RS-LDX integrated robotic camera solutions are fully integrated, turnkey camera systems based on the Grass Valley LDX Compact series cameras, ideal for studio, newsroom or live production applications.

RS-LDX systems are based on the LDX Compact cameras, which utilize Grass Valley’s in-house designed Xensium-FT CMOS imager, providing pristine images in a variety of HD resolutions. With the TrueTexture feature, the RS-LDX camera preserves texture throughout all processing parameters. The cameras also offer an advanced image processing improvement for enhanced colorimetry, color-matching, and picture performance.

The RS-LDX includes a precision pan/tilt head with a smooth variable operating speed, high-speed motors, and whisper-quiet operation. Digital servo controls provide a single operator with smooth and natural control over camera and lens positioning as well as camera shading.

The RS-CP control panel provides complete camera and lens control so that you can deploy the camera robotics systems without costly additional OCPs. The RS-CP is also certified to work with numerous third-party camera robotic systems such as those from Panasonic, Sony and Canon.

RS-LDX systems offer switchable formats in each model: RS-LDX Première (switchable 1080i50/59.94 and 720p50/59.94), RS-LDX Elite (switchable 1080PsF23.98/24/25/29.97 (artistic), 1080i50/59.94, and 720p50/59.94), and RS-LDX WorldCam (switchable 1080p50/59.94 (3G), 1080PsF23.98/24/25/29.97 (artistic), 1080i50/59.94, and 720p50/59.94) with an optional RGB 4:4:4 1080i output on the RS-LDX Elite and RS-LDX WorldCam. Additionally, the RS-LDX Première can be software upgraded to the RS-LDX Elite, which can then be software upgraded to the RS-LDX WorldCam.

RS-LDX integrates seamlessly as an option to the Ignite Automated Production System. Operators can configure these camera systems with Ignite for automated operation during live productions. Operators can recall camera location presets right from the Ignite timeline as part of a transition macro event, which further streamlines the production workflow with a minimum of intervention.
RS-LDX Cameras

To make images look their best, the LDX cameras incorporate TrueTexture — a unique feature to preserve texture throughout all processing parameters. The cameras also offer multiple image processing improvements for enhanced colorimetry, color-matching and picture performance.

RS-LDX systems include a precision pan/tilt head with smooth variable operating speed. Heavy-duty bearings and motors with isolation mounts provide steady and quiet operation. Smooth motion is accomplished using digital servo controls and gives a single operator potent, yet natural control over camera and lens positioning as well as camera shading.

The robotics can be used with any digital full servo lens. Two hundred and fifty-five presets are available, memorizing pan, tilt, zoom, focus, televator, iris and master pedestal. Through its integrated touchscreen graphical user interface, the robotic operator can control camera shading, assign cameras and shows and trim camera presets. These parameters can be assigned to a user-definable knob that enables rapid recall and adjustment of camera presets. The control panel can be designed to work in a stand-alone configuration, or networked with a group of panels sharing a common enterprise database.

The RS-LDX Studio Control System software provides a flexible architecture for studio automation via a touchscreen video monitor which enables camera shot storyboarding for faster and more efficient live recall. Control of camera positions, CCU controls and peripheral devices provide a single operator efficient control of studio operations. Up to 16 shots are displayed on the touchscreen at any one time. When recalling a shot, all axis begin and end simultaneously creating on-air quality moves. A joystick control panel provides trim controls for pan, tilt, zoom, focus, iris and master pedestal to adjust the camera parameters.

The robotic head receives power from a rack mounted, fully redundant power supply. A powerful DC-DC converter at the base of the pan/tilt head converts 48V through a 150-foot power cable to appropriate voltage levels for the head, auxiliary robotics devices, camera, lens, viewfinder, optional teleprompter and confidence monitor. Another powerful option which can be added to RS-LDX packages is an elevating pedestal which is a motorized, remotely controlled telescoping tripod. The elevating pedestals are designed to add pedestal height control to the Telemetrics Robotic Pan/Tilt product line.

KEY FEATURES

- High sensitivity and dynamic range in all lighting conditions
- Effortless 1080p50/59.94 acquisition with no increase in lighting requirements
- Switchable video formats — the first 3G-capable compact camera system
- Secondary color correction
- Chromatic Lens Aberration and Sharpness Solution (CLASS) removes registration errors caused by chromatic aberrations from the lens
- RGB 10-bit 4:4:4 output option for highest performance chromakey applications
- Supports BT.2020 wide color gamut
- Optional native HDR support using SMPTE ST 2084 and HLG
- In-camera flip/rotate functionality, without added delay for 3D
- Flexible mechanical mounting options — easy mounting for robotics
- Proven reliability for hard-to-reach locations
- Ignite Automated Production Systems integration
- Does not require additional costly additional OCPs — camera settings can be addressed directly from the control panel
- RS-CP is certified with many third-party camera robotic systems, including solutions from Panasonic, Sony and Canon
## RS-LDX Integrated Robotic Camera Systems

### RS-LDX CAMERAS

<table>
<thead>
<tr>
<th>Feature</th>
<th>RS-LDX Première</th>
<th>RS-LDX Elite</th>
<th>RS-LDX WorldCam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imager</td>
<td>Next-generation Xensium-FT</td>
<td>F12 typical (all 50 Hz modes) / F11 typical (all 59.94 Hz modes)</td>
<td>60 dB (typical)</td>
</tr>
<tr>
<td>Sensitivity @ 2000 lux</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S/N ratio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased sensitivity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Improved digital noise reduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TrueTexture: texture is preserved throughout all processing parameters</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Switchable video formats: 1080i50/59.94 and 720p50/59.94</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Switchable video formats: 1080PsF23.98/24/25/29.97 (artistic), 1080i50/59.94, 720p50/59.94</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Switchable video formats: 1080p50/59.94, 1080PsF23.98/24/25/29.97 (artistic), 1080i50/59.94, 720p50/59.94</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Optional RGB 4:4:4 1080i outputs</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Effortless 1080p50/59.94 acquisition with no increased lighting requirement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suitability for 3D productions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Support of BT.2020 wide color gamut</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Native HDR support using SMPTE ST 2084 and HLG</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>ArtTouch: smart coupling of video control functions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Perfect picture matching across the complete LDX Series as well as the LDX installed base</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Camera head with easy access to control buttons, including the new PickMe button</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CLASS: advanced electronic lens error correction</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Standard secondary color corrector (two-color)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Advanced secondary color corrector (up to six sets for color hue, saturation and luminance adjustment)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Compatible with C2IP control systems</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Second motorized optical filter wheel with 4P-star and soft focus</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Dynamic aperture correction</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Dynamic contour equalizer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Power curve gamma control</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Depth of field indicator</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Multiple licenses may be purchased to upgrade more than one level (e.g., RS-LDX Première to RS-LDX WorldCam), on a perpetual or 7-day term basis. The B.O.W.L. (bunch of weekly licenses) licensing option allows users to preorder any number of 7-day licenses and activate them as needed.
RS-LDX Integrated Robotic Camera Systems

RS-LDX SERIES SPECIFICATIONS

General
Power: approx. 30W
Temperature range: -20° to 45°C (-4° to 113°F) (operating)
Water protection: Compliant to IPX0
Weight: approx. 2.5 kg (5.1 lbs.)
Dimensions (approx.):
- Width: 113 mm (4.45 in.)
- Depth: 156 mm (6.14 in.)
- Height: 140 mm (5.51 in.)

Camera
Pick-up device: 3 x 2/3” Xensium-FT CMOS
Picture elements: 1920x1080
Smear: no vertical smear
Shutter: no mechanical shutter
Optical system: F1.4 prism
Lens mount: 2/3” Bayonet type
Optical filter wheels: 2x motorized wheels
- Optical filters on first wheel: clear, 1/4 ND, 1/16 ND, 1/64 ND
- Optical filters on second wheel: clear, 4P-star, soft focus

Electronic color correction: 3200°K, 5600°K, 7500°K, FL, 2 AWB presets, Vari, continuous auto white
Exposure: electronic exposure down to 1/1000 sec

Video Modes
RS-LDX Première switchable formats: 1080i50/59.94 & 720p50/59.94
RS-LDX Elite switchable formats: 1080PsF23.98/24/25/29.97, 1080i50/59.94 & 720p50/59.94
RS-LDX WorldCam switchable formats: 1080p50/59.94, 1080PsF23.98/24/25/29.97, 1080i50/59.94 & 720p50/59.94

Sensitivity at 2000 lux:
- F12 (1080i50, 720p50 and 1080p50)
- F11 (1080i59.94, 720p59.94 and 1080p59.94)
- F18 (1080PsF23.98/24/25)
- F16 (1080PsF29.97)

S/N ratio: 60 dB typical
Aspect ratio: 16:9
Modulation depth: 60% (typical) at 800 TV lines (27 MHz) in 1080i50/59.94 & 720p50/59.94 modes

Digital resolution: Floating point A/D conversion with 16-bit performance and with 34-bit processing in RGB

Horizontal resolution: >1,000 TV lines
Gain selection: -6 dB to +18 dB in 3 dB steps (user-definable presets) or continuous master gain

Connectivity
Lens iris connector: 12-pin female Hirose (front)
Lens zoom/focus connector: 12-pin male Hirose (front)
USB: GV-eLicense, scene files, service
HDMI: viewing
Ethernet RJ-45: C2IP camera control
Tally control/RS-232/RS-422/Private data: D-connector– 15 pin
HD-SDI main output: BNC 0.8 Vp-p, 75 Ω, SMPTE 292M, 424/425M
HD-SDI viewing output: BNC 0.8 Vp-p, 75 Ω, SMPTE 292M, 424/425M
Genlock input: BNC CVBS/BB/tri-level
Power input: XLR-4 male (10.5-17 VDC)

Control Buttons and LED Indications
- PickMe
- Menu control: menu select, rotary control
- Color bar button
- Info button
- Filter wheel selection
- Standard file recall
- 2 user assignable buttons
- 2 digit display: Power on, camera number
- Tally LEDs: On Air; ISO; Call

Notes:
RS-LDX Première is upgradable to RS-LDX Elite. Upgrades of more than one level may be achieved with multiple licenses.
RS-LDX Elite is upgradable to RS-LDX WorldCam.
For the RS-LDX Elite and RS-LDX WorldCam, a perpetual GV-eLicense for 10-bit RGB 4:4:4 outputs in 1080i is available.
HDR Operation: A perpetual license for the addition of true 15 F-stop HDR operation for all RS-LDX camera heads is available.

RS-LDX cameras provide camera control over Ethernet, but also allows OCPs to plug into the Ethernet port on the back of the camera. This is a big advantage in that it provides two options for control. The camera is powered from the PT head as well.
RS-LDX Première Robotic Head

Pan Travel (Max): ±360° w/endstop (720° without end-stops)
Tilt Travel (Max): +180° -180°* (+25°, -15° with teleprompter)*
End Stop Resolution: Electronic smooth top
Velocity (Min/Max): Pan 0.01° - 100°/sec; Tilt 0.01° - 100°/sec*
Stopping Accuracy: 60 arc sec (0.016°)

Position Resolution: 5,625 mil counts per 360° (23-bit)
Acceleration: 90°/sec*
Audible Noise: 31 dB(A) max, IEC free field at velocity 60°/sec

Payload: 40 lbs. (18 kg) on center of mass
Weight: 29 lbs. (13 kg)
Power In: 38-53 VDC (10A ax)
Input Power Connector: 7-pin male XLR
Camera Power Output: 60W (15 VDC, 4A max)

Temperature Range:
Operating: 4 to 50°C (40 to 120°F)
Storage: -30 to + 60°C (-22 to 140°F)

Tally: Red & green integrated & output I/O support
Compatible Lenses: Analog teleconference & digi full servo lenses
Camera Direct Control of CCU function: Most broadcast manufacturer cameras and models.
(Contact Telemetrics for full list of supported models)

* Dependent on equipment make and model
RS-LDX Elite/WorldCam Robotic Head

RS-LDX ELITE/WORLDCAM ROBOTIC HEAD SPECIFICATIONS

Pan travel (max.): 360° with end stops (720° without end stops)
Tilt travel (max.): ±180° (+25°, -15° with teleprompter*)
End stop resolution: electronic smooth stop
Min./max. pan velocity: 0.01° to 90°/sec (90°/sec high-speed)
Min./max. tilt velocity: 0.01° to 90°/sec (90°/sec high-speed)
Stopping accuracy: 60 arc sec (0.016°)
Acceleration: 90°/sec² (PTO-LP-S4-HS)∗

Audible noise: 31 dB(A) max. IEC free field
Operating modes: Velocity, Position Cut & Fade w/convergence, Motion Key Frame, Manual w/ option
Payload: 38.5 kg (85 lbs.) load on center of mass
Weight: 17 kg (38 lbs.)
Min. input current: 6.8A
Input power connector: 7-pin male XLR
Camera power: 50W (13.5 VDC, 3.7A max.)

Teleprompter & Talent Monitor Power Output: 120W (13.5 VDC, 8.9A max.)
Temperature Range: Operating 4° to 50°C (40° to 120°F); Storage -30° to +60°C (-22° to 140°F)
Tally: Red and green integrated & output I/O support
Virtual data output: Ethernet UDP, RS-232, RS-422
Compatible lenses: Analog teleconference & digital full servo lenses

Options
PTO-LP-S4-TC-VS: LP virtual studio option

∗Velocity and acceleration are load dependent.
RS-LDX Integrated Robotic Camera Systems

ORDERING

RS-LDX Premiere
- Support for 1080i50/59.94 and 720p50/59.94 video formats
- Première robot supporting up to a 12-inch teleprompter (confidence monitor not supported)
- Rack mounted, fully redundant power solution with 150-foot power cable

RS-LDX Elite
- 1080P 23.98/24/25/29.97, 1080i50/59.94 and 720p50/59.94 video formats
- Elite/WorldCam robot supporting up to a 19-inch teleprompter
- Rack mounted, fully redundant power solution with 150-foot power cable

RS-LDX WorldCam
- 1080P 50/59.94, 1080P 23.98/24/25/29.97 and 1080i50/59.94 & 720p50/59.94 video formats
- Elite/WorldCam robot supporting up to a 19-inch teleprompter
- Rack mounted, fully redundant power solution with 150-foot power cable

RS Control Panel – Robotic camera control operator panel
RS Studio Control System – Studio Control System touchscreen application
RS Televisor – Remotely controlled, motorized, telescoping, elevating pedestal
RS 12 Prompter – 12-inch flat panel teleprompter
RS 19 Prompter – 19-inch LCD flat panel teleprompter
RS Confidence Monitor – 17-inch confidence monitor
ZA17x7.6BRD – Fujinon full servo digital lens without 2x extender
ZA22x7.6BRD – Fujinon full servo digital lens without 2x extender
KJ17ex7.7B IASE – Canon full servo digital lens with 2x extender
KJ22ex7.6B IASE – Canon full servo digital lens with 2x extender
Various lens cables

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

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