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TECH-NIQUE

990 South Fair Oaks Avenue, Pasadena, California 91105 / Telephone: (213) 799-9164

A communication of vital interest to every Courier dealer

S-251

SUBJECT: COPSCAN VHFL, VHF, UHF, UHFH MONITOR RECEIVERS

The above Courier models have their receiver circuitry factory adjusted for best sensitivity at frequencies near the center of the receiver's RF bandwidth.

<u>Model</u>	<u>Range</u>	<u>Factory Tuned At:</u>
Copscan VHFL	30 - 50 mhz	39.00 mhz
Copscan VHF	146 - 174 mhz	156.00 mhz
Copscan UHF	450 - 475 mhz	460.00 mhz
Copscan UHFH	475 - 512 mhz	493.00 mhz

Normal FM reception can be anticipated when crystals within frequencies of + 3.5 mhz of the factory tuned frequencies are used. However, if specific frequencies near the upper limit (or lower limit) of the receiver's RF bandwidth are to be monitored, re-alignment of the receiver may be required for optimum sensitivity. This procedure is recommended in instances where the transmitter's radiated signal is weak and maximum reception is impossible without re-alignment.

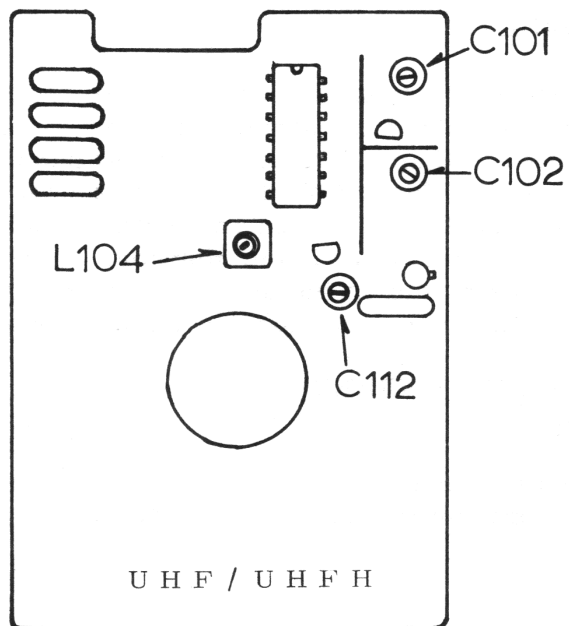
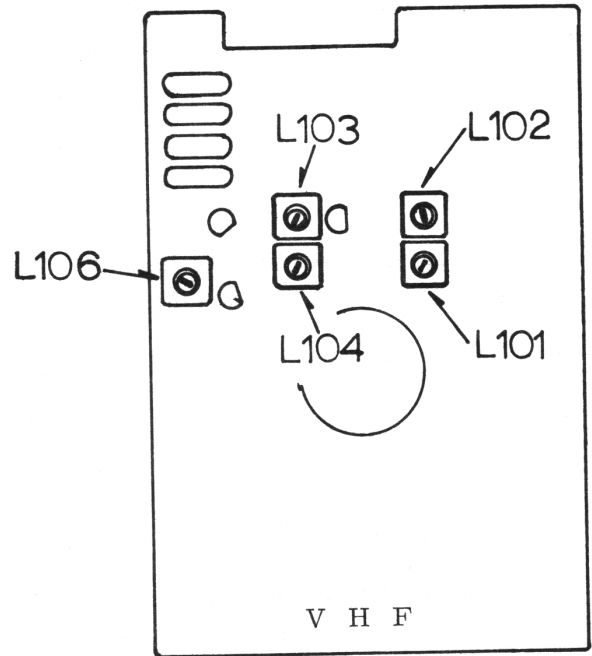
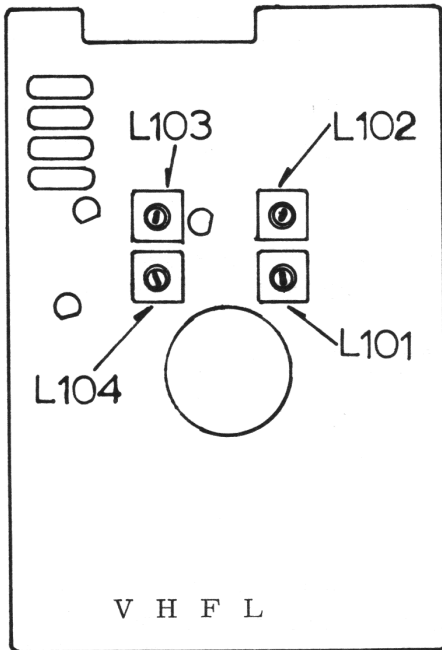
TO OPEN CABINET:

- A) Remove battery access lid, battery holder, crystal access lid and all crystals.
- B) Place unit face down in palm of left hand. Grip bottom cabinet section tightly between thumb and fingers of left hand.
- C) Insert right forefinger into the crystal socket area and press the left edge of the inner surface of the cabinet with the ball of the index finger while exerting pressure toward you, thereby, drawing the top cabinet section away from the locking tab on the upper left. Once separated, the entire cabinet section is then removed exposing the components on the printed circuit board.

TEST EQUIPMENT REQUIRED:

- 1) VTVM
- 2) FM Signal Generator
- 3) Loop Antenna for Sig. Generator output.

PICTORIALS OF ALIGNMENT POINTS



ALIGNMENT PROCEDURE:

- 1) Insert battery holder into receiver.
- 2) Insert crystal into socket #1.
- 3) Insert antenna (rubber) into receiver.
- 4) Place unit upright near signal generator's loop antenna.
- 5) Set "SCAN-MAN" switch to "MAN". Adjust volume control 1/2 way clockwise. Turn squelch control full counter clockwise.
- 6) Set signal generator to frequency of the transmitter (corresponding to the crystal in #1 position). Set modulation deviation to +5 Khz @ 1000 c. p. s.
- 7) Connect VTVM across ext. speaker plug inserted into receiver. Connect 8 ohm speaker (or 8 ohm resistor across VTVM leads).
- 8) Adjust RF output of generator to 5 microvolts and place receiver approx. 24 inches from loop antenna.
- 9) Adjust volume control for a reading of zero db on the VTVM. Switch generator deviation "OFF". Note change in reading on VTVM. If reading is minus 10 db or more, reduce generator output for a reading of approx. minus 5 db. Adjust each adjustment for a minimum reading on the VTVM. Lower the signal generator output as required to maintain approx. minus 5 db on the VTVM while alignment is in process.
- 10) For maximum accuracy, when possible, zero beat the signal generator's output (with no deviation) to the actual transmitter's carrier while listening for the zero beat point in the receiver's speaker. Repeat alignment as above, without changing generator's frequency.

NOTE: Crystals used in these receivers require the following correlation data:

<u>Model</u>	<u>Crystal Formula</u>	<u>Load Capacity</u>
VHFL	(Freq.) plus (10.7 mhz)	Series Resonance -450 Hz (62pf)
VHF	<u>(Freq.) minus (10.7 mhz)</u>	Series Resonance -450 Hz (62pf)
	3	
UHF } UHFH }	<u>(Freq.) minus (10.7 mhz)</u>	18pf
	9	

All crystals are 3rd overtone, Holder HC25U.

Our recommended crystal source: Bomar Crystal Co., 201 Blackford Ave.,
Middlesex, N.J. 08846

Ray Dashner

Ray Dashner
Customer Service Mgr.

RD:rt