NO. 3 ESS
OPERATIONAL TESTING
COIN CONTROL, TONE AND RECORDED ANNOUNCEMENT AND REMOTE RECORDING OF ANNOUNCEMENT CIRCUIT
(SD-3H411-01)

CONTENTS

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1. GENERAL INFORMATION

1.1 Description

1.11 The purpose of this section is to operationally test the Coin Control, Tone and Recorded Announcement and Remote Recording of Announcement Circuit (SD-3H411-01).

1.2 Sequence

1.21 System Verification testing of the Trunks, Service, Tone and Recorded Announcement Circuits must be completed before this section is run.

1.3 References

1.31 The following documents may be used as reference material when running the tests of this section:

Document	Title
SD/CD-3H411-01	Coin Control, Tone and Recorded Announcement and Remote Recording of Announcement Circuit
Office Records	

2. RECORDS AND REQUIREMENTS

2.1 Records: The results of the tests of this section shall be recorded on forms SD-97-1313 and SD-97-1315. For detailed information on filling out test records, see Section 6B, Handbook 3.

2.2 Requirements: The tests in this section are based on the No. 3 ESS Performance Requirements BSP 820-650-180.

3. TEST EQUIPMENT

3.1 Test Phones

Amt.	Code	Title
2	1C2	TOUCH-TONE Coin Telephone*
or		
2	1C1	Dial Pulse Coin Telephone*
or		
1 each	1C1 & 1C2	

NOTE: These coin phones will need to be modified for the type of coin station to be used (ground start or loop start).

2	2500D	TOUCH-TONE Telephone (non-coin)*

* Depending on whether or not the office is equipped with dial-pulse or TOUCH-TONE features, any equivalent coded phone can be used.

4. PRELIMINARY INFORMATION

4.1 The Coin Control Circuit is arranged to work with these three coin stations:

1. Ground Start Prepay Coin Phone - No digits may be dialed until al coin is inserted and dial tone is returned.
2. Loop Start Prepay Coin Phone - Same as Ground Start Prepay. The difference is that it allows use of a Loop Start Phone instead of a Ground Start Phone.
3. Dial-Tone-First Coin Phone - Dial tone is returned when off-hook. The coin may be deposited any time after going off-hook and

before the last digit is dialed. Dial free 0 (Operator), 411 (Information), 911 (Emergency), special service calls (repair, etc.), and any free terminating line.

One or all of these coin stations may be used in an office.

4.2 Features which an office may have with respect to treatment of coin calls are:

1. Local Untimed Coin Call - The customer may dial any number within his local area for a dime and talk as long as he desires at no additional charge.

2. Local Overtime Coin - The customer pays 10¢ for the first period (usually 5 minutes) and 5¢ for each additional period of time (variable) thereafter.

* 3. Coin Zone (Coin Toll) - When the customer dials a number out of his local area (costing more than 10¢) he gets routed over a coin zone dialing trunk to an operator switchboard where a lamp lights indicating the amount the call will cost. The switchboard operator tells the customer what to deposit.

* 4. Long Distance - Same treatment as Coin Zone except the operator is a long distance operator who must calculate the cost of your call the same as any long distance call.

* If either of these calls goes into the overtime period (usually more than 3 minutes) the operator must calculate the overtime charges.

4.3 Tone and Recorded Announcement tests will consist of removing all but one member of the tone or recorded announcement group under test from service. Then by the use of a telephone some appropriate action is taken which will cause the tone or recorded announcement to be returned to the phone. The pass condition is that the correct tone or announcement is heard. There are three tones which are tested using the Trunk Test Panel. For these a member of the tone group is connected to the TTP where it is monitored. Not all tones may be supplied in an office.

4.4 The remote recording of announcement circuit tests will utilize the circuit itself and the 7A announcement machine in conjunction with the automatic call-back feature.

A recording on the 7A announcement machine can be changed at the No. 3 ESS office, from a remote location. The automatic call-back feature activates the necessary items to establish a talking connection to the 7A announcement machine through the remote recording circuit. The 7A machine is placed in its play-back state and the overload announcement transfer at the junctor is cancelled.

3. TEST EQUIPMENT

3.1 Test Accessories

Amt.	Code	Title
2	1C2	TOUCH-TONE Coin Telephone*
or		
2	1C1	Dial-Pulse Coin Telephone*
or		
1 ea	1C1 & 1C2	

NOTE: These coin phones will need to be modified for the type of coin station to be used (ground start or loop start).

2	2500D	TOUCH-TONE Telephone (non-coin)*

* Depending on whether or not office is equipped with dial-pulse or TOUCH-TONE features, any equivalent coded phone can be used. (You may substitute Dial Pulse.)

5. TEST PROCEDURES

5.1 Coin Control Circuit

5.11 There are 3 tests available to be run. One is for Prepay Coin phones, the second is for a Dial Tone First Coin phone, and the third is used if the office has the Local Overtime Coin feature.

5.12 Each test requires the use of one coin phone of the type being tested, one other coin phone of any type and one non-coin phone.

5.13 Refer to Table A. Table A consists of tests for all combinations of coin stations. Only one entry applies to a particular office. Determine which coin station(s) are used in your office. To do this, refer to office records. It will be necessary to run tests for the existing coin station(s) only. Refer to Table A. Find your office configuration and read across to find which Test Number to be run, test phone(s) and test line(s).

5.14 A test line will be needed for each test phone to be used as indicated in Table A. Refer to office records for test line information. To obtain the legal Line Class Codes of the test lines to be used with the coin phones use the Major Class Code specified in the records. Then find a test line with that Line Class Code. Record TENs and Directory Numbers.

Connect the applicable test phones to the test line TENs at the CDF. See Table A. Remember you run only one test at a time so connect test phones to test lines for one test at a time. Label the non-coin subset Station B. It should be connected to the single party line.

5.15 Determine whether the office will have Local Untimed Coin Call feature (Local Overtime Coin). With the Local Overtime Coin feature an additional test (Test 3) is made of the Coin Control Circuit to determine that it can collect overtime coins.

TABLE A

TEST SETUP INFORMATION				
COMBINATIONS OF COIN STATIONS USED IN OFFICE	TEST(S) REQUIRED	TEST PHONE(S) REQUIRED*	TEST LINE(S) REQUIRED **	COMMENT
Only G.S. Prepay	Test 1	2 G.S. Coin	2 G.S. Coin	Par. 5.24
Only L.S. Prepay	Test 1	2 L.S. Coin	2 L.S. Coin	Par. 5.24
Only L.S. Dial Tone First	Test 2	2 L.S. Coin	2 L.S. Coin	Par. 5.24
G.S. Prepay and L.S. Prepay***	Test 1	2 Prepay G.S. Coin or 2 Prepay L.S. Coin or 1 of each	2 G.S. Coin or 2 L.S. Coin or 1 of each	Par. 5.24
G.S. Prepay and L.S. Dial Tone First	Test 1 Test 2	1 Prepay G.S. Coin and 1 L.S. Coin	1 G.S. Coin 1 L.S. Coin	Par. 5.24
L.S. Prepay and L.S. Dial Tone First	Test 1 Test 2	1 L.S. Prepay Coin and 1 L.S. DTF Coin	1 L.S. Prepay Coin and 1 L.S. DTF Coin	Par. 5.24
G.S. Prepay and L.S. Prepay*** and L.S. Dial Tone First	Test 1 Test 2	1 Prepay G.S. Coin and 1 L.S. DTF Coin	1 G.S. Coin and 1 L.S. DTF Coin	Par. 5.24

* 1 non-coin test phone needed for all tests.

** 1 terminating single party line needed for all tests. Connects to non-coin test phone.

*** Test 1 need only be run on one of the two types of phones.

5.16 Perform the steps in Test Table 1 and/or 2 and 3 if necessary. Refer to Table A for required test information.

5.17 Perform the steps in Test Table 3 if the Local Overtime Coin feature is available in the office.

NOTE: It is necessary to perform Test 3 on each Coin Control Circuit, but using only one kind of coin station. For ease of testing perform Test Table 3 right behind Test 1 or 2 since the Coin Control Circuits will be set up properly (i.e., the circuit under test is in service and the rest are busied).

TEST TABLE 1

	(PREPAY COIN STATIONS)		
STEP	PROCEDURE OR INPUT MESSAGE	SYSTEM RESPONSE	COMMENT
1	Remove all but 1 Coin Control Circuit from service. The message is: RMV:SVC(a,b)! a = Trunk Group Number b = Member Number	 tt RMV SVC a b c d a = Trunk Group Number b = Member Number c = Removal State d = Removal reason.	The Coin Control Circuit in service will be tested.
2	Go off-hook Station A. Deposit dime. Dial Station B.	No action. Get Dial Tone - CDPR. Audible and Regular Ringing.	
3	Hang up Station A.	Dime returned - circuits restore.	
4	Go off-hook Station A. Deposit dime. Dial Station B.	No Action. Get Dial Tone - CDPR. Audible and Regular Ringing.	
5	Answer Station B. Hang up both phones within 2 seconds.	Stable Call Dime returned (2-second charge delay). Circuits restored.	
6	Go off-hook Station A. Deposit dime. Dial Station B.	No action. Get Dial Tone - CDPR. Audible and Regular Ringing.	
7	Answer Station B. Leave call up for at least 5 seconds.	Stable Call.	
8	Hang up both phones.	Dime collected (within the charge period). Circuits restored.	
9	Go off-hook Station C. Deposit dime. Dial Station A. Answer Station A.	No action. Get Dial Tone - CDPR. Audible & Regular Ringing. Stable Call.	
10	Deposit a dime in Station A coin phone.		
11	Hang up Station A together with Station C.	Station A coin is returned. Station C coin is collected.	Coin Control Circuit detects and returns coin at called coin Station A and collects coin at C.
12	Repeat Steps 1 through 11 until all Coin Control Circuits are used. The message used to restore a busy circuit to service is: RST:SVC(a,b);UCL!	The response to the message is: tt RST SVC a b	

TEST TABLE 2

(DIAL TONE FIRST COIN STATIONS)

STEP	PROCEDURE OR INPUT MESSAGE	SYSTEM RESPONSE	COMMENT
1	Remove all but 1 Coin Control Circuit from service. The message is: RMV:SVC(a,b)! a = Trunk Group Number b = Member Number	tt RMV SVC a b c d a = Trunk Group Number b = Member Number c = Removal State d = Removal Reason	The Coin Control Circuit left in service will be tested.
2	Deposit dime in Station A.	Dime is returned.	Works only for 1C1 & 1C2 phones.
3	Go off-hook Station A. Deposit dime. Dial Station B.	Get Dial Tone. Audible and Regular Ringing.	
4	Hang up Station A.	Dime returned - circuits restored.	
5	Go off-hook Station A. Dial Station B.	Get Dial Tone. Get Dial Tone First Announcement.	
6	Hang up Station A.	Circuits restored.	
7	Go off-hook Station A. Dial 6 digits of Station B number. Deposit dime in Station A. Dial 7th digit of Station B.	Get Dial Tone. Audible and Regular Ringing.	
8	Answer Station B. Hang up both phones within 2 seconds.	Stable call Dime returned (2-second charge delay).	
9	Go off-hook Station A. Deposit dime. Dial Station B.	Get Dial Tone. Audible and Regular Ringing.	
10	Answer Station B. Leave call up for at lease 5 seconds.	Stable Call.	
11	Hang up both phones.	Dime collected (within the charge period). Circuits restored.	
12	Go off-hook Station C. Deposit dime. Dial Station A. Answer Station A.	Get Dial Tone. Audible & Regular Ringing. Stable Call.	
13	Deposit a dime in Station A coin phone.		
14	Hang up Station A together with Station C.	Station A - Coin is returned. Station C - Coin is collected.	Coin Control Circuit detects and returns coin at called coin Station A, and collects coin at C.
15	Repeat steps 1 through 11 until all Coin Control Circuits are used. The message used to restore a busy circuit to service is: RST:SVC(a,b):UCL!	The response to the message is: tt RST SVC a b	

TEST TABLE 3

(LOCAL OVERTIME COIN FEATURE)

STEP	PROCEDURE OR INPUT MESSAGE	SYSTEM RESPONSE	COMMENT
1	Go off-hook Station A. Deposit dime. Dial Station B. Answer Station B.		Put up a stable call from Coin Station A to terminating Subset B.
2	Approximately 4-1/2 minutes after putting up the call the Coin Control Circuit will collect the dime. Deposit a nickel at Station A within 30 seconds after the dime is collected.	The nickel is collected 30 seconds after the dime is collected.	
3	Hang up both phones.	Circuits restored.	
4	Repeat steps 1 to 3 for all Coin Control Circuits. Any coin station may be used.		

5.21 Test Procedure for Recorded Announcement

a) Check the Recorded Announcement Tables in Office Records to find what channels are assigned in the office and what their group number is. Record this information for later use.

b) Using the channel assignments given in the table and the 624-A10 telephone set, verify that the assigned channels have the proper announcement recorded on them. If any do not, record the proper announcement on them following the procedure outlined in Section 410, Handbook 59.

5.22 Test Procedure for Tones

5.221 The tones listed in Table 4 can be tested in the same manner as the announcements. The procedure in paragraph 5.23 should be used to check all the tones listed in Table 4. When all members of a group have been tested and all errors found corrected, go on to the next group until all the tone groups listed in Table 1 have been tested. If any spare Tone Groups have been defined, they should be tested using the procedure in paragraph 5.222.

5.222 Low, High and Milliwatt Tone Test

To test the low tone, high tone, and the milliwatt tone groups, use the following procedure at the Trunk and Line Test Panel after first checking the Trunk Group Record to see if office is equipped with milliwatt tone. After depressing the "ON" button and making an origination on TLTP:

a) Dial a "1" access code + 3-digit group number + 3-digit member number (member to be tested) + # number on the Key Telephone set to seize the member to be tested.

b) Now plug a headset into the TEL SET A and B jacks and operate the TALK key. The tone should be returned to the headset. If an incorrect or no tone is heard, see paragraph 5.24.

c) Repeat steps (a) and (b) until all members of the group have been tested and any errors found corrected.

5.23 Common Part of Test Procedure

a) Connect either a telephone subset or coin station to the proper type of test line as needed to perform test of group. Make connection at the CDF. See Table 4 for type of phone needed.

b) Remove all members of the group being tested except for the member being tested. Use a RMV:SVC (A,B)! message where "A" is the group number and "B" is the member number.

c) Now, using the telephone set connected in step (A), take the necessary action outlined in Table 4 to cause the Recorded Announcement or tone for the Group under test to be returned to the telephone set.

d) When testing the first member of a Recorded Announcement group the test in Step (e) should be performed.

e) Using the office records (ESS Form 3201), locate the ferrod associated with the announcement group under test. Display that ferrod on the SSP using the "MON:SCAN" message. The ferrod should be normally saturated if the Recorded Announcement machine is not running. Watch the ferrod while the announcement is being returned to the test phone. The ferrod should be unsaturated but will saturate for approximately one second when the announcement starts giving the announcement for the second time.

f) If the announcement or tone was properly returned to the telephone subset, restore the next member of the group under test and remove the member just tested. Then repeat the procedure outlined in Step (c) until all members of the group have been successfully tested. An alternate procedure to test the remaining members of a group may be used. This method uses the TLTP to check the remaining members. The member to be tested should be dialed up on the TLTP. The "A&B" relays of the associated junctor should be operated. The correct tone or announcement should be returned to the TLTP. If the correct announcement or tone is not returned, see paragraph 5.24 of Section 610.25.

g) After all members of a group have been tested, repeat Steps (b) through (f) until all the Recorded Announcement and tone groups have been tested. Restore all members of the tone and Recorded Announcement groups to service.

5.24 Troubleshooting Guides

5.241 Incorrect Tone or Recorded Announcement

a) The translation for the service circuit is wrong. This could be due to a bad Route Index or TEN assignment.

b) The service circuit has been assigned to the wrong group.

c) The service circuit is connected to the wrong tone or recorded announcement.

5.242 No Tone or Announcement

a) Make sure a TPD is in service with power on and request a diagnostic of failing circuit. If it fails, repair the circuit using the TLM, Trunk, Junctor, and Service Circuit Trouble Locating Manual.

b) A non-tone announcement circuit has been assigned to a tone or announcement group.

c) The service circuit is not connected to the tone or announcement or the lead or leads are broken.

TABLE 4

RECORDED ANNOUNCEMENT

TYPE OF ANNOUNCEMENT	TYPE OF TELEPHONE	ACTION
"Dial Tone First" Coin	1C2 Loop Start Dial Tone First Coin	Dial Legal telephone number without depositing ten cents.
Initial Coin Test	1C2 Prepay Coin	Pick up receiver; don't insert money; just hold.
Permanent Signal	2500D TOUCH-TONE Handset	Remove receiver; just hold.
Partial Dial	2500D TOUCH-TONE	Dial only the first 5 digits of a legal telephone number.
"No 1+" Dialing Error	2500D TOUCH-TONE Handset	Using the Code Index Table Output Record, find an entry that has 1 + PFX required. Dial the office code indicated without the "1" prefix.
Special Service Dialing Error	2500D TOUCH-TONE Handset	Dial # on a TOUCH-TONE test line which only has a Call Waiting Custom Calling Feature.
Overtime Monitor	1C2 Timed Coin Phone and 2500D TOUCH-TONE Handset	This announcement can be tested by inserting 10¢ dialing the number of the TOUCH-TONE handset, answering it and leaving both phones off-hook until the announcement occurs.
"Extra 1+" Dialing Error	2500D TOUCH-TONE Handset	Using the Code Index Table Output Record, find an entry that does not use the 1+ prefixing. Then dial this office code using the unwanted "1" prefix.

TONES

Receiver Off-Hook	2500D TOUCH-TONE Handset	Remove receiver from hook, wait till ROH tone is heard.
Busy Tone	Two 2500D TOUCH-TONE Handsets	Take one phone off-hook, dial that phone with the other one. Listen for 60 IPM Busy Tone.
Reorder Tone	2500D TOUCH-TONE Handset	1) Use the Trunk Group Record to find the non-operator local trunk having the least number of members.
		2) Use the Route Index Record to see if a next route index is indicated for that group. If so, repeat step 2 until the group with the lowest number of members and no "Next Route Index" is found.
		3) Find the "Code Group Number" for the group selected from the Code Group Record by locating the Code Group entry associated with the Route Index.
		4) Look in the Three- and Six-Digit record for the code group found in step 3. The office code can now be read off the table. 5) Remove all members of the trunk group from service using the RMV:SVC(a,b) ;LKO! request where a = trunk group number and b = member number.
		6) Now dial a telephone number using the office code found in step 4. Reorder (120 IPM) tone should be returned.

5.3 Remote Recording of Announcement Circuit

5.31 The following Table A gives the procedures to operationally test the Remote Recording of announcement circuit via actually calling and changing an annoucement on the 7A announcement machine.

The installer must find the special number dedicated to the 7A announcement machine The installer must find the special number dedicated to the 7A announcement machine for the automatic call-back feature. This number is found in the Office Records.

5.32 Figure 1 is a block diagram of the procedure necessary to perform the remote recording of announcement.

TABLE A

STEP	PROCEDURE
1	Connect a 2500D telephone to the TEN at the CDF for a test line in the office.
2	Take the test phone off-hook, verify dial tone and dial the special number for the automatic call-back featu e of the 7A announcement machine.
3	Wait for the No. 3 ESS to return a high tone and then replace the test phone on-hook and wait to be called back.
4	When the test phone rings, go off-hook. At this point, there may or may not be a recording on the 7A machine, but the machine will be in the playback cycle regardless. Thirty seconds after the end of the playback cycle, overflow tone is heard while the 7A announcement machine goes through the erase cycle.
5	At the end of the erase cycle, overflow tone will stop and the 7A announcement machine begins its record cycle for a little less than two minutes. The installer will record a message during this time by simply speaking into the test telephone.
6	At the completion of the record cycle the installer must go on-hook.
7	Repeat steps 2 and 3.
8	When the test phone rings, go off-hook. You should hear the recording just completed in step 5.
9	If the recording is satisfactory, replace the test phone on-hook within 30 seconds of the end of playback cycle.
10	Place the recording into service by typing the following message on the maintenance TTY:
11	Disconnect the test telephone at the CDF.

ATTACHMENT
Figure 1 on page 10.

→Arrows indicate new or changed information.

Manager, ESS Installation & Field Engineering

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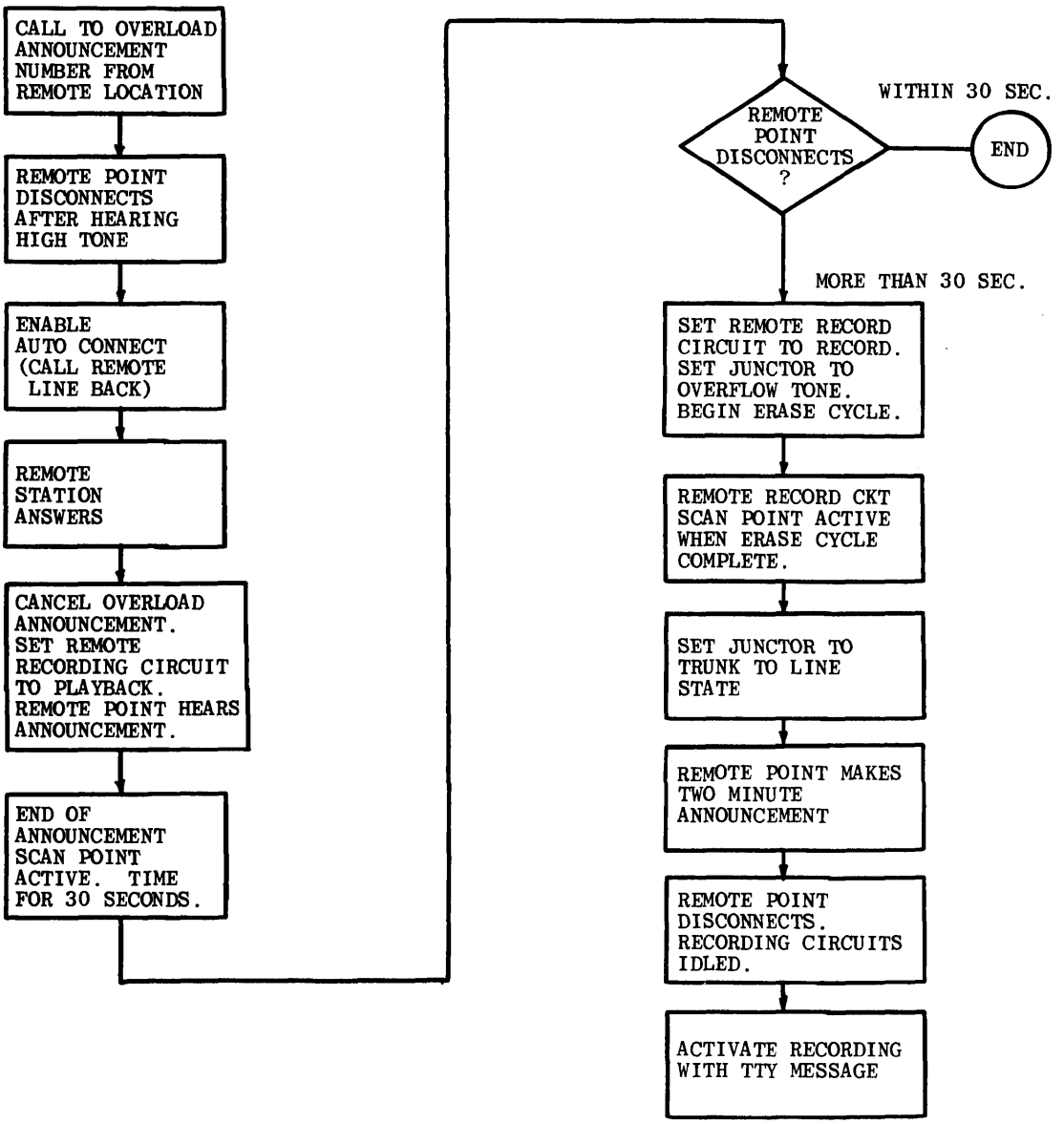
Reason for Reissue:
Make changes in paragraph 5.23.

FIGURE 1


CALL TO OVERLOAD ANNOUNCEMENT NUMBER FROM REMOTE LOCATION
REMOTE POINT DISCONNECTS AFTER HEARING HIGH TONE
ENABLE AUTO CONNECT (CALL REMOTE LINE BACK)
REMOTE STATION ANSWERS
CANCEL OVERLOAD ANNOUNCEMENT. SET REMOTE RECORDING CIRCUIT TO PLAYBACK. REMOTE POINT HEARS ANNOUNCEMENT.
END OF ANNOUNCEMENT SCAN POINT ACTIVE. TIME FOR 30 SECONDS.
REMOTE POINT DISCONNECTS ?
WITHIN 30 SEC.
END
MORE THAN 30 SEC.
SET REMOTE RECORD CIRCUIT TO RECORD. SET JUNCTOR TO OVERFLOW TONE. BEGIN ERASE CYCLE.
REMOTE RECORD CKT SCAN POINT ACTIVE WHEN ERASE CYCLE COMPLETE.
SET JUNCTOR TO TRUNK TO LINE STATE
REMOTE POINT MAKES TWO MINUTE ANNOUNCEMENT
REMOTE POINT DISCONNECTS. RECORDING CIRCUITS IDLED.
ACTIVATE RECORDING WITH TTY MESSAGE