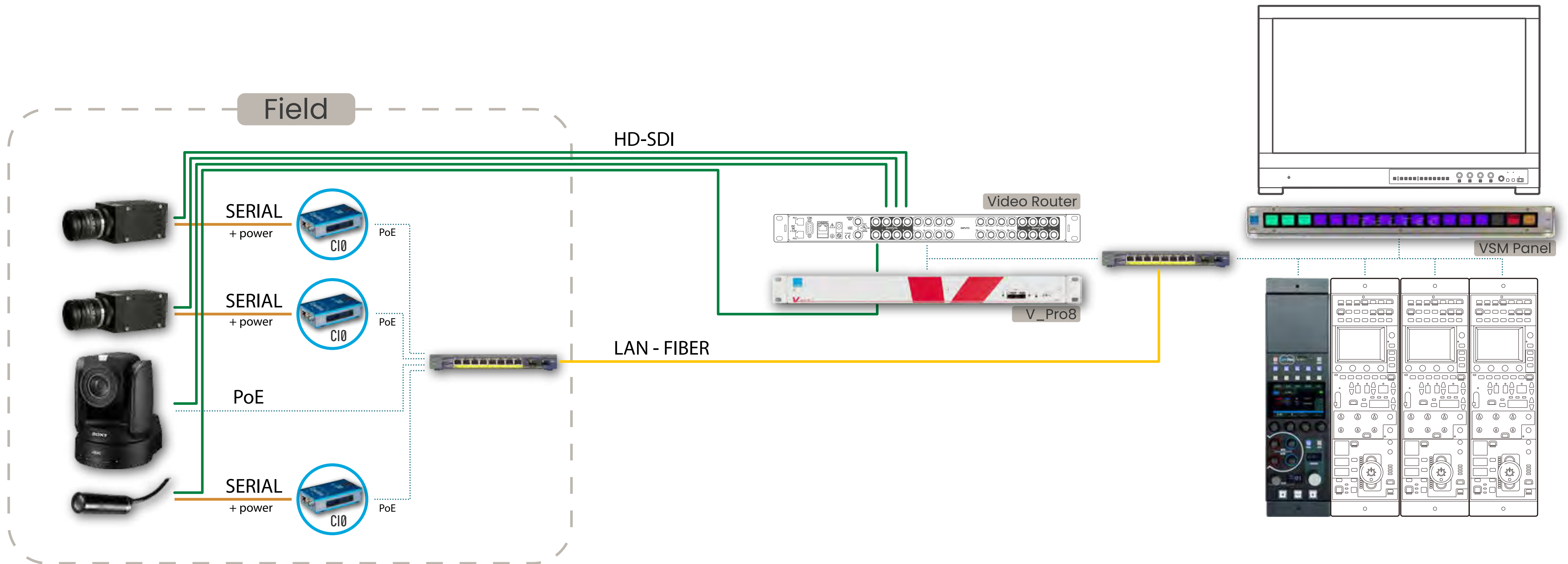
SONY

LAN + PoE

LAN - PoE

LAN + PoE

RCP

Integration of Mini-Cameras

Integration of Mini Cameras with Color Correctors and Router Switching

Specialty cameras in Tier One Productions

Shade your Specialty Cameras

Field

HD-SDI

SERIAL
+ power
CI0
PoE

SERIAL
+ power
CI0
PoE

PoE

SERIAL
+ power
CI0
PoE

LAN - FIBER

Video Router

V_Pro8

VSM Panel

PTZ and mini-cameras in lower Tier Productions

Shade your Specialty Cameras

Field

HD-SDI

SERIAL
+ power

CI0

PoE

PoE

Videohub

FS4

SERIAL
+ power

CI0

PoE

LAN - FIBER

USB

PoE

Streamdeck

HDMI to SDI
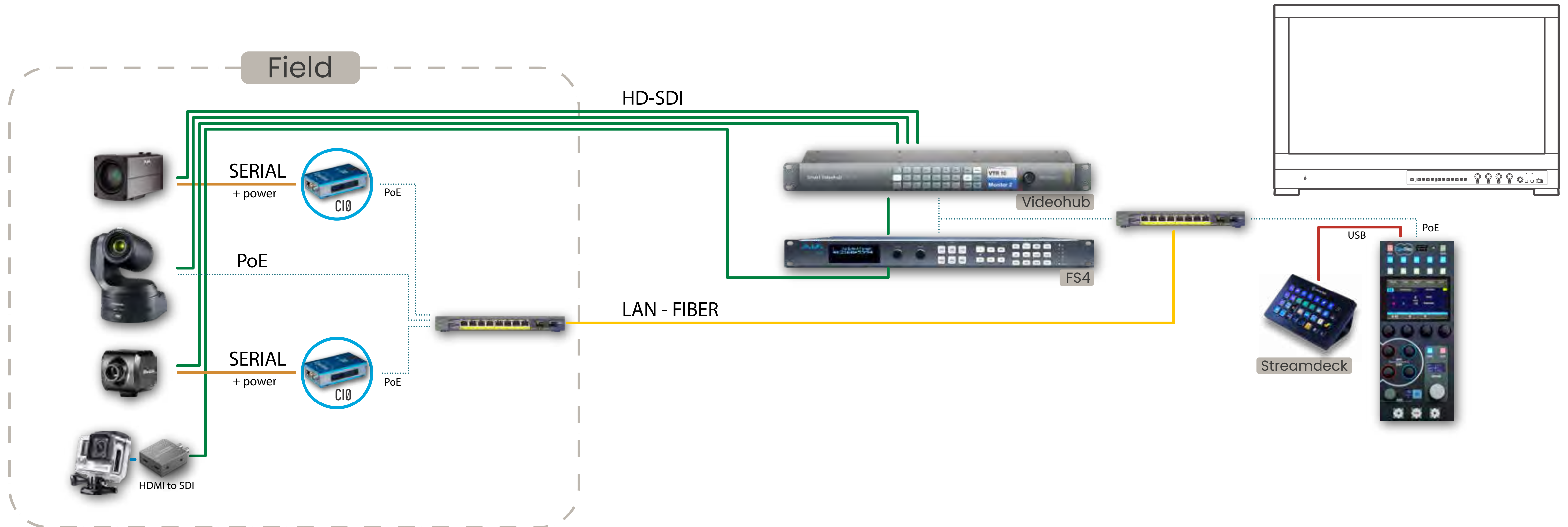
@ Home / Remote Production
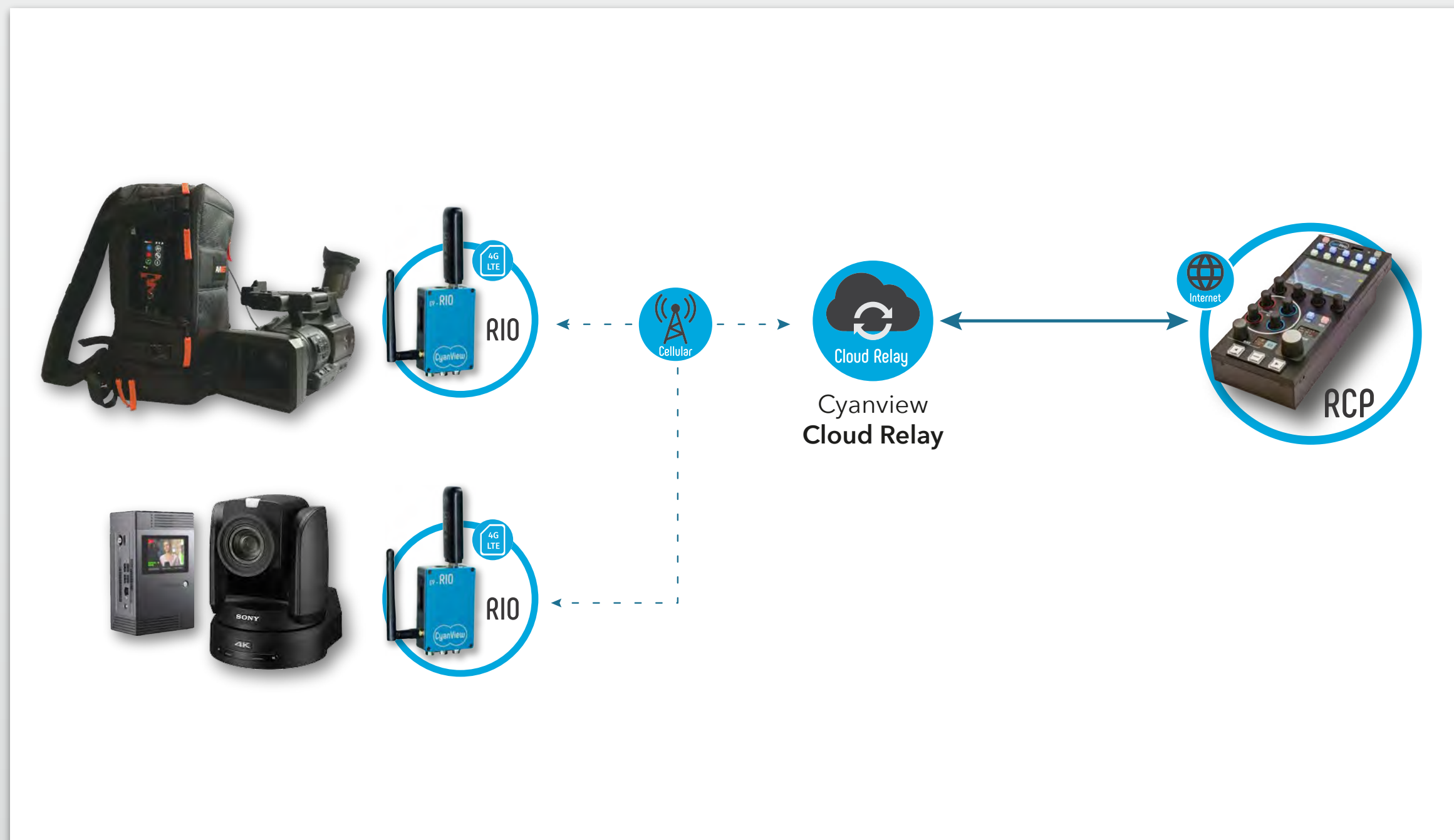

Control your cameras over Wi-Fi, over the internet or 4G/LTE
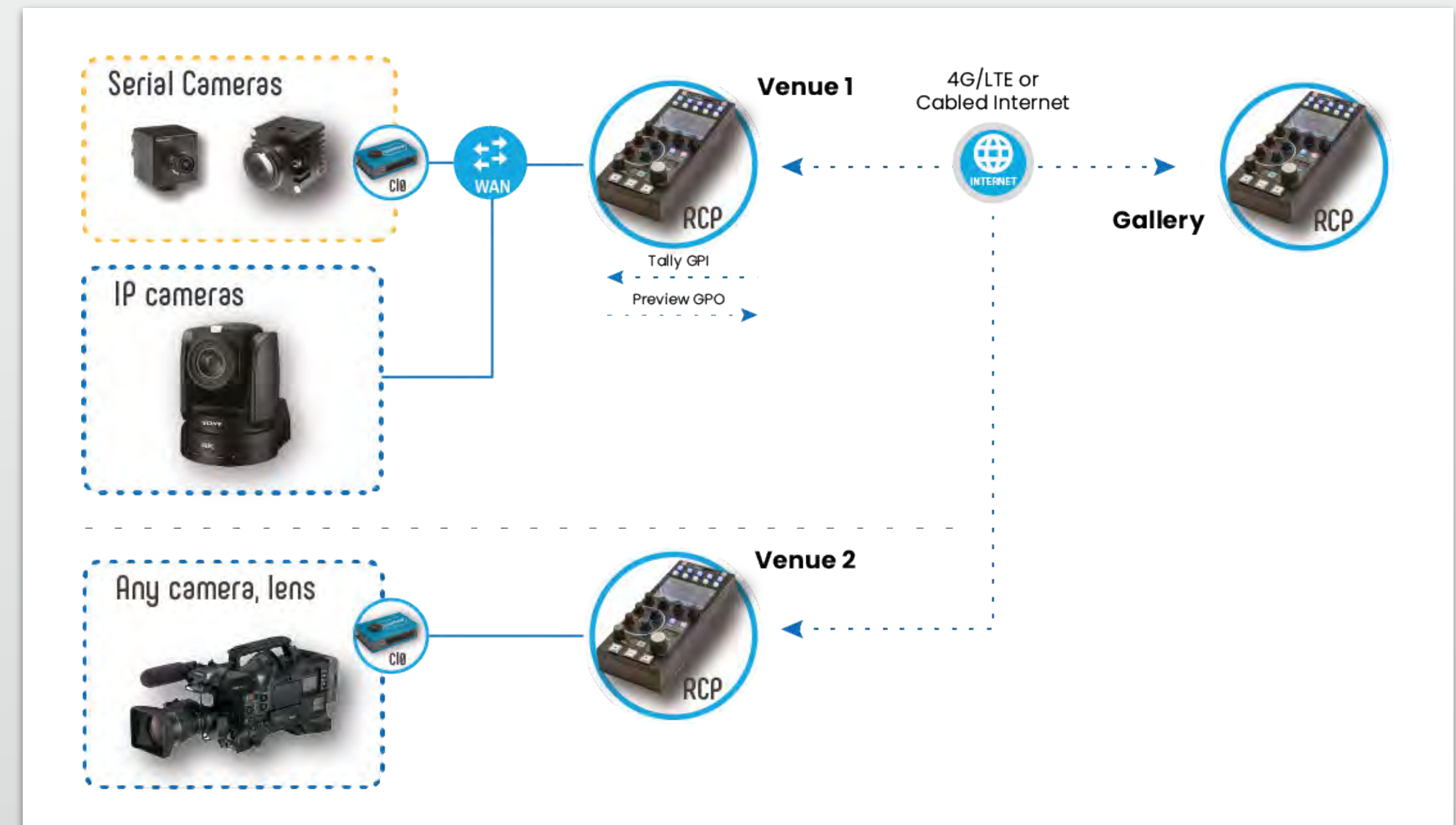Perfect companion for Bonded Cellular transmission

RIO — Remote Camera Control

Control multiple production sites from a central
galleries while keeping local control on site

REMI — Remotely control all your productions

RIO — Shade Anything Anywhere

Get control of your cameras remotely

CyanView
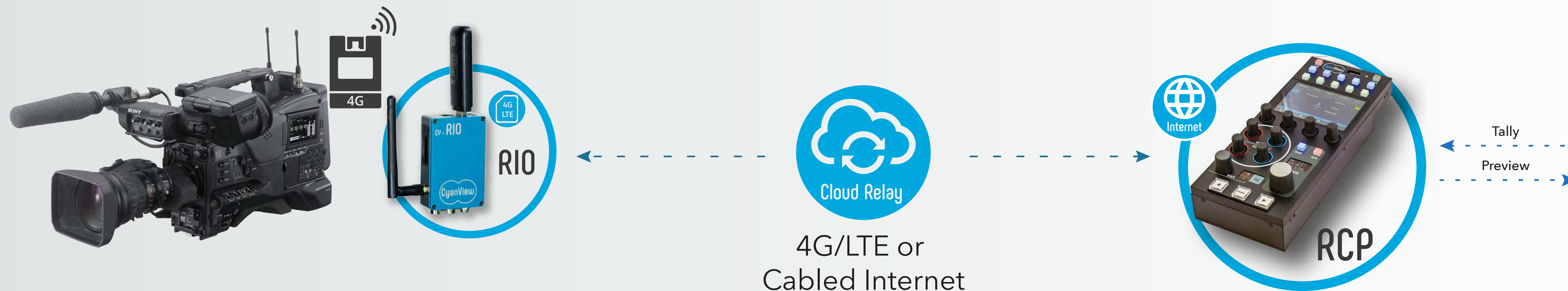
4G

RIO

4G LTE

Cloud Relay

4G/LTE or
Cabled Internet

Internet

RCP

Tally

Preview

Anything

- Any Camera
- Tally
- Lenses
- Pan/Tilt Heads

Anywhere

- Direct Ethernet
- Wifi
- Internet
- Cellular 4G / LTE
- RF Modems *future R&D

Control

- Universal RCP
- Physical knobs
- Multi-Cameras
- Mix brands and models
- Status dashboard

RIO — Any camera over the Internet

Supported Cameras and Accessories

CyanView

Camcorders

Mini Camcorders

PTZ

Mini-cams

System Cameras

Compact Heads

D-Cinema

Robotics / Gimbals

RIO — Wired and Wireless

Multi-camera remote production shading
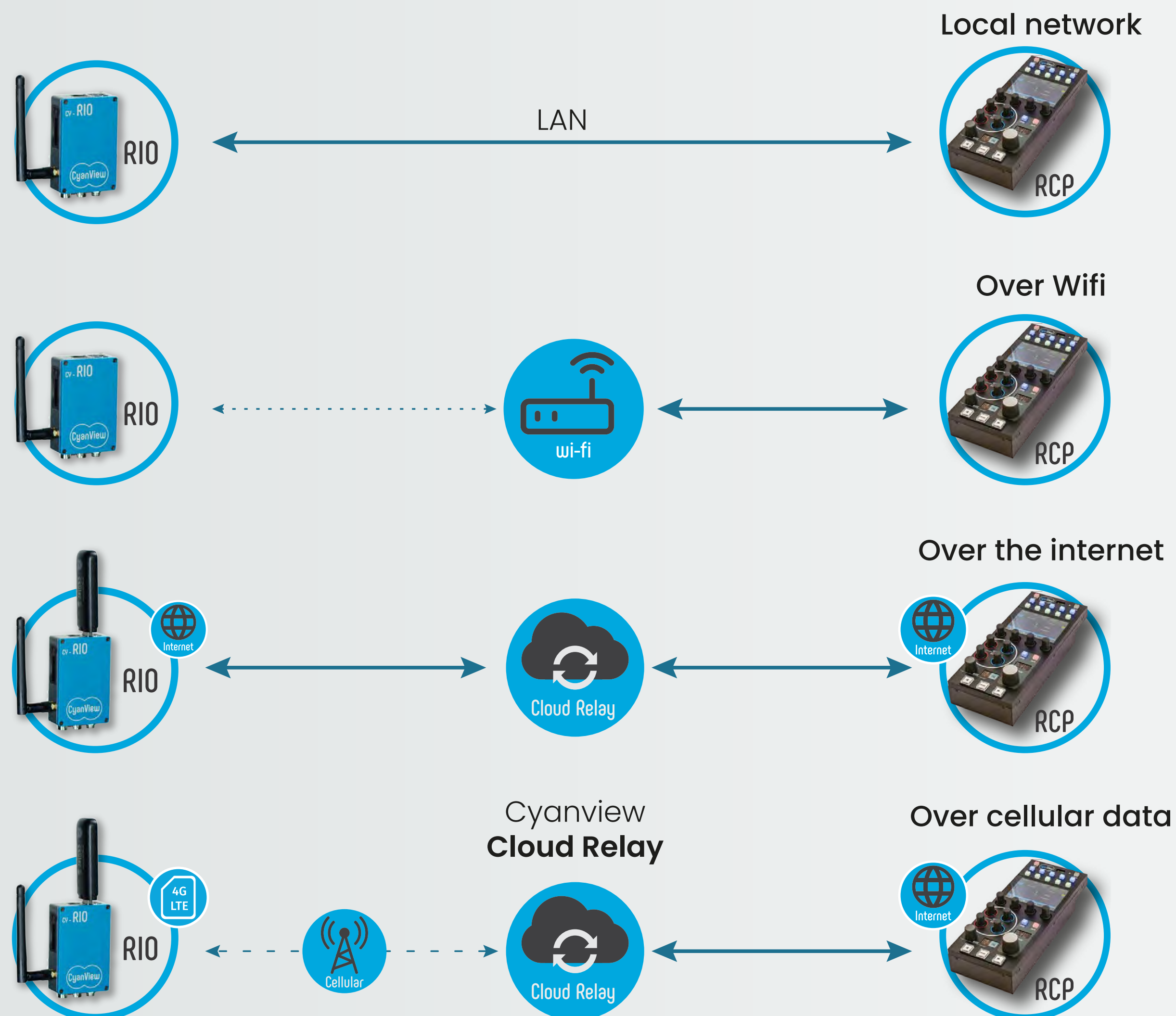
CyanView

Local network

LAN

RIO

RCP

Over Wifi

RIO

wi-fi

RCP

Over the internet

RIO

Internet

Cloud Relay

Internet

RCP

Cyanview
Cloud Relay

Over cellular data

RIO

4G LTE

Cellular

Cloud Relay

Internet

RCP

LAN
RIO can be configured as a regular CI0 camera interface on local networks. If the LAN has latency, it is also possible to configure the RIO working mode over LAN to get any camera protocol work over any latency.

Wi-Fi
RIO has the camera control protocols built-in so the camera connection will stay stable no matter the Wi-Fi network conditions and latency.

Internet
The RCP and RIO will connect as soon as both have a simple internet connection. The Cloud Relay makes it plug and play, avoiding any unnecessary configuration of ports on modems.

Cellular
Some bonding video systems provide IP Tunnels or internet access points that can be used to link the RCP and RIO. But it is also possible to add its own 4G USB dongle to get internet access on its own.

RIO — Extensive Interfacing

Wide range of ports for camera control and communication

CyanView
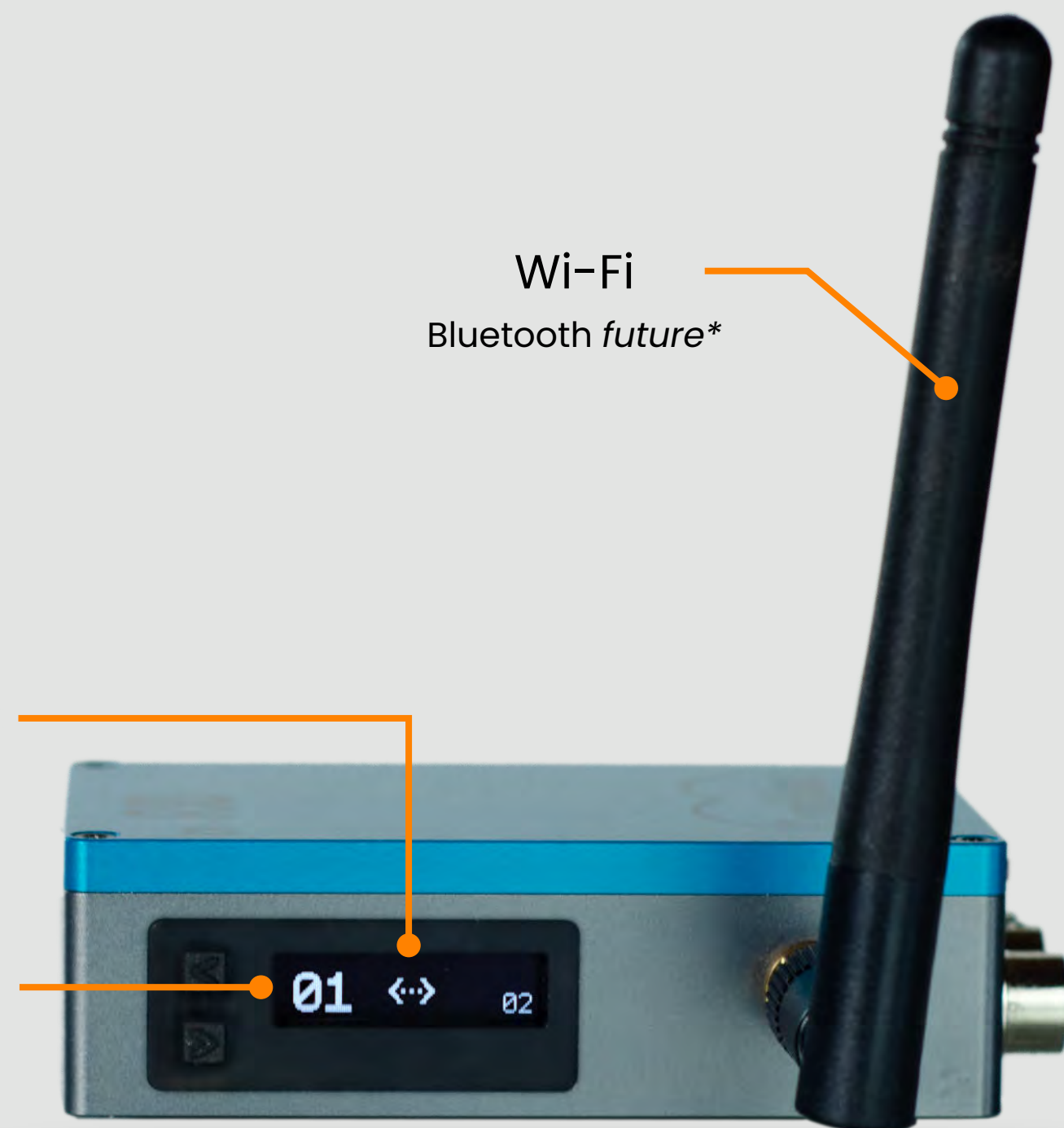

4G Dongle
*optional**

CNC Aluminium
Hard Casing

cy-RIO

CyanView

Wi-Fi
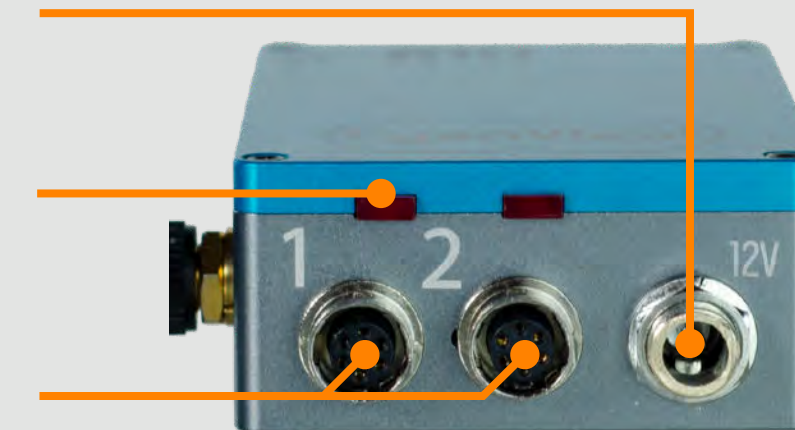Bluetooth *future**

Connection
Status
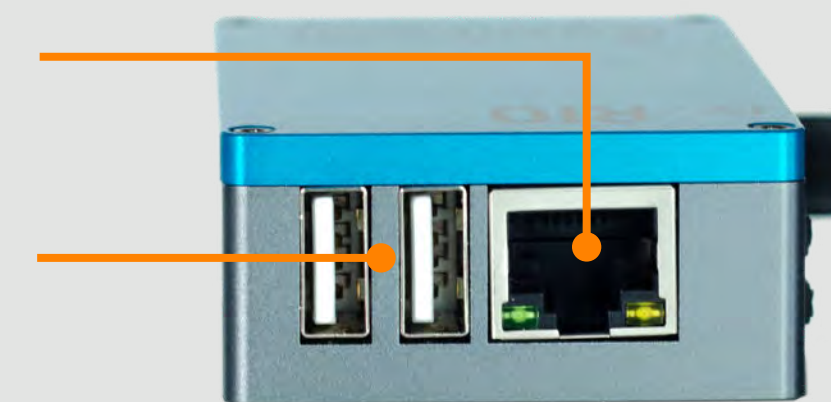
Camera
Control Status

01 ‹··› 02

Power

Tally
Indicators

2 Serial Ports
Camera Control

1 2 12V

Ethernet

USB Extensions

RIO — Multiple tally options

Multi-camera remote production shading

CyanView

RIO

Built-in tally LED

Camera Tally through camera protocol

12V or TTL tally signal

PGM

RCP

Tally — **8x GPIO dongle**

Tally over IP — **TSL protocol Blackmagic Atem**
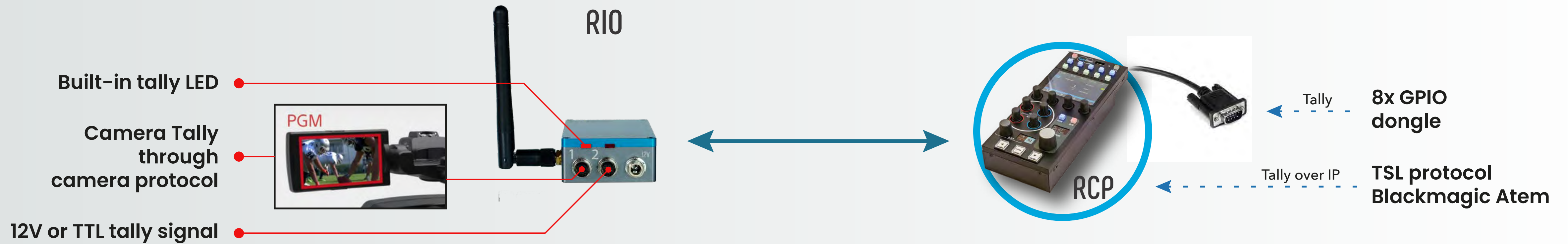
Taly in the viewfinder

As RIO controls the camera, whenever the protocol supports tally, it will be available in the camera as usual. Camcorders might be in record though in which case the other tally options are necessary.

External Tally Light

RIO provides a few TTL outputs that can be used to drive a tally light or circuitry. The 12V switchable power output of each Hirose connectors can also be used as a tally signal driving an LED or a small light directly.
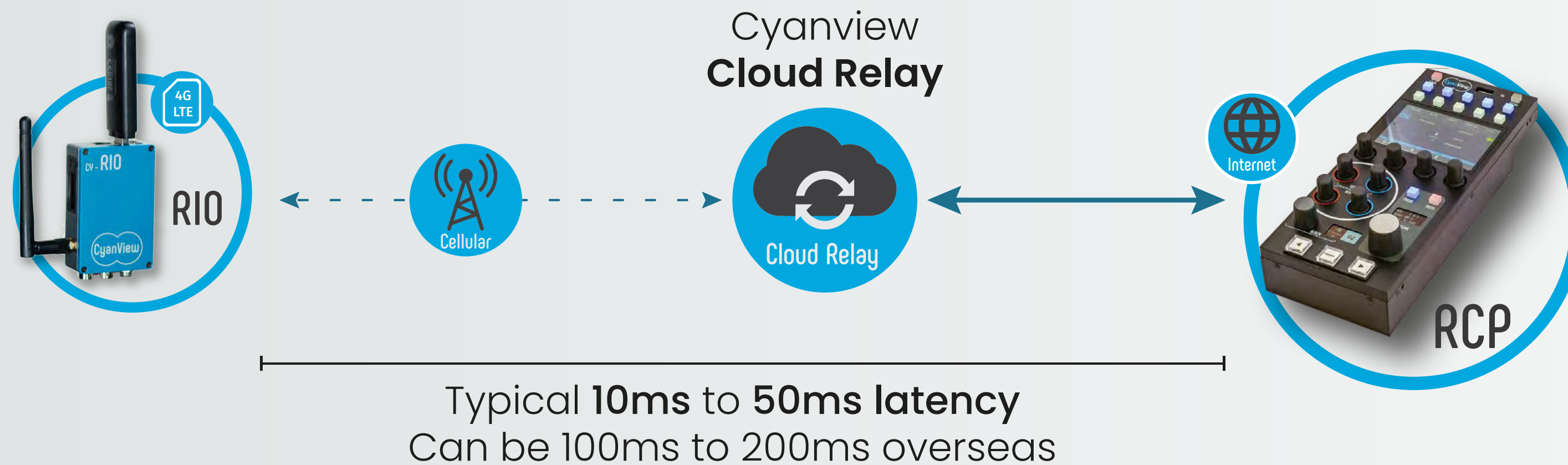
8x GPIO input

An accessory dongle for the RCP provides 8x GPIO for tall input and preview output. 2 dongles are supported which leads to a total of 16 possible inputs.

Tally Protocols (TSL)

Tally can also be ingested from the TSL protocol, from an IP connection to an Atom router or by monitoring one output of a supported router (i.e. Probel).

RIO — Latency, what does it mean

Multi-camera remote production shading

CyanView

Cyanview
Cloud Relay

RIO

Cellular

Cloud Relay

Internet

RCP

Typical **10ms** to **50ms latency**
Can be 100ms to 200ms overseas

Shading vs Video Latency

Shading latency is much lower than video latency which does require buffering to provide a reliable signal. Shading is low data and doesn't have much latency on its own but the effects of shading will be seen after the video comes back so both shading and video latency add-up.

Latency on control protocols

Control protocols have been designed for serial or local LAN networks and don't usually offer the best performance on higher latency networks such as public internet and cellular. Some protocols don't even work at all.
Cyanview implemented a protocol optimised to cope with higher latency networks to offer the best throughput and smoothness in paint controls and the lowest overall latency per camera command.
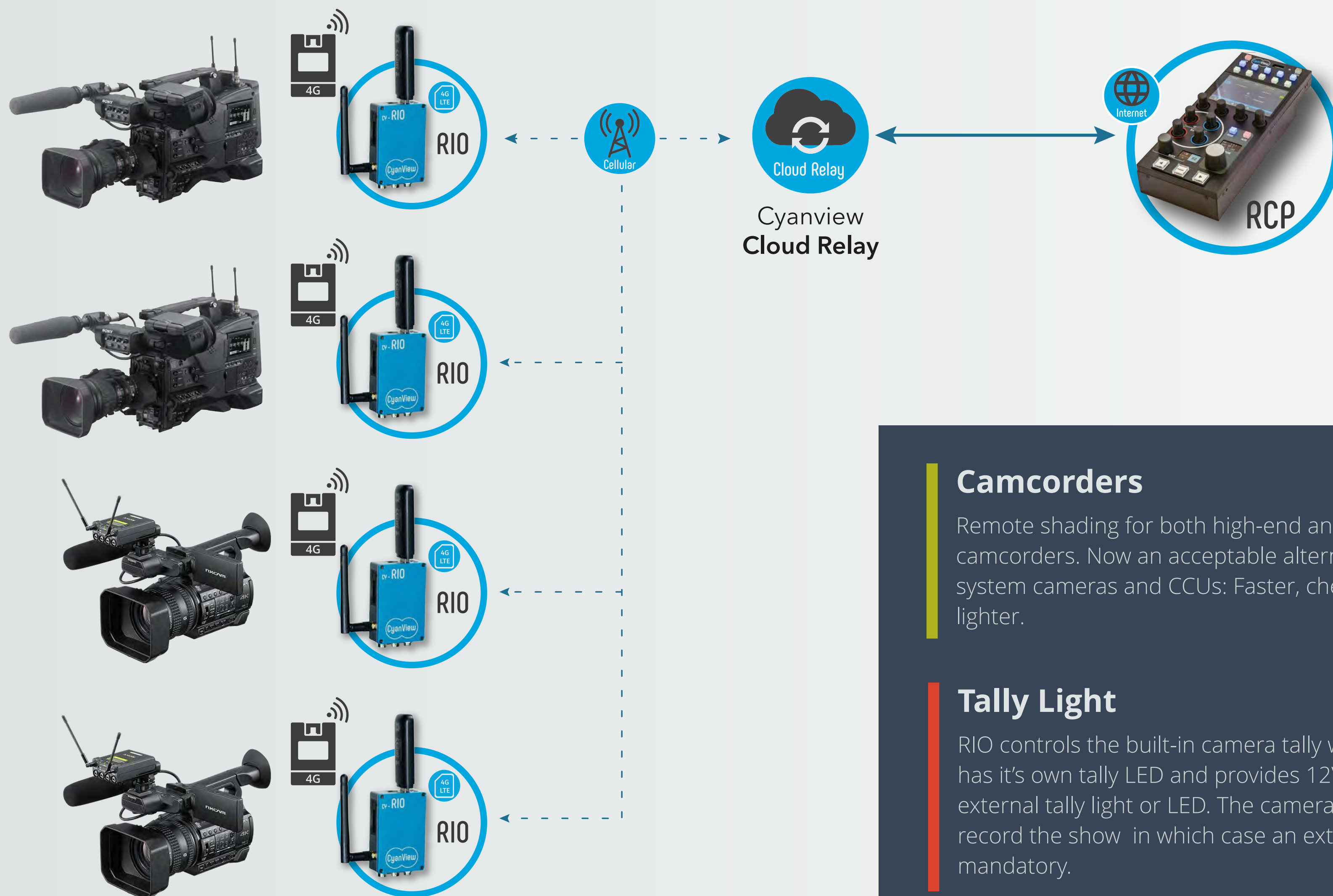
RIO vs TCP protocols

Some HTTP/TCP based protocols require a lot of communication and ACK to send just one command, so a latency of 10ms might result in one command every 100ms. In comparison, a command every 1ms can still be achieved with RIO with just 10ms latency.

RIO — Bonded Cellular Multicam Sports

Multi-camera remote production shading

CyanView

RIO

4G LTE

RIO

4G LTE

RIO

4G LTE

RIO

4G LTE

Cellular

Cloud Relay

Cyanview
Cloud Relay

Internet

RCP

"New Workflows for lower-cost productions"

Camcorders

Remote shading for both high-end and small camcorders. Now an acceptable alternative to system cameras and CCUs: Faster, cheaper, lighter.

Tally Light

RIO controls the built-in camera tally when possible, has it's own tally LED and provides 12V tally for an external tally light or LED. The camera might also record the show in which case an external tally is mandatory.
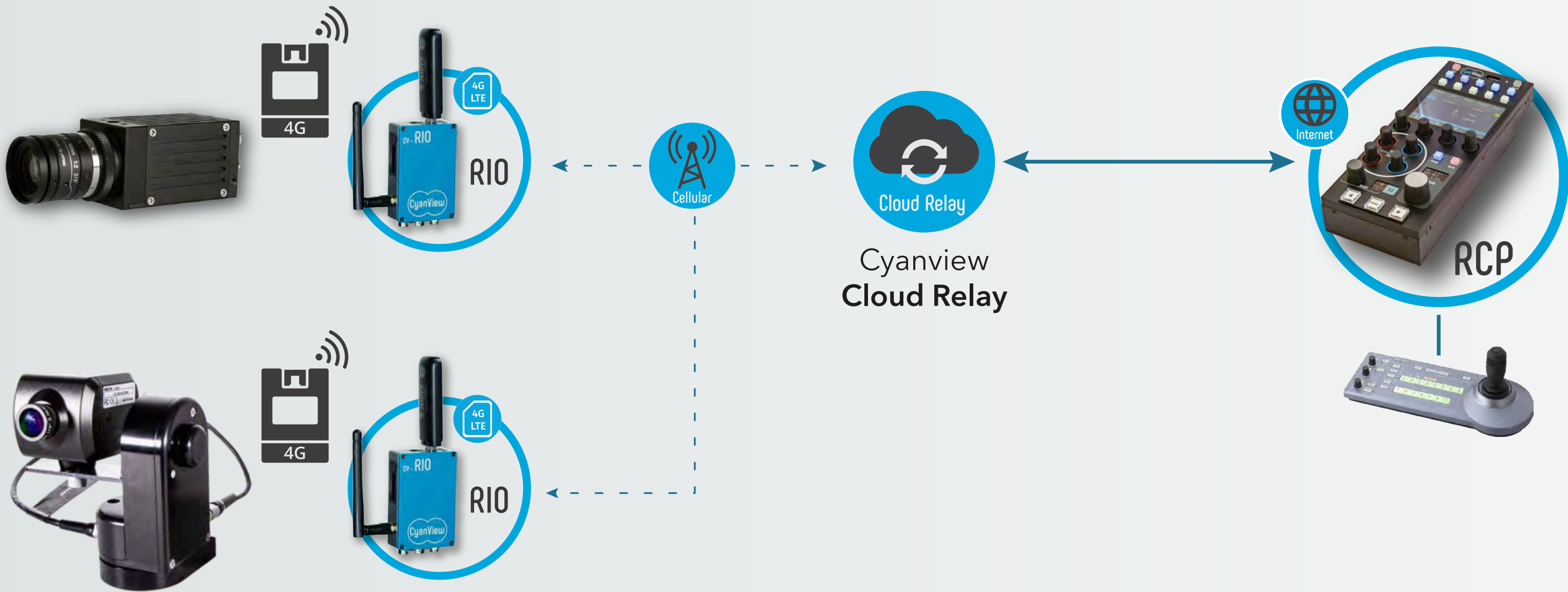
Multi-camera

Shading all connected cameras from one or multiple RCPs will improve camera matching within a game but also matching multiple games together for consistent highlight shows.

Cloud Relay

The RCP and RIO only require a simple internet access to operate. The Cloud Relay will link all units together. This is plug and play as no ports have to be opened on either side.

RIO — Add Mini-cameras, Beauty Shots

Multi-camera remote production shading

CyanView

Cyanview **Cloud Relay**

RCP

"Beauty shots on a golf cart or on top of a building"

Mini cameras

AIDA · AJA VIDEO SYSTEMS · Blackmagicdesign · CAMERA CORPS · Canon · CIS

Dream CHIP · IOI IO INDUSTRIES · Marshall BROADCAST & PRO AV · SONY · TOSHIBA

Lens Control

RIO allows lens control either from the camera protocol itself or a direct interface to lens motorisations: ENG lenses, Dreamchip motors, DC motors from Polecam, etc.

Robotics

RIO interfaces with Gimbals and some robotic heads to provide complete remote control of your shots: framing and shading

RIO — Bonded Cellular Multicam Sports

Multi-camera remote production shading

CyanView

PGA TOUR

L2 Productions

- Minimum crew onsite at West Palm Beach, FL
- Production center at St. Augustine, FL
- **6 RIO** on **Sony PDW-F800** Camcorders
- **4 RIO** for **Marshall CV365** on Golf Carts for Beauty shots
- **2 RCP** for video operators
- **1 NIO** for tally GPIO input
- Aviwest/LiveU Bonded Cellular kits

https://www.sportsvideo.org/2020/05/15/pga-tour-entertainment-tees-up-remi-production-of-charity-skins-event-on-may-17
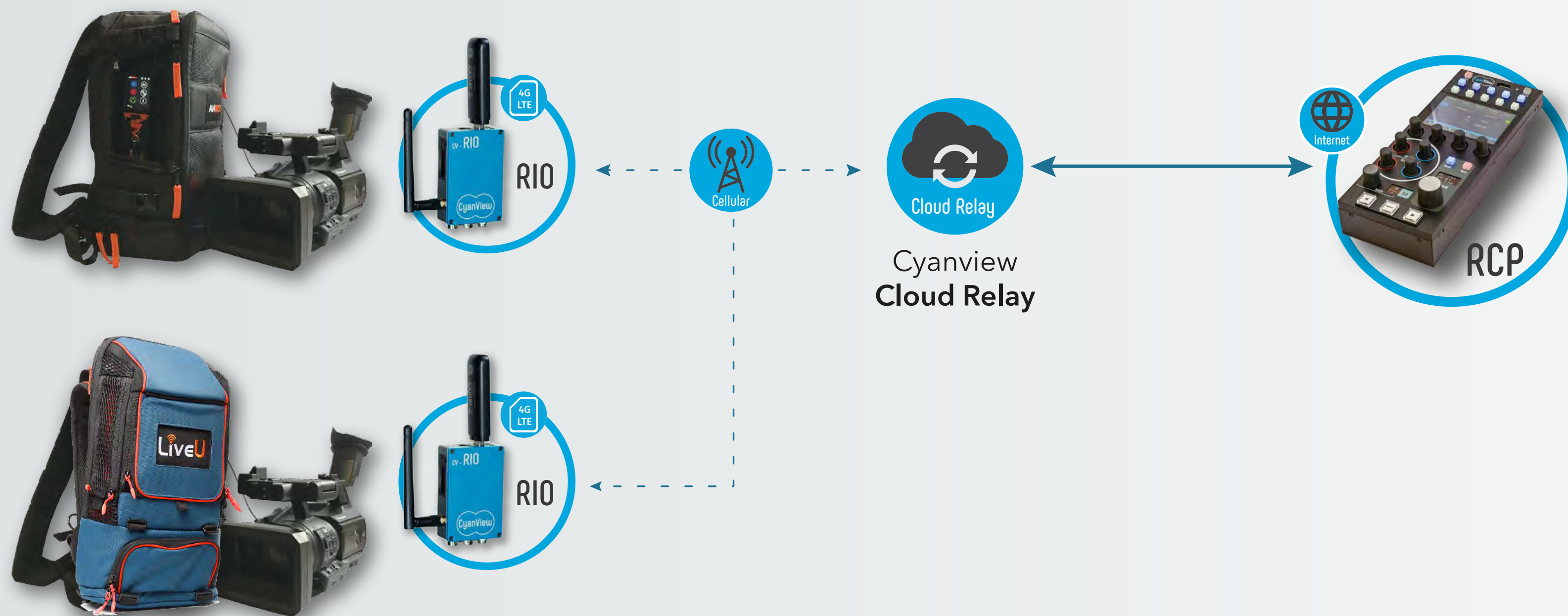
- Control rooms in Austin to produce around the country
- A LiveU partnership
- "It gives us the ability to produce more events for the same budget. In other cases, it allowed us to add new clients because they had never had the budgets for the traditional truck-and-trailer model. It has completely changed our business, and I'm making a big bet on it.", Scott Rehling

https://www.sportsvideo.org/2018/05/16/l2-productions-makes-the-shift-to-at-home-production-model

RIO — Live news and events

Multi-camera remote production shading

CyanView

Cyanview
Cloud Relay

RCP

"Match Post-Game Interview shoots coming from different locations"

Shading when needed

Remote shading helps when live news coverage involves multiple cameras or when camera operators need assistance. Most camcorders allow menu navigation remotely.

Tally in the viewfinder

RIO will send tally information right into the camera viewfinder when the camera protocol allows it. Wiring an external small LED in the viewfinder is always possible too.

Unattended cameras

Adding cameras for beauty shots, overviews or surveillance doesn't always require attendance. Rio will allow camera and other equipment to be remotely controlled.

RIO — Live Shows

Piromusical de La Mercè 2020 - TV3 (Spain) - Ontario Soluciones, Dejero

CyanView

"Live Show with 8 Panasonic AG-HPX500E from all over Barcelona"

8 cameras at different locations in Barcelona

"The fires will be launched from four different points: Les Corts, Nou Barris, Sants-Montjuïc and Sant Martí, and will thus become a more global show with more height and power than ever."
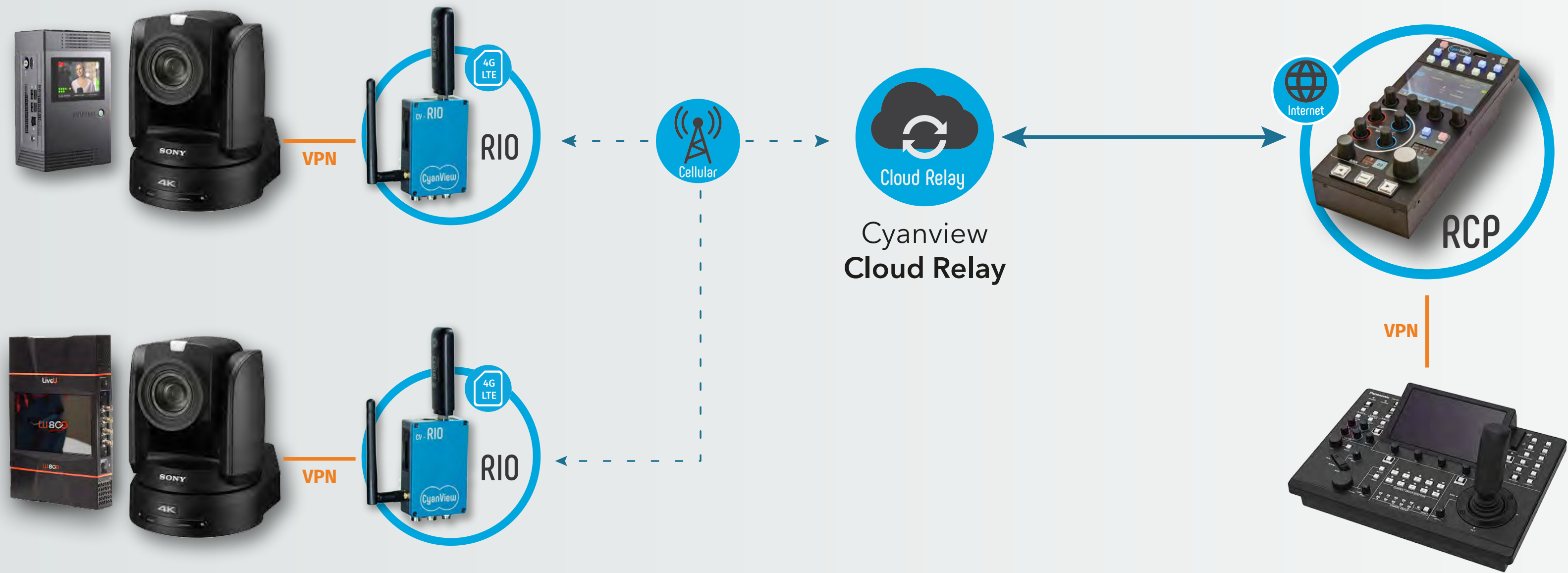
Shading from TV3 Studios

Video feeds are brought back to the studio using Dejero cellular transmitters. 8 RCP have been used to shade each camera individually as fireworks requires very quick adjustments.

AG-HPX500E and Tally

Panasonic serial P2 cameras were controlled from the first port of the RIO unit while an external LED was added for tally as it's not part of these older camcorders protocol.

RIO — Cameras at private locations

Multi-camera remote production shading

CyanView

RIO

4G LTE

VPN

Cellular

Cyanview **Cloud Relay**

Internet

RCP

VPN

PTZ

agile REMOTE CAMERAS

AIDA IMAGING

BirdDog

BOLIN TECHNOLOGY

CAMERA CORPS

Lumens Brilliance by Design

Panasonic

Marshall BROADCAST & PRO AV

SONY

"Plug and play PTZ control and shading in private homes"

VPN
Cyanview provides a VPN between the RCP and RIO. PTZ panels can be used as if the camera was local. No IT configuration needed on the internet access side.

Tally Light
RIO controls the built-in camera tally of PTZ cameras when available. Sony, Panasonic, Lumens, etc. have tally lights on their newer cameras. It's always possible to add a separate tally light from the RIO 12V tally output.
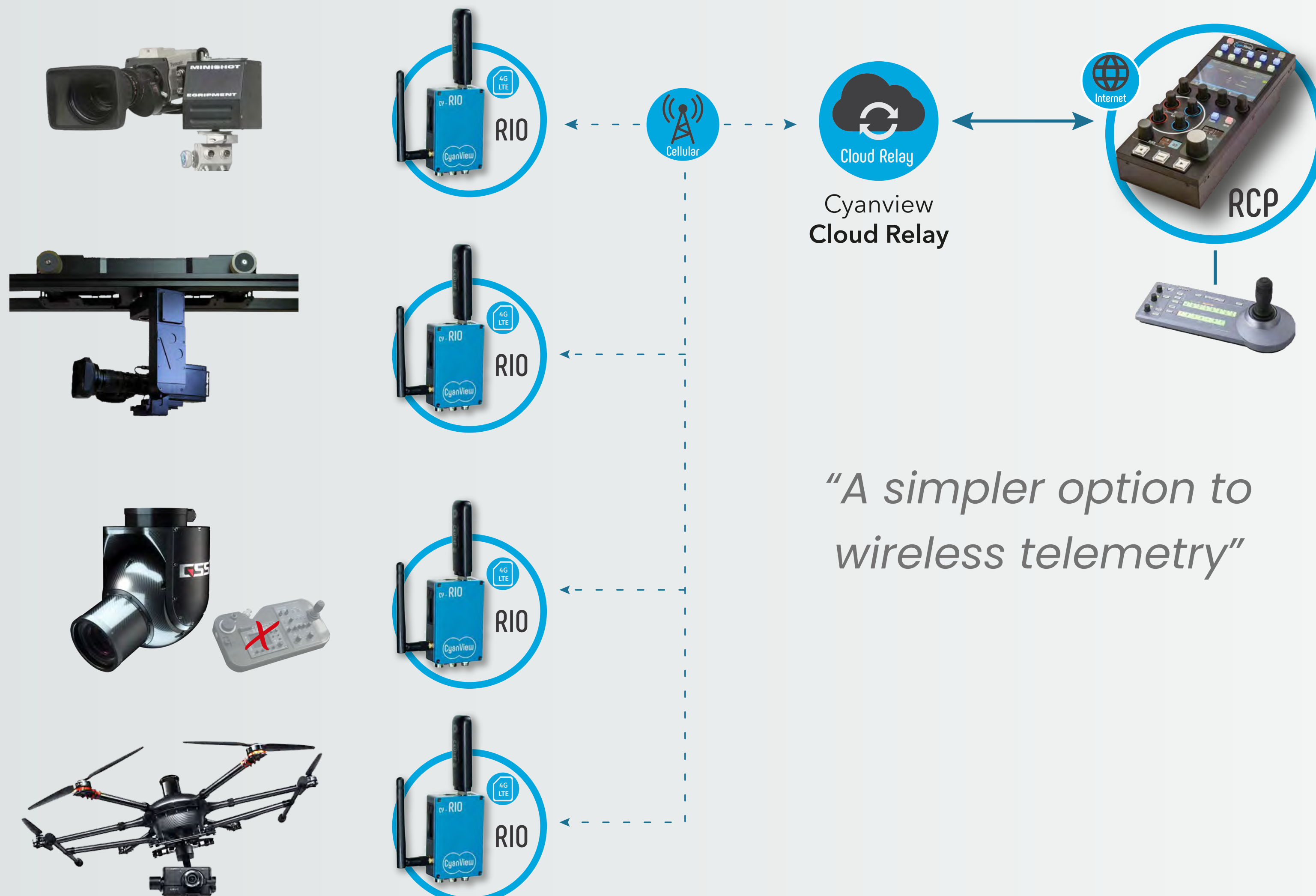
Cloud Relay
The RCP and RIO only require a simple internet access to operate. The Cloud Relay will link all units together. This is plug and play as no ports have to be opened on either side.

RIO — Wireless Specialty Cameras

Multi-camera remote production shading

CyanView

RIO

RIO

RIO

RIO

4G LTE

Cellular

Cloud Relay

Cyanview **Cloud Relay**

Internet

RCP

"A simpler option to wireless telemetry"

Robotics

RIO interfaces with Gimbals and some robotic heads to provide complete remote control of your shots: framing and shading

Cable cams

Shading oo aerial specialty cameras can advantageously be carried over cellular rather than conventional RF in many situations. Rio will add support of conventional RF modems in the future.

Aerials

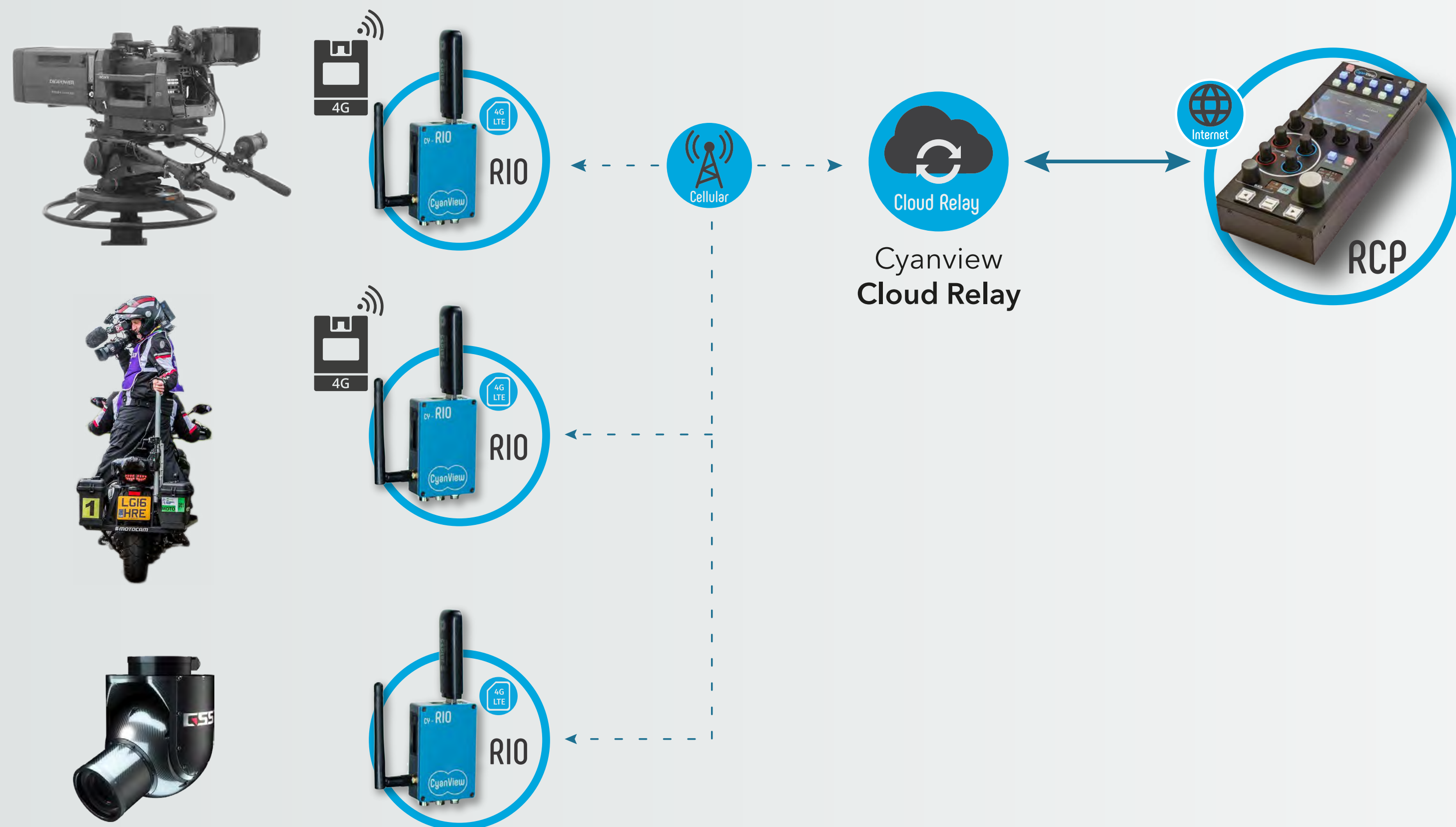Provide tally and shading to aerial camera systems.

Drones

Right from the OB or control room:
- Camera shading and lens iris from the RCP
- Gimbal pan/tilt/roll and lens focus/zoom from a joystick panel

RIO — Wireless for Marathon, Cycling

Multi-camera remote production shading

CyanView

Cellular

Cyanview
Cloud Relay

Internet

RCP

"When cellular simply works"

System cameras

Rio does support system cameras, both with or without CCU. As large box lenses are mandatory for tight shots on marathons or cycling, RIO makes it easy to shade cameras placed far away from OB vans.

Motorbikes

The wide cellular coverage you can usually rely on for a Marathon race makes it the ideal use case to shade Camcorders with a RIO unit.

Aerials

RIO provides tally and shading to aerial camera systems such as helicopters used on cycling races.

RIO — Racing Onboard Cameras

Multi-camera remote production shading

CyanView

Cyanview **Cloud Relay**

RCP
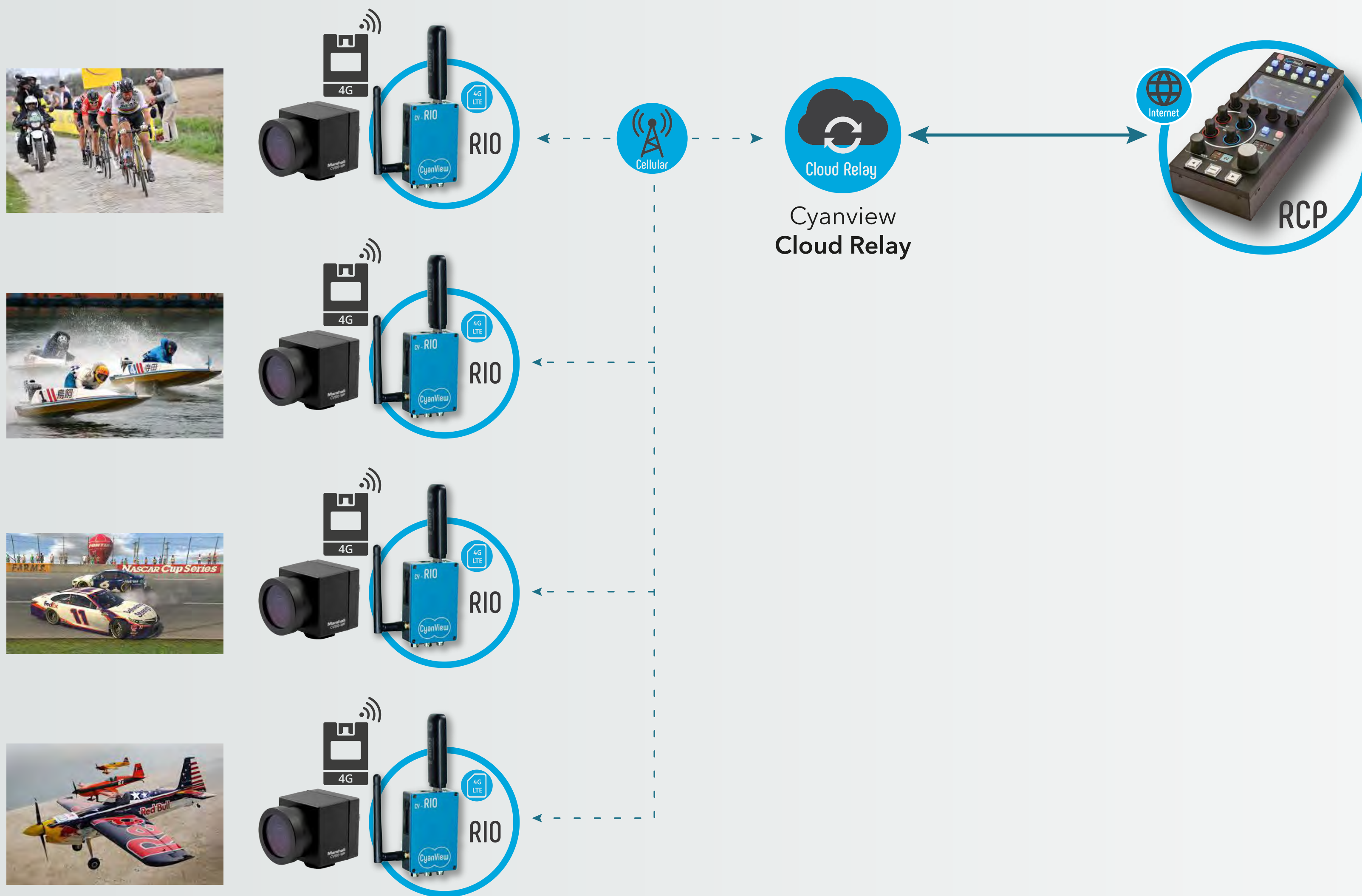
"Affordable Onboard Solution"

Onboard cameras

Bonding offers a simpler, faster and much more affordable solution that traditional RF technologies for onboard cameras. There is now a way to add shading as well.

Changing conditions

Having shading control on onboard cameras is mandatory when conditions can change dramatically in the course of an event, changing from sunlight, rain or night.

Access other equipment

RIO can deliver a VPN access to other equipment like telemetry systems or data loggers.

RIO — No latency, full paint controls

Multi-camera remote production shading

CyanView

Cellular

Cyanview **Cloud Relay**

Internet

RCP

Tally GPI

Preview GPO
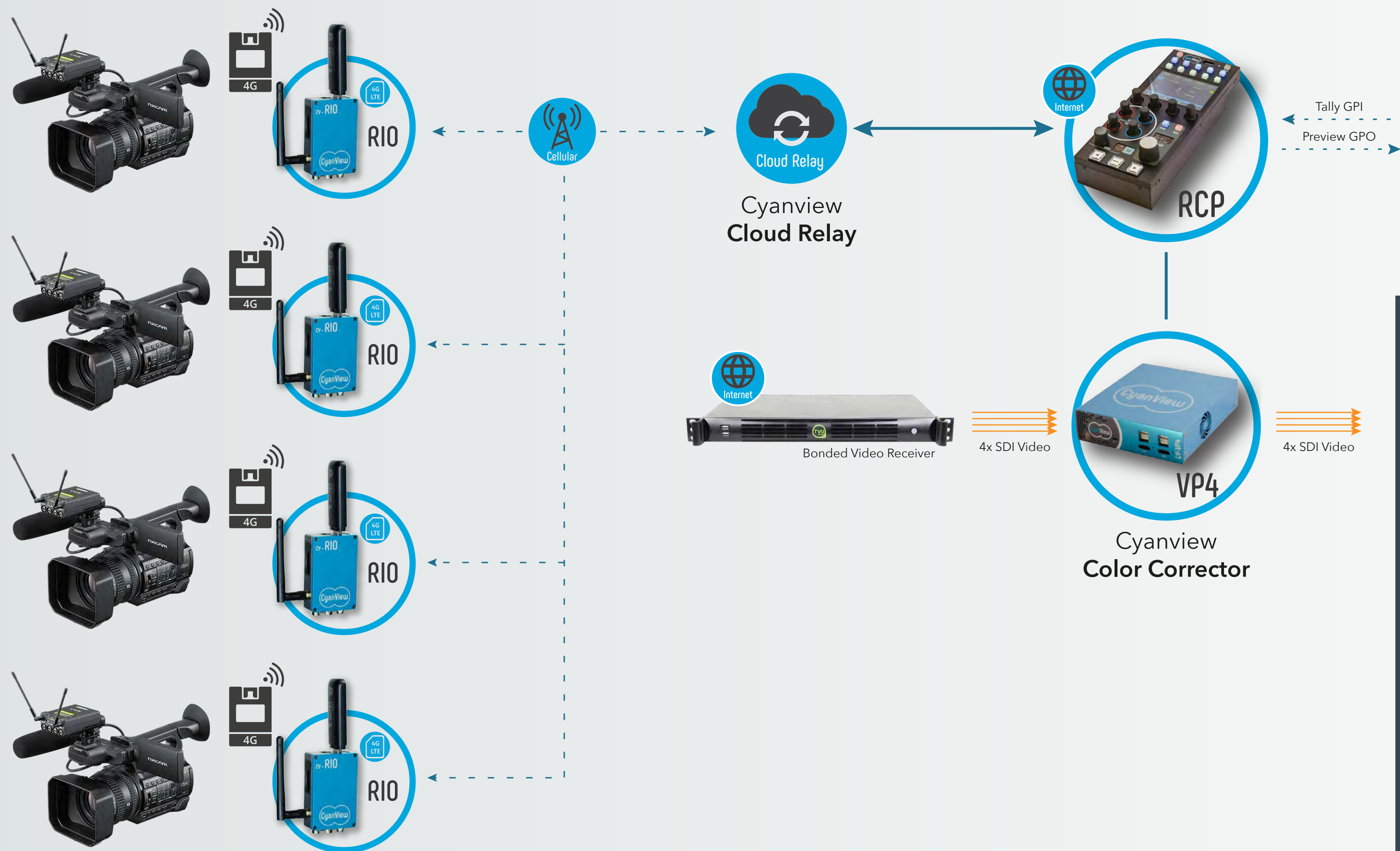
"Full paint controls with camcorders"

Internet

Bonded Video Receiver

4x SDI Video

VP4

4x SDI Video

Cyanview **Color Corrector**

CCU for small camcorders

Sony LANC protocol is very limited and covers exposure but no color controls. Cyanview's VP4 unit acts like a CCU for small camcorders providing advanced color controls to match ll cameras together.

No Latency

Color correction applied in the production studio after decoding are not affected by the video latency, on the opposite of camera corrections.

Color Matching

The VP4 includes secondary corrections such as Multi-Matrix dedicated to camera matching, even when mixing camera models and brands.

REMI — Remote Production Shading

Use Cases

CyanView

Cyanview
Cloud Relay

RIO

Cloud Relay

Internet

RCP

LAN

CI0
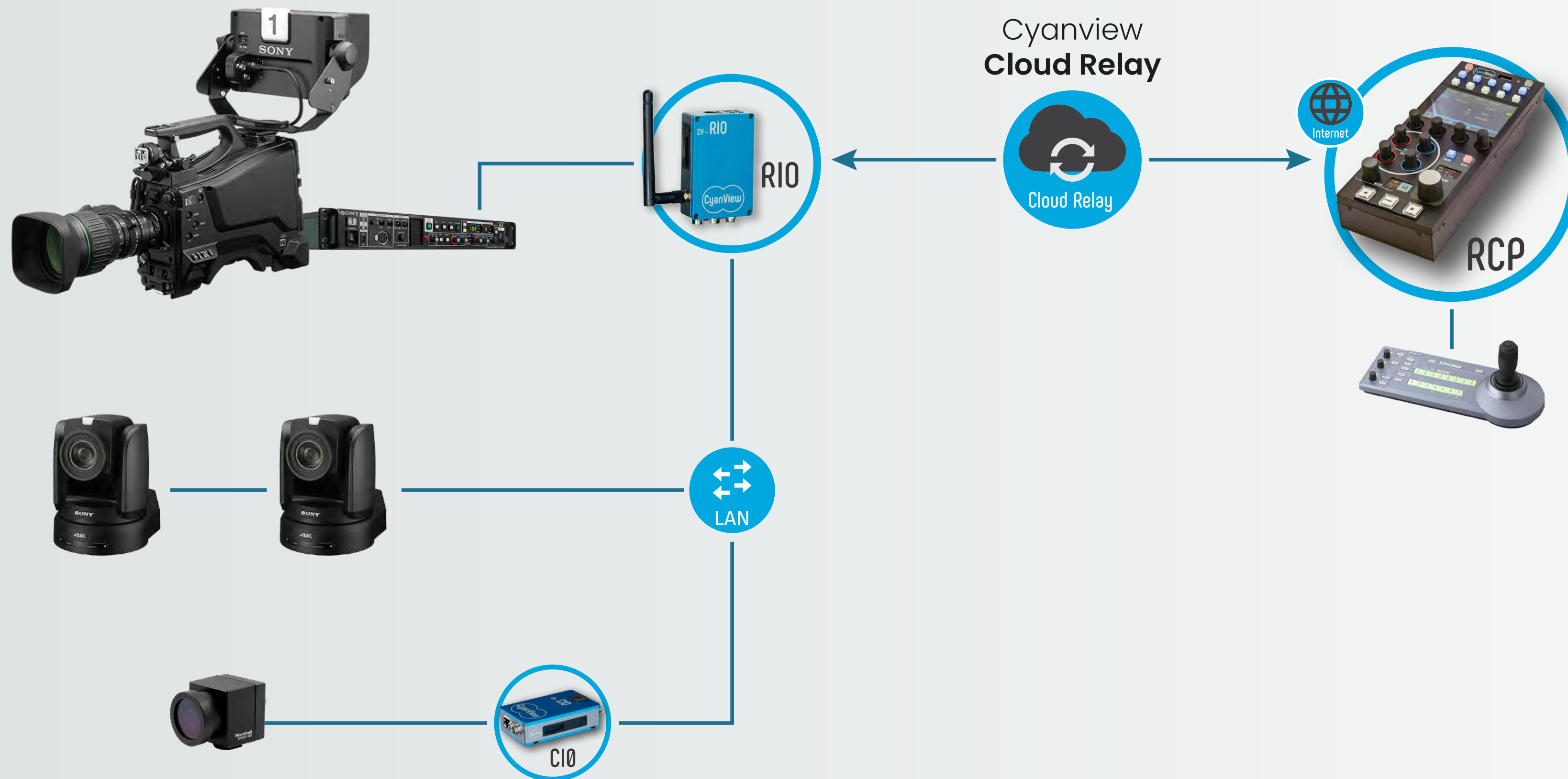
Multiple cameras

RIO can also be used to control remotely a complete set of cameras in a full REMI productions style. It's a local configuration that can be remotely controlled.

Extend with more interfaces

Add CI0 units to add more serial ports on your local network. All IP cameras can be interfaced directly.
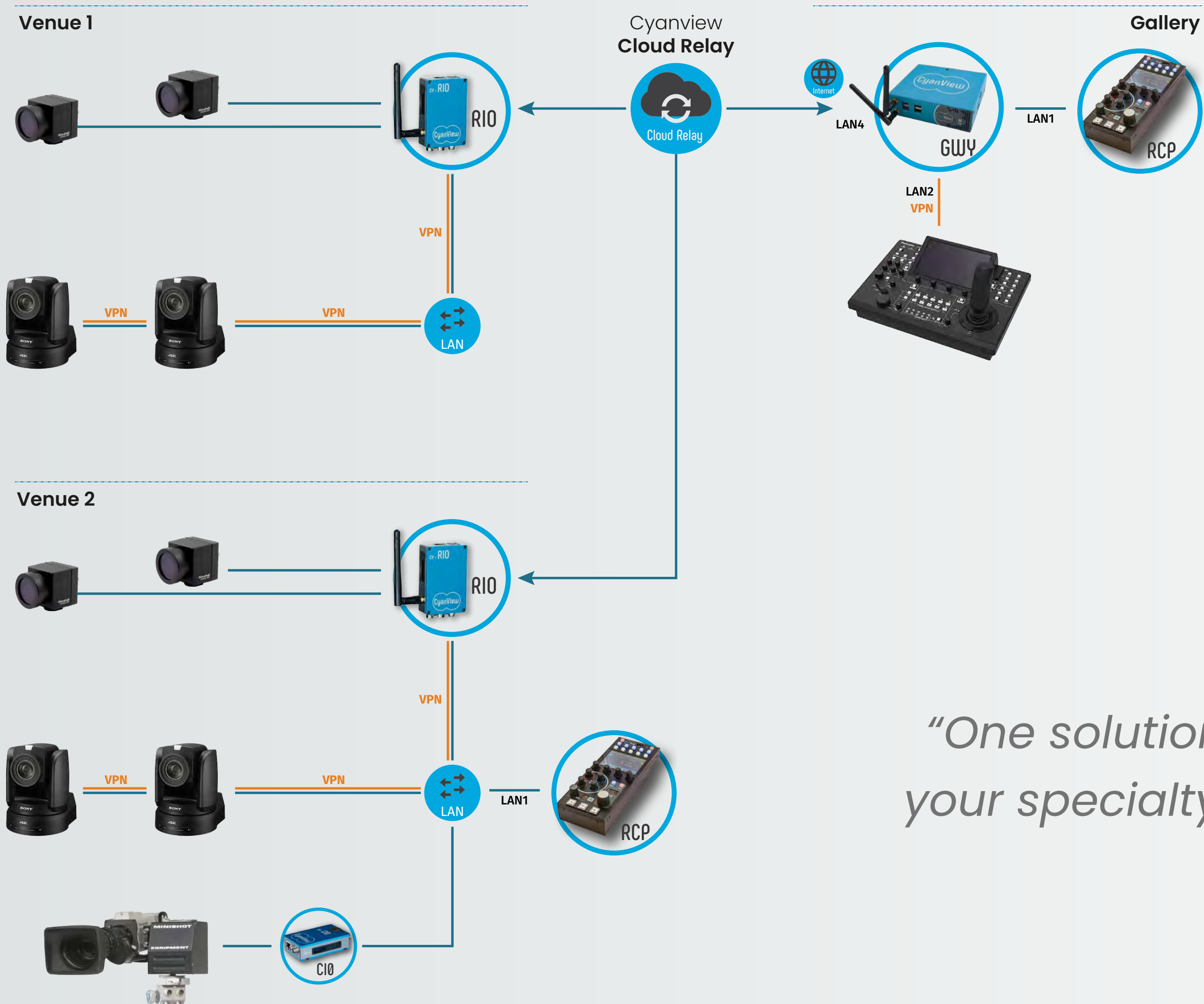
Distributed operations

In the future, it will be possible to control the same kit from multiple locations, even from home with a simple internet connection.

Local setup, remote shading

It is possible to use an RCP from the venue for local setup and camera testing, and let it over to remote operations for the show. Both local and remote control will operate simultaneously.

REMI — Remote Specialty Shading

Use Cases

CyanView

Venue 1

Cyanview **Cloud Relay**

Gallery

RIO · cv-RIO

Cloud Relay

Internet

LAN4 · GWY · LAN1 · RCP

VPN

LAN2 VPN

VPN · VPN · LAN

Venue 2

RIO · cv-RIO

VPN

VPN · VPN · LAN · LAN1 · RCP

CI0

"One solution for all your specialty needs"

One Specialty RCP

Shading all your specialty cameras can be done through Cyanview locally. Now the same can be achieved remotely which means you only need one remote connection to setup for all your cameras to get remote access.

One RCP, multiple locations

From one or multiple RCP, you can access cameras from multiple venues and switch between venues instantly. 4 RCP could switch synchronously between the 4 cameras of each venue.

RIO — Sony Camera Control

Use Case for Sony cameras

CyanView

Shoulder Camcorders

Tally
Paint Controls
8 pin Serial

RIO

Tally
GPIO or 12V

Studio Cameras

1

Tally
Paint Controls
LAN or
8 pin serial

RIO

LANC Camcorders

Zoom/Focus

LANC 2

Shading
LANC 1

RIO

Tally

PGM PREVIEW

Tally

Tally
GPIO or 12V

PTZ Cameras

Tally
Paint Controls
LAN

RIO
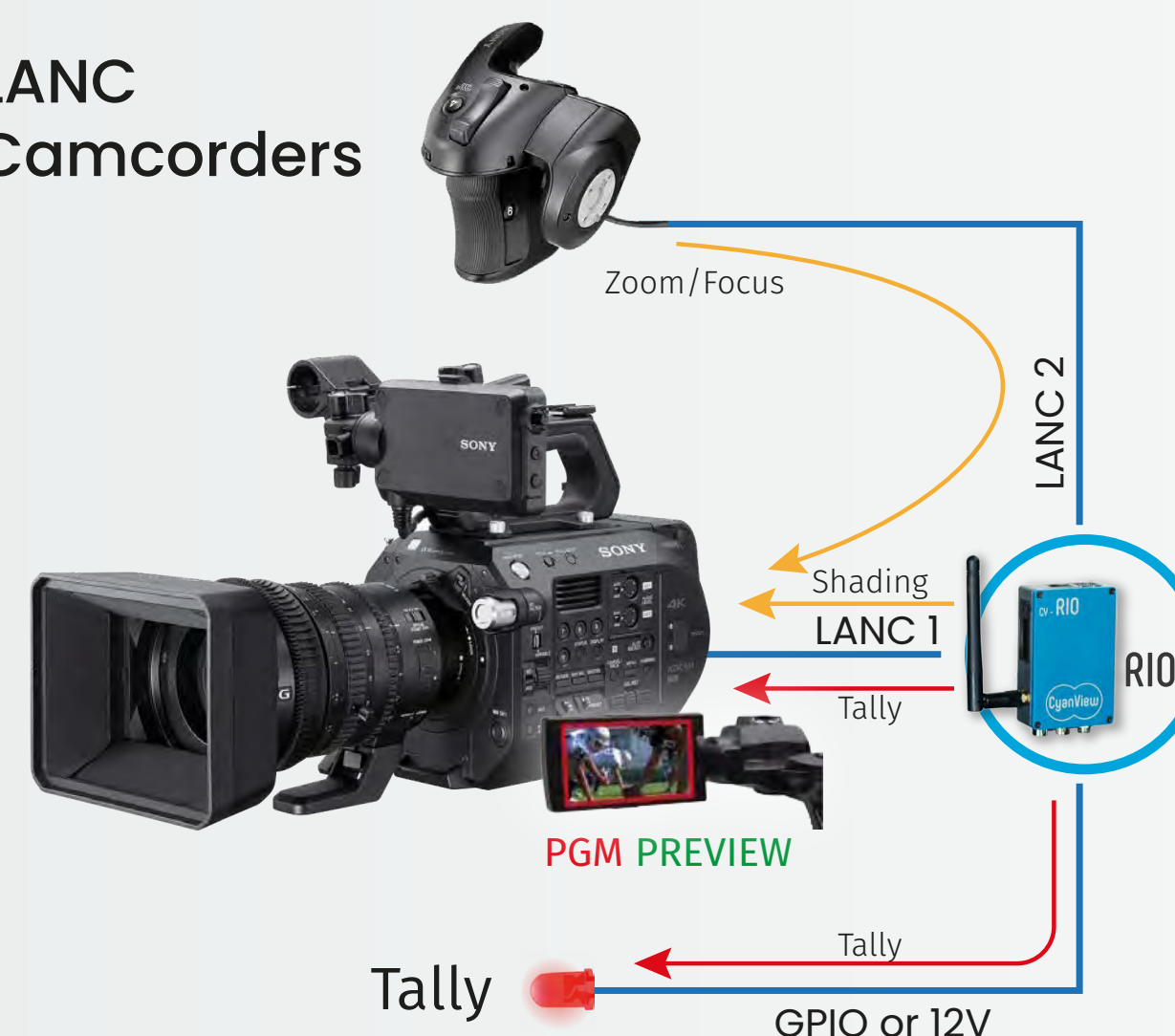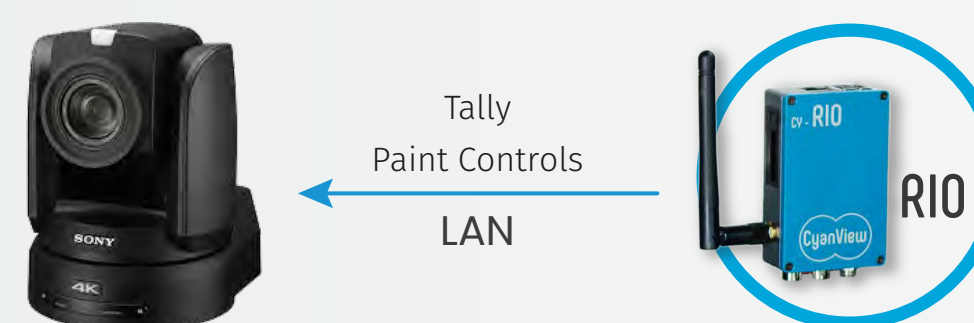
Shoulder Camcorders

Minimum shading is provided through the 8-pin connector, built-in tally is supported but an external tally can be provided if the camera is in record.

LANC

Shading over LANC is limited to the basic features of the RM-30BP: exposure and menu navigation. Tally is handled by some camcorders. Zoom/focus remote can be connected simultaneously with the RCP controls.

Studio Cameras

Shading can be provided directly to the camera body through the 8-pin protocol or through the CCU using LAN or 8-pin.

PTZ

Shading, tally and pan/tilt/zoom/focus controls are all supported through the LAN interface.

RIO — Panasonic Camera Control

Use Case for Panasonic cameras

CyanView

P2HD Camcorders

Tally
Paint Controls

LAN

RIO

Handheld Camcorders

Tally
Paint Controls

LAN

RIO

Older P2 Camcorders

Paint Controls

10 pin Serial

RIO

Tally

GPIO or 12V

PTZ Cameras

Tally
Paint Controls

LAN

RIO
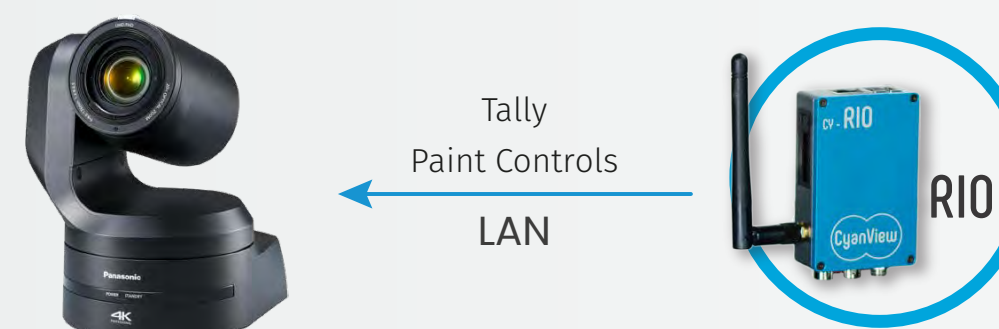
P2HD Series

The P2 HD camcorders have extensive controls over LAN or Wi-Fi. Tally is usually only available on the newer camcorders from 2018.

Handheld camcorders

D-Cinema cameras (Varicam) and camcorders (EVA-1, AG-CX350) are supported over LAN, either directly or through the use of USB dongles. Tally is available on the newer models.

Old P2 Series

Older P2 cameras are supported through the serial 10-pin connector. Control is usually limited to exposure and primary corrections.

PTZ

Extensive support of the whole Panasonic range of PTZ is available through the LAN interface.

Canon Camera Control

Workflows for Canon cameras

CyanView

Canon

DATA

CI0

IP

PoE LAN

IP

RCP

Tally

External Tally
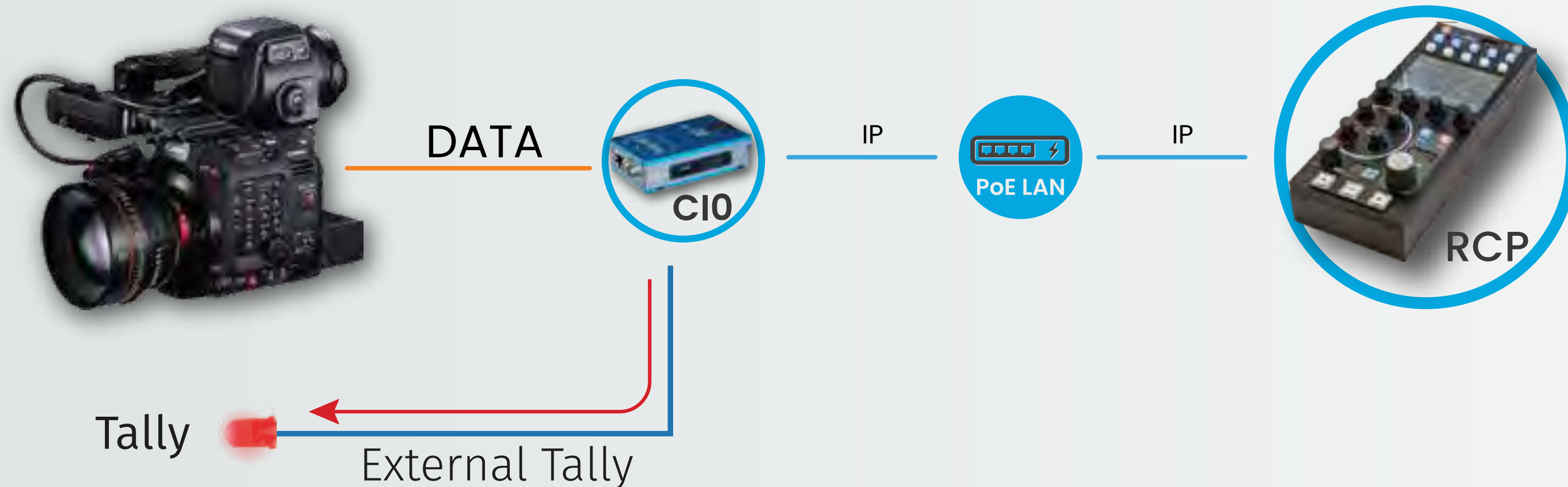
- White Balance
- Gains
- Shutter
- ND Filters
- Master Black
- Black Gamma

- Detail
- Knee
- Zoom
- Focus
- Camera Menu
- Scene Files

EOS-C and XF Series

The Remote-A protocol is supported by EOS-C Digital Cinema Cameras and XF Series Professional Camcorders

Supported Shading

The same functions as the Canon Remote RC-V100 are supported. Not all functions are available on all camera models

Tally

A complete tally solution is available with multiple integrations for tally ingest. An external LED can be connected to the CI0 interface to add tally to the camera

ENG Lenses

The CI0 also supports control of external ENG lenses which can be added to EOS-C cameras

Canon Camera Control
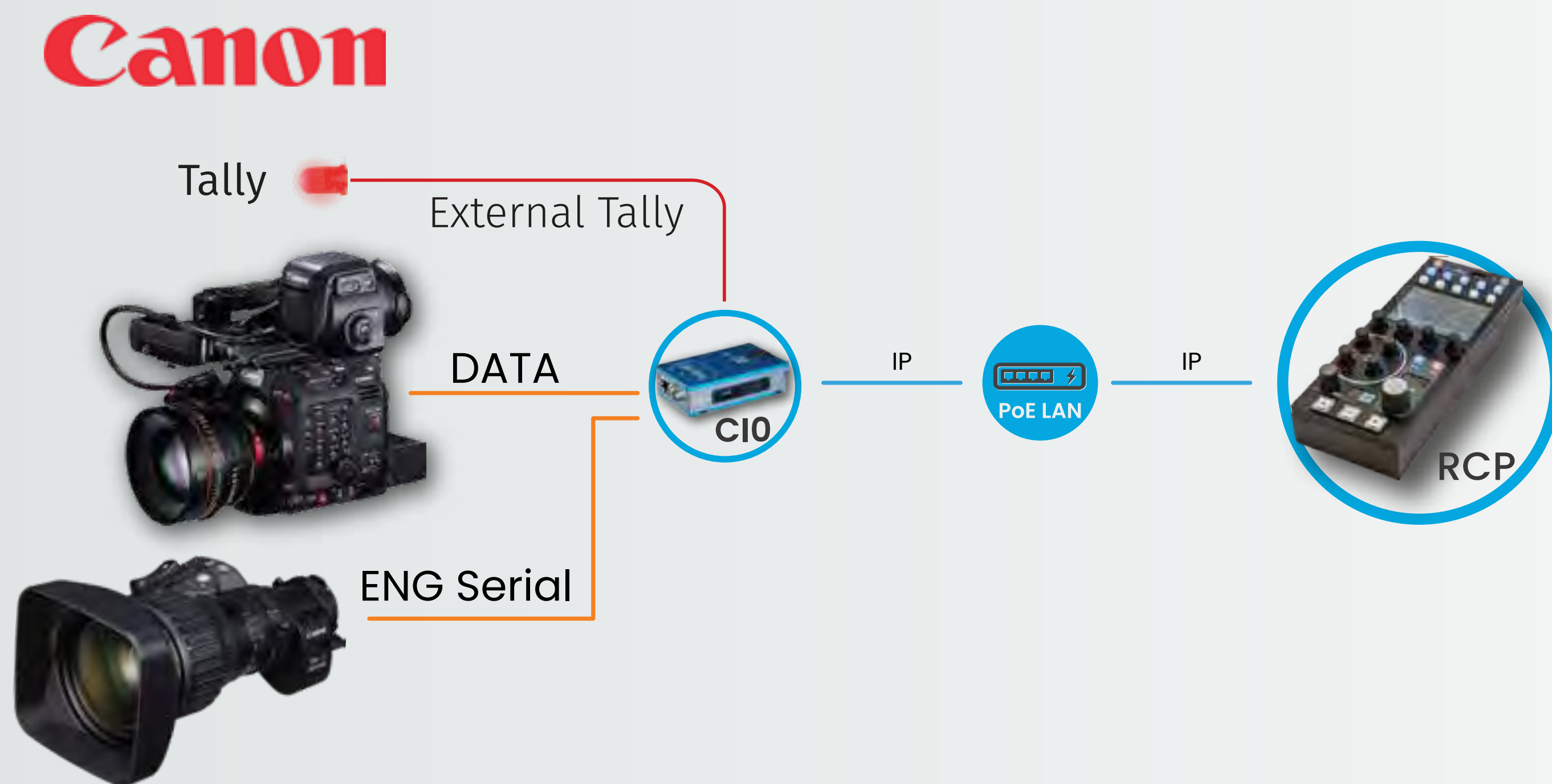
Workflows for Canon cameras

CyanView

Canon

Tally

External Tally

DATA

CI0

ENG Serial

IP

PoE LAN

IP

RCP

ENG Lenses
The CI0 also supports control of external ENG lenses which can be added to EOS-C cameras

REMI - Canon Camera Control
Remote operations over the internet

CAMERAS

CyanView

Canon

DATA

Tally

4G LTE

CV-RIO

RIO

CyanView

Cellular

Cyanview
Cloud Relay

Relay

Internet

RCP

DATA

Tally

CV-RIO

RIO
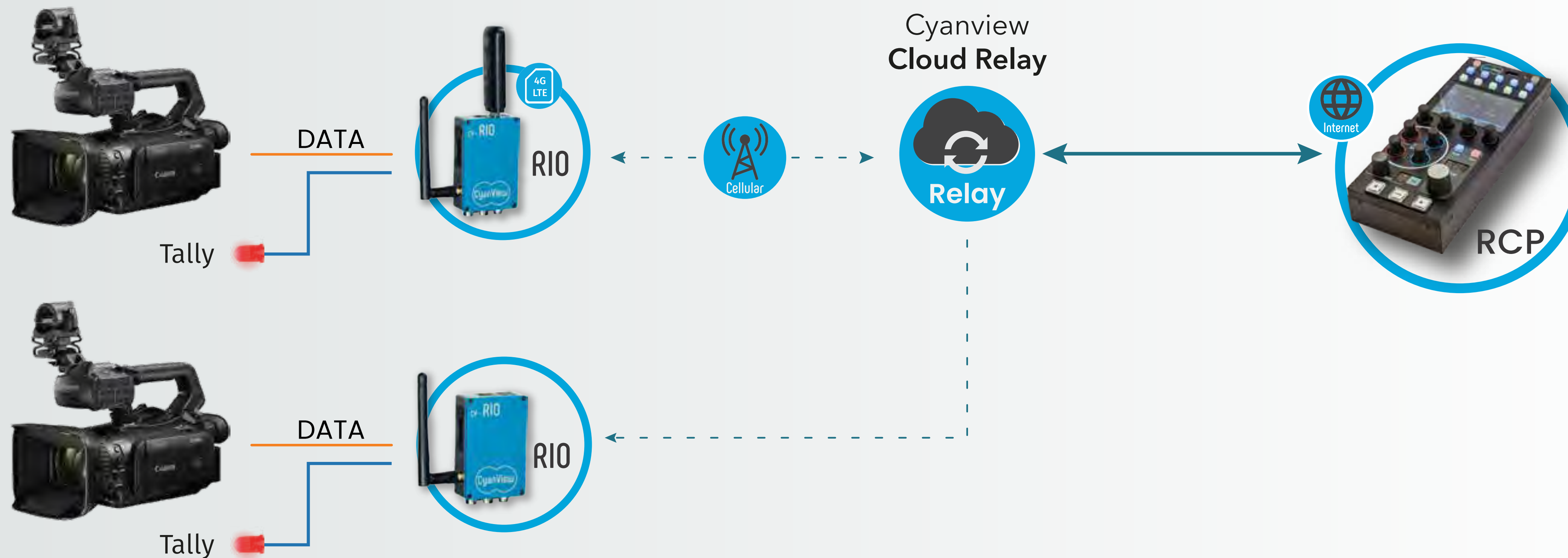
CyanView

Canon Camera Control

Simplified productions

CyanView

Canon

FIELD | MCR

Atem Switcher or Video Router

HD-SDI

DATA — CI0 — PoE

DATA — CI0 — PoE

DATA — CI0 — PoE

PoE LAN

LAN – FIBER

PoE LAN

PoE

USB

DATA — CI0 — PoE

Streamdeck

Tally

External Tally
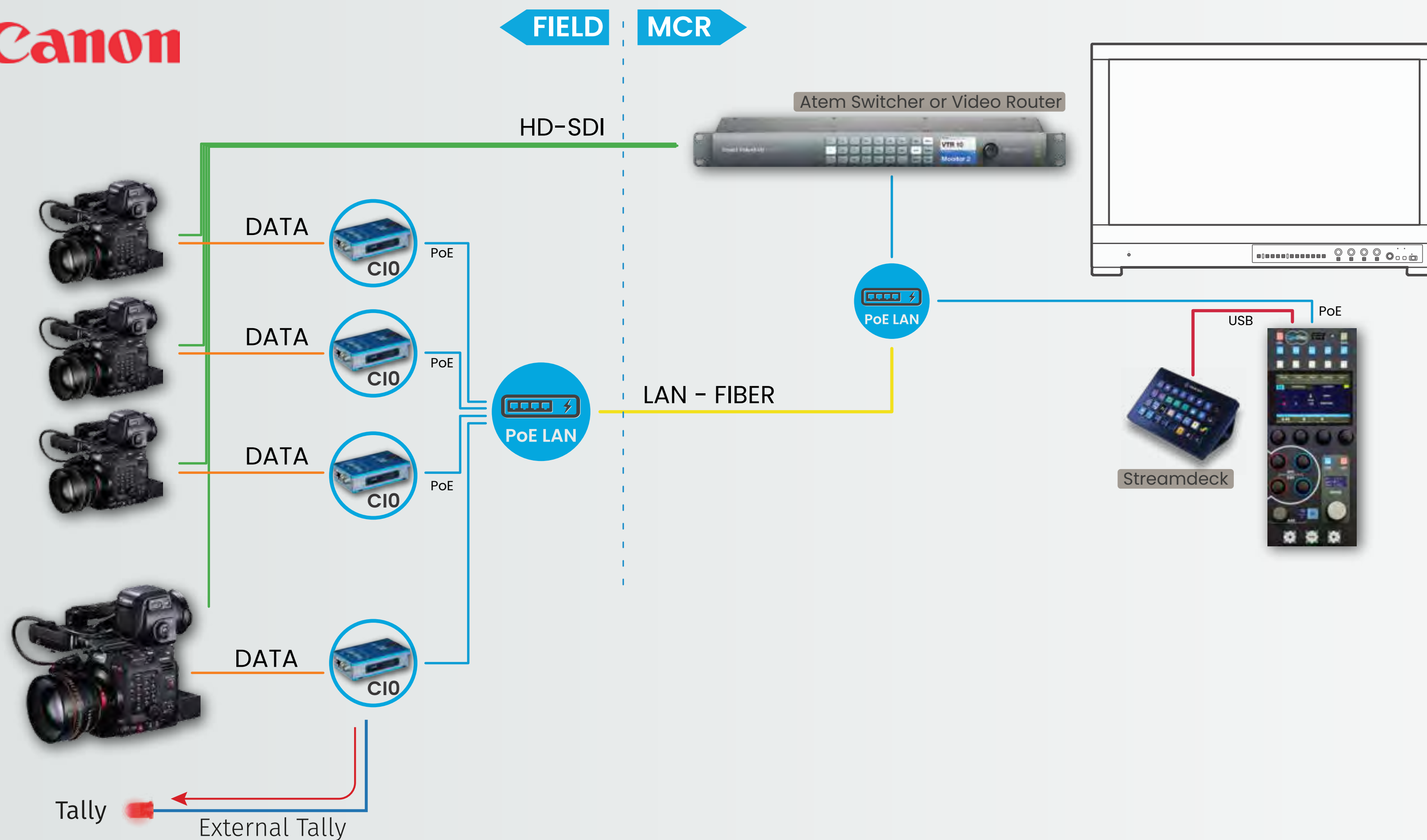
IP Workflow

Using CI0 interfaces, all camera control is handled over IP and only converted to serial data close to the camera, improving control reliability.

One RCP, Multiple Cameras

One RCP can control all your cameras and is integrated with the router in order to provide synchronisation of camera selection.

Tally

Tally can be ingested directly from switchers or through GPIO interfaces and is carried over to an external light on camera

Canon Camera Control

Integrated into Higher-End productions

CyanView

Canon

Video Router

HD-SDI

VP4 Color Corrector

VP4

DATA

CI0 | PoE

DATA

CI0 | PoE

DATA

CI0 | PoE

PoE LAN

LAN - FIBER

DATA

CI0

PoE LAN

VSM Panel

Tally

External Tally
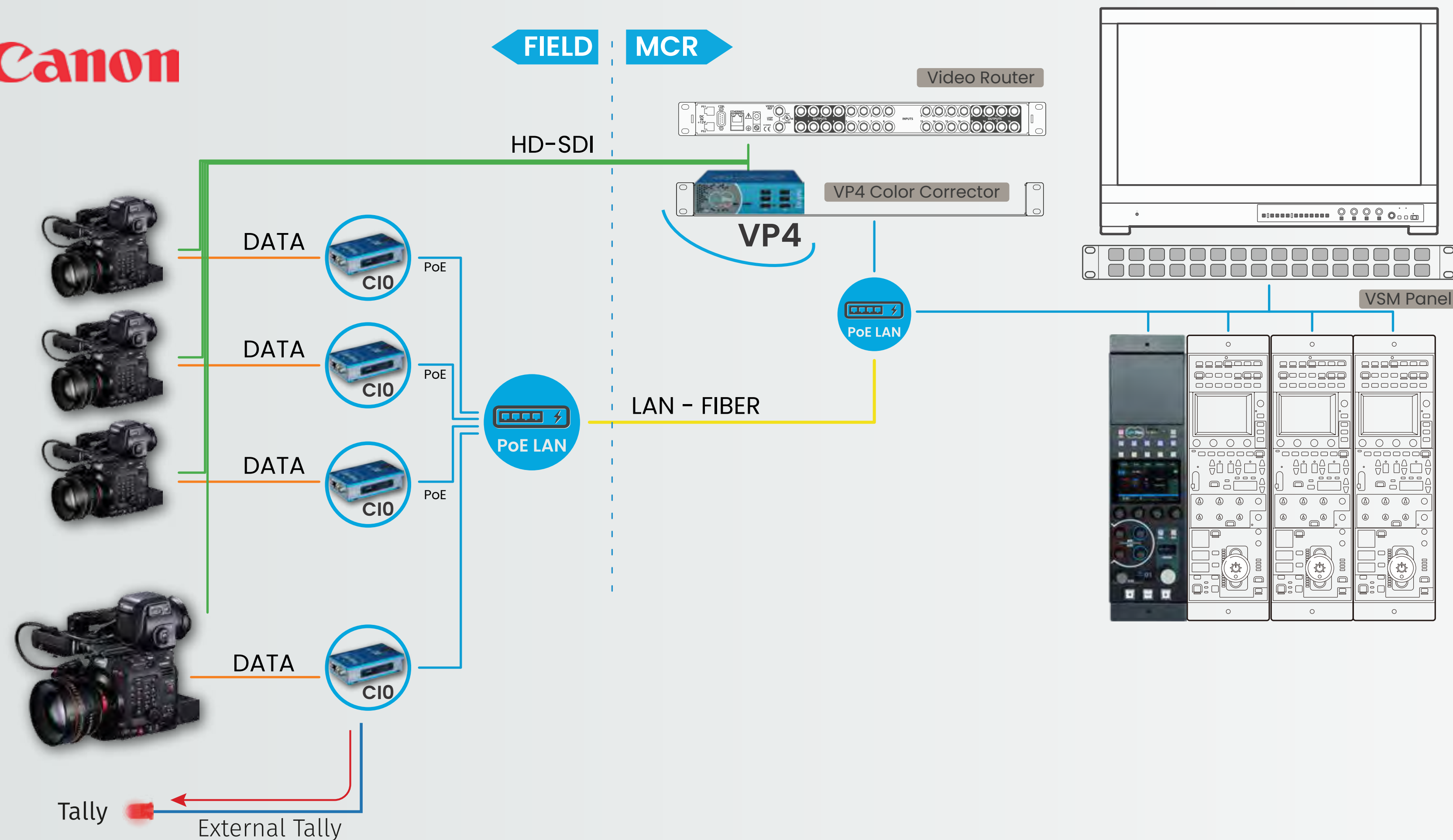
VP4 as CCU

A few key functions are missing from the Canon protocol, such as gamma, saturation, black balance. Adding the VP4 as a CCU will provide the controls as well as a multi-matrix which will allow color matching with your main production cameras.

RIO — Blackmagic Camera Control

Use Case for Blackmagic cameras

CyanView

SDI in — RS232 — RIO — wi-fi — wi-fi — LAN — RCP

4G — RIO — 4G LTE — SDI in — RS232 — BM — Cellular — Cyanview **Cloud Relay** — Cloud Relay — LAN — Internet — RCP
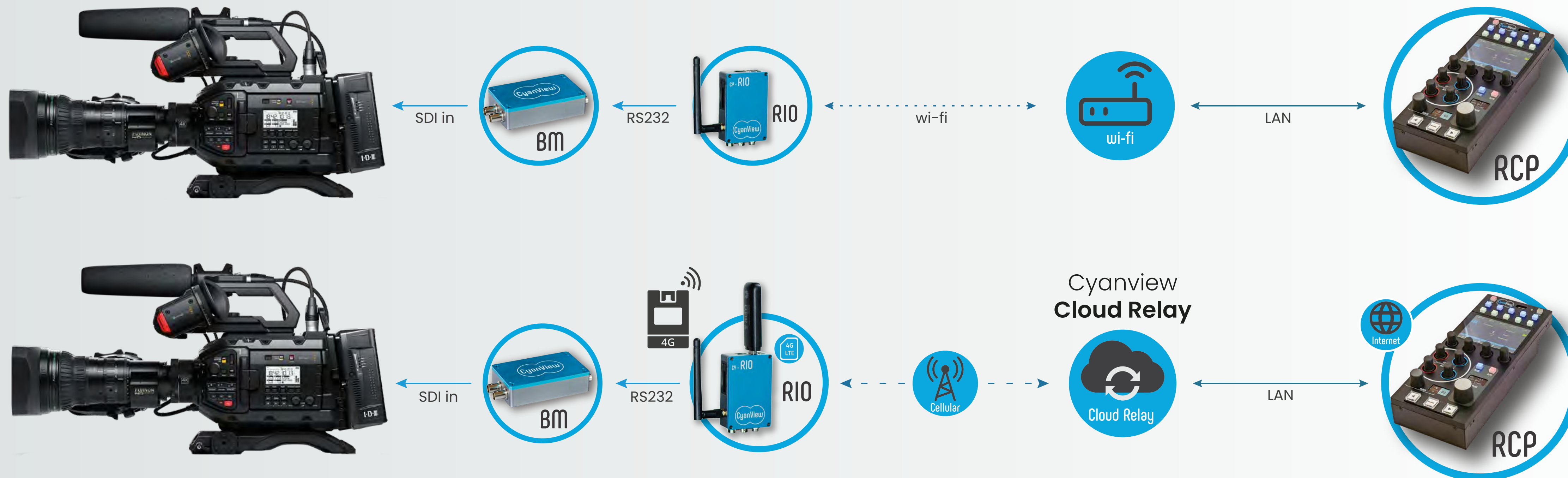
Control over SDI

Blackmagic cameras can only be controlled over the SDI signal. The CY-BM transforms serial commands from RIO to SDI embedded paint and tally controls.

Shading over Wi-Fi

Shade Blackmagic cameras over Wi-Fi using RIO and the CY-BM interface. This is unique and a function you can't achieve using the Blackmagic Atom and panels.

Shading over the internet

Just like any other camera, RIO is able to shade Blackmagic cameras over the internet, through an IP Tunnel from a bonded cellular transmitter or directly from a 4G dongle.

Tally – To any camera

Fully distributed remote tally solution

CyanView

Tally - To any camera

Fully distributed remote tally solution

CyanView

ENG Camcorders

Built-in Tally
8 pin Serial

RIO

External Tally
GPIO or 12V

Small Camcorders

Built-in Tally

CIO

PGM PREVIEW

Tally

External Tally

Mini Cameras

External LED

CIO

Built-In LEDs
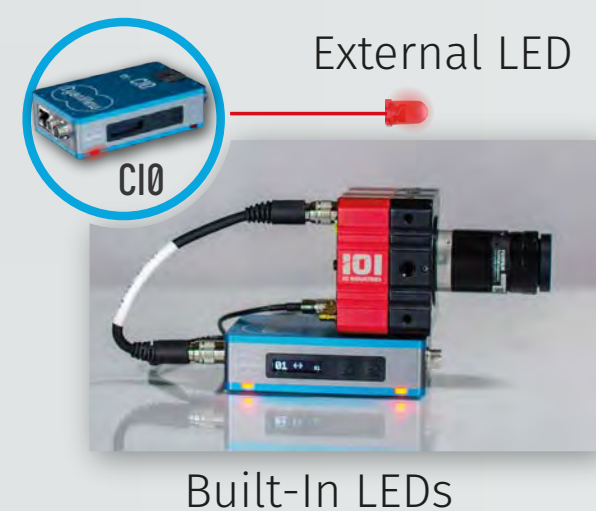
PTZ Cameras

LAN Tally

Built-in or External Tally

When available, the built-in tally is driven by the camera native protocol. External tally are also provided by RIO/CI0 in various ways: casing LEDs, external IO and 12V signal to drive a separate lamp or LED directly.

GPIO input

Tally can be input as a dry contact to the RCP GPIO dongle or to any of the 16 GPIO of the NIO anywhere on the network, in a different building or in a different location.

Tally Protocols (TSL)

Tally can also be ingested from the TSL protocol either in version 3.1 or version 5.0 to display cameras from different productions grouped together.

Tally from the switchers

Switchers can also provide tally directly from their routing protocol. The Blackmagic Atom switcher can provide red and green tally even from multiple M/E.

Tally Ingest

Tally — 8x GPIO dongle

Tally over IP — TSL 3.1 TSL 5.0

Tally over IP — Switchers

NIO — cv-NIO

Tally GPIO — 16x GPIO

Tally – Easy configuration and monitoring

Fully distributed remote tally solution

Tally Display

RCP LCD

DASHBOARD

Tally Configuration
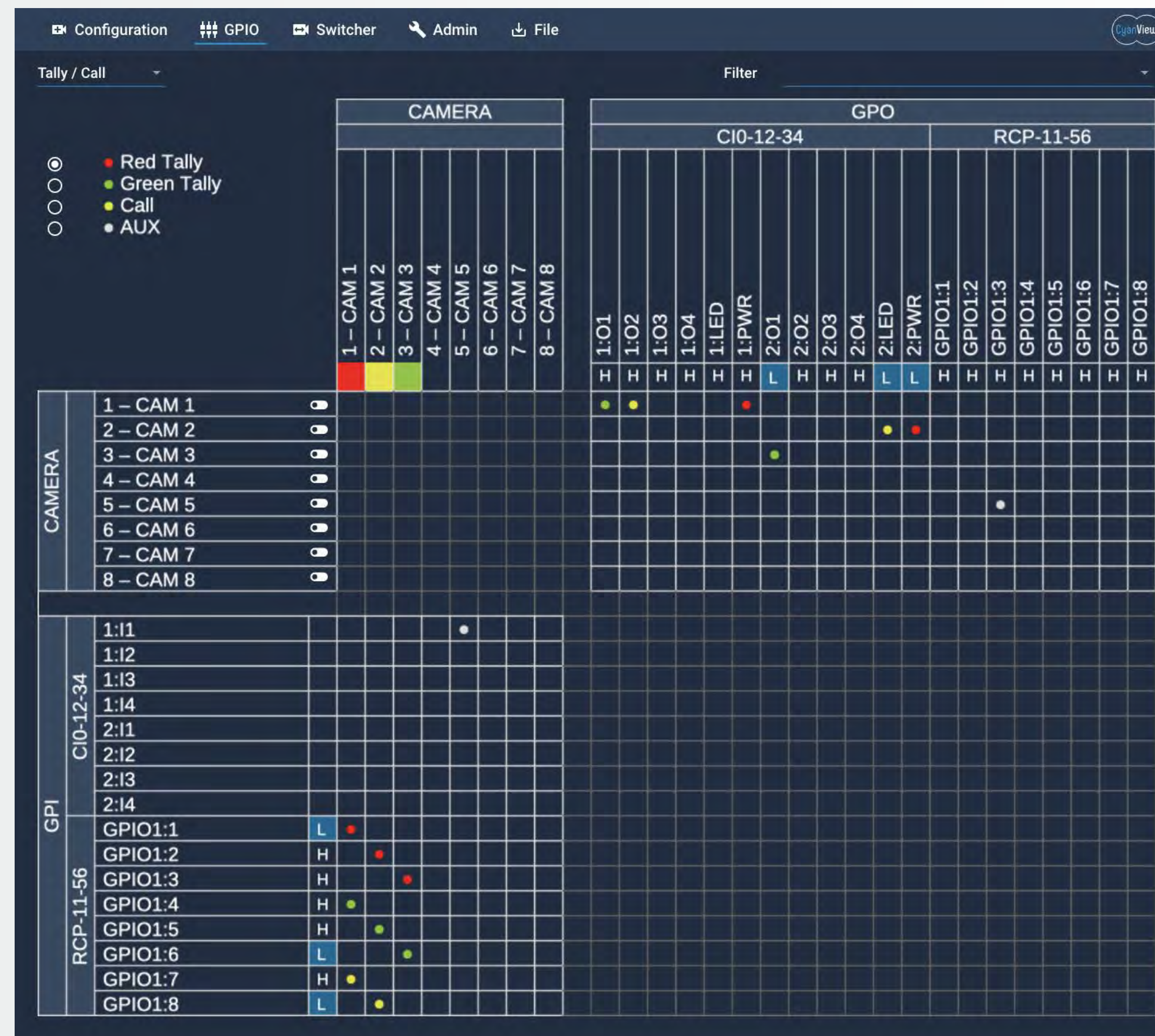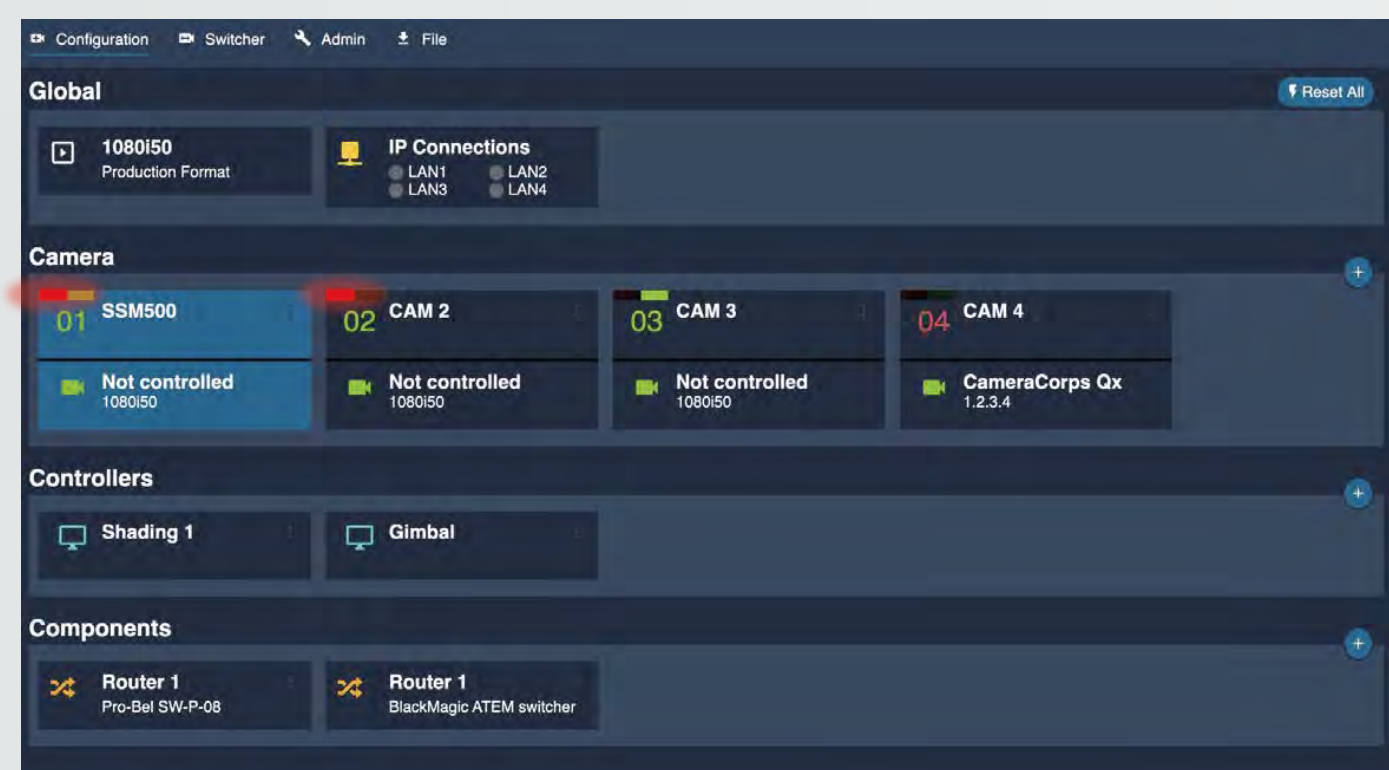
Tally – Distributed for remote productions

Fully distributed remote tally solution

CyanView

Local network

LAN

ON AIR

Over Wifi

RIO

wi-fi

ON AIR

Over the internet

RIO

Internet

Cloud Relay

Internet

ON AIR

Cyanview
Cloud Relay

Over cellular data

RIO

Cellular

Cloud Relay

Internet

ON AIR
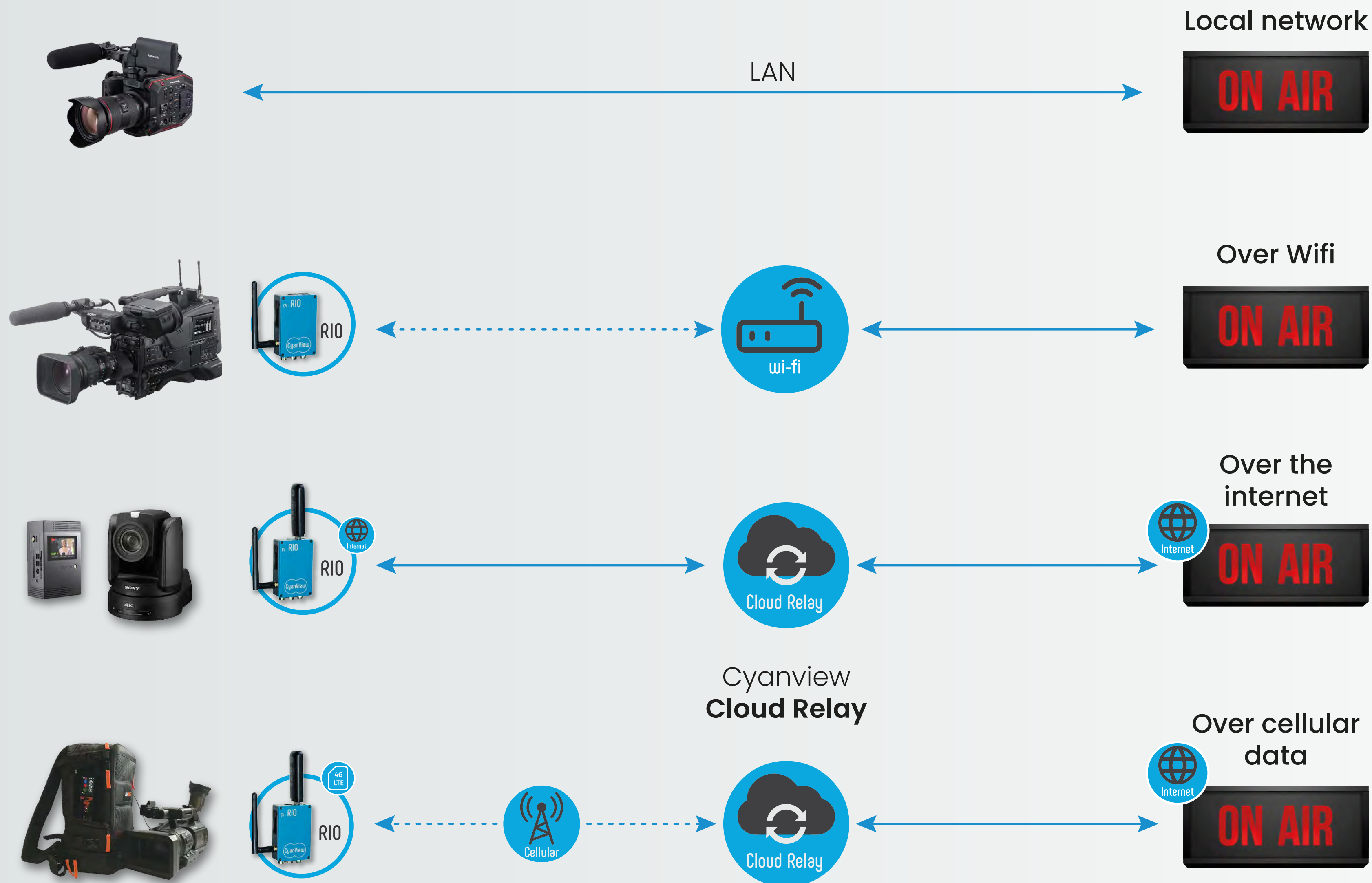
Distributed, all IP

Tally can come from any source in any location, even over the internet

Wireless: Wi-Fi and 4G

RIO handles camera control protocols for built-in tally over Wi-Fi and 4G but also provides external tally signals when needed.

Remote production

With cellular video transmissions getting more and more popular, both camera control and tally become the key to successful Multicam remote productions.

RIO — Live news and events

Multi-camera remote production shading

CyanView

4G LTE

RIO

Cellular

Cyanview
Cloud Relay

Internet

RCP
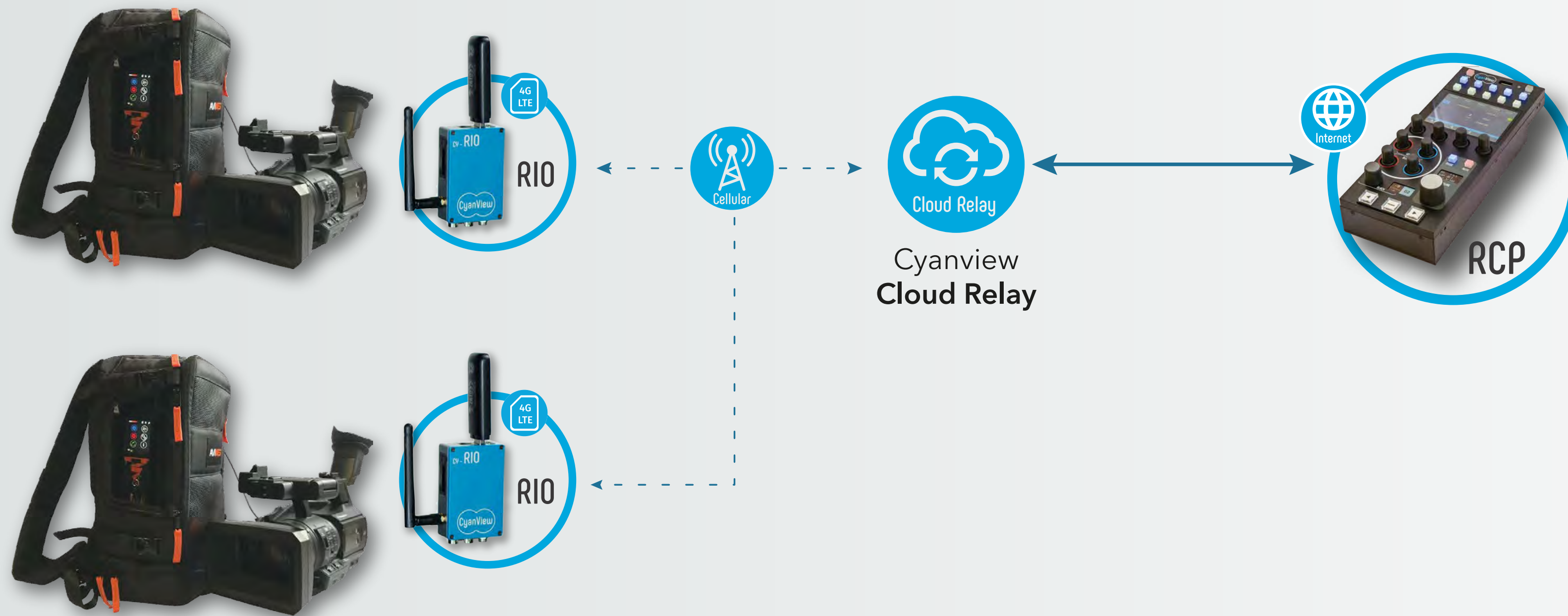
- Women's World Cup in Paris 2020
- Matching 16 ENG shoots that are not at a stadium
- "When incoming feeds hit production, the video operator can have CCU control on cameras that don't have CCUs so it's a fantastic system and a huge help"

https://www.svgeurope.org/blog/headlines/fox-sports-fifa-womens-world-cup-operation-takes-technical-step-forward/

Shading when needed

Remote shading helps when live news coverage involves multiple cameras or when camera operators need assistance. Most camcorders allow menu navigation remotely.

Tally in the viewfinder

RIO will send tally information right into the camera viewfinder when the camera protocol allows it. Wiring an external small LED in the viewfinder is always possible too.

Unattended cameras

Adding cameras for beauty shots, overviews or surveillance doesn't always require attendance. Rio will allow camera and other equipment to be remotely controlled.

RIO — Shading with Dejero

Use Case with Dejero Mobile Transmitters

Cyanview
Cloud Relay

Cloud Relay

RIO

RCP
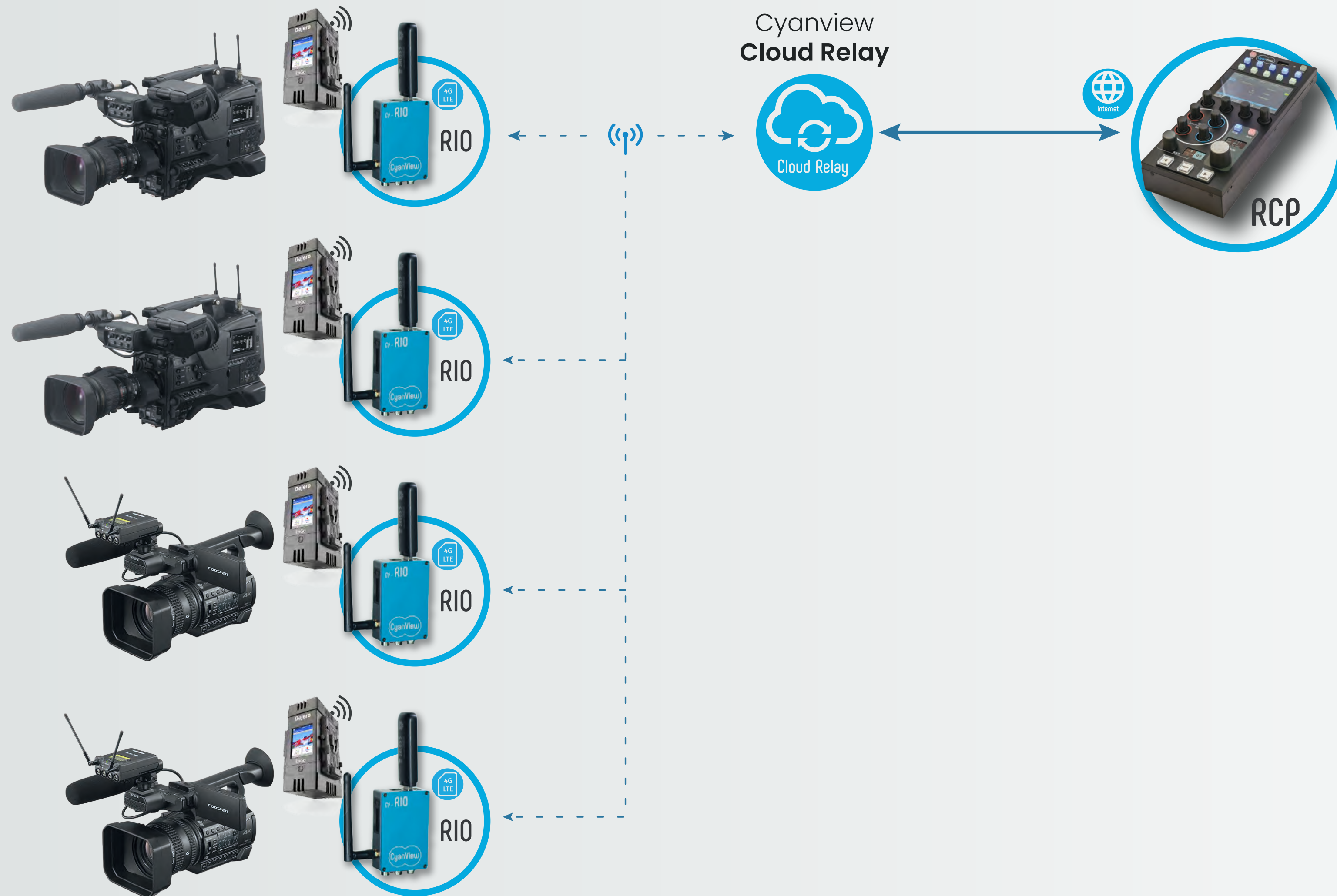
Lower-tier sports

Covering sports with lower budgets usually involves using cellular video transmission and no on-site infrastructure. Adding RIO will allow remote shading of the cameras in order to get a good matching in multi-cam setups and let the camera operator focus on the game.

VP4 – 4 channels Color Corrector

Shade and match your cameras

CyanView

Primary Corrections
- **Master/Red/Blue Gain**
- **Master/Red/Blue Pedestals**
- **Master/Red/Blue Gamma**
- **Saturation**

Advanced Corrections
- **Black Gamma**
- **Detail / Coring**
- **Multi-Matrrix**
- **White Clip**
- **Scene Files**

VP4 – 4 channels Color Corrector

Applications without camera control

RCP

4x SDI Video

VP4

4x SDI Video

4x CCU
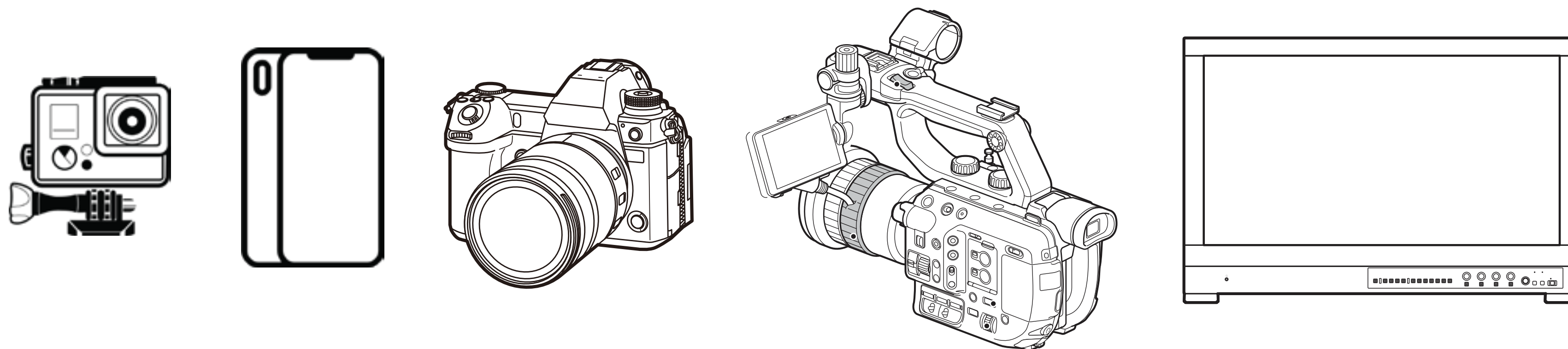
4x 3G-SDI channels + Frame Sync

4 channels color corrector with external reference input for the frame synchroniser.

Shading without control

Drones, iPhone, Action cameras or incoming video feeds can all be corrected from an RCP as if it was a camera CCU

Camera Matching

Compared to standard video processors, the VP4 offers secondary corrections necessary to color match cameras from different brands and models

Shading for displays

Monitors, TVs and projectors in front of cameras can also be corrected with the advanced processing in order to match the main content

AJA FS-HDR color control

Controlling color corrector channels from multiple units with a single RCP

Color Corrector Live Control

Control all the color correction settings of the FS-HDR live from a remote panel that fits right into your video desks.
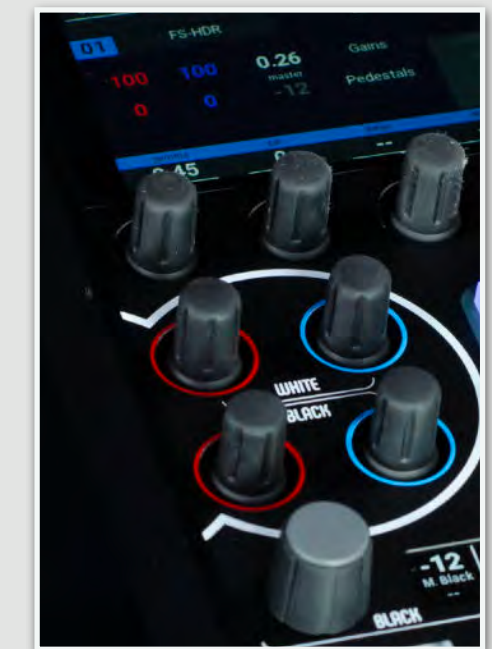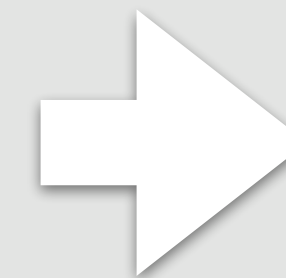
Primary color corrections

Control the following settings live:

* Gains — Master, R, G, B
* Gamma — Master, R, G, B
* Black Lift/Pedestals — Master, R, G, B
* Saturation
* White clip

AJA FS-HDR color control

Controlling color corrector channels from multiple units with a single RCP
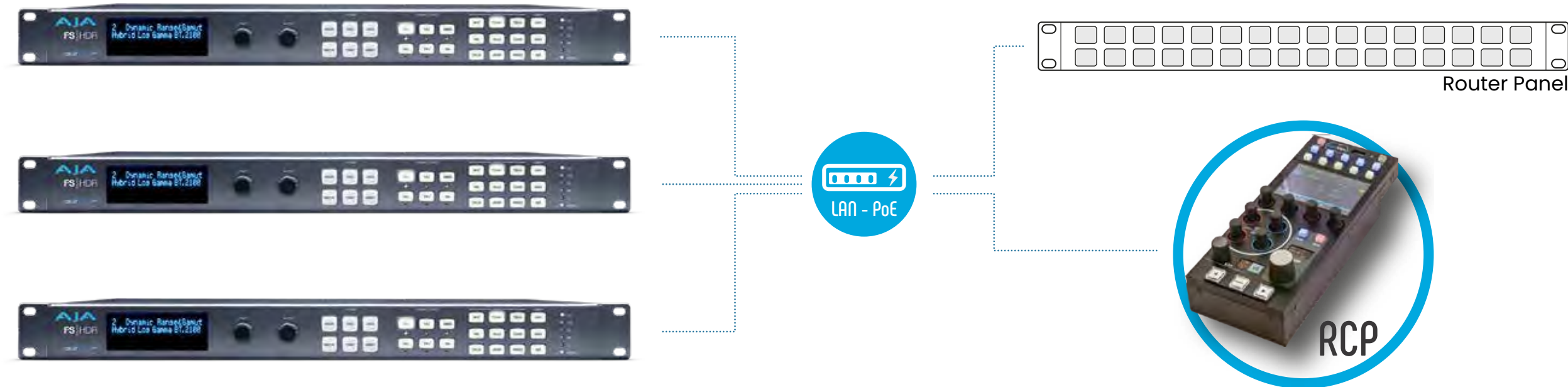
Unlimited channels
Any number of FS units

Control any number of channels from a single RCP panel, no matter how many FS units you have! To add a unit in the configuration, just set the IP address. You can then add channels as if they were real cameras: assign a number, name and the related color processing channel.
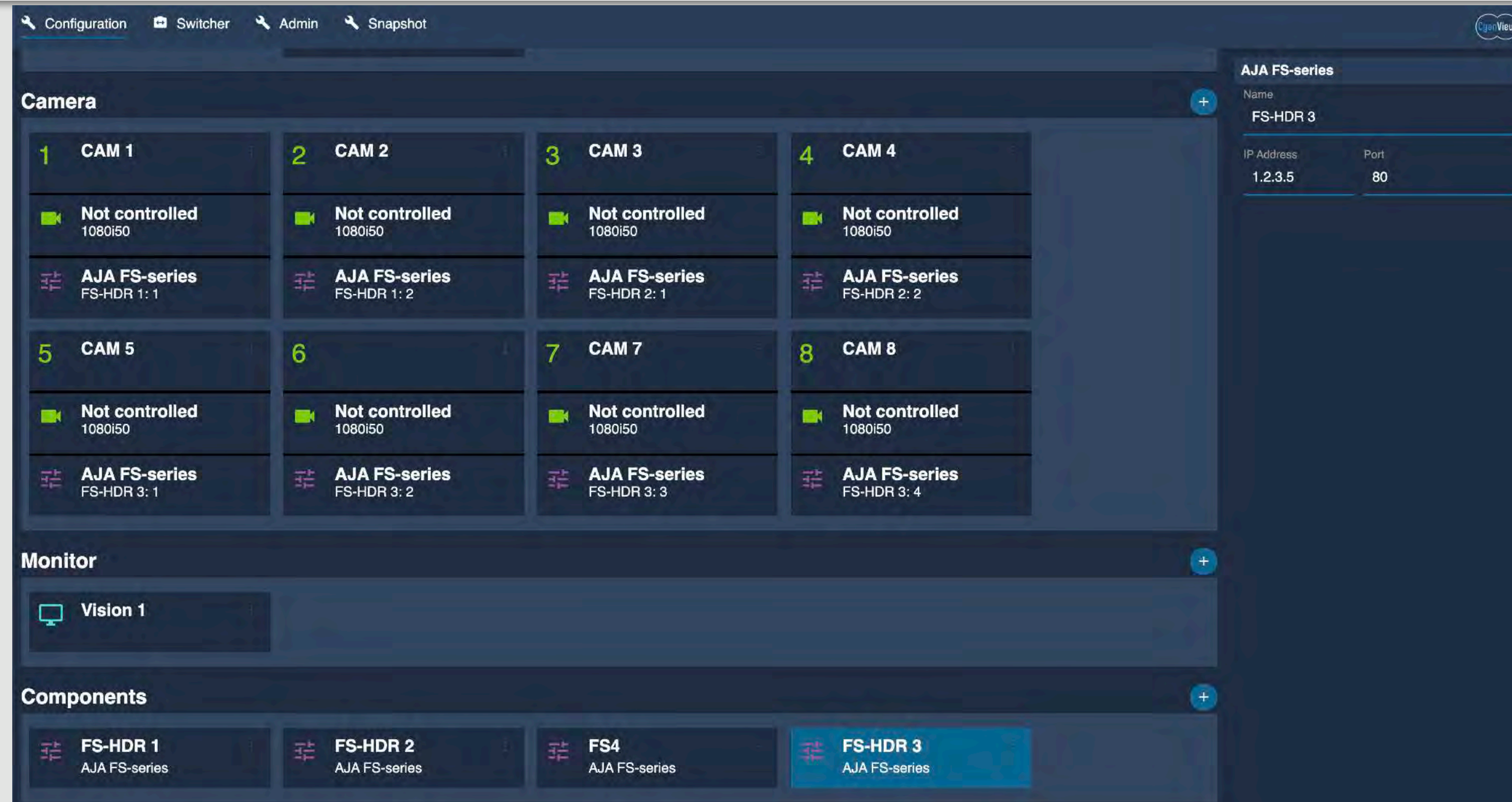
AJA FS-HDR color control

Controlling color corrector channels from multiple units with a single RCP

Fits right in your OB

While most settings of the FS-HDR are static configuration that are perfectly fine to be setup from the unit's web GUI, live operation requires a different workflow.

Live control of color corrector parameters is usually the responsibility of video engineers and as such control should fit into their workspace.

Using an RCP to control the built-in color correctors of Frame Syncs will allow Video Engineers to paint camera or other sources of signals right from their workplace.

Cyanview's RCP has a small form factor to sits straight next to your other panels or can be fitted with a standard size frame to be integrated right into your desk.

AJA FS-HDR color control

Controlling color corrector channels from multiple units with a single RCP

CyanView
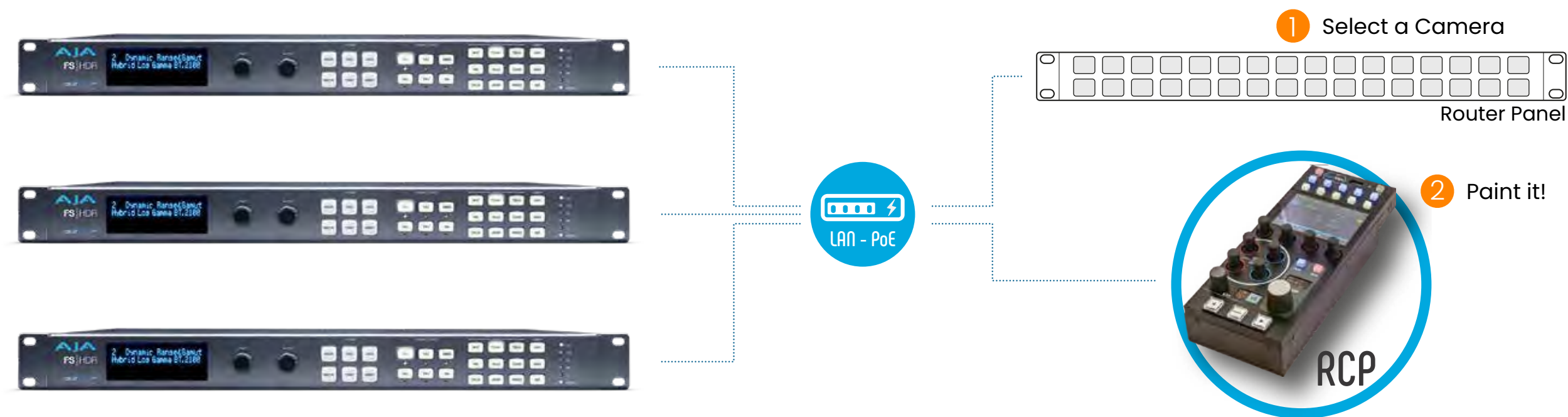
Select cameras from the router panel

Control any number of channels from a single RCP panel. 10 units and 40 channels, really? To make this manageable, we integrate with router controllers. Simply select the camera from the router panel or any interface and the RCP will follow. You will always be controlling the camera you see on the monitor.

Synchronisation is bi-directional so changing cameras on the RCP will also call the corresponding signal on the monitor.

Workflow with multiple RCP

Mix Cyanview's RCP next to other standard RCP and the PREVIEW touch-down will work similarly by calling the currently selected camera for monitoring. Working with multiple Cyanview RCPs is just like your standard workflow.
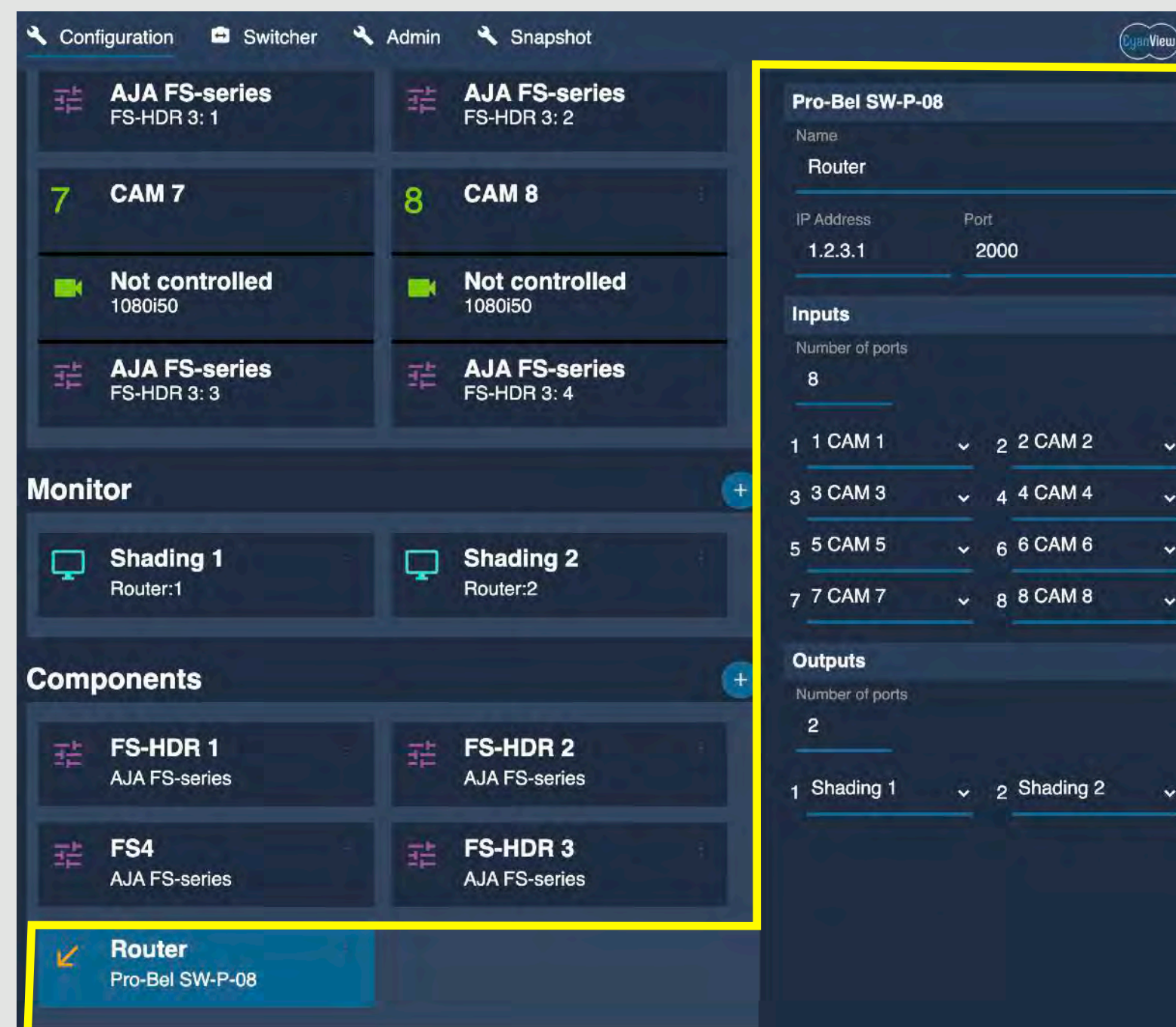
AJA FS-HDR color control

Controlling color corrector channels from multiple units with a single RCP
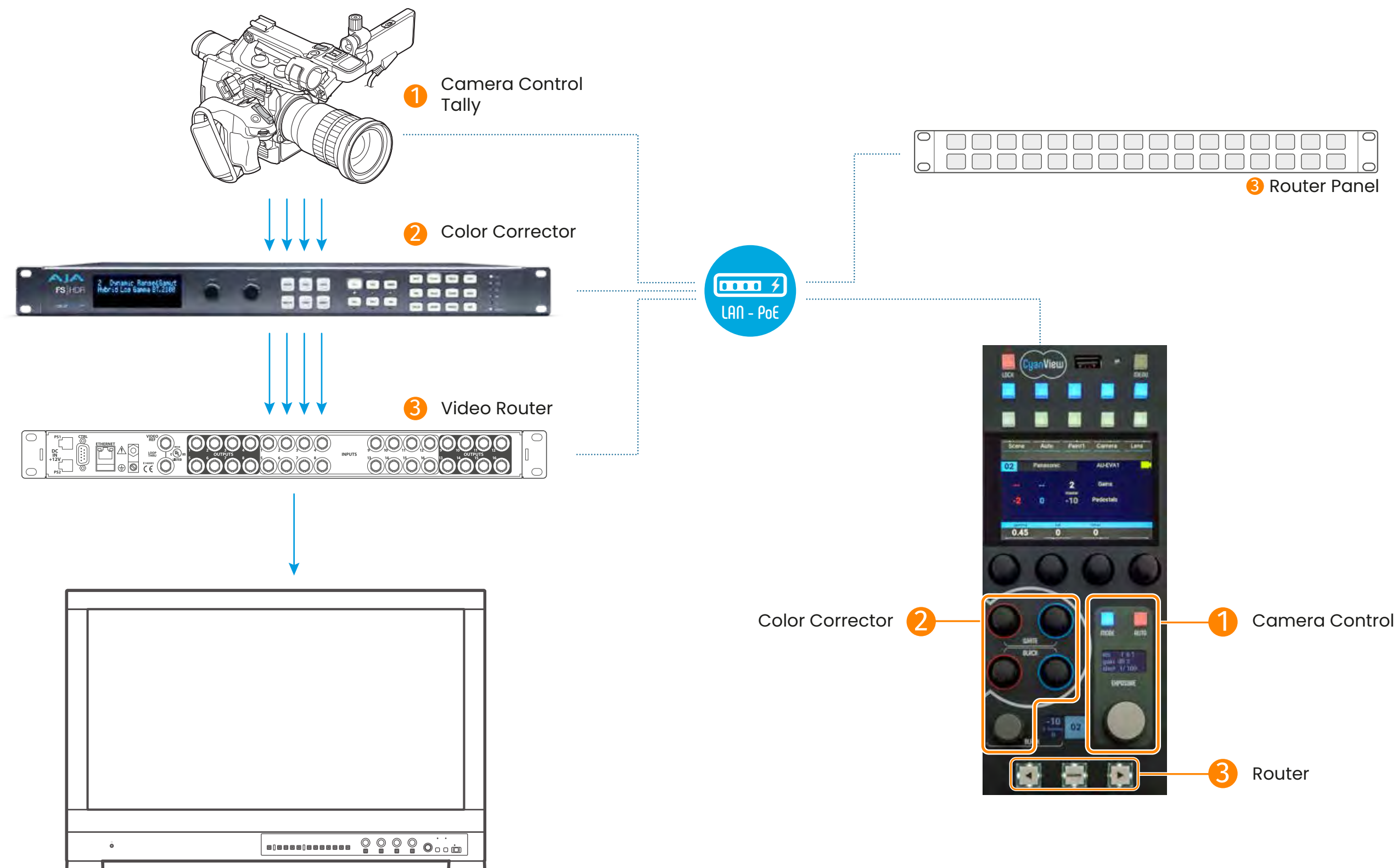
Combine color correction and camera control

In many situations color correctors are used on specialty cameras that lack some controls, or lower-end camcorders or D-Cinema cameras that provide exposure control but no remote color correction.

In such situations, camera controls can be merged with color corrections done by the FS channels in order to show to the video operator a camera with the full set of controls consisting of the combination of both camera controls and post-processing ones.

On a Marshall mini-cam having no black control, gain would be controlled in the camera head while black would drive the FS channel.

For a Sony FS7 D-Cinema camcorder, Iris would be driving the lens while primary color corrections would be applied in the FS channel.

Whatever isn't available in the camera will be taken over by the video processor. (A future update will provide more control possibilities on parameters on both sides.)

AJA FS-HDR color control

Controlling color corrector channels from multiple units with a single RCP

HDR Signal

HDR Converted Signal

SDR Signal

SDR Signal

LAN - PoE

Cameras 1 to 8

HDR cameras
+ Cameras 9 to 16
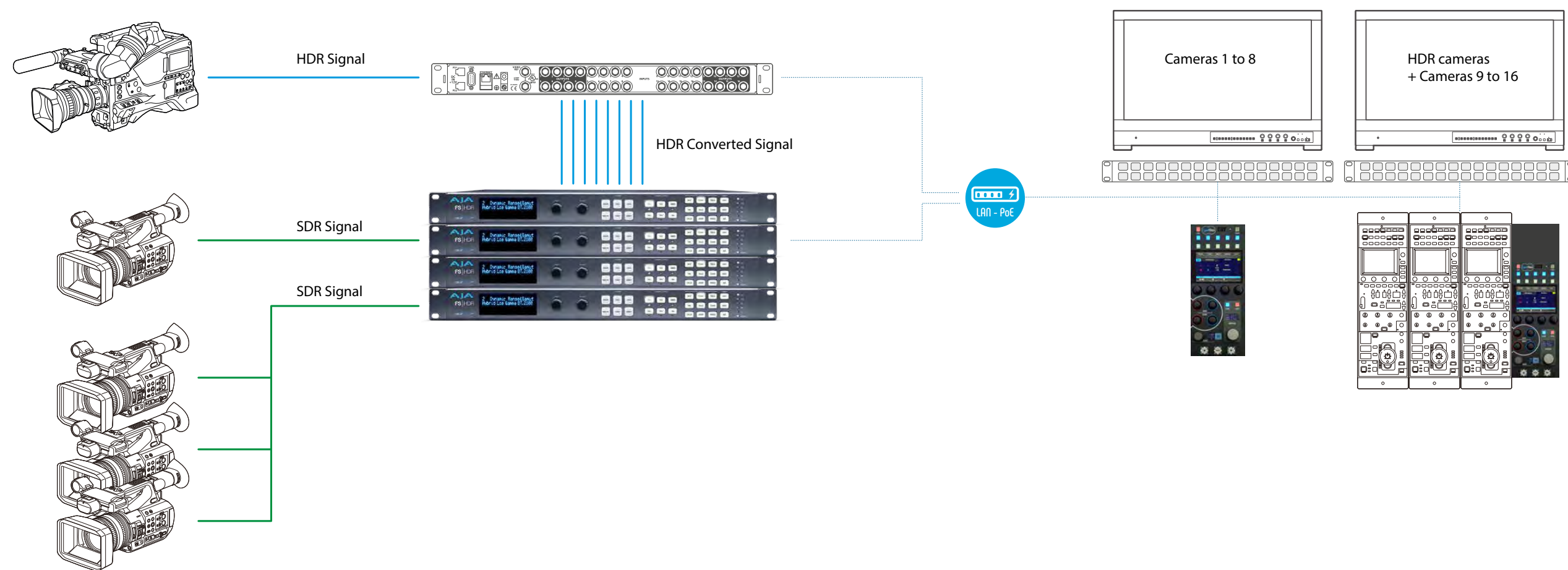
Shade the HDR converted signal

In HDR productions, not all cameras are natively HDR and multiple signals have to be converted from SDR to HDR. In order to shade both the SDR and HDR

Blackmagic Camera Control Solutions

CyanView

CY-CI0   **CY-BM**

CY-CI0BM

Various options

Blackmagic cameras receive control commands through the SDI return video feed. As such, an adapter board is required in order to insert on the SDI path the control metadata. The Blackmagic Arduino is used t convert RS232 control into SDI metadata. This control board is available as an extra layer on top of the CI0 or as a separate unit box which can be combined with a regular CI0 or RIO.

Using 2 separate units gives more flexibility as you can use a regular CI0 or RIO and only add the Blackmagic converter when necessary.

2 in 1 solution which combines the CI0 and Blackmagic adapter in a single unit. The 2 generic serial ports of the CI0 are still available to control other cameras or accessories.

RIO — Blackmagic Camera Control

Use Case for Blackmagic cameras

SDI in

PoE

CI0-BM

SDI in

PoE

CI0-BM

LAN - PoE

RCP
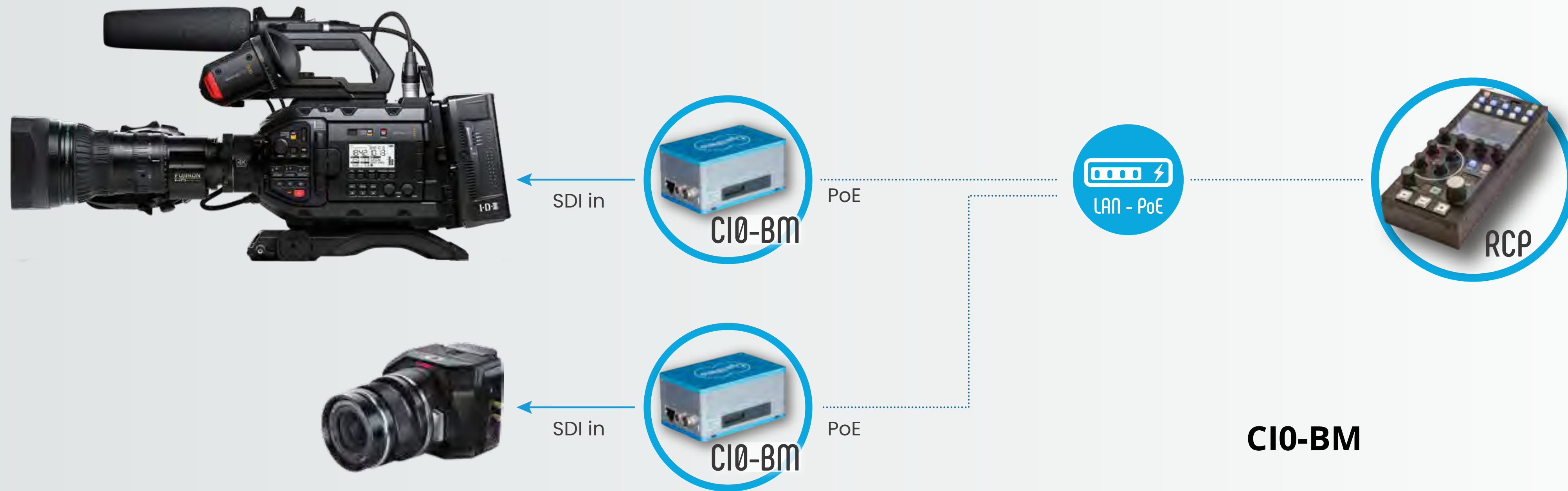
CI0-BM

A single RJ45 with PoE connects to the CI0-BM which converts camera control received over IP into SDI based camera control metadata.

RIO — Blackmagic Camera Control

Use Case for Blackmagic cameras

SDI in — BM — RS232 — CI0 — PoE — LAN - PoE — RCP

SDI in — BM — RS232 — CI0 — PoE

CI0 and BM module

The CY-BM module is an add-on to convert serial camera control into SDI-based metadata and can be connected to a regular CI0 or a RIO.

The CY-BM could also be connected directly to the RCP using a USB RS232 converter, not requiring any CI0.

RIO — Blackmagic Camera Control

Use Case for Blackmagic cameras

SDI in

RS232

4G

RIO

Cyanview
Cloud Relay

Cloud Relay

Internet

RCP

Control over 4G

Using RIO and the CY-BM converter module, it is possible to control a Blackmagic camera from anywhere: over LAN, over wi-fi, over the internet and over 4G connections using a USB modem and a SIM card.

RIO — Blackmagic Camera Control

Use Case for Blackmagic cameras

CyanView

SDI in — BM — RS232 — RIO — wi-fi — wi-fi — LAN — RCP

SDI in — CI0-BM — wi-fi bridge — wi-fi — LAN — RCP
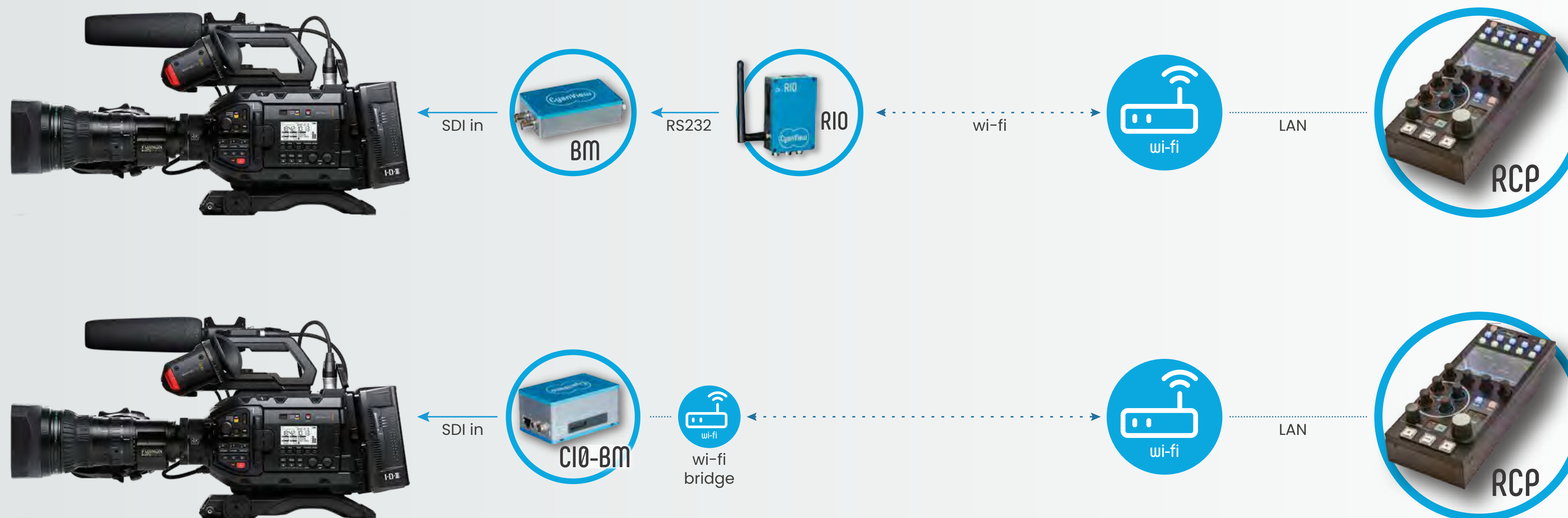
Wi-Fi control

To control a Blackmagic camera over Wi-Fi, the best solution is to use RIO which has built-in Wi-Fi, coupled with the CY-BM conversion module.

Using a Wi-Fi bridge in client mode and a CI0 or CI0BM behind will also work for the Blackmagic protocol. This solution is sensitive to latency and as such is not the most recommended.

RIO — Blackmagic Camera Control

Use Case for Blackmagic cameras

CyanView

1 Camera Selection

SDI out

2 Camera Control Tally

LAN - PoE

SDI in

CI0-BM

1 Camera Selection

Camera Control **2**

1 Camera Selection

Router sync
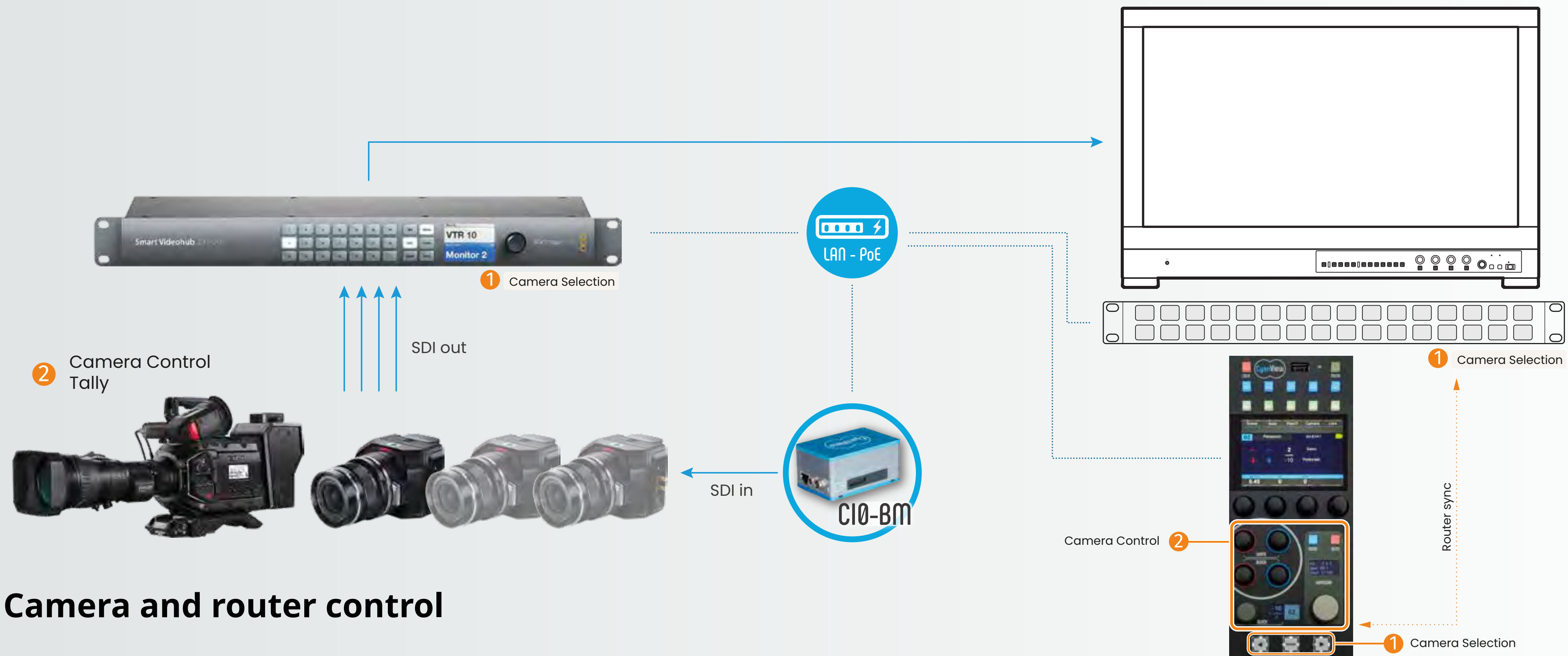
Camera and router control

Using one RCP with many cameras is very convenient when combined with the router integration. Selecting a camera on the router panel will automatically select that camera on the RCP as well. In the opposite direction, selecting a camera on the RCP will also change the router and preview monitor. As such, the RCP always control the camera selected on the monitor without having to re-select that camera from the RCP. This saves a lot of time and errors.

Mini-Cameras

Shade your Specialty Cameras

CyanView

RS485 + 12V

Dream CHIP

CI0

LAN + PoE

LAN - PoE

LAN + PoE

RCP
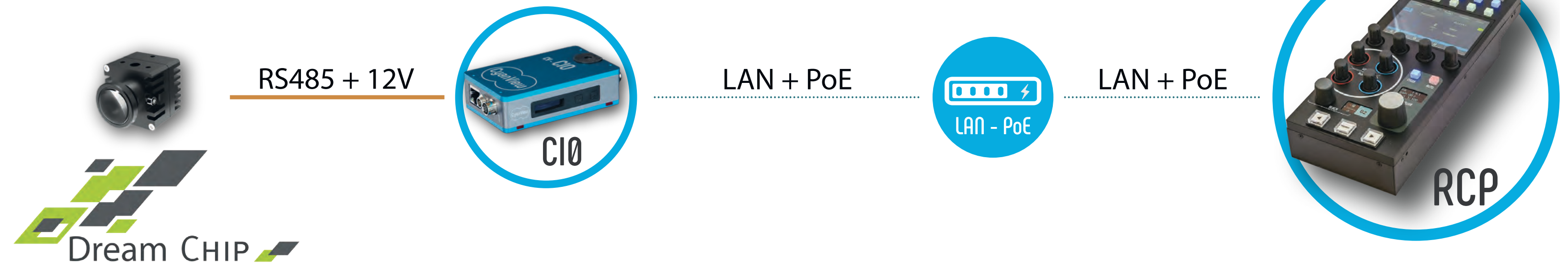
Dreamchip — Interfacing

Use Case for Blackmagic cameras

CyanView

Control through USB connection

RS485 USB Dongle

RCP

Control through CI0 IP interface

RS485 + 12V | LAN + PoE | LAN - PoE | LAN + PoE

CI0

RCP
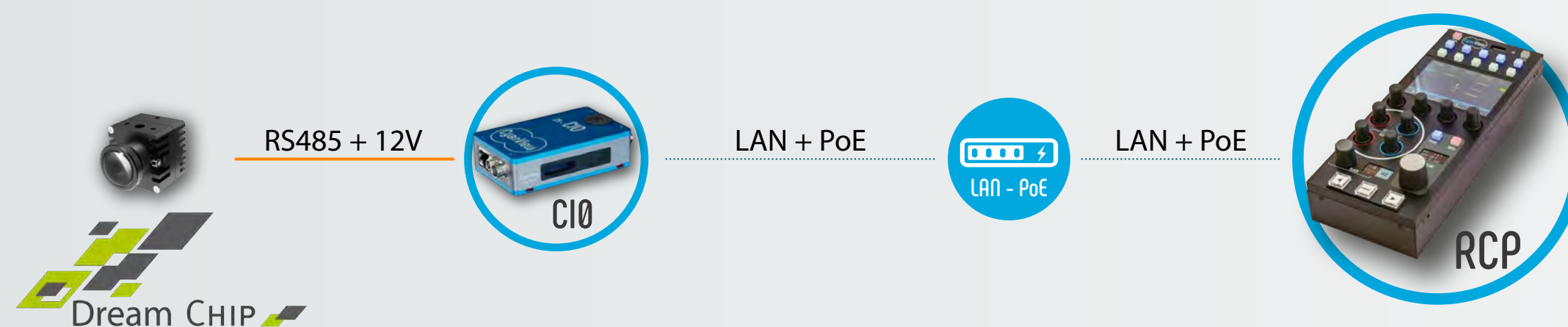
Dream CHIP

Control through USB

The cable provided in the Dreamchip kit using an FTDI RS485 USB dongle can be directly connected to the Cy-RCP to control one or multiple Atom cameras. A USB hub can be added to control more than 2 cameras.

Power

The RCP and CI0 interface are powered over PoE or 12 DC input (accepting up to 24V). The CI0 will also power and control the camera through the Hirose connector. When using USB, power have to be provided to the RCP and camera separately.

Camera bus

An upcoming release will support a bus of cameras from the CI0 interface, allowing multiple cameras to be linked together on the same interface.

Mini-cameras with Barracuda encoders

Remote Shading for Specialty Cameras
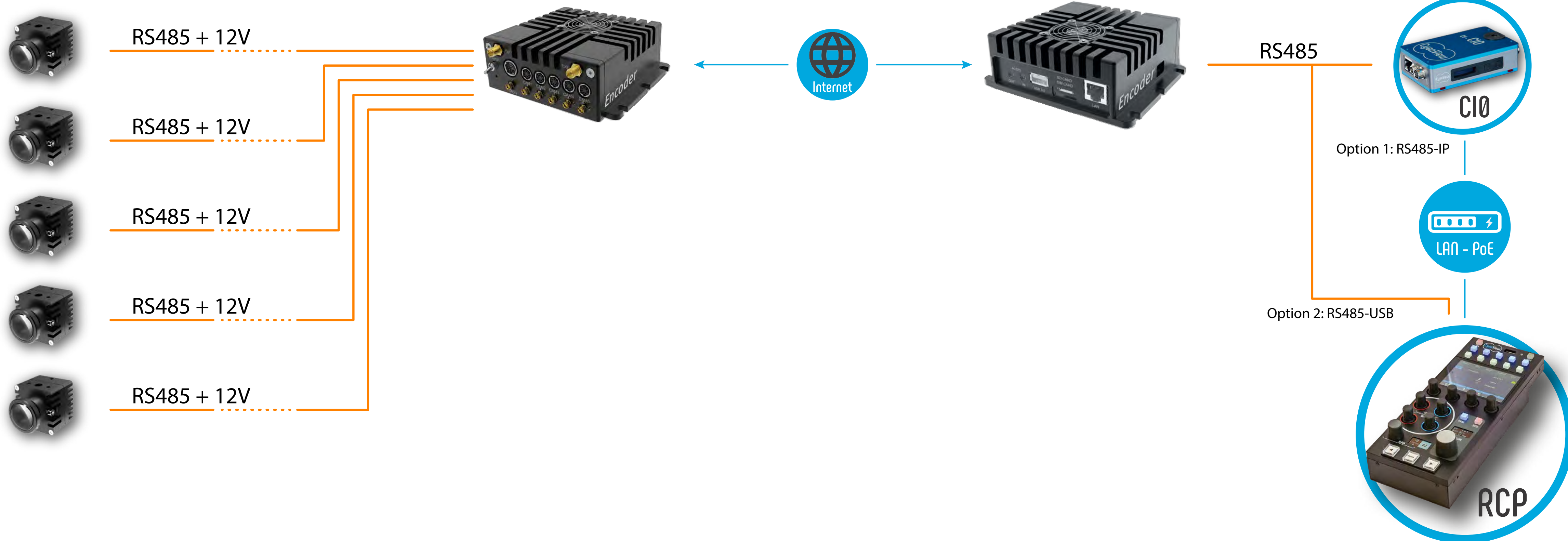
CyanView

Dream CHIP

RS485 + 12V

RS485 + 12V

RS485 + 12V

RS485 + 12V

RS485 + 12V

Encoder

Internet

Encoder

RS485

CI0

Option 1: RS485-IP

LAN - PoE

Option 2: RS485-USB

RCP

Robotics and lens control

CyanView

Dream CHIP

RS485 + 12V

CI0

LAN + PoE

LAN - PoE

LAN + PoE

RCP

G1 SHOTOVER

SBUS

ENG Serial

Gimbals or Pan-Tilt Heads

- Control over SBUS of most gimbals
- Control of professional robotic heads

ENG lenses

- Canon and Fujinon control
- Iris, zoom, focus, switches

CyanView

Dream CHIP

RS485 + 12V

CI0

LAN + PoE

LAN - PoE

LAN + PoE

RCP

PTZ and mini-cameras in lower Tier Productions
Shade your Specialty Cameras

CyanView

Field

HD-SDI

SERIAL
+ power
CI0
PoE

SERIAL
+ power
CI0
PoE

SERIAL
+ power
CI0
PoE

PoE

Smart Videohub 20 x 20
VTR 10
Monitor 2
Videohub

AJA FS4
4K2160p5994
FS4

LAN - FIBER

USB
PoE

Streamdeck
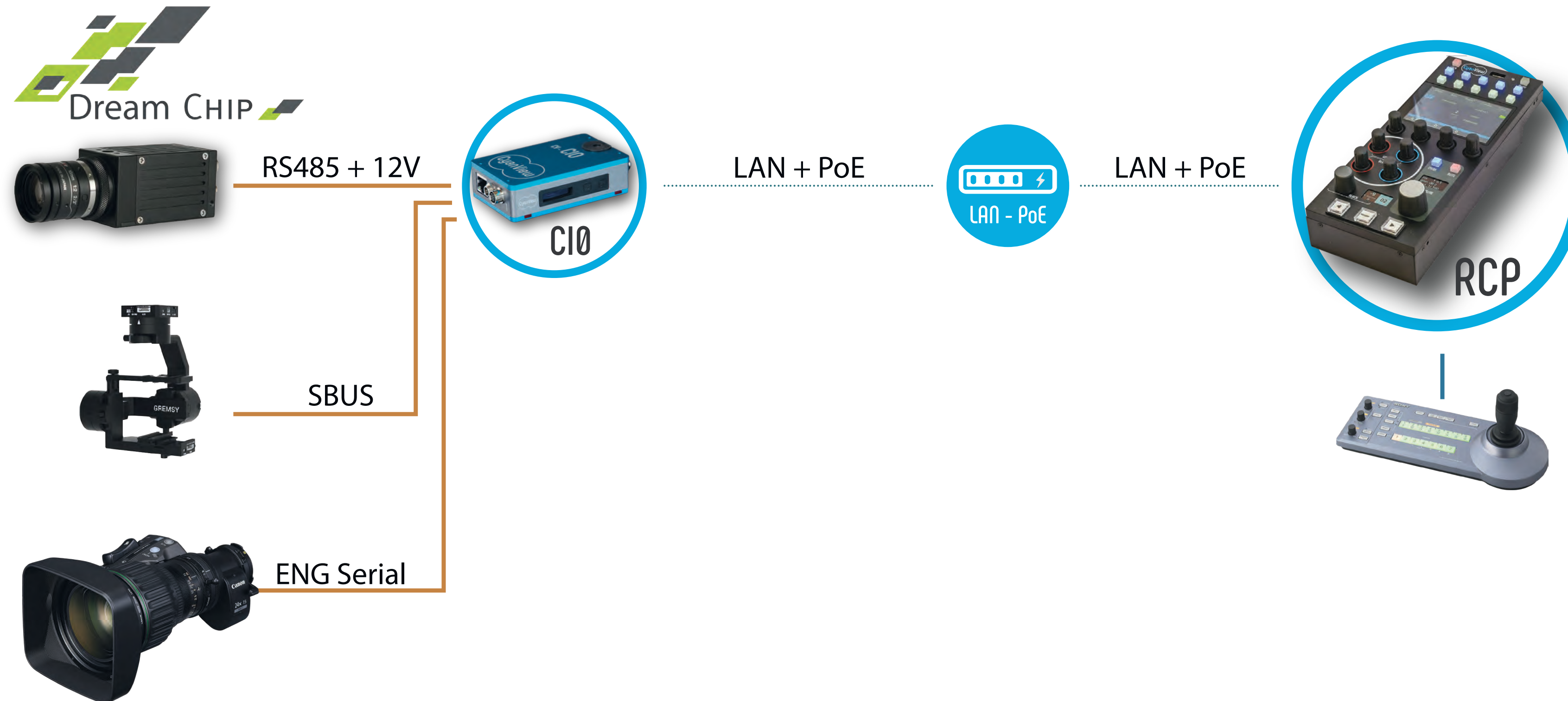
SSM500 Slow Motion control with EVS

Shade your Specialty Cameras

CyanView

Dream CHIP

RS485

B4 Serial

CI0

LAN + PoE

LAN - PoE

LAN + PoE

RCP
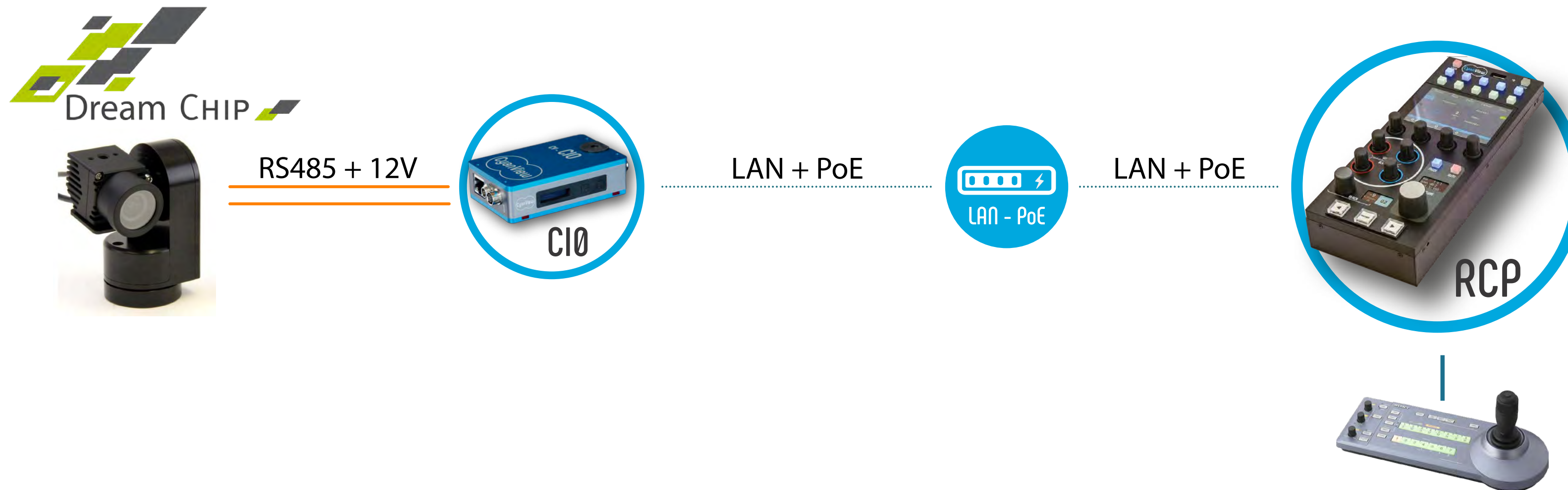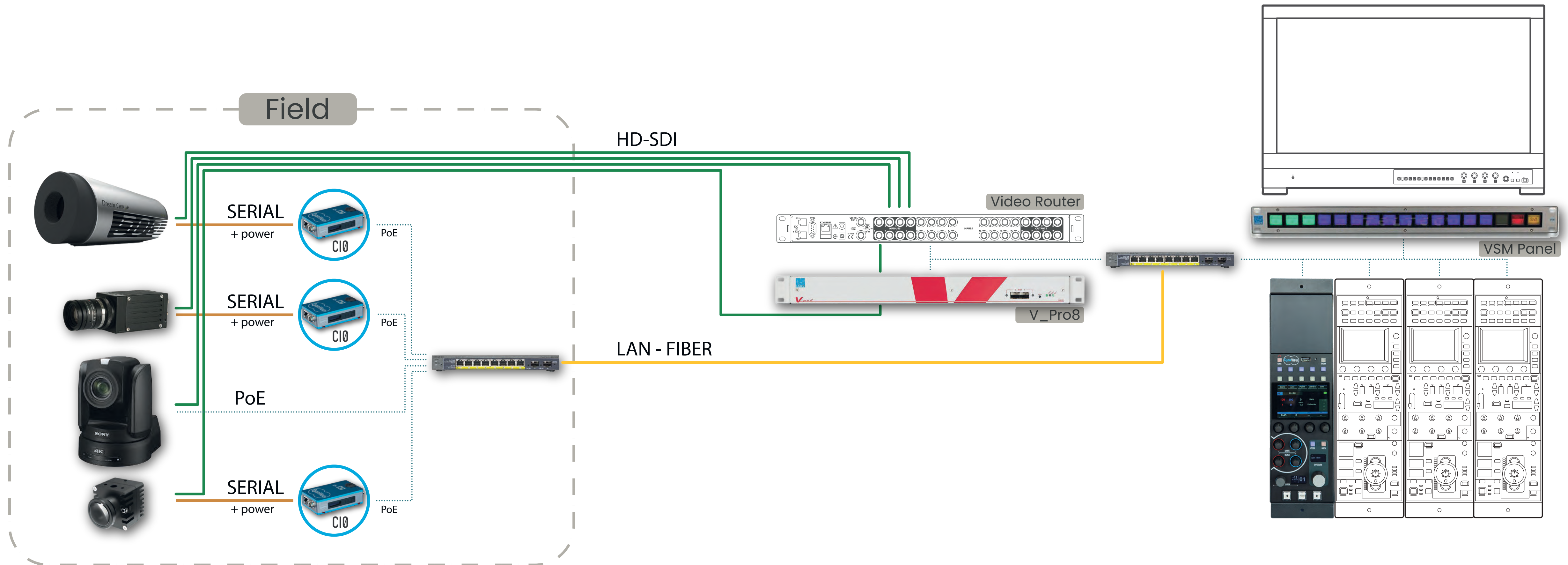
EVS
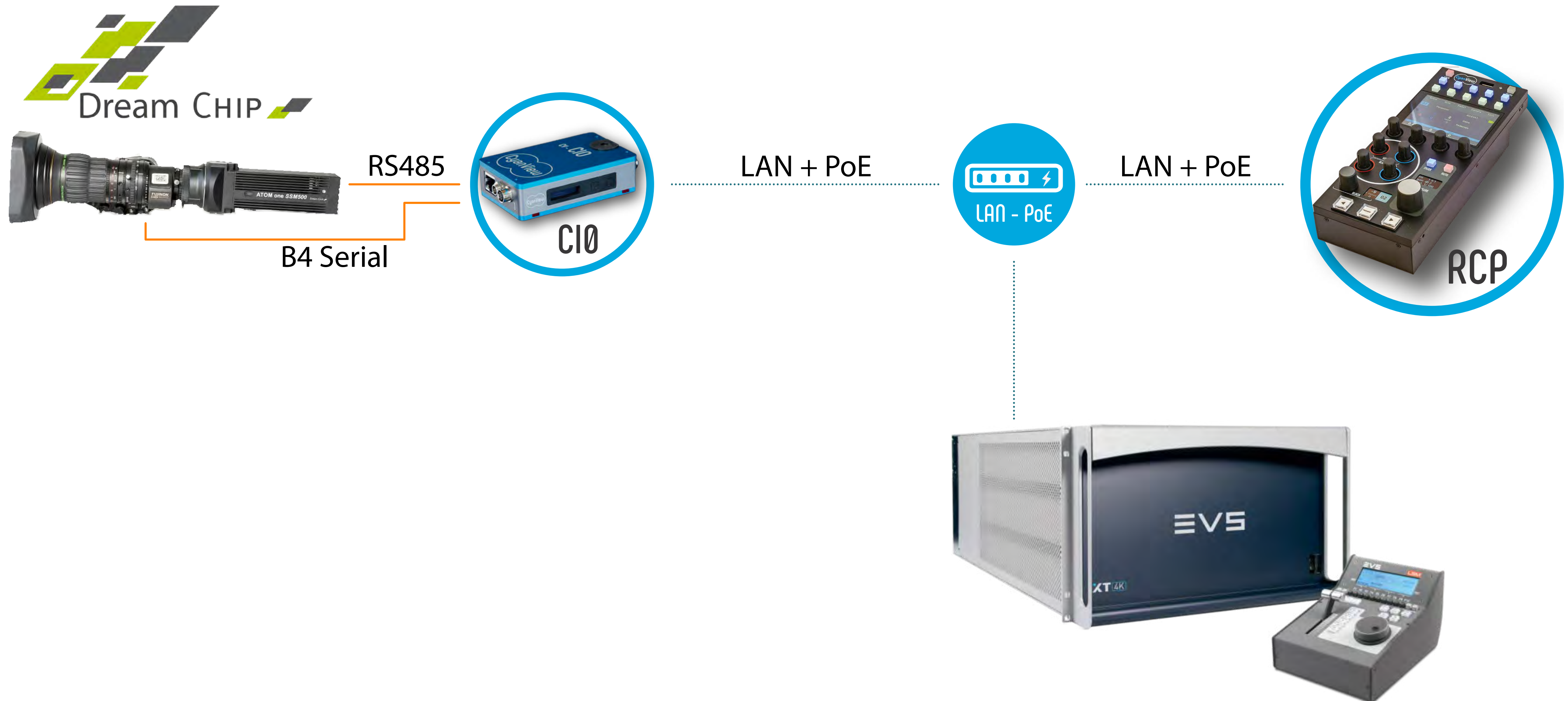
SSM500 Slow Motion control

Shade your Specialty Cameras

Dream CHIP

RS485

* Local power required

C10

LAN + PoE

LAN - PoE

LAN + PoE

RCP

CV - N10

N10

CyanView

Option: Control from RCP

Dreamchip RS485 USB cable

RCP

Dream CHIP

RS485

B4 Serial

* Local power required

4G LTE

cv - RIO

RIO

Cellular

Cloud Relay

Cyanview
Cloud Relay

Internet

RCP
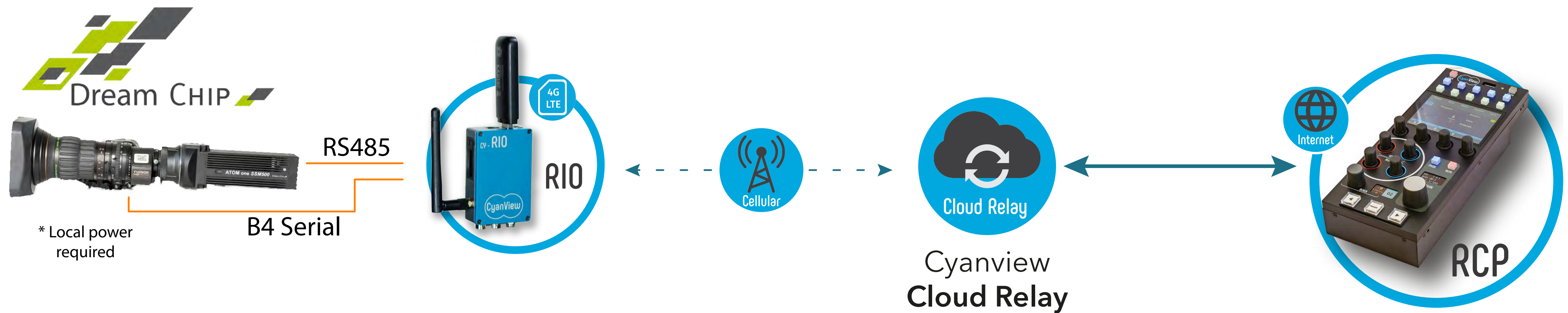
RCP — Shading for Dreamchip Cameras

Multi Camera support

CyanView

Dream CHIP
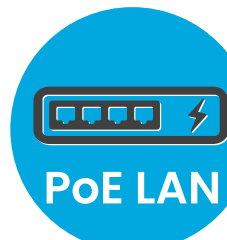
1 camera
RS485 + 12V — CI0 — LAN + PoE — PoE LAN — LAN + PoE — RCP

1 camera
on each port
RS485 + 12V
RS485 + 12V — CI0 — LAN + PoE
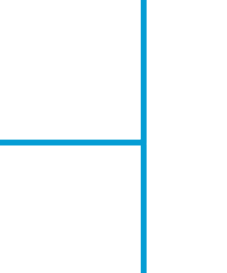
1 bus of
cameras
RS485 + 12V — CI0

More cameras?

* A single RCP can control any number of cameras, mixing different models and even makes.
* Directly connect up to 2 cameras on a CI0 interface
* Up to 8 cameras can be connected on a CI0 port when a camera bus is configured

Solutions to shade and match live cameras

Marshall Mini-Cameras

CyanView

Marshall
CV506
Miniature HD Camera
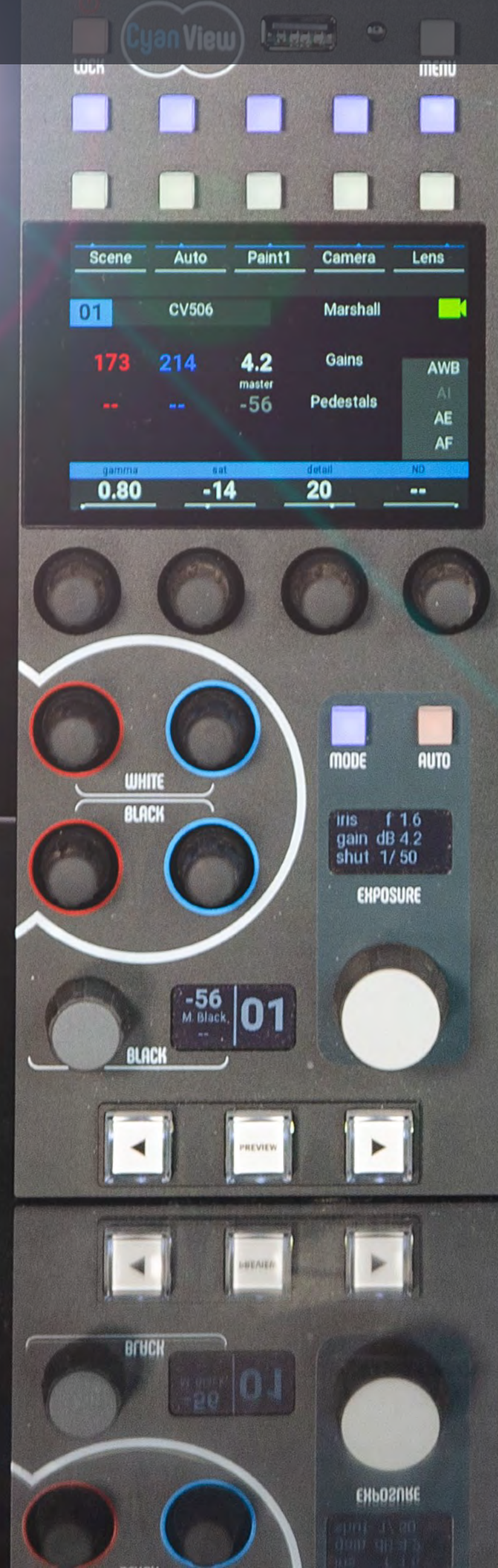
Marshall
BROADCAST & PRO AV

RCP — Shading for Marshall Cameras

Shade your Specialty Cameras
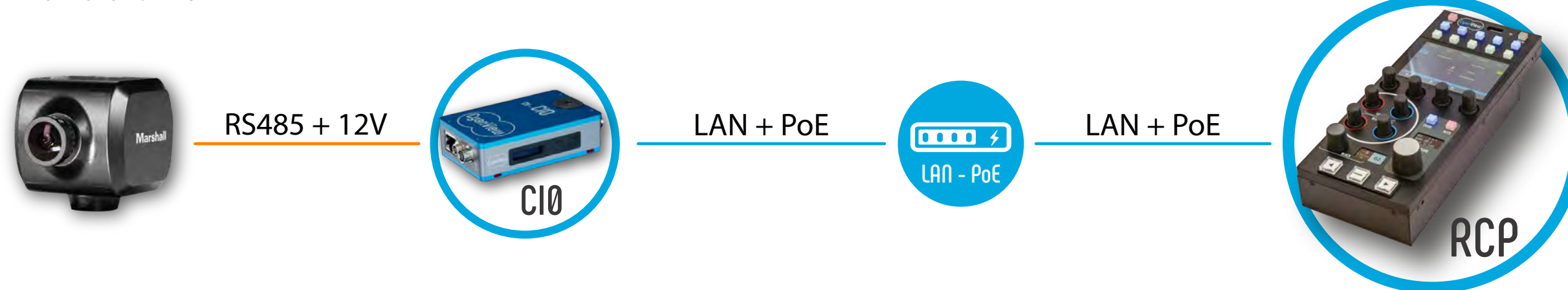
Multi Camera RCP for Professional Broadcast

- A universal RCP panel which supports all Marshall camera models
- The CI0 interface provides serial camera control over IP
- PoE for data and control over a single cable
- Tally indicators on CI0 or external LED

RCP — Shading for Marshall Cameras

Supported cameras

CyanView

Miniature HD Cameras

CV503/DC506, CV344, CV346, CV380
CV502,
CV500 (Pelco OSD only)

PTZ Cameras

Untested yet, get in touch!

Zoom Block cameras

CV350, CV365
On request: CV420, CV255, get in touch!

Lipstick cameras

CV225, CV226

Main CCU controls

- OSD menu navigation
- Iris – Auto / Manual
- Exposure – Shutter, Auto / Manual
- White Balance – Auto / One Push / Manual
- Gain
- Color gains
- Saturation
- Dynamic Noise Reduction
- Detail
- Gamma
- Master Pedestal (MPED)
- Auto Focus On/Off
- Optical Zoom / Digital Zoom
- White Clip

RCP — Marshall Pan Tilt head

Pan Tilt and camera shading over IP

RS485 + 12V

LAN + PoE

LAN + PoE

CI0
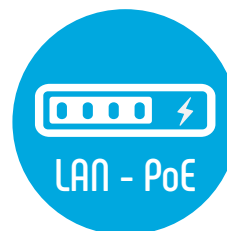
LAN - PoE

RCP

CV-PT-HEAD – Pan/Tilt Head

* IP control of the Marshall Micro Remote Pan/Tilt Head
* Actuation from the RCP touchscreen
* USB camera joystick as an option
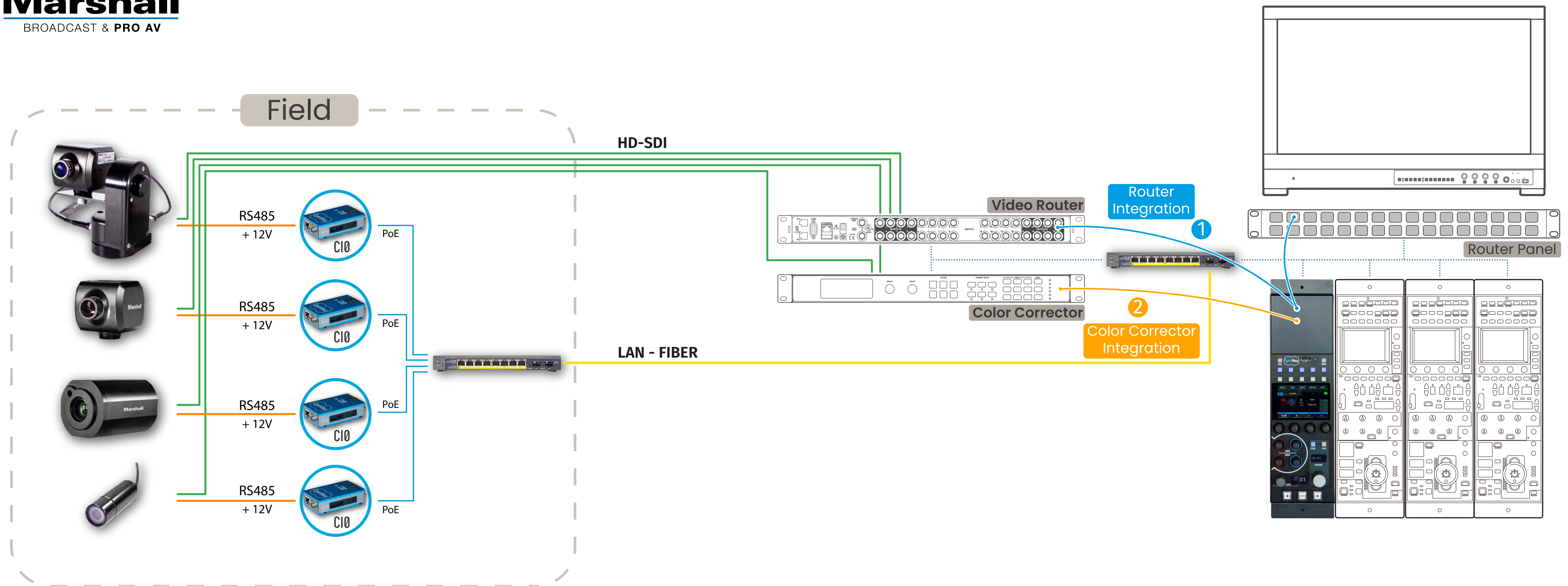* VISCA joystick panels as an option

VISCA Panels

Support of VISCA panels to control Robotic cameras

Mini-Cameras — Broadcast Integration

Shade your Specialty Cameras

CyanView

Marshall
BROADCAST & PRO AV

Field

HD-SDI

RS485
+ 12V
CIO
PoE

RS485
+ 12V
CIO
PoE

RS485
+ 12V
CIO
PoE

RS485
+ 12V
CIO
PoE

LAN - FIBER

Video Router

Color Corrector

Router Integration

1

2 Color Corrector Integration

Router Panel

Integrated in OB workflows

Camera control over IP, integration with routers and router panels (1) and integration with color correctors (2) is the perfect combo to achieve the best quality and effectiveness on high-end broadcast shows.

Synchronized with color correctors

When color correctors are added for extra flexibility, 2 different sources of control become necessary. Cyanview's RCP merges seamlessly both the camera controls and the color corrector channels as a single full feature camera.

One RCP for all your specialty

One RCP is all you need to shade all your specialty cameras. Saving space is an important factor, but the integration of the RCP with the router and panels makes it extremely convenient to shade many cameras.

Mini Cameras — ProAV Integration

Shade your Specialty Cameras

CyanView

Marshall BROADCAST & PRO AV

Field

HD-SDI

RS485 + 12V · CIO · PoE

RS485 + 12V · CIO · PoE

RS485 + 12V · CIO · PoE

RS485 + 12V · CIO · PoE

LAN - FIBER

Video Router

Router Integration ①

Color Corrector

② Color Corrector Integration

PoE

USB · USB

Streamdeck · Joystick
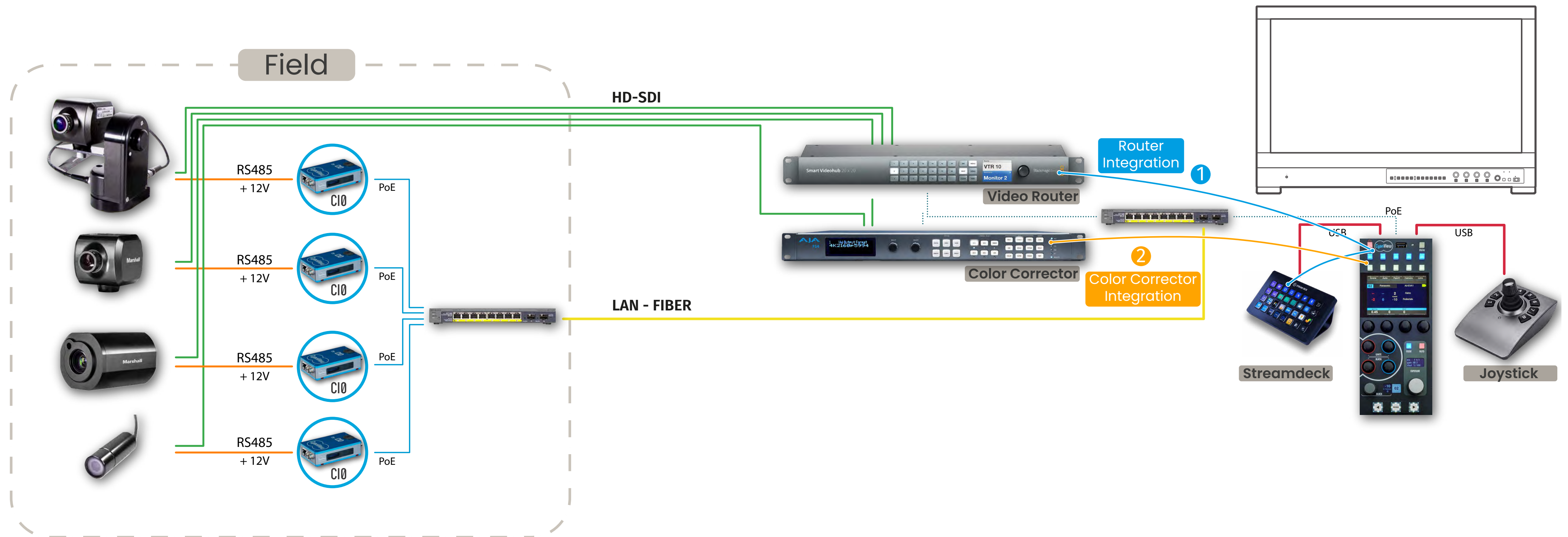
Integrated for compact setups

A single RCP is enough to cover all your needs. The integration with routers or switchers makes it very effective to paint multiple cameras from a single panel.

Synchronized with color correctors

When color correctors are added for extra flexibility, 2 different sources of control become necessary. Cyanview's RCP merges seamlessly both the camera controls and the color corrector channels as a single full feature camera.

Multi-Camera Remotes

The RCP and joystick controllers are synchronised as a multi-camera remote with no limitations. Instant camera selection is done either on the RCP, on the router panel or on a Streamdeck.

RIO — Shade Anything Anywhere

Beyond Local Networks, get in control of your cameras over the internet

CyanView

Marshall
BROADCAST & **PRO AV**

Cyanview
Cloud Relay

RS485 + 12V

RIO

INTERNET

Cloud Relay

INTERNET

RCP

Anything

- Any Camera
- Tally
- Lenses
- Pan/Tilt Heads

Anywhere

- Direct Ethernet
- Wifi
- Internet
- Cellular 4G / LTE
- RF Modems *future option

Control

- Universal RCP
- Physical knobs
- Multi-Cameras
- PTZ Controls
- Status dashboard

RIO — Extensive Interfacing

Wide range of ports for camera control and communication

CyanView

4G Dongle
optional

CNC Aluminium
Hard Casing

Wi-Fi
Bluetooth *future*

Power

Tally
Indicators
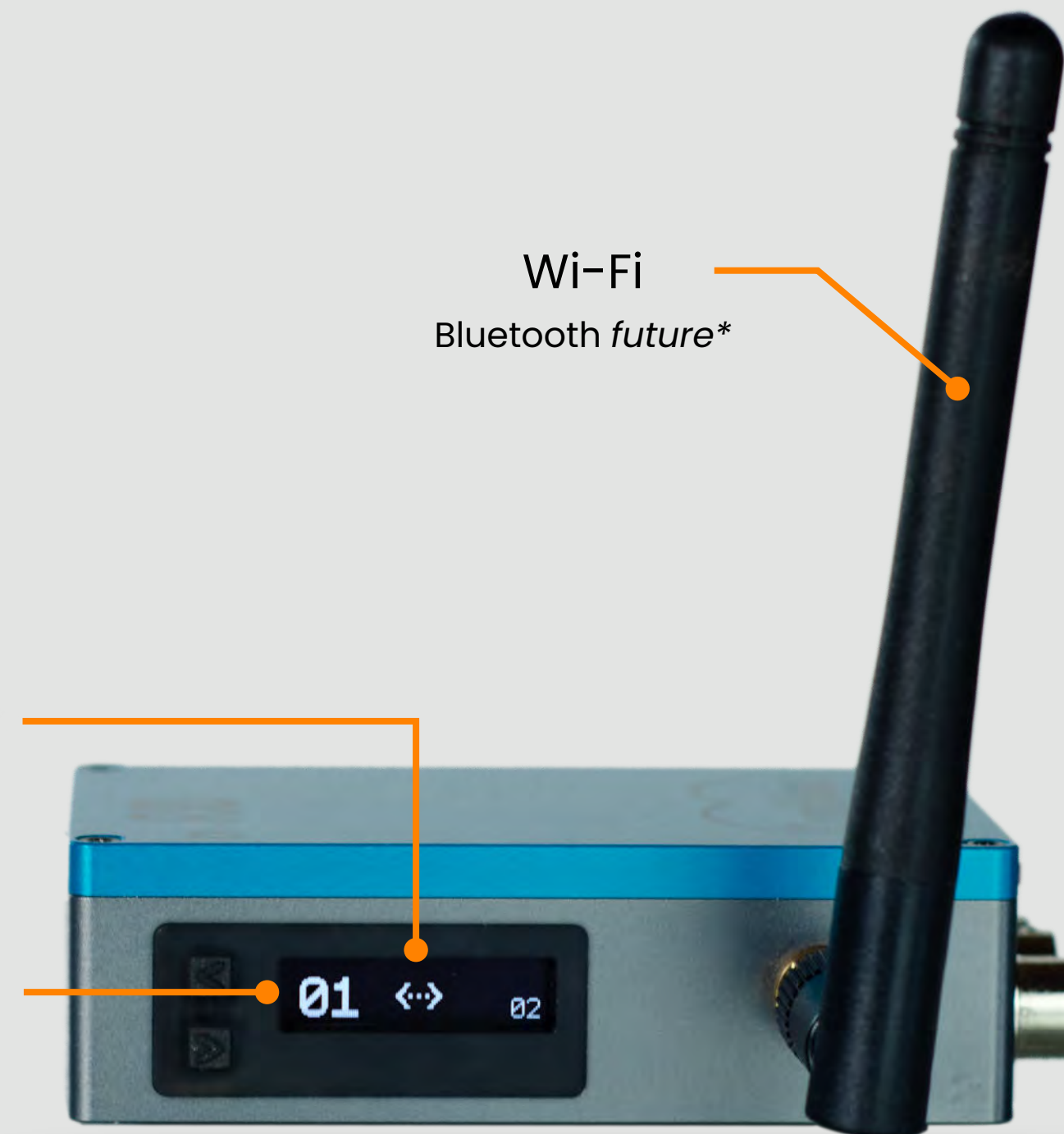
2 Serial Ports
Camera Control

Connection
Status

Camera
Control Status
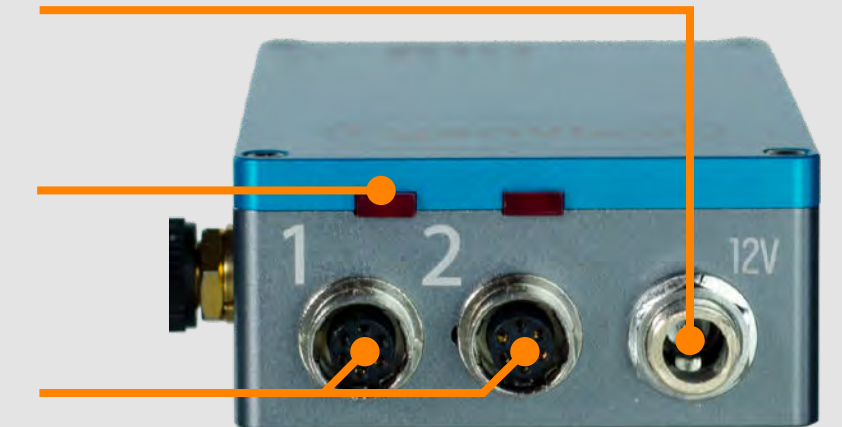
Ethernet

USB Extensions
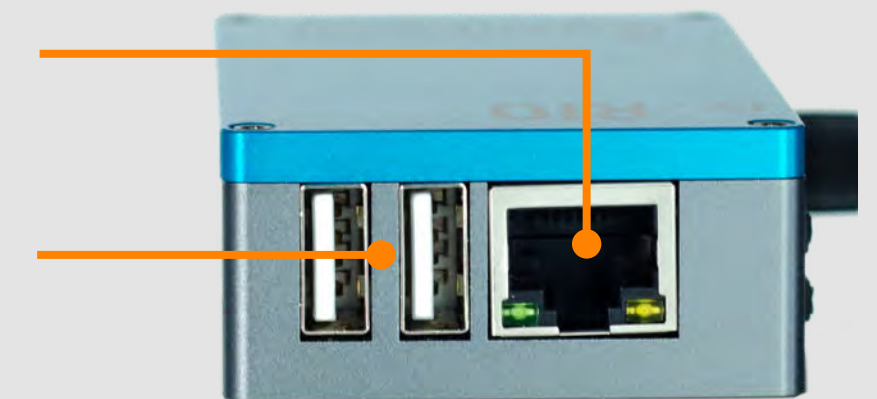
RIO — Access your cameras anyhow

Ethernet, Internet, Wi-Fi, 3G/4G/LTTE Cellular

CyanView

Marshall
BROADCAST & **PRO AV**

Cyanview **Cloud Relay**

RS485 + 12V — **INTERNET** — Cloud Relay — **INTERNET** — RCP

RS485 + 12V — **WI-FI** — wi-fi

RS485 + 12V — **4G - LTE** — Cellular
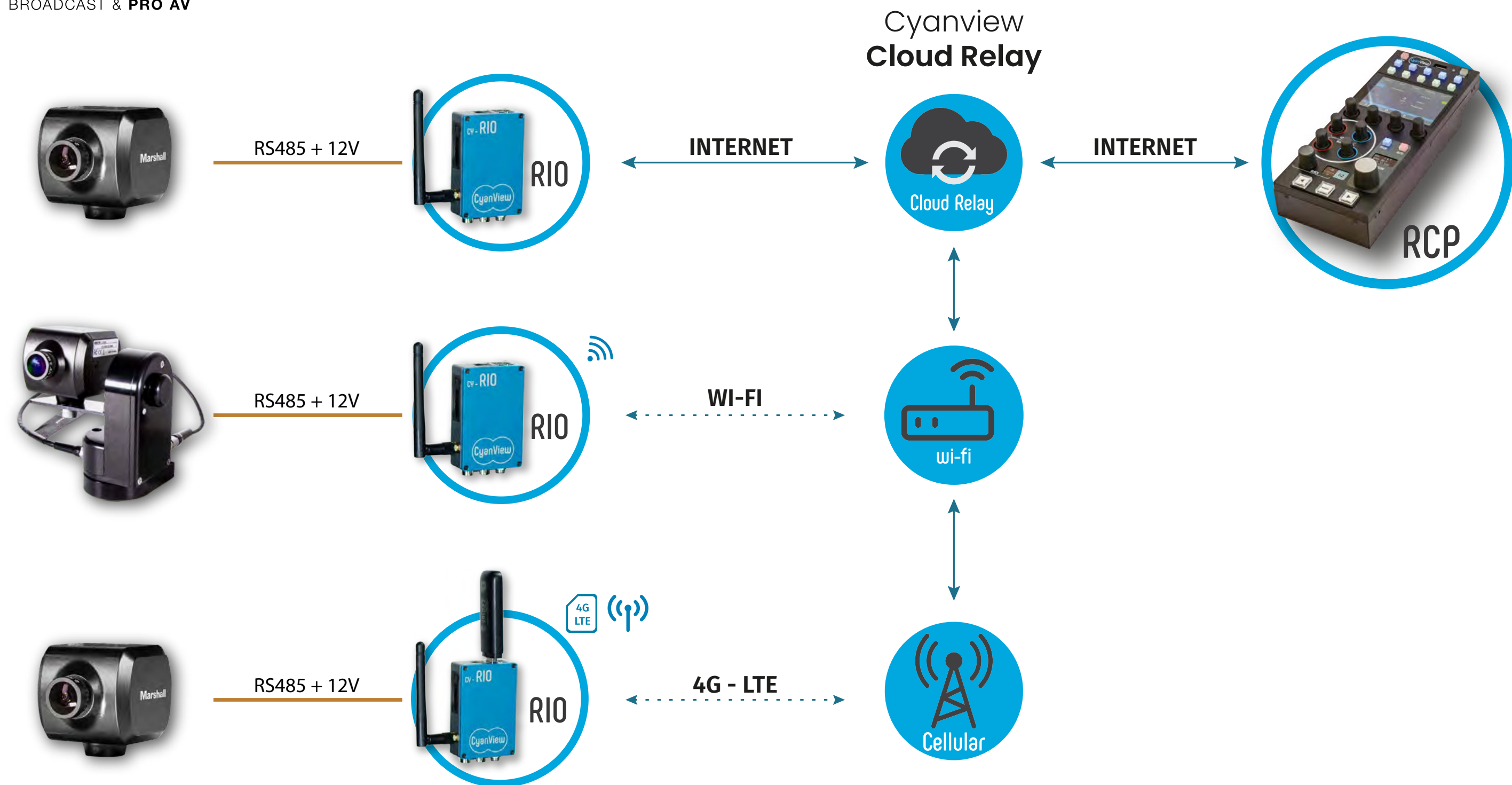
RIO — Internet connection

There's a multitude of solutions to stream video over the internet but nothing addresses camera control. RIO bridges this gap bringing all local shading over the internet without any specific IT setup.

RIO — Wifi

Over a local network or at a remote location over the internet, RIO can control cameras and robotic heads over any kind of connection including Wi-Fi.

RIO — 4G Cellular

The ultimate wireless connection in a lot of situation today is cellular. Using a USB modem, RIO can extend its shading controls over 4G, ideal to stay in control of your for beauty shots or mobile viewpoints.

RIO — Shade your cameras anywhere

Wireless Remote Production

CyanView

Marshall
BROADCAST & PRO AV

Cyanview
Cloud Relay

3G-SDI

RS485

RIO

LAN

4G

**Video Encoder
Internet Access Point**

4G - LTE

Cloud Relay

INTERNET

RCP
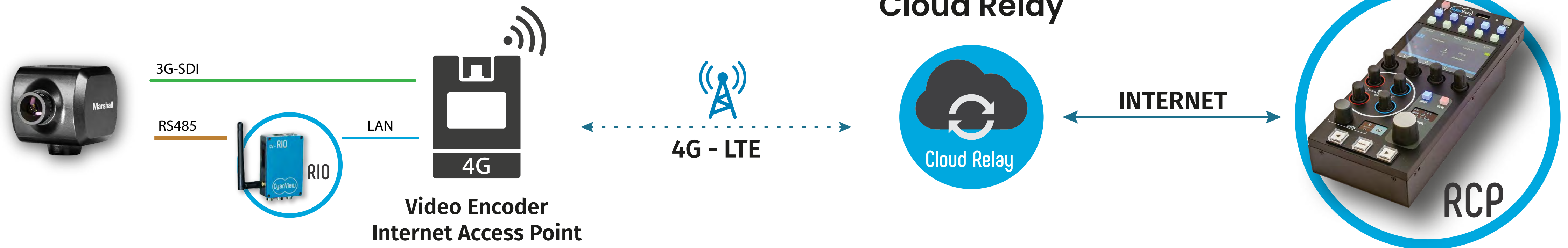
RIO can use an Internet Access Point	**Latency**
A USB modem isn't necessary if the video transmitter also provides an internet access point. It's also possible to share a phone connection to get internet access, which is all you need to remotely shade cameras.	Latency is not really a concern for data control as there is very little data involved. Typical latencies over 4G range from 20ms to 300ms when crossing the ocean. Latency comes from the video which needs buffering. Shading does not.

Connectors / Pin Assignment

150 mm

P1 — 1 ... 6

P2 — 9 ... 1

CONNECTORS		SIGNALS	PIN ASSIGNMENT		CONNECTORS	
P1		**CI0**	**P1**	**P2**	**P2**	
Hirose Male Plug 6p		RS485 A/+	1	6	Hirose Female Plug 12pins	
HR10A-7P-6P(73)		RS485 B/-	2	5	HR10A-10P-12S(73)	
	Solder side	GND	5	8		Solder side
		+12V	6	9		
			Shell	Shell		

CT-CBL-MARSHALL-01
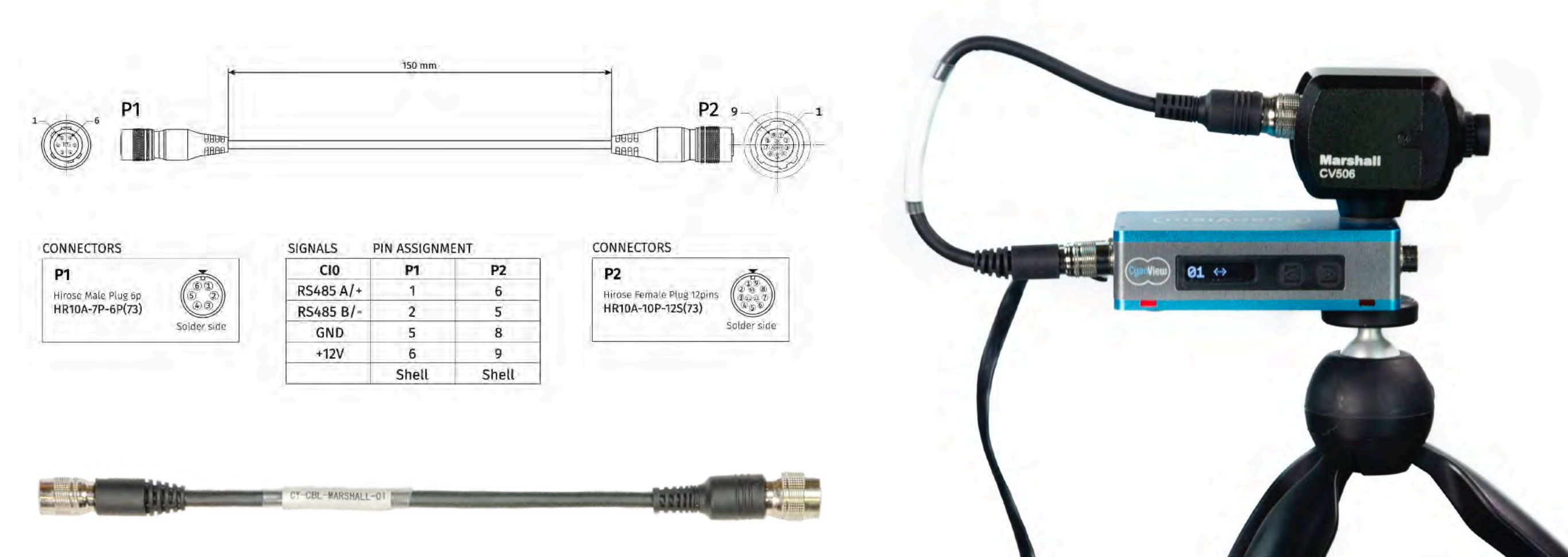
CI0 IP interface

The CI0 has 2 serial ports with both provide power and control data. Visual feedback is provided on the LCD: the camera number turns bold as soon as the camera is detected and controlled by the RCP.

1/4-20" Mount

A top 1/4-20" screw can directly hold the camera on top of the CI0 interface. Another 1/4-20" Mount thread sits at the bottom of the CI0 to easily for on a tripod or magic arm.

Camera cable

Cyanview provides cables to directly fit the 12 pin Hirose connector on the latest Marshall cameras. Other cables are provided to fit the previous models such as the CV502. All pinouts are available on the website.

RCP — Shading for Marshall Cameras

Mount and connect
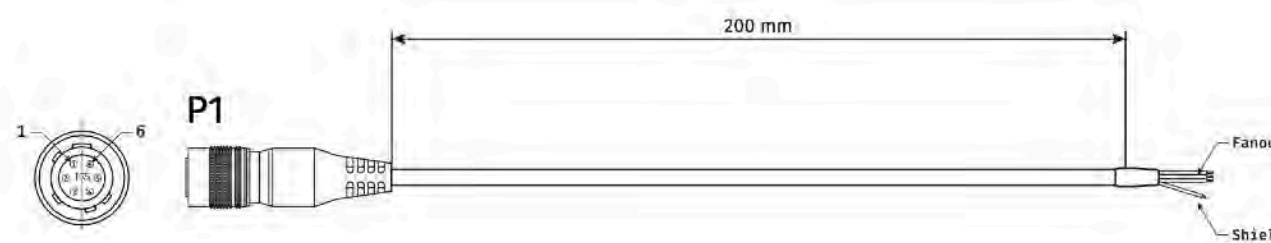
CONNECTORS

P1
Hirose Male Plug 6p
HR10A-7P-6P(73)

Solder side

PIN ASSIGNMENT		PROTOCOL PINOUTS		
P1		RS232	RS422	RS485
1	Green		Y/TX+	A/+
2	White	TX	Z/TX-	B/-
3	Yellow	RX	A/RX+	
4	Blue		B/RX-	
5	Black	GND	GND	GND
6	Red	+12V	+12V	+12V
Shell	Shield/Black			
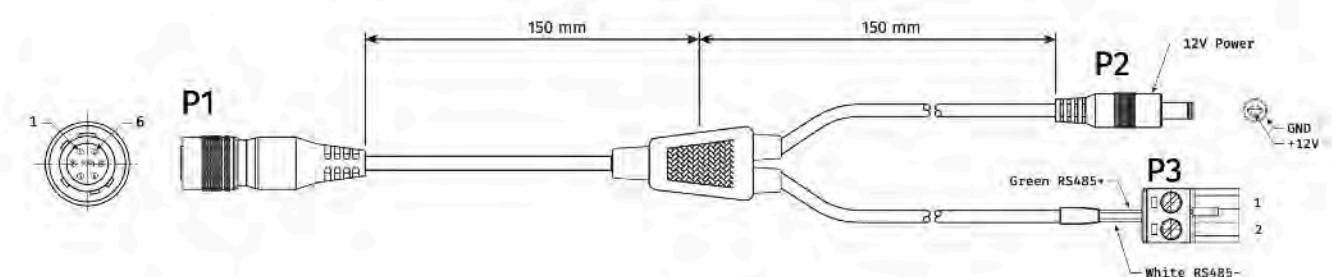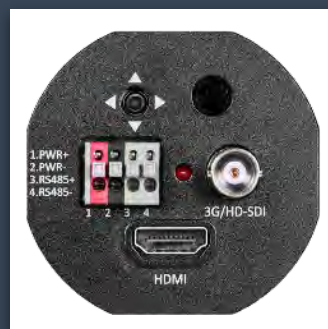
CONNECTORS

P1
Hirose Male Plug 6p
HR10A-7P-6P(73)

Solder side

SIGNALS	PIN ASSIGNMENT		
CIO	P1	P2	P3
RS485 A/+	1		1 - Green
RS485 B/-	2		2 - White
GND	5	Sleeve	
+12V	6	Tip	
	Shell		

CONNECTORS

P2
Power Plug
DC 2.1x5.5mm

P3
Phoenix MSTB 2,5/ 2-ST-5,08
Amphenol ELFP0211G
Molex 0395305002

Block Terminal

Cameras such as the **CV502**, **CV350** are equipped with a block terminal. The CY-CBL-6P-FAN20 cable is a simple fanout which provides power and RS485 control.

Marshall Fanout

The CY-CBL-6P-PFAN cable fits lipstick camera **CV225**/**CV226** and the fanout cable provided by all new Marshall cameras. The red connector provides power and the green phoenix block terminal has RS485 data

Solutions to shade and match live cameras

Mini-Cameras
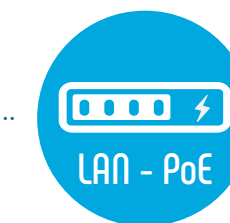
Mini-Cameras

Shade your Specialty Cameras
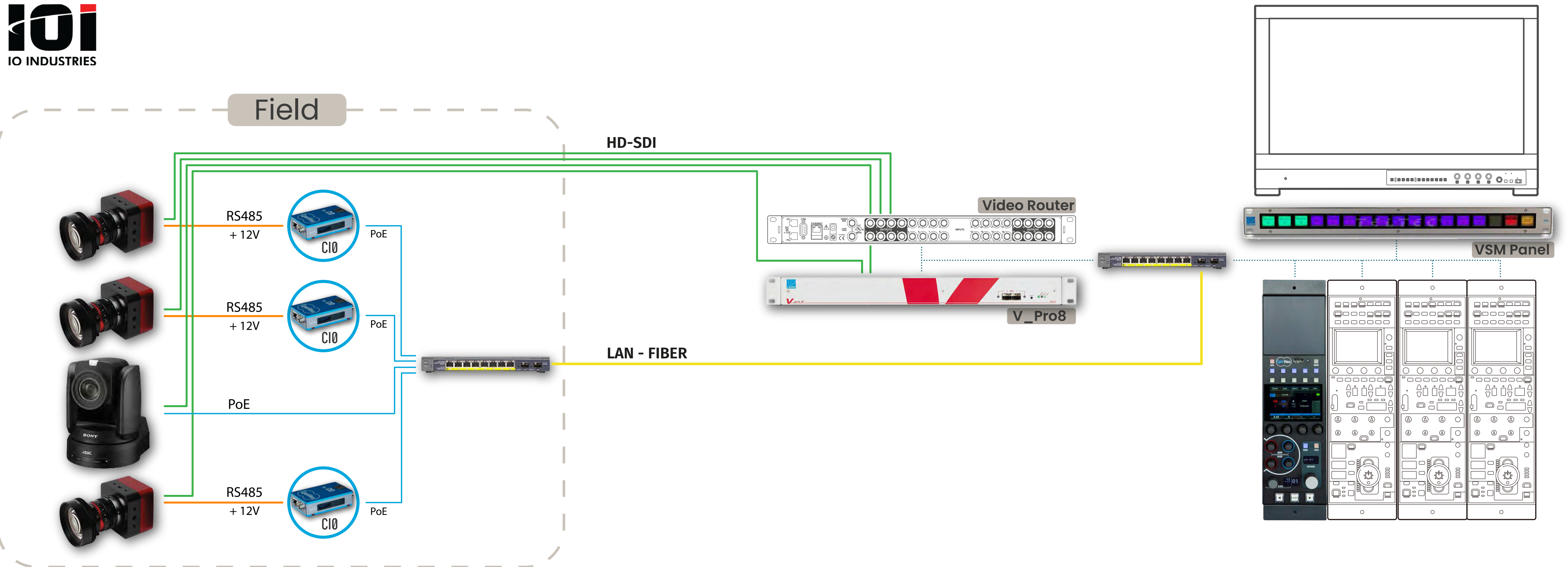
CyanView

IO INDUSTRIES

RS485 + 12V — CI0 — LAN + PoE — LAN - PoE — LAN + PoE — RCP

IO INDUSTRIES

Field

RS485 + 12V

CI0

PoE

RS485 + 12V

CI0

PoE

PoE

RS485 + 12V

CI0

PoE

HD-SDI

LAN - FIBER

Video Router

V_Pro8

VSM Panel

CyanView

PTZ and mini-cameras in lower Tier Productions

Shade your Specialty Cameras

CyanView

IOi
IO INDUSTRIES

Field

RS485
+ 12V

RS485
+ 12V

PoE

PoE

RS485
+ 12V

PoE

CI0

CI0

HD-SDI

LAN - FIBER

Smart Videohub 20 x 20
VTR 10
Monitor 2

Video Router

AJA
Ultra Output Format
4K2160p-5994

V_Pro8

USB

PoE

Streamdeck

Robotics and lens control

Shade your Specialty Cameras

CyanView

IO INDUSTRIES

RS485 + 12V

C10

LAN + PoE

LAN - PoE

LAN + PoE

RCP

Gimbals

- Control over SBUS of most gimbals

SBUS

Robotics and lens control

Shade your Specialty Cameras

IO INDUSTRIES

RS485 + 12V

RS232

ENG Serial

CI0

LAN + PoE

LAN - PoE

LAN + PoE

RCP

CyanView

Gimbals or Pan-Tilt Heads

- Control over SBUS of most gimbals
- Control of professional robotic heads

ENG lenses

- Canon and Fujinon control
- Iris, zoom, focus, switches

RIO — Control your cameras over the Internet

Internet

RIO — Shade Anything Anywhere

Beyond Local Networks, get in control of your cameras over the internet

CyanView

IO INDUSTRIES

RS485 + 12V

cv - RIO
CyanView
RIO

INTERNET

Cyanview
Cloud Relay

Cloud Relay

INTERNET

RCP

Anything

- Any Camera
- Tally
- Lenses
- Pan/Tilt Heads

Anywhere

- Direct Ethernet
- Wifi
- Internet
- Cellular 4G / LTE
- RF Modems *future option

Control

- Universal RCP
- Physical knobs
- Multi-Cameras
- PTZ Controls
- Status dashboard

RIO — Extensive Interfacing

Wide range of ports for camera control and communication

CyanView

4G Dongle
*optional**

CNC Aluminium Hard Casing

cy · RIO

CyanView

Wi-Fi
Bluetooth *future**

Connection Status

Camera Control Status

01 ‹·› 02

Power

Tally Indicators

2 Serial Ports Camera Control

1   2   12V

Ethernet

USB Extensions

RIO — For Bonded Cellular Live Control

Communication Channels

CyanView

IOi
IO INDUSTRIES

3G-SDI

RS485

RIO

LAN

4G

**Video Encoder
Internet Access Point**

4G – LTE
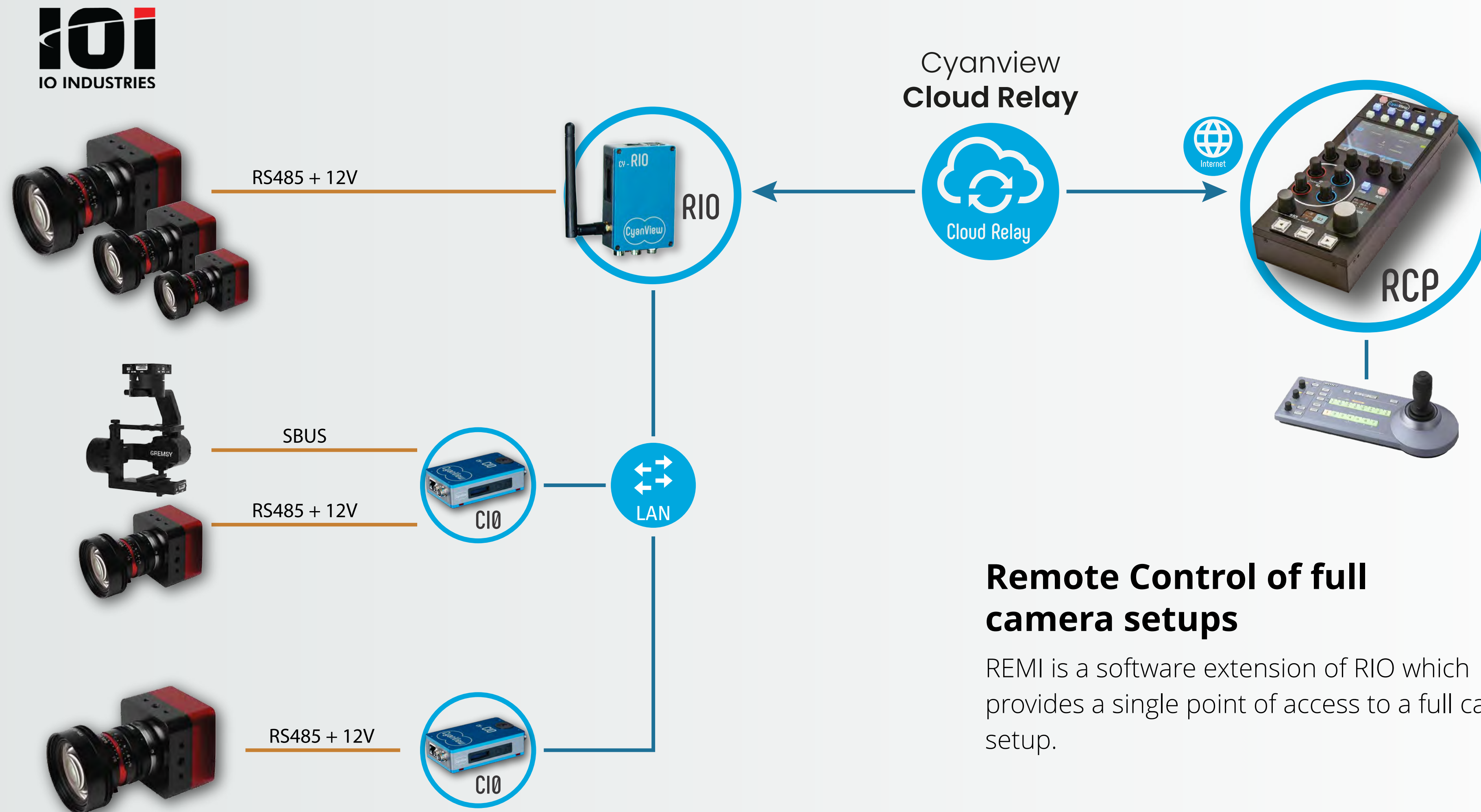
Cyanview
Cloud Relay

Cloud Relay

INTERNET

RCP
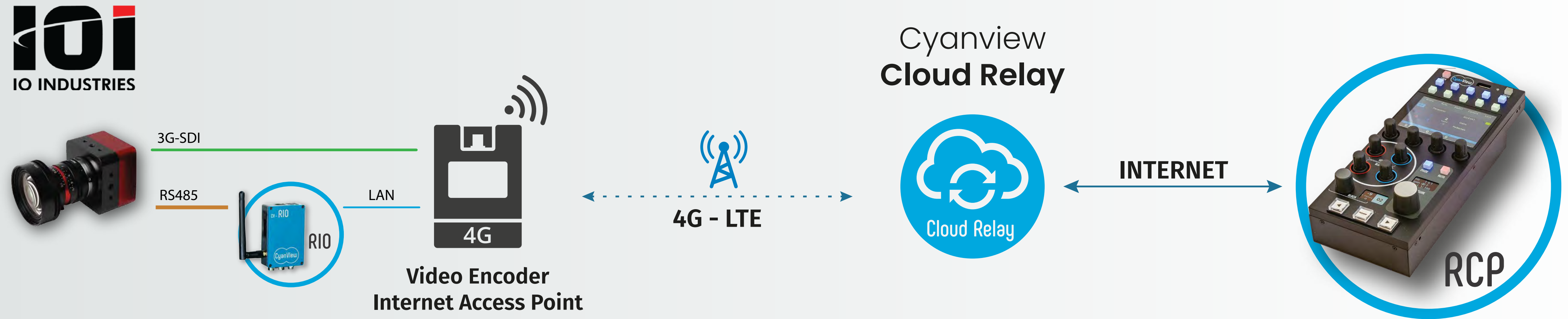
**Add camera control to
Cellular video streaming**

RIO can use its own 4G dongle or the internet
access point that most Cellular Streaming
solutions will provide over Wi-Fi or LAN.

REMI — Remote access to all your cameras

Communication Channels

CyanView

IOI
IO INDUSTRIES

RS485 + 12V

RIO

Cyanview
Cloud Relay

Cloud Relay

Internet

RCP

SBUS

RS485 + 12V

CIO

LAN

RS485 + 12V
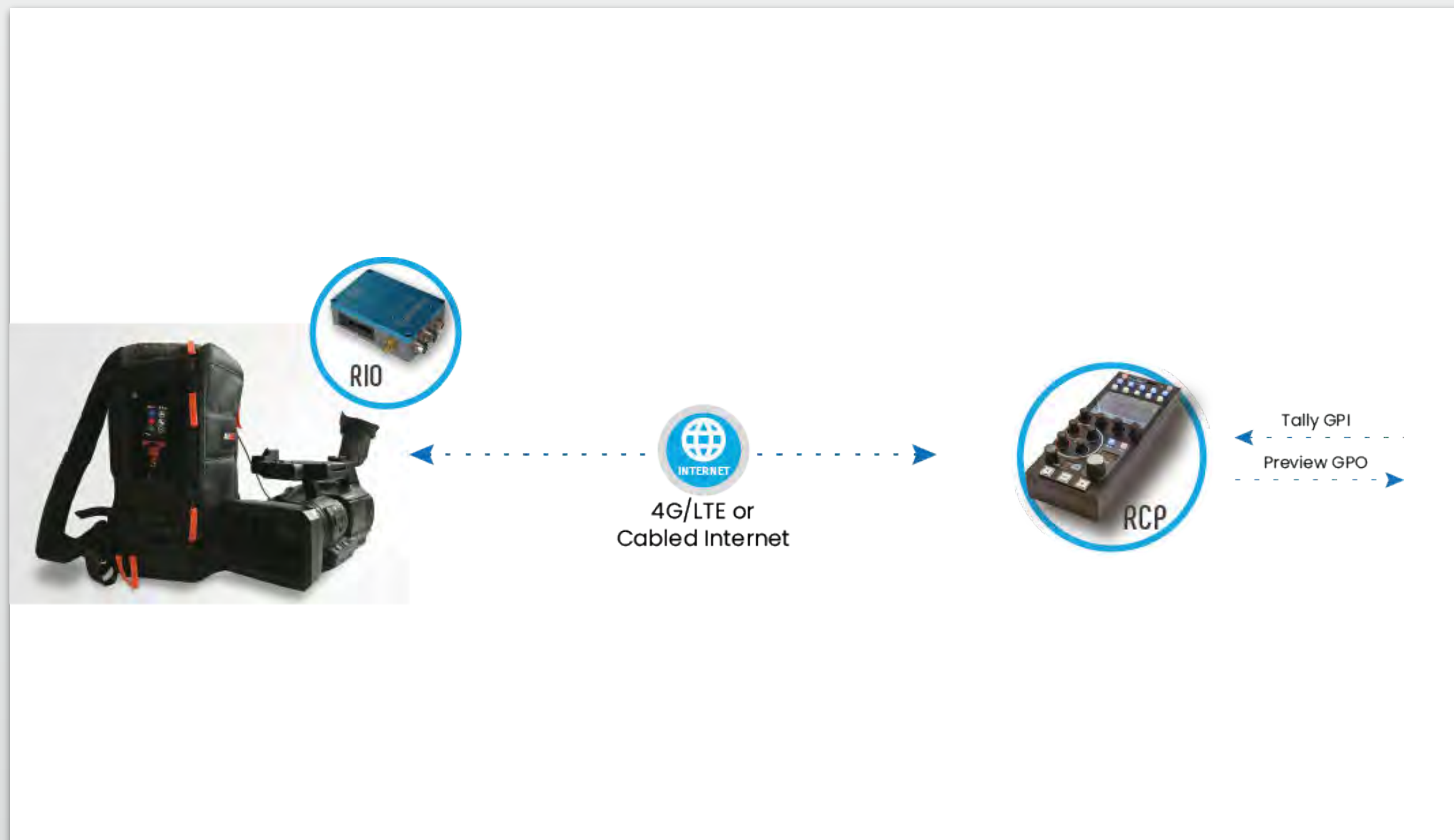
CIO

Remote Control of full camera setups

REMI is a software extension of RIO which provides a single point of access to a full camera setup.
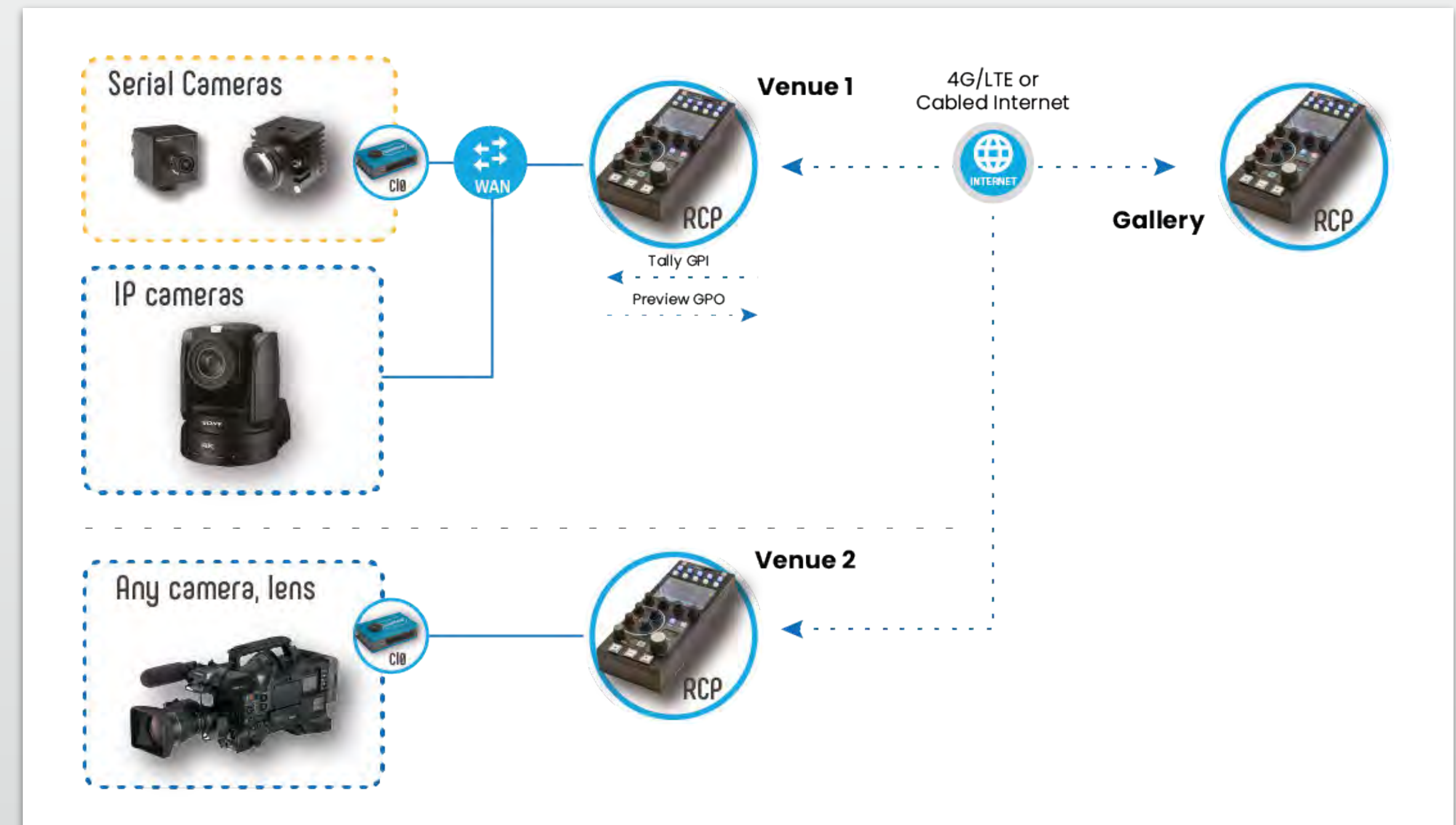
@ Home / Remote Production

Control your cameras over Wi-Fi, over the internet or 4G/LTE
Perfect companion for cellular video transmitters

RIO — Remote Camera Control

Control multiple production sites from a central
Gallery while keeping local control on site

REMI — Remotely control all your productions

Awards

Shade your Specialty Cameras