



HammerHead III ...Series

FEATURES

- 2MP (20x, 33x, 37x or 55x) with IR illuminator, or Thermal imager
- Wiper on Optical Camera
- 150M LED or Laser IR illuminator (300M, 500M or 1,000M) *
- 11-18VDC for vehicle operation
- IP66 weather resistance with vehicle mount



Overview

The **HammerHead III Series** is Patronus' integrated multi-function rugged vehicle mount PTZ IP camera.

The **HammerHead III Series** left side uses a 2 mega-pixel image sensor with wiper on one side providing excellent color video down to 0.0005 lux illumination in color mode and 0.0001 lux in Black & White mode. Zoom module options include: 20x, 33x, 37x, and 55x.

The **HammerHead III Series** right side offers a range of options:

1. LED IR illuminator
2. Variable Beam Laser IR illuminator
3. Thermal camera

The **HammerHead III Series** is a resilient IP66 weather resistant (all-metal) construction product with Patronus' signature ultra-wide operating temperature (-35° to 55°C).

The **HammerHead III Series** has an impact resistance of 4G which makes it ideal for extreme outdoor and vehicle mount applications.

The **HammerHead III Series** is ONVIF 2.4 compliant for use with any ONVIF 2.4 compliant Network Video Recording Software Solution, including...



...and many more.

Functions

Built-in IR illuminator provides integrated infrared LEDs which provide up to 150 meters (492 ft) or three Variable Beam Laser options that zooms with the camera to provide either 300-400 meters (984-1312 ft), 500-800 meters (1640-2624 ft) or 1,000-1,500 meters (3280 -4921 ft) of night vision*.

Thermal options for US (30Hz) and international (8.3Hz) customers in CIF and 4CIF resolutions with a range of lens options providing a broad range of image widths and DRI.

Ideal picture performance is achieved through several advanced functions designed to help fine-tune the picture performance to match your installation environment, including:

- **BLC** – automatically and dynamically compensates for strong backlight.
- **WDR** – evens out bright & dim areas (up to 120dB).
- **AWB** – resolves difficult lighting conditions.
- **AGC** – optimizes the video signal.
- **DNR** – dynamically reduces noise in the picture.
- **Contrast and sharpness** – enhance details in bright or misty scenes.

Advanced H.265 compression reduces bandwidth by as much as 30% making these cameras an ideal choice for systems where lower bandwidth solutions are required for longer retention or better streaming performance.

Models

Model	Description
VCS1604	20x, LED IR
VSCS1633	33x, LED IR
VSCS1634	37x, LED IR
VSCS1605	20x, Laser IR-3w
VSCS1635	33x, Laser IR-3w
VSCS1606	33x, Laser IR-5w
VSCS1694	33x, Laser IR-10w
VSCS1636	37x, Laser IR-5w
VSCS1695	37x, Laser IR-10w
VSCS1683	55x, Laser IR-5w
VSCS1696	55x, Laser IR-10w
VSCS1607	33x, 384*240/19mm, NTSC, 8.3Hz
VSCS1637	33x, 384*240/19mm, NTSC, 30Hz
VSCS1638	33x, 384*240/19mm, PAL, 8.3Hz
VSCS1608	33x, 384*240/25mm, NTSC, 8.3Hz
VSCS1639	33x, 384*240/25mm, NTSC, 30Hz
VSCS1640	33x, 384*240/25mm, PAL, 8.3Hz
VSCS1641	33x, 384*240/35mm, NTSC, 8.3Hz
VSCS1642	33x, 384*240/35mm, NTSC, 30Hz
VSCS1643	33x, 384*240/35mm, PAL, 8.3Hz
VSCS1609	33x, 384*240/50mm, NTSC, 8.3Hz
VSCS1644	33x, 384*240/50mm, NTSC, 30Hz
VSCS1645	33x, 384*240/50mm, PAL, 8.3Hz
VSCS1646	37x, 384*240/19mm, NTSC, 8.3Hz
VSCS1647	37x, 384*240/19mm, NTSC, 30Hz
VSCS1648	37x, 384*240/19mm, PAL, 8.3Hz
VSCS1649	37x, 384*240/25mm, NTSC, 8.3Hz
VSCS1650	37x, 384*240/25mm, NTSC, 30Hz
VSCS1651	37x, 384*240/25mm, PAL, 8.3Hz
VSCS1652	37x, 384*240/35mm, NTSC, 8.3Hz
VSCS1653	37x, 384*240/35mm, NTSC, 30Hz
VSCS1654	37x, 384*240/35mm, PAL, 8.3Hz
VSCS1655	37x, 384*240/50mm, NTSC, 8.3Hz
VSCS1656	37x, 384*240/50mm, NTSC, 30Hz
VSCS1657	37x, 384*240/50mm, PAL, 8.3Hz
VSCS1658	33x, 640*480/25mm, NTSC, 8.3Hz
VSCS1659	33x, 640*480/25mm, NTSC, 60Hz
VSCS1660	33x, 640*480/25mm, PAL, 8.3Hz
VSCS1661	33x, 640*480/40mm, NTSC, 8.3Hz
VSCS1662	33x, 640*480/40mm, NTSC, 60Hz
VSCS1663	33x, 640*480/40mm, PAL, 8.3Hz
VSCS1664	33x, 640*480/50mm, NTSC, 8.3Hz
VSCS1665	33x, 640*480/50mm, NTSC, 60Hz
VSCS1666	33x, 640*480/50mm, PAL, 8.3Hz
VSCS1667	37x, 640*480/25mm, NTSC, 8.3Hz
VSCS1668	37x, 640*480/25mm, NTSC, 60Hz
VSCS1669	37x, 640*480/25mm, PAL, 8.3Hz
VSCS1670	37x, 640*480/40mm, NTSC, 8.3Hz
VSCS1671	37x, 640*480/40mm, NTSC, 60Hz
VSCS1672	37x, 640*480/40mm, PAL, 8.3Hz
VSCS1673	37x, 640*480/50mm, NTSC, 8.3Hz
VSCS1674	37x, 640*480/50mm, NTSC, 60Hz
VSCS1675	37x, 640*480/50mm, PAL, 8.3Hz

Specifications (Aug 2019)

Pan Tilt Housing Function	
Pan preset speed	100°/s
Tilt preset speed	60°/s
Pan control speed	0°~60°/S
Tilt control speed	0°~40°/S
Pan range	360°endless rotation
Tilt range	+90° ~ -90°
Presets, Tracking	256 positions, 8 tracks
RS485	Built-in PELCO D/P 16 protocol, Baud Rate from 2400Bps to 19200Bps optional, Absolute Positioning through RS485
Relative Humidity	Less than 90%
IP Grade	IP66
Working Temperature	-35° ~ +55°
Impact resistance	≥4G
Wiper	Supported, Activated by Preset
Installation	Variety of installation according to the environment
Input Voltage	11~18VDC or 24VAC
Weight	7kg

Optical Camera Model		20x	33x	37x	55x
Camera	Image Sensor	1/3" Progressive CMOS	1/3" Progressive CMOS	1/1.8" Progressive CMOS	1/2.8" Progressive Scan CMOS
	Effective Pixels	1920x1080			
	Optical Zoom	20x, 5.4-108mm	33x, 4.6-152mm	37x, 5.7-210mm	55x, 6.5-363mm
	Horizontal Field of View (Wide-Tele)	50.2°-2.9°	60.08°-2.08°	60°-2.0°	43.8°-1°
	Digital Zoom	16x			12x
	Min. Illumination	Color:0.01Lux@ (F1.5, AGC ON); B/W:0.005Lux@ (F1.5, AGC ON)	Color:0.01Lux@ (F1.6, AGC ON); B/W:0.005Lux@ (F1.6, AGC ON)	Color:0.0005 Lux @ (F1.2, AGC ON); B/W:0.0001Lux@ (F1.2.AGC ON)	Color:0.001 Lux @ (F1.2, AGC ON); B/W:0.0001Lux@ (F1.2.AGC ON)
	Aperture	F1.5-F2.7	F1.6-F4.8	F1.5-F4.8	F1.6-F6.0
	Day / Night	IR-CUT, Auto, Color, B/W			
	MOD	10mm~1500mm (Wide ~ Tele)			300mm~1500mm (Wide ~ Tele)
	Zoom Speed (Optical, Wide ~ Tele)	3 Sec.			4 Sec.
Parameter	Mainstream	50HZ:25fps (1920x1080, 1280x720) 60HZ:30fps (1920x1080, 1280x720)			
	Sub stream	50HZ:25fps (720x576, 352x288) 60HZ:30fps (720x480, 352x288)		50Hz: 25fps (1280 x1080, 720x576, 352x288); 60Hz: 30fps (1280 x1080, 720x480, 352x288)	
	Setting	Brightness, Contrast, Saturation, Sharpness, Chroma			
	Anti-Flicker	Supported			
	Defogging	Supported			
	Corridor Mode	Supported			
	BLC	Supported			
	Exposure compensations	Supported			
	Digital Image stabilization	Supported			
	ROI	4 Areas		1 Area per stream	
	Focus	Auto/Manual/One-time Focusing			
	Exposure	Auto/Aperture/Shutter/Manual/Low Illuminance/High Illuminance	Auto/Aperture/Shutter/Manual/Low Illuminance/High Illuminance	Automatic exposure/aperture priority/shutter priority/manual exposure	
	Electronic Shutter	1/25~1/100000		1/3~1/100,000 s	1~1/30,000 s
	DNR	2D / 3D			
	WB	Supported			
WDR	Super WDR, Digital WDR, 0~100	Super WDR, Digital WDR, 0~100	True WDR, 120dB		

	Signal System	PAL/NSTC	
	Storage	MicroSD 128G	
	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, NTP, SMTP, SNMP, IPv6	
Network	System Compatibility	ONVIF2.4, FV Private, Active Registration, CGI	ONVIF (PROFILE S, PROFILE G), GB28181-2016, OBCP
	Video Compression	H.265/H.264	
	Video Compression Code Rate	32 Kbps~16Mbps	
	Function	Password Protection, Heartbeat, Multiple User Access Control	

Illuminator Model	LED	Laser 3W	Laser 5W	Laser 10W
Illuminating distance	150m	300m-400m*	500m-800m*	1000m-1500m*
Zoom range	15°- 45° (dual angle LEDs)	1-50° Auto Zoom	1-50° Auto Zoom	1-65° Auto Zoom
Optical power	NA	3W	5W	10w
Wavelength	808nm			
Fill light effect	Excellent spot uniform, uniform beam intensity, speckle free			
Stability	up to 20000hrs (at 10 hours per night that is 2,000 days or 5.5 years)			

* Illuminating distances specified vary with zoom module pairing (each zoom module has different minimum illumination and Aperture specifications). Illuminating distances are at telephoto (narrow beam angle) zoom. Effective Illuminating distances is dependent on target reflectivity, ambient light conditions and atmospheric conditions.

Thermal Camera Model		384 x 388	640 x 480
Detector characteristic	Detector	Uncooled Microbolometer FPA (Amorphous Silicon)	Uncooled amorphous silicon FPA
	Array format/Pixel pitch	384 x 288/17µm	640x480 / 17µm
	Sensitivity	≤60mk @ f/1.0 300K	
	Image Frame Rate - International	8.3Hz	
	Image Frame Rate - USA	50Hz (PAL) / 60Hz (NSTC)	25Hz (PAL) / 30Hz (NTSC)
	Spectral range	8~14µm	
Imaging process	Shutter calibration	Single-point and dual-point	
	Booting time	< 8S	
	Noise reduction	Digital filter	
	Analog output Image resolution	720 x 576	
	Lens option	19mm,25mm,35mm, 50mm	25mm, 40mm, 50mm
Thermal imaging adjustment	Polarity	White hot /Black hot/Pseudo Color	
	Image Mode	High Dynamic Range (HDR): normal mode, sky -land mode	
	Image status	IDE, smoothing, super smoothing	
	Zoom	1~ 8x continuous zooming	
	Brightness	Auto or Manual	
Interface	Contrast	Auto or Manual	
	Serial port	RS-232/485/422 Support Pelco protocol	
	Analog video output	BNC (75Ω)	

Lens on 384 x 288	19mm	25mm	35mm	50mm
Field of View	19.5°×14.7°	14.9°×11.2°	10.6°×8°	7.2°×5.4°
IFoV (milliradians)	0.89 mrad	0.68mrad	0.48 mrad	0.33 mrad

Lens on 640 x 480	25mm	40mm	50mm
Field of View	24.5°×18.5°	15.5°×11.6°	11.9°×9.0°
IFoV (milliradians)	0.68 mrad	0.42 mrad	0.33 mrad

IFoV (Instantaneous field of view) is a calculation in determining how much a single detector pixel can see in terms of field of view (FOV).

NOTE: Detection, Recognition and Identification (DRI) ranges shown below are the same for 384*288 and 640*480 imagers, but as shown in the tables above, the Field of View (FOV) in the 640*480 is wider than with the 384*288 using an equal size lens.

Target	DRI	19mm	25mm	35mm	40mm	50mm
Human	Detection	550m	735m	1030m	1170m	1440m
	Recognition	130m	180m	252m	290m	360m
	Identification	65m	90m	126m	145m	180m
Vehicle	Detection	2570m	3380m	4730m	5400m	6740m
	Recognition	640m	845m	1180m	1350m	1685m
	Identification	320m	422m	590m	670m	840m

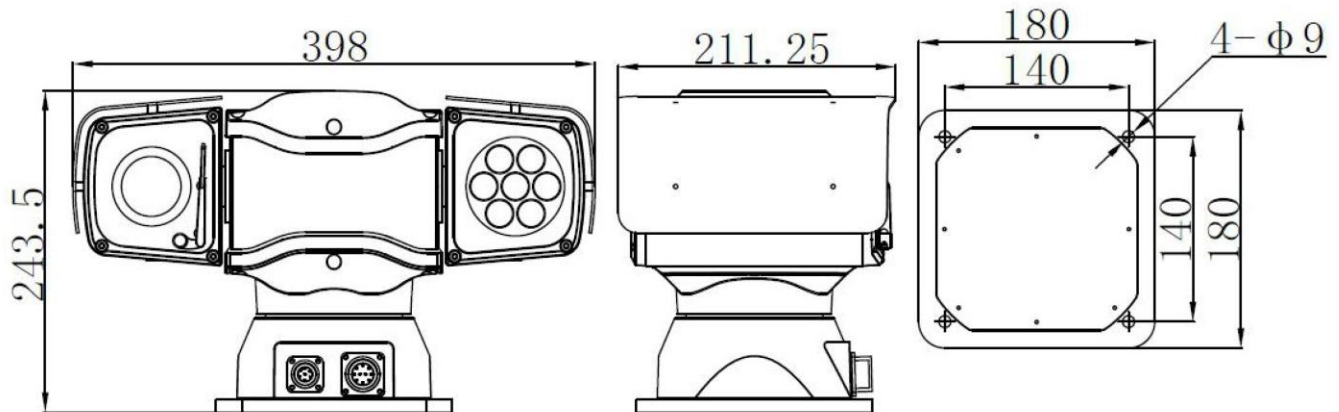
Package contents

Item	Description
Camera	Camera as per model ordered
Cable	6-foot, Alternate lengths by special order
Vehicle Mount	Vehicle shock mount

Options

Item	Description
Cable	Cables can be ordered by custom length
Input voltage	24VAC input

Dimensions



With LED IR

Thermal Camera and Vehicle shock mount

