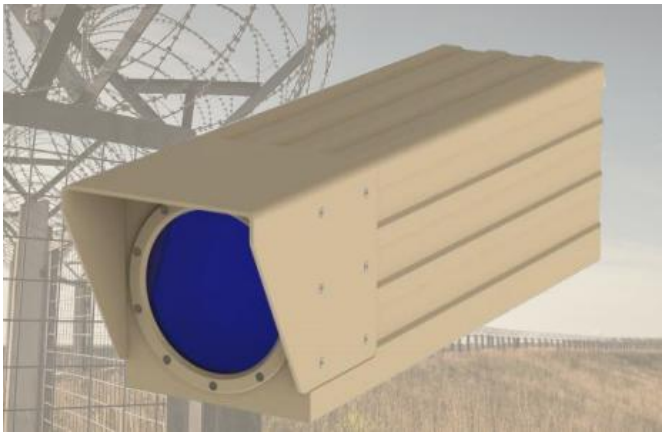
Jaguar - 121000/334
Long-Range Camera System with digital HD-SDI interface



The **Jaguar - 121000/334** is an integrated unit, based on a highly sensitive HD megapixel colour CCD 1/3" colour CCD camera and a powerful zoom lens, ideal for day/night coastal surveillance, camp perimeter protection, protecting sensitive infrastructures and similar applications.

Designed to deliver high-performance images, even under the harshest conditions, in temperatures ranging from -40°C to +70°C.

Optical system

The optical system was developed specifically for use in long range surveillance. It features continuous zoom, with powerful zoom ratio of 30 to 1000 mm, auto-iris and focus adjustment from 3 m to infinity.

The "Auto-Focus on Demand" lets the camera control the focus by the push of a button.

The lens design incorporates oil-free, low-friction surfaces with special coatings, high-speed motors with zero back-lash and high-precision feedback potentiometers. This design was chosen with the objective of meeting the highest standards for precision and accuracy and low failure rates. All lens elements are surface coated for high response throughout the visible spectrum.

Fog penetration

The fog penetration function is designed to automatically increase visibility under conditions such as fog, haze and fire smoke.

The camera continuously analyses the picture and once it detects a low-contrast condition, it will automatically enhance the contrast.

Continuous digital zoom

The Jaguar - 121000/334 provides continuous digital zoom with 4x range, selectable from the serial interface.

Stay on target with precise boresight retention

The factory pre-aligned boresight, is aligned in parallel with the optical reference axis of the system. This makes for easy on-site installation.

Typical boresight retention is ±0.2 milliradians, the equivalent to staying within a target area of 0.2 m, at a distance of 1 km in NFOV.

Digital Noise Reduction (DNR)

The Digital Noise Reduction in the Jaguar - 121000/334 camera system is a function that analysesthe video image and reduces the noise, particularly in low-light conditions.

The analysis is based on a 2- and 3-dimensional algorithm.

Expanded Hi-Dynamic Range (XDR)

XDR is useful in conditions where there are large variations in brightness in the picture, i.e. when there are very dark and very bright areas in the picture.

XDR amplifies the signal level in dark areas and reduces it in very bright areas thereby improving the visibility in the picture.

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DRI calculation

Conditions for SSIP CAM program: Visual band 400-1000nm, Contrast=30 %, Over cast daylight, Sky ratio=3, Visibility 80km, 50 % probability.

NFOV 0.3° (H)	Man target (0,45 x 1,7 m)	Vehicle target (2,3 x 2,3 m)
Detection	19.9 km	38.4 km
Recognition	8.5 km	19.5 km
Identification	7.3 km	17.3 km

Main features

- HD megapixel colour CCD camera
- Zoom lens 30 to 1000 mm (33x)
- HD-SDI digital video output
- Active back focus temperature compensation
- Factory pre-aligned bore sighting
- Configuration by serial interface
- 4x digital zoom
- Oil-free lens construction

	PAL	NTSC
Camera system		
Sensor	High-sensitivity colour 1/3" CCD sensor with complementary mosaic	
Effective pixels (H x V)	1296 x 736	
Active pixels in output (H x V)	1280 x 720	
Aspect ratio	16:9	
Video output, HD-SDI	HD-SDI, YUV 4.2.2, 74.25 MHz clk	
Video resolution, HD-SDI output	1280 x 720p / 1920 x 1080p interpolated / 1920 x 1080i interpolated	
System video resolution	Equivalent to 540 TVL (15% video modulation, with lens)	
Sensitivity	0,8 Lux, 25% video, F4.5	
Spectral response	400-700nm with IR-cut filter on (day mode) 400-950nm with IR-Cut filter off (night mode)	
Signal to Noise ratio	> 52 dB, AGC off	
Focal length	30 – 1000 mm zoom (33x)	
Horizontal field of view	Wide: 9° / Narrow: 0.3°	
Focus range	3 m to ∞	
Iris range	f/4.5 to 1400 (incl. Spot filter) at WFOV	
Relative aperture	f/4.5 to 9.5 (breakpoint at f=150 mm. Linear between breakpoints)	
Zoom control, travel time	≤ 8 sec. (25°C, both ways, Wide to Narrow FOV)	
Focus control, travel time	≤ 8 sec. (25°C, both ways, 2.5 m to ∞)	

	PAL	NTSC
Mechanical		
Overall dimensions (W x H x L)	148 x 156.2 x 530.5 mm (not incl. connectors & mounting studs)	
Net weight	11.3 kg	
Housing material	Aluminium with corrosion protection coating	
Protective housing integrity	IP 65	
Connector (PWR, control, video)	Round connector in accordance with MIL 38999	
Bore-sighting retention	±0.2 milliradians @ NFOV	

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Functions		
Electronic shutter, fixed	1/30 to 1/10,000 sec.	
Gamma correction	0.45 / 0.6 / 1.0	
Automatic Gain Control. Range	0 to +36 dB + 6 DB DGC	
White balance	Automatic, Tracking and One-Push	
Noise reduction	2D and 3D Digital Noise Reduction 3 Levels	
Fog Penetration	Image contrast enhancement 3 Levels	
Day/Night mode	Movable IR-cut filter (Colour <==> Monochrome/Near-IR)	
Auto focus	On demand, Zoom-triggered	
Configuration, serial interface	RS-422 interface (galvanic separation), VISCA/FET protocol (optional CAN-BUS interface with FET protocol)	

	PAL	NTSC
Environmental		
Operating voltage	15 to 36VDC (power supply ground isolated from camera housing)	
Power consumption	< 15W	
Operating temperature	-30°C to +70°C	
Storage temperature	-40°C to +70°C	
Vibration	Wheeled vehicle MIL-STD 810G , method 514.6	
Shock	Transportation: 3 shocks in each direction, 25G @ 6ms	
MTBF	30 000 hours (MIL-HDBK-217-F)	

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