

8800 Series

Long Range Surveillance Cameras

High performance day/night DSP color camera

Boresight-ready monochrome camera

Configurable with nearly any current Cohu camera

High SNR for ultra clear images

Robust IP67 enclosure

RS232/422 control

Long range telephoto lens

Extreme low light capabilities

Unlimited options and configurations for meeting precise project specifications

Multi-manufacturer protocol control

Model 8880 shown with optional sunshield



- Port Security
- Range Safety
- Border Security
- Intruder Detection
- Shipboard Security
- Tracking/Targeting



Applications. The Cohu 8800 Series Camera is the ultimate high performance, long-range, surveillance solution. With its configurable camera, lens, and accessory options the 8800 excels at border, port, and shipboard security, range safety, intruder detection, and targeting or tracking applications.

The 8800 is perfect for security and targeting applications. At optimum configuration, it can precisely identify a human at 5.9km; recognize at 9.7km, and detect at 30km. For range safety and targeting applications those ranges are extended to identify at 17.5km, recognize at 29km, and detect at 30km.*

Key Features. With two standard configurations and nearly an unlimited amount of optional configurations, the 8800 Series is guaranteed to solve your unique security application. Configurations include a choice of camera type (day/night color or monochrome) and your choice of long-range telephoto lens while standard features include multi-protocol control, ID gen-

erator, serial interface, and sunshields on robust environmental enclosures. In fact, Cohu has consistently met NEMA TS-2 environmental specifications, IEC's IP67 electrical specifications, and the military's MIL-E-5400T specification for explosion and shock hazards.

Additional Options. In addition to the wide variety of standard choices and features, the 8800 Series camera has several valuable options to choose from. Optional paint scheme, reticule, boresighting, and arctic heaters all serve to enhance the effectiveness and reliability of the camera.

Cohu's Commitment to Quality. Because it is made by Cohu Electronics, you can be assured that the 8800 Series cameras are engineered for reliability and value. The camera is protected by our legendary IP67 camera enclosure that shields your investment from intrusion of water, pollutants, and corrosives that degrade the camera. This technology insures years of clean, reliable images backed by a world-class warranty.

8800 Series

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8800 Series Specifications

MODEL 8860 PRECISION BORESIGHT-READY CAMERA

ELECTRICAL

Sensor

1/2" interline transfer, microlens sensor

Active Picture Elements

RS-170: 768(H) x 494 (V)

CCIR: 752 (H) x 582 (V)

Pixel Cell Size

RS-170 1/2": 8.4mm (H) x 9.8mm (V)

CCIR 1/2": 8.6mm (H) x 8.3mm (V)

Total Pixel Elements

RS-170: 811(H) x 508 (V)

CCIR: 795 (H) x 596 (V)

Resolution

RS-170: 580(H) x 350 (V) TVL

CCIR: 560 (H) x 540 (V) TVL

Synchronization

H&V, Crystal RS-170, Async

Shutter

1/60 to 1/10,000

AGC

20dB range, auto or manual

Signal-to-Noise

>55dB (Gain 0, Gamma 1)

38dB (Gain 20dB, Gamma 1)

Sensitivity - 1/2"

Full Video, No AGC: .04 fc, .43 lux

80% Video, AGC on: .003 fc, .032 lux

30% Video, AGC on: .001 fc, .010 lux

Power Consumption

12VDC, 3.6W (heater N/A)

24VAC, 3.6W/103.6W (heater off/on)

115VAC, 230VAC, 4.2W/104.2W (heater off/on)

MECHANICAL

Dimensions

6" (dia.) x 16" (length)

Weight

Configuration Dependent

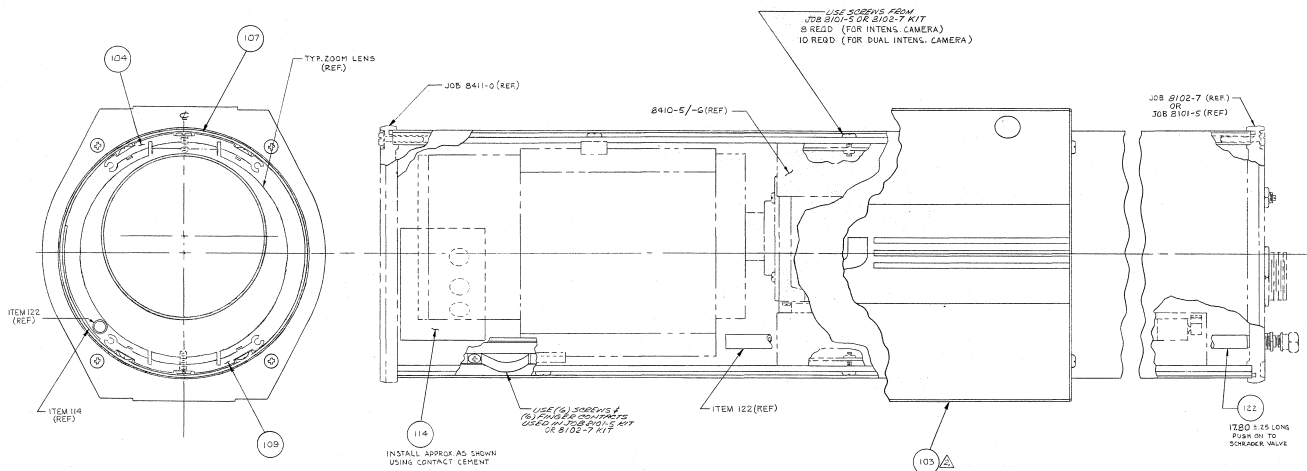
ENVIRONMENTAL

see Environmental Specifications on back page



The 8860 Precision Bore-Sight-Ready Camera features:

- Boresighting
- Long Range Telephoto Lens
- Serial Control
- Extreme Low Light Capability
- Marine Paint and SS Hardware standard
- ID Generator
- Sunshield included
- Monochrome Camera with IR filter
- High SNR



MODEL 8880
LONG RANGE DAY/NIGHT CAMERA

ELECTRICAL

Sensor

1/2" interline transfer CCD

Active Picture Elements

768(H) x 494 (V)

Resolution

540 TVL at color high mode
 480 TVL at color normal mode
 570 TVL at B/W mode

Synchronization

Internal, Multiplexed Vertical Drive, Line-lock,
 External

Shutter

Off, 1/60 to 1/10,000

AGC

On (adjustable), off

Signal-to-Noise

50dB (AGC Off, Weight On)

Sensitivity - Color (30IRE)

0.09 lux (SENS UP; OFF)
 0.003 lux (SENS UP: 32x) at F1.4

Sensitivity - B/W (10IRE)

0.008 lux (SENS UP; OFF)
 0.0003 lux (SENS UP: 32x) at F1.4

Power Consumption

12VDC, 350mA (heater N/A)
 24VAC, 4.0W/ 104W (heater off/on)
 120VAC, 4.6W/ 104.6W (heater off/on)

MECHANICAL

Dimensions

8" (dia.) x 21" (length)

Weight

Configuration Dependent

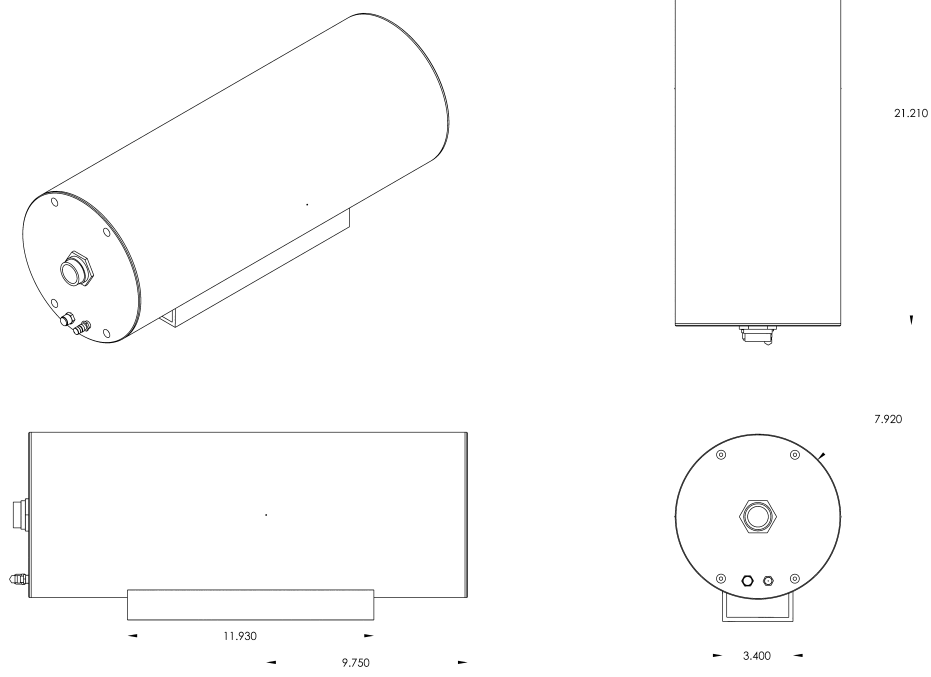
ENVIRONMENTAL

see *Environmental Specifications on back page*



The 8880 Long Range Day/Night Camera features:

- Boresighting
- Long Range Telephoto Lens
- Serial Control
- Color Day/Night Camera
- Marine Paint and SS Hardware standard
- ID Generator
- Sunshield included
- Electronic Image Stabilization
- High SNR



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Cohu Long Range Cameras*							
OBJECT OF INTEREST		HUMAN (1m x 1m target)			VEHICLE (3m x 3m target)		
Lens	Focal Length	Detect	Recognize	Identify	Detect	Recognize	Identify
P22A	17 - 374 mm	7km	2.4km	1.4km	22km	7km	4.4km
P22B	23 - 506 mm	10km	3.2km	1.9km	30km	9.5km	5.8km
P50A @ 1x	12.5 - 750 mm	15km	4.8km	2.9km	30km	14.5km	8.8km
P50A @ 2x	25 - 1500 mm	30km	9.7km	5.9km	30km	29km	17.5km

The figures shown are based upon measurements used by the U.S. Army. Detection is defined as an object resolution of 4 htvl minimum.

Recognition is defined as an object resolution of 16 htvl minimum. Identify is defined as an object resolution of 26 htvl minimum.

* These figures reduced by camera height and environmental variables.

ENVIRONMENTAL SPECIFICATIONS

(common to all Cohu enclosures)

Protection Rating

IP67/NEMA 4X/NEMA TS2/ASTM-B117

Operating Temperature Limits

-40 to +140°F (-40 to +60°C)

Arctic Heater available for colder environments

Humidity

Up to 100% relative humidity

Vibration (less lens)

.001 g2/Hz from 1Hz to 10Hz

.075 g2/Hz from 10Hz to 2000Hz

1 hour in any axis per MIL-STD-810E, 516.3

Shock (less lens)

10g, 11ms, any axis under non-operating conditions per MIL-STD-810E, 514.3, categories 1,4,5,6,8,9,10

EMI

FCC rules, Part 15, Subpart J for Class A devices

ORDERING INFORMATION

88XX - XXXX / XXXX

Enclosure

1 - 6"

2 - 8"

Power

3 - 230V AC, 50HZ (CCIR Model)

4 - 24V AC OR DC

5 - 115V AC, 60HZ (RS-170 Model)

Camera*

1 - 1/2" Monochrome RS-170

2 - 1/2" Monochrome RS-170 w/ reticule

3 - 1/2" Color Day/Night NTSC

4 - 1/2" Monochrome CCIR

5 - 1/2" Monochrome CCIR w/ reticule

6 - 1/2" Color Day/Night PAL

Paint

0 - Standard Cohu white

1 - Marine Grade white

2 - Desert Tan

3 - Camouflage

Heater Option

0 - Standard Heater: -40 to 140°F (-40 to 60°C)

1 - Arctic Heater

Unassigned

0 - Unassigned

Motorized Zoom Lens

P22A - 17-374mm f2.3

P22B - 23-506mm f3.1

P50A - 12.5-750mm f3.8

* Configurable with the Cohu 2700, 3600 or nearly any current Cohu camera.

Cohu reserves the right to change specifications without notice. Trademark names are used for reference only.

COHU
Cohu, Inc. / Electronics Division