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SENDER TEST FRAME SD 25364-01
TESTS
CROSSBAR TANDEM OFFICES

1. GENERAL

1.01 This section describes a method of testing the level of multi-frequency pulsing to the MF receivers from the crossbar tandem automatic sender test frame circuit SD-25364-01. The tests covered in this section are intended to detect trouble in the test circuit that would not be evident in the normal operation of the test frame.

1.02 Information in this section was formerly covered in an addendum to Section 220-101-502PT.

1.03 Tests covered are:

A. **MF Pulsing Level and Modulation Product:** This test verifies that the test frame transmits MF pulses to the MF receiver at the proper levels.

B. **Twist Test:** This test verifies that the test frame can transmit MF pulses with the higher frequency attenuated.

2. APPARATUS

2.01 The following equipment is required:

- No. 23A Transmission Measuring Set (TMS), or equivalent.
- One W2W cord, 5-feet long, equipped with one 310 plug.
- One 360B tool.
- One 360C tool (2W17A cord).
- Two 419A tools.
- One P28 cord, 6-feet long, equipped with a 310 plug on each end (2P4C cord).

2.02 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

3. PREPARATION

STEP	ACTION	VERIFICATION
ALL TESTS		
1	AT THE SENDER TEST FRAME, RESTORE ALL KEYS AND SWITCHES TO NORMAL.	
2	MOMENTARILY OPERATE **CA** KEY.	
3	MOMENTARILY OPERATE **RN** KEY.	ALL LAMPS EXTINGUISHED.

4. METHOD

STEP	ACTION	VERIFICATION
A. MF PULSING LEVEL AND MODULATION PRODUCT		
4	CONNECT THE 310 PLUG OF THE 2W17A CORD TO THE 23A TMS **MEAS** 310 JACK.	
5	USING THE 419A TOOLS ATTACHED TO THE 360 TOOLS, CONNECT THE CORD LEADS TO CONTACTS 5B AND 7B OF RELAY C3.	
6	OPERATE THE **DIAL MEAS EXT** KEY ON THE 23A TMS TO **MEAS.**	
7	BLOCK OPERATE THE **KA** AND **PLC** RELAYS.	
MF PULSING LEVEL		
8	MANUALLY OPERATE IN TURN RELAYS 0 TO 9, PP1 AND ST.	AT EACH RELAY OPERATION, 23A READS -20.4 dB, ±1 dB. (SEE NOTES 1, 3, AND 4 IN TABLE A.)
MODULATION PRODUCT		
9	AT THE SENDER TEST FRAME, OPERATE THE **LL** KEY.	
10	MANUALLY OPERATE IN TURN RELAYS 0 TO 9, PP1 AND ST.	IF THE MF CURRENT SUPPLY DISTRIBUTION RESISTOR IS 470 OHMS, 23A READS -6.4. IF 619 OHMS, 23A READS -7.7. (SEE NOTES 1, 2, 3, AND 4 IN TABLE A.)
11	REMOVE BLOCKING TOOLS FROM **KA** AND **PLC** RELAYS.	
12	RESTORE **LL** KEY.	
13	DISCONNECT 23A TMS AND REMOVE CORD.	
B. TWIST TEST		
4	USING 2P4C CORD, PATCH NO. 23A SET TO **V1** JACK OF TEST FRAME.	
5	OPERATE **VIO** AND **TWT** KEYS.	METER SHOWS READING.
6	RESTORE **VIO** KEY, OPERATE **V17.**	IN OFFICES EQUIPPED WITH NEW TYPE RECEIVERS (SD-95536-01), METER SHOWS READING 8.25 dB, ±0.25 dB LOWER THAN READING IN STEP 5. IN OFFICES WITH OLD TYPE RECEIVERS (SD-95097-01) OR WITH OLD AND NEW TYPE, METER SHOWS READING 6.24 dB, ±0.25 dB LOWER THAN READING IN STEP 5.
7	RESTORE **TWT** AND **V17** KEYS.	
8	DISCONNECT NO. 23A TEST SET AND REMOVE CORD.	

TABLE A

MF CURRENT SUPPLY DISTG. RESISTORS FOR TEST CKT.	dB LEVEL TO TEST CIRCUIT	dB VALUE OF PADS		MF PULSING dB LEVEL TO RECEIVER	MODULATION PRODUCT dB LEVEL TO RECEIVER	NOTES
		PLUG IN SWITCH "A" PAD	PLUG IN FIXED "B" PAD			
OFFICES WITH SD-95087-01 OR SD-95536-01 RECEIVERS ONLY AND OFFICES EQUIPPED WITH BOTH TYPES OF RECEIVERS						
470 OHMS	+5.6	14	12 dB	-20.4	-6.4	1, 3
619 OHMS	+4.3	12.75	12 dB	-20.45	-7.7	1, 2, 3

NOTES:

1. THE VALUE OF "A" AND "B" PAD SHOWN IN TABLE IS STANDARD. IF VALUE OF "B" PAD IS OTHER THAN SPECIFIED, COMPUTE dB LEVEL TO RECEIVER. SUBTRACT COMBINED dB VALUE OF "A" AND "B" PADS FROM dBm LEVEL TO TEST CIRCUIT.

2. IF THE "B" PAD IS OTHER THAN SPECIFIED, COMPUTE dBm LEVEL OF MODULATION PRODUCT TO RECEIVER. SUBTRACT dB VALUE OF "B" PAD FROM dB LEVEL TO TEST CIRCUIT.

3. IN ORDER TO TEST THE NEW OR EARLIER MF RECEIVERS AT THE NEW REDUCED MF SENDING POWER, WHICH WAS MADE TO REDUCE THE POSSIBILITY OF INTERFERENCE FROM CROSSTALK, THE TEST CIRCUIT USES A 12 dB (C) PAD ON A STANDARD BASIS AND THE MF RECEIVER SD-95087-01 USES A 3 dB (IN) PAD ON A STANDARD BASIS.

4. MF CURRENT SUPPLY dB LEVEL, TO TEST CIRCUIT, TO MF RECEIVER, AND MODULATION PRODUCT IS BASED ON A COMBINATION OF TWO FREQUENCIES.