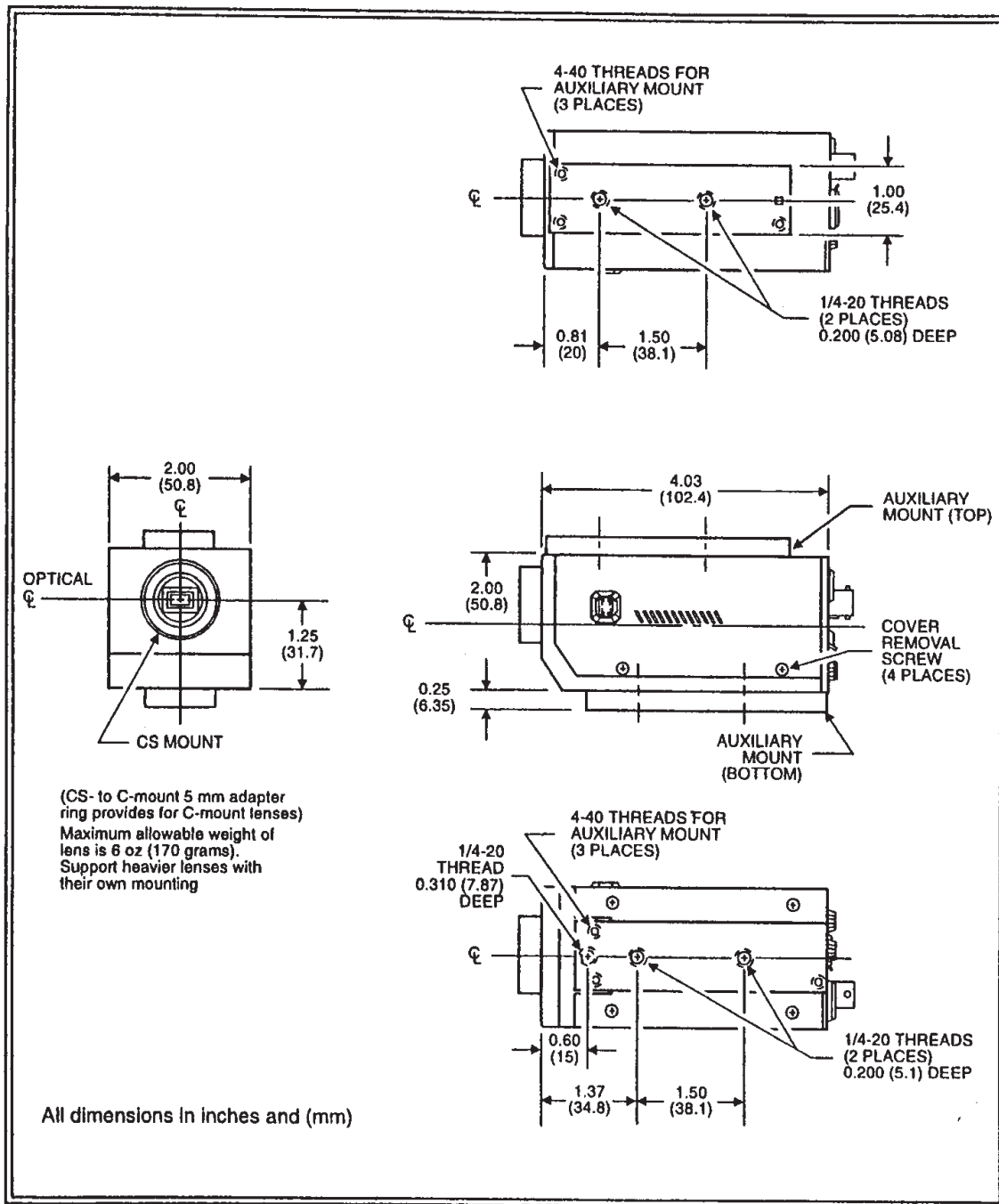


# COHU, INC. Electronics Division

## Installation and Operation Instructions

### 1300 SERIES NTSC AND PAL COLOR CAMERAS



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 Cohu, Inc. Electronics Division

**Required FCC Statements**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**COMPLIES WITH FEDERAL COMMUNICATIONS COMMISSION  
RULES AND REGULATIONS  
PART 15 FOR CLASS B DIGITAL DEVICE**

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

UL listed to Standard 1409, Video Equipment, UL File Number E117248(S)

Complies with VDE, 0871, Class B Requirements

Complies with CE CISPR-22, Class B; EN 55022, Class B; EN 50081-1; EN 50082-1

**CAUTION**

Cameras not in service or cameras being stored should always have their lens iris closed (or the lens opening to the sensor capped) to prevent strong light from bleaching the color dyes in the sensor.

**CAUTION**

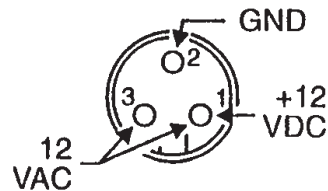
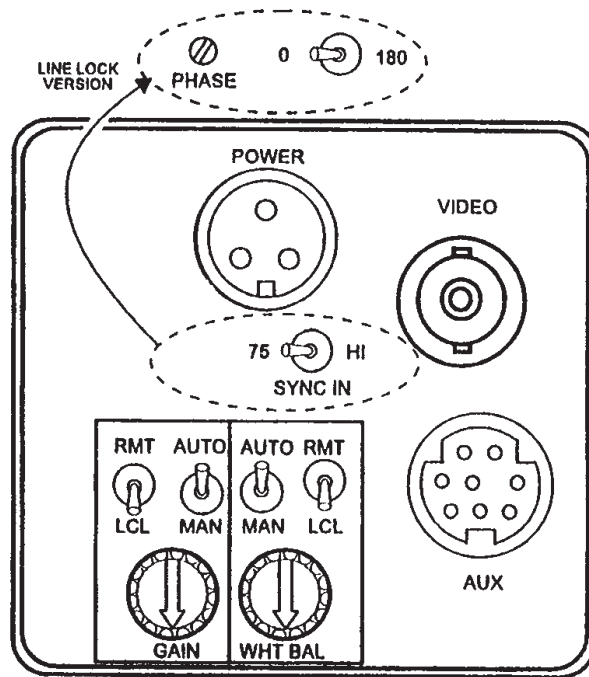
Be sure to maintain the correct pin to pin connections when plugging in the flexible jumper cables between the sensor board and the main board. Failure to do so will damage the camera. Also, replace the cable in the same orientation as it was when it was removed.

13 CAMERA	X SENSOR	X — X POWER	X SYNC	X / IRIS	XXXX LENSES
	2 - 1/2 in. NTSC 5 - 1/2 in. PAL	2 - 12 Vdc 7 - 12 Vac	1 - Crystal, NTSC 2 - Genlock, NTSC 3 - Var phase line lock, NTSC 5 - Crystal, PAL 6 - Genlock, PAL 7 - Var phase line lock, PAL	0 - Auto Iris Drive 3 - Electronic Iris, NTSC 4 - Dc iris 5 - Electronic Iris, PAL	Manual Iris, CS/C mount or Auto Iris, CS/C mount or DC Iris, CS/C mount

INTERFACE CONNECTORS

NAME	CAMERA PANEL CONNECTORS		MATING CONNECTOR FOR CABLE	
	COHU P/N	MFG/DIST P/N	COHU P/N	MFG/DIST P/N
VIDEO	1310416-001	BNC jack	See note	BNC plug
AUX	1310417-008	Kycon KMDV-8S-N	1310373-108	TRW/Cinch MD-8P
LENS	1310418-004	Chuomusen D4-151N-100	1310419-004	Chuomusen E4-191J-100
POWER	1310356-003	Switchcraft TB3M	1310356-103	Switchcraft TA3F

*Note: All Cohu BNC plugs require special crimping tools. Use a locally available standard commercial plug*



MATING VIEW OF PINS LOOKING AT REAR PANEL OF CAMERA. (SAME AS THE WIRING VIEW OF PLUG ON POWER SUPPLY CABLE)

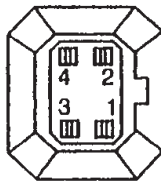
**EQUIPMENT REQUIRED BUT NOT SUPPLIED**

The following items are the minimum required to make use of the camera. Item 1, the lens, is typically ordered as part of the camera model number. The TV monitor must be of the proper type to match the camera sync.

1. Lens
2. Power supply, 12 V dc, 500 mA (type 8368-4)
3. TV monitor (NTSC or PAL, as required)

**AUTO IRIS LENS**

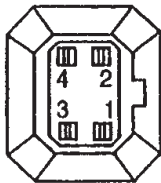
MATING VIEW OF PINS  
LOOKING AT SIDE OF  
CAMERA



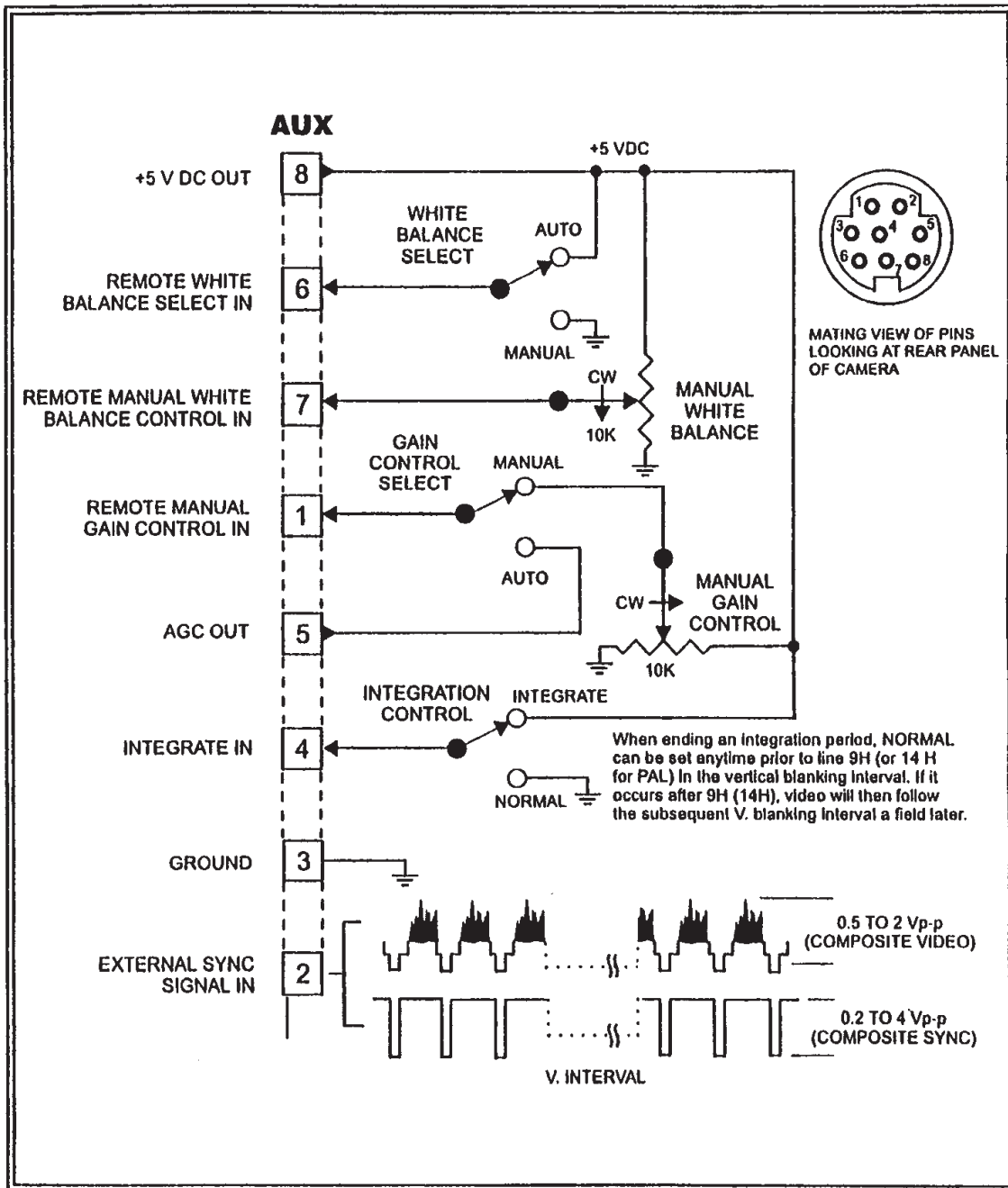
- |   |            |
|---|------------|
| 1 | LENS POWER |
| 2 | LENS VIDEO |
| 3 | GROUND     |
| 4 | IRIS DRIVE |

**DC IRIS LENS**

MATING VIEW OF PINS  
LOOKING AT SIDE OF  
CAMERA

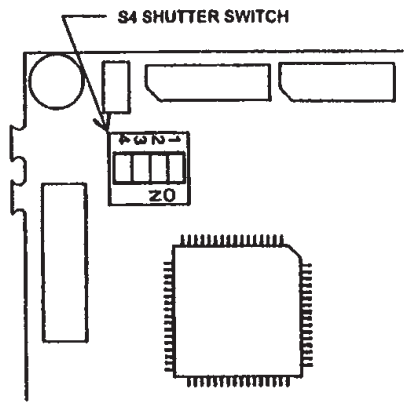


- |   |             |
|---|-------------|
| 1 | DAMPER LOW  |
| 2 | DAMPER HIGH |
| 3 | DRIVE       |
| 4 | GROUND      |



Pin Functions, Auxiliary Connector

CONTROL NAME	CONTROL FUNCTION
<b>GAIN</b> control group	Provides methods of gain control for the camera.
<b>RMT/LCL</b> switch (remote/local)	<b>RMT</b> activates the <b>AUX</b> (auxiliary) connector functions for external (remote) gain control, typically an auto/manual switch to select either agc or a remote (external) manual gain control potentiometer. <b>LCL</b> activates the related rear panel <b>AUTO/MAN</b> gain select switch (see below).
<b>AUTO/MAN</b> switch (auto/manual)	<b>AUTO</b> selects internal agc (automatic gain control). <b>MAN</b> selects the rear panel mounted <b>GAIN</b> control to set camera gain (see below).
<b>GAIN</b> control (20 dB)	<b>GAIN</b> controls the video gain of the camera when the <b>LCL</b> and <b>MAN</b> modes have been selected.
<b>WHT BAL</b> Control Group	Provides methods of controlling color response of the camera.
<b>RMT/LCL</b> switch (remote/local)	<b>RMT</b> activates the <b>AUX</b> (auxiliary) connector functions for the external white balance control, typically an auto/manual select switch and a potentiometer. <b>LCL</b> selects the rear panel <b>AUTO/MANUAL</b> switch (see below).
<b>AUTO/MAN</b> switch (auto/manual)	<b>AUTO</b> selects internal camera circuits for automatic control of white balance (color response). <b>MAN</b> activates the related rear panel mounted <b>WHT BAL</b> control (see below).
<b>WHT BAL</b> control (white balance)	<b>WHT BAL</b> (white balance) controls color response of the camera when the related <b>LCL</b> and <b>MAN</b> modes have been selected.
<b>SYNC IN</b> switch (GL option)	Selects either 75 ohms or High impedance for the <b>AUX</b> connector genlock input.
<b>PHASE</b> Controls (Line Lock Option)	<b>0/180</b> switch sets relative phase of line lock reference to either 0° or 180° <b>PHASE</b> control gives 180° continuous range so a full 360° range is available.
<b>COMP/NON-COMP</b> jumper	When installed, sync is added to the lens video signal (composite). When removed, the lens video signal is non-composite



SPEED	SWITCH			
	4	3	2	1
Note 1				
Note 2	●			
1/125		●		
1/250			●	
1/500		●	●	
1/1,000				●
1/2,000		●		●
1/4,000			●	●
1/10,000		●	●	●

● = ON  
 Note 1. Shutter off. NTSC 1/60; PAL 1/50  
 Note 2. Flickerless: NTSC 1/100; PAL 1/120

**WARRANTY:** Cohu, Inc., Electronics Division, warrants equipment manufactured to be free from defects of material and workmanship. Any part or parts will be repaired or replaced when proven by Cohu examination to have been defective within two years from date of shipment to the original purchaser for standard CCD cameras and one year from date of shipment to the original purchaser for intensified CCD cameras and all other Cohu manufactured products.

All warranty repairs will be performed at the factory or as otherwise authorized by Cohu in writing. Transportation charges to Cohu shall be prepaid by purchaser.

This warranty does not extend to Cohu equipment subjected to misuse, accident, neglect, or improper application, nor repaired or altered by other than Cohu or those authorized by Cohu in writing. **Television image pickup tubes, image intensifiers, lenses, and products manufactured by companies other than Cohu are warranted by the original manufacturer.** This warranty is in lieu of all other warranties expressed or implied. Cohu shall not be liable for collateral or consequential damages.

A Return Authorization (RA) number must be obtained from Cohu prior to returning any item for warranty repairs or replacement.

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Cohu, Inc. Electronics Division

September 14, 1995  
Revision 1 Sept. 21, 1996  
Revision 2 Sept. 21, 1997