FEATURE DOCUMENT
ANNOUNCEMENT ARRANGEMENTS
NO. 2 ELECTRONIC SWITCHING SYSTEM

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Printed in U.S.A.

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FEATURE DEFINITION AND DESCRIPTION

1. DEFINITION

1.01 The announcement arrangements consist of hardware and software combinations for supplying information to customers through the use of recorded announcements. These announcements usually explain why the customer's call cannot be completed.

1.02 The No. 2 Electronic Switching System (ESS) can provide the following types of announcements:

- Dial-tone-first coin announcement
- Local coin overtime announcement
- Partial dial announcement
- Permanent signal announcement
- No "1+" dialing error announcement
- Extra "1+" dialing error announcement
- Blank number (no such number) announcement
- Vacant code and no such number announcement
- Custom calling error announcement
- Intercept announcements
- Various centrex announcements (not provided by the LO-1 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.

1.03 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. All announcements are provided either through the use of the local recorded announcement (RA) frame or through dedicated facilities to announcement systems such as the Automatic Intercept System (AIS) or a 6A intercept system. All locally provided announcements can be provided on either a barge-in or nonbarge-in basis. It is recommended that these announcements, except the local coin overtime announcement, be provided to the customers as required on a nonbarge-in basis. The program selects an announcement circuit based on the type of announcement required (coin overtime, dial-tone-first, intercept, etc.). The telephone company must equip that announcement on a barge-in or nonbarge-in basis, as required.

1.04 One Tone or Recorded Announcement Circuit (SD-2H118) must be provided for each local barge-in announcement. This circuit is used as an interface between the line-trunk network and the recorded announcement frame. The announcement is continually repeated, and the Tone or Recorded Announcement Circuit allows the customer to hear the announcement, whether or not it is at the beginning, as soon as the connection can be established.

1.05 One Audible Ring and Recorded Announcement Circuit (SD-2H119) must be used for each local nonbarge-in announcement. This circuit does not allow the customer to hear the announcement until it reaches the beginning. Instead of connecting the customer in the middle of the announcement, the ***circuit*** provides audible ringing tone or silence (depending on the option selected on SD-2H119) until the announcement reaches its starting point, and then it makes the connection to the announcement output. This assures that the customer always hears the announcement from its beginning.

1.06 One Outgoing Trunk Circuit (SD-2H113) is required for each local coin overtime announcement. This circuit allows the calling and called parties to be connected to an operator (if necessary) after the calling party has heard the local overtime announcement. An option can be selected which causes the announcement to be connected to both parties via the SD-2H113 circuit. No operator is connected after the announcement.

2. DESCRIPTION

A. Customer (User) Perspective

2.01 For this feature, the customer (user) is defined as the telephone subscriber. The customer performs no special procedure (other than making a dialing error or failing to complete dialing within the allotted time period) in order to activate the announcement feature. The following announcements are provided by the local announcement machine unless otherwise indicated.

Dial-Tone-First Coin Announcement

2.02 Coin stations having the Dial-Tone-First feature returns dial tone to the customer before the initial deposit is made. The customer is allowed to place free calls to any number designated by the operating telephone company such as 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 number, the dial-tone-first announcement is returned. This announcement explains that the customer should hang up and place the call again after making the initial deposit. Permanent signal treatment is administered if on-hook does not occur.

Local Coin Overtime Announcement

2.03 While making a timed local call from a coin station, the calling 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. The customer has 11 seconds in which to hear the announcement and make the deposit. If the deposit is made before the end of the 11 seconds, the connection is reestablished for the length of the overtime period. However, if the deposit is not made, both customers are connected to a local overtime operator who will request the money for the overtime period.

2.04 An option may be selected which provides an announcement ***only*** (no operator will intervene to request the overtime deposit) for local overtime calls. When the current initial or overtime period has expired and the customer has not made a deposit for the next overtime period, the calling ***and*** called customers are connected to the overtime announcement for 30 seconds. If the deposit is made during this announcement period, the call is allowed to continue. If the customer fails to make the deposit by the end of the 30-second period, the connection is torn down. To reestablish the connection, the customer must go on-hook briefly, make a deposit and redial the call.

Partial Dial Announcement

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

Permanent Signal Announcement

2.06 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.

No "1+" Dialing Error Announcement

2.07 A customer reaches the no "1+" dialing error announcement when a 7- or 10-digit number is dialed without a prefix even though the telephone company has specified a 1 prefix requirement. This announcement states that the 1 prefix must precede the telephone number when making such a call. The customer must then hang up before trying to redial. Permanent signal treatment is administered if on-hook does not occur.

Extra "1+" Dialing Error Announcement

2.08 The extra "1+" dialing error announcement is reached when a 1 prefix is dialed followed by a number which has not been designated by the telephone company as requiring a prefix. The announcement states that local calls must not be prefixed with a 1. The customer must then hang up before trying to redial. Permanent signal treatment is administered if on-hook does not occur.

Vacant Code or Blank Number Announcement

2.09 The vacant code or blank number announcement is reached when the customer has dialed an invalid office code or telephone number, respectively. These announcements explain that the call cannot be completed as dialed, and that the customer should check the number and try again. The customer must then hang up before trying to redial. Permanent signal treatment is administered if on-hook does not occur. The blank number announcement may be provided locally or by AIS or a 6A intercept system.

Custom Calling Error Announcement

2.10 When a customer with custom calling features makes a dialing error while attempting to use a custom calling feature (e.g., trying to activate call forwarding when it is already active), or attempts

to use a feature which has not been purchased, the custom calling error announcement is 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. The customer must then hang up before trying to redial. Permanent signal treatment is administered if on-hook does not occur.

Intercept Announcements

2.11 A customer reaches an intercept announcement when attempting to call a telephone number that has been changed, disconnected, or is temporarily out of service. These announcements explain to the customer the condition of the called number (changed, disconnected, or temporarily out of service). The customer must then hang up before trying to redial. Permanent signal treatment is administered if on-hook does not occur. These announcements may be provided through local announcements, a 6A intercept system, or by an AIS.

Centrex Dialing Error

2.12 A centrex customer (centrex services are not provided by the LO-1 generic program) reaches a centrex dialing error announcement when an error is made in dialing a number within the same centrex group. This announcement explains that the call cannot be completed as dialed and that if assistance is needed, the customer should call the attendant. On-hook must occur before another number can be dialed.

B. System Implementation

2.13 Portions of several programs must be utilized in order to provide an announcement to a customer. A specific program recognizes the need for a particular announcement and causes it to be initiated. Portions of the Call Processing Subroutines program (SUB) and the Line Origination and Digit Reception (ORIG) program are then used to select and time the specific announcement, respectively.

2.14 The initiating program provides either the route index or the group number which identifies a specific condition requiring some announcement treatment. The translation process then begins in order to select an announcement circuit. Table A lists the announcement conditions and their available treatments.

TABLE A

ANNOUNCEMENT TREATMENTS

CONDITIONS FOR POSSIBLE ANNOUNCEMENTS	RESERVED ROUTE INDEX	RESERVED GROUP NUMBER	POSSIBLE TREATMENTS		
			LOCAL ANNOUNCEMENT	6A INTERCEPT	AIS
Regular Intercept	008		√	√	√
Disconnect Intercept	009		√	√	√
Trouble Intercept	010		√	√	√
Custom Calling Error	012	021	√		
Blank 4-Digit Number, Blank Hundreds Group, 4-Digit Translation Errors	014		√	√	√
Permanent Signal	017	018	√		
Partial Dial	018	019	√		
Translation Error (Other than 4-Digit)	019		√		
Dial Tone First		016	√		
No "1+" Dialing Error		020	√		
Local Coin Overtime		023	√		
Extra "1+" Dialing Error		024	√		
Vacant Code			√		
Centrex Dialing Error			√		
Miscellaneous Announcements		054-057	√		

2.15 When the route index is provided, translation begins with the route index expansion to obtain the group number. The route index expansion provides an exit type "6" which indicates that the destination of the call is determined by the destination code. The destination code should be "13" indicating a local announcement, or "0", "1", or "2" indicating a 6A intercept system. For AIS, an exit type of "4" is used.

LOCAL ANNOUNCEMENTS

2.16 The group number is then translated so that an idle member within the announcement group can be selected. In order to do this, the announcement group number is used to address the proper 4-word entry of the Trunk and Service Circuit Group Data table. The first word in this table indicates the number of members within the group and the second word points to the address of the Group Status Block. The third word points to the Service Circuit List and the last word identifies the Circuit State Table Index. This translation process is described further in Part 13.

2.17 The Group Status Block is a block of memory in temporary storage which contains traffic information and the status bits for all members within the group. The status bits are examined to locate an idle member. When found, the idle member is marked busy, and the member number is then used to locate the associated 10-bit number in the Service Circuit List. The Circuit State Table is used by the Peripheral Order Buffer program to determine the required state for the peripheral order buffer relays. The 10-bit number may be converted to a psuedo scan point number (PSPN) and translated by the Service Circuit Subtranslator to obtain the terminal equipment number (TEN) of the announcement group member.

2.18 When an idle announcement circuit has been selected through this translation process, a path must be selected between the idle announcement TEN and the customer's TEN. If no path can be selected, the selected announcement circuit is idled and permanent signal treatment is administered.

2.19 If the path selection is successful, the 10-bit circuit number is stored in the transient call record (TCR), the path identity is stored in the terminal memory record (TMR), and the group peg count is incremented in the Group Status Block. If applicable, the customer dial pulse receiver (CDPR) and its path to the customer's TEN are disconnected and idled. The announcement circuit is then connected to the customer via the selected path and a timer within the TCR is set to expire in 30 seconds. At this time, the audible ring and recorded announcement circuit (if used) provides audible ringing tone (or silence) to the customer until the announcement has returned to its starting point. Since an announcement can be no longer than 11.2 seconds, the audible ringing tone is removed during that time interval and the recorded announcement is connected.

2.20 Supervision is maintained during the entire 30-second period. If the customer ("A" party) should go on-hook during this time period, the announcement is disconnected and idled and normal disconnect procedures are performed. If the TCR timer expires before the customer goes on-hook, the announcement and path are disconnected and idled, and the customer is given permanent signal treatment.

2.21 Permanent signal treatment usually consists of the following sequence of events:

(1) Coin return (for coin lines only)

(2) Permanent signal announcement

(3) Reorder tone (for PBX customers only) or receiver off-hook tone

(4) Connection to an operator

(5) High and dry treatment

The sequence may vary depending on local office engineering. When permanent signal treatment is administered because a local announcement has failed to effect an on-hook, the second step of this sequence is omitted. Section 232-190-129 provides further details on permanent signal treatment.

REMOTE ANNOUNCEMENTS

2.22 Remote announcements may be provided via dedicated trunks to a 6A intercept system or an AIS. This is done by routing the appropriate telephone numbers to the trunk group associated with the particular type of remote announcement system.

2.23 When routing to a 6A intercept system, three types of intercept services may be provided over the same trunk group. These types of intercept are:

- Machine intercept—used for unassigned or blank number treatment
- Regular intercept—used to provide operator handling of disconnected numbers requiring number change information.
- Trouble intercept—used when called number is in "plugged-up" state (trouble in outside plant).

2.24 These types of intercept services are implemented by assigning directory numbers requiring intercept treatment to one of three route indexes (8, 9, or 10) that point to the intercept trunk group. Each route index has a different call type to specify the intercept treatment required. Refer to TG-2H, Division 4, Section 3d for details on constructing route index expansion tables to meet these requirements. Loop supervision, NORM trunk type and no outpulsing must be specified in the Trunk Feature Table for the trunk group. Hardware and call type requirements for routing to a 6A intercept system are shown in Table B.

TABLE B

CALL TYPES FOR ROUTING TO 6A INTERCEPT SYSTEM

CALL TYPE	DESTINATION 6A INTERCEPT SYSTEM (USE TRUNK CKT 2H107 OR 2H112)
16 (Machine Int)	6A Announcement
17 (Regular Int)	6A Operator (23 Type Desk)
18 (Trouble Int)	6A Operator (3C Type Swbd)

2.25 Calls placed to nonworking number or numbers requiring intercept treatment, may also be routed to AIS which provides a recorded announcement specifically tailored to each intercept case. When the No. 2 ESS recognizes a call requiring AIS routing, the called telephone number is outpulsed over the AIS trunk. The AIS then provides an automatically assembled recorded announcement or routes the call to an intercept operator as appropriate.

2.26 Translation treatment for AIS involves the use of call type 10 with a route index (8, 9, 10, 14 or any locally assigned route index) which points to a Next Route Index. The Next Route Index may be any route index (020-511) and must be defined as call type 4 using the appropriate prefix definitions which have designated meanings as defined by the AIS system. These prefix definitions are shown in Table C.

TABLE C

PREFIX DIGITS FOR AIS ROUTING

TYPE OF TREATMENT	PREFIX DIGIT
Regular Int	0 or 3
Disconnect Int	3
Trouble Int	1
Blank Number or Translation Error	0 or 3

2.27 The Next Route Index pointing to an AIS trunk group must prefix a digit in accordance with the previously mentioned codes. Although the previously mentioned route indexes may be routed to AIS, it is not required that all of them point to the AIS trunk group. In some cases it may be desirable to point some of these route indexes to other trunk or announcement groups.

2.28 Further translation treatment for AIS routing involves setting the AIS bit in the Trunk Feature Table, in addition to specifying MF pulsing and either delay dial or wink start according to the AIS requirements. Loop or E&M signaling may be used depending on the transmission facilities available. More detailed information concerning various types of intercept arrangements can be found in Section 232-190-022.

Dial-Tone-First Announcement

2.29 A coin line may have the dial-tone-first feature which allows dial tone to be returned to the customer before the initial deposit is made. The customer may then dial any number designated by the operating company such as a service code (0, 911, 411, etc.) without the initial deposit. To make any other type of call, the customer must

deposit the initial coin after hearing the dial tone. The call can then be dialed successfully. If the initial deposit is not made after receiving the dial tone, and a number other than a free number is dialed, the dial-tone-first announcement is returned to the customer. This announcement informs the customer that the initial deposit must be made before the call can be completed.

2.30 The Local Charging program performs a test on coin lines to verify the presence of the initial coin. If no coin is present, and if the dialed number is not a free number, the Local Charging program provides the announcement group number (016) which specifies the need for the dial-tone-first announcement. The group number is then translated so that an idle member within the announcement group can be selected. If no members of the group are idle, permanent signal treatment is returned to the customer.

Local Coin Overtime Announcement

2.31 The Local Charging program controls the local overtime charging for coin lines. When the initial period timer has reached a point 30 seconds prior to expiration, the Local Charging program causes a coin supervisory control circuit to be connected to the line to collect the the initial coin. The customer is then alerted to deposit the overtime coin. When the initial period expires, the coin supervisory control circuit checks to see if the overtime deposit was made. If the overtime deposit ***was*** made, the overtime period is initiated and timed, and the overtime deposit is collected 30 seconds prior to expiration. At expiration of the overtime period, another overtime coin test is made for the new overtime period. This procedure continues through as many overtime periods as necessary until on-hook occurs or until the coin presence test indicates that no coin is present for the next overtime period. If on-hook occurs, the coin for the last overtime period is collected and the disconnect process is begun.

2.32 At the end of an initial or overtime period, if the coin presence test indicates that no coin is present for an upcoming overtime period, an overtime announcement may be provided to inform the customer that an overtime deposit must be made if the call is to continue. To accomplish this, the announcement group number (023) is translated to select an available announcement circuit. If no available announcement circuit can be selected, the call is routed to the overtime monitoring operator. If the circuit selection was successful, the selected circuit is marked busy. The 10-bit number is then obtained and translated as previously described in order to obtain the TEN of the announcement circuit. A search is performed to locate an available path to the announcement circuit. If the path selection is unsuccessful, the call is routed to the overtime monitoring operator. If the path selection is successful, the 10-bit number is stored in the TCR, the path identity is stored in the TMR, and the announcement group peg count is incremented. Next, the two telephone subscribers are split and the announcement is connected to the calling party only. The TCR timer is set to expire in 11 seconds to time the announcement.

2.33 Supervision is maintained during the 11-second period, and if on-hook should occur during this period, the announcement and path are disconnected and idled and the disconnect process is begun. If the announcement completes, and on-hook has not occurred, the announcement circuit and path are disconnected and idled and the coin presence test is again performed. If the overtime deposit has not been made, the calling and called parties are connected to the overtime monitoring operator via the SD-2H113 trunk circuit. If the coin test verifies the presence of the overtime coin, the two telephone subscribers are reconnected and timing is begun for the overtime period. If the call is completed during the overtime period, the overtime coin is collected, and the disconnect process is begun.

2.34 Thirty seconds before the end of the overtime period, the coin is collected for the current overtime period and the customer is alerted to deposit a coin for the next overtime period. When the overtime period expires, the coin test is again performed to see if the overtime deposit was made for the next overtime period. If the deposit was not made, the announcement is repeated as previously described. This process continues through unlimited overtime periods until on-hook occurs or until the customer fails to make an overtime deposit by the end of the 30-second time period. The latter case connects the customer to a local overtime operator. Refer to Section 232-190-112 for further details on operator handling of coin calls.

2.35 An option is available by which the calling ***and*** called parties are connected to the

announcement circuit (via the SD-2H113 trunk circuit) immediately upon the determination that no deposit is present for the forthcoming overtime period. For this option, the announcement timing period is set for 30 seconds during which the announcement is continually repeated. At the end of this 30-second period, another coin presence test is made. If the deposit is present, the call is allowed to continue. If the deposit is not present, the disconnect process is begun.

Permanent Signal and Partial Dial Announcements

2.36 Permanent signal and partial dial treatments are employed when the customer does not dial correctly or at all when originating a call. If dialing does not begin within a specified time interval (beginning when dial tone is returned), permanent signal treatment is required. When dialing is begun but no digit is received within an 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 a single announcement used for both of these treatments or there may be a separate announcement for each of them. Section 232-190-129 provides more detail on permanent signal and partial dial treatments and it explains how announcements can be used as a part of these treatments.

2.37 The Line Origination and Digit Reception program controls the origination of all calls. When a subscriber goes off-hook, this program selects a CDPR and an originating register (OR) to respectively receive and store the customer's dialed digits. A TCR timer is set to time the customer's response, and dial tone is provided through the CDPR. If the timer expires before dialing begins, the permanent signal route index (017) is loaded into the TCR.

2.38 If dialing begins during the allotted time interval, the permanent signal timing is discontinued and interdigit timing is begun. If the customer allows the interdigit timer to expire, the partial dial route index (018) is loaded into the TCR.

2.39 The next step in the permanent signal or partial dial treatment is to clear the originating register. If the calling party is a trunk, it is connected to reorder tone. If the calling party is not a trunk, the CDPR and the path to it are disconnected and idled. A coin return operation is performed next if the calling party is a coin line.

2.40 The route index stored in the TCR is translated to obtain the announcement trunk group number. An idle announcement circuit and a path to it are then selected as previously described. If an announcement or a path cannot be selected, the call is routed to the permanent signal operator. If the selection is successful, the customer is connected to the announcement circuit, and the TCR timer is set to expire in 30 seconds. If the announcement is not at its starting point, the audible ring and recorded announcement circuit (if used) provides audible ringing (or silence) to the customer until the announcement reaches its starting point. At that time, the audible ringing tone is removed and the announcement is connected.

2.41 Supervision is maintained during the 30-second period, and if on-hook occurs, the announcement and path are disconnected and idled and the disconnect process is begun. However, if the timer expires before on-hook occurs, the announcement and path are disconnected and idled, the permanent signal or partial dial routine is completed, and the customer is continued with permanent signal treatment.

Vacant Code and 1+ Dialing Error Announcements

2.42 When a dialing error is made in the first three digits or in the "1+" prefix, the 3-digit translation portion of the translation program provides a route index which initiates the translation, connection, timing, and supervision process previously described.

Blank Number Announcement

2.43 In the LO-1 generic program, if the 4-digit translation process yields a blank number (translation word truly empty), route index 14 is provided to obtain the proper treatment. This could be a local announcement or routing to a 6A intercept system or to an AIS system as described in 2.22 through 2.28 of this section.

2.44 In the EF-1 and later generic programs, if a blank number is reached, the program reads the 101st word in that hundreds group to obtain any desired common treatment for that

group. The 101st word is then analyzed and routing proceeds accordingly. If the 101st word is also blank, the program uses route index 14 and proceeds as previously described.

Centrex Dialing Error Announcement

2.45 The centrex dialing error announcement may be provided for any of several different dialing error conditions. These conditions are:

- Centrex user* dials nonexistent access code
- Centrex user dials valid access code but is denied access by centrex access treatment code
- Centrex user dials incomplete access code or station number. This does not apply to partial dial calls after station has dialed a CO access code (dial "9")
- Attendant or incoming tie trunk dials a fully restricted terminating station
- Centrex user dials a denied terminating centrex station
- Centrex user attempts to add-on a fully restricted terminating centrex station.

*Centrex user may be a centrex station, attendant, or incoming tie trunk.

This announcement is reached through the translation of an assigned route index obtained from the centrex group expansion.

The translation of this route index and the selection of the announcement circuit are performed as previously described.

2.46 A blank number announcement (provided via the 101st word previously described) may also be provided on a centrex group basis. This announcement is provided via a route index obtained from the 4-digit translation process. Although the 4-digit translation process is slightly different for a centrex telephone number (see Sections 232-118-101 and 232-190-012), the route index obtained is translated and processed as previously described.

Translation Errors

2.47 All translation errors, except 4-digit translation errors, are handled via the treatment provided by route index 019. This treatment may be in the form of a local announcement but it cannot be routed to AIS. The translation and selection process resulting from the yielded route index is the same as previously described.

Intercept Announcements

2.48 When a telephone number is reached which requires intercept treatment, the 4-digit translation provides route index 8, 9, or 10 which initiates the necessary intercept treatment. This treatment may be in the form of a local announcement for which the translation and announcement circuit selection previously described will be utilized. This treatment may also be in the form of a remote announcement as described in 2.22 through 2.28.

3. FEATURE FLOW DIAGRAM

3.01 A functional flow diagram for the dial-tone-first announcement is shown in Figure 1, and the local coin overtime announcement is shown in Figure 2. The flow diagram in Figure 3 explains the operations of the permanent signal and partial dial announcements. The vacant code—no such number, 1+ dialing error, custom calling error, and intercept announcements are shown in Figure 4. The flowchart for 6A and AIS routing can be found in Section 232-190-024.

4. INTERACTIONS

4.01 No interactions exist between this feature and other features.

ATTRIBUTES

5. STATION/SYSTEM

5.01 The announcement feature is provided on a per-system basis and is available in all generic programs for No. 2 ESS.

6. LIMITATIONS

6.01 Each recorded announcement frame can supply six recorded announcements. A maximum of 16 announcement frames is allowed per No. 2 ESS system. The Tone or Recorded

Announcement Circuits are provided in groups of 12 and the Audible Ring and Recorded Announcement Circuits are provided in groups of 6. A distribution unit is provided so that each announcement channel can drive 20 announcement circuits. Additional distribution units are available which multiple 32 additional announcement circuits onto the output of an announcement channel.

6.02 Each recorded announcement is limited to 11 seconds in length. The coin overtime announcements hold the TCR active for the 11-second period. All other announcements hold the TCR active for the entire 30-second period which includes the time required for the announcement circuit to provide audible ringing. Each announcement channel can drive no more than 116 announcement circuits. A maximum of 512 members per announcement group is allowable for the LO-1 generic program. The EF-1 generic program allows only 256 members per announcement group; however, the hardware requirements limit the number of members to 116.

7. RESTRICTION CAPABILITY

7.01 No restrictions are necessary for this feature.

8. COST DATA

8.01 Each local announcement channel requires the following memory space:

Translation area of program store

- Four words per group in Trunk and Service Circuit Group Data Table
- Two words per member in the Tone Subtranslator
- One word per group plus one half word per member in the Service Circuit List

Call store

- A maximum of twelve words per group in the Group Status Block.

8.02 The Tone or Recorded Announcement Circuits (SD-2H118) must be equipped in groups of 12 and the Audible Ring and Recorded Announcement Circuits (SD-2H119) must be equipped in groups of 6. See HARDWARE ENGINEERING for further hardware requirements.

8.03 Cost considerations involved in routing calls to remote announcement systems (such as 6A or AIS) are essentially the same as for any outgoing call. The memory requirements are as follows:

Translation area of program store

- Eight words per group in Trunk Group Data Table
- Two words per group and one word per member in Trunk Circuit List.

8.04 Call store requirements for routing to remote announcements consist of one call store status block per trunk group. The size of the block is dependent on the number of members per trunk group with a maximum size of 36 words in the LO-1 generic program or 20 words in the EF-1 generic program.

8.05 Trunk circuits SD-2H103 and SD-2H144 may be used for AIS trunks using loop supervision. If E&M supervision is required, trunk circuit SD-2H112 may be used as a one-way trunk. An MF sender must also be used to outpulse the called telephone number to the AIS.

8.06 When routing to a 6A intercept system, trunk circuit SD-2H107 or SD-2H112 may be used for loop or E&M supervision, respectively. Outpulsing of the called telephone number is not required.

INCORPORATION INTO SYSTEM

9. PLANNING

9.01 In order to implement this feature, the following decisions must be made.

- How many and which announcements are 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?

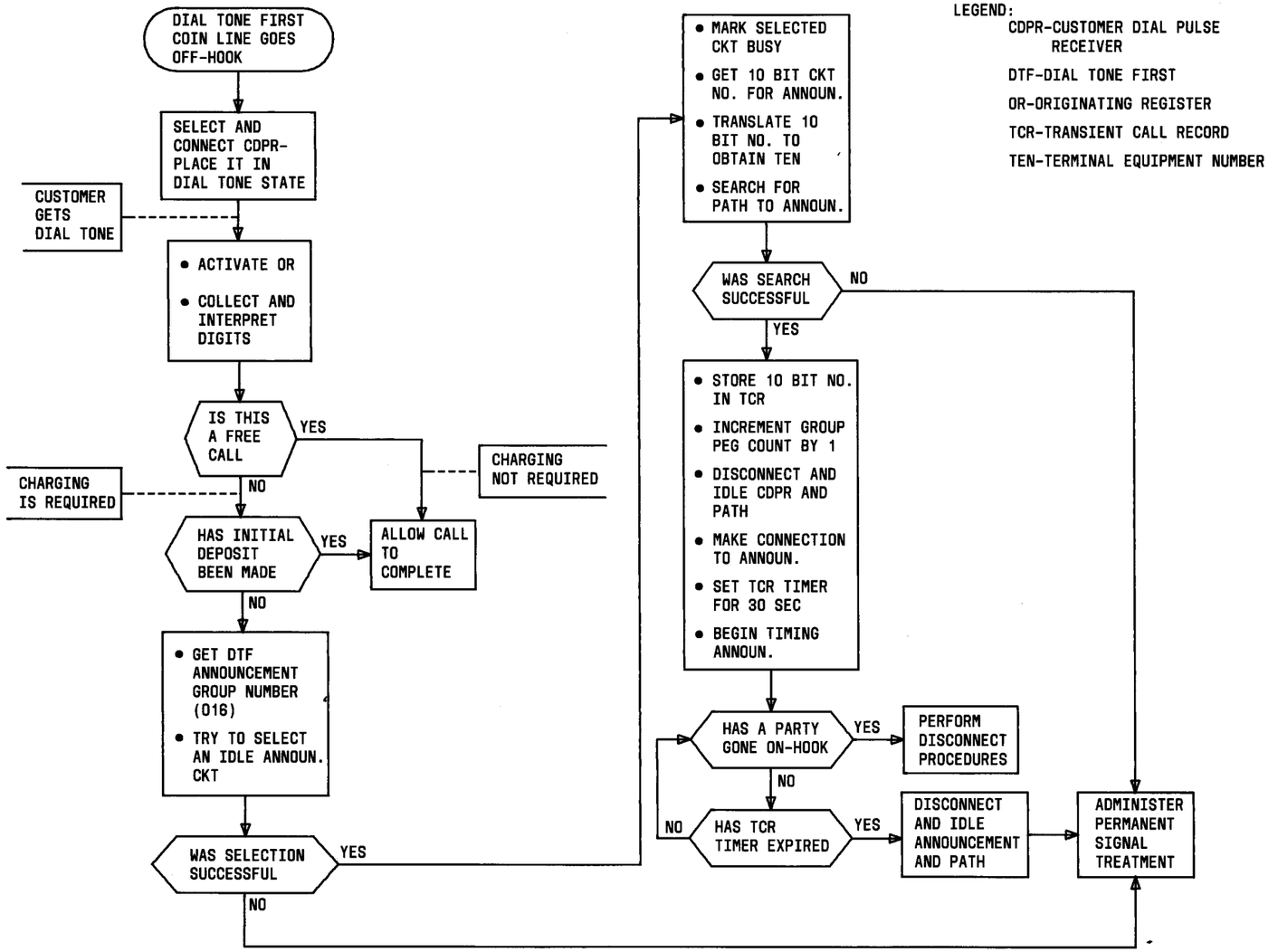

Fig. 1—Dial-Tone-First Announcement

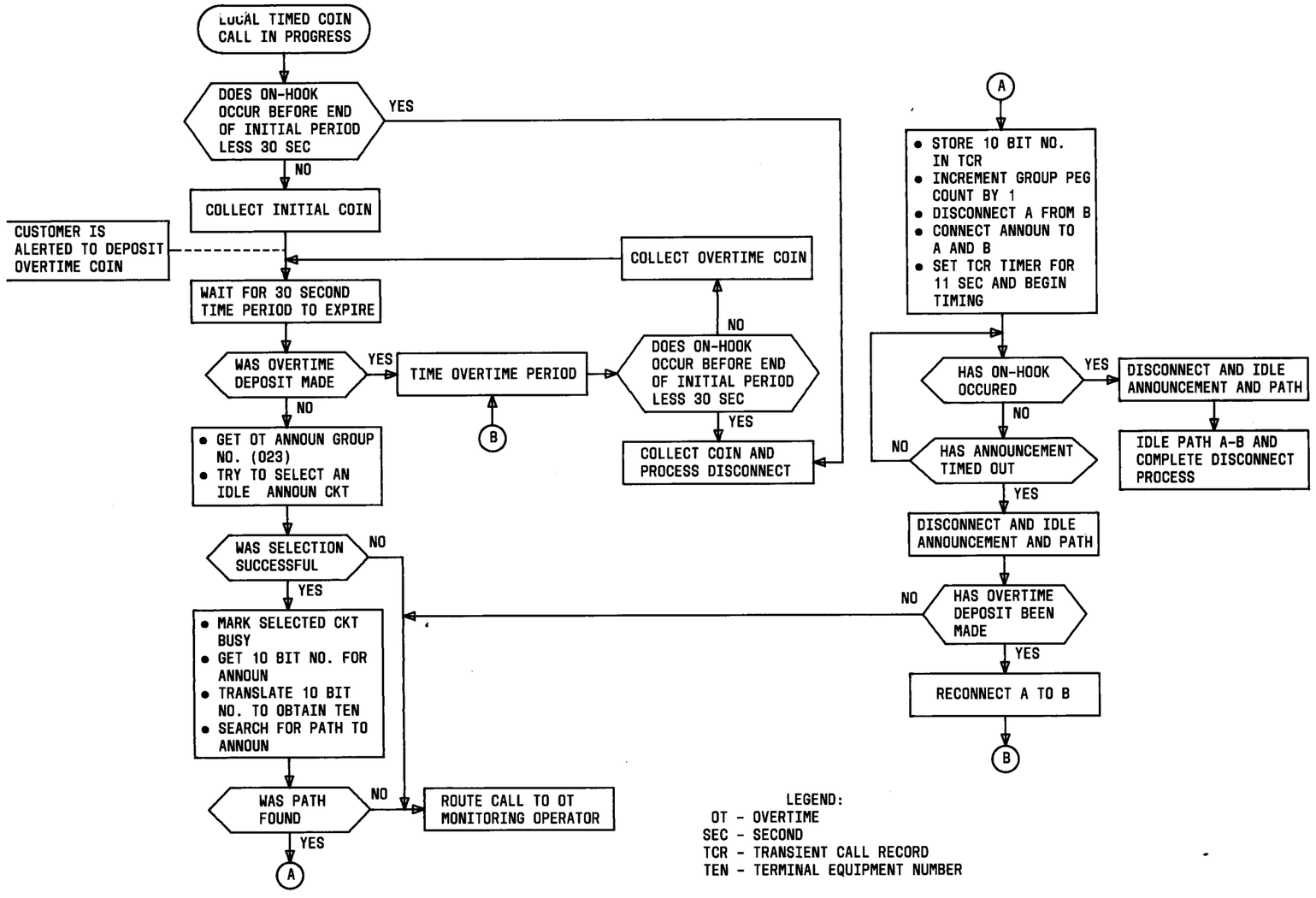

Fig. 2—Local Coin Overtime Announcement

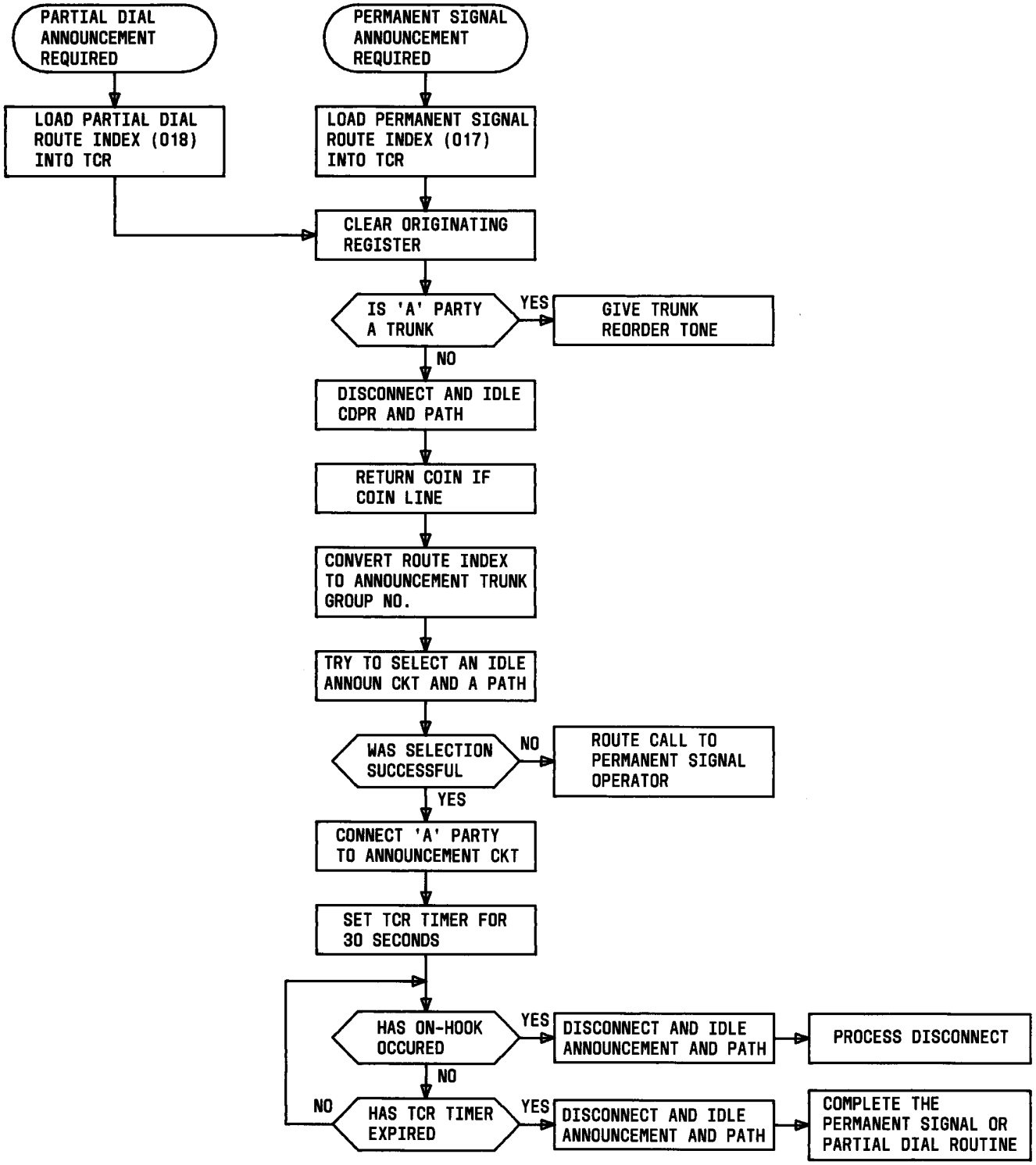

Fig. 3—Permanent Signal and Partial Dial Announcements

- How should each announcement be constructed? Refer to Dial Facilities Management Practices, Division H, Section 1b (13) for suggested wording of announcements.

- What is the maximum number of customers that should be allowed to hear an announcement simultaneously?

- How many Tone or Recorded Announcement units, Audible Ring and Recorded Announcement units, and additional announcement distribution circuits are required to meet the expected demand?

- Is it more feasible to use intercept announcements or to route intercept calls to an AIS system or an intercept operator?

- How many announcement frames are required to provide the necessary announcements?

10. HARDWARE ENGINEERING

10.01 Each recorded announcement frame can provide six announcements by means of a single magnetic drum. If additional announcements are required, additional announcement frames may be added. No more than 16 announcement frames may be used in a single No. 2 ESS system. Each announcement channel has a dedicated record-reproduce amplifier and a distribution unit that serves 20 announcement circuits. Additional distribution units may be added which serve 32 circuits each. A maximum of 3 additional units may be added to serve a total of 116 circuits per announcement channel.

10.02 Twelve Tone or Recorded Announcements Circuits (SD-2H118) are provided as a single unit requiring one mounting plate space on the miscellaneous frame. Six Audible Ring and Recorded Announcement Circuits (SD-2H119) are provided as a unit which also occupies one mounting plate space on the miscellaneous frame. Refer to Traffic Facilities Practices, Division D, Section 12 to determine the necessary quantities of these circuits.

10.03 A 624-A10 CALL DIRECTOR® telephone set is used for recording and checking the quality of announcements. The set has 12 keys, each one assigned to an individual announcement channel. Therefore, the set can be associated with two recorded announcement frames. Each key has an associated announcement lamp which lights when the frame is ready to accept a new announcement. The 624-A10 telephone set should be located in a noise-free room remote from the No. 2 ESS to prevent the possibility of ambient noise being superimposed on the voice announcement. The procedure required for recording and testing an announcement can be found in Section 232-024-501. Refer to COST DATA for hardware requirements for routing calls to remote announcements.

11. SOFTWARE ENGINEERING

11.01 Care should be taken to insure that enough memory space is available for proper assignment of the required announcements. See COST DATA for required memory usage. Traffic Facilities Practices, Division D, Section 12-f also discusses memory usage for No. 2 ESS. The translation assignments must be properly made through the use of the ESS forms listed under OFFICE DATA.

12. COMPATIBILITY

12.01 The Tone or Recorded Announcement Circuit and the Audible Ring and Recorded Announcement Circuit provide the necessary interface between the recorded announcement frame and the No. 2 ESS network.

13. OFFICE DATA

13.01 The translation flow required to establish an announcement connection is shown in Figure 5. All announcement circuits must be defined by the office data administration (ODA) program. When an ODA run is made, spare circuits may be defined in spare groups so that the translations exist when they are needed. The physical equipment may or may not be installed until the circuits are activated. Recent change message A RC:SVC may be used to change the TEN of a member within an announcement group.

13.02 The following ESS input forms must be properly completed by the Western Electric line engineer and the dial administrator of the operating company and submitted to the ODA system (WECo Regional Center) to define the announcements for the No. 2 ESS office. Normal scheduling procedures should be used for completing these forms.

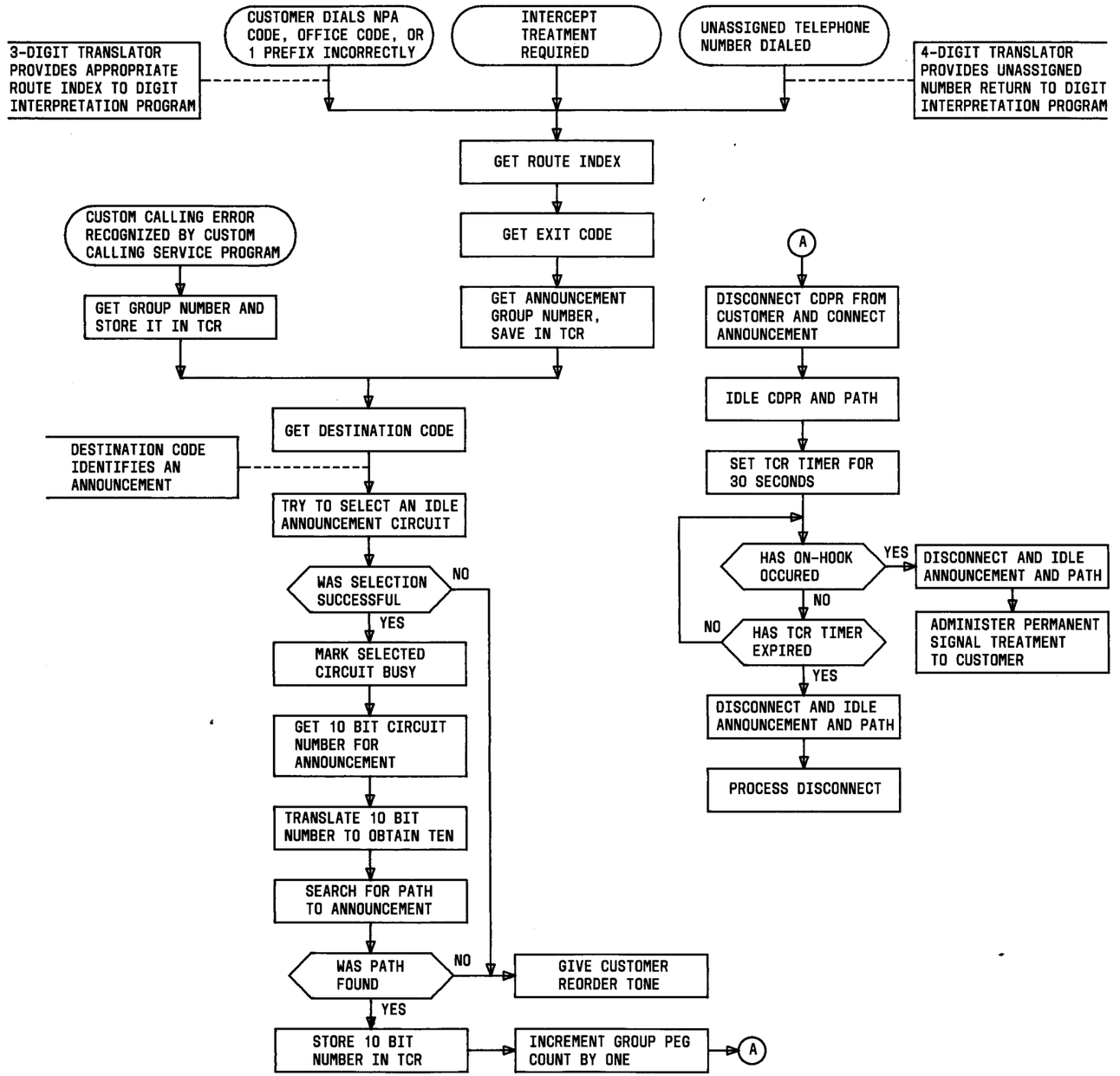

Fig. 4—Vacant Code—No Such Number, 1+ Dialing Error, Custom Calling Error, and Intercept Announcements

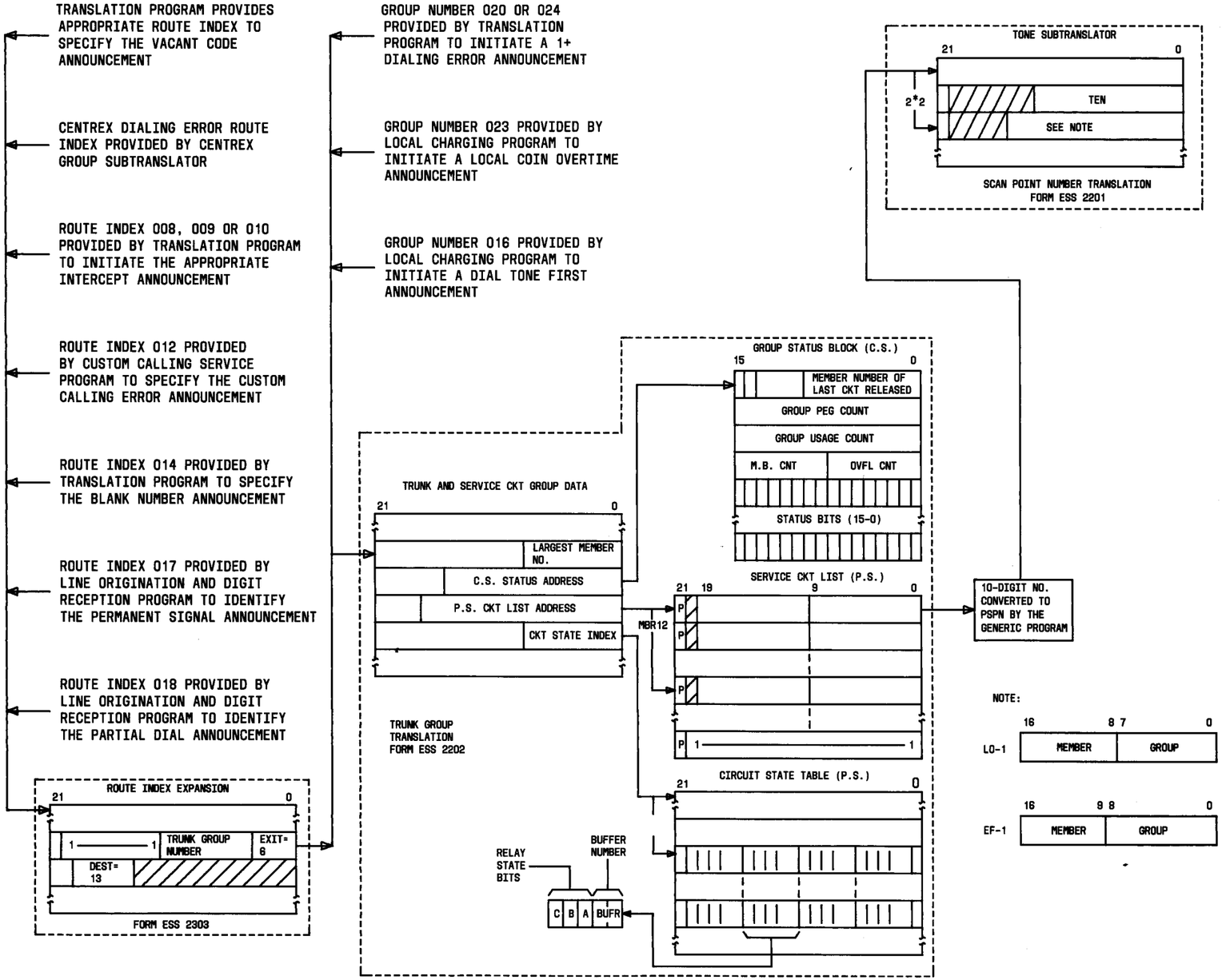

Fig. 5—Translation Layout for Announcement Arrangements

- ***ESS 2109-Centrex Group Table***—is used to assign the route index for the centrex dialing error announcement.

- ***ESS 2201-Trunk Assignment Table***—is used to associate members of an announcement group with their terminal equipment numbers and equipment locations.

- ***ESS 2202-Trunk Group Table***—is used to establish a trunk group number for the specific announcement groups used in a given office. The traffic schedule and highest member number are also listed here.

- ***ESS 2303-Route Index Expansion Table***—is used to assign the announcement group numbers to the proper route index.

- ***ESS 2304-Code Group Translation Table***—is used, when necessary, to assign a code group and zone index to an announcement group.

- ***ESS 2500-1—General Information Table***—indicates the need for the overtime coin announcement.

- ***ESS 2509-1, -2 Recorded Announcement Table***—is used to define the frame enables and channel assignments for the Recorded Announcement Frame(s).

13.03 Refer to Translation Guide, TG-2H, Division 4 for instructions for filling out the ESS forms. Copies of the reproducible input forms are in Division 11, Section 1, of the Translation Guide, TG-2H.

14. GROWTH/RETROFIT PROCEDURES

14.01 In order to add an announcement to an existing No. 2 ESS office, an ODA run must be made and the appropriate forms must be submitted to the WECo Regional Center; however, if spare, previously defined groups are available they may be used to avoid the ODA run. The hardware must be added in the required units as described in HARDWARE ENGINEERING.

15. TESTING

15.01 This feature can be tested by placing the appropriate test calls and listening to each announcement to verify its quality and accuracy. Further test procedures can be found in Section 232-024-501. Procedures for testing trunks to the remote announcement systems can be found in Sections 232-130-301, 232-143-501, and 232-146-502.

ADMINISTRATION

16. MEASUREMENTS

16.01 The only measurements required for this feature are the group measurements as follows:

- peg count
- usage count
- overflow count.

These measurements may be assigned to the H or C traffic schedule on a per-group basis.

17. RECORD KEEPING

17.01 There are no special office records to be kept for this feature except for the associated ODA system generated output records (R forms).

18. CHARGING

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

AVAILABILITY

19. NEW INSTALLATIONS

19.01 The announcement feature is available for new installations.

20. GROWTH/RETROFIT

20.01 The announcement feature is available as an addition to any No. 2 ESS.

SUPPLEMENTARY INFORMATION

21. GLOSSARY

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

- ***A Party***—The calling (originating) party.

- ***Automatic Intercept System (AIS)***—A standard mechanization system to provide computer-derived audio response to customers dialing telephone numbers that have changed or been disconnected.

- ***B Party***—The called (terminating) party.

- ***Customer Dial Pulse Receiver (CDPR)***—A circuit that provides dial tone to the customer and detects the dialed digits.

- ***Office Data Administration (ODA) Run***—The mechanism by which translation information may be assembled or changed for a No. 2 ESS. Information from the ESS input forms is inputted into the regional ODA computer, assembled, then sent to the No. 2 ESS.

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

- ***On-hook***—This condition indicating that a station is idle (line loop open).

- ***Originating Register (OR)***—A call register used to collect and store digits received from a CDPR or TOUCH-TONE® receiver.

- ***Peripheral Order Buffer (POB)***—A 16-word block of call store used to store operating commands for peripheral circuits.

- ***PSPN***—Pseudo Scan Point Number

- ***RA***—Recorded announcement frame

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

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

- ***TEN***—Terminal Equipment Number

- ***Terminal Memory Record***—A 2-word block of temporary storage containing the identity of the calling and called parties while the call is stable.

- ***Transient Call Record***—An 8-word block of temporary storage assigned to monitor calls in a transient state.

- ***6A Intercept System***—A remote intercept system which serves several central offices.

22. REASONS FOR REISSUE

22.01 This is the initial issue of this document.

23. REFERENCES

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

Section 232-190-022 Intercept Arrangements No. 2 Electronic Switching Systems

Section 232-190-129 Permanent Signal and Partial Dial Treatments No. 2 Electronic Switching System

Section 232-190-131 Dial-Tone-First, Coin No. 2 Electronic Switching System

Section 232-024-501—Recorded Announcement Facilities Adjustments and Tests No. 2 and No. 2B Electronic Switching Systems

Section 232-130-301—Trunk Test Panel—Method of Operation No. 2 Electronic Switching System

Section 232-143-501—Outgoing Trunk Circuit Verification Request and Reverse Battery, High-Low Supervision (SD-2H107)—Tests No. 2 and No. 2B Electronic Switching Systems

Section 232-146-502—Two-Way Trunk Circuit (SD-2H112) No. 2 Electronic Switching System

Section 232-190-024—Feature Document Trunking Arrangements No. 2 Electronic Switching System

TFP Division D, Section 12-c—Dial Facilities No. 2 Electronic Switching System Service Circuits

TFP Division D, Section 12-g(5)—Dial Facilities No. 2 Electronic Switching System Miscellaneous System Components Recorded Announcement Frame

DFMP Division H, Section 1b (13) Switching Systems Management General Administration Tones and Announcements

CD and SD-2H113—Electronic Switching Systems No. 2 Arranged with 2-Wire Features—Outgoing Trunk Circuit Local Coin Overtime and Stuck Coin to Switchboard No. 3CL in Distant Building

CD and SD-2H118-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features—Tone or Recorded Announcement Circuit

CD and SD-2H119-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features—Line Origination and Digit Reception Announcement Circuit

PD, PR, and PF-2H203-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features Line Origination And Digit Reception Program

PD, PR, and PF-2H204-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features Digit Interpretation Program

PD, PR, and PF-2H211-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features—Custom Calling Service Program

PD, PR, and PF-2H212-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features—Call Processing Basic Subroutines Programs

PD, PR, and PF-2H213-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features—Translation Program

PD, PR, and PF-2H218-01—Electronic Switching Systems No. 2 Arranged With 2-Wire Features—Local Charging Program