HD Wireless

CAMERA SYSTEM

With its compact design, integrated battery mount, and bi-directional digital transmission, the wireless system not only frees you from carrying additional equipment, it eliminates adverse effects from multipath reflections—all while providing excellent HD picture quality.

Grass Valley™ production and acquisition solutions include one of the broadest selections of standard and high-definition (SD and HD) digital video cameras. With one of the best known imaging design teams in the world and six technical Emmy® Awards, Grass Valley camera products continue to break ground for innovation and creative ideas.

The Grass Valley HD wireless camera system combines our unrivalled experience in broadcast cameras with the latest in IT technologies. The result is a solution that gives you complete freedom of movement under the most demanding production conditions.

With its compact design, integrated battery mount, and bi-directional digital transmission, the wireless system not only frees you from carrying additional equipment, it eliminates adverse effects from multi-path reflections and lets you pass through doors, make low-angle shots, and choose the most suitable camera handling position—all while providing excellent HD picture quality.

Docking to HD LDK camera heads, the wireless system supports 1080i50/60, 720p50/60, and 1080PsF25/29.97 acquisition while using an innovative approach both to compression and transmission. For compression, it uses state-of-the-art JPEG 2000 technology with a 10-bit, end-to-end signal. You can even use intra-field or proprietary-wavelets, spatio-temporal compression. What's more, there is no MPEG-style group of pictures nor motion estimation or compensation. Consequently, every frame is of the same high quality and available for post processing and editing.

For transmission, this bi-directional wireless system provides genuine genlock and full camera control in the same way as a triax cable system. Coupled with a high-bit-rate enhanced COFDM physical layer, the system features low latency, letting you integrate wireless shots into your production with imperceptible video-to-audio delay. To fulfill specific requirements in different environments, it lets you balance between the robustness of its wireless transmission, picture quality, and low latency.

The wireless system also features a three-antenna diversity set. This receiving unit, when suitably placed, provides a line-of-sight hooting range of up to 150 meters (480 ft.) Adding a second antenna set can extend the coverage area, letting you move, for example, from a stadium to a dressing room; the system switches automatically and seamlessly between the two antenna sets.

The connection between a base station and the wireless system's antenna set uses conventional triax cable, enabling you to locate an antenna up to 600m (1,970 ft.) from the base station using 11 mm cable.

The wireless system is also fully compatible with studio production facilities, the Grass Valley C2IP camera control system, and utilizes the same operational control panels as other LDK series cameras using the C2IP system.

KEY FEATURES

- Compact and integrated HD Wireless camera solution
- JPEG 2000-based compression for excellent HD picture quality
- Intra mode for easy editing and replay
- 10-bit quality, end-to-end digital video processing
- Supports 1080i50/60, 720p50/60, and 1080PsF25/29.97
- Enhanced CODFM modulation for efficient RF transmission
- Coverage area up to 150 meters (400 meters with booster)
- Three-antenna diversity system for transmission reliability
- Omni-directional antenna system for maximum flexibility
- Low-latency performance and genuine end-to-end studio genlock features
- Easy integration with standard triax cameras in studio and outdoor environments
- Choice of transmission profiles to fulfill specific production needs
- Supports C2IP control systems and OCP 400/MCP 400 control panels
- Dockable with LDK HD camera heads
- On-screen display of RF video and data transmission frequencies
- Support of roaming when using two antenna sets for increased coverage
- Powerful "Wireless Insight" system performance monitoring software included

SPECIFICATIONS

HD Wireless Camera Adapter (WCA) – LDK 5464/00

- Video compression: JPEG 2000
- Selectable indoor/outdoor profiles
- Selectable latency from 3 to 7 fields (incl. genlock)
- Modulation scheme: enhanced COFDM (proprietary)

Connectors:

- DC in: XLR-4, 11-17V
- DC out: 4-pin Hirose, 11-17V plus tally
- Video out: BNC, HD-SDI SMPTE 259M
- VF signal out: BNC, monitoring output: analog BW with sync
- Audio 1, 2 input: XLR-3 x2. 1 channel full bandwidth or 2 channels of reduced bandwidth
- Intercom: XLR-5. ENG, PROD, PGM channels
- TX antenna (included): SMA
- RX antenna (included): BNC

Physical Characteristics:

- Dimensions: (HxDxW) 180 x 191 x 120 mm (7.1 x 7.5 x 4.7 in.)
- Weight: 2.2 kg (4.8 lbs.)
- 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 requirement: 12V DC 58W incl. camera head (LDK 8000) and 1.5" viewfinder (WCA only < 28W)
- Battery plate: Anton Bauer or IDX

RF Module Wireless Adapter

- **LDK 5466/20** for 2.0-2.2 GHz (covers: 2030-2195 MHz)
- **LDK 5466/22** for 2.2-2.4 GHz, (covers: 2203-2398 MHz)
- **LDK 5466/25** for 2.5-2.7 GHz (covers: 2503-2683 MHz)
- Video compression: JPEG 2000
- Modulation scheme: enhanced COFDM
- Number of channels: 181/196 (RF module depended) selectable through VF and OSD in steps of 1 MHz
- Emitted power (conducted): 18 dBm (~60 mW)
- With video booster: 27 dBm (~0.5 W)
- Bandwidth: 18 MHz
- Bit rates: 35-70 Mb/s
- Typical range (line of sight in open field): 150m (492 ft.), 400m (1,320 ft.) with video booster

HD RF Data Reception Module in WCA – LDK 5465/20 for 456 MHz

- Bit rate: 28.8 kb/s
- Frequency band: 454-462 MHz
- Bandwidth: <150 kHz
- Channel sensitivity: <-95 dBm
- Data: camera control
- Control: genlock, OCP
- Intercom: production, program, ENG

HD RF Data Emitter – LDK 4454/60 for 456 MHz (LDK 4455/00 booster included)

- Modulation scheme: FSK
- Emitted power (conducted): 24 dBm typ. (250 mW)
- Bandwidth: <150 kHz
- Frequency range: 454-462 MHz
- Number of channels (data): 161, selection through OSD in steps of 50 kHz
- Typical range (line of sight in open field): 1000m (3,280 ft.)

Connectors:

- RF antenna: BNC
- Data input: 9-pin D

Physical Characteristics:

- Dimensions: (HxDxW) 64 x 34 x 98 mm (2.5 x 1.3 x 3.9 in.)
- Weight: 300g (0.66 lbs.)
- Operating temperature: -20°C to 45°C (-4°F to 113°F)
- Storage temperature: -20°C to 60°C (-4°F to 140°F)
- Weather resistance: IP54 compliant

RF Receiver Modules Antenna Set

- **LDK 4453/20** for 2.0-2.2 GHz, (covers: 2030-2195 MHz)
- **LDK 4453/22** for 2.2-2.4 GHz, (covers: 2203-2398 MHz)
- **LDK 4453/25** for 2.5-2.7 GHz (covers: 2503-2683 MHz)

Connectors:

- RF antenna: SMA
- VHF input: BNC

Physical Characteristics:

- Dimensions each: (HxDxW) 64 x 34 x 98 mm (2.5 x 1.3 x 3.9 in.)
- Weight each: 300g (0.66 lbs.)
- Operating temperature: -20°C to 45°C (-4°F to 113°F)
- Storage temperature: -20°C to 60°C (-4°F to 140°F)
- Weather resistance: IP54 compliant

HD Antenna Management Unit – LDK 4460/xx

Connectors:

- Data output connector: 9-pin D
- VHF inputs: BNC x 3 with active loop-through
- Triax connector: Fisher, ARD, Lemo, Trilock
- Diversity: MRC technology

Physical Characteristics:

- Dimensions: (HxDxW) 250 x 480 x 200 mm (9.8 x 18.9 x 7.9 in.)
- Weight 8.5 kg (18.7 lbs.)
- Operating temperature: -20°C to 45°C (-4°F to 113°F)
- Storage temperature: -20°C to 60°C (-4°F to 140°F)
- Weather resistance: IP54 compliant

HD Wireless Control Unit – LDK 4470/xx

Lost picture protection: sophisticated frame-freeze system

Connectors:

- Triax: (2x) Fisher, ARD, Lemo, Trilock
- Video out: BNC x 3. HD/SD-SDI selectable 800 mVp-p, 75Ω
- Audio out: XLR-3 x 2
- Intercom: 15-pin D-sub
- Tally: 15-pin D-sub, 2 channels
- Control Ethernet: RJ-45 for C2IP system
- Monitoring out: BNC, CVBS (2x)
- Genlock in: BNC (2x passive loop), SD-B&B, or HD-TLS

Physical Characteristics:

- Dimensions: 19" rack half width, 3 RU high
- Weight: 7 kg (15.4 lbs.)
- 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 requirement: 100-230 VAC 50/60 Hz
- Power consumption: 150W max.
- Triax cable length: 600m (1,968 ft.) using 11 mm cable 400m (1,312 ft.) using 8 mm cable

Video Booster – LDK 5455/xx

- Mechanical docking principle: battery socket stackable; type AB, IDX
- Antenna: omni-directional on H plane, dipole pattern on V plane

LDK 5457/20 N-type 2.0-2.2 GHz, LDK 5456/22 N-type 2.2-2.4 GHz, LDK 5456/25 N-type 2.5-2.7 GHz

Connectors:

- RF input: SMA female
- RF output: N female
- Nominal input RF power: +18 dBm
- Input RF range +12/+18 dBm (VF selectable)
- Nominal RF output power: +27 dBm +1/-2 dBm (@ nominal power)

Physical Characteristics:

- Dimensions: (max.) 210 x 130 x 45 mm (8.3 x 5.1 x 1.8 in.) (excl. battery sockets)
- Antenna height: <0.5m long model, <0.35m short model
- Weight: 1.4 kg (3.09 lbs.) max. (excl. antenna)
- Operating temperature range: -20°C to 45°C (-4°F to 113°F)
- Max. operating current: 3A
- Operating voltage range: 10.5-17 VDC
- Power supply control: automatic on/off switching with camera, via current detection
- Waterproof grade: IP X2

ORDERING INFORMATION

Please contact your authorized Thomson Grass Valley representative.

CUSTOMER SUPPORT & PROFESSIONAL SERVICES

Our customer support and professional services offerings ensure optimal system performance and maximize uptime. These services include call centers staffed around the clock, commissioning, professional training courses, and technical maintenance programs and service agreements.

www.grassvalley.com/support