

OUT-TRUNK SWITCHES ARRANGED FOR PRESELECTION
IMPULSE NOISE TESTS
STEP-BY-STEP OFFICES

1. GENERAL

1.01 This section describes the method for testing preselection rotary out-trunk switches (ROTS's) that have been modified to reduce impulse noise.

1.02 It is reissued to:

- Change the levels shown in Steps 7 and 8.
- Revise Exhibit 1.

1.03 The test checks that the induced noise is within acceptable levels during the preselection period when the ROTS is in the process of selecting an idle trunk.

1.04 It is preferable that the tests be performed during periods of light traffic in order to obtain access to the maximum number of idle switches.

1.05 Defective switches found to be noisy should be removed from service. Common causes of noise troubles are:

- Bent or bridging rotor brushes.
- Dirty or bent bank terminals.
- Worn ratchet wheel.
- Open or incorrectly wired MC relay.
- Rapid releasing MC relay.

1.06 Connections to the ROTS, test sets, and noise measuring equipment should be carefully cleaned to avoid introducing noise from these sources.

1.07 Apply required blocking and insulating tools as covered in Section 069-020-801.



Before making any tests, determine that the equipment to be tested is idle.

2. APPARATUS

2.01 Calibration and operating procedures for each test set may be found in the section listed in parenthesis with each set.

2.02 J94003A noise measuring set (3A NMS) equipped with a 723A receiver (Section 103-611-100).

2.03 J94002AB auxiliary transmission test set (2AB test set) (Section 103-202-100).

2.04 J94006A impulse counter (6A IC) (Section 103-620-100) or (6F) (Section 103-526-100). ←

2.05 J34714A test set (SD-31426-01).

2.06 900 ohm termination equipped with two KS-6780 connecting clips or equivalent.

2.07 (One) 3P6K patch cord — P3E slate cord, 25 feet long equipped with two 310 plugs.

2.08 (Two) 3P7A patch cords — P3E slate cord, 6 feet long equipped with two 310 plugs.

2.09 (One) 2P4A patch cord — P2B cord, 3 feet long equipped with two 310 plugs.

2.10 Distributing frame wire — U22P or equivalent.

3. PREPARATION

3.01 The test circuit arrangements are shown on Exhibit 1.

3.02 With the 2P4A cord, connect one 310 plug to the INPUT jack of the J94006A (6A) impulse counter and insert the other 310 plug to the TMS jack of the J94002AB (2AB) transmission test set.

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3.03 With the U22P distributing frame wire, connect to the TMS binding posts of the 2AB test set. Insert the other end of the frame wire to the IN binding posts of the J94003A noise measuring set (3A NMS).

3.04 With a 3P7A cord, connect the BAT-G jack of the J34714A test set to the battery supply jack.

Note: To avoid possible grounding of the battery supply leads, connect the test set first. When disconnecting, remove the cord from the test set last.

3.05 Operate the FUNCTION switch of the 3A NMS to BRDG. Plug in the 497A network to the C MESSAGE WTG position on the 3A NMS.

3.06 Operate the test switches of the 2AB test set to REC 900Ω.

3.07 Operate the WTG switch of the 6A impulse counter to Voice Band.

4. METHOD

STEP	ACTION	VERIFICATION
1	<p>On the 2AB test set, using the 3P7A cord, connect the MEAS jack to the TST jack of an idle ROTS.</p> <p><i>Note:</i> It is preferred that the ROTS's be tested on trunks that are assigned to low numbered terminals (ie, terminal 1, 2, etc).</p>	
2	<p>Block the ST relay nonoperated of the ROTS selected in Step 1.</p>	
3	<p>Remove the battery and ground from the tip (T) and ring (R) at the trunk equipment for the trunk under test. This may require removing the repeater from its jack, blocking contacts in the AMA trunk, etc.</p>	
4	<p>Connect the 900 ohm termination to the (T) and (R) of the trunk under test. Connections may be placed at the trunk equipment location, trunk distributing frame, etc.</p>	
5	<p>On the J34714A test set, using the 3P6K cord, connect the OTS jack to the TST jack of another idle ROTS in the same ROTS group.</p>	<p><i>Caution: If BY lamp lighted, remove plug from the TST jack and select another ROTS.</i></p>
6	<p>On the J34714A test set, operate the STEP key.</p>	<p>Switch steps to next terminal or trunk and continues to step. BY lamp may flash each time switch steps. Other idle switches in same group will step if resting on trunks</p>

STEP	ACTION	VERIFICATION
6		that are busied by the switch under test.
7	On the 3A NMS, operate the REF LEV DBRN switch to the 30 dBm position and the DAMP-NORM switch to DAMP position.	No peak shall exceed 36 dBrcn when ROTS's pass over trunk under test.
8	On the 6A impulse counter, operate the REF LEV DBRN switch to the 75 dBm position.	<p>6A counter should not register any impulse noise when the ROTS's pass over the trunk under test.</p> <p>If the 6A register continues to count impulse noise, perform Step 9 and isolate the defective switch by manually operating the ST relay to cause each ROTS to step individually over the trunk under test.</p> <p>Also refer to 1.04 on defective switches.</p>
9	On the J34714A test set, restore the STEP key.	ROTS's stop stepping.
10	Remove the blocking tool on the ST relay of the ROTS under test.	
11	Remove test cord connections to the TST jack of all the ROTS's.	
12	<p>Repeat Steps 1 through 9 on two different ROTS's in the same group.</p> <p><i>Note:</i> Perform the tests using the same terminated trunk selected in Step 1.</p>	This will check that the ROTS used to perform the impulse noise measurements is not defective.
13	Remove all test cords.	
14	Remove all blocking tools.	
15	Remove the 900 ohm test termination.	
16	Restore battery and ground to the trunk equipment under test.	

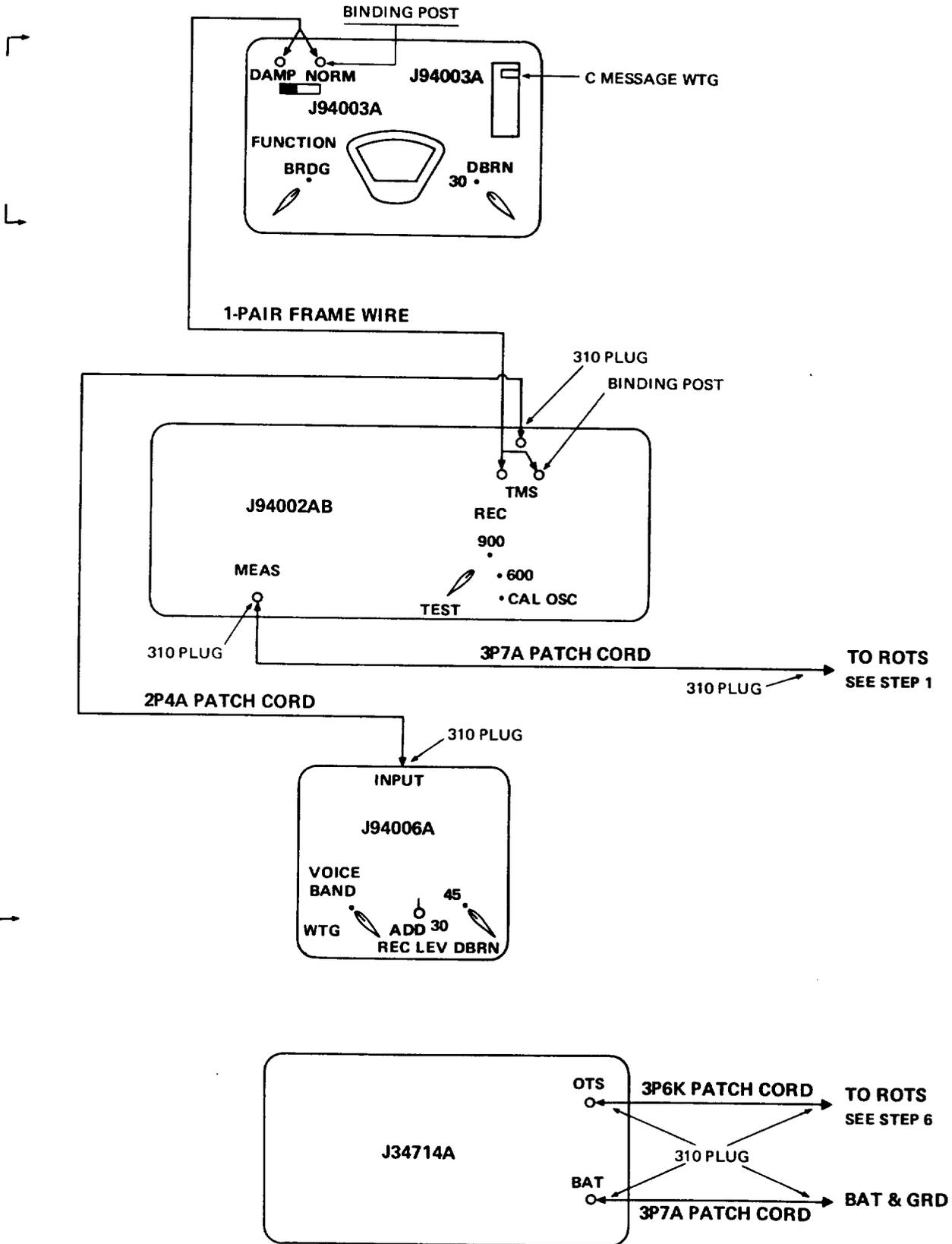


Exhibit 1