

HARRIS



COMMUNICATIONS AND
INFORMATION HANDLING

SERVICE BULLETIN

Equipment: MW-5 AM Transmitter

Bulletin No. AM-101-KDL

Date June 8, 1976

I. Please make the following changes when convenient:

1. On the RF driver/IPA modules, change 10 ohm to 1 watt resistor R1 to a 10 ohm 2 watt type, Harris part number 540-0716-000. Circuit reliability is improved.
2. Audio harmonic distortion improvements.
 - A. On PDM printed circuit board assembly 1A1A1, change CR-5 (currently a IN4729 3.6 volt zener) to a TRW type LVA-43A sharp knee zener, Harris part number 386-0383-000. Be sure to observe correct polarity when installing the new diode.
 - B. Replace R10 (currently a 25 ohm 100 watt rheostat) on control circuits door 1A4 with a 100 ohm 100 watt unit, Harris part number 552-0385-000. Initially set the new rheostat for 25 ohms with a VOM or similar instrument. With the transmitter operating at 5 kW carrier power and 95% modulation at 1000 Hz., adjust R10 for minimum harmonic distortion. The audio generator used must exhibit less than 0.5% total harmonic distortion.
3. Oscillator stability improvement:
 - A. Locate the crystal holders on RF Oscillator/Amp board 1A2A1. Insert a ferrite bead, Harris part number 414-0087-000, on the crystal Y1 holder lead connected to C1 (variable) and C2. Do the same on crystal Y2 holder on the leader connected to C7 (variable) and C8.
4. Metering accuracy improvements:
 - A. Replace R7 on left meter panel 1A7 (currently 6.8 K $\frac{1}{2}$ watt) with a 4.7 K $\frac{1}{2}$ watt resistor, Harris part number 540-0186-000. Replace R4 (currently a 5 K 2 watt potentiometer) with a 7.5 K 2 watt potentiometer, Harris part number 550-0066-000. It will be necessary to re-calibrate the remote plate current meter after modification. This is accomplished by adjusting the "Remote Plate Current Calibrate" control R4 on the left meter panel until the isolated

HARRIS CORPORATION P.O. Box 290, Quincy, Illinois 62301 217/222-8200

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panel and remote plate current meters agree at 1 kW carrier power. Changing power to 5 kW, the "Remote Plate Current Tracking" control R1 is adjusted for meter agreement. Power is switched back and forth between 1 kW and 5 kW and adjustment of R4 and R1 until the meters agree at both power levels.

- B. Some recent transmitters may have a new calibrating resistor installed in the plate voltage sensor circuit located on the right meter panel 1A9. The new value for R3 is 20.5 k 1%; Harris part number is 548-1329-000. Please check your transmitter if you have received it recently. If R3 is a 20.5 K unit, please change your schematics and parts lists to indicate this. Do not change R2 in older transmitters.
5. The part number listed in your Factory Test Data Sheets for PA plate tank coil L8 may be in error. If the part number listed is 931-6138-130, change it to read 931-6138-030. If your Test Data sheets shows no part number, the number may be found on the coil itself. Transmitters below 1000 kHz do not use the affected coil.
6. In the final amplifier plate cubicle, replace the parasitic suppressor resistor assembly (currently an Ohmite 100 ohm 50 watt non-inductive type) with a Carborundum Ferrule 100 ohm 25 watt assembly. Electrical and mechanical durability of the Carbordum assemble is superior. The following parts make up the assemble:
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|--------------|----------------------|-----|
| 540-0833-000 | Carborundum Resistor | (1) |
| 402-0001-000 | Resistor Clips | (2) |
- II. Be sure to record the above changes in your Instruction Book schematics and parts lists. Also make sure that copies of previous MW-5 service bulletins AM-098-JFR, AM-096-KDL, AM-089-KDL, AM-085-JFR, AM-080-JFR, and AM-077-JFR are in your files. They are available at no charge on request from the Service Department.
- III. A kit containing all parts necessary for the modification outlined in this Service Bulletin will be sent to all MW-5 owners in the near future.