

COLLINS **SERVICE BULLETIN**

EQUIPMENT SERIES: KWM

BULLETIN NO. 4

DATE 9-2-60

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EQUIPMENT TYPE: KWM-2, KWM-2A

SUBJECT: IMPROVEMENT OF ALC ACTION AND ELIMINATION OF ALC OVERSHOOT.

Alc action can be improved and alc overshoot minimized by changing component values and circuitry relating to the alc rectifier and transmitter r-f amplifier. Alc overshoot, which occurs after the first oral syllable in some transceivers, is a result of the delay voltage on the alc rectifier and the relatively slow attack time of the alc voltage.

The following changes have been factory installed at different intervals; examine unit for changes before attempting modification.

MODIFICATION PROCEDURE:

1. Remove the four feet from bottom of transceiver.
2. Open lid, and remove the two unpainted screws in the top panel rim. Slide unit out of cabinet.
3. Turn unit bottom side up with front panel toward operator.
4. Check for a 1K-ohm, 1/2-watt resistor R10 and a 270K-ohm, 1/2-watt resistor R11 located on parts mounting turret between tube sockets XV7 and XV17. If present clip out and discard, and solder a piece of wire between tube socket XV17, pin 2 and the nearest ground point.
5. Clip out and discard 3.3-megohm, 1/2-watt resistor R119, and install in its place a 1.5-megohm 1/4-watt resistor (745-0863-00). This resistor is on parts mounting turret, located at the front center of the chassis adjacent to tube socket XV14.
6. Clip out and discard 3.3-megohm, 1/2-watt resistor R34, and install in its place a 100K-ohm, 1/4-watt resistor (745-0821-00). This resistor is on parts mounting turret located between tube sockets XV7 and XV13.
7. Place unit in upright position.
8. Remove the two black Phillips-head screws in the top corners of the PTO dial escutcheon.
9. Remove the cadmium-plated, sheet-metal screw in the top left side of the ALC ZERO potentiometer mounting bracket.
10. Lift out bracket.
11. Clip out and discard 220-ohm resistor R170 which is soldered across the terminals of ALC ZERO potentiometer R30.
12. Remount bracket.



Be sure 47-ohm resistor R19 on ALC ZERO potentiometer does not touch exciter tuning shaft. *

13. Slide unit into cabinet, replace panel screws, and remount feet.
14. Connect power plug and antenna load.
15. Check grid drive and adjust if necessary. It may be low especially on the higher bands.
16. Alignment of the stage affected may be checked as follows:
 - a. Set MIC GAIN control fully counter-clockwise.

- b. Turn FUNCTION switch to ON.
- c. Set MAIN TUNING dial to 100.
- d. Set EMISSION switch to TUNE.
- e. Set EXCITER TUNING to 2.0 on logging scale.
- f. Set BAND switch to 3.6.
- g. Set METER switch to PLATE position.
- h. Turn P. A. TUNING control to white portion of dial, indicating proper band.
- i. Advance MIC GAIN to full clockwise position, and rock EXCITER TUNING until maximum plate current is obtained.
- j. Dip plate current immediately with P. A. TUNING.
- k. Return MIC GAIN to full counterclockwise position.
- l. Set METER switch to GRID position.

- m. Advance MIC GAIN until some grid-current indication is obtained.
- n. Rock EXCITER TUNING to a peak grid-current indication.

NOTE

In the following steps reduce setting of MIC GAIN as necessary to keep grid current below "S6."

- o. Adjust trimmer capacitor C37 marked "(A) 3.8" in mixer plate section for peak grid current indication.
- p. Repeat steps n and o for peak grid-current indication.
- q. Return MIC GAIN to full counterclockwise position.
- r. Repeat steps g through q for each of the remaining bands: Use the following table for selection of EXCITER TUNING and BAND switch position and identification of mixer plate trimmer capacitors.

EXCITER TUNING	BAND SWITCH	ADJUST TRIMMER	MARKED
3.75	7.0	C32	(B) 7.0
6.50	14.2	C34	(C) 14.0
7.60	21.2	C36	(D) 21.0
9.00	28A	C39	(E) 28.0

PARTS REQUIRED:

<u>QTY</u>	<u>DESCRIPTION</u>	<u>COLLINS PART NUMBER</u>	<u>PRICE</u>
1	Resistor, fixed composition, 1.5 megohm $\pm 10\%$	745-0863-00	\$.26
1	Resistor, fixed composition, 0.1 megohm $\pm 10\%$	745-0821-00	\$.26

The above parts are of common variety and should be available through local sources. If not, they may be obtained from Collins Radio Company, Service Parts Department, Cedar Rapids, Iowa at the prices indicated.