

FEATURE DOCUMENT
INTERCEPT ARRANGEMENTS
NO. 3 ELECTRONIC SWITCHING SYSTEM

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NOTICE

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INTRODUCTION

1. GENERAL INFORMATION

1.01 This section describes the various intercept arrangements provided for the No. 3 Electronic Switching System (ESS). These arrangements include provisions for routing intercepted calls to local or remote announcements or to operator positions.

1.02 When this section is reissued, the reasons for reissue will be included in this paragraph.

AVAILABILITY

1.03 The intercept arrangements described in this section are provided by all issues of the No. 3 ESS generic program. The hardware associated with this feature includes Tone or Recorded Announcement Circuits and announcement frames for local announcements; and outgoing trunk circuits and multifrequency (MF) senders for routing intercepted calls to manual or automatic announcements, operators, or to remote intercept systems. This hardware is available for and compatible with all issues of the No. 3 ESS generic program.

2. DEFINITION

2.01 Intercept arrangements are hardware and software combinations provided to terminate calls in cases where connections to the called party cannot be made. These terminations may be in the form of connections to local or remote announcements, or to operator positions so that the customer may be informed as to why the call was not completed as dialed.

2.02 The No. 3 ESS provides several methods which may be used to intercept calls that cannot be completed. These methods include:

- Local Announcements
 - (a) dial tone first (DTF)
 - (b) custom calling error
 - (c) extra 1+ dialing error
 - (d) no 1+ dialing error
 - (e) vacant code and no such number

(f) emergency overload

- Remote Announcements (ie, Automatic Intercept System [AIS])
- Intercept Operators
 - (a) 23 type desk
 - (b) 3C type switchboard
- Remote Intercept Systems (ie, 6A Intercept System).

DESCRIPTION

3. USER OPERATION

3.01 The telephone subscriber automatically and unknowingly activates the Intercept Arrangements feature by dialing a telephone number requiring intercept treatment or making a dialing error.

3.02 When the intercept arrangements have been properly engineered and installed, all intercepted calls are automatically routed to the appropriate intercept equipment without the assistance of personnel at the No. 3 ESS office. In cases where intercepted calls terminate at operator positions, the operators must respond in accordance with local operating procedures.

4. SYSTEM OPERATION

4.01 The various intercept treatments provided by the No. 3 ESS are defined by associated route indexes. During the progress of any incoming or intraoffice call, if an intercept treatment is required, the appropriate area of the generic program automatically provides the route index and/or group number (for local announcements) associated with the required intercept treatment. The call is then routed, as defined by the route index, to the appropriate intercept equipment. The group number is automatically sent to the equipment select routine to select the announcement or trunk circuit. Table A lists conditions requiring intercept treatments and their associated route indexes, and indicates the treatments available for these conditions.

4.02 When off-hook is detected, the usual call processing is begun to identify the calling party and to determine which, if any, special

TABLE A
INTERCEPT TREATMENTS

CONDITIONS REQUIRING INTERCEPT TREATMENT	ROUTE INDEX	TRK GRP		POSSIBLE INTERCEPT TREATMENTS			
		SO-2 ISS. 3	SO-2 ISS. 4	LOCAL ANNOUNCEMENT	AIS	6A	INTERCEPT OPERATOR
Dial-Tone-First	—	73	78	✓			
Custom Calling Error	12	79	84	✓			
Extra 1+ Dialed	—	77	82	✓			
No 1+ Dialed	—	76	81	✓			
Vacant Code or Blank 4-Digit Number	10†	78‡	83‡	✓	✓	✓	✓
Emergency Overload	—	80	85	✓			
Regular Intercept	8§	*	*		✓	✓	✓
Trouble Intercept	9	*	*		✓	✓	✓

* Operating Telephone Company assignable.

† Vacant code may be assigned some other route index treatment if desired; however, calls to vacant codes may not be routed to AIS.

‡ These group numbers apply only to local announcements. The group numbers for any other type of intercept treatment may be assigned as required.

§ With the 3E3 generic program, regular intercept may be defaulted to some other route index if desired.

services or features are available to the customer. When this originating translation has been completed, a customer dial pulse receiver (CDPR) is connected to the customer's line and dial tone is provided.

4.03 When the customer begins dialing, a check is made to determine if the calling line is a dial-tone-first (DTF) coin line. If the line is a DTF coin line, another check is made to verify that the initial deposit was made. If the deposit is not present and if the customer's dialed digits do not represent a free telephone number (0, 911, 411, or any other free number as designated by the Operating Telephone Company [OTC]), the group number specifying the DTF announcement is provided.

4.04 If the originating line is not a DTF coin line, the dialed digits are examined to determine if the call represents a custom calling

attempt. If a custom calling feature is being used improperly, or if the customer is attempting to use a feature which has not been purchased, route index 12, representing the custom calling error announcement, is provided.

4.05 If a custom calling feature is properly used or if the dialed digits indicate that no custom calling feature is being attempted, the 3-digit translator examines the first three digits to determine the necessary routing. If the 3-digit translator determines that an unnecessary 1 prefix was dialed, the group number specifying the extra 1+ dialing error announcement is provided. If a necessary 1 prefix was omitted, the group number specifying the no 1+ dialing error announcement is provided.

4.06 If the 3-digit translator determines that a valid distant office code was dialed, a route index is provided which points to a trunk group

leading to the distant office. The usual call processing is performed to select a trunk and to outpulse the required digits to the distant office. If no trunk is available, or if a path between the trunk circuit and the calling party cannot be obtained, the customer is given reorder tone.

4.07 If it is determined that the customer dialed a valid numbering plan area (NPA) code and if further screening is needed for that NPA, the 3-digit translator examines the next three digits to determine if a valid office code was dialed. If a valid office code was dialed, a route index is provided which points to the appropriate trunk group as previously described. If no further screening is required, outpulsing over the selected trunk begins as directed by the route index. When an invalid office or area code is dialed, the 3-digit translator provides a route index which causes the call to be routed to a local or remote announcement or to an intercept operator. Calls to vacant codes may not be routed to AIS. The preferred method of handling calls to vacant codes is through local announcements.

4.08 Intraoffice calls are recognized by the 3-digit translator which provides a route index that represents a normalized office code (NOC). The 4-digit translation then examines the final four dialed digits in order to identify the called party.

4.09 If the 4-digit translator recognizes that the dialed telephone number requires intercept treatment (terminating major class 28), it automatically provides the route index associated with the desired intercept treatment as specified by the OTC. For telephone numbers that have been changed or disconnected, the OTC may specify route index 8 which defines the regular intercept treatment. If no route index is specified for a telephone number with a terminating major class of 28, all calls to that number are automatically routed via route index 8. If the 3E3 generic is employed, the OTC may elect to override the use of route index 8 as a default route index on a per NOC basis. (The override default regular intercept route index is specified in the route index translator entry reserved for any unique NOC.) For local telephone numbers which cannot be reached due to a trouble, the OTC may place the line in the plug-up list via the RMV:LINE message. When a call is placed to a number in the plug-up list, and if the line is maintenance-busy, route index 9 is automatically provided. If the line is maintenance-busy but not

in the plug-up list, the calling party is given busy tone.

4.10 When a dialed number is unassigned, call processing automatically provides route index 10. This route index may lead to a connection to a local vacant code and no such number announcement, to a remote intercept system (ie, 6A Intercept System), to an operator position, or to a remote announcement (ie, AIS). If some 4-digit translation error occurs, the call fails, the customer receives permanent signal treatment, and the message "RCOVRY PROG TBL 702" is printed on the TTY.

4.11 Telephone numbers which are denied termination (terminating major class 30) may be associated with a route index defining any intercept treatment desired by the OTC. This is done by associating the telephone number and the desired route index in the 4-digit area of translations through the use of a recent change message.

4.12 In cases where no intercept treatment is required, the 4-digit translator provides the TEN and other necessary information associated with the called telephone number in order to complete the call normally.

4.13 When unusual circumstances prevent the completion of many calls, it may be determined that an emergency overload announcement is required. When this announcement is activated, customers, whose calls cannot be completed, are routed to the announcement instead of reorder tone. This announcement is described in detail in Section 233-190-023.

4.14 When an intercept route index or group number has been obtained, it is translated via a route index expansion or group translation in order to select a trunk to the remote location or a local announcement circuit. This selection process is identical to the selection process used to select any outgoing trunk or local announcement. The usual call processing is then performed to connect the calling party to the outgoing trunk circuit or to the announcement circuit. A flowchart illustrating the initiation of intercept treatments is shown in Figure 1. Flowcharts illustrating the selection and connection operations for local announcements and for trunks to remote facilities are provided in Sections 233-190-023 and 233-190-024, respectively.

Remote Intercept Treatments

4.15 Calls requiring intercept treatment may be routed to an AIS which provides a recorded announcement specifically tailored to each intercept case. When the No. 3 ESS recognizes a call requiring AIS routing, the called telephone number and a prefix digit, as defined by the route index, is outpulsed over the selected AIS trunk. The AIS then provides an automatically assembled recorded announcement or routes the call to an intercept operator as appropriate.

4.16 Translation treatment for AIS involves the use of route-index entry type 7 (indicating that the called-party telephone number must be outpulsed) with a route index (8, 9, 10, or any locally assigned route index) that points to an AIS trunk group. A prefix digit is also required to inform the AIS of the type of intercept treatment required. The route indexes, prefix digits, and their associated treatments are shown in Table B. 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. It should be noted that trouble intercept calls should be routed to AIS only after coordination with the AIS administrator. This prevents the unnecessary loading of the intercept operators. Also, only telephone numbers in working office codes may be routed to AIS.

4.17 Further translation treatment for AIS routing includes specifying multifrequency (MF) pulsing and either delay dial or wink start according to the AIS requirements. Loop (CPS-FB399 of SD-3H220) or E&M (CPS-FB382 or CPS-FB391 of SD-3H220) supervision may be used, depending on the transmission facilities available.

4.18 When intercepted calls are routed via a trunk group to a remote intercept facility such as the 6A Intercept System, all the customer-dialed digits are deleted; however, a prefix digit, defining the type of intercept treatment required, must be outpulsed to the remote intercept facility. These prefix digits are shown in Table C.

4.19 When routing to a 6A Intercept System is desired, translations must be organized to delete all the dialed digits and to provide dial pulse (DP) outpulsing in order to outpulse the required

prefix digits. Loop supervision (CPS-FB399 of SD-3H220) must also be specified, as well as the required prefix digits for each route index.

4.20 When regular or trouble intercept calls are routed directly to operator positions (23C operating room desks or 3CL type switchboards), no outpulsing is required and either loop or E&M signaling may be provided. The No. 3 ESS translations must be arranged to reflect these requirements.

Local Announcements

4.21 Several intercept treatments may be handled exclusively through the use of locally provided announcements. These announcements are:

- Dial-tone-first
- Custom calling error
- Extra 1+ dialing error
- No 1+ dialing error
- Emergency overload.

These announcements and the methods used to select an announcement circuit are described in detail in Section 233-190-023.

CHARACTERISTICS

5. FEATURE ASSIGNMENT

5.01 Intercept arrangements are provided on a per-system basis. Intercept treatments within the No. 3 ESS are provided, as required, on a per-line basis.

6. LIMITATIONS

6.01 There are 256 route indexes allowable for use within the No. 3 ESS generic program. Fourteen of these route indexes are reserved for predefined treatments. Four of these reserved route indexes *may* be used for possible intercept treatments and ten are reserved for uses other than intercept. The remaining 242 route indexes are used for normal call routing, such as routing to other central offices and to toll switching centers, etc, as well as for any other desired intercept treatments.

TABLE B

TRANSLATION REQUIREMENTS FOR AIS ROUTING

INTERCEPT TREATMENT	ROUTE INDEX	PREFIX DIGIT	PREFIX DESCRIPTION
Regular	8 *	0	Blank or unassigned number announcement (no AIS file lookup)
		3	Disconnected or changed number (AIS file lookup then routed to announcement or operator as required)
Trouble	9	1	Trouble (AIS routes to trouble intercept operator)
Blank Number	10*	0	Blank or unassigned number announcement (no AIS file lookup)
		3	Disconnected or changed number (AIS file lookup then routed to announcement or operator as required)

*Only one of the associated prefix digits may be assigned to this route index.

TABLE C

PREFIX DIGITS FOR ROUTING TO
6A INTERCEPT SYSTEM

INTERCEPT TREATMENT	PREFIX DIGIT
Regular	1
Trouble	2
Blank Number	3

6.02 Intercept treatments, provided remotely, require trunk groups to the remote intercept facilities. The No. 3 ESS generic program provides sufficient translations to provide any required number of trunk groups and members for routing to remote intercept facilities as determined by traffic considerations.

7. INTERACTIONS

7.01 If a customer receives some intercept treatment while attempting to use the Threeway Calling feature, care must be taken to

avoid losing the 2-party connection. The originating customer must flash twice in order to disconnect from the intercept treatment 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 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 Installation of intercept arrangements may include the following tasks:

- Local announcements

SECTION 233-190-022

- (a) Installation of required number of announcement machines determined by the number of specific announcements desired
- (b) Installation of the number of announcement circuits commensurate with the expected traffic demand
- (c) Making the proper software assignments to associate the announcement circuits with a group for each provided announcement
- (d) Recording each announcement in accordance with procedures outlined in Section 233-142-100.

Refer to Section 233-190-023 for further details related to local announcements.

- 6A Intercept System or AIS

- (a) Installation of required number of trunks between the No. 3 ESS and the remote 6A or AIS location as determined by expected traffic demand
- (b) Making the proper software assignments to associate route indexes 8, 9, and/or 10 with the AIS or 6A trunk group(s)
- (c) Making software assignments required to provide the AIS-defined prefix digits
- (d) Making software assignments necessary to associate lines whose calls are to be intercepted with the appropriate route indexes (8, 9, and/or 10).

- Intercept operator

- (a) Installation of required number of trunks to intercept operator location as determined by expected demand
- (b) Making appropriate software assignments to associate the trunk group with the intercept route indexes (8, 9, and/or 10)
- (c) Making software assignments to associate lines whose calls are to be intercepted with the appropriate intercept route indexes.

Procedures for determining the necessary quantity of these hardware items may be found in Sections

233-060-ZZZ. Further details concerning software assignments may be found in this section under DATA ASSIGNMENTS AND RECORDS.

10. HARDWARE REQUIREMENTS

10.01 The hardware required for the various intercept arrangements is as follows:

- Local announcements

- (a) One 7A announcement machine for each type of announcement to be provided or one 13A announcement system to provide a total of eight announcements.
- (b) Sufficient tone and recorded announcement circuits (SD-3H411) should be provided for each recorded announcement to meet expected demand (Refer to Sections 233-060-ZZZ for procedures required to determine necessary quantities.)

Refer to Section 233-190-023 for further details related to local announcements.

- AIS

- (a) Sufficient trunk circuits (SD-3H220, CPS-FB382 or FB391 for E&M supervision or CPS-FB399 for loop supervision) to meet expected demand (Refer to Sections 233-060-ZZZ for procedures required to determine necessary quantities.)
- (b) MF transmitters (Although MF transmitters are not exclusive to AIS intercept treatment, they are essential to it, and this fact should be considered in the overall composition of the No. 3 ESS office.)

- 6A Intercept System

- (a) Sufficient trunk circuits (SD-3H220, CPS-FB382 or CPS-FB391 for E&M supervision or CPS-FB399 for loop supervision) should be provided to meet expected demand (Refer to Sections 233-060-ZZZ for procedures required to determine the necessary quantities.)
- (b) DP transmitters (Although DP transmitters are not exclusive to 6A routing, they

are essential to it, and this fact should be considered in the overall composition of the No. 3 ESS office.)

● Intercept operator

- (a) Sufficient trunk circuits (SD-3H220, CPS-FB382 or CPS-FB391 for E&M supervision or CPS-FB399 for loop supervision) should be provided to meet expected demand (Refer to Sections 233-060-ZZZ for procedures required to determine necessary quantities.)

11. SOFTWARE REQUIREMENTS

11.01 The software requirements for local announcements are as follows:

Translation area of program store

- (a) 4 words per announcement group in the Group Data Table
- (b) 1 word per announcement member and 1 word per group in the Member List

Temporary store

- (a) 4 words per announcement group
- (b) 1 word for each group of 16 members in the Selection Status Block

Refer to Section 233-190-023 for further information related to local announcements.

11.02 Routing to any type of remote intercept facility (AIS, 6A, or operator) has the same software requirements as any outgoing trunk. These requirements are as follows:

Translation area of program store

- (a) 8 words per trunk group in Trunk Group Data Table
- (b) 1 word per group and 2 words per member in the Member List

Temporary store

- 4 words per group and 1 word for each group of 16 members in the Selection Status Block

Other related memory requirements are the remainder of translation tables related to routing. This is dependent on the particular office routing plan rather than the total number of trunks and/or trunk groups.

12. DATA ASSIGNMENTS AND RECORDS

12.01 Each line whose incoming calls require intercept treatment must have the proper route index and terminating major class associated with it in the lines 4-digit translation. This 4-digit translation is shown in Figure 2.

12.02 Each trunk group to remote intercept facilities must have the appropriate type

4-DIGIT TRANSLATION - HUNDREDS GROUP TABLE

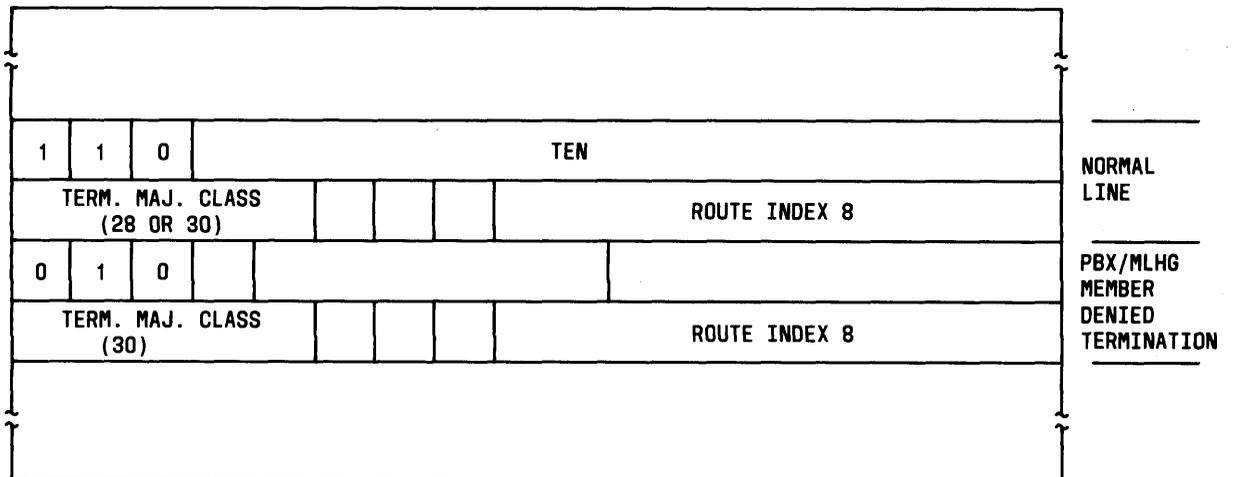


Fig. 2—Terminating Translations for Lines Requiring Intercept Treatments

- **RC:GTSA**—Used to assign traffic schedules for trunk groups.
 - **RC:INCP**—Used to assign and remove route indexes from the incoming and intraoffice intercept traffic registers. There are three incoming and three intraoffice traffic registers. One route index may be assigned to a pair of registers (one incoming and one intraoffice). All calls whose treatments are determined by that route index cause one of the registers to be pegged.
 - **RC:LCC**—Used to associate a terminating major class (28 or 30 for intercept treatments) with a line class code.
 - **RC:LINE**—Used to associate a line class code and route index with lines requiring intercept treatments. If no route index is specified and the terminating major class is intercept, default route index 8 is used.
 - **RC:MPTY**—Used to associate a line class code and route index with multiparty lines requiring intercept treatments. If no route index is specified for multiparty lines whose terminating major class is intercept, default route index 8 is used.
 - **RC:MTL**—Used to associate a line class code and route index (for intercept treatments) with members of multiline hunt groups that are denied termination (terminating major class 30).
 - **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 intercept treatments. Also specifies the prefix digits for outpulsing to AIS or 6A Intercept System. This message is also used to specify an override regular intercept route index for a particular NOC.
 - **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.
 - **RC:TWOPTY**—Used to associate line class codes and intercept route indexes with 2-party lines whose terminating major class indicates denied termination (major class 30).
- 12.04** Reallocation message DIST:GRP is used to generate an announcement service circuit or trunk group, including a member list and selection status block for each member.
- 12.05** Refer to Input Message Manual IM-3H300 for details concerning the recent change and reallocation messages listed in 12.03 and 12.04. The Recent Change Users Guide (Section 233-154-130) provides the procedures necessary to input these messages.
- 12.06** During the initial installation of a No. 3 ESS office, an office data administration (ODA) run may be used to incorporate the necessary intercept arrangements. In this case, the following ESS input forms must be completed and submitted to the Western Electric Company Regional Data Center.
- **ESS 3100—Telephone Number Table**—Used to associate line class codes and route indexes with telephone numbers whose incoming calls require routing to some intercept treatment.
 - **ESS 3105—Multi-Line Hunting Group Table**—Used to associate line class codes with members of multiline hunt groups that are denied termination.
 - **ESS 3201—Trunk Assignment Table**—Used to assign scan point numbers, member numbers, and circuit code to an announcement group or trunk group.
 - **ESS 3202—Trunk Group Table**—Used to establish a trunk group number for each announcement or trunk group. The traffic schedule, highest member number, and circuit code are also listed on this form.
 - **ESS 3204—Trunk Feature Table**—Used to specify type of outpulsing and supervision required for trunks to remote intercept facilities.
 - **ESS 3300—Three- and Six-Digit Translations**—Used to list the code indexes for the three- and six-digit translations. The default code index which can be used to access the vacant code—no such number

announcement (or some remote intercept treatment) should also be listed here.

- **ESS 3301—Rate and Route Table**—Used to associate a route index and a charge index (01) with a screening class leading to some intercept treatment.
- **ESS 3303-2—Route Index Expansion Table**—Used to assign route indexes to announcements and remote intercept treatments. The FREE indicator, number of digits to be deleted, and the prefix digits and entry type (for AIS and 6A routing) are also specified here.
- **ESS 3304—Code Index Table**—Used to associate the route index for the desired vacant code intercept treatment with the appropriate code index (code index 0 must be defined for vacant code treatment).
- **ESS 3306—Line Class Code Table**—Used to associate terminating major classes (28 and 30 for intercept purposes) with line class codes.

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

12.07 If intercept arrangements are incorporated via ODA run (as a part of the initial installation), the resulting output forms should be retained as a part of office records. Records for trouble reports and maintenance should be retained in accordance with local procedures.

13. TESTING

13.01 The intercept arrangements may be tested by intentionally dialing telephone numbers requiring intercept treatments to verify that the proper treatment is received. The software assignments made for the intercept treatments may be confirmed through the use of the following verification messages:

- **VER:CDI**—Used to verify code index 0 which is associated with the vacant code intercept treatment.
- **VER:CHI**—Used to verify the free charge index associated with intercept treatments.

- **VER:LCC**—Used to verify line class codes.
- **VER:LINE**—Used to verify terminating translations for lines whose incoming calls must be routed to intercept.
- **VER:LSTRIG**—Used to verify that trunk or announcement groups are associated with the appropriate intercept route indexes.
- **VER:MPTY**—Used to verify terminating translations for multiparty lines whose incoming calls must be routed to intercept.
- **VER:MTL**—Used to verify terminating translations for members of multiline hunt groups whose incoming calls are to be routed to intercept.
- **VER:RTI**—Used to verify route indexes associated with intercept treatments.
- **VER:TWOPTY**—Used to verify terminating translations for 2-party lines whose incoming calls are to be routed to intercept.

Refer to Input Message Manual IM-3H300 for details concerning the use of these messages.

14. OTHER PLANNING TOPICS

14.01 No other special planning is required for this feature.

ADMINISTRATION

15. MEASUREMENTS

15.01 The only measurements required for this feature are the following group traffic measurements:

- Peg count
- Usage count
- Overflow count

These measurements may be assigned to the H, C, or D traffic schedule.

4-DIGIT TRANSLATION
HUNDREDS GROUP
TABLE

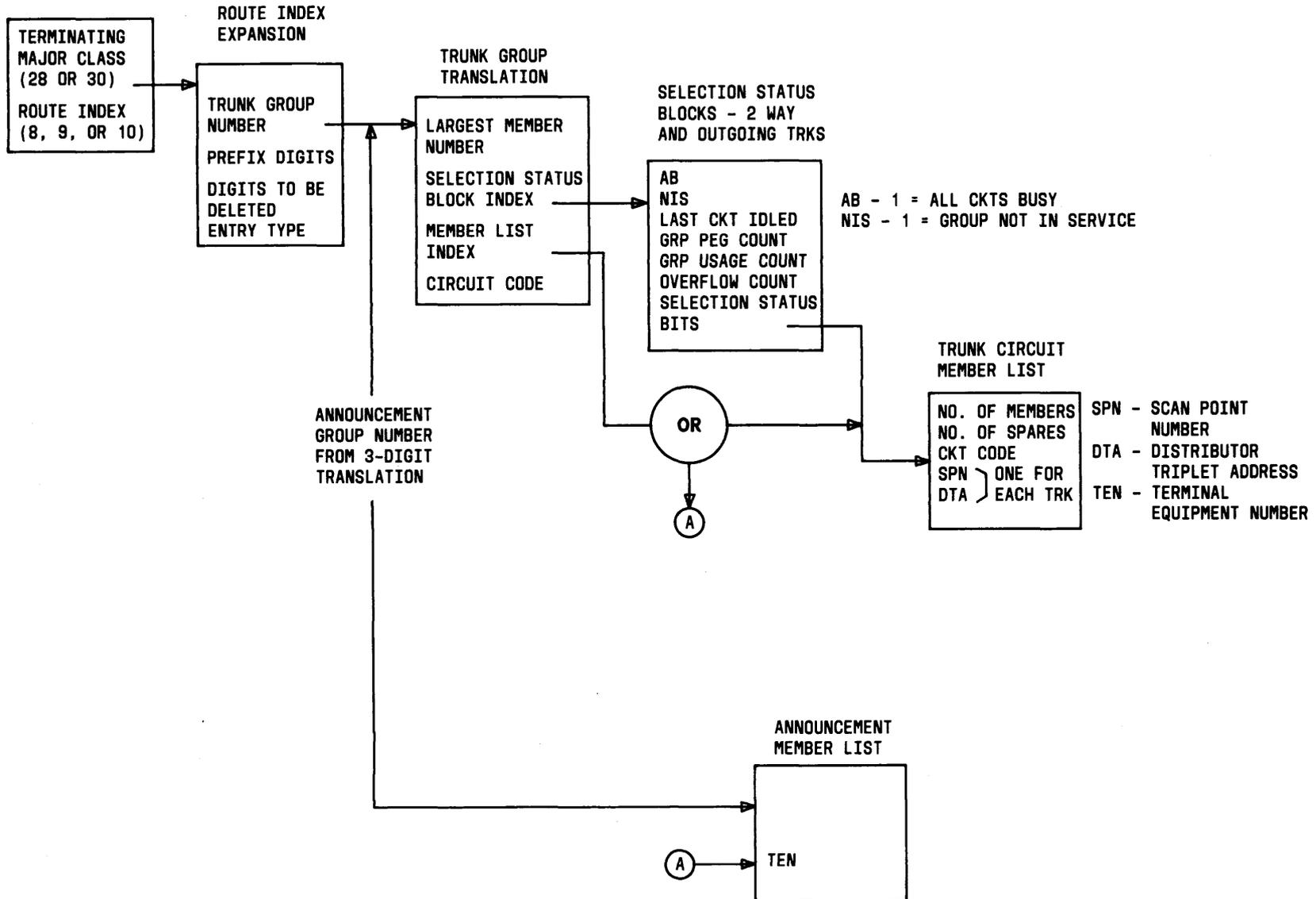


Fig. 4—Translation Flow of Intercept Arrangements

16. CHARGING

16.01 The intercept treatments provided by the No. 3 ESS are free. The charge index associated with intercept route indexes must be 01 to indicate that the call is free.

SUPPLEMENTARY INFORMATION

17. GLOSSARY

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

- **AIS**—Automatic Intercept System
- **CDPR**—Customer Dial Pulse Receiver—A circuit that provides dial tone to the customer and detects the dialed digits.
- **Delay Dial**—A type of start dial signal. There are two types generally known as Method A and Method B. Method A works as follows: When the seizure is recognized by the incoming office, the trunk remains off-hook until the receiving equipment is ready, then goes on-hook. With Method B, the trunk goes off-hook within 50 milliseconds when seized. It remains off-hook until receiving equipment is ready, then goes on-hook.
- **DTF** (Dial Tone First)—A coin line feature which provides dial tone to the customer before the initial deposit is made. The customer may then dial a service code (911, 411, 0, etc) or any number designated as a free number without making a deposit.
- **E&M Supervision**—A signaling arrangement between trunk equipment and transmission facilities in which the near-end supervisory state is reflected by the M lead and the far-end state by the E lead.
- **Loop Supervision**—A signaling method which uses the metallic loop formed by the trunk conductors and terminating bridges and operates by opening, closing, and reversing the polarity of the direct current path through the loop.
- **MF Signaling** (Multifrequency Signaling)—A method of sending numerical address information between telephone offices by sending simultaneously a combination of two tones out of a group of six frequencies.
- **NOC**—Normalized Office Code
- **NPA**—Numbering Plan Area Code
- **ODA (Office Data Administration) Run**—Mechanism by which translation information may be assembled for the initial installation of a No. 3 ESS office. Information from the ESS input forms is entered into the regional ODA computer, assembled, and sent back to the No. 3 ESS.
- **OTC**—Operating Telephone Company
- **Outpulsing**—The process of sending prefix digits and/or the called party telephone number over an outgoing trunk to a remote intercept facility.
- **Wink**—A short off-hook signal sent from the receiving end of a trunk to indicate the receiving end is in a condition to receive pulses.

18. REFERENCES

18.01 The following documents may be referred to for supplementary information concerning operations related to the Intercept Arrangements 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-3H220-01—Electronic Switching System, No. 3—Universal Trunk Circuit
- CPS-FB399—Outgoing Reverse Battery Trunk and Outgoing Reverse Battery High-Low
- CPS-FB382—Two-Way E and M Trunk (Type Two Interface)
- CPS-FB391—Two-Way E and M Trunk (Type Three Interface)

- CD and SD-95283-01—Common Systems Announcement Circuit Employing KS-16765 List 2 Announcement Set
- CD and SD-97753-01—Common Systems 13A Announcement System Circuit
- Section 801-603-163—13A Announcement System Equipment Design Requirements
- Section 233-020-115—Switching Systems Management, No. 3 ESS Operational Features, Recorded Announcement Equipment
- Network Design Sections 233-060-ZZZ
- TOP 233-142-100—No. 3 Electronic Switching System Maintenance Volume
- Section 233-190-010—System Features, No. 3 ESS
- Section 233-190-023—Announcement Arrangements, No. 3 ESS
- Section 233-190-024—Trunking Arrangements, No. 3 ESS
- Section 233-190-105—Call Forwarding, No. 3 ESS
- Section 233-190-112—Basic Coin Service, No. 3 ESS
- Section 233-190-131—Dial Tone First Coin Service, No. 3 ESS
- Section 233-190-138—Threeway Calling, No. 3 ESS
- Section 233-154-130—Recent Change Users Guide
- 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
- Input Message Manual IM-3H300
- Output Message Manual OM-3H300
- Translation Guide TG-3
- Layout Specification PA-3H300
- PR-3H151—Customer Error Program (CUSTER)
- PR-3H152—Custom Calling Program (CUSTOM)
- PR-3H157—Equipment Selection Subroutines (EQPSEL)
- PR-3H158—Call Failure Program (FALTCR)
- PR-3H159—Fast Trunk Scan Program (FASTTK)
- PR-3H164—Operator Call Program (OPER)
- PR-3H165—Outgoing Call Program (OUTCAL)
- PR-3H175—Completion Incoming and Intraoffice Calls (TERM)
- PR-3H181—Three-Digit Translation Program (XSL3DG)
- PR-3H182—Four-Digit Translation Program (XSL4DG)