FEATURE DOCUMENT

TRUNK ANSWER FROM ANY STATION FEATURE 2-WIRE NO. 1 AND NO. 1A ELECTRONIC SWITCHING SYSTEMS

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NOTICE

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FEATURE DEFINITION AND DESCRIPTION

DEFINITION

1.01 The trunk answer from any station (TAS) feature is a business customer feature that allows calls directed to night stations, via the night service feature, to be answered from any other nonrestricted station in the Centrex complex by dialing a special trunk answer code.

2. DESCRIPTION

CUSTOMER PERSPECTIVE

A. General

2.01 The TAS feature is an addition to regular night service operation and may be used with either the 50A or 51A Customer Premises System (CPS).

B. Feature Operation

- 2.02 Before leaving the attendant position associated with a 50A or 51A CPS, the attendant operates the NITE key and unplugs the console headset or handset. If the CPS equipment is a 50A CPS, an additional key must be operated to remove the trunk answer code restriction and to activate the signaling device(s).
- 2.03 The operation of the NITE key puts the system into night service. Circuitry in the 50A and 51A CPS consoles ignores changes in the NITE key when the attendant headset or handset is not plugged in. This prevents the system from coming out of night service if the NITE key is accidentally released.
- 2.04 When night service is in effect, calls directed to the attendant are routed to the designated night station(s). At the same time, signaling devices (bells, gongs, or lights) operate to alert anyone in the area to answer the call. The call is either answered at the night station in the regular manner or by dialing the trunk answer access code from any station in the customer group. The call is then connected to the answering station.
- 2.05 When the call is for someone other than the answering party, the call transfer feature may be used to extend the call to the desired party. Also, the call hold feature and flash privilege

allow a busy station to answer the TAS-transferred call [CTX-7 and later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs].

SYSTEM IMPLEMENTATION

A. General

2.06 The system implementation of the TAS feature is described in three stages: activation of the feature by the attendant, handling the incoming call, and answering the call. Also, the TAS feature is described for both pre-CTX-7 and CTX-7 generic programs (No. 1 ESS) since the operation varies in some instances. The operation of the No. 1A ESS generic program (1A2W<G1>1) is the same as for the CTX-7 generic program.

B. Pre-CTX-7 Generic Programs

Activation from 51A CPS

One 51A CPS console (1B, 2B, 27, and 47 types) in a Centrex group is designated the primary console and is equipped with a NITE key that can activate the TAS feature. Before leaving the attendant position, the attendant operates the NITE key to initiate the activation of TAS. The system receives the key signal via data link and decodes it to determine that the NITE key has been activated. The system then determines which Centrex group the console is associated with and checks the console register to determine the console group number (CGN) block head cell. CGN block indicates whether or not the console is the primary console. If not, the key signal is ignored. If the key signal is accepted, the night bit is marked in the CGN head cell to put the console group on night service, and a lamp order goes out to the Centrex console control cabinet to light the NITE lamp. The attendant then unplugs the headset or handset to complete the activation of TAS.

Activation from 50A CPS

2.08 The 50A CPS console (121, 131, and 151 types) is a nondata link console, and each of its loops represents a line appearance on the ESS network. Before leaving the attendant position, the attendant operates the NITE key which saturates a make-busy key scan point associated with the console loops and via the "terminal make-busy" capability causes their terminal activity bits to be

made busy. Only the specified night station(s) remains idle. The attendant then unplugs the headset or handset. Also, one or two keys located externally to the console are operated to activate the signaling devices and to remove attendant control of facilities (ACOF). TAS is then activated.

Attendant-Seeking Calls with 51A CPS

- 2.09 When a call is directed to the attendant position, the system checks the status of the console (regular, queue full, or night) and obtains the night directory number (NDN) and trunk answer (TA) indicators from the CTX common block.
- 2.10 If the console group status is "night," a directory number (DN) translation is performed on the NDN. If the translation indicates "idle line," a ringing register (RR) is seized and linked to a loop register. The trunk answer index (TAIX) item in the CTX common block is then used to put the loop register on the TAS queue (refer to 2.15). A ringing connection to the designated night stations is then set up.

Attendant-Seeking Calls with 50A CPS

- 2.11 With the 50A CPS, a nonzero CGN must be assigned so that TAS logic can be shared with 51A CPS. The Centrex group is on emergency night service at all times because the CGN block shows that no 51A CPS consoles exist in this console group. The only difference from the 51A CPS is that when placed in night service, the signaling devices are activated and ACOF on the TAS access code is removed.
- 2.12 Calls into the 50A CPS are handled in a manner similar to that described for the

51A CPS. The only difference for the 50A CPS is that the console group number block indicates emergency night service at all times. Also, since emergency night service is always in effect, the attendant *listed directory number* (LDN) in the CTX common block really acts as the night DN.

Answering Incoming Calls

- up a ringing night station or by dialing the TAS access code from a nonrestricted station in the Centrex group. If the night station trips ringing before a TAS access code is dialed, the system sets up a talking path and removes the trunk answer request from the queue. The trunk answer request is also removed from the queue if the ringing register times out or if the calling party abandons before the call is answered.
- 2.14 If the TAS access code is dialed to answer the incoming call, the CTX digit interpreter table determines that the code was dialed. The TAIX item in the CTX common block is then used to get the loop register associated with the call to be answered. Figure 1 illustrates the CTX common block.
- 2.15 The trunk answer queue head cell is a two-word block in memory. The first word points to the first register on the loop register link list. The second word points to the last register on the list. Bit 22 of the second word is set to "1" to show that the TAIX used to reach the head cell has been assigned.
- 2.16 If the loop register link list is empty, both words of the head cell are zeros except for bit 22 of the second word. If only one trunk answer request is on the link list, both words of

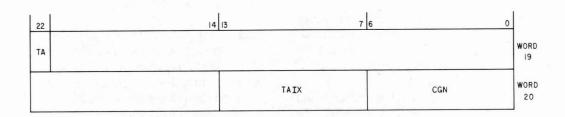


Fig. 1—CTX Common Block—Words 19 and 20 (Pre-CTX-7)

the head cell contain the address of the loop register associated with the request.

- 2.17 The loop register is used to obtain the ringing register which contains the night station-to-ringing path and the originating party-to-audible path. The abandon and trip scans are discontinued, and checks are made to determine if a trip or abandon occurred prior to turning off the scans. If still in a valid state, ringing and audible are discontinued, the night station is idled, and a talking connection is set up.
- 2.18 When the incoming call is answered, the call may be disposed of by either:
 - (a) going on-hook to terminate the call or
 - (b) transfering the call to another station in the CTX group by using the call transfer-individual feature. (Refer to FD 231-090-079.)

Note: If an attempt is made to put the call "on hold," reorder tone is given.

C. CTX-7 and Later (No. 1 ESS) and 1A2W<G1>1 and Later (No. 1A ESS) Generic Programs

Activation from 50A and 51A CPS

2.19 With the CTX-7 and later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs, the activation of the TAS feature from the 50A or 51A CPS is the same as described for pre-CTX-7 generic programs. However, the call pickup feature is used to provide the TAS feature and must also be provided.

Attendant-Seeking Calls with 51A CPS

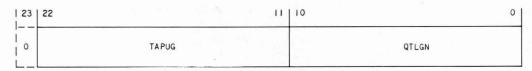
2.20 Incoming calls to the 51A CPS are handled in a manner similar to that described for pre-CTX-7 generic programs. However, the TAIX item is replaced by the trunk answer pickup group number (TAPUG) item in the CTX common block, and calls directed to the night station are placed on the call pickup queue instead of the trunk answer queue. Figure 2 illustrates the TAPUG item in the CTX common block.

Attendant-Seeking Calls with 50A CPS

- 2.21 Incoming calls to the 50A CPS do not go to the CTX common block or NDN translations, as with the pre-CTX-7 generic programs. The call is directly terminated to the LDN.
- 2.22 The TAIX item in pre-CTX-7 generic programs is replaced by the TAPUG item, as described in 2.20. The TAPUG item is an index into the call pickup head cells. The pickup group number (PUGN) assigned to the night station must be the same as the TAPUG item. The PUGN item is used to place calls on the queue, but the TAPUG item is used when the TAS access code is dialed to take them off.

Answering Incoming Calls

2.23 When the TAS access code is dialed, the TAPUG item in the CTX common block is used as an index into the call pickup head cell table. The pickup head cell table points to the ringing register that is associated with the designated night station. The ringing register is taken off the call pickup queue and the incoming call is connected to the station dialing the TAS access code.



NOTE:

BIT 23 IS USED ONLY WITH THE NO. IA ESS

Fig. 2—CTX Common Block—Word 27 [CTX-7 and Later (No. 1 ESS) and 1A2W<G1>1 and Later (No. 1A ESS)]

- 2.24 It is possible for a station on an existing connection to answer an incoming call if both the call hold feature and flash privilege are available. This is done by flashing the switchhook, receiving dial tone, and then dialing either:
 - (a) the TAS access code or
 - (b) the call hold code followed by the TAS access code.
- 2.25 If the TAS access code is dialed after flashing, the digits are collected and checked to verify that the station has both TAS and call hold features. (If not, reorder tone is given.) The incoming call is then connected to the answering station as described in 2.23.
- 2.26 If the call hold access code is dialed after flashing, dial tone is given. The TAS access code is then dialed to answer the incoming call as described in 2.23. Normally, this method is only used if a call has already been placed on call hold when an incoming call occurs.
- 2.27 When the incoming call is answered, it may be disposed of as described in 2.18.

3. FEATURE FLOW DIAGRAM

- **3.01** The feature flow diagrams consist of four figures as follows:
 - (a) Figure 3 illustrates the activation of the TAS feature from both the 50A and 51A CPS for all generic programs.
 - (b) Figure 4 illustrates how an incoming call is handled with a 50A CPS (CTX-6 and earlier) or 51A CPS (all generic programs).
 - (c) Figure 5 illustrates how an incoming call is handled for the 50A CPS with CTX-7 and later (No. 1 ESS) or 1A2W<G1>1 and later (No. 1A ESS) generic programs.
 - (d) Figure 6 illustrates the actions taken for all generic programs when the TAS access code is dialed to answer an incoming line or trunk.

4. INTERACTIONS

4.01 The call pickup (CPU) feature interacts with the TAS feature in the CTX-7 and

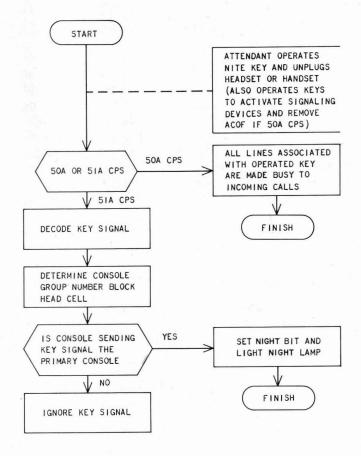


Fig. 3—Activation of TAS Feature

later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs only. The CPU feature must be provided in order to have TAS.

- 4.02 The attendant control of facilities (ACOF) feature is a customer group option. With emergency night service being activated continuously with the 50A CPS (pre-CTX-7 generic programs), any station user may inadvertently dial the TAS access code during the day and be connected to an incoming call. This may be eliminated by using the ACOF feature. One or two keys located externally to the console are used to activate ACOF during the day and to deactivate the signaling devices.
- 4.03 The *three-way calling feature* allows the trunk answering station to add-on or extend the call to a third party. The trunk answering station must have the TWC feature in order to do this.

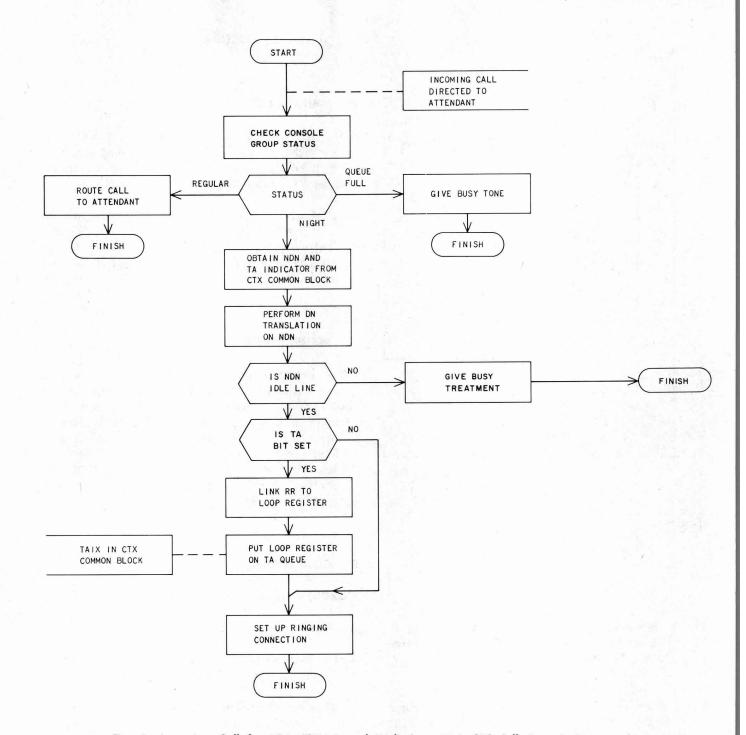


Fig. 4—Incoming Call for 50A (CTX-6 and Earlier) or 51A CPS (all Generic Programs)

- 4.04 The *call waiting feature* on the night station(s) is not applicable on attendant directed calls transferred via night service but is applicable for direct dialed calls.
- 4.05 The *call hold feature*, along with the flashing privilege, can be used to "hold" an
- established connection in order to "trunk answer" an incoming call. This applies to CTX-7 and later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs.
- 4.06 The call forwarding busy line and call forwarding don't answer features

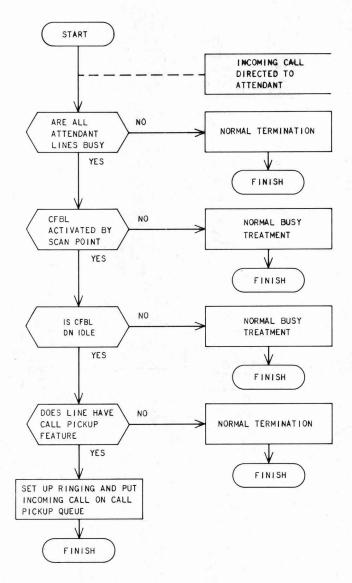


Fig. 5—Incoming Call for 50A CPS [CTX-7 and Later (No. 1 ESS) and 1A2W<G1>1 and Later (No. 1A ESS)]

are ineffective (if used by the CTX group) when TAS is activated. The CFBL and CFDA calls cannot forward to night stations.

ATTRIBUTES

5. STATION/SYSTEM

5.01 The TAS feature is provided on a Centrex customer group basis. The TAS feature applies to console positions using the 1B-, 2B-, 27-, or 47-type Centrex attendant console (51A CPS)

and also to the 50A CPS attendant positions (121-, 131-, or 151-type consoles).

6. LIMITATIONS

- 6.01 An ESS office can handle up to 4095 call pickup or trunk answer pickup group numbers. With pre-CTX-7 generic programs, the maximum number of TAIXs allowed is 127.
- 6.02 Calls not handled by the TAS feature include attendant intercept calls, calls from within a Centrex group associated with a 3- or 6-port conference arrangement, and calls that have been forwarded using the call forward busy line feature.

7. RESTRICTION CAPABILITY

7.01 Restriction bits can be used to restrict certain stations in the Centrex group from dialing the TAS access code. Every Centrex station is assigned one of eight Centrex access treatment groups in line translations. Each of the eight Centrex access treatment groups is allowed or denied dial access to the TAS access code by restriction bits in the Centrex digit interpreter table entry DTYP 5, STYP 7.

8. COST DATA

MEMORY-NO. 1 ESS

A. Fixed

- **8.01** The following memory is required whether or not the TAS feature is used:
 - (a) Generic (program store)—Approximately 1000 words are required for pre-CTX-7 generic programs. For CTX-7 and later generic programs, approximately 1200 words are required to provide both TAS and call pickup features.
 - (b) **Parameter (program store)**—Parameter table Z3TAHH is used with pre-CTX-7 generic programs and consists of eight words. Parameter word Z3PUGT is used with CTX-7 and later generic programs. It is one word and is shared with the call pickup feature.

B. Variable

- **8.02** The following memory is required when the TAS feature is provided on a Centrex customer group basis:
 - (a) Translation (program store)—For pre-CTX-7 generic programs, seven bits in word 20 of the CTX common block are required for the TAIX item. The maximum number of TAIX items is 127. One bit in word 19 is used for the TA indicator. For CTX-7 and later generic programs, 12 bits in word 27 of the CTX common block are required for the TAPUG item. One bit in word 19 is used for the TA indicator.
 - (b) *Call Store*—Pre-CTX-7 generic programs require two words (provided in 32-word blocks) per TAIX item. For CTX-7 and later generic programs, two words are required per TAPUG item.

MEMORY-NO. 1A ESS

A. Fixed

- 8.03 The following memory is required whether or not the TAS feature is used:
 - (a) Generic (program store)—Approximately 1500 words are required for the 1A2W<G1>1 and later generic programs to provide the TAS feature.
 - (b) Parameter (unduplicated call store, file store)—Parameter Z3PUGT, a two-word block, is shared with the call pickup feature.

B. Variable

- **8.04** The following memory is required when the feature is provided on a Centrex customer group basis:
 - (a) Translation (unduplicated call store, file store)—12 bits in word 27 of the CTX common block are required for the TAPUG item. One bit in word 19 is used for the TA indicator.
 - (b) Other Call Store (duplicated call store)—Two words (provided in 32-word blocks) are required per TAPUG item.

INCORPORATION INTO SYSTEM

9. PLANNING

9.01 For a No. 1 ESS, care must be exercised when changing from a CTX-6 generic program to a CTX-7 generic program because of changes in translations in the CTX common block. The difficulties are described in more detail in Part 14—Growth/Retrofit Procedures. Changing from a pre-CTX-6 generic program to a CTX-7 or later generic program presents few problems.

10. HARDWARE ENGINEERING

10.01 The signaling devices (bells, lights, gongs, etc.) required for TAS are provided by the telephone company.

11. SOFTWARE ENGINEERING

11.01 For the 50A CPS, console group numbers are required with CTX-6 and earlier generic programs. However, for CTX-7 and later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs, console group numbers are not required. Also, the TAI and PUG set cards, which are associated with the Z3PUGT parameter word, must be engineered.

12. COMPATIBILITY

12.01 There are no compatibility or equipment interface problems with TAS.

13. OFFICE DATA

TRANSLATIONS

A. Translation Layouts

- 13.01 Translations required for TAS are different with pre-CTX-7 and CTX-7 generic programs.The main difference is in the queuing mechanism.With CTX-7, calls directed to the night station are placed on the call pickup queue instead of the trunk answer queue.
- 13.02 Prior to CTX-7, the trunk answer index (TAIX) is obtained from word 20 of the CTX common block and used as an index to queue incoming calls. When the TAS access code is dialed, the same TAIX is used to get the first queued call. Figure 1 illustrates the layout of word 20.

13.03 With CTX-7 and later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs, the TAIX item is eliminated and the TAPUG item is used as an index into the call pickup head cells. In Centrex groups with 51A CPS consoles, the TAPUG item is used to put registers on and take them off the queue. For line attendants, the PUGN assigned to the night station must be the same as the TAPUG item. The PUGN is then used to place calls on the queue, and the TAPUG is used to take them off when the TAS access code is dialed.

13.04 The TAPUG item is found in word 27 of the CTX common block. Figure 2 illustrates the layout of word 27.

13.05 The Centrex digit interpreter table entry (DTYP 5, STYP 7) layout for the TAS access code is illustrated in Fig. 7.

B. Recent Change (RC) Messages

13.06 RC message formats affected by the TAS feature are as follows:

MESSAGE

FUNCTION

CTX-5 and Earlier Generic Programs

RC:CTXCB

Adds the trunk answer from any station feature to a Centrex group by utilizing ident TAS. Refer to Section 231-118-311 for the entire message format.

CTX-6 Generic Program

RC:CTXCB

Adds the trunk answer from any station feature to a Centrex group by utilizing keyword TAS. This message is also used when the TAIX item is to be shared by two or more Centrex groups in the same Centrex complex. In this case, keyword SHTAI is used. The TAIX item specified by keyword SHTAI must already exist for a Centrex group. Refer to Section 231-118-331 or 231-318-309 for the entire message format.

RC:CTXDI

Builds a Centrex digit interpreter table entry (DTYP 5, STYP 7) for the trunk answer code by utilizing keyword STYP. Refer to Section 231-118-331 or 231-318-309 for the entire message format.

CTX-7 and Later (No. 1 ESS) and 1A2W<G1>1 and Later (No. 1A ESS) Generic Programs

RC:CTXCB

Adds the trunk answer from any station feature to a Centrex group by utilizing keyword TPUG. Keyword SPUG is utilized when the pickup group number is to be shared by two or more Centrex groups in the same Centrex complex. Refer to Section 231-118-331 or 231-318-309 for the entire message format.

RC:CTXDI

Builds a Centrex digit interpreter table entry (DTYP 5, STYP 7) for the trunk answer code by utilizing keyword STYP. Refer to Section 231-118-331 or 231-318-309 for the entire message format.

C. Uniform Service Order Codes (USOC)

13.07 The USOC for the TAS feature is E6F.



NOTE:

BIT 23 IS USED ONLY WITH THE NO. IA ESS.

Fig. 7—Centrex Digit Interpreter Table Word

PARAMETERS

13.08 One of two parameter words is applicable to the TAS feature. Parameter word Z3TAHH is used with pre-CTX-7 generic programs, and Z3PUGT is used with CTX-7 and later (No. 1 ESS) and 1A2W<G1>1 and later (No. 1A ESS) generic programs.

13.09 Z3TAHH is a program store block of eight words that can point to a maximum of eight trunk answer call store head cells. The call store head cells are used for queuing calls for trunk answer requests. Each head cell consists of 16 2-word entries (32 words).

13.10 Set card TAI is associated with Z3TAHH and can have a value of 1 through 128. Set cards TAI and PUG are associated with Z3PUGT. The PUG set card can have a value of 1 through 4095, indicating the quantity of pickup groups plus spares.

contains the address of a call store block containing head cells for pickup group queues. The number of words in the call store block is equal to 2 × (value of PUG set card + value of TAI set card + 1). The block is indexed by 2 × PUGN. A PUGN is associated with each CTX common block (through the TAPUG) that has trunk answering.

13.12 Also for No. 1 ESS, the left-half of Z3PUGT contains the value of the PUG set card + the value of the TAI set card + 1. This number is used by the call pickup audit to determine the end of the call store region containing call pickup head cells.

13.13 For No. 1A ESS, parameter Z3PUGT is a two-word block. The first word contains the same data as described in 13.11. The second word contains the same data as described in 13.12.

13.14 With CTX-7, Issue 3 and earlier (No. 1 ESS) generic programs, the following set cards are required for the TAS feature when the 50A CPS is used:

- (a) Centrex group number (CTG)
- (b) Centrex data link frame (CDLF)
- (c) Number of console loops (NCL)

(d) Number of Centrex console groups (CNSG).

However, with the CTX-7, Issue 4 and later (No. 1 ESS) and 1A2W < G1>1 and later (No. 1A ESS) generic programs, only the CTG set card is required.

14. GROWTH/RETROFIT PROCEDURES

14.01 Figure 8 illustrates the procedure required to add the TAS feature for a business customer.

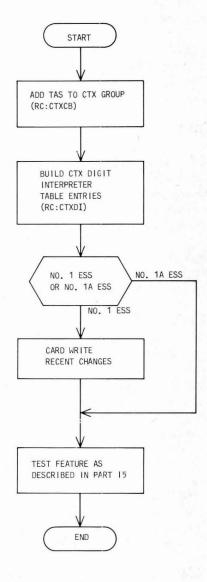


Fig. 8—Procedure for Adding TAS Feature

- 14.02 The retrofit of a No. 1 ESS office with a pre-CTX-7 generic program may present some difficulties. If the office has a CTX-5 or earlier generic program, the problems are minimal since existing TAIX items may be assigned as the TAPUG items. The existing CTX common blocks must have the TAPUG items added, but the TAIX items and the Z3TAHH parameter word would not be modified until the existing generic program is updated. Parameter word Z3PUGT would then be added.
- 14.03 If the retrofit office has a CTX-6 generic program, a one-to-one mapping from TAIX items to TAPUG items may be impossible due to overlapping of indexes with PUGN items assigned for the call pickup feature. Therefore, any conflicts between TAIX and PUGN items must be resolved by changing one or the other as required.

15. TESTING

- 15.01 TTY input and output messages, found in IM-1A001 or IM-6A001 and OM-1A001 or OM-6A001, respectively, can be used to verify the trunk answer from any station feature. The messages are:
 - (a) VFY-LIST input message verifies TAS list entries. System response should be a TR07 output message.
 - (b) VFY-XDGNT input message verifies Centrex digit interpreter table entries. System response should be a TR18 output message.
- 15.02 Test calls can be made into the business customer group when TAS is activated to verify that the TAS feature is properly assigned and functioning correctly.

ADMINISTRATION

16. MEASUREMENTS

16.01 No plant or traffic measurements are associated with the TAS feature.

17. RECORD KEEPING

17.01 The TAS feature may require the preparation of the following ESS Translation Forms. Translation Guide TG-1A describes these forms in more detail.

- (a) ESS 1101—Directory Number Record: This form is used to assign PUGN items. It is also used when stations using the TAS feature have the three-way calling (TWC) feature.
- (b) ESS 1107—Supplementary Information Record:
 This form is used when the TAIX item is shared. A type 62 entry indicates the CTX group of the index owner. [For 50A CPS with CTX-7 and later (No. 1 ESS) or 1A2W<G1>1 and later (No. 1A ESS) generic programs, type 61 must appear against the NDN.]
- (c) ESS 1108—Call Pickup Group Number Record—This form is used to assign the call pickup group numbers for the Centrex group.
- (d) ESS 1109—Centrex Group Record: This form records the TAS access code along with data type 5, subtype 7.

18. CHARGING

18.01 When an incoming call is answered using TAS, standard charging practices are followed.

AVAILABILITY

19. NEW INSTALLATIONS

19.01 The TAS feature is available with all No. 1 ESS generic programs and the No. 1A ESS beginning with the 1A2W<G1>1 generic program.

20. GROWTH/RETROFIT

20.01 Not applicable.

SUPPLEMENTARY INFORMATION

21. GLOSSARY

21.01 Not applicable.

22. REASONS FOR REISSUE

22.01 Not applicable.

23. REFERENCES

23.01 The following documentation contains information pertaining to or affected by the TAS feature.

A. Bell System Practices

- (1) Section 231-118-331—Centrex CO Recent Change Procedures—RC:CTXCB, RC:CTXDI, RC:CTXEXR, RC:DITABS, RC:FLXDG, RC:FLXRD, and RC:FLXRS (CTX-6 Through CTX-8, Issue 3 Generic Programs—2-Wire No. 1 Electronic Switching System
- (2) Section 231-318-309—Centrex CO Recent Change Formats—RC:CTXCB, RC:CTXDI, RC:CTXEXR, RC:DITABS, RC:FLXDG, RC:FLXRD, and RC:FLXRS (1A2W < G1>1 Generic Program - 2-Wire No. 1A Electronic Switching System (when published)
- (3) Section 966-102-100—Centrex and PBX-CO Service—General Description

B. Traffic Facilities Practices

- (1) Division D, Section 10j Centrex—Dial Facilities—2-Wire No. 1 Electronic Switching System
- (2) Division D, Section 11h Centrex—Dial Facilities—2-Wire No. 1A Electronic Switching System (when published)

- (3) Division D, Section 10a(5) Service Features—Dial Facilities—2-Wire No. 1 Electronic Switching System
- (4) Division D, Section 11a(5) Service Features—Dial Facilities—2-Wire No. 1A Electronic Switching System (when published)

C. Other References

- (1) Translation Guide TG-1A
- (2) Input Message Manual IM-1A001—No. 1 Electronic Switching System
- (3) Input Message Manual IM-6A001—No. 1A Electronic Switching System
- (4) Output Message Manual OM-1A001—No. 1 Electronic Switching System
- (5) Output Message Manual OM-6A001—No. 1A Electronic Switching System
- (6) Translation Output Configurations PA-591003—No. 1 Electronic Switching System
- (7) Translation Output Configurations PA-6A002—No. 1A Electronic Switching System
- (8) Office Parameter Specification PA-59001—No.1 Electronic Switching System
- (9) Office Parameter Specification PA-6A001—No.1A Electronic Switching System