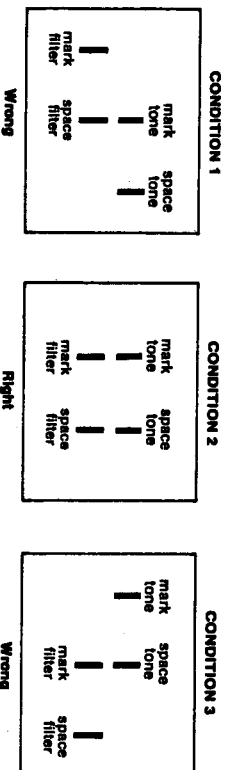


To tune amateur HF teletype signals, set your receiver to lower sideband, set the audio to a comfortable level and slowly tune your receiver for a teletype signal. Tune for peak bar graph closure and minimum flicker. If the LED bar graph flickers on mark-space transitions, retune until the flickering stops.



When you tune your receiver dial, you want to match the RTTY mark and space tone frequencies up with the respective bandpass filters in the CP-1, as indicated in condition 2. This proper tune condition will be indicated by the magic-eye style bar graph indicator display with a peak closure of no more than 6 or 8 bars lit (back off on the volume if you have more) and no blinking as the tones shift back and forth. You will get a false tuning indication as shown in conditions 1 and 3, if a peak closure results in a blinking display as the tones shift back and forth. With practice, you will learn to lock onto a properly tuned condition very quickly and you will gain a deep appreciation for our unique tuning indicator.

For shifts other than 170 Hz, use the VAR position. The VAR position uses the VAR shift control to adjust for tone shifts between 100 Hz and 1000 Hz. To use the variable position, first depress the VAR button, turn the variable shift control full clockwise and tune across the unknown RTTY signal. Watching the bar graph, tune to the lower pitch frequency of the two tone RTTY signal. Tune so the LED bar graph is at peak closure, but flickering. Now adjust the variable shift control counter-clockwise until you achieve peak closure with no flickering.

NORMAL-REVERSE SWITCH

Some stations use reverse mark and space tone frequencies, usually accidentally. If you are sure of the speed and shift of the received station and receiving 'garbage', try the reverse position.

TELETYPE TRANSMIT

If you are using the RS-232 option, you may have to manually switch your transceiver to transmit. Again, this depends on your particular software. The normal computer TTL inputs can be used for automatic send/receive switching under software control. The 'AFSK out' level may be adjusted with the rear panel AFSK level control. This level is preset to 30 mv pp, however, it can be adjusted to 200 mv pp for those of you who own rigs with a preamp mic such as the ICOM transceivers.

If you own a transceiver with a RTTY mode position, then you may desire to modify your CP-1 as per Appendix D to use FSK. If you wish to use AFSK, then you must use lower sideband and use the mic input of the transceiver. For those of you who wish to use 850 Hz shift on transmit, refer to Appendix E on how to modify your CP-1.

300 BAUD OPERATION

The low pass filter is optimized for CW and RTTY rates less than 100 baud. To use 300 baud, parallel R77 with a 16 K ohm 1/4 watt resistor.

WARNING

Most amateur transmitters are NOT capable of 100% duty cycle full power input on Radio Teletype (RTTY) transmission). If your transmitter manual does not have operating instructions for RTTY, we suggest one-third to one-half the normal CW input power level. Be sure to disconnect your microphone to prevent sounds in the shack from being transmitted.

CW IDENTIFICATION

In teletype operation the AFSK mark and space tones are 2125 and 2295 Hz, respectively. If the CW input line is activated during RTTY operations, a narrow shift (approximately 50 Hz) AFSK CW signal is generated. This can be used for narrow shift CW identification.

RF SHIELDING

The CP-1 has been designed and tested to comply with FCC rules for a class-B computing device under specifications outlined in part 15, subpart J.

The CP-1 is far better than the FCC requirements because of the necessary close proximity of HF receiving equipment. To assure maximum rejection of RF interference, be sure to use only well shielded interface cables between the CP-1 and your computer and transceiver.

If computer "hash" is present after using shielded cables, try changing the physical location of the computer and/or CP-1 relative to the receiver. Under particularly difficult situations, try placing the CP-1 and computer on a different 110 VAC circuit from the one your transceiver is using.

NOTE: To avoid interference with other electronic equipment in your home or other's homes, make sure you make or procure cables which are shielded, and have the shield connected to ground. AEASOFT™ software cables are recommended and have the needed shield.