

HDTV 720p30 Image Resolution

Motorized 18x Optical / 6x Digital Zoom

Sensitive Day/Night Technology

Auto/Manual Focus and Iris Control

Dual H.264 / MJPEG Video CODECs

Hybrid IP / Analog Operating Mode

Web Server Configuration/Operation

NTCIP 1205 over IP Communication

PoE+ Powered

On-Board Recording Capability

Faceplate Wiper Option

Programmable I/O Events and Recording



Cohu's 3930^{HD} series combines the advantages of HDTV image quality, efficient H.264 compression, flexible event management, on-board recording and advanced environment protection in our latest Helios HD camera system.

The 3930^{HD} uses 720p30 imaging with an integral 18x optical zoom delivering high definition video from wide to full-zoom settings. The camera uses true day/night technology using a removable IR cut filter producing exceptional low light sensitivity down to 0.002 fc.

Providing dual output stream capability, the 3930^{HD} can be configured for delivering two independently configured H.264 streams or an H.264 with MJPEG, or an H.264 stream with analog output. While delivering IP and analog outputs, the 3960^{HD} can integrate with analog based systems today while providing a smooth transition over to IP tomorrow.

The 3930^{HD} provides a full function web server, allowing complete administrative and operator control capabilities. Administrative features include configuring network settings, user password assignments, video streaming and event management properties and assigning camera ID labels.

The 3930^{HD} provides a flexible event management capability. Event triggers include external sensor inputs, video motion detection, and periodic timers. Event actions can be programmed to occur based on event triggers such as activate alarm output, record pre/post event video, capture/FTP image snapshots and send email notifications.

The 3930^{HD} is designed to operate in extreme weather with its sealed and pressurized IP67 protection, eliminating the effects of water intrusion, pollutants and corrosives, and withstands the effects elevated temperature and mechanical environments complying with NEMA TS-2 standards.

Cohu guarantees years of clean, reliable images and backs it with a world-class warranty.





3930^{HD} Series Specifications

CAMERA

Imaging Characteristics

Sensor Type: 1/3" CCD
Scanning Mode: Progressive
Total Pixels: 1.3M (1296 x 966)
Resolution/Frame Rate: HDTV 720p30 (1280 x 720) 30fps
Camera Format: Day/Night, via removable IR filter

Sensitivity (F1.6 @ 50% IRE)

Color Mode @ 1/30 Shutter: 0.18 fc (1.8 lux)
Mono Mode @ 1/4 Shutter: 0.002 fc (0.02 lux)

Lens Characteristics

Zoom: 4.7 to 84.6 mm, x18, f1.6 to f3.4
Angular FOV: 55.4 to 3.25 (Horizontal)
Focus/Iris Type: Auto/Manual Override
Digital Zoom: x6 (using web server interface)

Camera Features

Day/Night Mode: Auto, Color or Mono
Wide Dynamic Range: On/Off
Backlight Compensation: On/Off
Shutter/Integration: Auto/Manual [1/4 - 1/10000]
White Balance: Auto/Manual [Red/Blue Adjust.]
Gain Adjustment: 0-40 db

EVENT MANAGEMENT

Digital I/O

(2) Two sensor inputs
(2) Two control outputs

Triggers

External Alarm Input
User Command
Periodic Timer
Maintenance Alarm

Event Actions

Activate Control Output
Capture Video Clip (pre-post buffer)
Capture Image Snapshot
FTP Images
Send Email Notification
Post ID Message on Video
Goto Zoom/Focus Preset

VIDEO ENCODING

Video Streams

Video Compression Codecs: H.264 / MJPEG
Video Stream Configurations: *See Figure 1*
Video Stream Resolutions: *See Figure 2*
Video Stream Frame Rates: *See Figure 3*
Video Stream Data Rates: *See Figure 4a and 4b*
Camera Video Latency: 4 frames (133 msec)
(Does not include network routing or client rendering latency)
Analog Video: NTSC or PAL, using full 16:9 image compressed into 4:3

Video Connections

Eight (8) RTSP uni or multi-cast
Unlimited RTP/UDP multi-cast
Two (2) MJPEG (server pull mode)
Two (2) MJPEG (server push mode)

Authentication

Four (4) access levels <Admin, Privilege, User, Guest>
Users assigned user name, password, access level

Media Player Support

VLC, QuickTime
Any media player compliant with RFC 2326, RFC 3984

WEB SERVER CAPABILITIES

Configuration

Network, Video Stream, OSD, Presets, Security Settings and Upgrades

Control

Lens, Presets, Digital Zoom, Auxiliary and Recording

Browser Support

Recommend Internet Explorer 8.x or newer

COMMUNICATION INTERFACES

Network

Data Format: 802.3u (100BASE-TX)
Network Protocols: TCP, UDP, IP IGMP, DNS, DHCP, RTP, RTSP, NTP, HTTP, ARP
Camera Protocols over IP: Cohu, Cohu T, NTCIP 1205, ONVIF (Pending)

ON-SCREEN DISPLAY (OSD)

IP Video

Camera ID: 1 Line, 24 characters
Preset ID: "Preset #" ID Label (Future Programmable)

Analog Video

Camera ID: Not available
Preset ID: Not available

ELECTRICAL

Input Voltage: PoE in accordance with 802.3at
Power: <10 watts heater off, <30 watts w/ heater/wiper on
Power Injector: Optional, 90 to 230 Vac input to 802.3at output

MECHANICAL

Construction/Finish: Powder coated aluminum
Connectors: 18 pin MS
Size: *see dimensional figures*
Weight: 5.5 lbs (2.5 Kg), 9 lbs (4.1 kg) w/ wiper

ENVIRONMENTAL

International Protection Rating: IP67
Salt Spray: ASTM-B117
Operating Temperature: -29.2° to 165°F (-34° to 74°C) Compliant per Nema TS2, para 2.1.5.1, using Fig. 2.1 profile
Vibration: Compliant per Nema TS2 para 2.1.9
Shock: Compliant per Nema TS2 para 2.1.10

CERTIFICATIONS

FCC Class A, CE

SHIPPING INFORMATION

Dimensions: 20 x 12 x 12 (508 x 304 x 304)
Weight: 12 lbs (4.5 kg)

ACCESSORIES

Mounts

7411498-001 Mast Arm Mount
7411498-002 Pole Mount
7411499-001 Pedestal Mount
7411499-002 Wall Mount

Replacement Parts

Wiper Blade Assy: 8139078-001

Connector Kits

MS Conn: 1310230-011

Cables

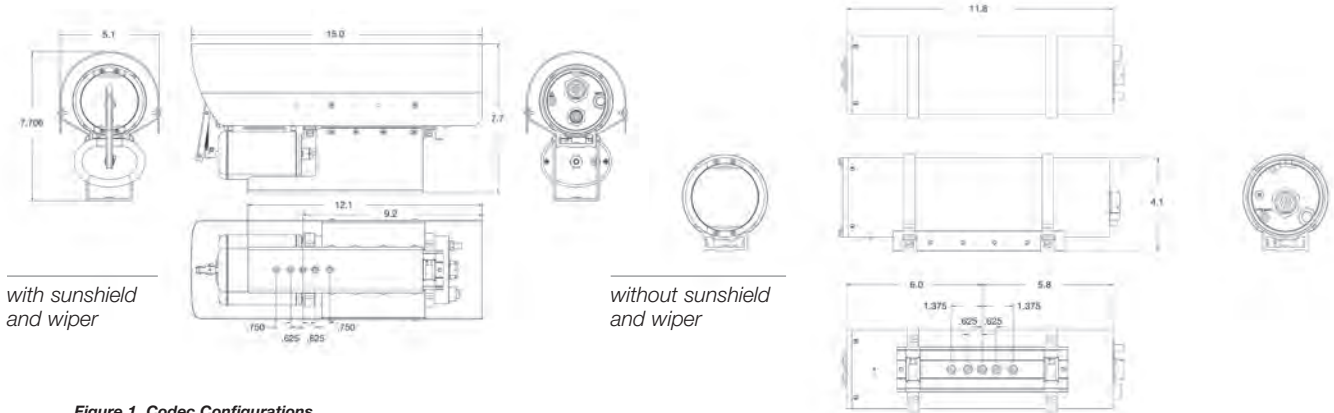
CA257 Series

3930^{HD} Helios

HDTV/H.264 camera system



DIMENSIONS in inches



with sunshield and wiper

without sunshield and wiper

Figure 1 Codec Configurations

Stream Codecs	Maximum Resolution	
	Stream 1	Stream 2
(S1) + (S2)		
H264 + H264	1280 x 720	720x480
H264 + MJPG	1280 x 720	720x480
H264 + Analog	1280 x 720	NTSC/PAL
MJPEG + Analog	1280 x 720	NTSC/PAL

Figure 2 Resolution Configurations

Stream 1	Stream 2	
H264 or MJPEG	H.264 or MPEG	Analog
1280 x 720	720 x 576	NTSC or PAL
	720 x 480	
	704 x 480	
	640 x 480	
	352 x 288	
	352 x 240	

Figure 3 Frame Rate Configurations

Stream 1	Stream 2	
H264 or MJPEG	H.264 or MPEG	Analog
30	30	30fps
15	15	
7	7	
3	3	
1	1	

Figure 4a Data Rate Configurations

Stream 1	Stream 2
8 Mb	2 Mb
6 Mb	1 Mb
4 Mb	512 Kb
2 Mb	256 Kb
1 Mb	
512 Kb	
256 Kb	

Figure 4b Data Rate Configurations

Quality	Typical JPEG File Size	
	Stream 1	Stream 2
100	700 Kb	240 Kb
80	160 Kb	50 Kb
65	110 Kb	40 Kb
50	75 Kb	30 Kb
35	63 Kb	24 Kb
15	35 Kb	18 Kb

ORDERING INFORMATION

3930^{HD} High Definition H.264 Fixed Camera System

HD1 **X** - **X** **X** **X** **X**

Power Options

- 1 - PoE+ 802.3at Input
- 5 - 89 - 230Vac Input (via PoE+ mid-span Injector)

Camera Head Options

- 1 - HDTV 18x Camera
- 2 - HDTV 18x Camera with Faceplate Wiper

Software Options

- 0 - NTCIP 1205 Camera Control

Recording Options

- 0 - None
- 1 - 8 GB SDHC Class 6
- 2 - 16 GB SDHC Class 6
- 3 - 32 GB SDHC Class 6

Accessory Options

- 0 - None
- 1 - Sunshield

3930^{HD} Helios

HDTV/H.264 camera system

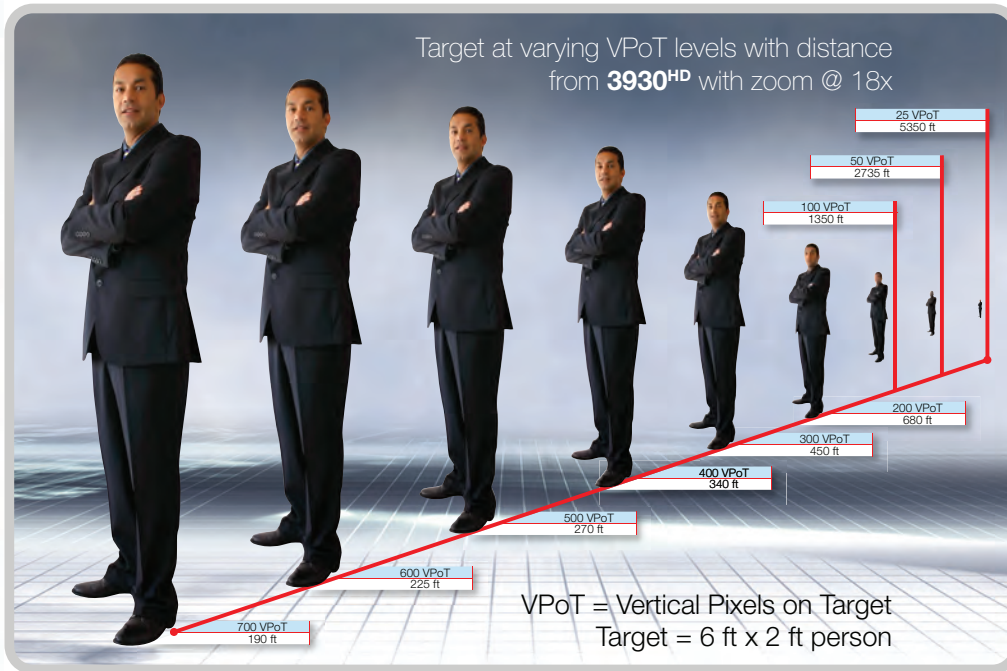


How far can I see?

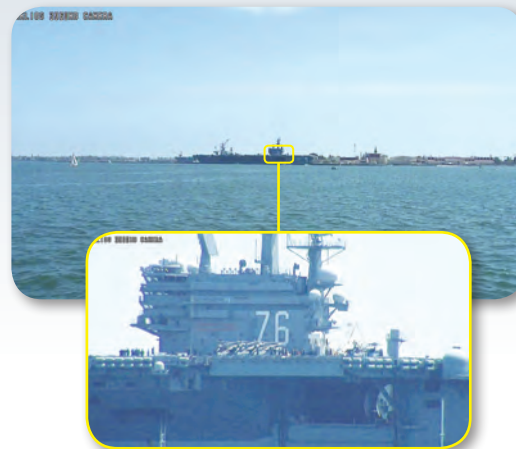
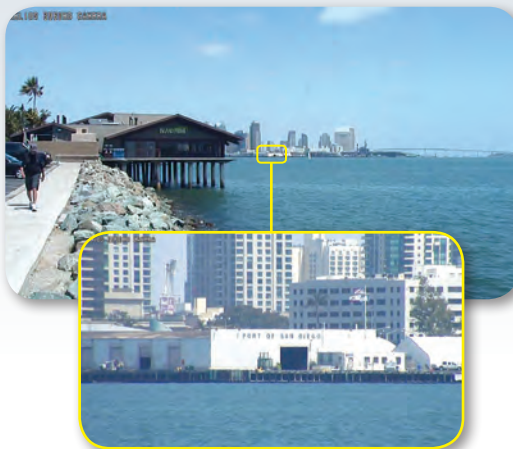
Debatably, the most frequently asked question in the video surveillance realm, with no simple answer. Many variables affect the answer to this question, such as object size, object/scene contrast

ratio, atmospheric conditions, daytime vs nighttime, your definition of "see" to mention just a few. The chart below is intended to provide an indication under ideal conditions the size a person would

appear on a monitor screen at varying distances based on the number of vertical pixels landing on the person. You be the judge as to how far you can see this person.



The images below are scenes of San Diego Bay showing the magnification power of the 3930^{HD}'s 18x optical zoom. The Port of San Diego building and the USS Ronald Reagan are approximately 4,500 ft (1370 m) away.



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