

XCU Camera Base Station



SDI/IP base station for LDX cameras, including 4K UHD and high-speed applications.

Grass Valley base stations offer a future-ready transmission system that supports the large bandwidth required by its LDX camera range — including high-speed and 4K-capable cameras — without any compromises. The new XCU Xpress UXF hardware is capable of supporting full SDI video (including 3X/6X speed and 4K) as standard. When your production requires IP

it can be activated with a simple IP option license. No new equipment or additional IP cards are required. The IP functionality is available as a perpetual licensed option. An option for DirectIP(+) is also available.

The rack-mounted cradle means the XCU is easily removable to transfer camera systems between different productions or add cameras to

a production in just minutes. All settings are stored in the cradle, so when a different XCU slides in, it is automatically configured with all the setting from the cradle. This XCU concept has wide market acceptance and is a proven solution for its quality and flexibility.

Compatible with the LDX 80, LDX 90 and LDX 100 camera series.

Key Features

- Unique dockable cradle concept
- Built-in memory in XCU cradle for production-set storage
- Universe XF transmission supports the high bandwidth required by high-speed and 4K cameras
- Full support for all speeds and HD formats:
 - 1X to 6X speed (dependent on camera and format)
 - 720p/1080i/1080p/1080PsF/3840x2160p (4K)
- Video outputs:
 - 2x 4K* and 2x 1.5G or 3G video outputs (in 4K mode)
 - 6x 3G* and 2x 1.5G or 8x 1.5G* video outputs (in 1X speed)
 - 6x 3G BNCs supporting 3X/6X speed; 720p, 1080i, 1080p
- Extensive (analog/digital) audio connectivity
- Embedded audio
- 3x selectable return inputs:
 - 3G, HD or SD
- 1 Gb IP trunk
- Universal 3G power supply
- Compact (2 RU), robust base station

XCU UXFs with 4x SFP+ connections

- SFP slots available for:
 - Redundant 10 GbE IP connections
 - 12G SDI outputs
- IP connections:
 - SMPTE ST 2022-6 compliant
 - SMPTE ST 2110 compliant
 - NMOS compliant
- Supports high speed operation

* During HDR operation, some of the signals will be with SDR mapping and some of the signals will be with HDR mapping

Specifications

Video (specific format support depends on the camera model)

720p: 50/59.94/150/179.82/300/359.64 Hz

1080i: 50/59.94/150/179.82/300/359.64 Hz

1080p: 50/59.94/150/179.82/300/359.64 Hz

4K UHD: 3840x2160p50/59.94

General (incl. cradle) for XCU Xpress UXF

Dimensions XCU + cradle (HxWxL, approx.): 448 x 86.5 x 533 mm (19-inch rack, 2 RU) (17.6 x 3.4 x 21.0 in.)

Operating temperature: 0 to +45°C (+32 to +113°F)

Storage temperature: -20 to +70°C (-4 to +158°F)

Operation humidity: Max. 90% (noncondensing)

Shock resistance: Max. 10G (transport), max. 2G (operating)

Altitude: Max. 15,420m (50,000 ft.)

Weight XCU + cradle: 12.5 kg (27.6 lbs.)

Weight XCU: 7.8 kg (17.2 lbs.)

Power requirement: AC 100V/240V, 47 to 63 Hz

Power connector: IEC type, 3-pin male

Power consumption: Total power (Camera + XCU) 450W max.

Baseband connectivity

Connectors (4K mode)

Teleprompter in: BNC 1x (loop-through output), (C) VBS, 1.0 Vp-p, 75Ω

Reference in: 1x (loop-through output), 1.0 Vp-p, 75Ω HD tri-level sync or SD blackburst

4K UHD: 2x / 3G HD-SDI: 4x, BNC 0.8 Vp-p, 75Ω Quad or 2SI, Level-A

HD-SDI out: BNC 1x 0.8 Vp-p, 75Ω, SMPTE ST 292, 1080i/720p at 50/59.94 Hz or SMPTE ST 425-A, 425-B, 1080p at 50/59.94 Hz

Signaling in/out: D-sub 15-pin – male, preview, green tally (call – dry contact), yellow tally (iso – dry contact), red tally (on air – dry contact), remote audio level control (22-64 dB), DC

Auxiliary in/out: D-sub 9-pin – female, private data in/out – 100 kb TTL (RS-232) Control data: RJ-45 connector for C2IP (camera control)

Control data: RJ-45 connector for IP trunk up to 1 GbE Hybrid fiber connector: LEMO hybrid acc. SMPTE ST 304 (other fiber connectors on request)

External video in: 3x HD-SDI (1.5 Gb/3.0 Gb) or SD-SDI 0.8 Vp-p, 75Ω. Input 1 (loop-through output) / Inputs 2 and 3 (no loop-through output)

Connectors (HD/3G 1X/3X/6X modes)

Teleprompter in: BNC 1x (loop-through output), (C) VBS, 1.0 Vp-p, 75Ω

Reference in: 1x (loop-through output), 1.0 Vp-p, 75Ω HD tri-level sync or SD blackburst

HD-SDI out*: BNC 6x 0.8 Vp-p, 75Ω, SMPTE ST 292, 1080i/720p at 50/59.94 Hz

HD-SDI out (live/effect)*: BNC 2x 0.8 Vp-p, 75Ω, SMPTE ST 292, 1080i/720p at 50/59.94 Hz

HD-SDI monitoring out: BNC 1x 0.8 Vp-p, 75Ω, SMPTE ST 292, 1080i/720p at 50/59.94 Hz

SD-SDI out: BNC 2x 0.8 Vp-p, 75Ω, SMPTE ST 259 ITU-R, BT.601

SD-SDI monitoring out: BNC 1x 0.8 Vp-p, 75Ω, SMPTE ST 259 ITU-R, BT.601

Composite video monitoring output: BNC 1x 1.0 Vp-p, 75Ω (CVBS text with video, for viewing purposes)

Signaling in/out: D-sub 15-pin – male, preview, green tally (call – dry contact), yellow tally (iso – dry contact), red tally (on air – dry contact), remote audio level control (22-64 dB), DC

Auxiliary in/out: D-sub 9-pin – female, private data in/out – 100 kb TTL (RS-232)

Control data: RJ-45 connector for C2IP (camera control)

Control data: RJ-45 connector for IP trunk up to 1 GbE IP communication meets JT-NM standards: SMPTE ST 2110, AMWA NMOS JT-NM TR-1001-1

Hybrid fiber connector: LEMO hybrid acc. SMPTE ST 304 (other fiber connectors on request)

External video in: 3x HD-SDI (1.5 Gb/3.0 Gb) or SD-SDI 0.8 Vp-p, 75Ω. Input 1 (loop-through output) / Inputs 2 and 3 (no loop-through output)

2-ch. audio: Audio out, 2x XLR-3 – 0/+6 dBu (±1.5 dB, max. 18 dBu, 600Ω, gain max. 70 dB)

Frequency response: 40 Hz to 15 Hz, (+1/-3 dB, 1 kHz, -10 dBu output level)

Distortion: Less than 0.5% (100 Hz/1 kHz, +6 dBu out, 600Ω)

Audio S/N ratio: 58 dB (unweighted RMS)

AES-EBU 1+2: BNC 75Ω, digital audio output Audio 1 and 2

AES-EBU 3+4: BNC 75Ω, digital audio output Audio 3 and 4

Intercom in/out (2/4-wire intercom): D-sub 15-pin, female – program in, production in/out, engineering in/out – in: 0 or 6 dBu, out: 0 or 6 dBu (±2 dB, max. 12 dBu)

Frequency response: 150 Hz to 6 kHz (1 kHz, -10 dBu output level)

Distortion: Less than 2% (1 kHz, +12 dBu level)

* Notes:

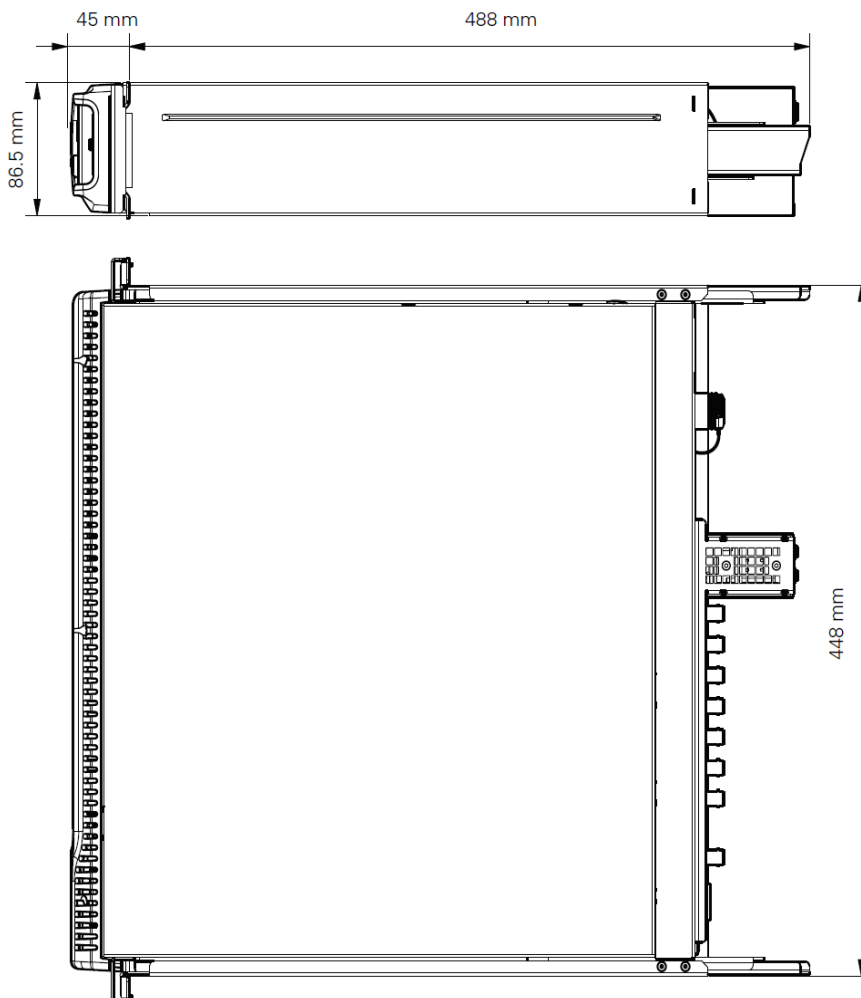
8x 1.5G video outputs (in 1X speed 720p, 1080i)

6x 3G and 2x 1.5G video outputs (in 1X speed 1080p)

6x 3G BNCs supporting 3X/6X speed; 720p, 1080i, 1080p

During single-speed HDR operation, some of the signals will be with SDR mapping and some of the signals will be with HDR mapping

Dimensions for all XCU UXF models



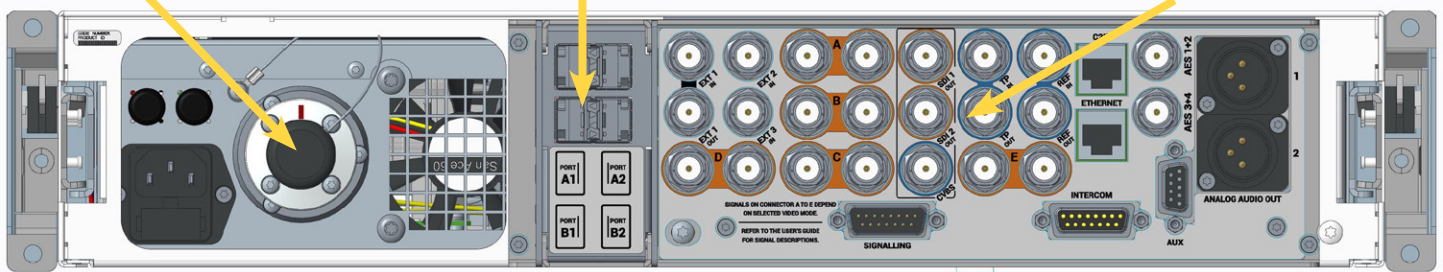
		XCU Xpress UXF	XCU Xpress UXF + IP option
Full Baseband connectivity		Y	Y
Full IP connectivity		N	Y
12G SDI support		Y	Y
HD/3G/4K UHD support in single speed		Y	Y
High speed support	3X HD, 6X HD, 3X 3G	Y	Y
	6X 3G	Y	Y*
DirectIP(+) support		Y	Y
HDR support	in single speed	Y	Y
	in high speed	Y	Y
Simultaneous outputs in: 4K HDR, 3G/HD HDR, 3G/HD SDR		Y	Y
LDX 100 series support		Y	Y
Delivered with UXF cradle with 4x SFP+ slots		Y	Y

* 6x 3G not supported over IP

SMPTE hybrid fiber connection for cameras

4x SFP+ connections (optional 12G SDI SFPs can be used in addition to the IP SFPs)

All the traditional baseband connectivity from regular XCUs while transitioning to IP



Ordering

XCU Xpress UXF

SMPTE Fiber Lemo – Includes XCU Cradle (4x SFP+ cages)

Xpress IP option

IP option for XCU Xpress UXF base station

This product may be protected by one or more patents. For further information, please visit: www.grassvalley.com/patents

DS-PUB-3-1041B-EN

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