



# SERVICE BULLETIN

EQUIPMENT TYPE: 75A-4 RECEIVER SERVICE BULLETIN NO. 1 12-14-55  
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SUBJECT: A. Improve Noise Limiter Operation  
B. Revise Q Multiplier  
C. Eliminate Random Fuse Blowing  
D. Keep RF out of Muting Circuit

## A. Improve Noise Limiter Operation

Due to variations in contact potentials of various 6AL5's, there has been trouble in consistently meeting the specification limit of 40DB limiting of CW. The addition of certain resistors to balance out the contact potential of V12 has eliminated the problem. If trouble is noticed with the noise limiter this revision is recommended; however, if no trouble has been noticed this revision is not suggested. The replacement of V12 may cause this problem and in that case the modification should be made.

### Procedure for modification:

1. Remove all wires from ground end of R67 and place them on convenient grounding points of S4.
2. Connect R115, 1200 ohm 1/2 watt resistor, between ground end of R67 and ground on S4.
3. Add R116, 100K ohm 1 watt resistor, between C94B and nearest unused tie point.
4. One wire must be added to the front panel cable in order to connect R116 to the junction of R115 and R67.

### Additional Parts Required:

<u>Qty.</u>	<u>Description</u>	<u>Part Number</u>
1	1200 ohm 1/2 watt $\pm$ 10% Resistor	745 1356 00
1	100K ohm 1 watt $\pm$ 10% Resistor	745 3436 00



## B. Revise Q Multiplier

This change was made in order to allow production to meet our 40DB rejection notch. This modification should not be made unless the Q multiplier notch cannot be set as described below.

1. Tune in 1800 KC calibration signal with KILOCYCLES dial to exact center of passband by watching the "S" meter.
- \*2. Adjust ANT TRIM until "S" meter reading of S $9\frac{1}{4}$ 0 is obtained.
3. Turn R-36 to full counterclockwise position.
4. Turn rejection tuning control (C-72) to center of passband.
5. Adjust L-26 for minimum "S" meter reading.
6. Turn R-36 clockwise until an "S" meter reading is obtained.
7. Recheck steps 4 and 5, readjust where necessary.

If difficulty in the final adjustment of L-26 is encountered, the REJECTION TUNING control may be moved slightly to compensate for small errors in L-26.

A rejection notch which is deeper than S-7 may be obtained with a higher setting of R36. This is not advisable; however, because of the resulting instability such as hum modulation and a tendency for the "Q" multiplier circuit to lock to a strong interfering signal.

The effect is quite similar to that obtained by operating a regenerative receiver too near to the edge of oscillation.

As R-36 is advanced even further clockwise, the "Q" multiplier circuit will oscillate. This causes the depth of the rejection notch to decrease sharply as R-36 is rotated through the point where oscillation begins.

\*If it is not possible to adjust to exactly S- $9\frac{1}{4}$ 0, try another check point, or use a signal generator.

## Procedure for modification:

1. Change V7 to 12AX7.
2. Delete R108.
3. Change R32 to 680 ohm.
4. Change R42 to 68 ohm.
5. Change R35 to 30K ohm.
6. Ground Center Pin of V7 Socket.

Additional Parts Required:

<u>Qty.</u>	<u>Description</u>	<u>Part Number</u>
1	12AX7 tube	255 0201 00
1	680 ohm 1/2 Watt ± 10% Resistor	745 1345 00
1	68 ohm 1/2 Watt ± 10% Resistor	745 1303 00
1	30K ohm 1/2 Watt 1% Resistor	705 2166 00

C. Eliminate Random Fuse Blowing

To eliminate random fuse blowing, F1 fuse has been changed from the standard 2 amp fuse to a 2 amp slow blow fuse part number 264 0297 00.

Part Required:

<u>Qty.</u>	<u>Description</u>	<u>Part Number</u>
1	2 AMP Slow Blow Fuse	264 0297 00

D. Keep RF Out of Muting Circuit

To eliminate the possibility of getting RF into the Muting circuit, a capacitor C141, .01 uf part number 913 1188 00, has been added between terminals M and G of E3. Serial Number effectivity 450 and above.

Part Required:

<u>Qty.</u>	<u>Description</u>	<u>Part Number</u>
1	.01 mf Capacitor	913 1188 00

For modification parts, price quotations (minimum order charge is \$15.00), and availability contact Collins Radio Company, Service Parts Department, Cedar Rapids, Iowa 52406. All parts orders must specify the Collins modification kit number, or part numbers, quantity required, and reference this service bulletin.