FEATURE DOCUMENT

ANNOUNCEMENT ARRANGEMENTS

NO. 3 ELECTRONIC SWITCHING SYSTEM

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INTRODUCTION

1. GENERAL INFORMATION

1.01 This section describes the announcement arrangements provided as a part of the No. 3 Electronic Switching System (ESS). These arrangements include local announcements which are provided by local recorded announcement machines and remote announcements which are provided via connections (trunks) to remote announcement facilities such as a 6A intercept system or an Automatic Intercept System (AIS).

1.02 This section is reissued to incorporate information concerning changes made to the Announcement Arrangements feature through the introduction of the 3E3 generic program. This reissued section also includes information concerning the use of the 13A announcement machine which has been made available for use since the last issue. Since this is a general revision, change arrows, which are normally used to indicate areas of significant change, have been omitted.

AVAILABILITY

1.03 The announcement arrangements described in this section are available with all issues of the No. 3 ESS generic programs unless otherwise indicated.

2. DEFINITION

2.01 Announcement arrangements consist of hardware and software arrangements for supplying information to customers through the use of recorded announcements.

2.02 The No. 3 ESS can provide the following types of announcements:

- Local overtime coin announcement

- Dial-tone-first coin announcement

- Permanent signal announcement

- Partial dial announcement

- No "1+" dialing error announcement

- Extra "1+" dialing error announcement

- Vacant code and no such number announcement

- Custom calling error announcement

- Emergency overload announcement (provided with the 3E3 generic program).

Any type of announcement may be provided, other than or in addition to those listed above, as long as it is properly assigned.

DESCRIPTION

3. USER OPERATION

3.01 For this feature, the customer (user) is defined as the telephone subscriber. The customer performs no special procedure in order to activate the announcement feature.

LOCAL OVERTIME COIN ANNOUNCEMENT

3.02 While making a timed local call from a coin station, the customer is informed by an overtime announcement that the current initial or overtime period has expired and that an additional deposit is required if the conversation is to continue. When the announcement is completed, the customer has 30 seconds in which to make the deposit. If the deposit is made before the end of the 30 seconds, no service interruption will occur; however, if the deposit is **not** made, the customers will be disconnected. The coin station customer can reestablish the connection only by making an initial deposit and placing the call again. Further description of local coin overtime operations can be found in Section 233-190-151.

DIAL-TONE-FIRST COIN ANNOUNCEMENT

3.03 Coin stations having the dial-tone-first feature will return dial tone to the customer before the initial deposit is made. The customer is allowed to place calls to the operator, emergency service bureau, directory assistance, etc, without an initial deposit. If the customer does not make the initial deposit and dials a number other than a free service code, the dial-tone-first announcement will be returned. This announcement explains that the customer should hang up and place the call again after making the initial deposit. Permanent signal treatment will be administered if the customer does not hang up.

PERMANENT SIGNAL ANNOUNCEMENT

3.04 If the customer fails to begin dialing within a specified time interval after going off-hook, the permanent signal announcement is returned. This announcement explains that the customer must hang up briefly before any call can be placed.

PARTIAL DIAL ANNOUNCEMENT

3.05 If a customer begins to dial a telephone number but does not complete dialing within the specified time interval, the partial dial announcement will be returned. This announcement explains that the call cannot be completed as dialed, and that the customer must hang up and try the call again.

NO "1+" DIALING ERROR ANNOUNCEMENT

3.06 A customer reaches the no "1+" dialing error announcement when a direct distance dialing (DDD) call has been attempted without dialing the 1 prefix. This announcement states that the 1 prefix must precede the telephone number when making a DDD call. The customer must then hang up before trying to redial. Permanent signal treatment is provided if on-hook does not occur.

EXTRA "1+" DIALING ERROR ANNOUNCEMENT

3.07 The extra 1+ dialing error announcement is reached when a local call has been preceded with the 1 prefix. The announcement states that local calls must not be prefixed with a 1. The customer must then hang up before redialing.

VACANT CODE—NO SUCH NUMBER ANNOUNCEMENT

3.08 The vacant code—no such number announcement is reached when the customer has dialed an invalid office code or telephone number. This announcement explains that the call cannot be completed as dialed, and that the customer should check the number and try again. On-hook must occur before dialing can begin again. If on-hook does not occur, permanent signal treatment will be administered.

CUSTOM CALLING ERROR ANNOUNCEMENT

3.09 When the customer makes a dialing error while attempting to use a custom calling feature, the custom calling error announcement will be returned. This announcement explains that the call cannot be completed as dialed, and that the customer should check the instruction book to determine the proper method of utilizing the feature. A brief period of on-hook must occur before the call can be attempted again. The customer will be given permanent signal treatment if on-hook does not occur.

EMERGENCY OVERLOAD ANNOUNCEMENT

3.10 The emergency overload announcement may be provided in place of reorder tone whenever unusual circumstances (such as equipment damage, heavy holiday traffic, etc) prevent normal calls from completing. In this case, the announcement is reached even though the customer has dialed correctly. This announcement explains that the call cannot be completed at this time and that it should be attempted again later.

4. SYSTEM OPERATION

4.01 All announcements are provided either locally through the use of 7A or 13A announcement machines or remotely via dedicated facilities (trunks) to remote announcement equipment. All announcements, except the emergency overload announcement, are provided on a nonbarge-in basis. This means that the customer always hears the announcement from its beginning. This is done by providing audible ringing to the customer until the announcement has returned to its starting point. When the starting point is reached, the ringing tone is removed and the announcement output is connected to the customer's line. The ringing interval can be minimized by keeping the announcements as short as possible.

4.02 The emergency overload announcement is provided on a barge-in basis. The announcement is continually repeated and customers are connected to it immediately when it is required. No audible ringing is provided for the barge-in announcement. All announcements should be recorded using procedures outlined in Section 233-142-100.

4.03 The customer error program controls the operations of all nonbarge-in announcements except the local coin overtime announcement. When a nonbarge-in announcement is required, the destination code is retrieved from the route index expansion and stored in the transient call record

(TCR). Next, an attempt is made to select an available announcement circuit by examining the selection status bits for the desired announcement group (announcement assignment information is listed in Table A). If all circuits are busy, or if the group is not in service, the customer will be given reorder tone unless the call is undergoing permanent signal treatment. In that case, control is returned to the permanent signal routine (see Section 233-190-129).

4.04 If a circuit can be selected, the terminal equipment number (TEN) of the selected circuit is stored in the TCR as the B party. The announcement trunk group number is then converted to a scan point number (SPN) which represents the entire announcement group. This SPN is stored in the TCR for future use. The charge index in the TCR is set to 1 indicating a free call. The TEN of the announcement circuit is stored in the terminal memory record (TMR) representing the called party. If a path is not available between the customer and the announcement, the announcement circuit is idled and the customer is given reorder tone. If a path is available, and if the calling

party is a trunk, its TEN is converted to a supervisory scan point number (SSPN). The distributor triplet address and circuit state table type associated with this SSPN are then used to access the distributor triplet for the trunk and to set the trunk circuit to the continuity state.

4.05 If some other type of service circuit is connected to the A party (whether it is a line or trunk), it is disconnected and idled so that the announcement circuit can be connected. When the announcement circuit has been connected to the A party, leaving the first and second stages of the talk path open, between the junctor and the announcement circuit, the junctor is set to return audible ringing. If the A party is a trunk, the trunk circuit is set to the talk-free state so that the customer can hear audible ringing. The program then checks the SPN associated with the specific announcement machine every base level loop until it has been determined that the SPN is saturated. When this SPN saturates (for a very brief period), the beginning of the announcement is signaled and the customer may be immediately cut through to the announcement. If the announcement

TABLE A

ANNOUNCEMENT ASSIGNMENT INFORMATION

ANNOUNCEMENT	TKR GRP		CIRCUIT CODE	DEST. CODE	RESERVED ROUTE INDEX	SPN
	SO-2 ISS. 3	SO-2 ISS. 4 & LATER				
Local Overtime Coin	72	77	0	5		00-16-04
Dial-Tone-First Coin	73	78	0	5		00-20-15
Permanent Signal	74	79	0	5	13	00-21-11
Partial Dial	75	80	0	5	17	00-23-08
No "1+" Dialing Error	76	81	0	5		00-23-09
Extra "1+" Dialing Error	77	82	0	5		00-21-03
Vacant Code and No Such Number	78	83	0	5	10	00-21-04
Custom Calling Error	79	84	0	5	12	00-27-12
Emergency Overload	80	85	0	5		00-18-14*
				6		00-18-15†

*End of announcement SPN
†Record SPN

machine has not reached its starting point in 1 minute, a trouble is assumed, the customer is given reorder tone, and a trouble message is printed by the maintenance TTY. A supervision check is made during the 1-minute interval to see if the customer has gone on-hook. If the customer **has** gone on-hook, and if the calling circuit is a trunk, a disconnect sequence is begun. If the calling circuit is a line, it is possible that the customer is still in the process of dialing digits; therefore, a waiting period of 1.1 seconds must elapse in order to make this determination. If off-hook has not recurred by the end of the 1.1-second period, the disconnect process is begun. If the supervision check indicates that the customer has **not** gone on-hook, and if the announcement has not gone off-hook in less than 2 minutes from the time the A and B parties were connected, a trouble is assumed and the customer is given reorder tone.

4.06 If the announcement goes off-hook within the allotted time interval, the talk path is completed and the announcement is started. The announcement is timed for 30 seconds. If the customer goes on-hook before the end of the 30 seconds, the line or trunk identity of the calling party must again be made. If the calling party is a trunk, the disconnect process is begun immediately. If the calling party is a line, another 1.1-second time period must expire. If the calling line has not gone off-hook again during the 1.1-second period, the disconnect process is begun.

4.07 If off-hook recurs during the 1.1-second time interval, it is assumed that the customer is still dialing digits and the connection is maintained for the remainder of the 30-second announcement time period. Anytime the 30-second time interval expires and the customer has not gone on-hook, the calling line is given permanent signal treatment.

4.08 The barge-in announcement is provided in the same manner as reorder; therefore, the connection is made immediately, making it unnecessary to provide audible ringing.

4.09 A feature flow diagram explaining the functional operation of the announcement system is shown in Figure 1. A flow diagram explaining the operations of the remote recording feature of the emergency overload announcement is shown in Figure 2.

VACANT CODE AND NO SUCH NUMBER AND "1+" DIALING ERROR ANNOUNCEMENTS

4.10 When a dialing error is made in the first three digits or in the "1+" prefix, the 3-digit translator provides a screening table index which will point to a screening table. The screening table provides a route index leading to a route index expansion. The route index expansion will be a type 6 which indicates that the destination of the call is determined by the destination code. The destination code will be 5 indicating an announcement. The FREE bit will be set indicating a free call and the trunk group number will identify a "1+" dialing error announcement or a vacant code—no such number announcement (these trunk group identities are shown in Table A). The group number is also used to access the appropriate service circuit group translation table. This table provides a selection status block index, a member list index, and a circuit code. The selection status block index accesses the selection status blocks for the particular service circuit in temporary store. The selection status blocks identify the available members within the announcement group. The first available member is selected so that the path can be completed between the announcement machine and the customer. The circuit code in the group translation will be 0 indicating an announcement, and the member list index will access the proper service circuit member list (for tone and announcements). The available member, found in the selection status block table, is then used to access the proper word within the member list table to identify the TEN for the selected available member. The TEN is then stored in the TCR.

4.11 An error in dialing the last four digits (resulting in reaching an unassigned number) is detected by the 4-digit translator, and route index 10 (identifying a vacant code or no such number announcement) is provided by the TERM program. This accesses the proper route index expansion table which will identify the appropriate group number. Further translations are performed as previously described.

COIN OVERTIME ANNOUNCEMENT

A. 3E3 Generic Program

4.12 The local charging program (LCLCHG) controls the overtime charging for coin lines. Thirty seconds before the initial period expires,

```
    ┌──────────────────────────────────┐
    │ CALL IN PROGRESS REQUIRING AN    │
    │ ANNOUNCEMENT (OTHER THAN OVERLOAD)│
    └──────────────────────────────────┘
                 │
                 ▼
        ┌──────────────────┐
        │ GET DESTINATION  │
        │ CODE FROM ROUTE  │
        │ INDEX EXPANSION AND│
        │ STORE IT IN THE TCR│
        └──────────────────┘
                 │
                 ▼
        ┌──────────────────┐
        │ DESTINATION      │
        │ CODE IDENTIFIES  │
        │ AN ANNOUNCEMENT  │
        └──────────────────┘
                 │
                 ▼
        ┌──────────────────┐
        │ TRY TO SELECT AN │
        │ ANNOUNCEMENT CIRCUIT│
        └──────────────────┘
                 │
                 ▼
            ╱WAS       ╲                        (A)
           ╱ SELECTION  ╲──NO──►        │
           ╲ SUCCESSFUL ╱                ▼
            ╲          ╱          ╱IS CALL UNDER- ╲         ┌──────────┐
              │ YES              ╱ GOING PERMANENT ╲──NO──► │ GIVE     │
              ▼                  ╲ SIGNAL          ╱         │ CUSTOMER │
    ┌──────────────────┐         ╲ TREATMENT      ╱          │ REORDER TONE│
    │ GET TEN OF ANNOUN. CKT│         ╲          ╱          └──────────┘
    │ FROM SCRATCH AND STORE│            │ YES
    │ IT IN TCR AS B PARTY  │            ▼
    └──────────────────┘         ┌──────────────┐
              │                  │ RETURN TO    │
              ▼                  │ PERMANENT    │
    ┌──────────────────┐         │ SIGNAL ROUTINE│
    │ CONVERT ANNOUN TRK GRP│     └──────────────┘
    │ NO. TO A GRP SPN AND  │
    │ STORE IT IN THE TCR   │
    └──────────────────┘
              │
              ▼
    ┌──────────────────┐
    │ SET CHARGE INDEX TO 1│
    │ (INDICATING A FREE CALL)│
    └──────────────────┘
              │
              ▼
    ┌──────────────────┐
    │ STORE ANNOUN. LINE SPN│
    │ (PREVIOUSLY CALLED TEN)│
    │ INTO SCRATCH          │
    └──────────────────┘
              │
              ▼
        ┌──────────────┐
        │ SHEET 2      │
        │ ENTRY A      │
        └──────────────┘
```

Fig. 1—Announcement Systems Flowchart (Sheet 1 of 4)

the coin for the initial period is collected to signal the customer that the initial period has nearly expired. At the end of the 30-second period, a coin control circuit is connected to the line to verify the presence of a coin for the forthcoming overtime period.

4.13 If a coin line customer fails to deposit the overtime coin, an idle coin overtime announcement circuit is selected. An idle 3-port

conference circuit is then selected along with the necessary paths. Both customers are then connected to the announcement via the 3-port circuit. When the announcement is completed, the announcement and 3-port circuits are released and idled, and the usual 2-party talking connection is reestablished. The coin customer is then allowed 30 seconds in which to make a deposit for the next overtime period. If the coin is not deposited before the 30-second period expires, the call is disconnected

Fig. 1—Announcement Systems Flowchart (Sheet 2 of 4)

and the coin line is returned to line supervision (the dial-tone-first line receives dial tone and the coin-first line receives high and dry treatment). For further details concerning the local coin overtime operations, refer to Section 233-190-151.

B. SO-2 Generic Program

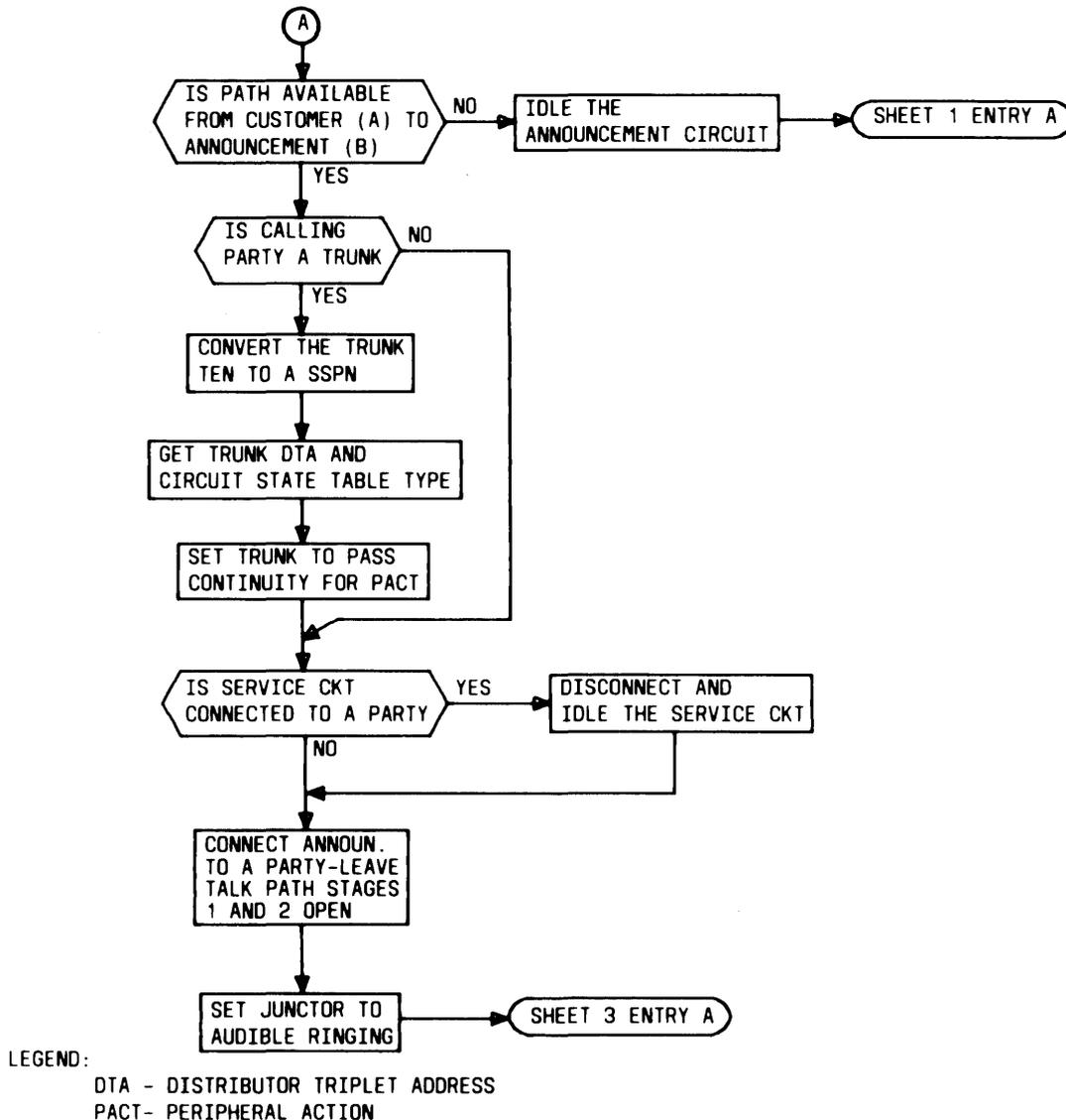**4.14** Thirty seconds before the initial period expires, the coin for the initial period is collected to signal the customer that the initial period has nearly expired. At the end of the 30-second period, a coin control circuit is connected to the line to verify the presence of a coin for the forthcoming overtime period. If no coin is present, both parties are connected to a coin overtime announcement after which the talk path is again established. The coin line is then given 30 additional seconds to deposit a coin for the overtime period. If the coin is not deposited before the 30-second period expires, the connection is removed and permanent signal treatment is administered.

4.15 When a coin line customer fails to deposit the overtime coin, an idle coin overtime announcement circuit is selected. This circuit is connected via the no-test vertical to the established connection so that both the calling and the called parties can hear the announcement. When the announcement has completed, the connection
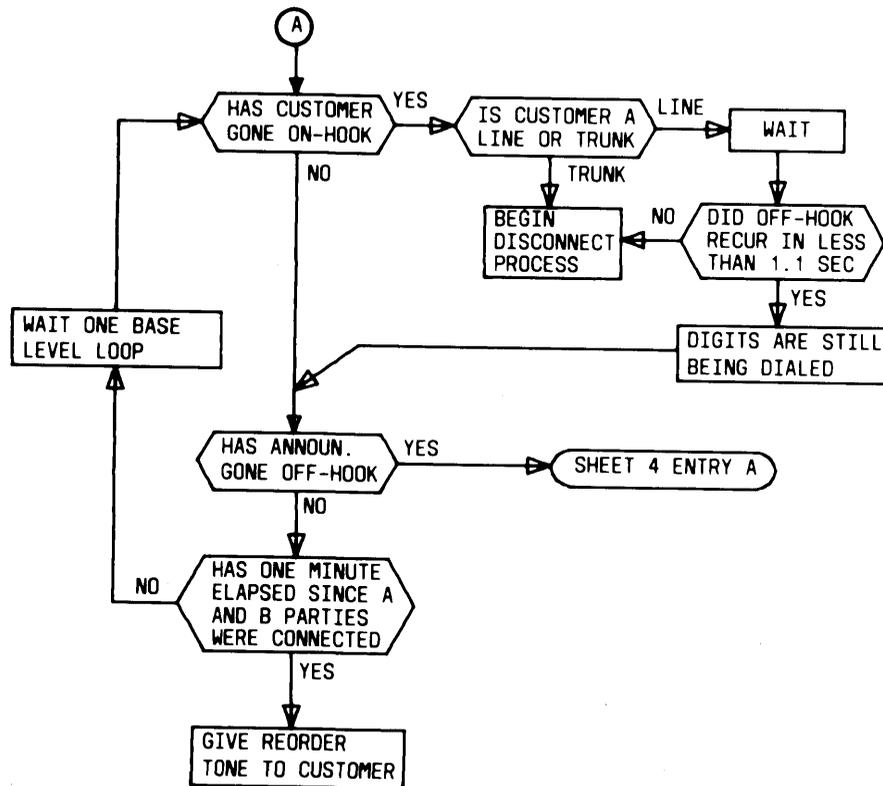
Fig. 1—Announcement Systems Flowchart (Sheet 3 of 4)

between the announcement circuit and the no-test vertical is removed.

DIAL-TONE-FIRST ANNOUNCEMENT

4.16 Coin lines may have the dial-tone-first feature which will allow dial tone to be returned to the customer before the initial coin deposit is made. The customer may then dial any service code (0, 411, 911, etc) without the initial deposit. To make any other type of call, the customer must deposit the initial coin(s) after hearing the dial tone. The call can then be successfully dialed. If the initial deposit is not made after dial tone is received, or before the last digit of a nonfree number is dialed, a dial-tone-first announcement will be returned to the customer. This announcement informs the customer that the initial deposit must be made before the call can be completed.

4.17 The TERM or OUTCAL program performs a test on coin lines to verify the presence of the initial coin when dialing is completed. If no coin is present and if the dialed number is not a "free" number, the program will return the destination code (5) and the group number to the CUSTER program. The CUSTER program then causes the proper announcement circuit to be selected and completes the path as previously described. When the announcement has completed, the customer must go on-hook before trying to place the call again.

PERMANENT SIGNAL AND PARTIAL DIAL ANNOUNCEMENT

4.18 Permanent signal and partial dial treatment is employed when the customer does not respond as expected when originating a call. If dialing does not begin within a specific time interval (beginning when dial tone is returned), permanent
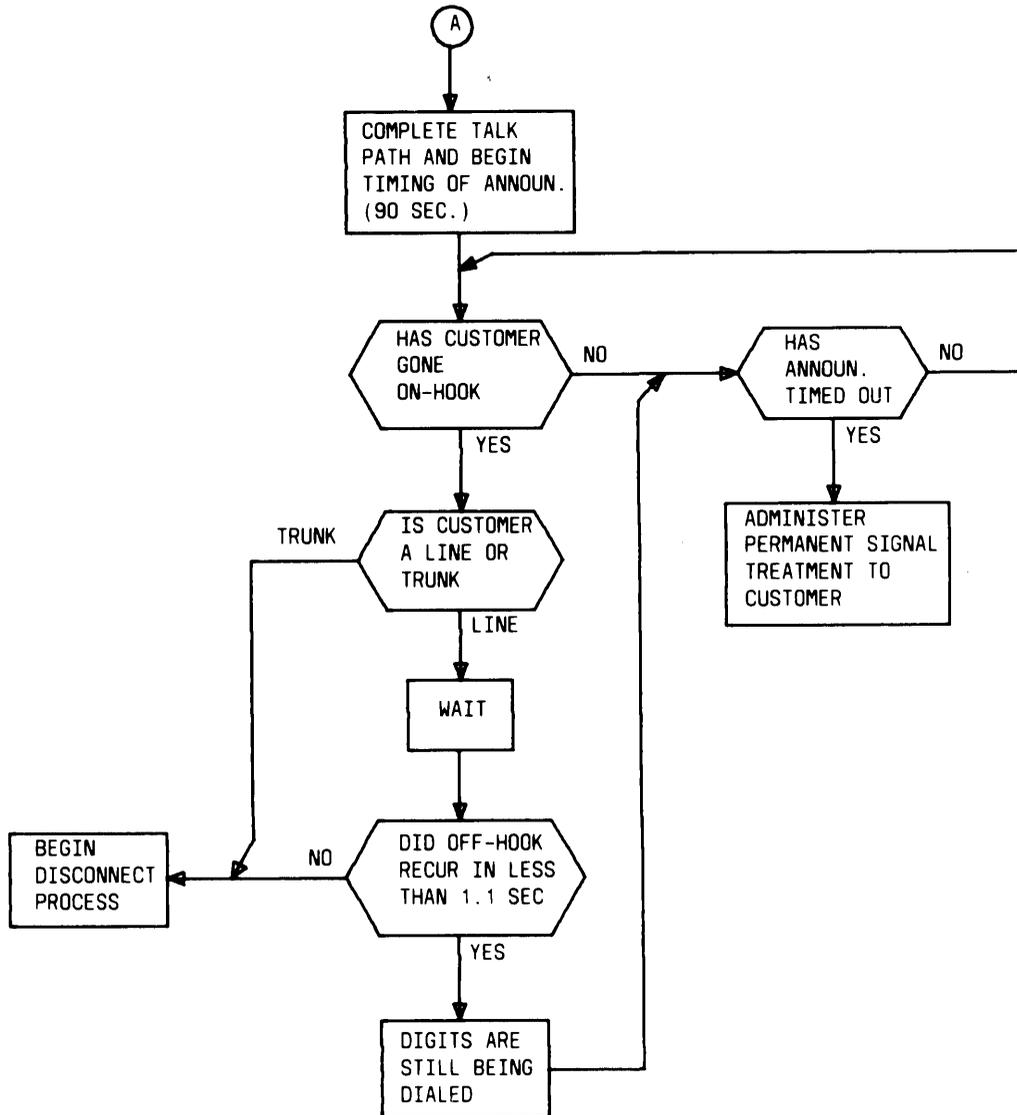
Fig. 1—Announcement Systems Flowchart (Sheet 4 of 4)

signal treatment is required. When dialing is begun but not completed within the allotted time interval, partial dial treatment is required. Several steps may be taken as a part of the permanent signal and partial dial treatments. An announcement may be one of these steps. There may be only one announcement used for both of these treatments, or there may be a separate announcement for each of them. Section 233-190-129 provides more detail on permanent signal and partial dial treatments and explains how announcements are used as a part of these features.

4.19 The CUSTER program handles the permanent signal and partial dial treatments. When

the permanent signal treatment is required, reserved route index 13 is provided, and when partial dial treatment is required, route index 17 is provided. Translations, circuit selections, and path connections are completed as previously described.

CUSTOM CALLING ERROR ANNOUNCEMENT

4.20 The CUSTOM program handles all of the custom calling features. When a customer makes a custom calling error (such as attempting to activate the call forwarding feature when it is already active), the CUSTOM program initiates the custom calling error announcement. This is done by providing the reserved route index (12)

```
┌─────────────────┐        ┌─────────────────┐         ╭───╮
(REMOTE RECORDING )        (REMOTE MONITORING)         ( A )
( OF OVERLOAD     )        ( OF OVERLOAD     )          ╰─┬─╯
( ANNOUNCEMENT    )        ( ANNOUNCEMENT    )            ▼
( REQUIRED        )        ( DESIRED         )    ┌──────────────────┐
└────────┬────────┘        └────────┬────────┘    │ END-OF-ANNOUNCEMENT│
         ▼                          ▼             │ SPN SATURATES     │
┌─────────────────┐        ┌─────────────────┐    │ (AFTER 12 SEC)    │
│ IF ANNOUNCEMENT │        │ CALL MADE TO    │    │ BEGIN 24 SEC TIMER│
│ IS INVOKED, A   │───────▶│ NO. 3 ESS TRIGGER│   └─────────┬────────┘   ┌──────────────┐
│ TTY MESSAGE IS  │        │ NUMBER FROM     │             │            │ REMOTE STATION│
│ REQUIRED BEFORE │        │ AUTHORIZED REMOTE│            │------------│ GETS 24 SEC  │
│ RECORDING CAN   │        │ LOCATION        │             │            │ OF SILENCE   │
│ BE ALLOWED      │        └────────┬────────┘             ▼            └──────────────┘
└─────────────────┘                 ▼              ◇ REMOTE STATION ◇  YES
                  ┌──────────┐      ◇             ◇ DISCONNECT      ◇────┐
                  │RETURN BUSY│ NO  ◇ CAN CALLBACK◇◇ DURING 24 SEC  ◇    │
                  │TONE TO    │◀────◇ BE COMPLETED ◇     │ NO           ▼
                  │CALLING PARTY│   ◇              ◇     ▼          ┌──────────┐
                  └──────────┘      │ YES          ┌──────────┐    │ PRESENT  │
                                    ▼              │RETURN RECORDER│ │ANNOUNCEMENT│
                          ┌─────────────────┐      │TONE TO REMOTE│ │IS OK - IDLE│
                          │RETURN CONFIRMATION│    │LOCATION   │    │ALL CKTS  │
                          │(HIGH) TONE TO    │     └─────┬────┘    └──────────┘
                          │CALLING PARTY     │           ▼
                          └────────┬────────┘     ┌──────────────┐
                                   ▼              │AFTER 5 SEC SET│
                          ┌─────────────────┐     │REMOTE RECORDING│
                          │REMOTE STATION   │     │CKT TO RECORD FOR│
                          │GOES ON-HOOK     │     │ERASE MODE - ERASE│
                          └────────┬────────┘     │CYCLE BEGUN    │
                                   ▼              └──────┬───────┘
                          ┌─────────────────┐           ▼
                          │ENABLE AUTO-     │     ┌──────────────┐
                          │CONNECT (CALL    │     │RECORD SPN     │
                          │BACK REMOTE      │     │SATURATES IN   │
                          │LOCATION)        │     │12 SEC - ERASE │
                          └────────┬────────┘     │CYCLE COMPLETE │
                                   ▼              └──────┬───────┘
         ┌──────────┐     ◇ REMOTE STATION ◇            ▼
         │ABANDON   │ NO  ◇ ANSWER WITHIN  ◇     ┌──────────────┐
         │THE CALL  │◀────◇ 2 MINUTES      ◇     │SET JUNCTOR   │
         └──────────┘     ◇                ◇     │TO TRUNK-TO-  │
                                   │ YES         │LINE STATE    │
                                   ▼             └──────┬───────┘   ┌──────────┐
                          ┌─────────────────┐          │-----------│REORDER   │
                          │ESTABLISH THE    │          │           │TONE IS   │
                          │TALK PATH        │          ▼           │REMOVED   │
                          └────────┬────────┘   ┌──────────────┐   └──────────┘
                                   ▼            │REMOTE STATION │
                          ┌─────────────────┐   │HAS 12 SEC TO  │
                          │SET REMOTE       │   │DICTATE NEW    │
                          │RECORDING CKT    │   │ANNOUNCEMENT   │
                          │TO PLAY BACK     │   └──────┬───────┘
                          └────────┬────────┘          ▼
  ┌──────────────┐                 ▼            ┌──────────────┐
  │ALLOW REMOTE  │ YES  ◇ ANNOUNCEMENT ◇ NO    │ALL CKTS IDLED -│
  │STATION TO    │◀─────◇ INVOKED      ◇───(A) │REMOTE STATION │
  │MONITOR ANNOUNCEMENT│ ◇            ◇         │GOES ON-HOOK   │
  │FOR 1 MINUTE  │                              └──────┬───────┘
  └──────────────┘                                     ▼
                                               ┌──────────────┐
                                               │TTY MESSAGE    │
                                               │REQUIRED TO     │
                                               │INVOKE NEW      │
                                               │ANNOUNCEMENT    │
                                               └──────────────┘
```
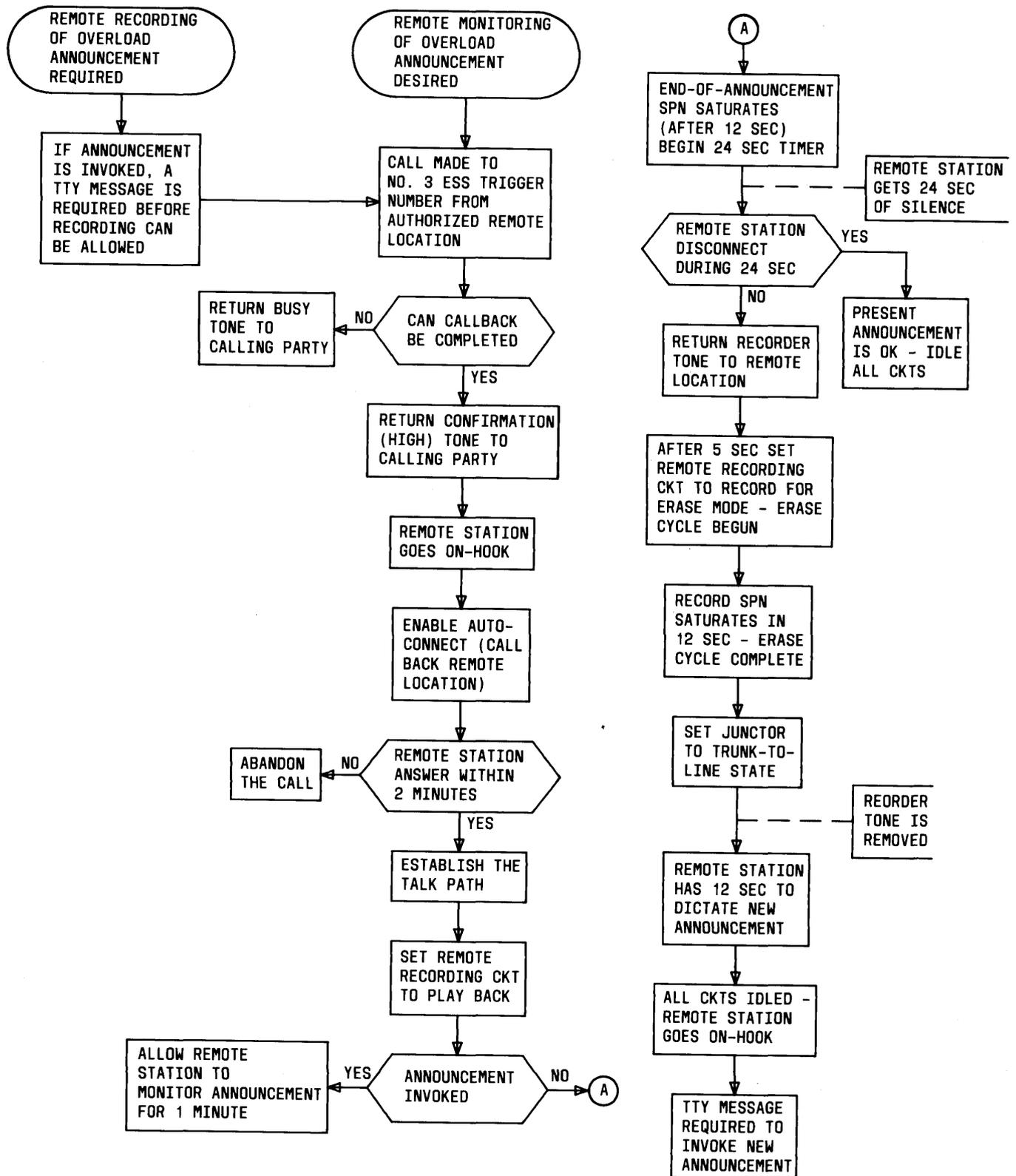
Fig. 2—Emergency Overload Announcement—Remote Recording Flowchart

to the CUSTER program. The CUSTER program then causes the proper announcement circuit to be selected and the path to be completed as previously described.

EMERGENCY OVERLOAD ANNOUNCEMENT

4.21 The emergency overload announcement is used to inform customers of unusual circumstances which prevent the completion of many calls. The announcement could be provided due to conditions such as heavy holiday traffic, death of a VIP, extreme weather conditions, etc.

4.22 When an emergency condition occurs, the overload announcement is used to replace the reorder tone (see Figure 3). This announcement is provided at the junctor in the same manner as the reorder tone; therefore, it must run continuously and customers are connected on a barge-in basis.

4.23 The 3E3 generic program also provides a remote recording circuit which allows the overload announcement to be recorded and placed into service remotely. This is done by means of a designated telephone located in the Technical Assistance Center, the Switching Control Center, or the Network Administration Center.

4.24 When an overload announcement must be recorded, a call is made from the designated remote station to a special number (called a trigger number) in the No. 3 ESS office. The autoconnect feature (refer to Section 233-190-033 for further description of the autoconnect feature) causes the call to be routed to a confirmation tone (high tone). Upon reception of the confirmation tone, the remote location must go on-hook. The autoconnect feature then originates a call back to the remote location which must answer within 2 minutes or else the callback is abandoned. In cases where the callback procedure cannot be completed, the remote location receives busy tone instead of the confirmation tone.

4.25 When the remote station answers, a talk path is established and the remote recording circuit is placed in the playback state. The remote station may then monitor the announcement to determine if it should be changed. If the remote station should go on-hook during the announcement, the call is terminated and the announcement remains unaffected. If the announcement is invoked, meaning that it is currently available at the junctors, the remote station may monitor the announcement for

a maximum of 1 minute before the call is automatically terminated. If the announcement is not invoked, the remote station may monitor the announcement for a maximum of 12 seconds before the "end-of-announcement" scan point saturates. At this point, the announcement playback mode is complete.

4.26 If the announcement is not invoked, and if the remote station remains off-hook after the announcement is completed, the remote station receives 24 seconds of silence. If on-hook occurs during this period, the call is disconnected and the announcement remains unchanged. If on-hook does not occur by the end of the 24-second interval, the announcement is erased. However, the remote station receives reorder tone for a minimum of 5 seconds while the announcement machine returns to the beginning of the recording to begin the erase mode. The reorder tone then continues throughout the erase mode.

4.27 When the erase mode is complete, the "record" scan point saturates. If the remote location should go on-hook before the erasing is complete, the erase mode is allowed to continue to completion. When the "record" scan point is saturated, the reorder tone is removed, the talk path is established, and the remote station is allowed 12 seconds to dictate the new announcement. At the end of the 12 seconds (even if the remote station has already gone on-hook), the talk path is disconnected and all circuits are idled. An "enable" teletypewriter (TTY) message may then be employed in order to invoke the new announcement. The announcement may be removed from service at a later time by the use of a "disable" TTY message.

4.28 For diagnostic reasons, the remote recorded announcement circuit and the autoconnect line used for remote recording must be set up using the 2-port algorithm. Refer to paragraph 12.02 for further description of these assignments.

CHARACTERISTICS

5. FEATURE ASSIGNMENT

5.01 The announcement feature is provided on a per-system basis and is available in all generic programs for No. 3 ESS. However, the remote recording capability for the emergency overload announcement is available only with the 3E3 generic program.
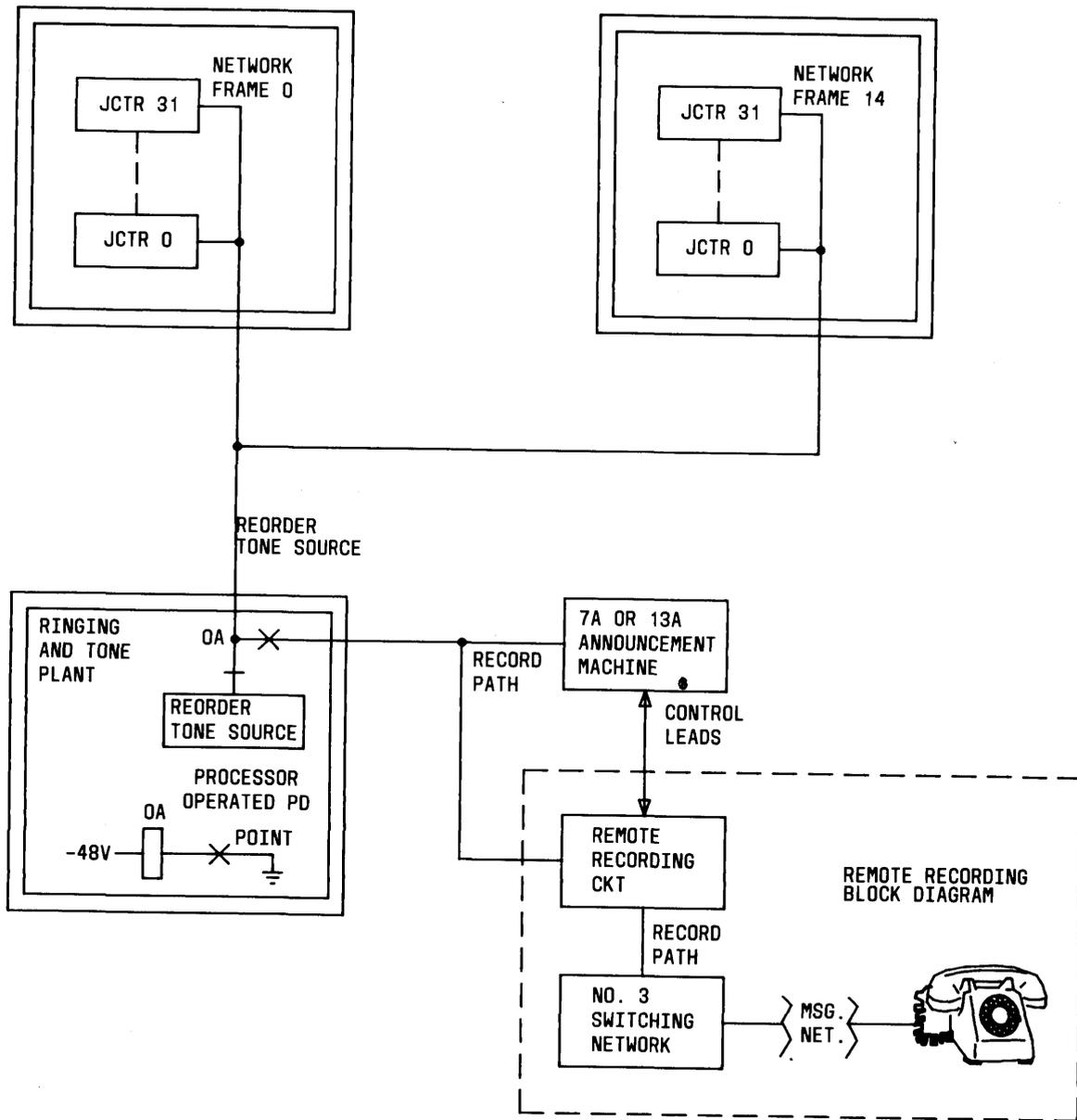
Fig. 3—Emergency Overload Announcement Block Diagram

6. LIMITATIONS

6.01 Each announcement (except the emergency overload announcement) is timed for 30 seconds. Each announcement can last no longer than 12 seconds. The TCR remains active for the length of the connection. A minimum of one tone and recorded announcement circuit is required for each announcement channel. The 7A announcement machine can drive no more than approximately 125 tone and recorded announcement circuits. Refer to SD-97753 for details regarding the drive capabilities of the 13A announcement system. Each No. 3 ESS can accommodate up to nine announcement channels.

6.02 The 7A announcement machine can provide only one recorded announcement while the 13A can provide a total of eight variable length announcements. Due to software limitations, a maximum of 128 tone and recorded announcement circuits can be assigned to any given trunk group. No other software limitations exist for this feature.

7. INTERACTIONS

7.01 If a custom calling error announcement is reached while attempting to use the Threeway Calling feature, the customer must take care to prevent losing the 2-party connection. The originating customer must flash twice in order to disconnect from the announcement circuit and return to a stable 2-party connection. Section 233-190-138 provides a further description of the Threeway Calling feature.

7.02 A custom calling error announcement may be reached while attempting to activate the call forwarding feature if it is already activated. In this case, if the "forward-to" number is to be changed, the feature must first be deactivated before the new "forward-to" number can be activated. Section 233-190-105 provides a further description of the call forwarding feature.

8. RESTRICTION CAPABILITY

8.01 Restrictions are not applicable for this feature.

INCORPORATION INTO SYSTEM

9. INSTALLATION/ADDITION/DELETION

9.01 In order to add, change, or delete an announcement, the appropriate recent change messages described in DATA ASSIGNMENTS AND RECORDS must be employed. The ESS forms should be completed only in the case of the initial ODA run.

10. HARDWARE REQUIREMENTS

10.01 Each announcement group, with the exception of the emergency overload announcement, requires a fixed scan point to indicate the point at which the calling customer should be connected to the announcement circuit. The emergency overload announcement requires two fixed scan points in order to provide the remote recording capability. One of these scan points indicates the end of the announcement and the other indicates the time at which recording begins for the new recorded message. Each of these fixed scan points is dedicated for one specific purpose. They may not be interchanged. Table A provides the scan points to be used for each announcement.

10.02 If the 7A (KS-16765) announcement machine is utilized, one announcement machine must be provided for each type of local recorded announcement. Sufficient tone and recorded announcement circuits (CPS FB383 of SD-3H411) should be provided for each 7A announcement machine to meet the expected demand. The required quantities of these circuits can be determined by using the procedures outlined in Section 233-060-210. One remote recording of announcement circuit (CPS FB426 of SD-3H411) is required if the remote recording capability is to be utilized for the emergency overload announcement. Each announcement should be recorded in accordance with the procedures outlined in Section 233-142-100. Refer to CD- and SD-95283 for further details of the 7A announcement system.

10.03 If the 13A (J1C121A) announcement machine is utilized, a total of eight recorded announcements can be provided by a single 13A announcement machine. Sufficient tone and recorded announcement circuits (CPS FB383 of SD-3H411) should be provided for each announcement to meet the expected demand. The required quantities of these circuits can be determined by using the procedures outlined in Section 233-060-210. One remote recording of announcement circuit (CPS FB686 of SD-3H411) is required if the remote recording capability is to be utilized for the emergency overload announcement. Each announcement should be recorded in accordance with the procedures provided in Section 233-142-100. Refer to CD- and SD-97753 for further details of the 13A announcement system.

10.04 The 7A and 13A announcement machines are compatible with each other and with the No. 3 ESS. The tone and recorded announcement circuits are compatible with both machines but each of these announcement machines requires a specific remote recording circuit as described in paragraphs 10.02 and 10.03. The 7A announcement machine provides a single recorded announcement through the use of a magnetic drum, while the 13A machine provides eight recorded announcements through the use of magnetic bubble memory utilizing no motors, mechanisms, or moving parts. The 7A recorded announcement machine requires seven 2-inch horizontal mounting plates with an additional mounting plate for its associated amplifier (KS-19219). The 13A announcement machine requires five 2-inch horizontal mounting plates. Both of these machines are mounted in the miscellaneous frame.

10.05 At least one tone and recorded announcement circuit (CPS FB383 of SD-3H411) must also be provided for each recorded announcement. The tone and recorded announcement circuits are used as an interface between the announcement machine and the No. 3 ESS. Each tone and recorded announcement circuit pack provides two separate circuits, each of which can provide any tone or announcement. (Two different announcements cannot be combined on the same circuit pack.) The tone and recorded announcement circuits may be provided as required so that numerous customers can hear the announcement simultaneously. If the remote recording capability is desired for emergency overload announcement, a remote recording circuit is also required as previously described.

11. SOFTWARE REQUIREMENTS

11.01 Care should be taken to insure that enough memory space is available for proper assignment of the required announcements. These memory requirements are as follows:

   Translation area of program store
   5 words per announcement group
   1 word per announcement member

   Temporary store
   4 words per announcement group
   1 bit per announcement member.

Refer to Section 233-060-450 for further details concerning processor memory requirements.

12. DATA ASSIGNMENTS AND RECORDS

12.01 The translation flow required to establish an announcement connection is shown in Figure 4. Recent change messages associated with these translations are as follows:

RC:LINE — Used to define, change, or remove a TTY autoconnect channel. This message defines the trigger and return telephone numbers required for the automatic callback feature used to record the emergency overload announcement from a remote location.

RC:CKT — Used to associate SPNs, TENs, and member numbers with particular circuits of a service circuit group.

RC:DIG — Defines the default code index for a 3- or 6-digit translation. The default code may be used to access the vacant code—no such number announcement.

RC:GRP — Specifies the circuit code and traffic schedule for each announcement group.

RC:RTI — Adds, changes, or deletes a route index expansion entry. This message is used to associate the group number and the FREE indicator to the route indexes for the announcements.

RC:SP — Defines, changes, or deletes a miscellaneous SPN. Activates or deactivates the announcement group SPN and indicates that a state change in this SPN should be reported to indicate the beginning of the announcement.

Refer to IM-3H300 for further details concerning these input messages.

12.02 During the installation of the remote recorded announcement circuit (for the 3E3 generic only), utilization of the 2-port algorithm is required. The office equipment (OE) number assigned as the autoconnect line is assigned as port 0 (concentrator bit is reset). The OE number for the remote recorded announcement circuit (member 0 of trunk group 85) must be assigned as port 1 (concentrator bit set). The RC:GRP and RC:LINE messages are used to make these assignments.

12.03 Reallocation message DIST:GRP is used to generate an announcement service circuit group, including a member list and selection status block for each member.

12.04 For the initial office data administration (ODA) run, the following forms must be completed and submitted to the WECo Regional Data Center.

   • *Form ESS 3100 Telephone Number Table* is used to define a trigger number for the automatic callback of the remote recording feature (3E3 generic only).

- *Form ESS 3701 Supplementary Information Table* is used to associate a return number with the trigger number for the remote recording feature and to specify an entry type (09) for the remote record overload announcement (3E3 generic only).

- *Form ESS 3201 Trunk Assignment Table* is used to assign scan point numbers, member numbers, and circuit code to an announcement group.

- *Form ESS 3202 Trunk Group Table* is used to establish a trunk group number for each announcement group. The traffic schedule, highest member number, and circuit code are also listed on this form.

- *Form ESS 3300 Three- and Six-Digit Translations* is used to list the code indexes for the 3- and 6-digit translations. The default code index which can be used to access the vacant code—no such number announcement should be listed on this form.

- *Form 3303-2 Route Index Expansion Table* is used to assign route indexes to announcements. Some announcements have dedicated route indexes and are preprinted on the form. The FREE indicator is also listed on this form.

Refer to Translation Guide TG-3 for further details concerning the completion of these ESS forms.

13. TESTING

13.01 This feature may be tested by listening to each announcement to verify its quality and accuracy. This procedure is described in Section 514-210-200. The feature may also be tested by intentionally performing a customer error in order to test the translations as well as the announcement machine.

13.02 The following verification messages may be used to check the software assignments for SO-2, Issue 4.

- *VER:DIG*—Used to verify 3- and 6-digit translations.

- *VER:GRP*—Used to verify trunk group translations.

- *VER:RTI*—Used to verify route index expansion entries.

13.03 The following verification messages may be used to check the software assignments for 3E3 and later generics.

- *OP:OFR*—Use with keyword *DIG* to verify 3- and 6-digit translations; use with keyword *GRP* to verify trunk group information; and use with keyword *RTI* to verify route index table entries.

- *OP:OFR* and/or *VER:LINE*—Use with keyword *TN* to verify the trigger telephone number.

14. OTHER PLANNING TOPICS

14.01 If desired, the permanent signal and partial dial announcements may be combined into one announcement as well as the no "1+" and extra "1+" dialing error announcements.

14.02 In order to implement this feature, the following decisions must be made:

- How many and which announcements are necessary?

- Is emergency overload announcement necessary; and if so, is remote recording capability necessary?

- Should permanent signal and partial dial announcements be combined into one announcement?

- Should the no "1+" dialing error and the extra "1+" dialing error announcements be combined into one announcement?

- How should each announcement be constructed? Refer to Section 780-200-020, Tones and Announcements, for suggested wording of announcements.

- If the remote recording capability is necessary, where should the designated remote station be located (ie, what telephone number should be dialed back)?
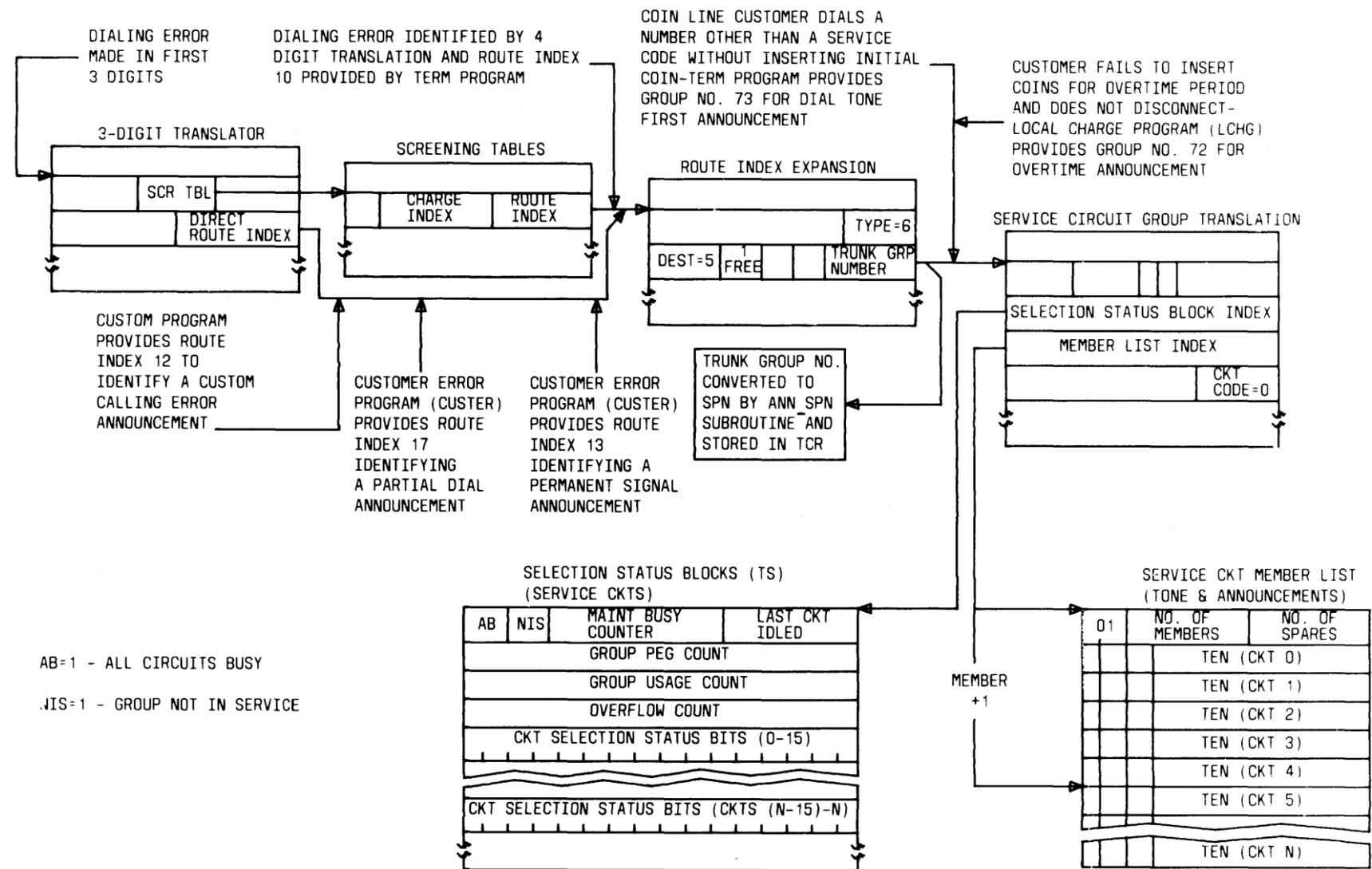
DIALING ERROR MADE IN FIRST 3 DIGITS

DIALING ERROR IDENTIFIED BY 4 DIGIT TRANSLATION AND ROUTE INDEX 10 PROVIDED BY TERM PROGRAM

COIN LINE CUSTOMER DIALS A NUMBER OTHER THAN A SERVICE CODE WITHOUT INSERTING INITIAL COIN-TERM PROGRAM PROVIDES GROUP NO. 73 FOR DIAL TONE FIRST ANNOUNCEMENT

CUSTOMER FAILS TO INSERT COINS FOR OVERTIME PERIOD AND DOES NOT DISCONNECT-LOCAL CHARGE PROGRAM (LCHG) PROVIDES GROUP NO. 72 FOR OVERTIME ANNOUNCEMENT

3-DIGIT TRANSLATOR

SCR TBL

DIRECT ROUTE INDEX

SCREENING TABLES

CHARGE INDEX | ROUTE INDEX

ROUTE INDEX EXPANSION

TYPE=6

DEST=5 | FREE | TRUNK GRP NUMBER

SERVICE CIRCUIT GROUP TRANSLATION

SELECTION STATUS BLOCK INDEX

MEMBER LIST INDEX

CKT CODE=0

CUSTOM PROGRAM PROVIDES ROUTE INDEX 12 TO IDENTIFY A CUSTOM CALLING ERROR ANNOUNCEMENT

CUSTOMER ERROR PROGRAM (CUSTER) PROVIDES ROUTE INDEX 17 IDENTIFYING A PARTIAL DIAL ANNOUNCEMENT

CUSTOMER ERROR PROGRAM (CUSTER) PROVIDES ROUTE INDEX 13 IDENTIFYING A PERMANENT SIGNAL ANNOUNCEMENT

TRUNK GROUP NO. CONVERTED TO SPN BY ANN_SPN SUBROUTINE AND STORED IN TCR

AB=1 - ALL CIRCUITS BUSY

JIS=1 - GROUP NOT IN SERVICE

SELECTION STATUS BLOCKS (TS) (SERVICE CKTS)

AB	NIS	MAINT BUSY COUNTER	LAST CKT IDLED
		GROUP PEG COUNT	
		GROUP USAGE COUNT	
		OVERFLOW COUNT	
		CKT SELECTION STATUS BITS (0-15)	

CKT SELECTION STATUS BITS (CKTS (N-15)-N)

MEMBER +1

SERVICE CKT MEMBER LIST (TONE & ANNOUNCEMENTS)

01	NO. OF MEMBERS	NO. OF SPARES
	TEN (CKT 0)	
	TEN (CKT 1)	
	TEN (CKT 2)	
	TEN (CKT 3)	
	TEN (CKT 4)	
	TEN (CKT 5)	
	TEN (CKT N)	

Fig. 4—Announcement Systems Translation Layout

• How many tone and recorded announcement circuits are required in order to meet the expected demand?

ADMINISTRATION

15. MEASUREMENTS

15.01 Each announcement group has the following traffic measurements:

• Group peg count

• Group usage count

• Group overflow count.

These measurements can be assigned to the H, C, or D traffic schedule. No other measurements are applicable to this feature.

16. CHARGING

16.01 All announcements are provided to the customers free of charge.

SUPPLEMENTARY INFORMATION

17. GLOSSARY

17.01 The following list identifies terms used in this section that may be unfamiliar to the reader.

A Party—The calling (originating) party.

B Party—The called (terminating) party.

Junctor—A connecting circuit between switching networks within the same switching system.

Off-Hook—The condition indicating that a station is in use (line loop closed).

On-Hook—The condition indicating that a station is idle (line loop open).

Reorder Tone—An audible signal (interrupted tone) sent back to the calling party to indicate that the call cannot be completed. It says that equipment between the calling and called parties is busy. It is usually interrupted at a 120-ipm rate and is sometimes called fast busy.

Scratch—A memory area of No. 3 ESS used for miscellaneous storage.

Service Code—Any of the dedicated numbers (usually X11) used by customers to obtain special services (directory assistance, emergency service bureau, etc).

Terminal Memory Record (TMR)—A 3-word block of storage assigned to each junctor. It stores scan point numbers for the calling and called parties while the call is stable.

Transient Call Record (TCR)—A 16-word block of temporary store assigned to monitor calls in a transient state.

18. REFERENCES

18.01 The following documents may be referred to for supplementary information concerning operations related to the announcement feature.

• CD- and SD-3H411-01 Electronic Switching System—No. 3—Coin Control, Tone or Recorded Announcement, and Remote Recording of Announcement Circuit

• CD- and SD-95283-01—Common Systems 7A Announcement Circuit

• CD- and SD-97753-01—Common Systems 13A Announcement System Circuit

• Section 233-020-115—Switching Systems Management, No. 3 ESS Operational Features, Recorded Announcements

• Section 233-060-210—Dial Facilities No. 3 Electronic Switching System-Service Circuits

• Section 233-060-450—Processor Memory Requirements No. 3 ESS

• Section 233-142-100, No. 3 Electronic Switching System Maintenance Volume

• Section 233-190-022—Intercept Arrangements No. 3 ESS

• Section 233-190-033—Autoconnect Feature No. 3 ESS

- Section 233-190-105—Call Forwarding No. 3 ESS

- Section 233-190-129—Permanent Signal and Partial Dial Treatment No. 3 ESS

- Section 233-190-138—Threeway Calling No. 3 ESS

- Section 233-190-151—Local Coin Overtime Charging No. 3 ESS

- Section 514-210-200—KS-16765 List 1 and List 2—Announcement Sets Installation, Connection and Operation

- Section 780-200-020—Switching Systems Management General Administration Tones and Announcements

- Section 801-603-163—13A Announcement System Equipment Design Requirements

- PR-3H151—Customer Error Program (CUSTER)

- PR-3H152—Custom Calling Programs (CUSTOM)

- PR-3H161—Local Charging—Coin and Message Register (LCLCHG)

- PR-3H175—Completion of Incoming and Interoffice Calls (TERM)

- PR-3H181—Three Digit Translation Program (XSL3DG)

- IM-3H300—Input Message Manual No. 3 ESS

- OM-3H300—Output Message Manual No. 3 ESS

- TG-3—Translation Guide No. 3 ESS

- PA-3H3XX—Office Data Tables Layout Specification