

CSI-100 VIDEO MODEM PIN CONNECTIONS

1. VIDEO INPUT (Hot).
2. VIDEO INPUT shield (ground).
3. PICTURE HOLD SWITCH. When jumpered to ground, a new image can NOT override present image in memory. Schematic #1 shows internal wiring.
4. For future use. Schematic #1 shows internal wiring.
5. +V (11vdc to 16vdc @ 400ma.) USE 1A EXTERNAL FUSE.
6. GROUND.
7. VALID RECEIVE LED. Open collector pulled to ground while VALID signal is being received. Schematic #2 shows internal wiring.
8. SPARE (internally jumpered to ground at L3).
9. RESOLUTION SELECTOR SWITCH. For 320 lines (best resolution) leave open. For 240 lines (reduced resolution) wire to ground. Schematic #1 shows internal wiring.
10. COLOR or B&W SELECTOR SWITCH. For color leave open. For Black and White wire to ground. Schematic #1 shows internal wiring.
11. AUTO TRIGGER #1 SWITCH. With power not applied to unit its standby current drain is zero. Schematic #1 shows internal wiring. When this pin is wired to ground, the following sequence automatically occurs:
 1. When power is applied by an external relay, the modem waits 10 seconds (for an external vidicon to warm up).
 2. It captures the image present on the VIDEO INPUT (pin 1) cable.
 3. It stores the image.
 4. It pulls P.T.T. (pin 19) to ground.
 5. Audio is sent to the transmitter on pin 18 with a 1 second (adjustable with VR-3) delay to allow the transmitter and any repeaters in the system to be keyed up before the tone is present.
 6. The modem returns to the receive mode.
12. TRANSMIT SWITCH. Momentarily pull to ground to send captured image. Schematic #1 shows internal wiring.
13. RECEIVE SWITCH. Momentarily pull to ground to force modem into the receive mode. Schematic #1 shows internal wiring.
14. CAPTURE SWITCH. The first momentary pull to ground allows a live picture to be fed through from VIDEO INPUT (pin 1) to VIDEO OUTPUT (pin 24). The CAPTURE LED (pin 17) is pulsed on and off to ground. The second momentary pull to ground digitizes the image and stores it in memory ready for transmitting. The CAPTURE LED (pin 17) is pulled to ground constantly while the image is digitized and stored and goes off when the image is ready to be sent. Schematic #1 shows internal wiring.

15. TRANSMIT LED. Open collector pulled to ground while audio tones are being transmitted. Schematic #2 shows internal wiring.
16. RECEIVE LED. Open collector pulled to ground anytime modem is in the receive mode ready to receive. While a valid signal is being received, this pin is pulsed on and off to ground. Schematic #2 shows internal wiring.
17. CAPTURE LED. Open collector pulled to ground as described in CAPTURE SWITCH (pin 14). Schematic #2 shows internal wiring.
18. TONE OUTPUT to transmitter. Audio output to modulate transmitter is a .6vpp low impedance signwave that varies in an analogue manner from 1200Hz to 2400Hz. This level is adjustable inside the modem by turning pot VR-1. Use the supplied alignment tool and note that there are no stops on VR-1 and maximum tone output is achieved when the pot is turned CCW (backwards). If the transmitter audio input (mike high in most cases) is high impedance, add a 100k resistor in series with the tone output from pin 18. Use shielded cable from pin 18 to the 100k resistor which has been connected to mike high. Make sure that the microphone is ALWAYS disconnected from the audio circuitry when the modem is sending tones otherwise the background mike audio will cover them up. Pot VR-3 sets the delay time between the application of P.T.T. and tone output from pin 18 as described above on pin 11.
19. P.T.T. This pin is an open collector pulled to ground when the modem has been commanded to send a stored image. It is normally connected to the P.T.T. line on the mike connector. Schematic #2 shows internal wiring. The LED shown in schematic #2 is not used.
20. TONE INPUT from receiver. This is normally connected to speaker high or to the high side of the volume control (after discriminator or audio preamp) at a point where inadvertently lowering the volume control will have no control over the tone level to the decoder. The input impedance is 22k and only 5mv of audio is required for decoding.
21. SPARE (internally jumpered to ground at L2).
22. AUTO TRIGGER #2 SWITCH. Power is applied at all times to modem. When this pin is momentarily grounded, the video at pin 1 is automatically captured, digitized, and stored in memory. The P.T.T. (pin 19) is pulled to ground and transmit audio is sent to pin 18 with a 1 second delay (set by VR-3). After the image has been sent, the modem returns to the receive mode. Schematic #1 shows internal wiring.
23. RECEIVE COMPLETE END TRIGGER. This pin is a collector with 22k resistor to the internal 5v supply that is pulled to ground AFTER a valid video image has been received. VR-4 sets the duration of the ground from 3sec. to 10sec. A VCR may be triggered by this output to record a few seconds (factory set for 5sec.) of the completed image for archiving. CW pot rotation increases the time. There are no stops on the pot. Schematic #3 shows internal wiring.
24. VIDEO OUTPUT (hot) to monitor.
25. VIDEO OUTPUT shield (ground).

NOTES

1. A 75ohm resistor should be connected between pins 24 and 25 if no monitor is to be used.

2. Internal Pot Adjustments:

Please note that there are no stops on the 4 pots.
Use the supplied tuning tool to adjust pots.

VR-1 TRANSMIT LEVEL ADJUSTMENT

Located at rear of modem centered on DB-25 socket. Sets tone output level to transmitter. Tone level lowers as pot is advanced CW (backwards from normal).

VR-2 VIDEO HALF KILLER

Located 2.7" in from front panel and 1.3" from side of modem. DO NOT ADJUST THIS POT. If accidentally turned, return to 1/2 rotation (band on end of adjustment slot matched with band across pot body).

VR-3 TRANSMIT TONE WAIT TIME ADJUST

Located in center of modem .7" in from rear panel under video out coax. Sets the time from 1sec. to 1.6sec. that the transmit audio tone is delayed after P.T.T. is keyed. CW rotation increases the delay time.

VR-4 RECEIVE COMPLETE END TRIGGER TIMING

Located diagonally .6" from VR-3. Sets the receive complete trigger time to start a VCR after the complete image has been received. The hold time can be adjusted from 3sec. to 10sec.. CW rotation increases the time pin 23 is pulled to ground.

3. Factory Default Jumper Placement:

1. Jumper plug from pin 31 to pin 33 of OPTM1 a double row 34 pin male header.
2. Jumper plug from center pin of COMBAUD single row 3 pin male header to pin closest to outside edge of modem (this jumper is only needed when the DB9 port is used).
3. Jumper plug off of COMLEVEL single row 2 pin male header (this jumper is only needed when the DB9 port is used).
4. No jumper plugs on OPTM2 double row 16 pin male header.

4. Parts kit supplied with each unit:

1. DB-25 male connector with hood.
2. Fuseholder with 1A fuse.
3. 10' shielded video cable with male plug and female jack (cut in 1/2).
4. 10' shielded audio cable with 2 male 3.5mm plugs (cut in 1/2 to use).
5. 12vdc wall power supply (25-1012) WHITE STRIPE IS POSITIVE.
6. 75 ohm 1/8w resistor to jumper pin 24 to pin 25 if video output pins are not used.
7. Tuning tool.