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 standalone 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, movement along all axes begins and ends 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 Studio control system also reduces complexity of studio operations with reFrame automatic shot framing and tracking that ensures on-screen talent is ideally positioned and automatically corrects when talent unexpectedly shifts — without operator intervention. In addition, a 3D StudioView display can be selected showing physical locations of all robotics — displayed within a 3D representation that facilitates easy setup of the platform’s allowed and restricted operational areas. The smaller touchscreen display on the main control panel can also show a Robotic Status view that includes all the currently selected camera’s robotics parameters displayed at once; such as elevation height, pan/tilt and rotation angles, and XY location.

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

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<table>
<thead>
<tr>
<th>Feature</th>
<th>RS-LDX Première can be upgraded to RS-LDX Elite* or LDX C82 Compact Elite</th>
<th>RS-LDX Elite can be upgraded to RS-LDX WorldCam or LDX C82 Compact WorldCam</th>
<th>RS-LDX WorldCam or LDX C86N Compact WorldCam</th>
</tr>
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<tbody>
<tr>
<td><strong>Imager</strong></td>
<td>Next-generation Xensium-FT</td>
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<tr>
<td><strong>Sensitivity @ 2000 lux</strong></td>
<td>F12 typical (all 50 Hz modes) / F11 typical (all 59.94 Hz modes)</td>
<td></td>
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<tr>
<td>S/N ratio</td>
<td>60 dB (typical)</td>
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<tr>
<td>Increased sensitivity</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Improved digital noise reduction</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>TrueTexture: texture is preserved throughout all processing parameters</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Switchable video formats: 1080i50/59.94 and 720p50/59.94</td>
<td>✔</td>
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<tr>
<td>Switchable video formats: 1080PsF23.98/24/25/29.97 (artistic), 1080i50/59.94, 720p50/59.94</td>
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<td>✔</td>
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<tr>
<td>Optional RGB 4:4:4 1080i outputs</td>
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<tr>
<td>Effortless 1080p50/59.94 acquisition with no increased lighting requirement</td>
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<td>✔</td>
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<tr>
<td>Suitability for 3D productions</td>
<td>✔</td>
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<td>Support of BT.2020 wide color gamut</td>
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<td>✔</td>
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<tr>
<td>Native HDR support using SMPTE ST 2084 and HLG</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
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<tr>
<td>ArtTouch: smart coupling of video control functions</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Perfect picture matching across the complete LDX Series as well as the LDK installed base</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Camera head with easy access to control buttons, including the new PickMe button</td>
<td>✔</td>
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<td>CLASS: advanced electronic lens error correction</td>
<td>✔</td>
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<tr>
<td>Standard secondary color corrector (two-color)</td>
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<tr>
<td>Advanced secondary color corrector (up to six sets for color hue, saturation and luminance adjustment)</td>
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<tr>
<td>Compatible with C2IP control systems</td>
<td>✔</td>
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<tr>
<td>Second motorized optical filter wheel with 4P-star and soft focus</td>
<td>✔</td>
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<tr>
<td>Dynamic aperture correction</td>
<td>✔</td>
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<td>Dynamic contour equalizer</td>
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<tr>
<td>Power curve gamma control</td>
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<tr>
<td>Depth of field indicator</td>
<td></td>
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</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 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
- **Electronic color correction:** 3200°K, 5600°K, 7500°K, FL, 2 AWB presets, Var, 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:**
- **Aperture 1:** F12 (1080i50, 720p50 and 1080p50)
- **Aperture 2:** F11 (1080i59.94, 720p59.94 and 1080p59.94)
- **Aperture 3:** F18 (1080PsF23.98/24/25)
- **Aperture 4:** 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, 75Ω, SMPTE 292M, 424/425M
- **HD-SDI viewing output:** BNC 0.8 Vp-p, 75Ω, 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

**RS-LDX PREMIÈRE ROBOTIC HEAD SPECIFICATIONS**

**Pan** Travel (Max): ±360° w/endsstop (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)

**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

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**DIMENSIONS**

Pan & Tilt Dimensions:
- Pan: 232.28" x 5.29"
- Tilt: 126.31" x 4.98"

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)

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
- **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.)
- **Input voltage:** 38-53 VDC (10A max)
- **Max. 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 4º to 50ºC (40º to 120ºF); Storage -30º to +60ºC (-22º to 140ºF)
- **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-SS-VS:** LP virtual studio option

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

**ORDERING**

**RS-LDX Première**
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**
1080PsF23.98/24/25/29.7, 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**
1080p50/59.94, 1080PsF23.98/24/25/29.97 and 1080i50/59.94 & 720p50/59.94 video formats
Elite/WorldCam robot supporting up to a 19-inch prompter
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**