CONFERENCE CIRCUITS

TELETYPEWRITER SWITCHBOARDS 3A AND 3C

1. GENERAL

1.01 This section describes a method of making operation tests on conference circuits associated with 3A and 3C TWX switchboards.

1.02 This section replaces the test procedures for conference circuits associated with 3A TWX switchboards covered in Section A281.282.

1.03 The conference circuit provides for connecting several subscriber lines or trunks, so as to permit transmission of teletypewriter signals from any one of the connections to all of the other connections. This is accomplished by the use of branch repeaters which are terminated in conference branch jacks located in the switchboard multiple-jack field.

1.04 Two arrangements of these circuits may be provided as follows:

(1) Conference Circuits not Arranged for Grouping: These may be equipped with 3 to 10 branch repeaters and jacks so as to provide for connecting a similar number of subscriber lines or trunks together.

(2) Conference Circuits Arranged for Grouping: This type consists of two separate circuits each with five branch repeaters and jacks. These two circuits may be used independently for two 5-branch conference connections, or through the proper sequence of connecting the cord circuits, they may be grouped, i.e., connected together so as to provide one 10-branch conference circuit.

1.05 The tests covered are as follows:

(A) Operation Tests - Conference Circuits not Arranged for Grouping

(B) Operation Tests - Conference Circuits Arranged for Grouping

(C) Transmission Tests.

1.06 Tests (A) and (B) can be made at the switchboard by one man.

1.07 Test (C) should be coordinated with the test procedures outlined in Section E35.210 and will require one man at the test or service board and one man at the switchboard. When making this test, it is desirable that telephone communication be established between the switchboard and the test or service board.

2. APPARATUS

For Tests (A) and (B)

2.01 No apparatus will be required.

For Test (C)

2.02 Two out-of-order or make-busy circuits per SD-70039-01, with "Y" wiring.

2.03 Two miscellaneous jack circuits per SD-62889-01, Fig. 11, when a telegraph test board is provided or per SD-70618-01, Fig. 109, when No. 2 or 9B telegraph service board is provided.

Note: The out-of-order or make busy circuit, together with the miscellaneous jacks used to extend the transmission path of the various combinations of branch repeaters to the test or service board. With this arrangement transmission tests can be made in both directions through the branch repeaters using the source of test signals and transmission measuring set associated with the test or service board.

3. METHOD

(A) Operation Tests - Conference Circuits not Arranged for Grouping (Fig. 1)

3.01 At POS. A and B: Select an idle cord circuit in both positions and operate the typing keys to the HOME position.

Busy Lamp Test

3.02 At POS. A: Insert the CALL plug into branch 1 jack. The BSY lamp should light and the position teletypewriter should respond to typing from its own keyboard. Remove the plug and the BSY lamp should go out.

3.03 Repeat 3.02 using each branch jack associated with the conference circuit.

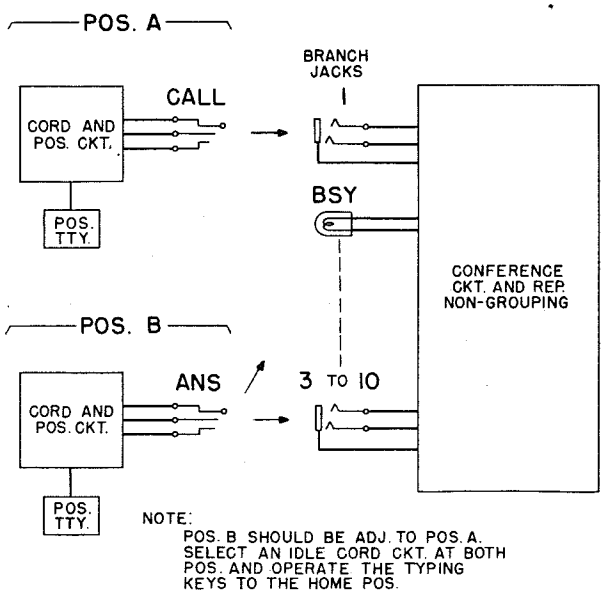

Fig. 1 - Operation Tests- Nongrouping Circuits

Typing Test

3.04 At POS. B: Insert the ANS plug into branch 2 jack. The BSY lamp should light.

3.05 At POS. A: Insert the CALL plug into branch 1 jack. Type on the keyboard and the teletypewriter at POS. B should respond.

3.06 At POS. B: Type on the keyboard and the teletypewriter at POS. A should respond.

3.07 At POS. B: Transfer the ANS plug in turn to each of the other branch jacks associated with the conference circuit and repeat 3.05 and 3.06 after connection is made to each jack.

3.08 At POS. A: Remove CALL plug from the branch 1 jack.

3.09 At POS. B: Remove the ANS cord from the last branch jack tested. The BSY lamp should go out.

3.10 Restore all keys and position equipment to normal.

(B) Operation Tests - Conference Circuits Arranged for Grouping. (Fig. 2)

Note: The grouping-control jack is branch jack 5 of circuit 1. When the first connection is made to this jack the two conference circuits will be grouped and subsequent connections to any other branch jack in circuit 1 will hold the grouping circuit activated until the last connection is removed. Both conference circuits may be used independently on a nongrouped basis provided circuit 1 is idle and the first connection is made to any branch jacks other than branch jack 5. If the first connection is made to any one of branch jacks 1 to 4, it blocks the grouping circuit and subsequent connection may be made to branch 5 jack without activating the grouping circuit.

3.11 At POS. A and B: Select an idle cord circuit in each position and operate the typing keys to the HOME position.

Busy Lamp Test, Circuit 1

3.12 At POS. A: Insert the CALL plug into branch jack 1 of circuit 1. The BSY lamp of circuit 1 should light and that of circuit 2 should not light. The position teletypewriter should respond to typing from its own keyboard. Remove the CALL plug and the BSY lamp should go out.

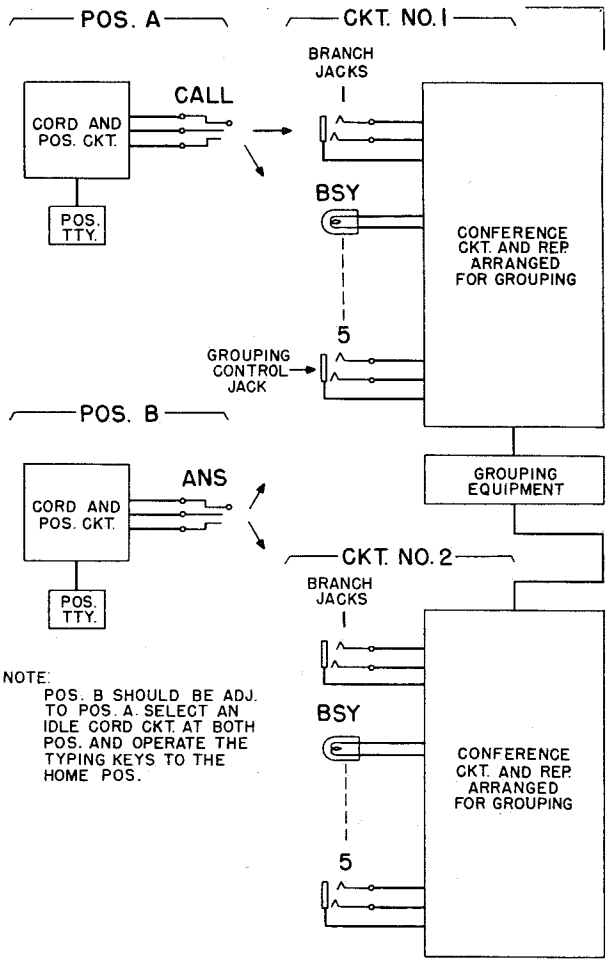

Fig. 2 - Operation Tests - Grouping Circuits

3.13 Repeat 3.12 using branch jacks 2 to 4 in turn in circuit 1.

Busy Lamp Test, Circuit 2

3.14 At POS. A: Insert the CALL plug into branch jack 1 of circuit 2. The BSY lamp of circuit 2 should light and that of circuit 1 should not light. The position teletypewriter should respond to typing from its own keyboard. Remove the CALL plug and the BSY lamp should go out.

3.15 Repeat 3.14 using branch jacks 2 to 5 in turn in circuit 2.

Grouping Hold and Release Tests

3.16 At POS. B: Insert the ANS plug into branch jack 5 of circuit 1. The BSY lamp of circuit 2 should light. The BSY lamp of circuit 1 should not light.

3.17 At POS. A: Insert the CALL plug into branch jack 1 of circuit 1. The BSY lamp of circuit 1 should light.

3.18 At POS. B: Remove the plug from branch jack 5 of circuit 1. The BSY lamps of circuits 1 and 2 should remain lighted.

3.19 At POS. A: Type on the keyboard and the position teletypewriter should respond. Remove the plug from branch jack 1 of circuit 1. The BSY lamps of circuits 1 and 2 should go out.

3.20 Repeat 3.16 to 3.19 using branch jacks 2, 3 and 4, in turn, of circuit 1 for the CALL plug of POS A.

Typing Test

3.21 At POS. B: Insert the ANS plug into branch jack 5 of circuit 1. The BSY lamp of circuit 2 should light.

3.22 At POS. A: Insert the CALL plug into branch jack 1 of circuit 1. The BSY lamp of circuit 1 should light.

3.23 At POS. B: Transfer the ANS plug to branch jack 5 of circuit 2.

3.24 At POS. B: Type on the keyboard and the POS. A teletypewriter should respond.

3.25 At POS. A: Type on the keyboard and the POS. B teletypewriter should respond.

3.26 At POS. B: Transfer the ANS plug to branch jacks 4, 3, 2, 1 of circuit 2 and 5, 4, 3, and 2 of circuit 1, in turn. Check the tying in both directions (para. 3.24 and 3.25) after connection is made to each branch jack.

3.27 At POS. A and B: Remove the plugs from branch jacks 1 and 2 of circuit 1 and restore all keys and position equipment to normal. The BSY lamps of circuits 1 and 2 should go out.

(C) Transmission Tests (Fig. 3)

Note: These tests are made from the telegraph test or service board as outlined in E35.210. They are to check transmission requirements in both directions through all combinations of the branch repeaters. The procedure required at the switchboard is to connect the out-of-order or make-busy circuits to the conference branch jacks.

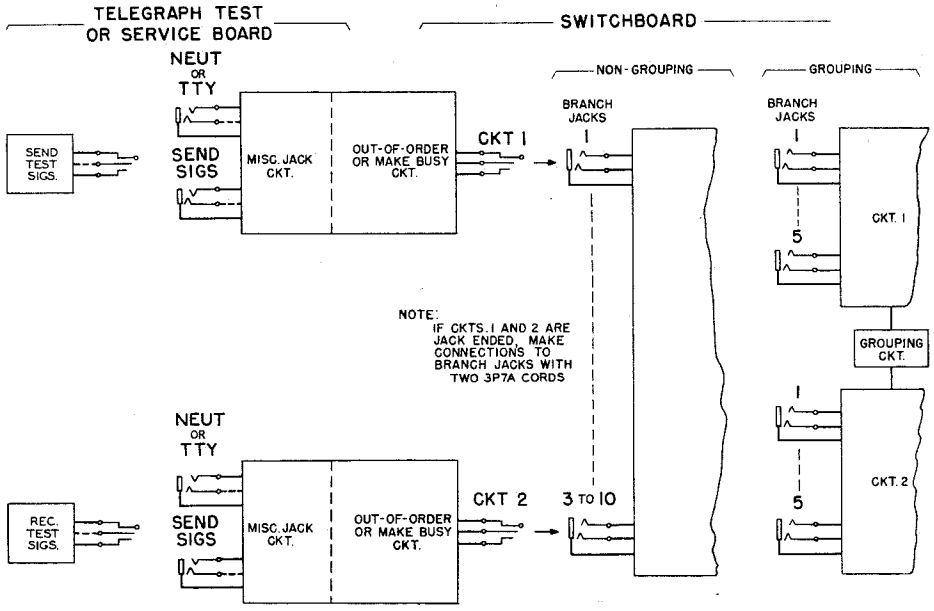

Fig. 3 - Transmission Tests

Conference Circuits Not Arranged for Grouping

3.28 Insert the plug of out-of-order or make-busy CKT 1 into branch jack 1. Insert the plug of CKT 2 in branch jack 2.

3.29 The attendant at the test or service board should make transmission tests in both directions through this combination of branch repeaters.

3.30 Transfer CKT 2 to each of the other Branch jacks in turn and repeat 3.29 after connection is made to each jack. Upon completion remove the plugs of CKTS 1 and 2 from the branch jacks.

Conference Circuits Arranged for Grouping

3.31 Insert the plug of an idle cord circuit 1 into branch jack 5 of circuit 1.

3.32 Insert the plug of out-of-order or make busy CKT 1 into branch jack 1 of circuit 1. Insert the plug of CKT 2 into branch jack 5 of circuit 2.

3.33 Remove the plug of the idle cord circuit from branch jack 5 of circuit 1.

3.34 The attendant at the test or service board should make transmission tests in both directions through this combination of branch repeaters.

3.35 Transfer the plug of CKT 2 to branch jacks 4, 3, 2, and 1 of circuit 2 and then to branch jacks 5, 4, 3, and 2 of circuit 1 in turn. Repeat 3.34 after connection is made to each jack.

3.36 Remove the plugs of CKT 1 and 2 from the last branch jacks tested.

4. REPORTS

4.01 Enter the required record of these tests on the proper forms.

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