Grant-DX, Clarifier Mod.
by B.W.

Had unit sent to me for clearing up the clarifier modification that everyone is still having problems with. <u>THIS WILL BE THE LAST CLARIFIER MODIFICATION PUBLISHED ON THE GRANT-DX!</u>

Out-of-the-box (S/N: 43006320). RF Driver and Final - both have thick insulators - change to thin mica insulators at your 1st opportunity.
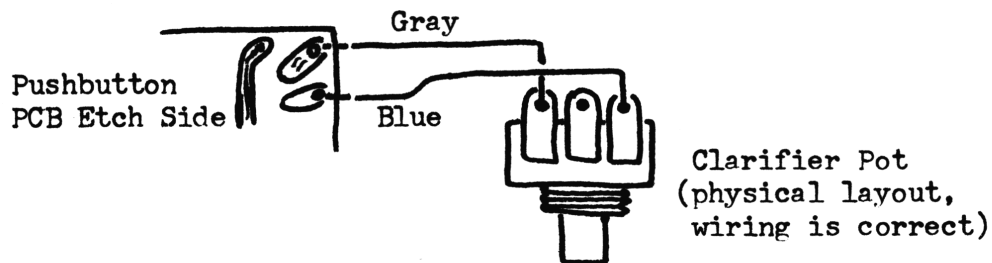
CAUTION: Unsolder transistors before changing the insulators.

AM/FM - 5W, 50%+ modulation on AM.
 SSB - 8.5W, at max mike gain

Turned up AM/FM to 8.5W - Deadkey, Modulation to 85% + . SSB was turned up to about 17W, at max mike gain.

Clarifier Mod:

1. See drawing below, remove the clarifier pot wires from the small push button PCB. Observe the colors!

2. Route wires to etch side of main PCB, and solder carefully where indicated. CAUTION: Check with VOM to make sure that you have the correct places! A - D.C. Ground, B - 8.5 VDC (non-switching). Location is left front of the PCB.
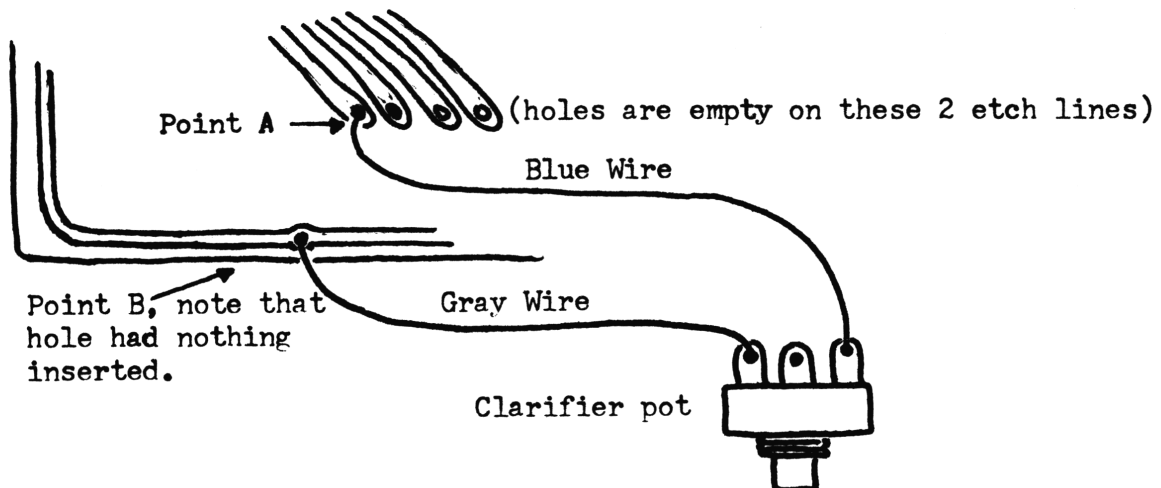
Grant-DX, Clarifier Mod. (Cont.)

3. Remove D45, no replacement.

Remove D79, replace with solid buss wire.

Check out 'slide' with present varactor diodes. Test unit - reference: 27.205MHz no adjustment to circuitry. -2.2, +2.6KHz.

4. For additional range of 'slide', perform the following exactly as written!

Remove D44 and D40; clean out the holes where components removed on PCB.

Use drawing below, install the jumper and 'Super Diode'.

Test unit - reference: 27.205MHz no adjustment to circuitry. -4.1, +5.8KHz.

- - - Etch Side of PCB - - -
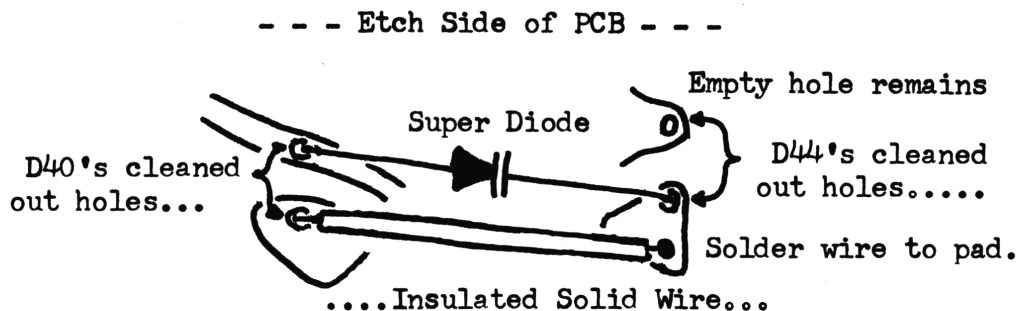
5. Leave channel selector at 20 for remainder of line-up. All frequency readings taken from dummy load in TX condition.

A. Mid Band - AM, clarifier knob centered. Adjust L25 for 27.205MHz, check shift for even plus/minus balance. L28 may be adjusted for balance if needed. Check High Band for 27.655MHz at knob center.

B. Low Band - AM, knob centered. Adjust L22 for 26.755MHz, check shift for even balance. Don't adjust L28 again or will have to realign Steps A and B.

C. Mid Band - USB, knob centered. Adjust L26 for 27.2065MHz, check shift for a minimum of plus another 5KHz upward. If needed adjust L29. Double-check that can shift below center frequency by at least 2KHz. High Band should read 27.6565MHz at knob center.

D. Low Band - USB, knob centered. Adjust L23 for 26.7565MHz, check shift for a plus 5KHz additional. Also a minus 2KHz below the center frequency. IF NEEDED; L29 may be re-adjusted; but will then have to realign steps C and D.

<u>Grant-DX, Clarifier Mod. (Cont.)</u>

E. Mid Band - LSB, knob centered. Adjust L27 for 27.2035MHz, check
down shift for a minimum of 5KHz. Up shift should be
at least 2KHz above center frequency. IF BALANCE ADJUST
NEEDED: Adjust L30 while checking for dropout on the low
end. Check High Band for 27.6535MHz at knob center.

F. Low Band - LSB, knob centered. Adjust L24 for 26.7535MHz, check
for down shift of 5KHz minimum. Up shift of 2KHz above
center frequency. DON'T ADJUST L30 UNLESS ABSOLUTELY
NECESSARY!

6. O.K., now for <u>'alignment'</u> in #5. I usually set all "Export" rigs

for: -1.5KHz in LSB; center Fo in AM/FM; and +1.5KHz in USB.

Reference to the 'Clarifier' knob at dead-center, "12 O'clock".

(U.S. units are usually set for ± 1KHz offset in the sidebands).

7. The only other thing I changed was C76 (1MFD/50V Electrolytic), and

replaced with 3.3MFD/50VDC electrolytic. NOTE: + goes to D.C. Ground!

8. The 455KHz filter could stand 'doubling/tripling' up in series, as

the rejection isn't that good!

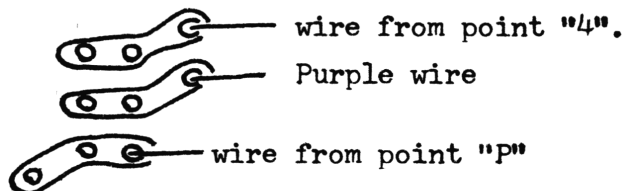
<u>DE-BEEP</u>

<u>Superstar 3600FM:</u>
Find jumper 'J-9', remove/replace with a switch. Or just hardwire
the Ch. 9 sw. and use it.

<u>Colt 160DX (Excalibur) - Export Mdl. 02A Chassis.</u>
Locate Purple wire from microphone jack to beep board, remove at board.
Solder a new wire to point '4'.
Solder a new wire to point 'P',
Remove the two wires on N.B. switch and hardwire permanently ON.

Use diagram below and solder wires to N.B. switch:

wire from point "4".
Purple wire
wire from point "P"

Wired up as above will give: Beep when NB is ON, none when OFF.