

UFO INSTALLATION TO
 SBE-39 CB Sidebander 5
 SBE-40 CB Console 5
 SBE-27 CB/A Sidebander 4

INSTALLATION:

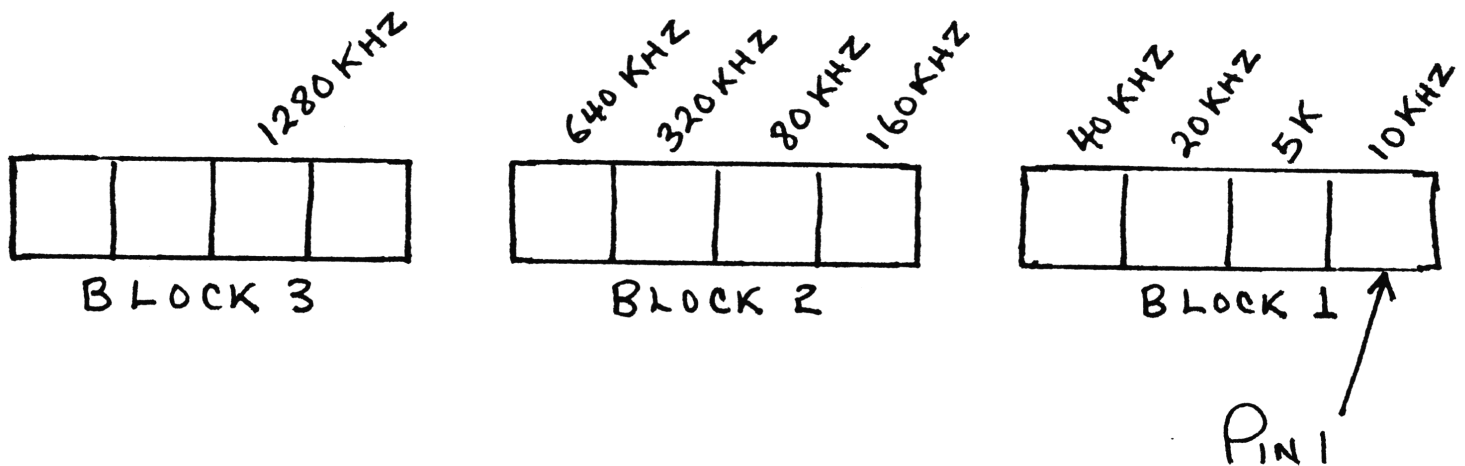
- 1-Remove 3 capacitors in UFO as in 858 installation.
- 2-Remove D-901.
- 3-Replace X1 (10,000) with 26.965 MHZ.
- 4-De-solder Pin #13 of IC-901.
- 5-Hook center of coax 2 to trace that was connected to Pin #13 of IC-901.
- 6-Hook Coax 1 to Pin #6 of IC-902.
- 7-Remove D-904.
- 8-For transmit inhibit remove Q501.
- 9-Apply power to radio and UFO.
- 10-Align T-901 for maximum signal output on Coax 1.
- 11-Align VCO such that the VCO will lock between 25.995 and 28.000.
 This can be tested by monitoring frequency on Coax 1 or DC voltage on Coax 2.
- 12-Align L-904 and L-905 for correct frequency on AM and lower sideband.

PROGRAM CODE: BBWB BWBB WWWW WW

NOTE: USB will be 5 KC lower than frequency display.

HOW TO PROGRAM YOUR UFO

THIS DIAGRAM INDICATES THE AMOUNT
 OF FREQUENCY CHANGE CONTROLLED
 BY EACH PIN.



REDCO
SPECIAL INSTRUCTIONS FOR INSTALLATION
OF 10 METER CONVERSION

- 1-Install ribbon cable exactly as shown in Figure 5 of the Instruction Book.
- 2-Locate pin 22 of the D858 PLL Chip and isolate from all connections.
- 3-Install 22 gauge jumper wire from pin 22 of the D858 PLL Chip to pin 12 (5.1 volts).
- 4-Follow the alignment procedure below.

SYNTHESIZER ALIGNMENT

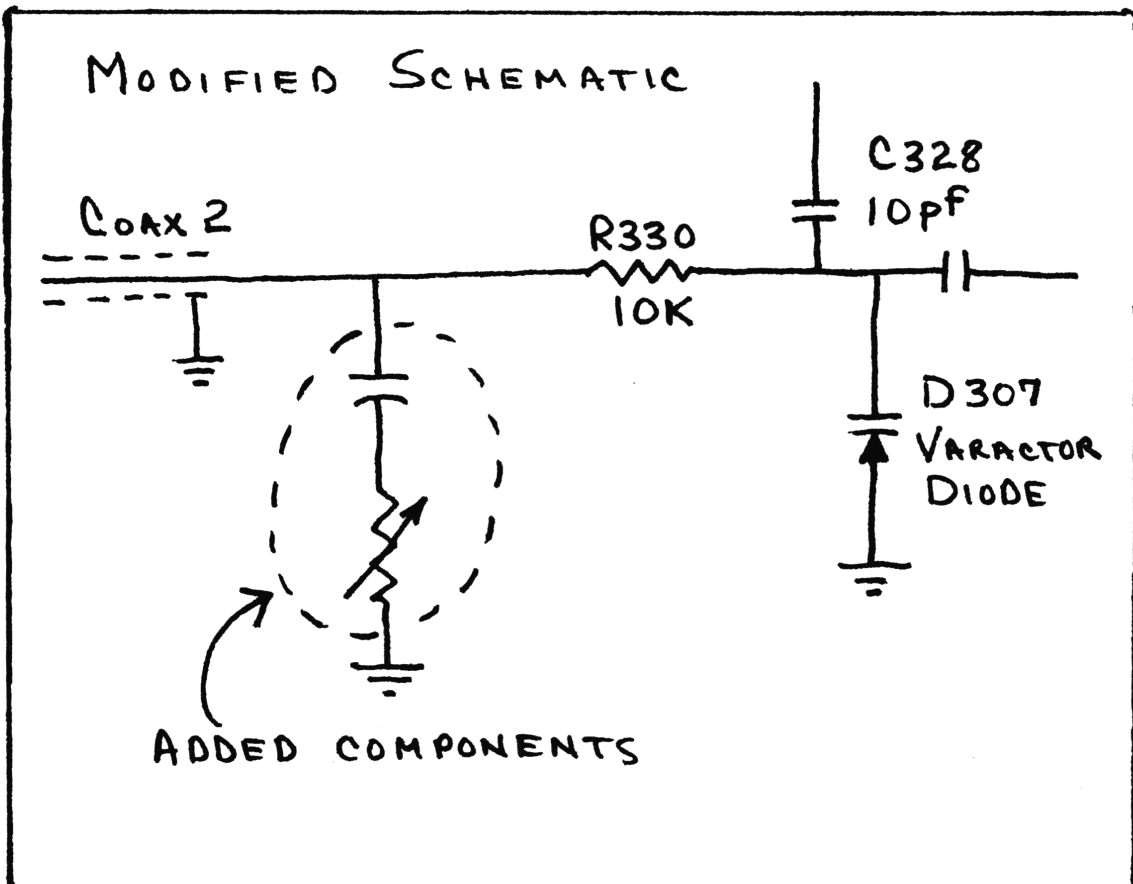
TEST EQUIPMENT	DIGI SCAN	ADJUST	REMARKS
Input of RF VTVM to TP6	28.965 AM Clarifier-Midrange AM	L24	Adjust for maximum
Input of DC meter to TP7	28.205	L17	Adjust for 2.0 volts
Input of RF VTVM to TP8	29.005	L16	Adjust for maximum
Input of frequency counter to TP8	29.005 AM	CT6	Adjust for 36.7050MHz <u>+20Hz</u>
Input of frequency counter to TP8	29.005 USB	CT4	Adjust for 36.7075 MHz <u>+20Hz</u>
Input of frequency counter to TP8	29.005 LSB	CT5	Adjust for 36.7025MHz <u>+20Hz</u>
Input of frequency counter to TP8	29.005 LSB Transmit	VR9	Adjust for 36.7025MHz <u>+20Hz</u>
Input of frequency counter to TP9	29.005 USB Transmit	CT2	Adjust for 7.8025MHz <u>+5Hz-0Hz</u>
Input of frequency counter to TP9	29.005 LSB Transmit	CT3	Adjust for 7.7975 <u>+0Hz -5Hz</u>

SAMS MISPRINT ON COBRA
140 and 142 GTL

It has come to our attention that the SAMS schematic on Cobra 140 and 142 CTL has labled R-72 as R-7. Please be advised R-72 is a 2.7 K resistor which must be removed for proper UFC operation; R-7 is an emitter resistor on TR-3 which is used in the noise blanker circuit. We will try to keep you advised of any other problems of this nature.

UFO INSTALLATION TO
SM-5104 PLL CHIP

APPLICATIONS: SEARS ROADTALKER/J.C. PENNEY 6241



PROGRAM CODE: WBWB WBBB WWWW WW

NOTE: All part designation numbers refer to the Sears Roadtalker.

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.

SSB

TEST EQUIPMENT	DIGI SCAN	ADJUST	REMARKS
Out put of signal generator thru .01uF to antenna jack. 29.006MHz, no modulation. Output .25uV.	29.005 USB RF Gain-Maximum Clarifier-Midrange Volume-Maximum	L8,L7 L6,L5 L4,L3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 29.006MHz, no modulation. Output .25UV.	29.005	CT1	Adjust for .5watts audio.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.

TEST EQUIPMENT	DIGI SCAN	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 29.006MHz, no modulation. Output 250uV.	29.005 USB RF Gain-Maximum Volume-Maximum	VR2	SSB AGC Adjust VR2 for .5volts audio.
Output of signal generator thru .01uF to antenna jack. 29.006MHz, no modulation Output 100uV.		VR1	S Meter Adjust for 9 on S scale of meter.
Output of signal generator thru .01uF to antenna jack. 29.006MHz, no modulation Output 500uV.		VR3	SQUELCH RANGE Set squelch control VR404 fully clockwise. Adjust VR3 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 29.005MHz, 1000Hz @ 30% mod- ulation. Output .5uV.	29.005 AM	VR5	AM AGC Adjust VR5 for .5watts audio.

UFO INSTALLATION PROCEDURE
FOR PALOMAR 500

INSTALLATION:

- 1-Locate and remove MC 145106 chip.
- 2-Remove C-125.
- 3-Connect Coax #1 to junction of C-125 & R-137.
- 4-Connect Coax #2 to junction of R-151 & R-153.
- 5-Solder shields to various ground points on the circuit board.
- 6-For transmission inhibit, remove Fet 7.
- 7-Solder black wire to ground on circuit board.
- 8-Hook up red wire to switched side of power switch.

PROGRAM CODE: BBWW BWWW BBWW WW

UFO INSTALLATION TO COURIER
RADIOS USING 858 CHIP
SPARTAN/GLADIATOR/CENTOURIAN/FANFARE 350

INSTALLATION:

- 1-Hook center of coax #1 to pin 11 of 858 chip.
 - 2-Disconnect the lead of R154 (15 K) going to pin #2 of the 858 chip.
 - 3-Solder center of coax #2 to disconnected lead of R154.
 - 4-Short C-508.
 - 5-For transmit inhibit remove TR-22.
 - 6-Remove two blue 1.5 uf tantalum capacitors located in left rear corner of UFO.
 - 7-Remove green .01 mylar capacitor $\frac{1}{2}$ " forward and right from tantalums.
- DO NOT USE MODULE PROVIDED FOR 858 RADIOS.

PROGRAM CODE: BBWW BWWW BBBB WW

UFO INSTALLATION TO O2A CHASSIS
DAK 9/DAK 10/LAFFAYETTE/ALL COLT & MIDLAND

When the UFO is installed on an O2A chassis, the lowest obtainable is 26.965. In order to go below this frequency the 10.0525 crystal in the radio must be changed to a lower frequency. A 10.000 Mhz crystal available from REDCO will produce a low of 26.755. Changing to a 9.82 Mhz crystal will allow operation to 26.300 Mhz without sacrificing top end.

PROGRAMMING: 9.82 crystal----BWBB WBBB WWWW BB
10.000 crystal---WWWW WBBW WWBB BB

TRANSMITTER ADJUSTMENTS

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
 NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.

TEST EQUIPMENT	DIGI SCAN	ADJUST	REMARKS
DC current meter to TP3 and TP4 No Modulation.	29.005 USB	VR15	Bias Adjust VR15 for 40mA +10mA.
DC current meter of TP1 and TP2. No modulation.	29.005 USB	VR16	Bias Adjust VR16 for 70mA +10mA.
No modulation.	29.005 USB	VR4	BALANCE Adjust for MINIMUM RF.
No modulation.	29.005 AM	VR8	AM REG Adjust VR8 for 3.8watts.
No modulation.	29.005 AM	VR12	RF PANEL METER Adjust VR12 for 3.8watts on RF scale of meter.
Inject a 1000Hz signal at MIC input.	29.005 AM AMC-Max	VR7	AM AMC Adjust signal for 50% modulation. Increase VR7 for 95% modulation.

TRANSMITTER ALIGNMENT

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
 NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.

SSB

TEST EQUIPMENT	DIGI SCAN	ADJUST	REMARKS
Output of 2 tone generator to mike input. 500 Hz and 2400Hz at .5 volts.	29.005 USB MIKE Gain-Maximum	L39,L37 L32,L30	Adjust for Max- imum.
Output of 2 tone generator to mike input. 500Hz and 240Hz at .5volts.	29.005 LSB	CT7	Adjust CT7 for 11.5 watts.

REDCO UFO INSTALLATION TO 858 AM RADIOS
USING 36.570 CRYSTAL
PRESIDENT: ZACHARY T/JOHN Q/THOMAS J/
COBRAS: 21 XLR/77 X/29 XLR/

INSTALLATION PROCEDURE:

- 1-Hook center coax # 1 to TP-4 or pin 11 of 858.
 - 2-Lift the side of R104 (4.5 K) going to pin #2 of 858.
 - 3-Solder center of coax 2 to open leg of R104.
 - 4-Remove two blue 1.5uf tantalum capacitors from UFO located in rear left corner of PCB.
 - 5-Remove green .01uf mylar cap $\frac{1}{2}$ " forward right from tantalums.
 - 6-Short C-140.
 - 7-For transmit points and component designations refer to Zachary T.
- *ALL TEST POINTS AND COMPONENT DESIGNATIONS REFER TO ZACHARY T*

PROGRAM CODE: BBBB BBBB WWWW WW

On AM 858 installations the chip must be left in circuit as the 10.240 oscillator is used to receive.

LOOP FILTERING:

On some UFO installations additional loop filtering may be required because of the close channel spacing and large bandwidth. By adding the modifications below, low end stability will improve.

- 1-Add a 1K resistor in series with R103.
- 2-Series a 1-uf electrolytic capacitor and a 10K pot from TP-5 to ground. Adjust 1-K pot for best VCO stability.

NOTE: The UFO will not install on AM radios using the TC9106P chip as there is a 455KC shift built in chip.

EXAMPLES: 21 GTL, 25GTL, 29GTL, VEEP, Andrew J.

UFO INSTALLATION TO
MOTOROLA CB-555

INSTALLATION: (do not remove TC-9105 PLL chip)

- 1-Hook center of coax 1 to pin 17 of the PLL chip.
- 2-Remove R-604 (PLL-stop).
- 3-Lift the side of R-603 connecting to pin 7 of the PLL chip (TC-9105).
- 4-Connect center of coax 2 to the disconnected side of R-603.
- 5-Remove two blue 1.5 uf capacitors in rear left corner of PCB and green .01 mylar $\frac{1}{2}$ " forward and right. (Capacitors are located in UFO).
- 6-Align VCO for maximum bandwidth.
- 7-Remove TR-301 for transmit inhibit.

PROGRAM CODE: WWBB BWBW WWWW WW

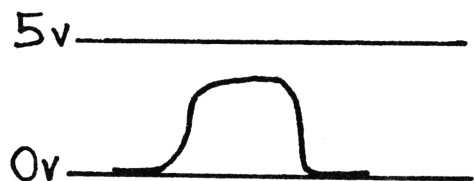
NOTE: The UFO will install to the Motorola CB-555 chassis but the highest frequency obtainable is 27.695 and lower sideband will be 5 KHz above frequency display.

DOWN MIXER TUNING OF 8719 RADIOS
USING MB8719 SYNTHESIZER CHIP
(COBRA 140 GTL (L-18)/142 GTL (L-18)
(COBRA 148 GTL (L-21)/2000 GTL (L-21)
PRESIDENT GRANT (late) (L-21)/McKinley (L-18)

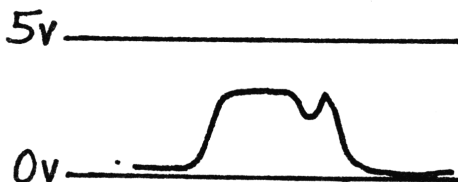
It has come to our attention that the down mixer coil in 8719 radios can cause problems if improperly aligned. If the coil is tuned for maximum, the signal going to the UFO on coax 1 will double peak and cause an unlocked condition on some frequencies. This is cured by slightly detuning L-18, 3/4 turn clockwise works well. For best results use oscilloscope during alignment.

ALIGNMENT OF L-18 WITH OSCILLOSCOPE

- 1-Connect scope probe to pin 2 of the PLL chip in UFO. (PLL chip in UFO is an 18-pin dip located in rear left corner of PCB).
- 2-Adjust oscilloscope for stable trace and align L-18 for maximum output without double peaking (see diagram). Check for correct alignment throughout the band.



CORRECT



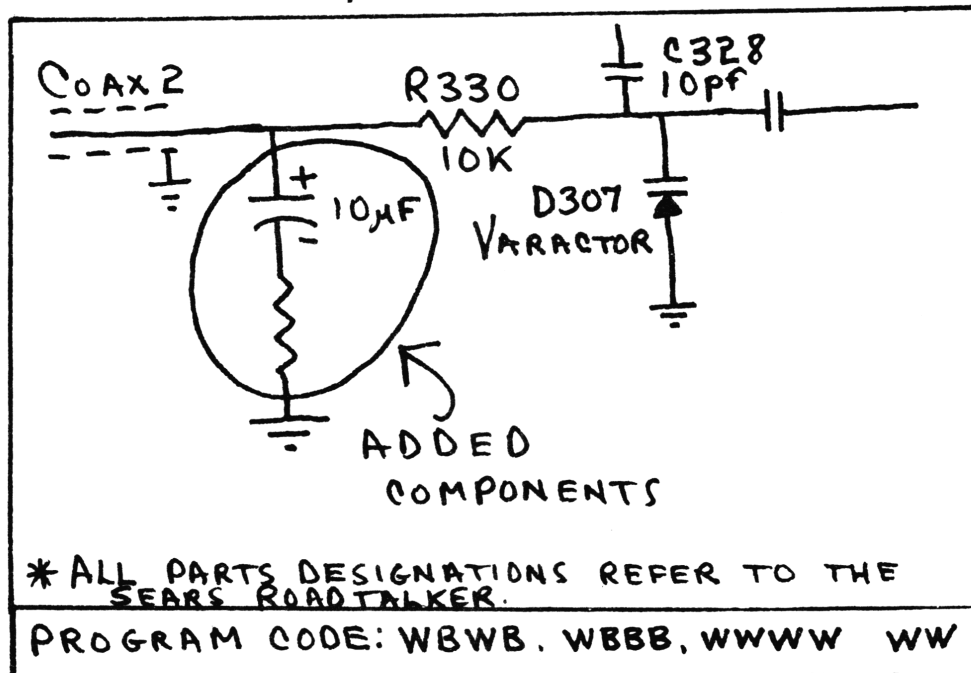
INCORRECT

REDCO UFO APPLICATIONS

I. APPLICATIONS

A. SEARS ROADTALKER

B. J. C. PENNEY 6241



UFO INSTALLATION TO SM-5104 PLL CHIP

1. Remove the SM5104 chip.
2. Connect center of Coax 1 to the point where Pin 2 of the PLL was connected.
3. Jumper points where pins 7 & 8 of PLL chip were connected.
4. Remove varactor diode D-307.
5. Reinstall cathode (banded end) of varactor diode to point where anode was connected.
6. Solder the anode of D-307 to ground.
7. Disconnect the side of R-330 going to Q306.
8. Connect center of Coax 2 to disconnected lead of R-330 (10K).
9. Install a 10uf electrolytic capacitor and a 10K pot in series from center of Coax 2 to ground.
10. Remove two blue 1.5 uf tantalum capacitors in left rear corner of PCB in UFO. Remove green .01 mylar cap $\frac{1}{2}$ " foreword and right from tantalums.