undefined

CB Mods

These mods are provided for information purposes only,and i will not be held responsible for what you do with them!!!

My Favorite Web Sites

Back to Main
My Homepage

Super-Talk/Swing Kit.

Here you go: 1- 100uF 35v electrolytic capacitor, 1- transistor TIP-31C

Other transistors you can use and their crosses:
TIP3055 = ECG 392 = 276-2020(Radio Shack)
TIP31C = ECG 291 = 276-2020 (Radio Shack)
TIP120 = ECG 261 = 276-2068 (Radio Shack)

DON'T BOTHER buying the "SUPER-TALK" kits. Make your own!! +

Here are all the VR's for the DX88HL:

1.VR 1...AM/FM S-Meter
2.VR 2...SSB S-Meter
3.VR 3...SSB Squelch Range
4.VR 4...AM/FM Squelch Range
5.VR 5...FM Deviation
6.VR 7...SSB Carrier Balance
7.VR 8...RF Meter
8.VR10...Final Bias
9.VR11...Driver Bias
10.VR12...SSB ALC
11.VR13...AM/FM High Power
12.VR14...AM Modulation
13.VR16...AM/FM Low Power
14.VR20...Final Bias
15.VR21...TX Offset

Galaxy Radios

Galaxy 44V

Channel Expansion

1) Open up your radio.
2) Find the small circuit board on the left of the radio.
3) Cut the green wire and tape it off.
4) There is an unplugged connector by this board..plug it in.
5) Near the front of the radio there is a connector marked +10K. Reconnect the plug to the board.
6) That's it.!You now have 8 bands of 40 channels.25.165-28.755.

Tweak & Peak

Audio Limiter - R249
AM Power - VR13

Galaxy 55V

Tweak & Peak

Audio Limiter - TR53
AM Power - VR13

Galaxy 66V

Channel Expansion

1) Open up your radio.
2) Find the small circuit board on the left of the radio.
3) Cut the green wire and tape it off.
4) There is an unplugged connector by this board..plug it in.
5) Reconnect the plug to the board.
6) That's it. You now have 8 bands, Channels 25.165-28.755.

Tweak & Peak

Audio Limiter - TR53
AM Power - VR13

Galaxy 99V

Tweak & Peak

Audio Limiter - TR53
AM Power - VR13

SUPERSTAR 1700, 3600, 3900

MODULATION: VR14 or cut R249
AM POWER: VR13
SSB POWER: VR12

POWER TWEAK:
1. Remove TR32
2. Replace R174 (10k) with a 1 K
3. Replace R187 (10k) with a 1 K

CLARIFIER:
1. Find the **GREEN WIRE** located at point 54 and UNSOLDER it.
2. Resolder this **GREEN WIRE** to POINT 14 (8.7 V) or to TR 41 collector.
3. Find the **YELLOW WIRE** on the clarifier control and UNSOLDER it. Insulate the cut end. This wire is no longer used.
4. Find D75 (located near POINT 53 and VR15) and lift one end.
5. Find R135 (33k) and lift one end.
6. Double check all work for shorts.

NO EXPLOSION? Then you should be able to track on TX and RX!

CHANNELS:
1. Locate pins #12 and #13 on **IC7** (MC14008BCP chip).
2. Using a SPST toggle switch, wire as follows:
Center of toggle switch goes to pin #13
The other goes to pin #12

Your channels should work with your band selector on "D" band.

It should be able to go from 28.300 Mhz. to 28.500 Mhz.

Super Star 3900 Gold and Cobra 148GTLX Gold

(These 2 radios are the same except for the name)

VR1 - AM/FM S METER ADJUST
VR2 - SSB/CW S METER ADJUST
VR3 - SSB SQUELCH RANGE
VR4 - AM SQUELCH RANGE
VR5 - FM DEVIATION ADJUST
VR7 - CARRIER BALANCE ADJUST
VR8 - RF METER ADJUST
VR10 - FINAL BIAS ADJUST
VR11 - DRIVER BIAS ADJUST
VR12 - ALC ADJUST
VR13 - AM POWER ADJUST
VR14 - AMC
VR16 - CW MON ADJUST
VR21 - Tx FREQUENCY ADJUST
TR32 - IS THE AMC LIMITER

"I don't recommend removing TR32 as it disables VR12 ALC, SSB power will be at full blast.
Instead clip or remove R249. This only disables AMC not ALC.
Tune L40, L43, L44, and L33 for maximum forward swing on wattmeter.
Adjust AM power for no more than 5 watts dead-key - if running a linear amp set at 3 watts dead-key.
Adjust ALC for no more than 20 - 25 watts PEP on SSB.
For Talkback remove D80."

SuperStar 3900

+ 10 KHz Jump Switch

1)Get a SPST switch and mount it in the radio.
2)Find IC 6 & 7 by the PLL chip. You will see J68 and J 69
3)Solder a wire from one side of the switch to J68.
4)Solder a wire from the other side of the switch to J69.
5)That's it .Flip the switch to jump up one channel.

Open Clarifier

1)Find D75 and R135 and cut one end of them.
2)On the back of the clarifier knob follow the green wire to the PC board. Cut this wire from the PC board.
3)Now Solder this wire to a constant 8VDC source, like the collector of TR41.
4)Take the yellow wire and cut it from the knob. Tape this wire it is not needed.
4)This should make the radio TX/RX on the same frequency.

10 Meter Mod

1)Find IC7 ny the PLL chip.
2)Get a SPST switch and mount it in the radio.
3)Solder a wire from one side of the switch to Pin #13.
4)Solder a wire from the other side of the switch to Pin #12.
5)That's it .Put the radio on 'Band D' then flip the switch to jump up to 28.300 to 28.500.

Tweak and peak

Audio Limiter - Cut R249
AM Power - VR13
SSB Power - VR12

Cobra Mods

Radio	Modulation	Power
7 PLUS	VR4 or CUT D8	L11, L12, L13
10 PLUS	VR4 or CUT D8	L11, L12, L13
18 LTD	CUT D13 or CUT R84	L7, L6, L5
18 PLUS	CUT D12	L 7
18 RV	RV501 or CUT D502	L304, L305, L306
19	CUT D11	L5, L8, L9
19 GTL	VR6 or CUT D9	L15, L16, L17
19 LTD	VR6 or CUT D9	L15, L16, L17
19 LTD CLASSIC	VR4 or CUT D7	L7, L8
19 M	REMOVE C73	L8, L5, L3
19 PLUS	RV501 or CUT C511	L305, L306
19 PLUS (Plastic Case)	RV4 or CUT D8	L11, L12, L13
19 XS	CUT D105	
20 B&K	CUT CD20 & CD21	T11, T10, C60
20 LTD	CUT D13	
20 PLUS	RV501 or CUT C511	L305, L306
20 PLUS (Plastic Case)	RV4 or CUT D8	L11, L12, L13
21	REMOVE C105 & C106	T11, T10, C60

21A (Old)	CUT D24	L9, L8
21 GTL	VR5 or CUT D9	L13, L10, L9, L8
21 LTD	VR5 or CUT D9	L13, L10, L9, L8
21 LTD CLASSIC	VR4 or CUT D7	L7, L8
21 PLUS	CUT 1.5K res. next to TR34	L12, L10
21 X	VR207 or CUT D212	L212, L214
21 XLR	RT4 or CUT D13	L15, L12, L11
23 PLUS	RV501 or CUT D502	L304, L306, L307
25 GTL	VR5 or CUT D9	L13, L10, L9, L8
25 LTD	VR5 or CUT D9	L13, L10, L9, L8
25 LTD CLASSIC	VR5 or CUT D9	L10, L9, L8
25 PLUS	CUT 1.5K res. next to TR34	L12, L10
26	CUT D24	L7, L8
28 A	CUT CD28 & CD29	T12, L2, L5
29 A (OLD)	CUT D24	L7, L8
29XLR	VR5 or CUT D14	L15, L12, L11
29 GTL	VR4 or CUT D11	L14, L13, L12
29 LTD	VR4 or CUT D11	L14, L13, L12
29 LTD CLASSIC	VR4 or CUT D11	L14, L13, L12
29 LTD GOLD	VR4 or CUT D11	L14, L13, L12
29 PLUS	CUT D20	L12
31 PLUS	CUT D19	L13, L12, L11
32 XLR	CUT CD11 & CD12	L5, L3
33 PLUS	VR4 or CUT D17	L11, L9
39 LTD (S.O.S.)	RV1	
40 PLUS	RV104 or CUT D203	L305, L306
40 X	RV201 or CUT D203 or C215	L304, L305, L306
41 PLUS	VR4 or CUT D21	L19, L20, L21
45 XLR	VR105 or CUT D119	L113, L109
46 XLR	VR105 or CUT D119	L113, L109
47 XLR	VR105 or CUT D119	L113, L109
50 XLR	VR5 or CUT D119	L109

55 XLR	VR5 or CUT D119	L109
62 XLR	VR3 or REMOVE C67	L16, L15, L12
63 GTL	VR3 or CUT D11	L11, L10, L9
66 GTL	VR2 or CUT D4	L14, L15, L17
66 LTD	CUT R54	
67 LTD	RV4 or CUT D212	L306, L307, L308
77 X	VR207 or CUT D212	L211, L212, L214
78 X	VR6 or CUT D9	L11, L12, L15
85	REMOVE Q17	L3, T4
86 XLR	CUT CD9	L3
CAM 89	ADD 1K res. in series with C110	L13, L12, L9
87 GTL	VR6 or CUT D16	L17, L16, L13
89 GTL	VR6 or CUT D16	L17, L16, L13
89 XLR	VR5 or CUT D14	L15, L12, L11
90 LTD	VR201 or CUT D203	
132 (OLD)	CUT Q25	T14, T15, L3, C116, (ssb) R136
132 A	CUT CD39 & CD40	R79 (ssb) R87
132 XLR	R134 or CUT R125	L3, (ssb)R130
134	CUT D40 & D41	L8, L10 (ssb)VR15

135 (OLD)	CUT Q25	T14, T15, L3, C116 (ssb)R136
135 XLR	R134 or CUT R125	L3, (ssb)R130
138 A (OLD)	CUT D40 & D41	L8, L10 (ssb) VR15
138 XLR	VR7 or VR6	VR8, (ssb)CT7
139	VR12 or CUT D63	L12, L10, (ssb)VR15
139 XLR	VR7 & VR6	VR8, (ssb)CT7
140 GTL	CUT R104	VR6, (ssb)VR7
142 GTL	CUT R104	VR6, (ssb)VR7
146 GTL	VR5 or CUT TR29	VR10, (ssb)VR6
148 GTL	CUT R131	VR10, (ssb)VR11
148 GTL-DX (early prod. model)	VR5	VR11, (ssb)VR7
148 GTL-DX (late prod. model)	REMOVE VR14 or CUT TR32	VR13, (ssb)VR12
148 GTL-B	VR14	RV15, (ssb)RV13
148 GTL-DX (copy ver.)	RV12	RV11, (ssb)RV6,RV3
1000 GTL	VR6 or CUT D16	L17, L16, L13; (ssb)
2000 GTL	CUT R131	VR10, (ssb)VR11
GTL 150	RV14	RV13, (ssb)RV12,RV4

Cobra 25 GTL/L

SAMS PHOTOS: 207
AM LIMITER: D-9
POWER TWEAKS:
1. Change R76 (3.3k) to a 1k (located near mike socket)
2. Change R43 (10 Ohm) to a 2.7 Ohm.
3. Change R108 (1 Ohm) to a .47 Ohm.
4. Replace stock final with a 2SC1969 transistor.
5. Re-tune coils L10,L9,L8 for maximum forward power.

MODULATOR
PARTS NEEDED: 1- 220uF (16 to 25 volt) electrolytic capacitor.
1- 100 to 200 Ohm resistor. (1/4 to 1/2 watt)

ASSEMBLY:
1. Make sure your radio is peaked out.
2. Unsolder JP6 near final.
3. In JP6 holes, solder the 220uF capacitor. (negative side of cap. faces final)
4. On the solder side of the board, solder the resistor across the 220uF capacitor.
You can use different resistor values to get the desired dead-key.

VARIABLE POWER:
1. Find the two wires that are attached to the RF gain control, follow them to the PC board and UNSOLDER them.
2. Solder in a jumper wire from where you removed the wires on the board. This will restore receive.
3. Place the two wires from the RF gain control in your mod kit by soldering one wire to each of the 220uF capacitors leads.

REPAIR TIPS:

1. Channel display reads all 7's or 8's: Leaky/shorted C104(470uF 10v). Replace with a 16v or 25v.
2. NO TX: Check for shorted 33uF(10v) capacitor across C87.
3. OVERMOD: Check D19,TR14,VR5

1. OVERMOD: Check D9
2. LED goes out and NO TX when keyed up: Check C118

1. Burned R89(15 Ohm 1/2 watt): Replace with a 1 watt.
2. OVERMOD: Check for missing or cut D9, missaligned VR5.

Cobra 29 GTL/LTD/CLASSIC

POWER TWEAK #1:
1. Change R58(10 Ohm) to a 2.7 Ohm.
2. Change R123(1 ohm) to a .47 Ohm.
3. Re-tune L14,L13,L12 for maximum forward power.

POWER TWEAK #2
1. Remove final and replace with a 2SC1969 transistor.
2. Remove R123 and replace with a jumper.
3. Replace C58 with a 180pF capacitor.
4. Re-tune coils.

CAUTION!!! I do not know if both of these power mods can be done at the same time!!!

SAMS PHOTOS: 217
AM LIMITER: D-11
MODULATOR AND VARIABLE POWER
ASSEMBLY:
The instructions are the same as the Cobra 25 above,EXCEPT the following:
1. Unsolder JP36 instead of JP6.

REPAIR TIPS:

1. "Motorboating": Locate C242(.001)on pin 5 of TA7222 audio ic and move to pin 4 of ic.
2. Weak mic gain: Some raios have a 2SC372 mic amp. Replace with a 2SC945.
3. Receive on adjacent channel: Bad solder joint to C131 (next to 10.240 crystal).

1. OVERMOD: Check D11
2. PLL dead, no TX or RX: Shorted C112
3. No TX/RX with Channel LED lit on RX and then goes out when keyed: Bad /shorted C119.

1. OVERMOD: Check D11. Missaligned VR4.
2. Internittent audio/modulation: Bad solder joints on pins 1&2 or 2&3 of audio ic.
3. TUNE UP TIPS: L11 is the TVI trap. DO NOT adjust!!! Stretching L12 gets moe output. L14 peak is about a turn or two up from factory original setting.

Cobra 148 GTL

POWER TWEAKS:
1. Remove TR24
2. Change R126 (10k) to a 2.2k
3. Change R124 (10k) to a 4.7k
4. Re-tune L37 and L38 for maximum AM forward power.

SAMS PHOTOS: 249
MODULATION: Cut R131
AM POWER: VR10
SSB POWER: VR11

CHANNEL TWEAKS:
I have found that the easiest way to do this without hacking your radio with a lot of switches is to install the **EXPO 100 kit "L"** expander kit.
This is an excellent kit and installs quickly with very little tools. This way you don't have to fumble around trying to remember which switch goes where, etc...

CLARIFIER:
1. Cut one side of R44 and D52. Remove R174 and solder a jumper wire in its place.
2. Follow the **RED WIRE** from the clarifier control to where it connects to the PC board and cut it loose.
3. Solder this **RED WIRE** to the circuit board ground.
NOTE: Some radios have a **YELLOW WIRE** instead of the **RED WIRE.**
4. Follow the **ORANGE WIRE** from the clarifier control to where it connects to the PC board and UNSOLDER it.
5. Resolder this **ORANGE WIRE** to pin 3 of the MB3756 regulator.
With any luck, you should slide about 5Kz down and 1Kz up.

GRANT-XL (8719 PLL)

POWER TWEAKS:
1. Remove TR24
2. Replace R126 (10k) with a 2.2k.
3. Replace R124 (10k) with a 4.7k
4. Re-tune coils L37 and L38 for maximum forward swing on AM mode.

MODULATION: Remove R131
AM POWER: VR10
SSB POWER: VR11

CLARIFIER:
1. Find D52, R44 and R174 and remove them.
2. Solder a jumper from where you removed R174
3. Follow the **WHITE WIRE** from the clarifier control to where it attatches to the PC board and UNSOLDER it.
4. Resolder this **WHITE WIRE** to the PC board ground.
5. Follow the **ORANGE WIRE** from the clarifier control to where it attatches to the PC board and UNSOLDER it.
6. Resolder this **ORANGE WIRE** to pin 3 of MB3756 Regulator.

NOTE: Some radios have different colored wires on the clarifier control. They are:
YELLOW instead of **ORANGE**
RED instead of **BLUE**

If all goes well, you should slide about 4 down and 1 up.

WANT MORE SLIDE??
1. Remove D51 and put in a jumper.
2. Install a "super-diode" in place of the stock varactor D35.
3. Add a 4.7uh to 10uh choke to the banded-end of the stock varactor.

10 KC JUMP:
Basically, you need to either add voltage or ground pin #16 on the MB8719 PLL.
Here's how to do a 10 Kc UP jump only:
1. Cut trace to pin #16 on the PLL.
2. Install a 4.7K resistor across the cut you made.
3. Using a SPST switch, one side of the switch goes to the cut-side of pin #16.
4. The other side of the switch goes to pin #9 of the PLL. (8 volts)
When you apply the 8 volts, this pulls pin #16 high causing the 10 kc jump up.
Note that this will not work on all channels.

For a 10 Kc DOWN jump only:
1. Ground pin #16 using a SPST switch. No cut to the PLL is necessary.
Pulling pin 16 low will cause it to jump down 10Kc.
This too will not work on all channels.

For a 10 Kc UP and DOWN switch:
Perform the trace cut/resistor addition described above.
Use a SPDT switch and wire as follows:
1. Center of switch goes to pin #9 of PLL (8 volts)
2. One side of switch goes to the cut side of pin #16.

3. The last side goes to pin #18 of PLL (or ground)
This will allow you to jump 10Kc up or down.

COBRA 140,142 GTL , PRESIDENT P-400, UNIDEN WASHINGTON-(8719 PLL)

MODULATION: Remove R104 or TR32
AM POWER: VR6
SSB POWER: VR7
"RX" METER: VR1
"TX" METER: VR10
SQUELCH: VR2
TX FREQ.: VR3
CARRIER BAL: VR5
DRIVER BIAS: VR8
FINAL BIAS: VR9
MOD. METER: VR12

POWER TWEAK
1. Remove TR32
2. Replace R99 (10k) with a 2.2k
3. Replace R94 (10k(with a 2.2k
4. Re-tune coils L36,L37 for maximum forward AM power.

CLARIFIER:
1. Remove R187
2. Remove D36
3. Jumper D35
4. Follow the **RED WIRE** from the clarifier control to the PC board and UNSOLDER it.
5. RESOLDER this **RED WIRE** to pin 3 of regulator IC MB3756.
6. Follow the **ORANGE WIRE** from the clarifier control to the PC board and UNSOLDER it.
7. RESOLDER this **ORANGE WIRE** to the PC board ground.
NOTE: The Orange and Red wires may need to be reversed in some radios for this to work right.
8. Re-align center slot by adjusting CT3.
If all went well and you didn't smoke your radio, you should slide about 1 Kc up and 4 Kc down.

NEED MORE SLIDE??: Install a 5.6uH choke on the banded end (grounded end) of the varactor diode D37 or replace D37 with a super diode.

CHANNEL TWEAKS:

EASY TWEAK: Install EXPO 100 kit "B".
FOR THE DRILL HOLES ALL OVER MY RADIO LOVERS...:
1. Replace 11.1125 crystal with a 11.3258 crystal.
2. Isolate the ground pin 10 of the MB8719 PLL by cutting the PC trace.
3. At this point, turn your radio on and check to varify that all channels are locked in and working. If it is not, adjust these in the following order:
a. CT3 for USB.
b. L20 for LSB.
c. L19 for AM.
4. Install a SPST switch between pins 11 and 12 of the MB8719 PLL
5. Install a SPST switch across the cut you made to isolate pin 10.
6. Check all connections for shorts.
7. Check to make sure everything is working before you drill holes for the switches!

ROAD MAP:

SW1 / SW2 DOWN: NORMAL 1-40
SW1 UP / SW2 DOWN: (ch.15-27) 26.815 to 26.955

SW1 UP / SW2 UP:
1= 27.605 6= 27.505 11= 27.565 20= 27.525
2= 27.455 7= 27.515 12= 27.585 23= 27.575
3= 27.465 8= 27.535 13= 27.595
4= 27.485 9= 27.545 14= 27.605
5= 27.495 10= 27.555 16= 27.475
SW1 DOWN / SW2 UP: (ch. 1-40) 27.605 to 28.045

COBRA 2000 GTL

MODULATION: VR12 or Cut R131
AM POWER: VR10
SSB POWER: VR11
AM SIGNAL METER: VR1
SSB SIGNAL METER: VR2
SQUELCH: VR3
CARRIER BALANCE: VR4
TX FREQ.: VR5
TX METER: VR6
MODULATION METER: VR7
FINAL BIAS(50 Ma): VR8
DRIVER BIAS(25 Ma): VR9

POWER TWEAK:
1. Remove TR24
2. Replace R126 (10k) with a 2.2k
3. Replace R124 (10k) with a 4.7k
Re-tune coils L37,L38 for maximum forward power.

REPAIR TIPS:

Frequency counter eratic:
1. Find D528 (5.7v 1/2W zener) located in the freq. counter module.
2. Replace it with an NTE-136A 1 watt zener.

Transmit on SSB, but not on AM:
1. Find the regulator TR41 (2sc1419) and remove it.
2. Replace with a GE-66(10 amp) or an NTE-152 (7 amp)

Channel display glows dim after radio is shut down, freq. counter may be unstable
1. Find Fet-501 and Fet-502 located in freq. counter module and replace them.
Older models use: 2SK19GR
Newer models use: 2SK192A

CLARIFIER:
1. Remove R44 and D52.
2. Remove R174 and put a jumper in its place.
3. Follow the **YELLOW** wire from the clarifier control to where it connects to the PC board and UNSOLDER it.
4. Solder this **YELLOW** wire to the PC board ground.
5. Follow the **RED** wire from the clarifier control to where it connects to the PC board and UNSOLDER it.
6. Solder this **RED** wire to pin #3 of MB3756 regulator.
7. Find the **BROWN** wire on the clarifier control UNSOLDER it, and tape it out of the way.

No smoke? Then you must have about 1Kc slide up and 5Kc down!

Uniden WASHINGTON (858 pll)

MODULATION: VR7 or cut D23
AM POWER: VR8
SSB POWER: CT7
RX COILS: L3 thru L8
TX COILS: L32,L30
SAMS PHOTOS: #126,127,128,170,171,176,179,200,207

POWER TWEAKS:
(Mike circuit changes:)
1. UNSOLDER banded end of diode D21 and lift up.
2. UNSOLDER banded end of diode D22 and lift up.
3. SOLDER a 4.7 k resistor across where D21 and D22 was unsoldered.
4. Replace R78 (27k) with a 56k.
5. Replace R84 (4.7k) with a 2.2k.

(Transmit circuit changes:)
1. Replace C174 (56pF NPO) with a 82pF NPO ceramic capacitor.
2. Replace C173 (180pF NPO) with a 220pF NPO ceramic capacitor.
3. Re-tune coils L32,L30,L29,L28 and VR8 for maximum forward AM power.

CLARIFIER:
1. UNSOLDER and remove D30.
2. UNSOLDER and remove D29.
3. Add a jumper in the holes from where you removed D29.
4. Cut the end of R119 that is closest to D29.
5. Add a jumper wire from R119 (the cut end) to the banded end of D44.
6. Follow the **PURPLE/WHITE** wire form the clarifier control to the PC board and UNSOLDER IT.
7. Resolder this wire to the PC board ground.
8. If all went well, you should slide 1 kc up and 3 kc down.

KNOWN BUGS:
The AM regulator **2SC1419** is WEAK. UNSOLDER it and toss it in the trash.
Replace it with a GE-66, ECG-152 or a NTE-152.
Relay buzzes on SSB, no am transmit, lights go dim, or the fuze pops sometimes?
Replace C179 (a 2.2uF 25v tantalum cap located near finals) with a standard 2.2uF electrolytic capacitor.
PAY ATTENTION to the "+" and "-"!!!

Uniden PRO-510XL,PRO-500D,PRO-520XL

POWER TWEAKS:
1. Locate the 2.7 ohm resistor in front of the final bias resistor(15 Ohm w/RF bead) and change it to a .47 Ohm. (DO NOT change the 15 Ohm resistor!!)
2. Re-tune L9;L6,L5,L4 for maximum forward power.

MODULATION: Cut D14
AM POWER: L6,L5
VR1: Squelch
VR2: TX meter
VR3: RX meter
VR4: RX IF gain

Uniden PC-66,PC-66A

MODULATION: VR5 or cut D9
AM POWER: L13,L10,L9,L8

POWER TWEAK: (ALSO WORKS ON: Uniden AR44,AX44,AR711)
1. Replace R76 (3.3k) with a 1k.

2. Replace R43 (10 Ohm) with a 2.7 Ohm.
3. Replace R108 (1 Ohm) with a .47 Ohm.
4. Re-tune coils L13,L10,L9,L8 for max forward power.

ZACHARY T. (new model w/2816 pll)

POWER TWEAK:
1. Remove C128 (.47uF).
2. Remove TR16.
3. Replace R132 (1k) with a 470 Ohm.
4. Replace R50 (3.9 Ohm) with a 1 Ohm.
5. Re-tune coils L13,L12,L11 for maximum forward power output.
6. Jumper C61 with a 67pF capacitor.
7. Replace TR10 (2SC2029) with a 2SC1969 then tune L16,L17 and spread L14 For even power across band.
8. Remove D13 and replace with a jumper. (This supplies more power to final)

MODULATION: VR6 or cut D16.
AM POWER: L13,L12,L11
RX COILS: L1 thru L8, VR1
SAMS PHOTOS: #223,229,235,243,272,282

CHANNEL TWEAK:

1. Use EXPO 100 kit "A" for 26.515 to 27.855 coverage.
2. Isolate pin 9 on the pll for a 5kc drop.

77-285 MIDLAND

There are two printed ciruit boards for the 77-285. You must first determine which you have.

Circuit board "A"

This board can be identified because D18 has been cut. To restore full power simply resolder D18 or replace it.

Circuit board "B"

On the "B" circuit board D18 is intact (has not been cut out). To restore full power, locate D18 and trace the etch. Put a solder bridge between the open pads.

Channel Conversion:

STEP 1. Take the bottom portion of the case off and unplug the speaker.

STEP 2. With the bottom of the case off, turn the radio over and in this position the Midland name should be upside down. Tilt the chasis forward toward the face plate. As you look at the inside panel the LC7232 IC chip should be readable and pointing toward you (upper right corner). You need to open solder bridges 5 and 6 from left of the chassis(bottom left).

77-290 MIDLAND

STEP 1 Remove top and bottom cover.
STEP 2. Prepare an 8" small gauge jumper wire Tin both ends.
STEP 3. Remove the 1K ohm chip resistor on the radio front panel.
STEP 4. At the removed resistor location, solder the prepared jumper to the pcb pad nearest the center of the radio.
STEP 5. Solder a 1K ohm 1/8 watt lead resistor to the other end of the jumper.
STEP 6. Solder the free end of the resistor to the emitter lead (lead nearest the rear of the radio) of Q61.
STEP 7. Turn the radio over so the bottom of the pcb is facing up and the front is closest to you.
STEP 8. Locate chip resistor R63 and remove

240 Channels:

Press and hold "DW" and "9" then turn radio on. Select bands by using the "19" button.
To set for 28Mhz to 29.7 Mhz press and hold "LCR" and "eMIC"e then turn radio on. To switch back to 40 channel mode repeat process.

Microphone Gain:
1. Chip resistor R138 controls mic gain decreasing the value of the resisitor increases the gain. Generally have 270 ohm, the value can be as low as 150. If too much gain is used oscillation may occur.

TRC485

Audio Limiter cut RV5 or cut R111 4.7K resistor
No SSB Control for ALC
AM Power Level RV 10
Open Clarifier:Remove the 5 volt switched voltage from clarifier control. (REMOVE THE FACE PLATE TO CUT THE TRACE). Solder 4.7k resistor from SJ32 to the closest leg of clarifier control. snip d21 by crystal on main board. Jump surface mount resistor 181 by clarifier control

Galaxy DX77HML Extra Channels Modification

1.Remove the top of the case (The Part that does not have the speaker on it) and locate the wire (is usually green or red about 2 inches long)toward the front of the radio.

2. Unsolder it from the ground and the two pins. After you have removed this wire make sure there is no solder connecting the two pins together.

3. Find the connector toward the front right of the radio labeled 10K and reconnect this plug to the connector on the circuit board. (NOTE: This plug may already be attached when you get your radio.)

4. All thats left to do is put the case back on and your done.

Modulation Mod

VR14 may have been adjusted or TR53 may have been cut or removed

Variable Alignment Points That May Have Been Adjusted

VR1=AM S-Meter VR2=SSB/CW S-Meter VR3=SSB Squelch VR4=AM Squelch Range

VR5=FM Deviation VR7=Carrier Balance VR8=RF Transmit Meter VR10=1st Final TX Bias

VR11=Driver For TX Bias VR12=ALC For SSB Power VR13=AM High Power

VR14=AMC for AM Modulation VR16=AM Low Power VR20=2nd Final TX Bias

VR21=Frequency Adjustment Carful on this one

Euro 3900 Channel Modification

Remove the bottom cover, be carful not to pull the speaker wire out. There is a black plastic rectangular plug (CN5) which is in the front center of the radio right in front of the gold colored crystal. Using small needle nose pliers, pull the plug off and reinsert it in the next slot. You now have the 11 meter band on Band D. NOTE: You also have to pull out the calibrate knob to get the extra channels.

Euro 3900 Power Mod

Locate the trim caps labeled "AMP", "MOD" AND "SSB". Turn these adjustment screws all the way to the right. These caps are on the same board as CN5, but on the oppisite end. Thats all there is to it. You should see around 15 watts on AM and 25 watts on SSB

PLL 02A MODS

This chip can be found in many radios. This mod might work on the SSB units also.

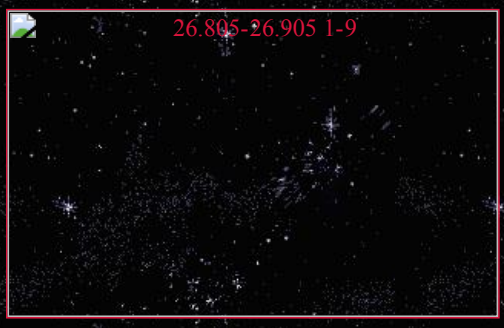
G.E.

3-5804D,3-5811B,3-5812A,3-5813B,3-5819A

Midland

76-858,76-863,76-886,77-830,77-838,77-849,77-857,77-882,77-888,77-899,77-955,77-963

And just about anything with a PLL 02A chip in it.
The 23-channel radios will give different channels.



1)Cut the Trace going to **PIN #11**.
2)Solder a 3.3 K resistor across the cut.
3)Solder 1 leg of a **SPST** switch to **PIN #8**.
4)Solder the other leg to **PIN #11**.

1 - 26.805 . . . . . 4 - 26.845 . . . . . 7 - 26.875
2 - 26.815 . . . . . 5 - 26.855 . . . . . 8 - 26.895
3 - 26.825 . . . . . 6 - 26.865 . . . . . 9 - 26.905

1)Cut the Trace going to PIN #10.
2)Solder a 3.3 K resistor across the cut.
3)Solder 1 leg of a SPST switch to PIN #9..
4)Solder the other leg to PIN #10 after the resistor.

This will give you 26.645 to 26.745 Mhz on channels 1 - 38.

1)Cut the Trace going to PIN #9.
2)Solder a 3.3 K resistor across the cut.
3)Solder 1 leg of a SPST switch to GROUND.
4)Solder the other leg to PIN #9 before the resistor.

This will give you 27.425 to 27.705 Mhz on channels 12-38.

1)Cut the Traces going to PIN #10 and PIN #9.
2)Solder a 3.3 K resistor across the cuts.
3)Using a DPDT Center-Off type switch solder wires from the PLL to the back of the switch as shown.

When the switch is UP.
This will give you 26.435 to 26.7455 Mhz on channels 10 - 38 .

When the switch is DOWN.
This will give you 26.755 to 27.055 Mhz on channels 10 - 38 .

SuperStar 121

+ 10 KHz Jump Switch

1)Get a SPST switch and mount it in the radio.
2)Find IC 6 & 7 by the PLL chip. You will see J25 and J27
3)Solder a wire from one side of the switch to J27.
4)Remove the jumper that is J25.
5)Install a 4.7k Ohm resistor in its place.
6)Solder a wire from the other side of the switch to J25.(see Picture)
5)That's it. Flip the switch to jump up one channel.

Channel Expansion

1)You will need 3 SPST switches and mount them in the radio.
2)Find the PLL MC145106.
3)Locate pin # 10 and cut the trace going to this.
4)Switch #3 will be soldered to the cut traces on pin # 10.
4)Solder wires to the other 2 switches as in the picture above.
5)That's it!

ALl the switches down will give the normal channels of the radio.

With the radio in 'HIGH' band and switch 1 UP , 2 DOWN , and 3 DOWN:

You get 27.845 - 27.955 on channels 10 to 19.

With the radio in 'MID' band and switch 1 UP , 2 UP , and 3 DOWN:

You get 27.925 - 28.065 on channels 1 to 12.

With the radio in 'HIGH' band and switch 1 UP , 2 UP , and 3 DOWN:

You get 28.045 - 28.155 on channels 27 to 38.

With the radio in 'HIGH' band and switch 1 DOWN , 2 DOWN , and 3 UP:

You get 26.135 - 26.575 on channels 1 to 40.

Emperor TS-5010

Frequency Expansion

1) This is one of the more difficult mods out there.
2) Open the bottom cover of the radio .
3) Find the PLL Board. Its the one with the 64 pin chip on it.
4) At the front of this board by the PLL chip ther are 2 resistors R540 and R539.
5) Cut them.
6) Close the radio up. Turn it on.

Tweak and Peak

Audio limiter - R247
AM Power - VR 111
SSB Power - VR 103

RIT Modification

1)Remove top and bottom covers.
2)On the top of the main board find D140.Cut it.
3)Solder one end of a **10 OHM** resistor to the location in the picture below.
4)Take a **7.5v zener** diode and solder the end without the band to the small brass shield.
5)Now solder to other end of the diode to the open end of the resistor.

6)Find the PC Board that is behind the **RIT** Knod

7)Cut the trace as you see in the picture above.
8)Solder a wire(***See the green wire in the pics***) from the point that the diode and resistor meet togeteher to the bottom of the board where you made the cut.

Aligning the RIT

1)Place the radio so that the smaller PC Board is facing up.
2)Turn it on and dial up 28.000 MHZ and put the rit dead center.
3)On the samller PC Board locate J502.***(upper right)***
4)Pull the grey cable off the board and connect it to your frequency counter.
(Sorry you can't use them $49 dollar specials from copper.
You have to have a frequency counter with a probe on it)
5)Hook up the probe and if it should read 38.695 +/- 100 Hz.
6)If not then adjust L501.
7)Put the radio back together.You shound have about 6KHz of slide.

Extra Channels for the 5080 PLL

COBRA 32 XLR , 86 XLR and Tram D42

1) Mount 2 SPST toggle switches in a good loacation on the radio.
2) Locate PIN #8 of the PLL and unsolder the green wire and remove any excess solder .

3) Cut the trace that is connecting pin #8 to the PCB.
4) Resolder the green wire to the other side of the cut trace.
5) Now take a 100k resistor and solder one end to pin #8 and the other end to ground on the PCB.
5) Solder the wires onto the switches and pins of the chip like in the diagram above.

With Switch #1 down and Switch #2 down will be regular CB channels

With Switch #1 up and Switch #2 up will be the low channels

.3 - 26.665_____ 15 - 26.815
.4 - 26.685_____ 16 - 26.835
.5 - 26.695_____ 17 - 26.845
.6 - 26.705_____ 18 - 26.855
.7 - 26.715_____ 19 - 26.865
.8 - 26.735_____ 20 - 26.885
.9 - 26.745_____ 22 - 26.905
11 - 26.765_____ 23 - 26.935
12 - 26.785_____ 24 - 26.915
13 - 26.795_____ 25 - 26.925
14 - 26.805_____ 26 - 26.945

With Switch #1 up and Switch #2 DOWN will be the HI channels

11 - 27.405_____ 19 - 27.505
12 - 27.425_____ 20 - 27.525
13 - 27.435_____ 21 - 27.535
14 - 27.445_____ 22 - 27.545
15 - 27.455_____ 23 - 27.575
16 - 27.475_____ 24 - 27.555
17 - 27.485_____ 25 - 27.565
18 - 27.495_____ 26 - 27.585

858 PLL FREQ MOD

COBRA 138 139 XLR *(OLD)* PRESIDENT GRANT, WASINGTON,MADISON , ROYBN 510 , 520D ,TRC 449 457 AND 458

1)FIND PIN #19 OF THE 858 CHIP.THIS PIN WILL BE CONNECTED TO GROUND WITH A SMALL TRACE. CUT THE TRACE AND SOLDER A 4.7K OHM RESISTOR ACROSS THE CUT .

2)FIND PIN#21 AND DO THE SAME AS YOU DID TO PIN #19.

3)INSTALL A SPDT CENTER OFF TYPE AND ALSO A SPST SWITCH IN THE CHASSIS OF THE RADIO.SOLDER THE WIRE FROM THE CHIP TO THE 2 SWITCHES AS IN THE PIC ABOVE.

4) TURN THE RADIO ON AND SEE IF ALL THE CHANNELS WORK.IF NOT THE YOU WILL NEED TO "BROAD BAND" THE RADIO.CUT THE 2 TRACES AND INSTALL THE 2 JUMPERS AS IN THE PIC BELOW.

Now with s1 up and s2 center this is the reg CB
With s1 up and s2 up will be 27.455 to 27.805 on CH. 8-40
With s1 up and s2 dn will be 27.855 to 28.005 on CH.8-20
With s1 dn and s2 up will be 26.455 to 26.805 on CH. 8-40
With s1 dn and s2 dn will be 26.855 to 26.955 on CH.8-16
With s2 dn and s2 center will be 26.085 to 26.45 on CH. 11-40

Broad Band Alignment

Unlocking the Clarifier

1)Cut R-117
2)Cut D-30
3)Find the backside of the clarifier knob.Follow the PURPLE and BROWN wires and cut them just before they connect to the PCB.
4)Solder the PURPLE wire to an 8 VDC source.
5)Solder the BROWN wire to GROUND.

Extra Channel mods for the MB8719 PLL

If your radio has a MB8734 pll change it to a MB8719

COBRA 140 , 142 GTL , PRESIDENT WASINGTON AND McKINLEY AND P400

1) Mount 2 SPST toggle switches in a good loacation on the radio.
2) Locate and unsolder the 11.1125mhz Crystal and replace it with a 11.3258 mhz crystal.
3) Locate pin 10 of the mb8719 chip.Cut the trace that is connected to it.
4) Solder the wires onto the switches and pins of the chip like in the diagram above.

COBRA 148 , 2000 GTL , UNIDEN GRANT AND MADISON

The mod is basically the same for these radio EXCEPT that there is no PC trace going to pin#10 on this PLL.

On the Cobra 2000gtl you will find a MB8734 pll replace it with a MB8719 PLL

Clarifier Modification

PRESIDENT GRANT AND MADISON

1)Cut **d-52** and r-148.Find **r-174** and solder a wire across the resistor.
2)Find the **RED** wire that comes off the clarifier control and cut it just before it connects to the PCB. Take that wire and solder it to **GROUND** on the PCB
3)Cut the **orange** wire just like the **red** wire but solder this wire to pin # 3 if IC-4 the MB3756 ic regulator.

This should give you about 5 khz is slide on this radio.

COBRA 148 GTL & UNIDEN GRANT XL

1) Cut **R44** and **D52**.Find **R174** and jump it .
2)Follow the **red** wire from the clarifier knob and cut it just before it connects to the PCB.Take this wire and solder it to Ground.
3)Find the **orange** wire from the clarifier and cut it the same.Then solder it to pin #3 of the mb3756 ic.

This should give you about 6khz of slide.

COBRA 2000 GTL

1) Cut **R44** and **D52**.Find **R174** and jump it .
2)Follow the **YELLOW** wire from the clarifier knob and cut it just before it connects to the PCB.Take this wire and solder it to Ground.
3)Find the **RED** wire from the clarifier and cut it the same.Then solder it to pin #3 of the mb3756 ic.
4)Cut the brown wire off the clarifier knob.

This should give you about 6khz of slide.The fine control will work also.

COBRA 140GTL,142GTL,PRESIDENT WASHINGTON,McKINLEY,AND P400

1)Cut **r187** and **d36**.
2)Find the **red** and **orange** wires commong off the clarifier knob.Cut them where they connect to the PCB.
3)Take the **red** wire and solder it to pin #3 of the mb3756 IC.Solder the **orange** wire to PCB ground.

NOTICE:On some radios the red and orange might have to be reversed to slide in the right direction.

10 Kc jump switch

Cut the trace going to pin #16 and bridge it with a 4.7k resistor. Then use a SPDT center off switch solder the middle terminal of the switch to the pin before the cut. Next solder one side to a 5 volt dc source and the side of the switch to ground or pin #18.

COBRA 142 AND 140GTL

MOD.-R104 AM PWR- VR6 SSB PWR-VR7

COBRA 2000 148GTL PRESIDENT WASHINGTON MADISON

MOD.-R131 AM PWR.-VR10 SSB. PWR-VR11

Cobra 146 GTL

Realistic TRC-453

Uniden AR-144

Uniden PC-122 & AR-144

Uniden Pro -810e Base

...and similiar SSB radios.

Clarifier modification: Cobra 146 & AR-144

1) Lift anode of D-30 and connect a 5.6 uH choke in series.
2) Cut D-32.
3) Cut both traces on the PCB going to the clarifier.
4) Solder one wire to PCB ground.
5) Solder a wire from the other cut trace to an 8 VDC source
(note: 8 volts can be found on the cathode of D-50).
6)This should give you 5 kc of slide.If more slide is wanted then change D-30 to a super slide doide.

Clarifier modification: TRC-453 and Uniden PC-122

1)Find the backside of the clarifier knob.
2)Solder the bottom pin to GROUND. 3)Solder a wire to the top pin of the PCB.
This pin should be cut loose from any traces going to it!)

4)Solder that wire to an 8VDC source.This can be found on the second jumper behind the PLL chip(IC-2).
5)Cut D-25.

Clarifier modification: Uniden Pro-810e

1) Cut D-25.
2) Cut D-32.
3) Cut both traces on the PCB going to the clarifier.
4) Solder one wire to PCB ground.
5) Solder a wire from the other cut trace to an 8 VDC source
(note: 8 volts can be found on the trace that connects R-107 & R-106
6)This should give you 3 kc of slide.If more slide is wanted then jump D-24 with a piece of wire.*(Sometimes it works)*

Channel Expansion:

1)Unsolder the PLL chip.UPD2824 or D2824.
2)Throw it away.Its can't be modified.
3)Solder in a new PLL UPD2816.
4)Connect pin #20 to pin #21 GROUND.
5)Solder a wire from pin #9 to one side of a SPST switch.
6)Solder a wire from PCB GROUND to the other side of the switch.
7)If all goes well this should give you 27.420 - 27.860 Mhz.
Yes, i know 27.420 in between the channel SO use the clarifier for the 5 kc offset.
8)If you can't get all the frequency coverage then adjust L-14 the VCO coil.

"Peaks and Tweaks"

VR 10 is AM power
VR 6 is ALC
VR 5 is AM Modulation
VR 7 is RF Power meter
VR 1 is S-meter adjust.

DeerSlayer 240

Frequency Expansion

1) Unplug the radio and turn it on.*(This is to drain the power out of the cpu)*
2) Remove the covers off of the radio.
3) The radio has a removable plug on the front board with a blue jumper on it.
4) Disconnect this plug.
5) Close the radio up. Turn it on.
6) The radio should now have 6 bands (A-F). Use the chan 9 button to change bands.

President Grant Export Mods

President Grant extra Channels

1)The switch needed is a SPST/CENTER-OFF type.Mount this in the radio somewhere.
2)Find the PLL MB8719 chip.Find pin #11 and cut the trace going to it on the foil side of the PCB.
3)Solder a 4.7k ohm resistor across the cut that you just made.
4)Now you are ready to attach the wires from the switch to the locations on the PCB.
5)Solder a wire from the top pin on the switch to PCB ground.
6)Solder a wire from the middle pin on the switch to pin #11.
7)Solder a wire from the tbottom pin on the switch to pin #9.
(*If you do not get ALL the new channels adjust the VCO coil,*L-18)

With the switch in the **UP** position:

12 = 27.875 17 = 27.935 22 = 27.995 26 = 28.035
13 = 27.885 18 = 27.945 23 = 28.025 27 = 28.045
14 = 27.895 19 = 27.955 24 = 28.005 28 = 28.055
15 = 27.905 20 = 27.975 25 = 28.015 .
16 = 27.925 21 = 27.985 .

With the switch in the **CENTER** position is regular channels

With the switch in the **DOWN** position:

12 = 26.335 17 = 26.395 21 = 26.455 24 = 26.475
13 = 26.345 18 = 26.405 22 = 26.465 25 = 26.485
14 = 26.355 19 = 26.425 23 = 26.495 26 = 26.495
15 = 26.365 20 = 26.445 27 = 26.505
16 = 26.385 .

President Grant SLIDER mod

1) Cut D-45.
2) Find D-79 and jump it (*Solder a wire across it*)
3) Remove r-120 and replace it with a 470 ohm resistor.
4) Find the **BLUE** wire from the clarifier knob and cut it just before it connects to the PCB. Solder it into the hole that is next to where R-120 is.
5) Find the **GREY** wire from the clarifier knob and cut it just before it connects to the PCB. Solder it to a constant 8.5 volt supply.(*This can be the **center** pin of TR-39*)

Hopefully this should give you about 3 khz of slide.

President Grant MIKE wiring

President Grant 'peak & tweak'

MODULATION - Adjust VR-14
AM POWER - VR-13
SSB POWER - VR-12

SEARS AM/SSB ROADTALKER BASE/MOBILE

SEARS ROADTALKER BASE/MOBILE

1)Open the radio and you will find a metal case around the pll chip.unsolder this. 2)Cut the trace around pin 9 and 8 . 4)Solder a 4.7k resistor from pin 8 to ground. 5)Install a 6 posistion/ double pole rotary swicth in the radio.then run wires (the red lines) from the switch posistions to the locations on the pc board. 6)Solder a 1n914 diode from pin 1 to pin 4 on the switch. 6)Solder a wire from pins 2A to 3A ,to 4A to 5A.

Adjust t302, the VCO,so that the radio will TX/RX on all the extra channels. HINT:USE A PLASTIC TUNING TOOL TO MAKE THIS ADJUSTMENT OR YOU WILL BREAK THE COIL!!

POSITION 1

Channel 1 to 40 is 26.485 to 26.925

POSITION 2

All the regular CB channels

POSITION 3

Channel 12 to 27 is 27.425 to 27.595

POSITION 4

Channel 1 to 40 is 27.605 to 28.045

POSITION 5 AND 6 will give regular CB Channels

CLARIFIER MODIFICATIONS

1)Find the green wire coming off the **FINE TUNING** control.Follow the wire to the pc board where it connects and unsolder it.
2)Find the **RED** wire behind the meter display and solder it to that location(there is 8VDC there)
3)Find the **BLACK** wire from the **FINE TUNING** control and unsolder it from the PCB.
4)Solder this wire to **PC GROUND** .
5)Find the **PURPLE** wire from the **FINE TUNING** control and unsolder that from the PC board.
6)Solder this wire to the point on the PC board where R303 and the cathode,***the end with the band around it!*** , of **D301**.

This mod will give you about 3khz up/down off the "channel".
If you move the clarifier and the radio "drops out" you will need to JUMP d301 and put the purple wire back to where it was.

RCI 2950

Someone here recently posted a message asking for available mods for the Ranger RCI-2950 10 meter radio. Here's what I have.

Frequency Modification

1. Remove the case. I *think* you can remove either the top cover or the bottom cover to get to the PC board with the jumpers. It will be a small PC board immediately behind the front panel.
2. Locate "J2". There will be a jumper on pins P3 and P4.
3. Remove this jumper to expand coverage to 26 MHz - 29.7 MHz.
4. Move the jumper from P3-P4 to P1-P2 to expand coverage to 26 MHz - 32 MHz.
5. After moving (or removing) the jumper, press the CPU reset button (located below J2).

NOTE: Operation between 30-32MHz may require retuning the VCO.

CB Channel Readout Modification
1. Locate J1. There will be a jumper on pins P1-P2.
2. Remove jumper and place on P2-P3.
3. Press the LOCK button on the front panel. The readout will now display the CB channel number 1-40 -- also will display "A" channels.
4. Press LOCK again to return to VFO mode.
NOTE: The SHF button will not operate while in CB mode.
This modification will disable the frequency lock function.

CB Channel 9 Select Modification
1. Locate J3. There is a jumper between P1-P2.
2. Remove the jumper and place it on P2-P3.
3. Press the "roger beep" button to go directly to CB Channel 9.
NOTE: Doing this modification makes it impossible to turn off the roger beep feature (unless, *possibly* you make sure the roger beep is turned off before moving the jumper. I'm not sure).

"Tuneup" Modifications

Adjust VR14 (AMC) for maximum forward modification. Mod limiter Q32 can be removed for more modulation, but it also disables VR12 (SSB ALC) and disables variable power for SSB. I do not recommend removing Q32; you'll have plenty of modulation as is.

Tune L34, L13, L14, L46 and L10 in AM mode for maximum forward swing, using a peak-reading wattmeter. Try to balance for even power from top to bottom of frequency range.
NOTE: You'll have a LOT of trouble identifying these cans. Sorry, I don't know for sure where they are either.

Adjust VR13 (AM High Power) for 12 watts dead key with the front panel RF power control at maximum. Adjust VR15 (AM Low Power) for 2 watts dead key with front panel RF power control at minimum.
>From the 12-watt dead key you should see a forward swing of 30-40 watts.
>From the 2-watt dead key your should see a forward swing of 18-20 watts.

Adjust VR12 (SSB High Power ALC) for maximum PEP on SSB, then back off just a little, with front panel RF power control at maximum.
Adjust VR16 (SSB Low Power ALC) for 5-6 watts PEP on SSB with front panel RF power control at minimum. You should see 40-50 watts PEP on SSB with front panel RF power control at maximum.

Microphone wiring diagram

Pin 1 -- shield
Pin 2 -- Audio
Pin 3 -- Transmit
Pin 4 -- Receive
Pin 5 -- Frequency select up \ These might be reversed.
Pin 6 -- Frequency select down /

Radios And Their PLL Chips!

PLL	*CHASSIS*	*RADIO MAKE*	*RADIO MODEL*
GREAT UK	NA	ACADEMY	501
MSM5807	NA	ALARON	B4900
M58473P	NA	AMERICAN MOTORS	32311847
M58473P	NA	AMERICAN MOTORS	32311848
M58473P	NA	AMERICAN MOTORS	32311849

M58473P	NA	AMERICAN MOTORS	32311850
LC7136	PCMA002F	AMSTRAD	CB900
LC7136	PCMA002F	AMSTRAD	CB901
TC9106P	NA	AR	44
TC9106P	NA	AR	711
PLL02A	PCMA001S	ARGUS	5000
TC9119	PA034	AUDIOLINE	340
TC9119	PA034	AUDIOLINE	341
TC9119	PA034	AUDIOLINE	345
LC7130	NA	AUDIOVOX	MCB40
UPD2810C	NA	AUDIOVOX	MDU6000
UPD2812C	NA	AUDIOVOX	MCB5000
SM5118	NA	AUTOMATIC	CBR2175
PLL02A	PTBM048A0X	AWA/THORN	1503
PLL02A	PTBM048A0X	AWA/THORN	1503
TC9106P	NA	AX	44
TC9106P	NA	AX	711
GREAT UK	NA	BARRACUDA	GT868
LC7136	PTBM134A0X	BARRACUDA	HP940
LC7136	PTBM134A0X	BINATONE	5-STAR
LC7136	PTBM134A0X	BINATONE	SPEEDWAY
PLL02A	PTBM049	BOMAN	CB910
PLL02A	PTBM049	BOMAN	CB920
PLL02A	PTBM049	BOMAN	CB930
PLL02A	PTBM048A0X	BOMAN	CB950
PLL02A	PTBM048A0X	BOMAN	CB950
PLL02A	PTBM049	BOMAN	CBH990
SM5118	NA	BOMAN	CBR9940
UPD858C	NA	BOMAN	CBR9600
UPD861C	NA	BOMAN	CBM6100
MC145106	NA	BROWNING	MARK 4A
TC5080P	NA	BROWNING	BARON
TC5080P	NA	BROWNING	SABRE
PLL02A	PTBMO48A0X	CARDON	IROQUOIS 40
UPD861C	NA	CDE	MARK 26
M58472P	NA	CHANNEL MASTER	CB6830
M58472P	NA	CHANNEL MASTER	CB6832
SM5118	NA	CHRYSLER	4048076
SM5118	NA	CHRYSLER	4048077
PLL02A	PTBM048A0X	CITIZEN	MPL-5
LC7130	NA	COBRA	19+
LC7130	NA	COBRA	19DX
LC7130	NA	COBRA	19XS
LC7130	NA	COBRA	20+
LC7130	NA	COBRA	40+
LC7130	NA	COBRA	67LTD
LC7130	NA	COBRA	70LTD
LC7130	NA	COBRA	90LTD
LC7130	NA	COBRA	66
LC7136	NA	COBRA	21FXM
LC7185	NA	COBRA	18RV
LC7185	NA	COBRA	23+

MB8719	NA	COBRA	140GTL
MB8719	NA	COBRA	142GTL
MB8719	NA	COBRA	148GTL
MB8719	NA	COBRA	148GTLDX (EARLY)
MB8719	NA	COBRA	2000GTL
MB8719	NA	COBRA	47XLR
MB8719	NA	COBRA	55XLR
MB8719	NA	COBRA	PC879
MB8719	NA	COBRA	46
MB8719	NA	COBRA	50
MC145106	NA	COBRA	148GTLDX (LATE)
PLL02A	PTBM122D0X	COBRA	148GTL-B
PLL02A	PCMA001S	COBRA	148GTLDX (FAKE)
PLL02A	PTBN121D4X	COBRA	150GTL
SM5123A	NA	COBRA	18+
SM5123A	NA	COBRA	21+
SM5123A	NA	COBRA	25+
SM5123A	NA	COBRA	29+
SM5124A	NA	COBRA	31+
SM5125B	NA	COBRA	33+
TC5080P	NA	COBRA	132XLR
TC5080P	NA	COBRA	135XLR
TC5080P	NA	COBRA	32XLR
TC5080P	NA	COBRA	87XLR
TC5080P	NA	COBRA	86
TC9106P	NA	COBRA	18LTD
TC9106P	NA	COBRA	20LTD
TC9106P	NA	COBRA	21GTL
TC9106P	NA	COBRA	21LTD
TC9106P	NA	COBRA	26GTL
TC9106P	NA	COBRA	25LTD
TC9106P	NA	COBRA	19GTL
TC9106P	NA	COBRA	19LTD
TC9106P	NA	COBRA	78X
UPD2814C	NA	COBRA	66GTL
UPD2816C	NA	COBRA	1000GTL
UPD2816C	NA	COBRA	29GTL
UPD2816C	NA	COBRA	29LTD
UPD2816C	NA	COBRA	63GTL
UPD2816C	NA	COBRA	87GTL
UPD2824C	PC833	COBRA	146GTL
UPD858C	NA	COBRA	138XLR
UPD858C	NA	COBRA	139XLR
UPD858C	NA	COBRA	21X
UPD858C	NA	COBRA	21XL5
UPD858C	NA	COBRA	29XLR
UPD858C	NA	COBRA	77X
UPD858C	NA	COBRA	89XLR

MC145106	NA	COLONIAL	FR360

C5121	NA	COLT	357A
LC7120	NA	COLT	222
LC7120	NA	COLT	510
LC7130	NA	COLT	210
LC7136	NA	COLT	295
PLL02A	PTBM048A0X	COLT	1200 EXCALIBUR
PLL02A	PTBN121D4X	COLT	1200DX EXCALIBUR
PLL02A	PTBM125A4X	COLT	1600DX
PLL02A	PTBM125A4X	COLT	2000DX
PLL02A	PTBN121D4X	COLT	320DX
PLL02A	PTBN121D4X	COLT	320FM
PLL02A	PTBM048A0X	COLT	485DX
PLL02A	PTBM048A0X	COLT	485DX
PLL02A	PTBM049	COLT	SX33
PLL02A	PTBM049	COLT	290
PLL02A	PTBM049	COLT	390
PLL02A	PTBM048A0X	COLT	480
PLL02A	PTBM048A0X	COLT	480
PLL02A	PTB049	COLT	720
PLL02A	PTB049	COLT	800
PLL02A	PTB049	COLT	870
PLL02A	PTBM048A0X	COLT	890
PLL02A	PTBM048A0X	COLT	890
PLL02A	PTBM048A0X	COLT	1000
PLL02A	PTBM048A0X	COLT	1000
PLL02A	RTBM048A0X	COLT	1200
PLL02A	ECMA001S	COLT	2400
UPD861C	NA	COLT	350
LC7120	NA	COMMTRON	VIII
LC7136	NA	COMMTRON	CB40F
MC145106	NA	CONNEX	3300
C5121	NA	CONTACT	40FM
UPD861C	NA	CONTACT	PSC301
UPD861C	NA	CONVOY	CON-400
MB8719	NA	COURIER	GALAXY
REC86343	NA	COURIER	BLAZER 400
REC86343	NA	COURIER	NIGHTRIDER 400R
REC86343	NA	COURIER	RANGER400
SM5104	NA	COURIER	CARAVELLE 400
SM5104	NA	COURIER	CONQUERER 400
UPD858C	NA	COURIER	CENTURION 40D
UPD858C	NA	COURIER	CENTURION PLL
UPD858C	NA	COURIER	GLADIATOR PLL
UPD858C	NA	COURIER	REBEL 40A
UPD858C	NA	COURIER	REBEL PLL
UPD858C	NA	COURIER	SPARTAN PLL
LC7130	NA	COURIER GALAXY	IV
LC7130	NA	COURIER GALAXY	V
LC7130	NA	COURIER GALAXY	VI
MC14568	NA	CRAIG	L101
MC14568	NA	CRAIG	L102
NDC40013	NA	CRAIG	L131

NDC40013	NA	CRAIG	L231
TC9106P	NA	CRAIG	L104
TC9106P	NA	CRAIG	L103
UPD2814C	NA	CRAIG	L150
UPD2824C	PC581	CRAIG	L132
UPD2824C	PC581	CRAIG	L232
PLL02A	PCMA001S	CTE/ALAN	88S
LC7137	PTBM135AOX	CYBERNET BETA	1000
LC7137	PTBM135AOX	CYBERNET BETA	2000
LC7137	PTBM135AOX	CYBERNET BETA	3000
MC145106	NA	DAK	MARK IX
MC145106	NA	DAK	MARK V
PLL02A	PTBM080	DAK MARK	X
PLL02A	PTBM080	DAK MARK	X
PLL02A	PTBM027	DELCO (GM)	CBD-10 1977/78
PLL02A	PTBM049	DELCO (GM)	1978 SERIES
C5121	NA	DICK SMITH	D1200
LC7130	NA	DICK SMITH	D1450
LC7132	NA	DNT	4000FM
C5121	NA	DNT CONTACT	40FM
GREAT UK	NA	ELFTONE	ELCB6000
MC145106	NA	EXCALIBUR	BASE
MC145106	NA	EXCALIBUR	SAMURAI
PLL02A	PCMA001S	FALCON	2000

REC86343	NA	FANON FANFARE	125F
REC86343	NA	FANON FANFARE	182F
REC86343	NA	FANON FANFARE	184DF
REC86343	NA	FANON FANFARE	185DF
REC86343	NA	FANON FANFARE	185PLL
REC86343	NA	FANON FANFARE	190DF
SM5104	NA	FANON FANFARE	880DF
UPD858C	NA	FANON FANFARE	100FF
UPD858C	NA	FANON FANFARE	350F
GREAT UK	NA	FIDELITY	1000M
GREAT UK	NA	FIDELITY	CB300M
LC7136	PCMA002F	FIDELITY	2001FM
LC7136	PTBM134A0X	FIDELITY	CB2000M
LC7120	NA	FORMAC	240
PLL02A	PTBM049	FORMAC	88
PLL02A	PTBM049	FORMAC	120
LC7130	NA	FOX	CB340
LC7132	NA	FOX	CB240
LC7132	NA	FOX	CB440
MC145106	NA	GALAXY	II
MC145106	NA	GALAXY	SATURN
MC145106	NA	GALAXY	44
MC145106	NA	GALAXY	88
MC145106	NA	GALAXY	2100
C5121	NA	GE	3-5829B
C5121	NA	GE	3-5909A

LC7110	NA	GE	3-5804A
LC7110	NA	GE	3-5871B
LC7130	NA	GE	3-5805B
LC7130	NA	GE	3-5826A
LC7132	NA	GE	3-5806A
LC7132	NA	GE	3-5808A
LC7132	NA	GE	3-5828A
M58472P	NA	GE	3-5800A
M58472P	NA	GE	3-5801A
M58472P	NA	GE	3-5810A
M58472P	NA	GE	3-5821A
M58472P	NA	GE	3-5871A
PLL02A	PTBM049	GE	3-5804D
PLL02A	PTBM049	GE	3-5810B
PLL02A	PTBM080	GE	3-5825B
PLL02A	PTBM048A0X	GE	3-5825A
PLL02A	PTBM048A0X	GE	3-5825A
PLL02A	PTBM080	GE	3-5825B
PLL02A	PTBM080	GE	3-5875A SUPERBASE
PLL02A	PYBM049	GE	5811B
PLL02A	PTBM049	GE	5812A
PLL02A	PTBM049	GE	5813B
PLL02A	PTBM049	GE	5814B
PLL02A	PTBM049	GE	5819A
PLL02A	PTBM080	GE	5875A SUPERBASE
ROYCE	NA	GE	3-5830
TC9109P	NA	GE	3-5804G
TC9109P	NA	GE	3-5816A
MSM5907	NA	GEMTRONICS	GTX4040
MSM5907	NA	GEMTRONICS	GTX5000
PLL02A	PTBM049	GEMTRONICS	GT44
PLL02A	PTBMQ49	GEMTRONICS	GT55
PLL02A	PTBM049	GEMTRONICS	GTX66
PLL02A	PTBN048A0X	GEMTRONICS	GTX77
MSC42502P	NA	GM	4170
MSC42502P	NA	GM	4175
GREAT UK	NA	GREAT	GT858B
GREAT UK	NA	GREAT	GT868B
GREAT UK	NA	HALCYON	CHEETAH
GREAT UK	NA	HALCYON	CONDOR
PLL02A	PTBM059COX	HAM INTERNATIONAL	CONCORD
PLL02A	PTBN121D4X	HAM INTERNATIONAL	CONCORDE II
PLL02A	PTBM133A4X	HAM INTERNATIONAL	CONCORDE III
PLL02A	PTBM059COX	HAM INTERNATIONAL	JUMBO
PLL02A	PTBN121D4X	HAM INTERNATIONAL	JUMBO II
PLL02A	PTBM133A4X	HAM INTERNATIONAL	JUMBO III
PLL02A	PTBM059COX	HAM INTERNATIONAL	MULTIMODE II
PLL02A	PTBM133A4X	HAM INTERNATIONAL	MULTIMODE III
PLL02A	PTBM049	HAM INTERNATIONAL	PUMA
PLL02A	PTBM049	HAM INTERNATIONAL	VIKING
PLL02A	PCMA001S	HAM INTERNATIONAL	8040
LC7136	PCMA002F	HARRIER	CBHQ

LC7136	PTBM134A0X	HARRIER	CBX
LC7136	PCMA002F	HARVARD	400M
LC7136	PCMA002F	HARVARD	402MPA
PC7136	PTBM134A0X	HARVARD	420M
LC7136	PCMA002F	HARVARD	H401
LC7136	PCMA002F	HARVARD	H407
MM48141	NA	HYGAIN	2716
PLL01A	NA	HYGAIN	681
PLL01A	NA	HYGAIN	682
PLL02A	PTBM027	HYGAIN	2679A
PLL02A	PTBM048A0X	HYGAIN	2705V
PLL02A	PTBM048A0X	HYGAIN	2705V
PLL02A	PTBM027	HYGAIN	2710X
PLL02A	PTBN121D4X	HYGAIN	2795DX
PLL02A	PTBM048A0X	HYGAIN	3108 VIII
PLL02A	PTBM125A4X	HYGAIN	8795V
PLL02A	PTBM059COX	HYGAIN	V
PLL02A	PCMA001S	HYGAIN	80
PLL02A	PTBMO27	HYGAIN	681
PLL02A	PTBM027	HYGAIN	682
PLL02A	PTBMO27	HYGAIN	2679
PLL02A	PTBM027	HYGAIN	2680
PLL02A	PTBM027	HYGAIN	2681
PLL02A	PTBM027	HYGAIN	2682
PLL02A	PTBM027	HYGAIN	2683
PLL02A	PTBM049	HYGAIN	2701
PLL02A	PTBM049	HYGAIN	2702
PLL02A	PTBMO27	HYGAIN	2703
PLL02A	PTBM027	HYGAIN	2716
PLL02A	PTBM048A0X	HYGAIN	2720
PLL02A	PTBM048A0X	HYGAIN	2785
PLL02A	PTBN121D4X	HYGAIN	2795
PLL02A	PTBM049	HYGAIN	3107
PLL02A	PTBM027	HYGAIN	30848
LC7120	NA	HYSTAR	100
C5121	NA	INTEK	M4035
LC7130	NA	INTEK	49*
PLL02A	PTBN121D4X	INTEK	1200FM
M58473P	NA	ITT	4400M
LC7120	NA	JAWS	II
PLL02A	PTBM049	JC PENNYS	981-6204
PLL02A	PTBM049	JC PENNYS	981-6218
PLL02A	PTBM0048A0X	JC PENNYS	981-6247
SM5104	NA	JCPENNYS	981-6241
SM5104	NA	JC PENNYS	981-6246
SM5104	NA	JC PENNYS	934-3831
SM5104	NA	JC PENNYS	981-6248
UPD861C	NA	JC PENNYS	981-6203
UPD861C	NA	JC PENNYS	981-6221
UPD861C	NA	JC PENNYS	981-6237
UPD861C	NA	JC PENNYS	981-6255
UPD2812C	NA	JIL	615CB

PLL02A	PTBM049	JIL CITIZEN	BPL524
PLL02A	PTBM048A0X	JIL CITIZEN	MPL-5
PLL02A	PTBM048A0X	JIL CITIZEN	SSB-M6
GREAT UK	NA	JOHNSON	XK2000
MSC42502P	NA	JOHNSON	4170
MSC42502P	NA	JOHNSON	4175
MSC42502P	NA	JOHNSON MESSENGER	40
MSC42502P	NA	JOHNSON MESSENGER	50
MSC42502P	NA	JOHNSON MESSENGER	80
MSC42502P	NA	JOHNSON MESSENGER	191
MSC42502P	NA	JOHNSON MESSENGER	4120
MSC42502P	NA	JOHNSON MESSENGER	4125
MSC42502P	NA	JOHNSON MESSENGER	4135
MSC42502P	NA	JOHNSON MESSENGER	4140
MSC42502P	NA	JOHNSON MESSENGER	4145
MSC42502P	NA	JOHNSON MESSENGER	4230
MSC42502P	NA	JOHNSON MESSENGER	4250
NDC40013	NA	JOHNSON MESSENGER	4730
MSC42502P	NA	JOHNSON VIKING	200
MSC42502P	NA	JOHNSON VIKING	230
MSC42502P	NA	JOHNSON VIKING	260
MSC42502P	NA	JOHNSON VIKING	270
MSC42502P	NA	JOHNSON VIKING	430
ROYCE	NA	K MART	D40
SM5124A	NA	K40	7
TC9106P	NA	K40	8
MC145106	NA	KEYCOMM	1000
CCI3002	NA	KRACO	2410
CCI3002	NA	KRACO	2420
CCI3002	NA	KRACO	2430
M58473P	NA	KRACO	KCB4005
MSM5807	NA	KRACO	KCB4000
NIS7264	NA	KRACO	KCB4003
NIS7264	NA	KRACO	KCB4088
PLL01A	NA	KRACO	KCB2310A
PLL01A	NA	KRACO	KCB2320A
PLL02A	PTBM027	KRACO	KCB2310B
PLL02A	PTBM027	KRACO	KCB2320B
PLL02A	PTBM027	KRACO	KCB2330B
PLL02A	PTBM049	KRACO	KCB4010
PLL02A	PTBM049	KRACO	4020
PLL02A	PTBM049	KRACO	4030
PLL02A	PTBM049	KRACO	4045
PLL02A	PTBM049	KRACO	5001
PLL02A	PTBM049	KRACO	5003
ROYCE	NA	KRACO	KCB4001
ROYCE	NA	KRACO	KCB4070
TC5080P	NA	KRACO	KCB4095
SM5104	NA	KRIS	XL-45
SM5104	NA	KRIS	XL-50
PLL02A	PTBM059COX	LAFAYETTE	1200 FM
PLL02A	PCMA001S	LAFAYETTE	2400 FM

PLL02A	PTBN121D4X	LAFAYETTE	HB870AFS
PLL02A	PTBM027	LAFAYETTE	LM400
PLL02A	PTBM048A0X	LAFAYETTE	TELSAT
PLL02A	PTBM125A4X	LAFAYETTE	1800
SM5107	NA	LAFAYETTE	LM200
PLL02A	PTBM027	LAFAYETTE COM-PHONE	23A
PLL02A	PTBM027	LAFAYETTE COM-PHONE	HB650
PLL02A	PTBM027	LAFAYETTE COM-PHONE	HB750
PLL02A	PTBM027	LAFAYETTE COM-PHONE	HB950
PLL02A	PTBM027	LAFAYETTE COM-PHONE	MICRO 223A
PLL02A	PTBM049	LAFAYETTE COMSTAT	HB640
PLL02A	PTBM049	LAFAYETTE COMSTAT	HB740
PLL02A	PTBM049	LAFAYETTE COMSTAT	HB940
PLL02A	PTBM049	LAFAYETTE COMSTAT	LM100
PLL02A	PTBM049	LAFAYETTE COMSTAT	LM300
PLL02A	PTBM049	LAFAYETTE COMSTAT	525
PLL02A	PTBM048A0X	LAFAYETTE TELSAT	SSB120
PLL02A	PTBM048A0X	LAFAYETTE TELSAT	SSB140
PLL02A	PTBM048A0X	LAFAYETTE TELSAT	SSB80
GREAT UK	NA	LAKE	850
GREAT UK	NA	LAKE	950
MC14568	NA	LAKE	650
MM55108N	NA	LAKE	410
MN6040	NA	LAKE	NA
ROYCE	NA	LAKE	5000
ROYCE	NA	LAKE	5100
SM5107	NA	LAKE	690
MC145106	NA	LAKE	600
C5121	NA	LEAR JET	NA
MB8719	NA	MADISON	NA
MB8719	NA	MADISON (NEW)	NA
PLL02A	PTBM059COX	MAJOR	M360
PLL02A	PTBM049	MAJOR	M540
PLL02A	PTBM059COX	MAJOR	M588
LC7136	NA	MAXCOM	16E
LC7136	NA	MAXCOM	20E
LC7136	NA	MAXCOM	21E
LC7136	NA	MAXCOM	4E
LC7136	NA	MAXCOM	6E
MC14568	NA	MAXON	40
C5121	NA	MCE	40
PLL02A	PTBM049	MEDALLION	63-030
RITCE	NA	MEDALLION	63-200
ROYCE	NA	MEDALLION	63-240
TC9103P	NA	MEDALLION	63-540
C5121	NA	MIDLAND	77-106
C5121	NA	MIDLAND	77-112
C5121	NA	MIDLAND	77-114
C5121	NA	MIDLAND	77-155
C5121	NA	MIDLAND	77-157
LC7120	NA	MIDLAND	100M

LC7120	NA	MIDLAND	150M
LC7120	NA	MIDLAND	77-101B
LC7120	NA	MIDLAND	77-101C
LC7120	NA	MIDLAND	77-824C
LC7130	NA	MIDLAND	101M
LC7130	NA	MIDLAND	103M
LC7130	NA	MIDLAND	150M US
LC7130	NA	MIDLAND	151M
LC7130	NA	MIDLAND	202B
LC7130	NA	MIDLAND	202M
LC7130	NA	MIDLAND	75-790
LC7130	NA	MIDLAND	76-300
LC7130	NA	MIDLAND	77-001
LC7130	NA	MIDLAND	77-225
LC7130	NA	MIDLAND	77-911
LC7130	NA	MIDLAND	77-915
LC7130	NA	MIDLAND	79-265
LC7130	NA	MIDLAND	2001
LC7130	NA	MIDLAND	3001
LC7130	NA	MIDLAND	4001
LC7132	NA	MIDLAND	77-104
LC7132	NA	MIDLAND	77-145
LC7132	NA	MIDLAND	77-145A
LC7132	NA	MIDLAND	77-149
LC7132	NA	MIDLAND	77-158
LC7132	NA	MIDLAND	77-250
LC7132	NA	MIDLAND	77-805
LC7132	NA	MIDLAND	77-805A
LC7136	NA	MIDLAND	2001T
LC7136	PTBM134A0X	MIDLAND	76-200
LC7136	NA	MIDLAND	2001A
LC7136	NA	MIDLAND	3001A
LC7136	NA	MIDLAND	4001A
LC7185	NA	MIDLAND	77-099
LC7185	NA	MIDLAND	77-162
MB8719	NA	MIDLAND	63-445
MB8719	NA	MIDLAND	79-900
PLL02A	PTBM027	MIDLAND	13-830
PLLO2A	PTBM027	MIDLAND	13-857B
PLL02A	PTBM027	MIDLAND	13-882C
PLL02A	PTBM027	MIDLAND	13-8888
PLL02A	PTBM027	MIDLAND	13-955
PLL02A	PTBM049	MIDLAND	76-858
PLL02A	PTBM049	MIDLAND	76-863
PLL02A	PTBM049	MIDLAND	76-886
PLL02A	PTBM049	MIDLAND	77-830
PLL02A	PTBM049	MIDLAND	77-838
PLL02A	PTBM049	MIDLAND	77-849
PLL02A	PTBM049	MIDLAND	77-857
PLL02A	PTBM049	MIDLAND	77-882
PLL02A	PTBM049	MIDLAND	77-888
PLL02A	PTBM049	MIDLAND	77-899

PLL02A	PTBM049	MIDLAND	77-955
PLL02A	PTBM049	MIDLAND	77-963
PLL02A	PTBM080	MIDLAND	78-574
PLL02A	PTBM080	MIDLAND	78-874
PLL02A	PTBM048A0X	MIDLAND	78-976
PLL02A	PTBM048A0X	MIDLAND	78-976
PLL02A	PTBM080	MIDLAND	78-999
PLL02A	PTBM080	MIDLAND	78-999
PLL02A	PTBM080	MIDLAND	79-891
PLL02A	PTBM080	MIDLAND	79-891
PLL02A	PTBM048A0X	MIDLAND	79-892
PLL02A	PTBM048A0X	MIDLAND	78-892
PLL02A	PTBM125A4X	MIDLAND	7001
SM5104	NA	MIDLAND	77-825
SM5104	NA	MIDLAND	77-861
TC9102P	NA	MIDLAND	76-860
TC9102P	NA	MIDLAND	77-8610
TC9106P	NA	MIDLAND	200M
UPD2814C	NA	MIDLAND	77-856
UPD2816C	NA	MIDLAND	6001/7000
UPD2824C	PC833	MIDLAND	79-260
UPD858C	NA	MIDLAND	13-883B
UPD858C	NA	MIDLAND	77-883
UPD858C	NA	MIDLAND	79-893

MC145106	NA	MIRAGE	I
MC145106	NA	MIRAGE	II
PLL02A	PTBM049	MOCOMA	45
PLL02A	PCMA001S	MONGOOSE	2000
PLL02A	PTBM049	MOPAR	4094176
PLL02A	PTBM049	MOPAR	4094177
PLL02A	PTBM049	MOPAR	4094178
ROYCE	NA	MOPAR	4094173
NIS7264	NA	MORSE	ELECTROPHONICS 2000
PLL02A	PTBM049	MORSE-ELECTROPHONICS	3005
ROYCE	NA	MOTOROLA	CF925AX
SM5104	NA	MOTOROLA	T4000A
SM5104	NA	MOTOROLA	T4005A
SM5104	NA	MOTOROLA	T4009A
SM5104	NA	MOTOROLA	T4010A
SM5104	NA	MOTOROLA	T4020A
SM5104	NA	MOTOROLA	T4022A
SM5104	NA	MOTOROLA	T4025A
SM5104	NA	MOTOROLA	CM540
TC9103P	NA	MOTOROLA	CT950AX
TC9105P	NA	MOTOROLA	CB550
TC9105P	NA	MOTOROLA	CB555
TC9105P	NA	MOTOROLA	CH550
LC7136	PCMA002F	MUSTANG	CB1000
LC7136	PCMA002F	MUSTANG	CB2000
LC7136	PCMA002F	MUSTANG	CB3000
LC7136	PCMA002F	MUSTANG	CB3001

LC7136	PCMA002F	NATO	40FM
PLL02A	PCMA001S	NATO	2000
NDC40013	NA	NDI	PC200
NDC40013	NA	NDI	PC201