ANNOUNCING TRUNK TESTS

5A ANNOUNCEMENT SYSTEM

CONTENTS

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1. GENERAL INFORMATION

1.1 Description: This section describes a method of testing the operating features of:

SD-68431-01	Delay Quotation Announcing Trunk
SD-68445-01	Delay Quotation Announcing Trunk
SD-68195-01	Misc. Circuit Traffic Supervisory Rack
SD-68460-01	Delay Quotation Announcing Trunk
SD-95160, SD-95208	Multi-Channel Ann. Mach.
KS-16508	Amplifier
KS-12066	Rectifier
KS-12068	Recorder Reproducer

The tests shall be applied in the order listed. Amplifier level adjustments are made at the equipment bay. Recording, playback and erasing tests are made from the delay quotation position of the switchboard. Machine announcement tests are made at the traffic supervisory rack using ITE-4011. Operator announcement tests are made from the switchboard to ITE-4011 at the traffic supervisory rack.

1.2 Cross Connections: Cross connections at V.I.D.F. to switchboard jack and lamp circuits shall be installed as assigned in order to perform these tests.

1.3 Recorder Reproducer: The recorder reproducer shall be assembled, lubricated and its adjustments checked in accordance with instructions in BSP A438.938 before applying the tests described in this section. BSP A438.938 should be obtained from the telephone company.

2. RECORDS AND REQUIREMENTS

2.1 Records: Results of these tests shall be recorded on the Test Trouble Record, ID-1313, and summarized on the ID-2818 Series.

2.2 Requirements: The tests described in this section are supplementary tests and meet the performance requirements of BSP A204.459.

3. TEST EQUIPMENT

3.1 Test Sets

Amt	ITE	Description
1	4002	Tone Buzzer
1	4011	Misc. Trunk Test Set
1	4442	Volt-Ohmmeter
1	4251	Rapidohm Test Set
1	4064	13A Transmission Measuring Set or equivalent maintenance test set
1	4187	Attenuator or Tel. Co. 5A attenuator.

3.2 Accessories

Amt	ITE	Description
2	9650	Telephone Sets

4. ASSIGNMENT TESTS

4.1 Continuity Tests

4.11 Using an ITE-4002 Tone Buzzer as outlined in Handbook 50, Section 2, test all leads connected by installer at trunk units, amplifiers, announcing machine etc., for continuity. Also check for proper grounding of shield on shielded pairs.

4.2 Fusing

4.21 Using an ITE-4442 Volt-Ohmmeter as outlined in Handbook 67, Section 310, check fusing of each circuit installed.

4.3 Rapidohm Tests

4.31 With ITE-4251 Rapidohm test set located at trunk relay rack. Connect 48V and ground to the A jack using an ITE-9598 cord. With the TEST lead open adjust the meter needle to mid-scale by means of the screw on the meter. Set selector switch to Rx10, connect an ITE-9421 cord to TEST jack and touch test pick to 48V or GRD. Adjust ADJ knob until meter needle deflects to zero, -0 if battery is used or +0 if ground is used.

4.32 Touch test pick in turn to terminals 2 and 5 bottom and 2 and 5 top of trunk F relay. Check that a reading of approximately -2000 is obtained at each terminal.

4.33 Block trunk F relay operated and repeat test 4.32. With the selector switch turned to position R, check that a reading of approximately -300 is obtained at each terminal.

4.34 Unblock relay F.

4.35 Perform tests 4.32 to 4.34 on each trunk.

5. AMPLIFIER LEVEL AND VOICE OPERATED RELAY ADJUSTMENT

5.1 Check of -10 dbm 1000 Cycle Signal Supply

5.11 Locate an ITE-4064 (13A) transmission measuring set at the trunk relay rack. Check that the 13A set has been calibrated and adjusted to read 0 db for 1 milliwatt into 600 ohms in accordance with Handbook 50, Section 9.1, Paragraph 4. Connect the set to an ac service receptacle and connect an ITE-9739 cord to its input terminal.

5.12 After the 13A set has warmed up insert the plug of the ITE-9739 into the -10 dbm jack of the 1 MW supply and flashing circuit on the trunk relay rack. Check that a reading of approximately -10 db is obtained on the test set.

5.2 Amplifier Level Adjustment

5.21 Disconnect the 13A set from the -10 dbm jack and connect it to the TST OUT jack of the first trunk to be tested.

5.22 Patch TEST IN jack of announcement trunk to -10 dbm jack.

5.23 Operate REC POT key. Using a screwdriver, adjust RECORD GAIN potentiometer until the 13A set indicates a level of -4 dbm.

NOTE: Allow at least two revolutions of the recording drum after the potentiometer has been adjusted and then release the REC POT key.

5.24 Adjust REPRODUCE GAIN potentiometer until the 13A set indicates an average reading of -4 dbm for one revolution of the recording drum.

NOTE 1: The meter may vary ±2 db but the average reading should be -4 dbm.

NOTE 2: The tone recorded on the drum per Paragraph 5.23 is interrupted during each revolution of the drum. Disregard fluctuations of the 13A set meter during these interruptions.

5.25 If for any reason it is desired to erase the recorded tone without making a new recording, erasure may be made as follows: Disconnect patch cord from -10 dbm jack and hold sleeve of plug to ground for two revolutions of the recording drum.

5.3 Voice Operated Relay Adjustment

5.31 Loosen shaft lock nuts on amplifier OPERATE and RELEASE potentiometers. Turn OPERATE potentiometer to extreme CCW position. Turn RELEASE potentiometer to extreme CW position.

5.32 Turn amplifier power switch to OFF as hazardous voltages exist on the K2 relay winding and other amplifier components. Set ITE-4442 volt-ohmmeter function switch on 12 volt dc range. Connect - and + terminals to rear winding terminals 2BR and 5TF of K2 relay.

5.33 Operate amplifier power switch to ON and allow amplifier to warm up for one minute. Adjust RELEASE potentiometer very slowly CCW until the voltmeter remains stable and reads 3.5 volts. Tighten shaft lock nut and turn amplifier power switch to OFF. Disconnect voltmeter.

NOTE: K2 relay should release before the 3.5 volt adjustment is obtained. When relay K2 releases the ALM lamp lights. Operate ALM CO key to silence audible alarms.

5.34 Operate power switch to ON.

5.35 Connect -10 dbm jack to IN jack or binding posts of 5A attenuator or ATTEN IN jacks of ITE-4187 attenuator. Connect TST IN jack of announcement trunk under test to OUT jacks or binding posts of 5A attenuator or to ATTEN OUT jacks of ITE-4187 attenuator.

NOTE: The sleeves of the TST IN and -10 dbm jacks must be connected together. Figure 1 indicates various test set ups to accomplish this.

5.36 Adjustment of OPERATE Potentiometer

5.361 Test Setup

(a) Block announcing trunk L1 relay operated.

(b) Operate REC POT key.

(c) Insulate 1T and 2T contacts of AL relay and release ALM CO key.

(d) Operate attenuator keys to normal. (0 db attenuation)

5.362 After at least one minute operate attenuator keys to provide attenuation of 16 db. Very slowly adjust OPERATE potentiometer clockwise until the ALM lamp is extinguished or the audible alarm is silenced. Remove insulator from contacts 1 and 2 top of AL relay.

5.363 Restore keys of attenuator to normal (0 db). After one minute operate attenuator keys to provide a total of 17 db attenuation. In 8-14 seconds:

(a) ALM light at announcement frame should light.

(b) Audible alarm sounds.

(c) ALM light at switchboard or 601A telephone set should light.

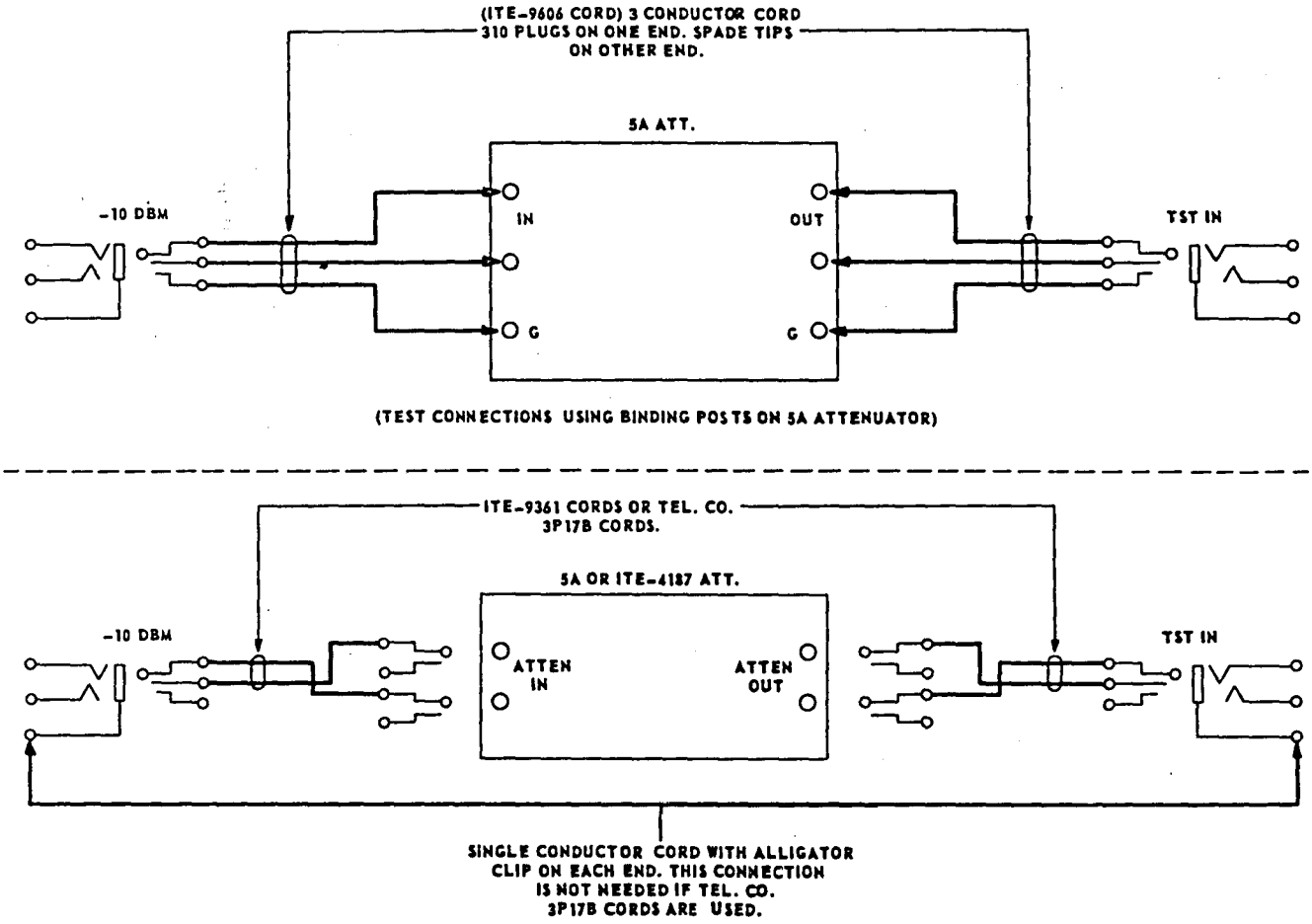

FIG. 1 TEST SETUP

5.364 Operate ALM CO key. GUARD lamp lights. ALM lamp remain lighted.

5.365 Restore attenuator keys to normal. ALM lamp at switchboard or 601A telephone set extinguishes. Release ALM CO key. ALM and GUARD lamps at announcement frame extinguish.

5.366 Remove test connections, remove blocking tool from L1 relay. Restore REC POT key to normal.

5.37 Using procedure described above, adjust RELEASE and OPERATE potentiometers in each announcement trunk circuit.

6. RECORDING, PLAYBACK AND ERASING

6.1 Delay Quotation Announcing Trunk SD-68431-01 Toll Switchboard No. 5

6.11 With an operator telephone set plugged into telephone jacks of delay quotation recording position, insert plug of position cord into RECORD jack of first announcing trunk circuit. Cord supervisory lamp flashes one short and one long flash every six seconds. Wait for one minute.

6.12 Operate and hold operated the cord ringing key. (If regular position is used as delay quotation position first operate talking key.) Immediately after two long flashed of cord lamp record a message of approximately four seconds duration, such as, "Testing on channel one trunks."

6.13 Immediately after next short flash, release ringing key. Recorded message is heard following each succeeding long flash of cord lamp.

6.14 Operate and hold operated cord ringing key. Immediately after two long flashes of cord lamp, release ringing key. Recorded message is no longer heard.

6.15 Repeat tests 6.12 and 6.13 so as to leave a recorded message on channel that will identify it for machine announcement tests.

6.16 Remove cord from RECORD jack.

6.17 Perform tests 6.11 to 6.16 on each trunk. Change channel number in recorded message on each trunk to agree with number of associated channel and thus identify channel.

6.2 Delay Quotation Announcing Trunk SD-68445-01, Toll Switchboard No. 3, 3C or 3CL

6.21 With an operator telephone set plugged into telephone jacks of delay quotation record announce position insert position cord plug into RECORD ANNOUNCE jack of first announcing trunk circuit and operate monitoring key. Cord supervisory lamp flashes one short and one long flash every six seconds.

6.22 Operate talking key of cord circuit. Immediately after two long flashes of cord lamp, record a message of approximately four seconds duration, such as; "Testing on channel one trunks."

6.23 Immediately after next short flash, operate monitoring key. Recorded message is heard following each succeeding long flash of cord lamp.

6.24 Immediately after any one of the short flashes operate the talking key. After the next short flash operate monitoring key. Recorded message no longer is heard.

6.25 Repeat tests 6.22 and 6.23 so as to leave a recorded message on channel that will identify it for machine announcement tests.

6.26 Remove cord from RECORD ANNOUNCE jack.

6.27 Perform tests 6.21 to 6.26 on each trunk. Change channel number in recorded message on each trunk to agree with number of associated channel and thus identify channel.

7. MACHINE ANNOUNCEMENT

7.1 Set up an ITE-4011 Miscellaneous trunk test set at the traffic supervisory rack and connect 48V and Grd to the A jack of test set using an ITE-9598 or an ITE-9639 cord.

7.2 Patch jacks of ITE-4011 as follows using ITE-9548 cords:

(O-JK)S to (BG-LP)T
(O-JK)R to (CW)R
(O-JK)T to (CW)T

7.3 Plug an operator telephone set into TEL jacks and insert one plug of an ITE-9601 cord into the O jack of test set and operate the DD-CW and BG keys.

7.4 Insert other plug of ITE-9601 cord into first DQ jack associated with first delay quote announcing trunk. Check that test set BG lamp flashes twice followed by an announcement indicating that a channel one trunk is being used.

7.5 Perform test 7.4 on each DQ jack associated with channel one trunk.

7.6 Perform tests 7.4 and 7.5 on each DQ jack of each trunk, checking for correct announcement on each jack.

8. OPERATOR ANNOUNCEMENT

8.1 Delay Quotation Announcing Trunk SD-68431-01, Toll Switchboard No. 5

8.11 Plug an operator telephone set into telephone jacks of delay quotation recording position and insert a 329A make busy plug into lower RECORD jack of first delay quote trunk. Check that relays R and SL1 of trunk operate and that filament of oscillator tube (V4) of associated amplifier is extinguished.

8.12 With ITE-4011 set up at traffic supervisory rack as in Paragraph 7, insert plug of ITE-9601 cord into any DQ jack associated with first delay quote trunk. Lamp BG does not light and no announcement should be heard. Trunk circuit answering lamp at switchboard should light.

8.13 Insert position cord into OPERATOR ANNOUNCE jack of trunk and announce the trunk number being tested. Announcement is heard in telephone set of ITE-4011. Trunk answering lamp should be extinguished.

8.14 Operate ringing key of position cord circuit two times. Lamp BG of ITE-4011 flashes twice.

8.15 Remove plug of ITE-9601 cord from DQ jack at traffic supervisory rack. Position cord circuit lamp should light.

8.16 Remove cord and make busy plug from trunk jacks.

8.17 Perform tests 8.11 to 8.16 on each delay quotation announcing trunk circuit.

8.18 Repeat tests 8.12 to 8.17 from delay quotation operating position.

8.2 Delay Quotation Announcing Trunk SD-68445-01 Toll Switchboard No. 3, 3C, 3CL

8.21 Plug an operator telephone set into telephone jacks of delay quotation record announce position and insert the plug of one of the position cords into MAN RING jack of first delay quote trunk. Check that relays R and S of trunk operate and that filament of oscillator tube (V4) of associated amplifier is extinguished.

8.22 With ITE-4011 set up at traffic supervisory rack as in Paragraph 7, insert plug of ITE-9601 cord into any DQ jack associated with first delay quote trunk. Lamp BG1 does not light and no announcement should be heard. Trunk circuit answering lamp should light.

8.23 Insert a cord of any other cord pair into RECORD ANNOUNCE jack of delay quote trunk. Trunk answering lamp should be extinguished.

8.24 Operating RING key of cord in MAN RING jack two times. Lamp BG of ITE-4011 flashes twice.

8.25 Operate TALK key of cord in RECORD ANNOUNCE jack and announce the trunk number being tested. Announcement is heard in telephone set of ITE-4011.

8.26 Remove plug of ITE-9601 cord from DQ jack at traffic supervisory rack. Lamp of cord in RECORD ANNOUNCE jack should light.

8.27 Remove cords from MAN RING and RECORD ANNOUNCE jacks.

8.28 Perform tests 8.21 to 8.27 on each delay quotation announcing trunk circuit.

8.29 Repeat tests 8.22 to 8.28 from operator announce position using OPR. ANN. jacks.

9. USE OF 601A TELEPHONE SET

9.1 If a 601A telephone set is to be used for making voice recordings, follow the procedure described in CD-96509-01.

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