(16) Check transmitter power output on ALL BANDS, ADJUST COILS L44, L43, L42, AND L40 if necessary.

(17) Connect frequency counter to pin 11 of the PLL CHIP and Check the frequency. On receive mode the Frequency should be:

10.2380MHz. for "LSB" (L19)

10.24000MHz. for "AM" (L21)

10.24155MHz. for "USB" (L20)

Adjust coils for the proper frequency if required.

(18). Connect the frequency counter to the emitter of TR30 and check the frequency. In transmit mode the Frequency should be:

10.69250MHz. for "LSB" (L27)

10.69500MHz. for "AM" (L26)

10.69750MHz. for "USB" (L28)

(19) Check full operation of the receiver and transmitter.

THE 120 CHANNELS MODIFICATION IS COMPLETED.

CLARIFIER MODIFICATION FOR "10KHz" SLIDER

(1) Remove or cut R501, R502 and D75. (Located in the PCB near the front panel and next to coil L21)

(2) Cut lead on top of resistor R261 and solder a 4 inch long wire to the free end of the resistor, then connect the free end of the wire to the 8 VDC PCB connection located in the mocrophone preamplifier board attached to the side panel.

THE CLARIFIER MODIFICATION IS COMPLETE

EASY 10 METER VOICE CONVERSION FOR GALAXY II

- **Terry Shelly**

A switch between Pin 15 and 16 of 1C7 Bit adder will give 28.245 through 28.685 on "C" Band.

SUPER GALAXY ALIGNMENT PROCEDURES

- **TERRY DAVIS**

NOTE: Before any alignment all test equipment and radio are to be warmed-up for at least 30 minutes.

PLL SYNTHESIZER ALIGNMENT

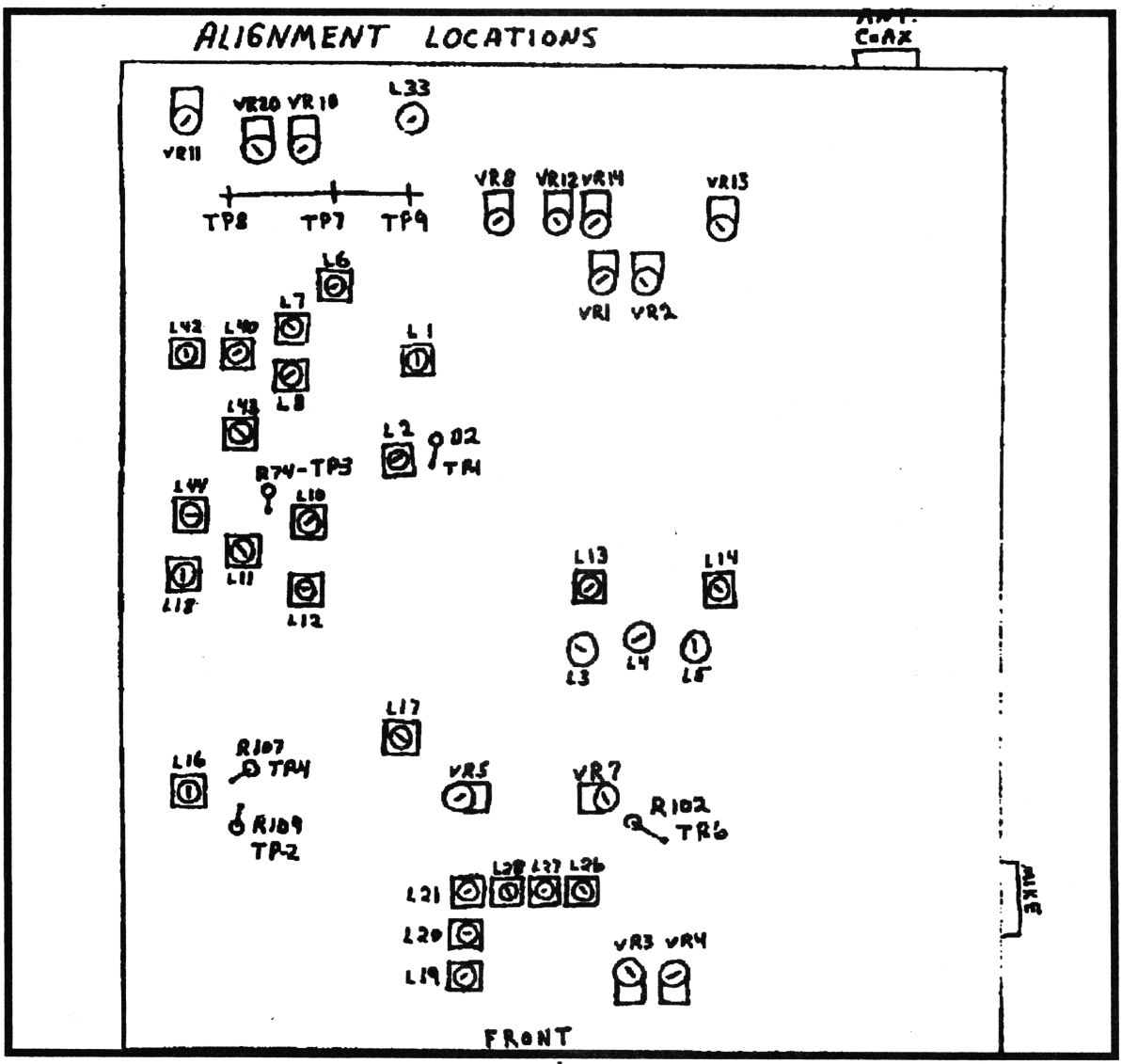
Required test equipment

(A). 0-5 Mhz oscilloscope.

(B) Digital DC Voltmeter, 25mv sensitivity.

(C) Frequency counter, 0-30 MHz.

(1) RX Mode, AM. Clarifier controls at center detent. Mid Band, Ch. 19. Connect Scope to TP-4 (top bare lead of R107). Adjust L16 for max. (0.9Vpp typical).



FIGURE# 14.....SUPER GALAXY ALIGNMENT LOCATOR

(2) Switch to Ch. 40. Connect DC Voltmeter to TP-2 (top bare lead of R109). adjust L17 for 5.40 VDC.

(3) Connect Scope to TP-3 (top bare lead of R74). Adjust L18 for max. (1.0vpp typical).

(4) Return to ch19 remove Scope from TP-3 and attach Frequency Counter to this point now. AM: Adjust L19 for 16.4900 MHz. USB: Adjust L20 for 16.4925 MHz. LSB: Adjust L21 for 16.4875 MHz.

(5) Carrier Oscillator Offsets: For AM, it will not be possible to read the 10.695 Mhz signal directly as it is with USB or LSB. Therefore the easiest AM adjustment will be to tune the appropriate AM coil (L26) in the TX mode for exact center channel frequency. Ch. 19. C Band. If the 16 MHz adjustment of step 4 was Properly made, the AM offset will automatically be 10.695 MHz as required. For USB and LSB, the adjustment can be made in the RX mode.

USB: Connect Freq. Counter to TP-6 (bare top lead of R102). Adjust L27 for 10.6925 MHz.

LSB: Adjust L28 for 10.6975 MHz.

AM: TX Mode. Adjust L26 for 27.1850 MHz.

END OF PLL SYNTHESIZER ALIGNMENT.

TRANSMITTER ALIGNMENT

Required test equipment

(A) RF Wattmeter.

(B) 50-ohm dummy load 20 watts minimum power rating

(C) Frequency Counter, 0-30 MHz.

(D). Oscilloscope, 30 Mhz minimum bandwidth.

(E) Audio oscillator and two-tone generator.

(F) DC Voltmeter or multimeter with DC Amps capability.

(G) Spectrum Analyzer.

.(H) FM Deviation Meter.

(1) Clarifier controls at center detent. C Band, Ch. 19. USB: TX Mode, Mike Gain Minimum. Remove Jumper PCB connecting TP-7,8,9. Connect DC Ammeter between TP-9 (+) and TP-8 (-).

Driver Bias: Adjust VR11 for 50ma. Move TP-8 jumper to TP-7 terminal. Final Bias: Unsolder Emitter lead of TR56; adjust VR10 for 25ma. Restore TR56 and unsolder lead of TR43; adjust VR20 for 25ma.

Restore TR43 Emitter.

Restore Shorting PCB Jumper Before Proceeding.

(2) Mike Gain at Maximum, Inject 50mv, two-tone audio signal at mike socket. Adjust L43, L44, L42, L40, L33 for maximum RF output as shown on Scope or wattmeter.

(3) Remove injected audio signal. Turn MIKE GAIN to minimum. Carrier Balance: Adjust VR7 for min. carrier leak through; recheck for LSB mode.

(4) MIKE GAIN at Max. Inject 100mv, two-tone audio signal at mike socket. SSB ALC; Adjust VR12 PEP.

(5) AM Mode, Mike Gain at Min. AM Carrier Power; Adjust VR13 for 10 watts power output.

(6) RF Meter: Adjust VR8 so meter agrees with actual wattmeter.

(7) MIKE GAIN at max. Inject 100mv, signle-tone audio signal at mike socket. AMC: Adjust VR14 for 95% modulation.

(8) Switch to FM Mode, MIKE GAIN Max. Inject a single tone audio, 1 KHz @ 20mv into mike jack. FM Deviation: Adjust VR5 for Max. Deviation of 5 KHz.

(9) USE SPECTRUM ANALYZER TO CHECK FOR SPURIOUS EMISSIONS.

END OF TRANSMITTER ALIGNMENT.

RECEIVER ALIGNMENT

Required test equipment

(A) Signal Generator with 27 MHz capability. Must have adjustable Modulation% and calibrated output steps.

(B) AF VTVM (5v full scale range) or oscilloscope

(C) 8-ohm audio load.

(D) DC Voltmeter

(E) FM Signal Generator

(1) C Band, CH. 19. Clarifier controls at center detent. RF Gain full on. SQUELCH OFF. Noise Blanker OFF. Set signal generator for 27.185 MHz. Signal of luv, 30% modulation, 1 KHz.

Adjust L4, L3, L12, L11, L10, L8, L7, L6 for Max. reading on AF VTVM, SCOPE, or radio S-Meter.

(2) USB: Remove modulation from Signal Generator, Use Clarifier as required to center signal meter reading. Adjust L13, L14 for Max. as in step (1)

(3) Increase Generator output to 100uv, UNmodulated. SSB S-Meter: Adjust VR2 for S-9 Reading.

(4) Increase Generator output to 1000uv. Squelch fully CLOCKwise. SSB Squelch Range: Adjust VR3 so that squelch just breaks.

(5) AM mode: Set Clarifier at center detent. AM/FM Squelch Range: Adjust VR4 so that squelch just breaks.

(6) Reduce Generator output to 100uv, Squelch fully Counterclockwise. AM/FM S-Meter: Adjust VR1 for S-9 reading.

(7) FM Mode: Reduce Volume as Required. Inject modulated FM signal of 100uv, 1 Khz tone. 5 KHz deviation. FM Quadrature Coil: Adjust L5 for max. audio with Scope on IC2 Pin 7.

(8) AM Mode. Set AM Signal Generator for luv UNmodulated. Turn on Noise Blanker: Adjust L1, L2 for maximum DC Voltage as measured at TP-1 (- of D2).

END OF RECEIVER ALIGNMENT

OPPS WE GOOFED!

VOLUME 28 , page 22;

was: Brite/dim Button in....

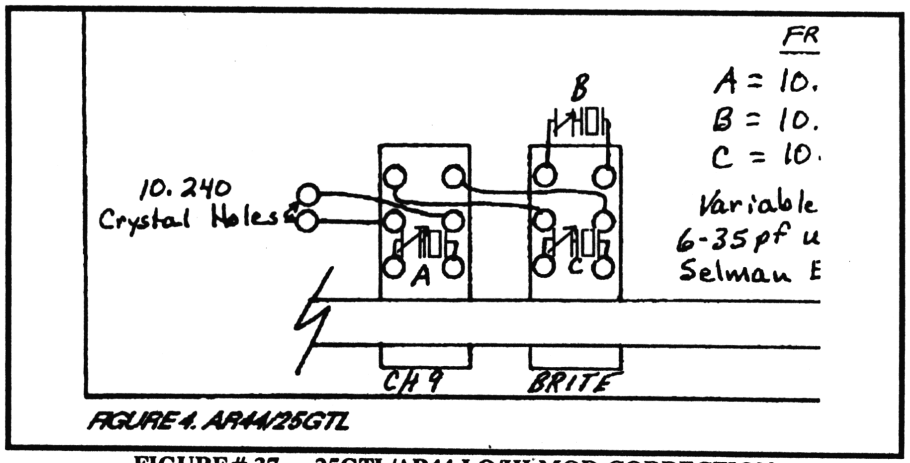
Brite/dim Button in....

Should be: Brite/dim Button in....

Brite/dim Button out....

VOLUME 28, page 23;

Should have included crystals as shown in this corrected diagram.



FIGURE# 37.....25GTL/AR44 LO/HI MOD CORRECTION