TEST PROGRESS TONE CIRCUIT SD-96603-01
2225-HZ SUPPLY AND DISTRIBUTING CIRCUIT
TESTS

1. GENERAL

1.01 This section provides the method for measuring the operating dc voltage, output level, and frequency of the test progress tone circuit, SD-96603-01.

1.02 This section is reissued for the following reasons:

- To change the requirements of the supply voltage in Table A
- To add notes to Table A denoting differences in supply voltage and voltage regulator voltage when using the test progress tone circuit with 4-wire No. 1 ESS.

This reissue does not affect the Equipment Test List.

1.03 The following tests are covered:

*A. **DC Voltage Measurement:*** This test checks the dc voltage of the oscillator circuit.

*B. **Operating Output Level Measurement:*** This test checks the two output levels of the oscillator circuit.

*C. **Frequency Measurement:*** This test checks the frequency of the oscillator output at the high-level and the low-level output jacks of the circuit.

1.04 If requirements stated in this section are not met, the circuit should be readjusted according to the instructions contained in the circuit description and drawings.

2. APPARATUS

2.01 KS-14510, L1 or L5 volt-ohm-milliammeter (VOM) equipped with KS-14510, L3 test leads. (Refer to appropriate section in Division 100.)

2.02 23A transmission measuring set (TMS) J94023A. (Refer to appropriate section in Division 103.)

2.03 72A frequency meter J64072A, or equivalent. (Refer to appropriate section in Division 103.)

2.04 Patching cord, P2B cord, 6 feet long, equipped with two 310 plugs (2P4C cord).

2.05 Patching cord, P3N cord, 6 feet long, equipped with one 310 plug and one 241A plug (3P17B cord).

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	Calibrate each test set employed in tests in accordance with appropriate section (Part 2) before it is used. Also refer to those sections for details of operation of test sets.	

4. METHOD

STEP	ACTION	VERIFICATION

A. DC Voltage Measurement

2 At VOM—
Set range switch to 60 DC volts.

3 Connect + (positive) terminal of VOM to ground.

4 Connect – (negative) terminal of VOM to OSC terminals as shown in Table A.

DC voltages should be indicated on 60-volt scale as shown in Table A.

TABLE A

OSC. TERM	READING	COMPONENTS BEING TESTED
1	45—50V*	Supply Voltage
10	20—30V**	CR1, R3 (Voltage Regulator)
6	10—50V	OSC Level (POT), Q1 Transistor Bias
11	20—50V	Continuity of L1 Inductor
3	42—48V	Q1 Transistor Output
8	42—48V	Continuity of T1 Transformer

*When using test progress tone circuit with 4-wire ESS, this reading shall be 45—52V.
**When using test progress tone circuit with 4-wire ESS, this reading shall be 20—35V.

5 Remove VOM test leads and set range switch to OFF.

B. Operating Output Level Measurement

2 At 23A TMS—
Operate DIAL-MEAS-SLV key to MEAS.

3 Operate INPUT key to 600.

STEP	ACTION	VERIFICATION
4	Using 2P4C cord— Patch MEAS 310 jack of TMS to HL jack of tone circuit. ***Note:*** Refer to SD-96603-01 and CD-96603-01 for adjustment procedures.	Meter should indicate -10 ± 0.5 dBm.
5	At tone circuit— Move patching cord from HL jack to LL jack of tone circuit. ***Note:*** Refer to SD-96603-01 and CD-96603-01 for adjustment procedures.	At 23A TMS— Meter should indicate -18 ± 0.5 dBm.
6	Remove all patching cords used for test.	
C. Frequency Measurement		
2	Using 3P17B cord— Patch 600Ω IN jack of frequency meter to HL jack of tone circuit.	
3	At 72A frequency meter— Operate CAL-MEAS-SEARCH key to MEAS.	
4	Operate FREQUENCY CPS controls to 2225 ± 25 Hz.	Required 1/1 frequency pattern is obtained on oscilloscope. ***Note:*** Refer to Section 103-425-100 for phases of 1/1 frequency pattern if necessary.
5	Move patching cord to LL jack of tone circuit.	Frequency pattern on oscilloscope does not change.
6	Remove all patching cords used for test.	