IV4K-4200 Series

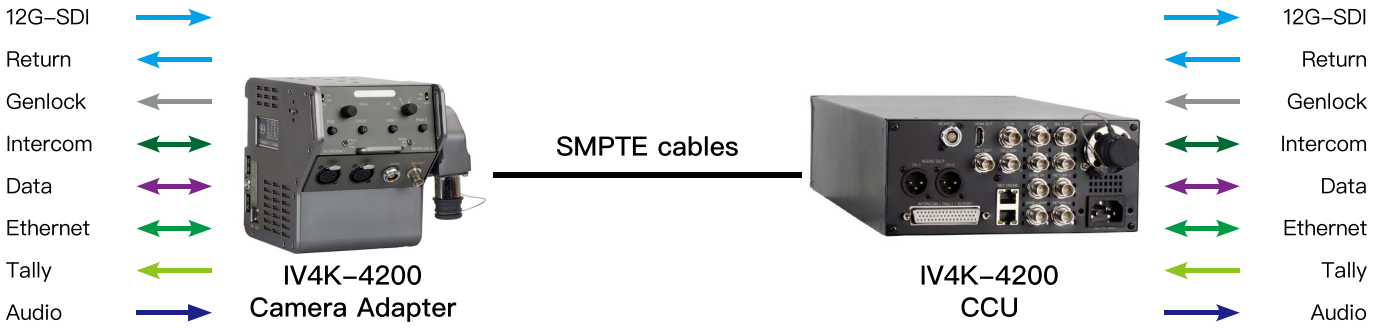
EFP System for Cine Camera

The IV4K-4200 Series system optimizes the performance of cinema cameras for live production workflows. Users connect cinema cameras via SMPTE cables, achieving Video, Power, Intercom, Tally and Data control for multi-channel communication and collaboration in live streaming and recording.

Compared to traditional 2/3-inch broadcast systems, Cinema cameras deliver superior dynamic range, cinematic color reproduction, and compatibility with various cinema lenses. This makes them increasingly popular for live news, sports events, musicals, concerts, and other real-time productions. INCAM technology enables seamless integration of cinematic imaging capabilities into broadcast workflows.

Professional Production Workflow Realized

Traditional film production setups prioritize localized camera placement without complex remote control needs. In contrast, large-scale live broadcastings such as sports events and concerts require multi-camera deployments, and directors, cameramen, color engineers and other multi-workers need to follow the broadcast workflow to produce the program. Therefore, it is necessary to use Incam IV4K EFP system to seamlessly integrated cinema cameras into professional workflows through SMPTE cables, which unify Power, Video, Sync, Tally, Intercom, and Control signals to fully demonstrate the program creativity.



Connected Cine camera with CCU via 500m SMPTE cable

Compatibility with SONY Venice, Venice II and Burano

Venice I

Venice II

Burano

Bi–Directional Multi–Channel Video Transmission

Cameraman need to see sensor and lens parameters through the Monitor character display, while live productions demand clean signal output to Switchboards and Recording Systems. **IV4K EFP system features 2 x 12G–SDI Video channels from the Camera side to the CCU side.**

In the multi–channel production, the cameraman needs to see the PGM from the Switchboard or synthesized PGM when in VR production. In large–scale entertainment production, they may require the video back from Video Caster, such as Cuepilot, or other reference signal. **IV4K EFP system support 2 x 12G–SDI Video Return from CCU to the Camera side with independent output.**

Support for Multiple Monitors & Shooting Accessories

The IV4K camera unit features two D–Tap power outputs and one LBUS power output, providing flexible power distribution for follow–focus systems, servo lenses, and several external viewfinders. Dual independent video interfaces—1–VF (to Viewfinder) and 2–RET (Return)—ensure seamless integration with production workflows.

Enhanced Live Application

Multi–Type Viewfinder Support

The IVCU unit features 2 x SDI Input BNC port, so users can use the lens controller RET button or the switcher on IVCA unit to select the two return videos(PGM1 and PGM2) and the video coming from the camera end(Local SDI1 and SDI2) for output. The output connectors are the VF port located at the right side and the RET Port located at the rear of the IVCA unit.

A standard TALLY connector has been designed on IVCA unit. When connected to the Viewfinder bracket, it activates the TALLY light on the bracket frontwards. This unique design allows customers to use any monitor with a 12G–SDI input as a viewfinder and allows for multiple PGM and local signal switching for added accessory flexibility.

Viewfiner Bracket

Sync & Timecode Support

Sync and Timecode are indispensable time reference signals in the workflow. It is critical in Switchboard system and in multi–camera recording.

Dual-Channel Intercom with Audio Mixing

The IV4K EFP system features ENG/PROD dual-channel intercom interfaces, supports 4-wire input with audio mixing. This part has gone through many tests with leading intercom brands. Using high-quality devices, strict manufacturing process, IV4K EFP system outputs clear sound quality, strong anti-interference ability, stable and reliable transmission.

Rear panel of IVCA unit

Gigabit Ethernet & RS-422 Control

IV4K is designed with 2 x Gigabit Ethernet, providing two accessible RJ45 interfaces at both IVCA and IVCU unit with low latency and passing network analyzer tests. The system also retains the traditional RS-422 data interface, supporting SONY 8-pin protocol.

Audio de-embedding

Audio De-Embedding

The IVCU unit extracts embedded audio from the video signal, outputting two independent audio channels①.

Easy Setup & Flexiable Operation

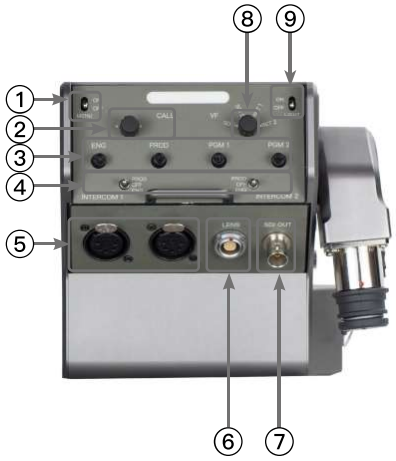
The IVCU unit is designed to compatible with SONY DB25 or D50 interface, supporting Intercom,Tally and GPIO input. This user-friendly design makes it convenient to connect the Cinema Camera to the existing system.
Real-time status display screen is designed at the left side of the IVCA unit. Through simple menu setting, the cameraman can enjoy Plug and Play operation.

Intercom/Tally/GPIO DB50 interface

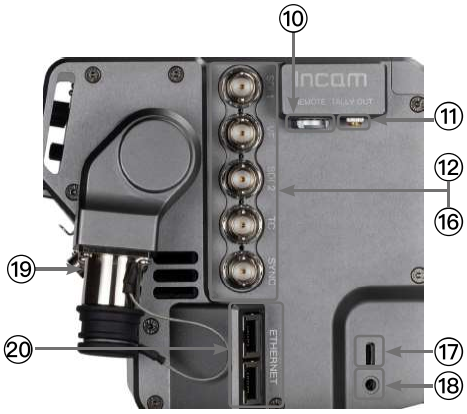
IVCA Screen Menu

① It is configurable and optional in the model of IVCU-4200, added with one HDMI and 12G-SDI output as well.

Interface



① Menu switcher
② Menu knob
③ Volumn knob
④ Mic switch
⑤ Intercom
⑥ Lens Control
⑦ RET 2 (optional)
⑧ Video select knob
⑨ Back light
⑩ RS-422



⑪ Tally
⑫ SDI 1 input
⑬ RET 1 output
⑭ SDI 2 input
⑮ Timecode
⑯ Sync
⑰ USB-C
⑱ Lanc
⑲ SMPTE connector
⑳ Ethernet

㉑ SMPTE connector
㉒ SDI 1 out with loop
㉓ SDI 2 out with loop
㉔ TC in with loop
㉕ HDMI & SDI 1 out (optional)
㉖ RS-422
㉗ Audio de-embedding (opt.)
㉘ DB50
㉙ Ethernet
㉚ SYNC out with loop
㉛ Return video Input
㉜ AC in

Technical Specification

Dimension	Weight	Power Consumption	Operating Temperature	Operating Humidity
IVCA: 130×145×145mm IVCU: 200×370×90mm	IVCA: about 1.8kg IVCU: about 3.8kg	AC 220V,250W (Max)	0℃ to +40℃	20% to 80%

SDI	Signal Format	Impedance	Amplitude	Cable Equalization
BNC, reclocking and equalization	SMPTE ST 2082-1, SMPTE ST 2081-1	75Ω	800mV	50m, Belden 4794R

Jitter Align	Jitter Timing	Rising Time	Falling Time	DC Offset
0.10UI	0.58UI	38ps	37ps	0V±10mV

IVCA-4200

SDI Input	RET Output	Sync	Timecode	Ethernet
BNC (×2)	BNC (×1)	BNC (×1)	BNC (×1)	RJ45 (×2) 1000M

Intercom	TALLY	Lens connector	RS-422	Cable connector
XLR-type (×2)	Φ3.5 stereo mini jack	12-pin (×1)	8-pin (×1)	SMPTE 304M (×1)

Lanc				
Φ2.5 stereo mini jack				

IVCU-4200

SDI Output	RET Input	Sync	Timecode	Ethernet
BNC (×2) , loop	BNC (×2)	BNC (×1) , loop	BNC (×1) , loop	RJ45 (×2) 1000M

Intercom/TALLY/GPIO	RS-422	Cable connector	Audio de-embedding(opt.)	HDMI (optional)
DB-50 (×1)	8-pin (×1)	SMPTE 304M (×1)	XLR 3-pin (×2)	19-pin (×1)

SDI output (optional)				
BNC(×1)				