

TMC SPECIFICATION

NO. S -507

REV:

C D

COMPILED: JDR

CHECKED: RBY

APPD:

011 ~~AKK~~

SHEET 1

OF 6

TITLE:

TEST PROCEDURE SWR-1K

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SHEET 2

OF 6

TITLE: TEST PROCEDURE SWR-1K

1. TEST EQUIPMENT REQUIRED

- A. Adjustment tool, T.M.C. TP119-1 supplied with SWR-1K.
- B. 70 ohm, 1000 watt Resistive Load for SWR-1K (70).
- C. 50 ohm, 1000 watt Resistive Load for SWR-1K (50).
- D. Transmitter capable of 1000 watt output.
- E. RF VTVM, Hewlett Packard Model 410B, or equivalent.
- F. RG 8/U 50 ohm cable 2 each no less than 4 feet long.
- G. RG 11/U 70 ohm cable 2 each no less than 4 feet long.

WARNING

The following procedure requires the use of RF energy from the transmitter. Follow instructions carefully. Each time the procedure calls for transmitter power to be OFF use the final plate switch or its equivalent.

2. PROCEDURE

- A. Connect resistive load to J305 of the SWR-1K.
- B. Connect the RF output jack of the transmitter to J304 of the SWR-1K.
- C. Turn selector switch OFF.
- D. If pointers of the VSWR do not rest on zero, adjust them to zero by slowly turning screwheads at pointer hubs.

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TITLE: TEST PROCEDURE SWR-1K

- E. Turn R302, R303, R304 and R305 fully counter-clockwise
- F. Turn selector switch to X1 position.
- G. Tune the Transmitter to an output frequency of 15.0 MHz on low power (less than 100 watts).
- H. With Transmitter output level at minimum, slowly increase the drive until VSWR Meter indicates approximately 3/4 of the FORWARD power (black) scale.
- *I. Adjust the NULL capacitor, (C302) of the DIRECTIONAL COUPLER until the reflected power (red) scale of the VSWR Meter indicates minimum. Rotate R-305 clockwise for increased sensitivity and continue adjusting C302 until a minimum indication has been obtained for the reflected power scale. Return R-305 to counter-clockwise position.
- J. Turn the Transmitter OFF. REVERSE the RF cables by connecting the resistive load to J304 and the Transmitter to J305 of the SWR-1K.
- K. Turn the Transmitter ON. Increase power until the REFLECTED power (red) scale of the VSWR meter reads approximately 3/4 of the scale.
- L. Adjust the EQUALIZER capacitor, (C305) on the DIRECTIONAL COUPLER until FORWARD power reads minimum. Rotate R-302 clockwise for increased sensitivity and continue adjusting C-305 until a minimum indication has been obtained for the forward power scale. Return R-302 to counter-clockwise position. Turn the Transmitter final plates OFF.

NOTE: Indication completion and acceptance of portion (s) of this test preceded by (*) by recording required observed value or by check (✓) mark as required on attached test Dats Sheets.

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SHEET 4

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TITLE: TEST PROCEDURE SWR-1K

- M. Connect the RF VTVM across the resistive load and place the VTVM range switch in the 100VAC range.
- N. Turn the Transmitter ON and adjust its output level until the RF VTVM indicates 70.7 volts for the SWR-1K (50) or 83.7 volts for the SWR-1K (70).
- O. Adjust R305 until REFLECTED power of the VSWR meter reads 100. Turn Transmitter OFF.
- P. Turn the SWR-1K selector switch to the X10 position and place VTVM range switch in the 300VAC range.
- Q. Turn the Transmitter ON and adjust its output level to 224 volts for the SWR-1K (50) or 265 volts for SWR-1K (70) on the RF VTVM.
- R. Adjust R304 until the REFLECTED power scale of the VSWR Meter reads 1000 (100 x 10).
- S. Turn the transmitter OFF. Reverse RF connections as before so that the Transmitter connects to J304 and the resistive load to J305. Place selector switch in the X1 position and place VTVM range switch in the 100VAC range.
- T. Turn the Transmitter ON and adjust its output level to read 70.7 volts for the SWR-1K (50) or 83.7 volts for the SWR-1K (70) on the RF VTVM.
- U. Adjust R302 until FORWARD power of the VSWR meter reads 100. Turn Transmitter OFF.
- V. Turn the SWR-1K selector switch to the X10 position and place VTVM range switch in the 300 VAC range.
- W. Turn the Transmitter ON and adjust its output level to read 224 volts for the SWR-1K (50) or 265 volts for the SWR-1K (70) on the RF VTVM.

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SHEET 5 OF 6

TITLE: TEST PROCEDURE SWR-1K

- X. Adjust R303 until FORWARD power scale of the VSWR Meter indicates 1000 watts.
- *Y. Check calibration of SWR-1K at the various output levels indicated on SWR-1K Test Data Sheet. SWR-1K Meter should read no more or no less the amount indicated in the limits column, for the corresponding output level.

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SHEET 6

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TITLE:

TEST DATA SHEET

TEST DATA SHEET FOR MODEL SWR-1K

| VOLTAGE ACROSS RESISTIVE LOAD | | FORWARD WATTS SCALE READING LIMITS | | ACTUAL FORWARD WATTS READING |
|----------------------------------|------------|--|------|---------------------------------|
| SWR1K (50) | SWR1K (70) | MIN. | MAX. | |
| 224 | 265 | 900 | 1100 | |
| 173 | 205 | 540 | 660 | |
| 100 | 118 | 160 | 240 | |
| | | | | |

NULL _____

EQUALIZE _____

MFG # _____

SERIAL # _____

TESTER _____

DATE _____

