

LDK 3000+

HIGH-PERFORMANCE AND ECONOMICAL
MULTIFORMAT HD CAMERA

To meet the needs of smaller and regional studios, and production facilities who need to shoot high-quality high-definition (HD) content on a tight budget, Grass Valley has introduced the LDK 3000+ camera.



The LDK 3000+ from Grass Valley™ is the latest addition to the renowned LDK family. This multiformat camera system offers great flexibility and high picture quality combined with a favorable cost of ownership.

With one of the best-known imaging design teams in the world and multiple technical Emmy® Awards, Grass Valley camera products continue to break ground for innovation and creative ideas.

In many regions of the world, there is no standard format for HD production. Other regions have standardized on different formats depending on the application. To support these different needs, we have created a cost-effective multiformat HD acquisition system that supports 1080i50/60 and 720p50/60.

The LDK 3000+ has three 2/3-inch, 2.4 million pixels CMOS imagers specially developed for broadcast applications. Many unique features have been designed into these imagers such as

DDS—Double Digital Sampling—and dual integrated A/D converters which create high-quality, razor-sharp pictures.

Digital signal processing is done with 34-bit precision. This processing includes all major camera functions such as gamma, knee, contour, and advanced selectable color matrix. A full digital noise reduction system is implemented.

To make images look their best, the LDK 3000+ contains powerful colorimetry and color-matching capabilities. It also contains two independent skin-contour circuits. These circuits allow you to select any two color values and adjust contour processing in those areas, thus allowing improvement in the appearance of facial tones or of any selected tone.

New for the LDK 3000+ is the CLASS feature – Chromatic Aberration Sharpness Solution – which automatically corrects lens errors (of lenses that support chromatic aberration correction) using data exchange protocols (digital

lens interface). CLASS also improves the sharpness at the left and right side regions of the image by up to 40%.

For even more creative freedom, a secondary color corrector is incorporated so that users can select specific colors in a scene and modify them as needed to enhance or highlight certain features within a shot.

The LDK 3000+ has a magnesium-alloy body that gives it a high degree of durability and is ideal for handheld operation. With a rotary HD triax connector and optional integrated handgrip zoom control, it makes those difficult low-level shots much easier to achieve. You can also mount the LDK 3000+ in our SuperXpander large lens adapter to use box-style studio lenses.

Transmission of the full bandwidth HD signal is based on our proven, highly robust and reliable triax system, optimized so that cable distances of up to 1200m (3,937 ft.) can be achieved

KEY FEATURES

- Economic high picture quality HD acquisition:
 - Three 2.4 million pixels CMOS imagers
 - On-chip dual A/D conversion
 - 34-bit digital signal processing
 - Unique DDS – Double Digital Sampling – for improved FPN performance
 - Full digital noise reduction
- Emmy Award-winning dual skin-contour circuit makes talent look its best
- Advanced selectable color matrix
- Unique viewfinder focus-assist tools:
 - Crawler for creating an active edge around all objects in focus
 - Instant push-button electronic zoom for enlarging a subject to focus on fine details
- Full bandwidth triax HD transmission system:
 - Supports standard triax up to 1,200 meters (3,900 feet)
 - With triax repeater up to 2,400 meters (7,800 feet)
- SuperXpander LLA enables configuration with full-size studio or OB lenses and accessories
- Variable master gain and master color temp
- On line leaking-pixel correction
- Continuous auto black balance and all digital auto white balance
- Advanced Secondary Color Corrector
- CLASS – Chromatic Lens Aberration Sharpness Solution

(with the optional triax repeater this can be doubled to 2400m (7,874 ft.). Existing SD triax infrastructures can be re-used for non-compromise HD acquisition, eliminating the need for additional investments in expensive cabling.

The LDK 3000+ is, of course, fully integrated with the Ethernet-based C2IP camera control system from Grass Valley and is compatible with most LDK camera family accessories.

SPECIFICATIONS

HD Camera Head

General

Weight: 5.3 kg (11.11 lbs., incl. 2" VF and head+adapter)
Dimensions (HxWxL, approx.): 241 x 164 x 373 mm (9.5 x 6.5 x 14.7 in.) with triax HD adapter
Operating temperature: -20°C to +45°C (-4°F to +113°F)
Storage temperature: -20°C to +60°C (-4°F to +140°F)
Power: Triax or DC 12V; 40W incl. 2" VF & triax HD adapter
Cable length: Up to 1,200m (3,900 ft.)

Camera

Pickup device: 3 x 2/3" CMOS imagers
Picture elements: 1920 x 1080
Digital processing: 34-bit accurate processing
Lens mount: 2/3" Bayonet type
Optical system: F1.4 prism
Optical filters: Clear, 1/4 ND, 1/16 ND, 1/64ND, 4p star
Exposure: Electronic exposure down to 1/2000 sec
Clean scanning: 50 to 2,000 Hz
Color correction filters: Electronic: 3200, 5600K, 7500K, 2 AWB presets, continuous auto white
Video Mode
 Switchable 1080i/720p
Temporal frequencies: 50/59.94 Hz
Sensitivity: 2000 lux @ F9
S/N ratio: 56 dB (typical), 58 dB (with DNR)
Aspect ratio: 16:9
Gain selection: -6 to +12 dB in 3 dB steps (user-definable presets) or continuous master gain

Modulation depth: 50% (typical) at 800 TV lines (27 MHz) in 1080i/720p/50/59.94 mode

Connectors

Front microphone input: XLR-3 female, balanced +48V selectable
Lens connector: Hirose 12-pin
Control input: 9-pin RS-232C compatible
VF connector: 20-pin and HDMI connector

LDK 5630 TriaxHD Adapter

Input connectors:

- Audio in: XLR-3-31 type (female x2), selectable phantom +48V, selectable attenuator
- DC 12V in: XLR-4 pin type

Output connectors:

- VF out, BNC type, 1.0 Vp-p, 75Ω, switchable to external (SD+HD)
- 1x BNC, SMPTE 292M, HD-SDI (VF) switchable to HD-SDI (main): 1.5 Gb/s, 0.8 Vp-p, 75Ω
- Scriptlight DC-out: 3-pin Fischer, 0.25A/12V DC
- DC-out: 4-pin Hirose, 1.5A/12V DC and tally indicators

Input/output connectors:

- Video ref in/prompter out, BNC type, 1.0 Vp-p, 75Ω
- Intercom: XLR 5-pin (female x1)

Options

2" viewfinder: Model No. LDK 5302 CRT >600 TV lines (center)

7" viewfinder: Model No. LDK 4021 CRT >800 TV lines (center). Requires additional mounting hardware

7" LCD viewfinder: Model No. LDK 5307 LCD color flat panel

HD Triax Base Station LDK 4580

General

Dimensions (WxHxD): 438 (19" rack) x 88 (2 RU) x 510 mm (17.2 x 3.5 x 20.1 in.)
Operating temperature: 0°C to +50°C (+32°F to 122°F)
Storage temperature: -40°C to +70°C (-40°F to 158°F)
Operating humidity: Max. 90% (non-condensing)
Shock resistance: Max. 10G (transport)/2G (operating)
Altitude: Max. 50,000 ft.
Weight: 17.0 kg (37.5 lbs.)
Power requirements: AC 115V/230V ±15%, 47 to 63 Hz
Power connector: IEC type, 3-pin male
Power consumption: 470 VA or 270 watts max. with studio head; 360 VA or 210 watts max. with port. head

Transmission

Typical cable length triax:

- 1,200m (3,900 ft.) (14 mm/0.55 in.)
- 700m (2,296 ft.) (11 mm/0.42 in.)
- 500m (1,640 ft.) (8 mm/0.31 in.)

Typical cable length triax w/repeater:

- 2,400m (7,800 ft.) (14 mm/0.55 in.)
- 1,400m (4,592 ft.) (11 mm/0.42 in.)
- 1,000m (3,280 ft.) (8 mm/0.31 in.)

Connectors

Teleprompter in: BNC 1x (loop-through output), 1.0 Vp-p, 75Ω (triax cable 25% of max. spec)

Reference in: BNC 1x (loop-through output), 1.0 Vp-p, 75Ω D tri-level sync or SD black burst

HD-SDI out: BNC 3x, 0.8 Vp-p, 75Ω, SMPTE 292M, 1080i/720p at 59.94/50 Hz

SDI in: BNC 2x, 0.8 Vp-p, 75Ω, SMPTE 259M, ITU-R, BT.601 OR

Text out: BNC 1x, 1.0 Vp-p, 75Ω (VBS)

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

Control data: RJ-45 connector for Ethernet C2IP

Triax connector:

- Fischer /00
- Tri-Lock /50
- ARD /05
- Lemo4E /10
- LemoBBC /40
- Lemo3T /15

SDI out: BNC 3x, 0.8 Vp-p, 75Ω, SMPTE 259M, ITU-R, BT.601

2 Ch. Audio & 2/4-Wire Intercom

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

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

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

S/N ratio: 58 dB (unweighted RMS)

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

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

ORDERING INFORMATION

Please contact your authorized Grass Valley representative for more information.

OPTIONS INFORMATION

2-inch Viewfinder

LDK 5302 – CRT >600 TV lines (center)

7-inch Viewfinder

LDK 4020 – CRT >800 TV lines (center). Requires additional mounting hardware

7-inch Viewfinder

LDK 5307 – LCD color flat panel

GLOBAL SERVICES



Grass Valley Global Services specializes in the defining of, deployment of, and support of today's dynamic file-based workflows, based on Grass Valley and third-party solutions. With Grass Valley Global Services, you can achieve your operational goals in the most efficient and cost-effective way possible with a partner you can trust.

www.grassvalley.com/support

Define: We help you to define your business and technology requirements and then design solutions to meet them.

Deploy: Our professional service organization, backed up with proven project management methodologies, can take you from design through deployment, commissioning, and training.

Support: We offer a complete SLA portfolio to keep your systems running and help plan for your long-term maintenance needs.

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