TD-3 MICROWAVE RADIO
TRANSMITTER-RECEIVER BAY
COMMON EQUIPMENT TESTS
-19 VOLT REGULATOR

This section contains the procedures to be followed in checking the performance of the J87279A -19 volt regulator.

CHART 1

ALARM CIRCUIT TEST AND VOLTAGE ADJUSTMENT

APPARATUS:

1—KS-14510 Volt-Ohm-Milliammeter (VOM)

STEP	PROCEDURE
1	Connect the VOM, with the range set for 0 to 60 volts dc, to the DC OUTPUT jacks of the voltage regulator and observe the polarity.
2	Press the -19V CHECK pushbutton and verify that the panel meter pointer is exactly on the red mark.
3	If the pointer is not on the red mark, turn the ADJ VOLTS control on the regulator to accomplish this. Turning the ADJ VOLTS control clockwise raises the output voltage; turning the control counterclockwise lowers the output voltage.
4	With the panel meter pointer on the red mark and the VOM connected to the DC OUTPUT jacks, verify that the VOM indicates 19.0 volts. If the VOM does not indicate 19.0 volts, adjust the VOM to 19.0 volts by turning the zero set control located directly below the meter face of the VOM.
5	Slowly turn the ADJ VOLTS control counterclockwise until the audible alarm is energized. Note the voltage indication on the test meter. ***Requirement:*** The low voltage alarm shall be energized between 17.6 and 18.2 volts.

CHART 1 (Cont)

STEP	PROCEDURE
6	If this requirement is not met, turn the LV ALM ADJ control on the front of the regulator fully clockwise. Turn the ADJ VOLTS control to obtain an indication of 17.9 volts on the VOM. Slowly turn the LV ADJ control counterclockwise until the audible alarm is energized. The low voltage alarm is now properly adjusted.
7	Slowly turn the ADJ VOLTS control clockwise until the audible alarm is energized. Note the voltage indication on the test meter. ***Requirement:*** The high voltage alarm shall be energized between 19.8 and 20.4 volts.
8	If this requirement is not met, turn the HV ALM ADJ control on the front of the regulator fully clockwise. Turn the ADJ VOLTS control to obtain an indication of 20.1 volts on the VOM. Slowly turn the HV ALM ADJ control counterclockwise until the audible alarm is energized. The high voltage alarm is now properly adjusted.
9	Readjust the ADJ VOLTS control for an indication of -19 volts on the VOM. The panel meter pointer shall be at the red mark (70 divisions) when the -19V CHECK pushbutton is pressed.
10	Tighten the locknut on the ADJ VOLTS control and press the -19V CHECK pushbutton again to verify that the adjustment has not been disturbed.
11	If the controls cannot be adjusted to produce the preceding requirements, the -19 volt regulator shall be considered defective and should be replaced with a spare unit.
12	Remove the VOM leads from the DC OUTPUT jacks.

CHART 2

RIPPLE CHECKS

APPARATUS:

1—J68392A Transmitter-Receiver Test Set

1—Patch Cord with BNC connector on one end and pin plug prods on the other end

STEP	PROCEDURE
1	Energize the oscilloscope and set controls as follows: (a) Connect the patchcord to the +INPUT jack on the oscilloscope.

CHART 2 (Cont)

STEP	PROCEDURE
	(b) Set the +INPUT switch to AC. (c) Set the -INPUT switch to OFF. (d) Set the SENSITIVITY switch to 1 MV/CM.
2	Make the dc balance adjustment and sensitivity calibration checks for the oscilloscope in accordance with Table A.

TABLE A

OSCILLOSCOPE ADJUSTMENTS

DC BALANCE ADJUSTMENT

UNIT	CONTROL	POSITION
Differential Amplifier	POSITION	Center of range
	DC BALANCE	To center trace on oscilloscope

SENSITIVITY CALIBRATION

UNIT	CONTROL	POSITION
Differential Amplifier	SENSITIVITY	CAL
	VERNIER	CAL
Time Base	SWEEP TIME	To display a convenient number of cycles on oscilloscope
Differential Amplifier	SENS CAL	Adjust for exactly 6 centimeters vertical deflection.

CHART 2 (Cont)	
STEP	**PROCEDURE**
3	Connect the input of the oscilloscope to the DC OUTPUT jacks on the -19 volt regulator. ***Caution: Observe regulator output polarity and avoid grounding the -19 volt output lead when making the test connections.***
4	Observe the output ripple on the oscilloscope. ***Requirement:*** The output ripple shall not exceed 3 millivolts peak-to-peak.
5	If the requirement is not met, substitute a spare regulator. If the spare does not meet the requirement, check the ripple on the input line to the regulator. If the ripple on the input line is greater than 900 millivolts peak-to-peak, then the regulator is not defective. The ripple problem is then associated with the input line.
6	If all the requirements are met, remove the patch connection and return the system to operation.