

PRESIDENT HR2510 WITH UC1250 FREQUENCY MOD

you into the FCC! Nice doing business with you, Uniden, you are such a nice company to deal with!

Problem: Rx audio not completely off when TX is active

Fix: rebias Q127, the switching transistor, a 2SC3242 Use a 10K or less (4.7K is usually OK) resistor and a 1N914 general purpose switching diode from pin 6 of the IC103 (TDA1905) audio amp chip to rebias the switch. Occasionally, if the T/R time lag is too long, use a smaller value of resistance. Experiment until the time lag is acceptable and the audio feedback is gone.

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• CLARK R. KIRKLAND

PLL: UNIDEN-UC1250

HR-2510 Freq Mod. Remove speaker side of radio and remove the board. The board is in a metal frame about 1/2 the size as main board. Turn board over and find pins 34-35 cut trace and add 15K resistor as before. Note JF radio has epoxy. Heat with 400 W. hair dryer. Pick off. The last one I did was soft. It came off easy with no heat.

Tune up.

ALC VR 104

AMC VR-114

President Lincoln Freq mod.

Connect Pin 34-35 Together and that is it.

26.000-29.6999 some will go to 29.9999

Tune up same as HR-2510

NOTE: All work done on back side of PB-160AB. Back side of PB-120AB is exposed inside of HR2510

(1) Resistance values are shown in Ohms unless otherwise noted. (K = Kilohm; M = Megohm).

(2) Resistor wattages are 1/8W unless otherwise noted.

ABOUT THE HR2510

(3) Capacitance values are indicated in micro farads unless otherwise noted.
(uf = Microfarad)

ABOUT THE HR2510

The 2510 has two main circuit boards. One is the PB121AB. This board contains a 5 volt regulator, an 8 volt regulator, and the microprocessor. The microprocessor is the UC1170 DIP (Dual In-line Package) chip and it controls the bandwidths, channels, frequency, redouts, etc. In effect, it controls the whole radio. The PB121BA also contains the PLL0305A, a serial PLL, which is fed directly by the microprocessor thus avoiding the pin jumping needed in older radios. Modification is performed by programming the pins on the microprocessor, allowing you to obtain the extra bandwidths you want. Two S042P mixer chips are also on this board. These are the same chips used on the 148GTL. They do the mixing in the VCO (Voltage Control Oscillator) and they make the VCO very stable.

The other main board, which is controlled by the microprocessor, is the PB111AB. The MR477 final, the 2166 driver and the AN612 balance modulator are located on this board. It also contains the complete audio, receive and transmit circuitry. The audio IC chip is a TDA1905, a full 7 watt IC DIP chip that is being used on all new Uniden radios, including scanners. It is somewhat unusual in that it is a 14-in chip rather than a flat pack, but it must work very well because Uniden has been using it for some time. The receive uses a 455KHzIF (Intermediate Frequency) which gives you a crystal filter for reception. The resulting narrower bandwidth causes better rejection and helps prevent bleedover. The AMC (Automatic Modulation Control) is handled by VR114. VR104 handles ALC (Automatic Level Control). When increased to max, it can develop 25 to 30 watts at peak. The AM power control is VR103.

The radio also contains several other smaller circuit boards that perform specific functions. The PB119A is the FM detector board and enables the radio to receive Frequency Modulation (FM).