DEEPSEA

MxD SeaCam®

| 4K ULTRA HD | CUSTOM CORRECTOR OPTICS | 15X OPTICAL ZOOM | 3-CMOS 2/3" SENSORS | 96° HORIZONTAL FIELD OF VIEW | OPTIONAL 2X TELECONVERTER |

The *Ultimate* 4k Imaging System For Subsea Exploration

Broadcast-grade performance for filmmakers, storytellers, and explorers

At the heart of the MxD is the subsea imaging unit, based on a Sony HDC-50 compact broadcast camera with the performance and advanced features of full-sized studio systems. The 4K-UHD resolution 2/3" class 3-CMOS global shutter optical block provides unparalleled sensitivity, sharpness, support for HDR (hyper gamma) and the full BT.2020 color space along with the full range of controls expected from a no-compromise, future-proof studio grade platform.

The imaging potential is matched with a best-in-class Canon CJ15ex4.3 wide-angle zoom lens with 15x magnification, providing a 96° horizontal field of view at full wide and just 8.4° at full telephoto. This lens is coupled with a custom 4-element dome port corrector cell for near zero distortion viewing and diffraction limited performance from 0.3 meters to infinity. The purpose-built Titanium housing and borosilicate dome of the MxD SeaCam provide reliable operation to 4,000 m, with options for up to 7,000 m depths using a patent pending design, proven across thousands of actual pressure cycles.

Specifications subject to change without notice

For further information, email
sales@deepsea.com

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Specifications

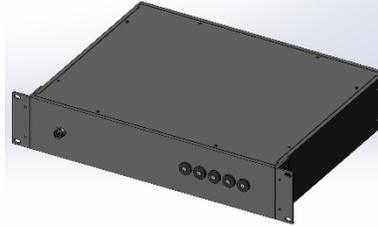|	MxD SeaCam
Optical Specifications	
Sensor	3-chip 2/3-inch type 4K CMOS
Shutter	Global Shutter
Resolution	QFHD: 3840 x 2160 HD: 1920 x 1080
Color Space	ITU-R BT.2020 wide color gamut
Sensitivity (2000lx, 3200K)	F10 (59.94 fps), F11 (50 fps)
Noise Level	62 dB
Format	QFHD: 4K/59.94p, 4K/50p FHD: 1080/59.94p, 1080/50p HD: 720/59.94p, 72/50p
Zoom	15x optical zoom Optional 2x extender
Focal Length	4.3 to 65 mm
Maximum Aperture	F/1.8 at 4.3 ~ 40 m | F/2.9 at 65 mm
Field of View	Wide: 96.3° x 64.2° | Tele: 8.4° x 4.8°
Minimum Object Distance	0.3 m
Environmental Specifications	
Depth Rating	7,000 m / 10,300 PSI
Operating Temp	-8°C to 27°C [1.6°F to 80.6°F]
Storage Temp	-20°C to 60°C [-4°F to 140°C]
Mechanical Specifications	
Housing	Titanium
Port	Borosilicate Glass
Weight in Air	46.1 kg [101.6 lbs.]
Weight in Water	24 kg [53 lbs.]
Control	
Camera Control	RM-B170 Remote Control Unit Optional RCP-3100/3500 Remote Control Panel
Zoom	Variable rate servo zoom control
Focus	Variable position servo focus control
Inputs/Outputs	
Fiber Optic	Single Mode, 4-channel CWDM per ITU-T G.694.2, 20 nm spacing
12G-SDI Video	12G-SDI Video Primary uplink wavelength: 1511 nm SMPTE ST 2082, up to 4K/60p Secondary uplink wavelength: 1531 nm SMPTE ST 2082, up to 4K/60p (duplicate feed)
Telemetry & Control	Telemetry uplink wavelength: 1471 nm Telemetry downlink wavelength: 1491nm
LAN	Camera setup and control
HD-SDI Monitor	SMPTE 292M, live view utility monitor output with overlay options
Camera & Iris Control	RS-422 or Ethernet, proprietary Sony protocol
Zoom & Focus Control	RS-232 or Ethernet, proprietary DeepSea protocol
System Monitor	Temperature, Humidity, Barometric Pressure, Leak Detection
Input Voltage	24 to 48 VDC
Input Power	35 W Max

MxD SeaCam System Components

The MxD SeaCam system comprises of three main components: the MxD SeaCam camera, the MxD Telemetry Multiplexer, and the MxD Operator Control Panel.


| MxD SeaCam | MxD Telemetry Multiplexer | MxD Operator Control Panel |

The subsea camera at the heart of the MxD SeaCam. Rated for 7000 m operations with up to three bulkheads for fiber optic telemetry, power, and auxiliary power and data interfaces (Ethernet, RS-232/485).
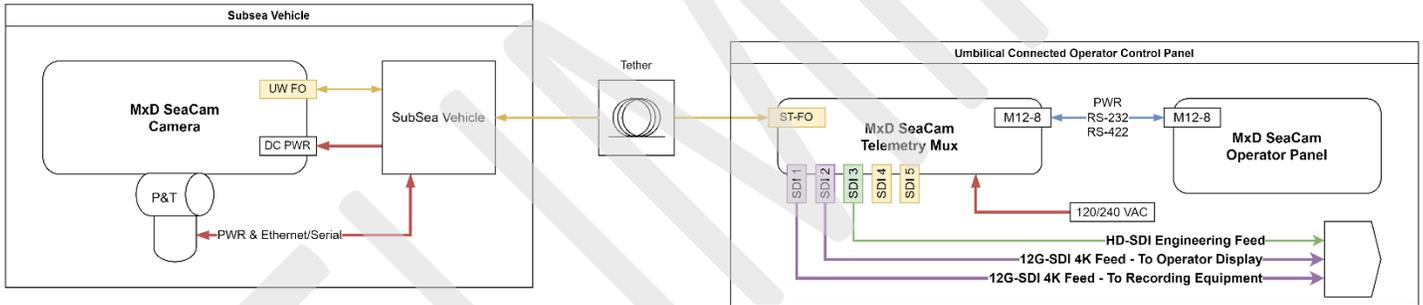
The topside interface for the MxD SeaCam. Connects to the fiber optic data-link coming from the camera and breaks out the 4K video signals, Ethernet and serial data for command and control of the subsea camera and lens.
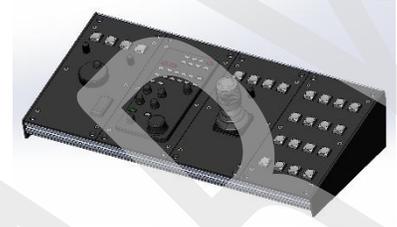
A custom control panel housing the physical operator controls for camera iris, zoom, and focus functions. The modular design allows for easy optimization of layout tailored to the video production workflow.

Integration Requirements

	MxD SeaCam	MxD Telemetry Multiplexer	MxD Operator Control Panel
Power	24-48 VDC, 35 W Max 1.5 A @ 24 VDC	100-240 VAC 50-60 Hz 1.3 A Max	12 VDC, ~ 2A *Powered through umbilical or external AC-DC power supply.*
Data	Dark fiber or ODA supporting CWDM channels 1471, 1491, 1511, and 1531 nm	• Fiber optic link to camera • Control panel umbilical • Ethernet LAN	• Umbilical to Telemetry Mux • Ethernet LAN
Connections	Fiber: SubConn Optolink 1FO Copper: SubConn MCBH6M *Other connectors can be fitted to the MxD SeaCam based on customer requirements.*	• Telemetry Fiber: ST-type • Power: IEC 60320-C14 • LAN 1, 2: RJ-45 • Umbilical: M12 (8-pin) • SDI 1, 2, 3: BNC COAX • SDI 4, 5: ST-type 1310 nm	• Power: DIN • Umbilical: M12 (8-pin) • LAN 1, 2: RJ-45
Mechanical	Mounting bracket not included. Designs available for Kystdesign KPT-45 pan-and-tilt units. *See O&I drawing for details.*	2RU 19" rack mount enclosure *See O&I drawing for details.*	Bench-top enclosure *See O&I drawing for details.*

Dimensions
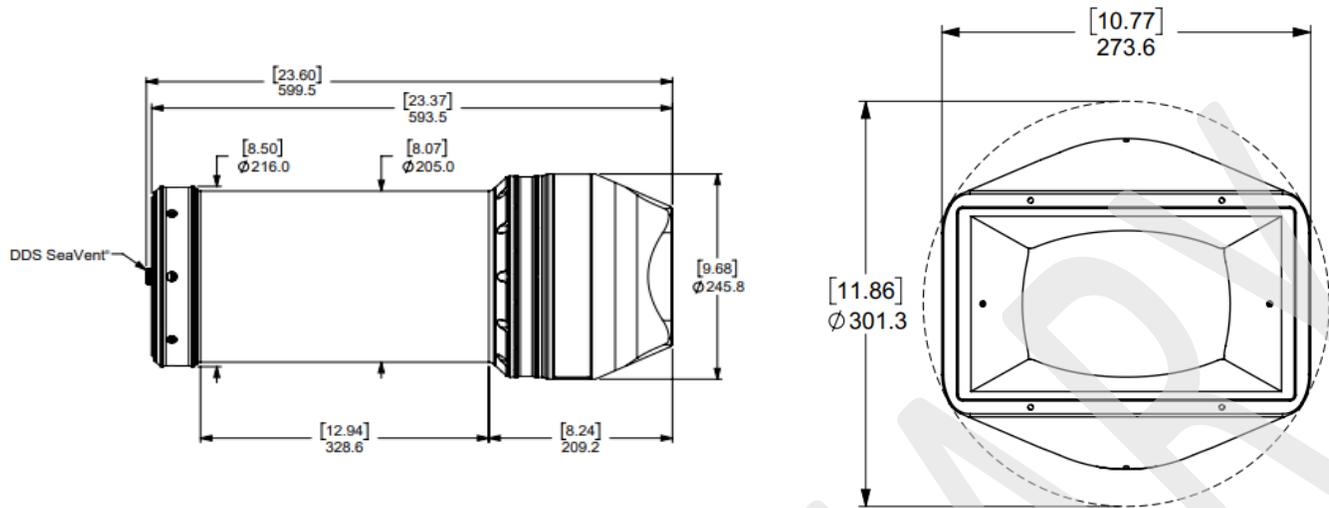
Downloads

For reference documentation and 3D models, check the online file share:

https://files.seescan.com/url/mxdseacam

17 December 2025