

CI-103 Computer Interface Manual

1805

MODEL CI-103
CW/RTTY/ASCII COMPUTER INTERFACE

**OPERATOR'S
MANUAL**

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MODEL CI-103
CW/RTTY/ASCII COMPUTER INTERFACE

I - DESCRIPTION

Model CI-103 connects between your computer and your transceiver. It receives and prints CW or RTTY/ASCII signals on the computer screen. It sends CW and RTTY/ASCII directly from the computer keyboard and displays the transmissions on the computer screen. Software is required. The CI-103 works with Kantronics Hamsoft or Hamtext software which is available for Atari, Apple, TI-99, VIC-20, TRS-80C and COM-64.

II - INSTALLATION

Receiving CW/RTTY/ASCII.

1. Install the software according to the instructions that come with it.
2. A cable is supplied with the software. Plug it into the "Computer" socket on the rear of the CI-103. Plug the other end into the computer as described in the software manual.
3. Plug the AC adapter into the "+15-v" socket on the rear of the CI-103 or connect a 15-v DC supply to the socket. The center pin is +. The current drain is 100-ma.
4. Connect a shielded cable from the receiver speaker or headphone jack to the "Audio In" socket. Mating plugs for the CI-103 are supplied. If you take the audio signal from your receiver 'phone jack you may want to connect a speaker to this plug so you can hear the signals.

The interface is now set for receiving CW/RTTY/ASCII and you can check this part out using the software operating instructions and part III of this manual.

RTTY/ASCII Transmit.

1. Connect a shielded cable from the push-to-talk socket on your transceiver to the "PTT" socket on the CI-103.
2. Connect a shielded cable from your transceiver's microphone input to the "AFSK" socket on the CI-103.
3. Follow the software directions to put the system in RTTY or ASCII transmit mode. Set the transmitter for SSB lower sideband and turn the VOX off. Adjust the microphone gain for normal transceiver power output. Do not overdrive the transmitter. Caution: Check your transmitter manual to see if it can run full power continuously. If not, or if in doubt, set the transmitter for about $\frac{1}{4}$ of full output.

The interface is now set to transmit RTTY or ASCII.

CW Transmit.

1. Connect a shielded cable from your transmitter key jack to either the "KEY +" or the "KEY -" socket on the CI-103 depending on the keying voltage polarity of the transmitter. Cathode keying is +; grid block keying is -.
2. Follow the software directions to put the system in CW transmit mode.

Cables.

All cables into and out of the CI-103 should be shielded. This prevents leakage of the timing signals within the interface that could cause interference to radio reception.

III - OPERATING

RTTY/ASCII Receive.

1. Set the panel knob to 170 Hz shift for most amateur band reception. Commercial stations often use 425 or 850 Hz shift. If you know the station's shift set the control accordingly. If you don't know the shift see the following paragraphs on tuning.

2. Careful tuning of the signal is important to proper reception. The filters in the CI-103 are flat-topped but have very steep skirts so if the tuning is off the print will be no good. Note that when the signal is outside the filter passband you will see flickering of the light bar due to noise or other signals.

3. Start with the signal low pitched and tune higher in pitch until the light bar starts to flicker in time with the RTTY signal. Then tune slowly higher in pitch until the flicker stops and the light bar is steady. This is the correct tuning. If you tune a little higher in pitch the bar will start to flicker again. Now you are too high in pitch. With a little practice tuning is easy.

4. After you have become familiar with the tuning and you find a station where the light bar will not stop flickering, most likely it is a different shift. Try 425 or 850 switch position. When you find the right switch setting tuning will be normal.

5. The rear panel "Mark" and "Space" terminals can be connected to the vertical and horizontal inputs of an X-Y oscilloscope to give a tuning ellipse presentation. This is an excellent tuning indicator.

CW Receive.

Set the panel switch to CW. Tune for a pitch of 800 Hz. The light bar will flicker in time with the CW signal. Tune for maximum light bar length.

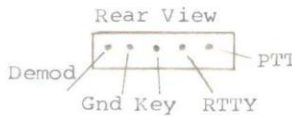
Transmit.

CW, RTTY and ASCII transmissions are made from the keyboard under software control. Follow the software instructions.

IV- TECHNICAL SPECIFICATIONS

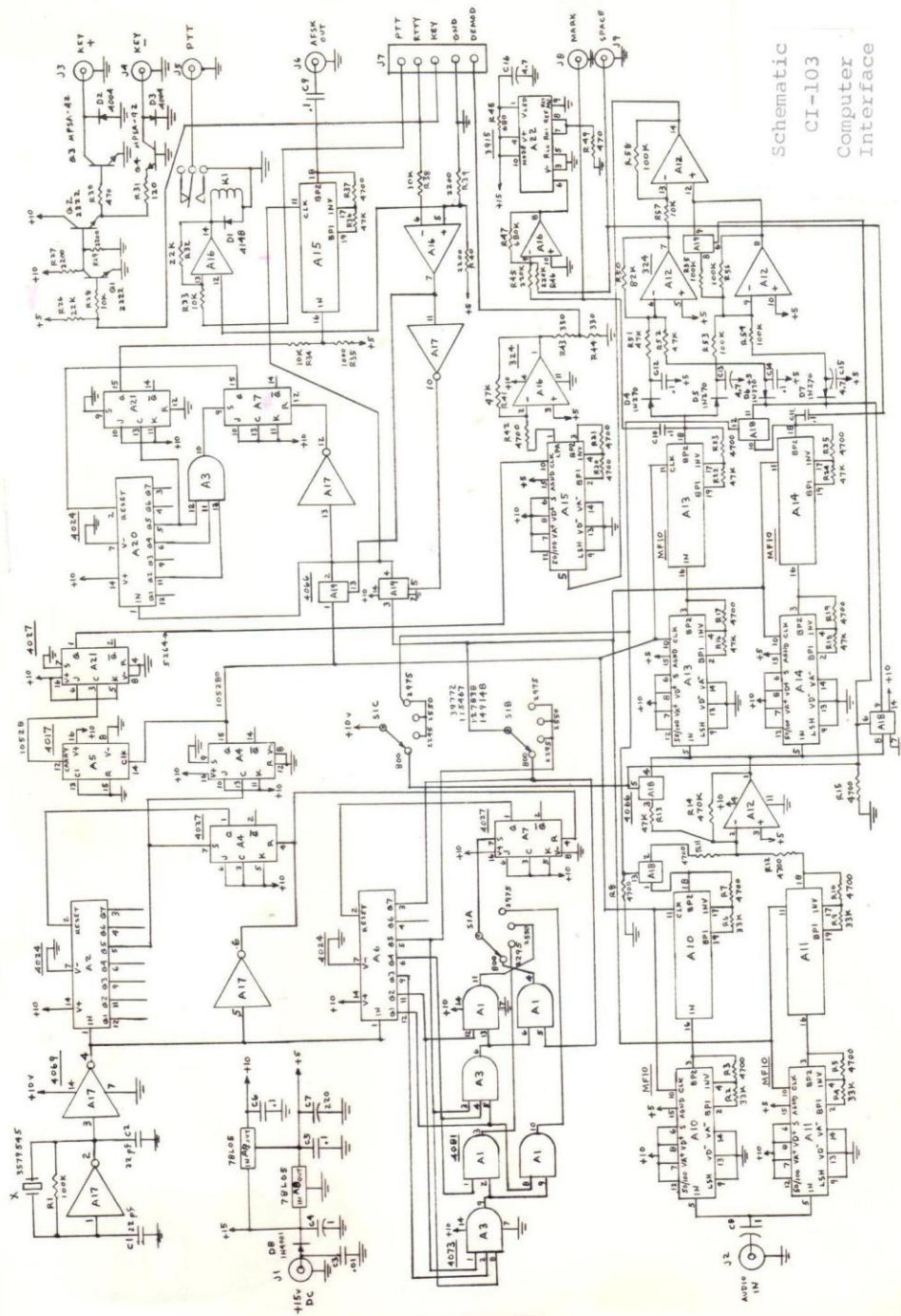
Connectors.

Function	Mating Connector	Specification
Power	2.5 mm plug	15-v DC 100-ma
Audio In	3.5 mm plug	1-v RMS maximum
Push-to-Talk	3.5 mm plug	Relay contact ½-ampere
AFSK Out	3.5 mm plug	1-v peak-to-peak
Key +	3.5 mm plug	+300-v 300-ma
Key -	3.5 mm plug	-300-v 30-ma
Mark	3.5 mm plug	1-v peak-to-peak
Space	3.5 mm plug	1-v peak-to-peak
Computer	5-pin	TTL Compatible
Demod		Space=0-v Mark=+4-v
Gnd		System ground
Key		On=0-v Off=+4-v
RTTY		Space=0-v Mark=+4-v
PTT		On=0-v Off=+4-v



Audio Frequencies.

CW Receive	800 Hz	
RTTY/ASCII 170 Hz shift	Mark=2125	Space=2295 Hz
RTTY/ASCII 425 Hz shift	Mark=2125	Space=2550 Hz
RTTY/ASCII 850 Hz shift	Mark=2125	Space=2975 Hz



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CI-103
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