

TROUBLE - SPOT:  
by J.V.

COBRA 'AM' units with uPD2816D-PLL... 1000, 89, 87, and 29GTL/LTD.

After tune-up or removing modulation limiter, these units develop a buzzing sound when transmitting. In some cases it sounds like an airplane diving.

Check the audio chip TA7222AP, there is a capacitor soldered from the mounting tab to chassis ground. Remove this capacitor, no replacement. All units I have worked on have this one common problem. "Would show about 50% modulation on dead key before removal".

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G.E.3-5826A, 40 Ch. SSB Mobile (LC7131-PLL)

NOTE: This is an odd-ball unit, the only unit I know of that uses this chassis....

Below is 'rough alignment procedure' for the experienced tech...

PLL: A. TP1 (R6, R7 junction), Ch 40 AM, TX; adjust T1 for 3.4VDC.

B. TP1, Ch 1 AM, TX; adjust T1 for 2.0VDC.....  $\pm 0.3$ VDC.

C. Fo Cntr - TP3 (Q11 collector), Ch 20 LSB, TX; adjust CT4 for 10.695MHz.

D. Fo Cntr - TP3, Ch 20 USB, TX; adjust CT3 for 10.692MHz.

E. Fo Cntr - TP2 (Q2 base), Ch 20 USB, TX; adjust CT1 for 16.513MHz,  $\pm 50$ Hz.

F. Fo Cntr - TP2, Ch 20 LSB, TX; adjust CT2 for 16.510MHz,  $\pm 50$ Hz.

RECEIVE: A. Peak in AM mode: T6, T7, T8, T9, T10, and T11.

B. RV8 - SSB AGC, RV9 - Sq Rng, RV3 - RX Mtr.

C. Noise Blanker may be improved by following:  
increase value of C103, or decrease value of R80.

GE3-5826A, 40 Ch SSB (cont.)

- TRANSMIT: A. Peak for maximum RF, LSB Ch 20; T2, T3, T5, and T12.
- B. 'Re-peak' T3 in LSB Ch 1; T5 in LSB Ch 40; L5 in AM Ch 20.
- C. "Weird" bias adjust: connect ammeter to Hot B+ lead in series. Ch 20 LSB, 'no modulation'.  
Adjust RV1 for minimum, then increase by 50ma.
- D. Balance Modulator; set RV5 for max CCW, and RV10 for max CW.  
Adjust RV11 for MAX carrier leak, adjust RV10 for MIN carrier leakage.
- E. RV5 - SSB 'Mike Gain/modulation'; RV6 - AMC; RV2 - ALC;  
RV7 - AM RF Pwr; RV4 - TX Mtr. (Defeat for ALC is Q27).
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AX11/PC22 - Remote AM (IC7131-PLL)

'Rough' Alignment Procedure:

- PLL: A. TP1, Ch 40 TX; adjust L7 for 3.8VDC.
- B. TP2 (R11), Ch 40 RX; adjust L8 for max scope indication.
- RECEIVE: A. Peak for max audio using Sig Gen at Ch 20; L1, L2, L3, L4, L5, L6, and L7.
- B. VR2 - Sq Rng.
- TRANSMIT: A. Peak for max RF, Ch 20: L9, L10, L11, L12, and L14.
- B. VR3 - AMC. AMC defeat, TR24.
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B E W A R E ....

Direct Quote: " A large C.B. Dealer in my area had a going out of business sale. Found a Cobra 139XLR in sealed box for sale, dealer said was new. Terms of sale was as-is. Gave \$100 for unit. Got back to shop and found out that no TX or RX? Pulled covers; found Relay missing, LSB Xtal missing, and also had a bad audio chip. "

Moral of story: Carry a screwdriver, and double-check on the inside!