

# 2900 SERIES MACHINE VISION MONOCHROME CAMERAS

## WARRANTY

Please refer to the COHU website for product warranty information:

[www.cohu-cameras.com](http://www.cohu-cameras.com)

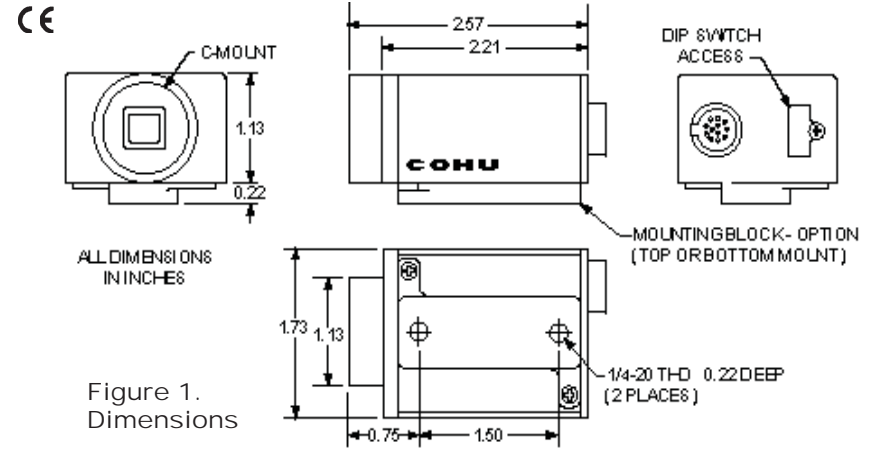
CE: CISPR-22, class B; EN55022, class B; EN50082-1

## FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class A Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



NO-ADJUST C-MOUNT  
17.5 MM BACK SPACE



MANUAL NO. 6X-1016A

This camera is intended primarily for operation in the asynchronous reset mode while using a strobe light to illuminate the scene. A 614  $\mu$ s strobe window is available — with an output pulse of this window appearing on the rear panel connector. This video must be captured with a frame grabber. Either field or frame mode can be selected with a rear panel switch. The camera will also produce an image from ambient light while in the asynch reset mode.

A rear panel INHIBIT input provides for integration periods longer than the standard RS-170 rate when operating in the conventional RS-170 sync mode.

Three other rear panel switches offer selection of 3, 6, or 9 dB gain increase.

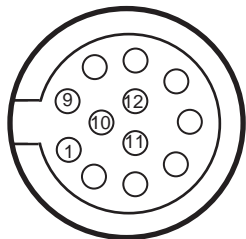
| Revision History |            |  |
|------------------|------------|--|
| Revision         | Date       | Comments   |
| Rev A            | 05/06/2011 | <ul style="list-style-type: none"> <li>this manual has been revised to comply with the latest engineering requirements. See ECO 030972 for the list of changes.</li> </ul> |

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**COHU**  
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Table 1  
Rear Panel  
Connector

| PIN | FUNCTION                       |
|-----|--------------------------------|
| 1   | Power Return                   |
| 2   | +12 V dc                       |
| 3   | Video Ground                   |
| 4   | Video Output                   |
| 5   | Sync Ground                    |
| 6   | External H. Drive Input        |
| 7   | Asynchronous/<br>Clear/ VDrive |
| 8   | Sync Ground                    |
| 9   | WIN Output                     |
| 10  | Sync Ground                    |
| 11  | $\overline{\text{INHIBIT}}$    |
| 12  | Sync Ground                    |



REAR PANEL VIEW  
(ALSO WIRING VIEW  
OF MATING PLUG)

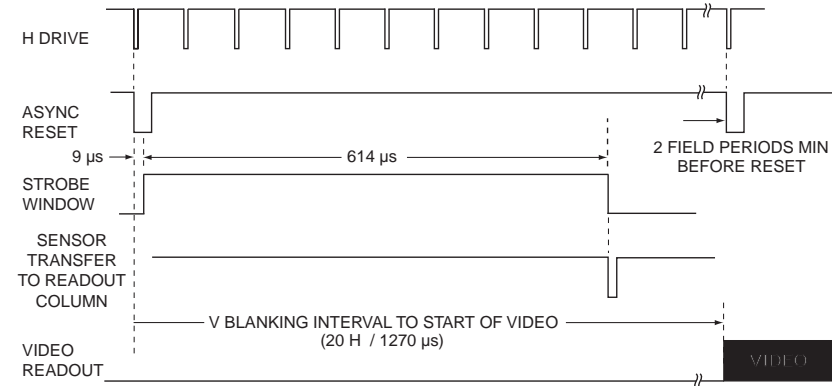
MATING PLUG FOR CABLE  
Cohu part no. 1310398-212  
Hirose part no. HR10A-10P-12S  
(solder-type connections)

Table 2. Async Mode Video Output Levels

| MODE  | ILLUMINATION | ODD FIELD | EVEN FIELD  |
|-------|--------------|-----------|-------------|
| FIELD | AMBIENT      | REDUCED   | FULL        |
|       | STROBE       | FULL      | BLACK LEVEL |
| FRAME | AMBIENT      | REDUCED   | FULL        |
|       | STROBE       | FULL      | FULL        |

*Notes: Reduced video level will be about 29 dB below the full level.  
Primary operating modes shown in gray.*

Table 2 shows the relative output levels that are to be expected when asynchronously resetting the camera.

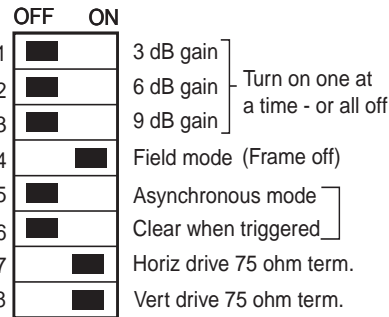


NOTES:  
ASYNC RESET must be coincident with the H DRIVE input signal.  
At least two field periods must occur between ASYNC RESET pulses.  
See table 2 for odd and even field levels for ambient and strobe light sources.

Figure 3. Asynchronous Reset Timing Diagram

### CLEAR WHEN TRIGGERED INPUT

When switch 6 is set to ON, an asynchronous reset input immediately clears all signals in the sensor so that any image captured after that is a result only of the new input.



Default / as-shipped positions

Figure 2. Rear Panel DIP Switches

When switch 5 is OFF (Asynch mode Off) the camera output can be viewed on any standard RS-170 monitor.

When switch 5 is set to ON (asynch mode On) an output appears only in response to an asynch input pulse at pin 7 on the rear panel. A frame grabber is required to capture this output.

### INTEGRATION

When the  $\overline{\text{INHIBIT}}$  input is pulled low the camera sensor continues to integrate the current interval. It stops integrating at the first vertical drive pulse occurring after  $\overline{\text{INHIBIT}}$  is taken high again. Video output then begins after the end of vertical blanking.