

FEATURE DOCUMENT
OUTWARD WIDE AREA TELECOMMUNICATIONS SERVICE
FEATURE
1 AND 1A "ESS*" SWITCHES

CONTENTS	PAGE	CONTENTS	PAGE
<i>INTRODUCTION</i>	2	15. MEASUREMENTS	21
1. GENERAL INFORMATION	2	16. CHARGING	21
2. DEFINITION/BACKGROUND	2	<i>SUPPLEMENTARY INFORMATION</i>	21
<i>DESCRIPTION</i>	5	17. GLOSSARY	21
3. USER PERSPECTIVE	5	18. REFERENCES	21
4. SYSTEM OPERATION	7	Figures	
<i>CHARACTERISTICS</i>	12	1. Simulated Facilities Group Auxiliary Block	8
5. FEATURE ASSIGNMENT	12	2. USOC Translator PTW	9
6. LIMITATIONS	13	3. Parameter and Call Store Layout for WATS Administration	10
7. INTERACTIONS	14	4. Simulated Facilities Register Word	11
8. RESTRICTION CAPABILITY	14	5. Traffic Head Cell Word	11
<i>INCORPORATION INTO SYSTEM</i>	14	6. Procedure for Adding the OUTWATS Fea- ture	15
9. INSTALLATION/ADDITION/DELETION	14	7. CSAID Feature Growth/Retrofit Procedures	17
10. HARDWARE REQUIREMENTS	14	8. Type of Entry 25 Format	22
11. SOFTWARE ENGINEERING	17	9. Type of Entry 11 Format	23
12. DATA ASSIGNMENTS AND RECORDS	20	Tables	
13. TESTING	20	A. Example of Interstate OUTWATS Arrange- ment	4
14. ADVANCE PLANNING	21		
<i>ADMINISTRATION</i>	21		

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INTRODUCTION

1. GENERAL INFORMATION

SCOPE

1.01 This practice provides information for the use of the Outward Wide Area Telecommunications Service (OUTWATS) feature with 1 and 1A ESS switches. Other features associated with OUTWATS are also covered in this practice. They are: Wide Area Telecommunications Administration (WTAD) feature, Standard Billing Number for WATS (SWAB) feature, Outgoing Trunk Queueing (OTQ) feature, Customer Identification on Automatic Message Accounting (AMA) Tape (CSAID) feature, Individual Billing of Directory Number (IBDN) feature, and the Carrier Interconnect (CI) feature.

REASON FOR REISSUE

1.02 This practice is reissued to incorporate the CI feature capability available with the 1E8A/1A E8A generic programs. Revision arrows are used to emphasize the more significant changes.

FEATURE AVAILABILITY

1.03 The OUTWATS feature is available in all active 1 and 1A ESS switches. This feature is included in the base.

1.04 The WTAD feature is available in all active generic programs.

1.05 The SWAB feature is available in all active generic programs.

1.06 The OTQ feature is available in all active generic programs.

1.07 The CSAID feature is available in all active generic programs.

1.08 The IBDN feature is available in all active generic programs for Centrex/ESSX-1 customers only.

1.09 The CI feature is available in the 1E8A/1A E8A and later generic programs.

2. DEFINITION/BACKGROUND

DEFINITION

2.01 The **OUTWATS** feature is an originating service which provides for a customer to place calls to a predetermined area or areas at a rate based on expected usage.

2.02 The **WTAD** feature provides a unique identification number for each OUTWATS line (trunk) in a WATS simulated facilities group (SFG). This identification number is used as a customer identification and is recorded on the AMA tape in the originating ESS switch.

2.03 The **SWAB** feature provides a standard billing number format for all OUTWATS calls and eliminates certain billing errors that can occur on operator-assisted OUTWATS calls. This feature affects both the customer and telephone company perspective of operator-assisted OUTWATS calls.

2.04 The **OTQ** feature provides efficient usage of business customer OUTWATS service by queueing individual station calls and providing a maximum time limit for a call to remain on queue before possible overflow to the direct distance dialing (DDD) network.

2.05 The **CSAID** feature may be optionally used in the office. This feature appends a customer identification number (CID) to the AMA entry for each of the following calls:

- OUTWATS calls utilizing an AMA type of entry 25
- Sample common control switching arrangement (CCSA) calls (type of entry 09)
- All customer-dialed account recording (CDAR) calls.

2.06 The **IBDN** feature is available to Centrex/ESSX-1 customers and permits the directory number (DN) assigned to the originating line to be entered as the calling number on the AMA tape entry for an originating call requiring an AMA entry.

BACKGROUND

2.07 In addition to basic OUTWATS, coverage is contained in this practice for the WTAD, SWAB, and CSAID features. The OTQ feature is independent of basic OUTWATS; see reference A(19) in Part 18 for details. For details concerning the IBDN feature see references A(4) and C(4) in Part 18.

2.08 The OUTWATS feature is available as an interstate or intrastate offering. The tariff associated with the interstate offering is approved by the Federal Communications Commission and applies to OUTWATS calls which cross state and/or international boundaries. Intrastate offerings are approved by local and/or state regulatory agencies. Since these tariffs may change, this document avoids references to tariff-related items.

2.09 The operating characteristics of intrastate OUTWATS may differ somewhat from the characteristics of interstate OUTWATS. The nature of the intrastate OUTWATS offering must be checked within the applicable state.

2.10 The charges for OUTWATS are based on the usage of the service and the customer-subscribed serving area (considered a wide area telecommunications service [WATS] band). A WATS band or WATS band number is a number representing certain geographical areas to which an OUTWATS customer may call and be billed in accordance with the applicable WATS tariff. The customer may subscribe for the WATS band which contains the desired call termination points for OUTWATS.

2.11 Interstate WATS bands are numbered successively from the customer's location. The first (nearest) interstate WATS band is 01, etc. Higher-numbered bands are more expensive. With interstate OUTWATS (Table A), a subscribed band includes service (calling privileges) to all lower-numbered bands. The call is, however, charged at the rate applicable to the higher-numbered band.

2.12 In addition to subscribing for the WATS serving areas (bands), the customer must also subscribe for a quantity of lines (trunks) per band. This quantity of lines (trunks) is the number of simultaneous calls an OUTWATS customer may place.

2.13 The switching function for OUTWATS call originations is concentrated in certain offices called OUTWATS serving offices.

2.14 Access to an OUTWATS serving office is normally via dedicated physical lines or trunks. However, if the OUTWATS serving office is also the office which provides switching for the Centrex/ESSX-1 customer, the access lines may be theoretical (simulated). Details of OUTWATS call routing are given in Part 3.

2.15 Theoretical (simulated) OUTWATS lines are provided via the Simulated Facilities Software feature. This feature, which eliminates the need for certain physical hardware, is the recommended method of providing OUTWATS whenever the OUTWATS serving office is also the office which provides switching for the customer. Details of the Simulated Facilities feature are given in reference A(17) in Part 18.

2.16 Some OUTWATS lines (trunks) are not required to use SFGs; therefore, the WTAD feature is not applicable. The CID on these calls is the individual DN assigned to each line (trunk).

2.17 Three types of Centrex OUTWATS are provided by the CI feature; intra-LATA (local access and transport area) OUTWATS, intrastate OUTWATS, and interstate OUTWATS. All OUTWATS bands should be defined on a per office basis.

(a) Intra-LATA OUTWATS is provided by the local telephone office. An intra-LATA OUTWATS band must contain only called locations in the user's home LATA. The called locations within the user's home LATA can be within and/or outside the user's home state.

(b) Intrastate OUTWATS is provided by an inter-LATA carrier (IC) or by a carrier that is an IC and an international carrier (INC). An intrastate OUTWATS band should contain only called locations that are outside the user's home LATA and are also within the user's home state.

(c) Interstate OUTWATS is provided by an IC or a carrier that is an IC and an INC. An interstate OUTWATS band should contain only called locations that are outside the user's LATA and are

TABLE A
EXAMPLE OF INTERSTATE OUTWATS
ARRANGEMENT

	SCREENING CODE	SPECIAL ROUTE INDEX	CHARGE	SPECIAL CALL TYPE	REMARKS
OUTWATS BAND 3 Chart Number 04 Chart Column 0014	01	REGL	0017	—	Band 1 Service
	02	REGL	0017	—	Band 2 Service
	03	REGL	0017	—	Band 3 Service
	04	0676	0000	03	Operator-Non-TSPS*
	05	0677	0000	01	Vacant 3-digit code†
	06	0678	0000	00	Vacant 7-digit code†
	07	0679	0000	13	Vacant 10-digit code†
	08	0680	0000	13	Intercept‡
OUTWATS BAND 2 Chart Number 04 Chart Column 0015	01	REGL	0017	—	Band 1 Service
	02	REGL	0017	—	Band 2 Service
	03	0680	0000	13	Band 3 Intercept‡
	04	0676	0000	03	Operator-Non-TSPS*
	05	0677	0000	01	Vacant 3-digit code†
	06	0678	0000	00	Vacant 7-digit code†
	07	0679	0000	13	Vacant 10-digit code†
	08	0680	0000	13	Intercept‡
OUTWATS BAND 1 Chart Number 04 Chart Column 0016	01	REGL	0017	—	Band 1 Service
	02	0680	0000	13	Band 2 Intercept‡
	03	0680	0000	13	Band 3 Intercept‡
	04	0676	0000	03	Operator-Non-TSPS*
	05	0677	0000	01	Vacant 3-digit code†
	06	0678	0000	00	Vacant 7-digit code†
	07	0679	0000	13	Vacant 10-digit code†
	08	0680	0000	13	Intercept‡

* Nonfixed route index 0676 yields a non-TSPS operator. If the SWAB feature were used, the nonfixed route index would yield a TSPS trunk group and the special call type entry would be 04.

† Nonfixed route index yields the trunk group for an OUTWATS vacant code announcement. If the vacant code announcement used by local customers is sufficient for OUTWATS, these entries are not required.

‡ This entry provides out-of-band/service screening. Interstate OUTWATS requires screening of intra-state calls, and vice versa, whenever both services are assigned to the same chart number. Any interstate OUTWATS band requires out-of-band screening for all higher-numbered bands of the same class.

also outside the user's home state. Details of the CI feature are given in reference A(22) in Part 18.♦

2.18 The ESS switch operation given in this practice is limited to OUTWATS operation within an ESS switch office. The 800 Service feature (formerly Inward Wide Area Telecommunications Service [INWATS]) is covered in reference A(18) in Part 18.

DESCRIPTION

3. USER PERSPECTIVE

CUSTOMER

3.01 Prior to the implementation of OUTWATS, the working limits of the service must be established. Decisions which must be made include:

- (a) **The Proper OUTWATS Bands and, if the Applicable Tariffs Provide for More Than One Service Level Per Band, the Desired Service Level (eg, Full or Measured Service):** The OUTWATS bands selected must include the desired call-termination points. Higher-numbered interstate bands include calling privilege to any lower-numbered bands (at the rate applicable to the higher-numbered band). Depending on the number of calls directed into a certain band, it may be desirable to subscribe to separate bands. For example, a customer with many calls directed to OUTWATS band 3 and a few calls directed to band 2 would probably use the band 3 service to handle the band 2 calls rather than subscribe to separate band 2 service. Conversely, a customer with many calls into band 3 and many calls into band 2 would probably subscribe to separate bands rather than using the more expensive band 3 service for all calls.
- (b) **Quantity of OUTWATS Lines Per Band and, Where Applicable, Per Service Level:** The number of lines per band (and level) is the same as the number of calls which may be in progress at any given time (for a given band and level).
- (c) **A Band and/or Service Level Hunting Arrangement:** If a Centrex/ESSX-1 customer has separate service to more than one OUTWATS band, the higher-numbered band may be utilized to handle a call directed to a location

within a lower-numbered band if all the lines within the lower-numbered band are busy. Thus, the lower-numbered band "hunts" to the higher-numbered band. Likewise, if a Centrex/ESSX-1 customer has separate service to more than one service level within the same OUTWATS band, hunting may be used between service levels (eg, full service lines may hunt to measured service lines). The decision to use a band hunting arrangement rests solely with the customer and is normally based on the applicable tariff and the value of a completed call versus redialing the call later or utilizing alternate DDD. [See (e) below.]

(d) **A Trunk Busy Lamp (TBL) for Each OUTWATS Band:** The TBLs are available to Centrex/ESSX-1 customers and inform the attendant when all trunks (subscribed OUTWATS lines) in a specified band are busy.

(e) **Alternate DDD:** This option, available to unrestricted Centrex/ESSX-1 stations and attendants, is not a part of OUTWATS, per se, but may be used to complete a call via the DDD network when all of the OUTWATS lines in a given band are busy. With this option, the call is charged as a DDD call, but the user does not have to redial.

(f) **The Desired AMA Recording Arrangement:** When OUTWATS is offered with Centrex/ESSX-1, the AMA record of an OUTWATS call may reflect the station number that originated the call (via the IBDN feature) or all OUTWATS calls may reflect a single DN (either the listed DN of the business service or a special billing number). When OUTWATS is not offered with Centrex/ESSX-1, the AMA record of an OUTWATS call may reflect the number assigned to the physical OUTWATS line or a special (single) billing number.

3.02 A brief description of the WATS administration data (as recorded in the local switch) is given in Part 2. To illustrate the interpretation of the simulated facilities line number (SFLN), used as an identification number, consider an OUTWATS customer with twenty band 1 lines which "hunt" to any of ten band 2 lines. Usage studies from the WATS administration data can help determine the quantity needs of band 1 and/or band 2 lines and reveal whether the band 2 usage is due to band 2 calling or band 1 lines hunting into band 2.

3.03 The WATS administration data may be used to enhance the Station Message Detail Recording (SMDR) feature. The SMDR is the term used to identify data recorded for and provided to customers for internal use. This data is normally used to allocate expenses, control unauthorized calls, and/or for telecommunications network planning and engineering. The WATS administration data, if available, may be a part of the SMDR data.

3.04 A customer may or may not have to dial an access code to gain access to OUTWATS, depending on local procedures and whether OUTWATS is offered with business service. If an access code is required, second dial tone may or may not be received after dialing the access code. After obtaining access to OUTWATS, the customer dials the desired 7- or 10-digit number or "0" if operator assistance is needed. When an inter-LATA access code (10XXX) is dialed following a WATS band access code (WBAC) the call is routed to announcement/tone.

3.05 Normally, a direct dialed OUTWATS call is completed as dialed. If the dialed number is outside of the customer's subscribed OUTWATS serving area, the call is routed to an announcement or overflow. If an access code is dialed, calls are also routed to overflow whenever the customer's subscribed facilities are already fully occupied.

3.06 For operator-assisted OUTWATS calls, the calling party must verbally provide the operator with the desired 7- or 10-digit called number. Also, in some instances, the calling party must give the operator the calling OUTWATS number. This is for billing purposes.

TELEPHONE COMPANY

A. Rate Center Assignments for OUTWATS

3.07 The rate center assigned for OUTWATS call originations may be one built especially for OUTWATS or may be the local rate center. Software requirements (Part 11) and installation procedures (Part 9) include data for either assignment.

B. OUTWATS Numbering Plan

3.08 The OUTWATS billing number has a distinct format for accounting purposes. This format is 0/1XY-XXXX; the first digit (0 or 1) represents the service level (eg, full business day or measured time

service) whenever the applicable tariff provides for two service levels; the second digit (X) is assigned locally; the third digit represents the customer's subscribed band number or service area; and the final four digits represent a unique number for the line. The billing number must *not* be duplicated within a given band within a given numbering plan area (NPA).

C. Standard Billing Number for WATS Feature

3.09 For those operating telephone companies presently routing OUTWATS "0" assistance calls (OUTWATS "0" calls) to a cord switchboard, the calling party must verbally provide the operator with the assigned originating OUTWATS number (not necessarily the OUTWATS billing number). If the calling party gives an erroneous originating OUTWATS number (intentionally or unintentionally), the customer with the given OUTWATS number is billed. If the given OUTWATS number is unassigned, the operating telephone company must attempt to determine the correct billing number.

3.10 The SWAB feature allows the system to route OUTWATS "0" calls to a Traffic Service Position System (TSPS) operator. The billing number (paragraph 3.08) assigned to the customer group is forwarded to the TSPS by automatic number identification (ANI) equipment. If the customer placing the OUTWATS "0" call has individual station billing, the individual station DN is suppressed and the OUTWATS billing number is used. The TSPS operator processes the call without question. If the OUTWATS call is completed, an AMA tape entry is made at TSPS using the OUTWATS billing number.

3.11 Complete OUTWATS billing information is obtained when the AMA tapes (TSPS and local switch) are processed at the accounting center. No AMA entry is made at the local switch for OUTWATS "0" traffic. The AMA entries are made only on completed OUTWATS calls and reflect either an individual station billing number or the OUTWATS billing number. The AMA record reflects the OUTWATS billing number when the OUTWATS call is group-billed or when an OUTWATS call is completed via a TSPS operator.

3.12 Since OUTWATS "0" out-of-band screening is provided by the accounting center, all TSPS operator-assisted OUTWATS calls that are terminated to bands higher than the customer-subscribed

band are billed at the operator assisted rate. It is assumed that the customer is aware of the subscribed OUTWATS serving area when placing an OUTWATS "0" call.

D. OUTWATS Call Routing

3.13 All OUTWATS call originations appear at a designated OUTWATS serving switch. If this designated OUTWATS serving switch (assumed to be a 1 or 1A ESS switch) is also the switch which provides Centrex/ESSX-1 switching for the customer, access to OUTWATS is provided via simulated facilities. If Centrex/ESSX-1 switching is provided by some other switch or the customer does not have Centrex/ESSX-1 switching, access to OUTWATS is provided via physical (dedicated) OUTWATS lines (trunks). All OUTWATS calls are routed via the DDD network but are charged in accordance with the applicable OUTWATS tariff.

4. SYSTEM OPERATION

HARDWARE

4.01 The OUTWATS feature uses the Message Telecommunications System (MTS) to complete the calls. There is no hardware other than that used for placing a normal DDD call.

OFFICE DATA STRUCTURES

4.02 The discussion in this part is limited to translations or parameter items affected by WATS. Complete translation layouts are given in standard documentation [references C(6) and C(7) in Part 18]. Complete parameter layouts are given in references C(1), C(2), C(3), and C(4) in Part 18.

A. Translations

4.03 The *simulated facilities group number (SFGN) translator* is required to provide information associated with the assigned simulated facilities. The auxiliary block (Fig. 1) consists of two, three, four, or five words. The legend in the figure details the required information.

4.04 The *universal service order code (USOC) translator* is required by OUTWATS. A 2-word primary translation word (PTW) is required for each line class code assigned

for each band (level) provided in the office. See Fig. 2 for the layout of the PTW.

4.05 The *chart class column table* entries are required for OUTWATS: one word for each band (level) provided in the office, one word for interstate/intrastate OUTWATS call screening for each band (level) provided when interstate and intrastate OUTWATS are provided via the same chart number, and one word for charge index for each band (level) provided in the office and for each band (level) authorized by the applicable tariff.

4.06 *Three-digit translations* are required when OUTWATS is provided in a dedicated rate center. This would require 820 words.

4.07 *Foreign area translations* or *abbreviated foreign area translations* may be used by OUTWATS when provided in a dedicated rate center.

4.08 *Rate and route pattern translations* are required by OUTWATS for call routing to various services in addition to network routing (ie, service code, vacant code, etc).

4.09 *Directory number (DN) translations* are used to deny call termination to the trunk group screening line equipment number (LEN).

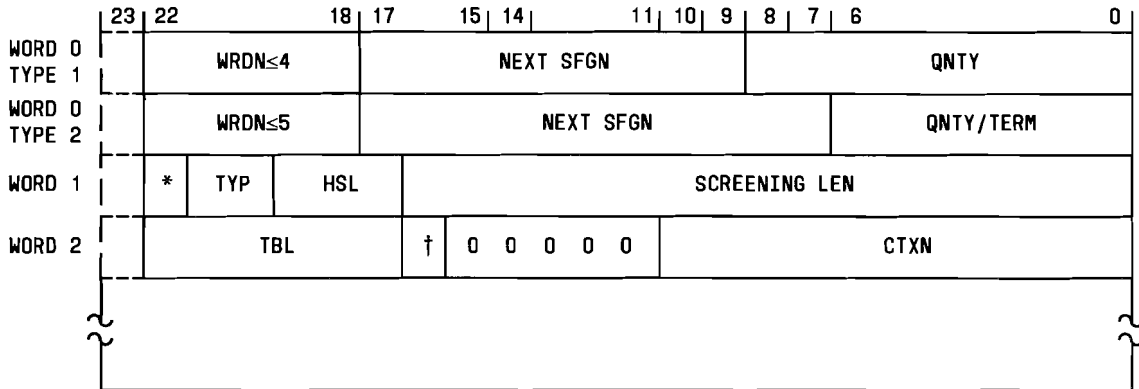
4.10 The *LEN* translations are required to provide screening LEN data for the associated trunk groups.

4.11 *Digit interpreter tables* may be required by OUTWATS for band access via an access code.

B. Parameters/Call Store

4.12 Parameter words A8SFLA and A8SFLD are incorporated into the system for the WTAD feature. Parameter word A8SFLD points to a block of call store used for the simulated facilities line number (SFLN) displacement table. Parameter word A8SFLA points to a block of call store used for the SFLN activity block. (Refer to Fig. 3.)

4.13 Three compool defined words (W5SFLD, W5SFLA, and W5SFLN) are added to fixed or duplicated call store. These words contain the address of the SFLN displacement table, the address of



NOTE:
 1. Bit 23 exists in the 1A ESS switch only.
 *DDD
 †SFLO

LEGEND:

- WRDN - NUMBER OF WORDS IN AUXILIARY BLOCK. SIZE OF BLOCK IS DEPENDENT ON GENERIC PROGRAM AND FEATURE APPLIED.
- NEXT SFGN - NEXT SIMULATED FACILITIES GROUP NUMBER \leq 511.
- QNTY/TERM - QUANTITY OF LINES/HIGHEST TERMINAL NUMBER.
- WORD 0 TYPE 1 IS USED PRIOR TO 1E5 GENERIC PROGRAMS.
- WORD 0 TYPE 2 IS USED FOR 1E5 AND LATER GENERIC PROGRAMS.
- DDD - DIRECT DISTANCE DIALING/SUBSCRIBER LINE USAGE STUDY.
- TYP - TYPE OF SIMULATED FACILITIES; DO = OUTWATS.
- HSL - HUNT SEQUENCE LENGTH.
- TBL - TRUNK BUSY LAMP.
- SFLO - SIMULATED FACILITIES LINE NUMBER OUTPUT INDICATOR.
- CTXN - CENTREX GROUP NUMBER.
- WORD 2 IS REQUIRED ONLY IF A TBL IS ASSIGNED TO THE SFG DR IF WORD 3 IS APPLICABLE.

Fig. 1—Simulated Facilities Group Auxiliary Block

the SFLN activity block, and the length of the SFLN activity block, respectively.

4.14 A call store block of memory used for the accumulation of overflow counts for the OUTWATS feature is defined by set card SFG (simulated facilities group).

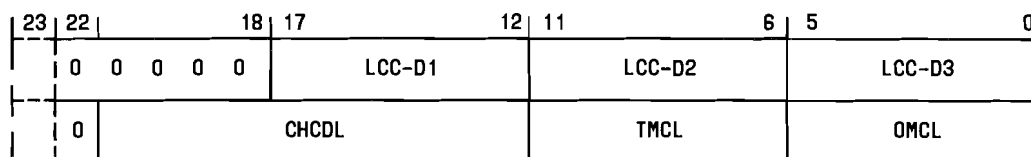
4.15 A call store block of memory allocated to serve as the SFLN activity block is defined by set card SFLA (simulated facilities line number activity words).

4.16 Simulated facilities registers are required for OUTWATS lines that are accessed via simulated facilities. The quantity of these registers are

defined by set card NSF (number of simulated facilities registers).

4.17 Also, AMA registers are required for the OUTWATS feature. The OUTWATS feature uses 18-word AMA special service registers for peg, usage, and overflow counts that are recorded on the AMA tape. The quantity of these registers is defined by set card NAMSS (number of AMA special service registers).

4.18 After the system determines the SFLN to be used with a given call requiring it, the selected SFLN is loaded into the simulated facilities (SF) register linked to the call. The SF register word 7 is shown in Fig. 4.



NOTE:

1. Bit 23 exists in the 1A ESS switch only.

LEGEND:

LCC-D1 } DIGITS 1, 2, AND 3 OF THE LINE CLASS CODE
 -D2 }
 -D3 }

CHCDL - CHART COLUMN
 TMCL - TERMINATING MAJOR CLASS
 OMCL - ORIGINATING MAJOR CLASS

Fig. 2—USOC Translator PTW

4.19 A traffic head cell word is used to indicate the trunk busy lamp (TBL) indicator. The traffic head cell word is shown in Fig. 5.

FEATURE OPERATION

A. General

4.20 Whenever an OUTWATS serving office is also the office that provides Centrex/ESSX-1 switching for a given OUTWATS customer, WATS band hunting is provided via simulated facilities. If different levels of service within a given band (eg, full business day or measured time) are permitted under the applicable tariff, these are also controlled by simulated facilities. Volume control, which limits the number of calls that may be in process at any given time, is provided via simulated facilities and/or the related trunking circuits. When volume control is via trunking circuits only, access to the subscribed service is physically limited; thus unlimited simulated facilities groups (SFGs) may be used. In all other cases, limited SFGs **must** be used.

4.21 Limited access SFGs require the use of an SF register for each call. The SF register is seized from a common pool of SF registers at the time the system determines that a call is a limited access call. An SF register is used to store data pertinent to the call and remains linked to the call for its duration.

B. Band Hunting and Volume Control

4.22 The WATS band (level) hunting is accomplished by simulated facilities group number (SFGN) hunting. Each WATS band (level) is uniquely associated with a given SFGN for a given customer. Initial SFGN access is dictated by the dialed access code for OUTWATS. This SFGN relates, via an item called QNTY (Fig. 1), the number of calls that may be in progress simultaneously for the associated line group (volume control). The SFGN also relates the number of subsequent SFGNs which may be accessed (each of which represents a different line group) and the number of the next SFGN to be accessed if the current SFGN is busy. An up/down counter is provided for each SFGN; if the value of the counter is less than the quantity of simultaneous calls, the counter is incremented and the current SFGN is used. If the SFGN is busy, the next SFGN is accessed, etc, until an idle facility is found or until the specified number of SFGNs is accessed. With this arrangement, the station originating the call is **not** uniquely associated with a WATS line group.

4.23 The specified SFGN hunting sequence determines the line group utilized, not the originating station.

C. The WTAD Feature

4.24 The WTAD feature provides a unique "line" identification number for certain OUTWATS

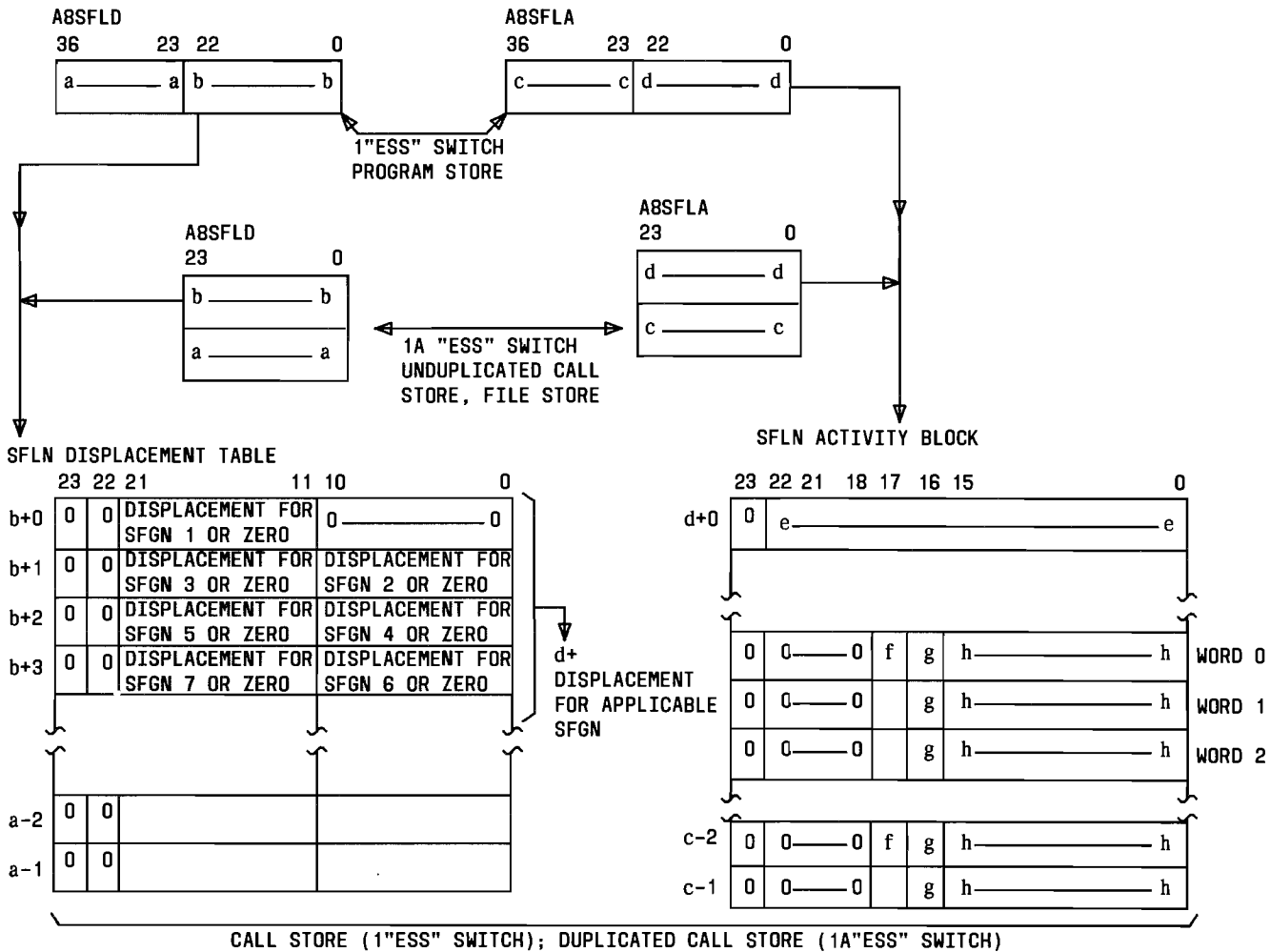
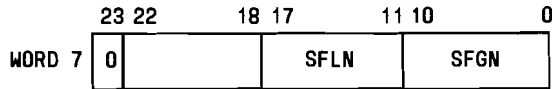


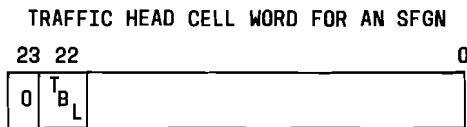
Fig. 3—Parameter and Call Store Layout for WATS Administration



LEGEND:

SFGN - SIMULATED FACILITIES GROUP NUMBER
SFLN - SIMULATED FACILITIES LINE NUMBER

Fig. 4—Simulated Facilities Register Word



LEGEND:

TBL - TRUNK BUSY LAMP INDICATOR. THIS ITEM IS SET WHEN THE VALUE OF THE UP-DOWN COUNTER EQUALS THE VALUE OF ITEM QUANTITY/TERMINAL IN THE SFGN AUXILIARY BLOCK (FIG. 1); IE, ITEM TBL IS SET WHEN THE TRUNK GROUP BUSY LAMP IS TURNED ON. IF THIS ITEM IS SET WHEN THE UP-DOWN COUNTER IS DECREMENTED (INDICATING AN IDLE SIMULATED LINE), THE TRUNK GROUP BUSY LAMP IS TURNED OFF AND ITEM TBL IS CLEARED.

Fig. 5—Traffic Head Cell Word

calls as described previously. For calls where the WTAD feature does not apply, the AMA entry contains noncheck dummy characters (NCDs). This occurs on OUTWATS calls when the service is provided via dedicated pairs rather than via simulated facilities.

4.25 Zeros are entered when the "line" identification number cannot be ascertained because of system error or because translations do not reflect the data required by the WTAD feature. An example of improper translation data for the WTAD feature is the use of an unlimited access SFG for any OUTWATS requiring an SFLN. The SFLNs should be associated with limited access SFGs only. Thus the AMA record for any OUTWATS call utilizing the unlimited access SFG would contain zeros instead of an SFLN.

D. OUTWATS Operation

4.26 If the OUTWATS serving office is also the office that provides Centrex/ESSX-1 switching to the customer, OUTWATS access is provided via simulated facilities. Otherwise, OUTWATS access is provided via a dedicated physical OUTWATS line (trunk). This line (trunk) may be from another office which provides Centrex/ESSX-1 or CCSA service, a Customer Premises System, or a station set. Details of OUTWATS operation for each of the two access methods are given below.

E. OUTWATS Access Via Simulated Facilities

4.27 An OUTWATS Centrex/ESSX-1 customer goes off-hook and dials the assigned OUTWATS access code. If the customer is permitted access to OUTWATS, digit interpreter tables yield a data type 4, which gives the SFGN for the customer. Simulated facilities define the facilities to which the customer is entitled and also provide a screening LEN. When group billing (all calls are charged to a single number) is used, the billing DN is the DN assigned to the screening LEN; otherwise, the billing DN is the DN assigned to the physical LEN.

4.28 After the selection of the SFGN to be utilized, LEN translations performed on the screening LEN, in conjunction with normalized office code-to-number group number and rate center tables, yield the applicable rate center number and the appropriate 3-digit translator. Second dial tone is returned if indicated in the centrex group common block or digit interpreter tables. At this point, the customer may dial the desired 7- or 10-digit number or "0" if operator assistance is needed.

F. OUTWATS Access Via a Dedicated Line (Trunk)

4.29 Since the physical line (trunk) incoming to the OUTWATS serving office is dedicated, any service request on the line must be a request for OUTWATS. When a service request is sensed, LEN translations on the physical LEN (for lines) or the screening LEN (for trunks), in conjunction with normalized office code-to-number group number and rate center tables, yield the applicable rate center number, the customer billing number, and the appropriate 3-digit translator. At this point, the calling party may dial a 7- or 10-digit number or "0" for operator assistance.

G. OUTWATS Call Routing

4.30 After the calling party has dialed the desired number or "0", 3-/6-digit translations, routing and charging translations, and chart column translations yield the proper routing of the call and a charging index. If a dialed 7- or 10-digit number is not within the customer's OUTWATS serving area, the call is routed to an announcement or overflow; this action is determined by screening within the chart column translations. An AMA record of completed 7- or 10-digit calls is made in the OUTWATS serving office.

4.31 If the CI feature is active in the office, an OUTWATS SFG is presubscribed if it is associated with a carrier. The associated carrier is the primary carrier (PIC). The 7/10 digits dialed following a WBAC can be an inter-LATA or an intra-LATA call. If the called number is in the service area of the WATS band dialed, is an inter-LATA call and the serving OUTWATS SFG is presubscribed then the call should be routed to the PIC associated with the serving OUTWATS SFG. That is, if WATS band hunting is used to obtain an idle simulated facility the call should be routed to the PIC associated with the OUTWATS SFG which contains the idle facility. If the called number is in the service area of the WATS band dialed and is an inter-LATA call and if the serving OUTWATS SFG is not presubscribed, the call should be routed to tone/announcement. An inter-LATA call served by an OUTWATS SFG which is not presubscribed should not be routed to the centrex group primary carrier (GPIC) assigned to the centrex group of which the originating line is a member. If the called number is in the service area of the WATS band dialed and is an intra-LATA call, the call should be routed by the local telephone office and the standard billing record should be made. A called number that is not contained in the service area of the WATS band dialed should be given standard OUTWATS blocking treatment.

4.32 Operator-assisted OUTWATS calls are routed to TSPS or to a cord switchboard. If the call is directed to TSPS and if the call is completed, an AMA record is made at TSPS. If the call is directed to a cord switchboard, a record of the call is made via an operator-prepared ticket.

4.33 If the CI feature is active in the office, an OUTWATS operator assisted call is routed to the operator service of the PIC associated with the

serving OUTWATS SFG. An OUTWATS operator assisted call served by an OUTWATS SFG which is not presubscribed is routed to the local telephone office operator service. An AMA record is made at the OUTWATS serving switch for an operator assisted OUTWATS call routed to a carrier. The calling number recorded on the AMA record is the same as the calling number that would be sent on this call to a carrier that has chosen ANI.

H. CSAID Feature Operation

4.34 If the CSAID feature is active in the office, data group U40 is appended to the AMA entry for entry types 09 or 25 or for any CDAR call. (See Part 16.) The feature cannot be selectively applied to a given entry type (eg, 25-WATS).

4.35 When the system is ready to record the data associated with a type of entry 25, a check is made of item CIDAM in word 5 of the office options translations table; CIDAM equals 1 indicates that the CSAID feature is active in the office. If the CSAID feature is active, the billing DN (not screening DN) is used to obtain the required CID from the directory number-to-centrex group number (DN-to-CTXN) translator. The recent change area is also checked for changes to the CID.

4.36 If the applicable billing DN is associated with a Centrex/ESSX-1 customer, the CID is the assigned CTXN, where $1 \leq \text{CID} \leq 2047$. This data is contained in a type 1 word in the DN-to-CTXN translator.

4.37 If the billing DN is not associated with a Centrex/ESSX-1 customer, the CID is a locally assigned number, where $2048 \leq \text{CID} \leq 4095$. This data is contained in a type 2 word in the DN-to-CTXN translator. For customers with automatic identified outward dialing (AIOD), the CID is obtained via the AIOD DN (default billing number) rather than via the trunk group or line billing DN. If a CID has not been assigned for a given billing or AIOD DN, zeros are entered as the CID on the AMA tape entry.

CHARACTERISTICS**5. FEATURE ASSIGNMENT**

5.01 The OUTWATS feature is available to business service or other customers on a per line basis.

6. LIMITATIONS

OPERATIONAL

6.01 Not applicable.

ASSIGNMENT

6.02 The maximum number of SFGs available in the office is 2047. The maximum number of lines (trunks) available per SFG is 126 for limited access SFG; 127 in the QUANT field of the SFG auxiliary block indicates unlimited access. The SFG assignments for OUTWATS **must** be made such that $1 \leq \text{SFGN} \leq 511$.

6.03 More than one limited access SFG may be associated with a given WATS band (level) for a given customer. This is necessary only if a single SFG cannot supply the desired number of lines and may be accomplished as follows:

- (a) Build the initial SFG to contain 126 lines.
- (b) Establish hunting from the initial SFG to another SFG.
- (c) Build the second SFG to contain the remaining lines (up to 126 additional lines). If more than a total of 252 lines are required, establish hunting to a third of SFGs, etc. Consequently, 126 terminals are the maximum which can be associated with all limited access SFGs in a hunting sequence. Use the same screening LEN that is used for the initial SFG.

6.04 An OUTWATS may be provided in conjunction with CCSA and/or as a separate offering (completely unrelated to CCSA). If a given customer's telecommunications network includes both CCSA-related and non-CCSA-related OUTWATS, the facilities associated with one type should not be shared with the other type. Access to CCSA-related and non-CCSA-related OUTWATS is covered by separate tariffs; separate facilities should be provided to properly record the service usage.

6.05 When the CSAID feature is used in the office, the CID for customers with AIOD must be assigned to the AIOD default billing DN, the CID for Centrex/ESSX-1 customers must conform to the rule $1 \leq \text{CID} \leq 2047$, and the CID for customers other than

Centrex/ESSX-1 customers must conform to the rule $2048 \leq \text{CID} \leq 4095$.

6.06 The final four digits of the 7-digit OUTWATS billing number (paragraph 3.08) are the customer identification digits and must be unique for any given band (level) of service. A maximum of 10,000 numbers (0000 through 9999) can be assigned for each unique combination of the 3-digit prefix. If the SWAB feature is utilized, the initial digit of the customer identification digits (ie, the fourth digit of the 7-digit number) should be limited to a single value for each unique 3-digit prefix. This method of assignment provides 1000 numbers for each unique prefix. If more than 1000 numbers per unique prefix are required, additional numbers may be built using a different fourth digit.

6.07 The recommendation in paragraph 6.06 is made to restrict the entries required in the number group number (NGN) table. One of the outputs of the NGN table is a unique pointer to the 128-word DN head table. Each of the 128 words in the DN head table may point to a 1000-word DN subtranslator, which gives an ESS switch the capability to handle up to 128,000 lines. Since the largest ESS switch in existence handles considerably less than 128,000 lines, sufficient space is available in the NGN table to accommodate the SWAB feature (when the entries are built as recommended).

Note: Since 1A ESS switches normally serve more lines than 1ESS switches, future 1A ESS switches may require an expansion of the DN head table to accommodate the SWAB feature and the required quantity of DN subtranslators. (The NGN table entries used for the SWAB feature cannot be used to point to a 1000-word DN subtranslator. Thus, for each SWAB entry, the line-handling capacity of the office is reduced by 1000 lines.)

6.08 For the SWAB feature, the entry in the NGN table provides the number group number for the OUTWATS billing number. The number group number is based on the first four digits of the 7-digit OUTWATS billing number. By limiting the fourth digit to a single value for each unique prefix, the number of table entries required is limited.

6.09 The OUTWATS billing numbers are entered into the system as special billing numbers.

Directory number (DN) subtranslators are not required.

6.10 Although normalized office code (NOC) translations are not required for the SWAB feature, there is a system requirement that each NGN be associated with a NOC. One NOC is required for each ten number groups, or fraction thereof. The 3-digit codes used to create NOCs for the SWAB feature must be of a valid form (NXX). The selected codes should be ones not destined to become active NXXs within the office. (This minimizes recent change [RC] procedures.)

6.11 The NOCs to be used with the SWAB feature should be established via a translation data assembler (TDA) run to assure adequate space in the NGN table. However, any spare NOC(s) may be used (eg, growth spares). Number groups to be used with the SWAB feature *must* be established via RC procedures.

7. INTERACTIONS

STATIC

7.01 Not applicable.

DYNAMIC

7.02 The Outgoing Trunk Queueing (OTQ) feature provides efficient usage of business customer service private facilities by queueing individual station calls and providing a maximum time limit for a call to remain on queue before possible overflow to the DDD network. The OTQ feature is available in all active generic programs and may be used with OUTWATS. [See reference A(19) in Part 18.]

7.03 Flexible Route Selection (FRS) is a feature which will benefit certain Centrex/ESSX-1 customers. The FRS feature automatically directs outgoing station calls to the customer's preferred available route; foreign exchange (FX), common control switching arrangement (CCSA), OUTWATS, and direct dial network routes may be accessed by the FRS feature. Under certain conditions, tie lines used for off-network dialing may be included as a possible route. [See reference A(15) in Part 18.]

7.04 For Centrex/ESSX-1 customers, restriction codes may be used to deny individual stations access to OUTWATS. Additionally, the Attendant

Control of Facilities (ACOF) feature may be used to deny individual station access to OUTWATS. The ACOF feature is detailed in reference A(14) in Part 18.

8. RESTRICTION CAPABILITY

8.01 The Centrex/ESSX-1 customer may restrict OUTWATS access by assignment of centrex access treatment (CAT) codes. The use of CAT (0 through 7) codes allows or denies a centrex station the use of certain services such as OUTWATS. These codes are assigned to intragroup stations, as determined by the customer, through the RC procedures [reference A(6) in Part 18].

INCORPORATION INTO SYSTEM

9. INSTALLATION/ADDITION/DELETION

9.01 The procedure to establish OUTWATS for the office is shown in Fig. 6(A). The procedure to establish OUTWATS for a customer is given in Fig. 6(B).

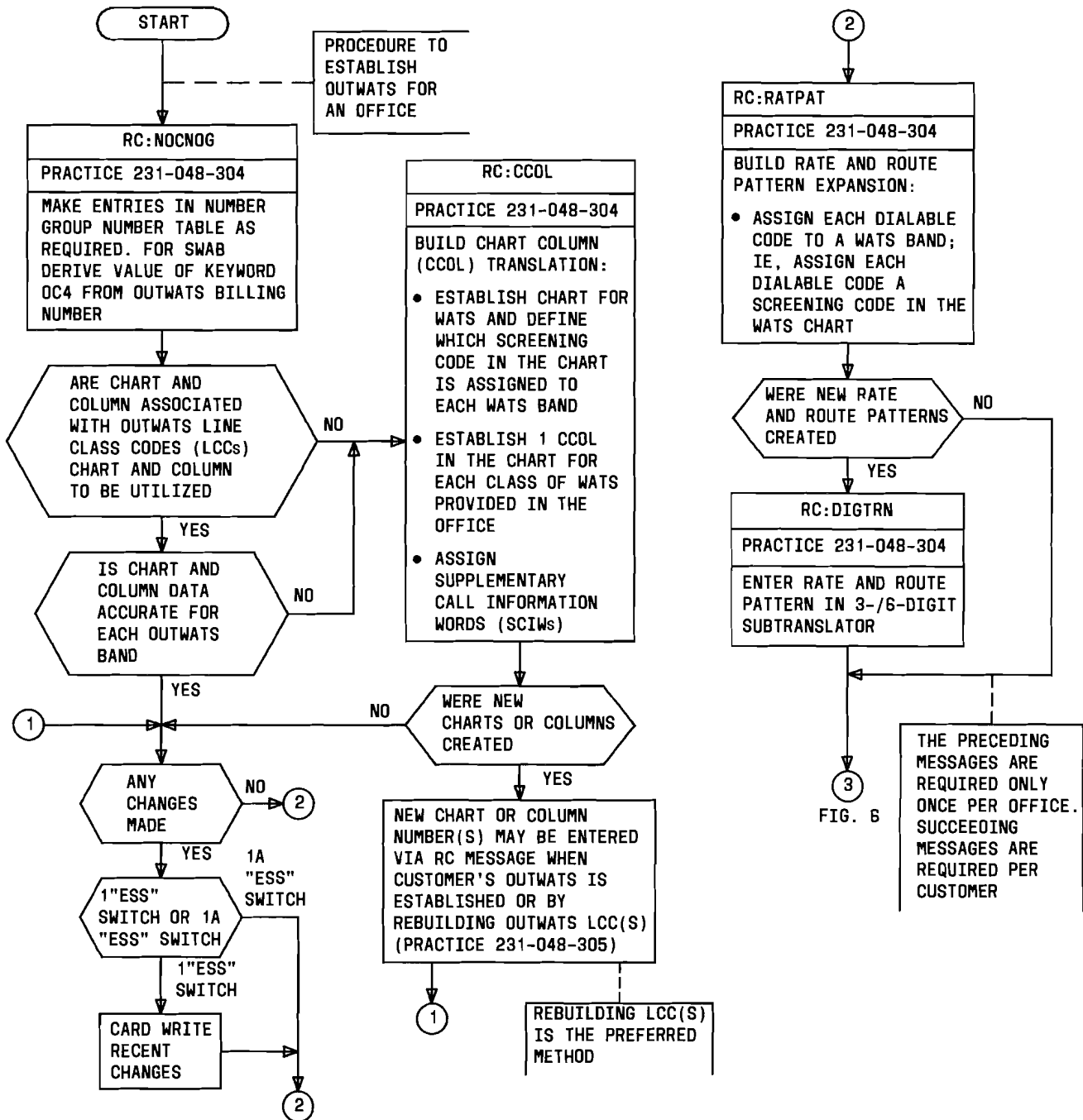
9.02 The procedure for incorporating the CSAID feature into the office is given in Fig. 7.

9.03 The following set cards are impacted by the OUTWATS feature:

- SFLA—Simulated facilities line number activity words
- SFG—Simulated facilities group
- NSF—Number of simulated facilities registers
- NAMSS—Number of AMA special services registers.

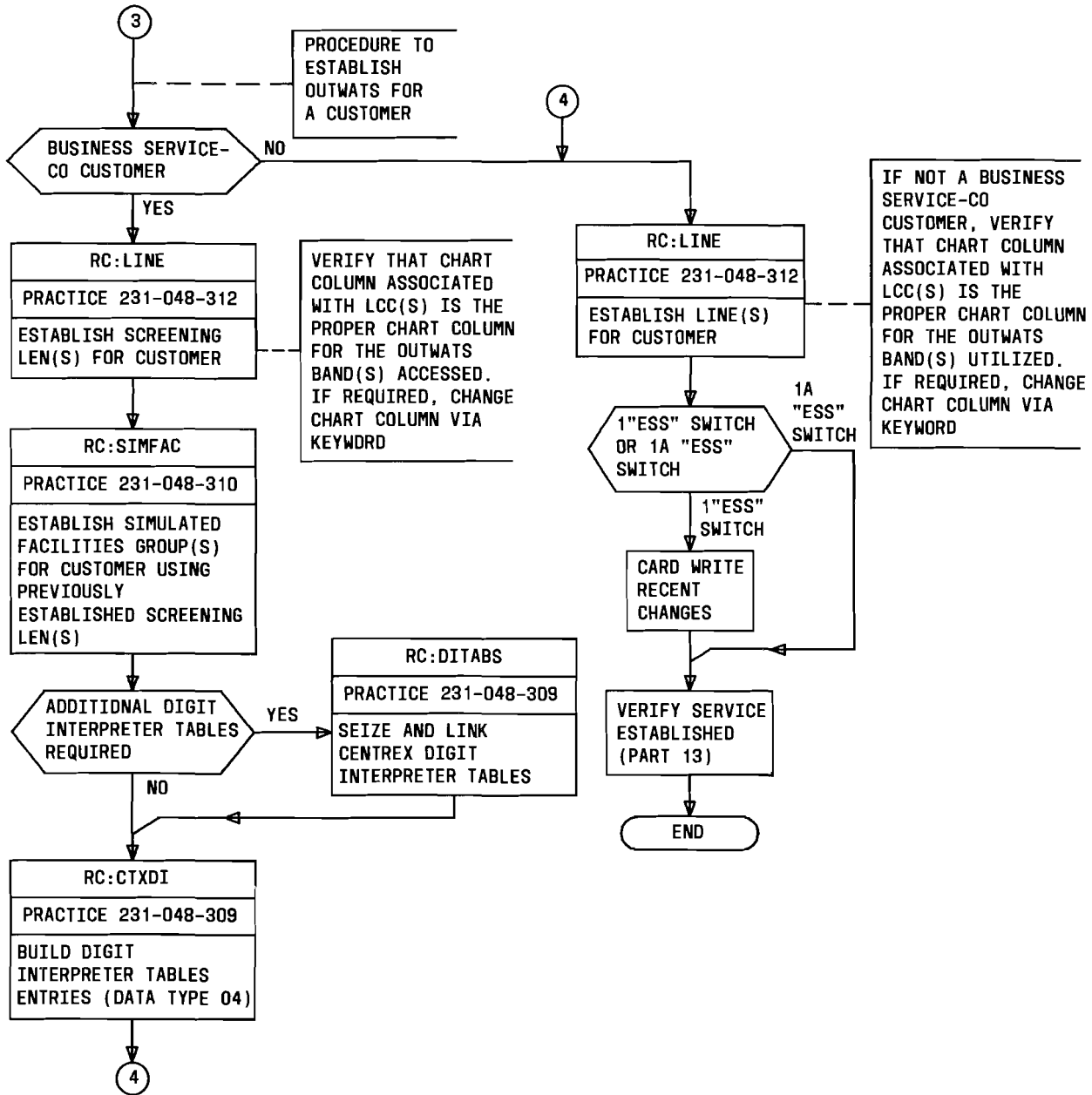
10. HARDWARE REQUIREMENTS

Note: This part contains cost factors and determination of quantities. Central Office Equipment Engineering System (COEES) Planning and Mechanized Ordering Modules are the recommended procedures for developing these requirements. However, for planning purposes or if COEES is not available, the following guidelines may be used.



(a) ESTABLISHING OUTWATS FOR OFFICE

Fig. 6—Procedure for Adding the OUTWATS Feature (Sheet 1 of 2)



(b) ESTABLISHING OUTWATS FOR A CUSTOMER

Fig. 6—Procedure for Adding the OUTWATS Feature (Sheet 2 of 2)

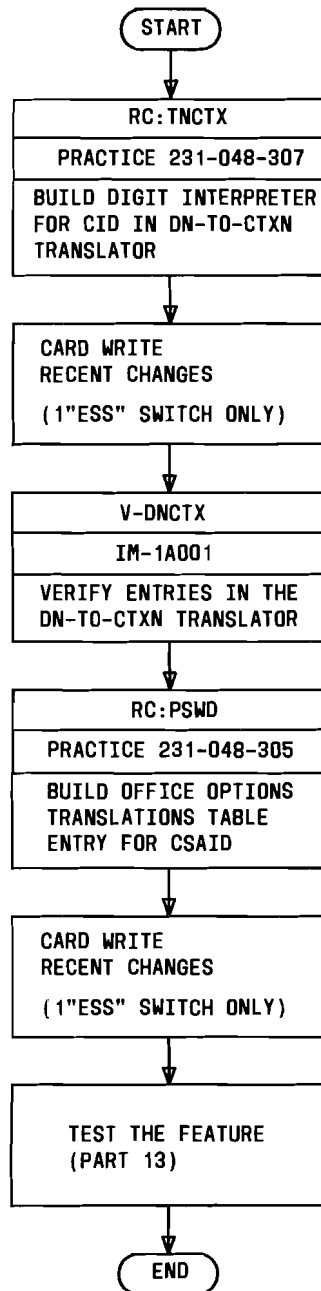


Fig. 7—CSAID Feature Growth/Retrofit Procedures

10.01 The OUTWATS feature uses the public switched telephone network to complete the calls. There is no additional hardware required other than that used for normal direct distance dialing (DDD) calls.

10.02 It is important to note that the quantity of DDD trunk circuits in the office may be impacted by the incorporation of the OUTWATS feature. Refer to reference A(7) in Part 18 for details of hardware requirements for normal DDD calling.

11. SOFTWARE ENGINEERING

Note: This part contains cost factors and determination of quantities. Central Office Equipment Engineering System (COEES) Planning and Mechanized Ordering Modules are the recommended procedures for developing these requirements. However, for planning purposes or if COEES is not available, the following guidelines may be used.

MEMORY 1"ESS" SWITCH

A. Fixed

11.01 The following memory is required whether or not the OUTWATS feature is used:

(a) **Base Generic Program (Program Store):**

- Approximately 1140 words are required for the OUTWATS feature.
- Approximately 150 words are required for the CSAID feature.

(b) **Fixed Parameters (Program Store):**
Two words are required.

(c) **Compool Defined Words (Call Store):**
Three words are required — one word each for W5SFLD, W5SFLA, and W5SFLL.

B. Conditional

11.02 The memory requirements in paragraph 11.03 through 11.07 are required only when the OUTWATS feature is activated.

11.03 The following call store memory is required.

(a) An 8-word SF (simulated facilities) register for each OUTWATS call is required if OUTWATS is provided via simulated facilities. Set card NSF (number of simulated facilities) value is determined from reference C(3) in Part 18.

(b) An 18-word AMA special services register for each direct dialed OUTWATS call is required. Set card NAMSS (number of 18-word AMA special services registers) value is determined from reference C(3) in Part 18.

(c) A block of variable call store to serve as the SFLN displacement table is required. When set card SFLA (simulated facilities line number activity words) value $\neq 0$, the size of this block is $(SFG + 2) \div 2$ if SFG is even, or $(SFG + 1) \div 2$ if SFG is odd; SFG is the value of parameter set card SFG. For further set card details see reference C(3) in Part 18.

(d) A variable block of call store to serve as the SFLN activity block is required. Set card SFLA determines the size of this block. When set card SFLA $\neq 0$, then the size of the block is the value of set card SFLA + 1.

C. Variable

11.04 The following translations (program store) memory is required only when the OUTWATS feature is applied.

(a) Two words are required in the universal service order code translator for each band (level) provided in the office.

(b) One word is required to provide the chart class column table entry (word 0) for each band (level) provided in the office.

(c) One chart class column table word is required to provide interstate/intrastate OUTWATS call screening for each band (level) provided in the office when interstate and intrastate OUTWATS are provided via the same chart number. Screening prohibits interstate OUTWATS from being used for intrastate calls, and vice versa.

(d) One chart class column table word is required to provide a charge index or intercept for each band (level) provided in the office and for each band (level) authorized by applicable tariff; eg, if

two bands of a given service are provided and three bands are authorized, six words are required.

(e) When OUTWATS is provided in a dedicated rate center, 820 words are required to provide 3-digit translation.

(f) When OUTWATS is provided in a dedicated rate center, 800 words are required for each full foreign area translator provided or 256 words are required for each abbreviated foreign area translator provided.

(g) One word is required in the rate and route pattern head table for each unique rate and route pattern number yielded via 3-digit or foreign area translations. This cost applies when OUTWATS is provided in a dedicated rate center.

(h) Five words are required in the route pattern expansion table for each rate and route pattern number requiring route pattern expansion, ie, those rate and route pattern numbers which represent call routing rather than a foreign area translator, service code, vacant code, etc. This cost applies when OUTWATS is provided in a dedicated rate center.

(i) One chart class column table word is required to provide "0" screening when OUTWATS is provided in the local rate center. This word provides a special route index for OUTWATS "0" calls.

(j) One chart class column table word is required to provide special routing for codes/numbers when OUTWATS is provided in the local rate center and when special routing is desired, eg, a vacant 3-digit code announcement when the announcement is different from the one provided in the local rate center.

(k) Five words are required in the route pattern expansion table to provide an auxiliary block for each rate and route pattern number which is associated with intrastate service and which does not already have an auxiliary block. This cost applies when intrastate OUTWATS is provided in the local rate center and allows an AMA recording of intrastate OUTWATS calls, which would be free calls to local subscribers.

(l) Three words are required in LEN translations to provide screening LEN data for associated trunk groups.

(m) Standard trunk group translations are required. Since trunk group providing OUTWATS access must be dedicated, this cost is attributable to OUTWATS.

(n) One word is required in the DN subtranslator to deny call termination to the trunk group screening LEN.

11.05 When OUTWATS is provided on a per line basis, the cost is identical to the cost of providing individual residential service.

11.06 The following memory is required when OUTWATS is provided on a Centrex/ESSX-1 group basis. The following items are required for each Centrex/ESSX-1 customer:

(a) One word is required in the digit interpreter tables for each OUTWATS band accessed via an access code. With some hunting arrangements, a given OUTWATS band (level) may be accessed only via hunting and will not require an access code.

(b) One word is required in the DN subtranslator to deny call termination to the screening LEN.

(c) Three words are required in LEN translations to provide screening LEN data.

(d) One word is shared in the SFGN translator.

(e) One word is required in the SFGN subtranslator.

(f) Two, three, four, or five words are required in the SFGN auxiliary block.

11.07 When the CSAID feature is provided, one word is required in the DN-to-CTXN translator for each customer not assigned a centrex group number. There is no cost if the customer is already assigned a centrex group number.

MEMORY 1A "ESS" SWITCH

A. Fixed

11.08 The following memory is required whether or not the OUTWATS feature is used:

(a) **Base Generic Program (Program Store, File Store):**

- Approximately 1750 words are required for the OUTWATS feature.

- Approximately 200 words are required for the CSAID feature.

(b) **Fixed Parameters (Unduplicated Call Store, File Store):** Four words are required.

(c) **Compool Defined Words (Duplicated Call Store):** Three words are required — one word each for W5SFLD, W5SFLA, and W5SFLI.

B. Conditional

11.09 The requirements are the same for duplicated call store as the 1ESS switch requirements listed in paragraph 11.03.

C. Variable

11.10 Translations requirements for the 1A ESS switch are identical to the 1ESS switch translations presented in paragraphs 11.04 through 11.07. Translations are located in unduplicated call store, file store, or attached processor system.

REAL TIME IMPACT

11.11 Calls made over dedicated OUTWATS lines without the WTAD feature or simulated facilities require the same number of cycles to complete as a direct distance dialed 7- or 10-digit call.

11.12 Calls made over dedicated OUTWATS (nonsimulated) lines with the WTAD feature require approximately 270 cycles (1ESS switch) or 540 cycles (1A ESS switch) more than a direct distance dialed 7- or 10-digit call.

11.13 Calls made over simulated OUTWATS lines require approximately 100 cycles (1ESS

switch) or 200 cycles (1A ESS switch) more than a direct distance dialed 7- or 10-digit call. These costs are applicable to all generic programs.

11.14 The WTAD feature adds (to the above cost) approximately 370 cycles (1ESS switch) or 740 cycles (1A ESS switch) for OUTWATS calls made via simulated facilities.

11.15 If any OUTWATS "0" call uses the Standard Billing Number for WATS (SWAB) feature, an additional 32 cycles (1ESS switch) or 64 cycles (1A ESS switch) are required because of the time needed to administer the SWAB feature.

11.16 If the CSAID feature is in use, approximately 160 cycles (1ESS switch) or 320 cycles (1A ESS switch) are required per call for the DN-to-CTXN translator and for the recent change hunt to ascertain if there are any changes in the CID.

11.17 Cycle time for the 1A ESS switch is 0.7 microsecond. Cycle time for the 1ESS switch is 5.5 microseconds (no clock speedup) or 5.0 microseconds (10 percent clock speedup).

12. DATA ASSIGNMENTS AND RECORDS

TRANSLATION FORMS

12.01 The translation forms listed below are utilized for OUTWATS. A complete description of the forms is given in reference C(5) in Part 18.

- ESS 1101—Directory Number Record
- ESS 1107—Supplementary Information Record
- ESS 1109—Centrex Group Record
- ESS 1118—Customer Identification on AMA Tape
- ESS 1202—Trunk Group Record
- ESS 1208—Trunk Screening Group Record
- ESS 1210—Simulated Facilities Group Record
- ESS 1300A—Three-Digit Translations

- ESS 1303C—Trunk and Service Circuit Route Index Record
- ESS 1304—Rate and Route Chart
- ESS 1306—Line Class Code Record
- ESS 1400—Traffic Register Assignment Record
- ESS 1500D—Office Option Record
- ESS 1501—Office Code Record.

RECENT CHANGES

12.02 The RC:SIMFAC recent change (RC) message format is affected by WATS as listed below:

RC MESSAGE	FUNCTION
RC:SIMFAC	Keyword DDD specifies alternate direct distance dialing for OUTWATS. Keyword APP bb specifies the simulated facilities application where bb = OW for OUTWATS. Keyword SFLO specifies that simulated facilities line numbers (SFLNs) are associated with this SFG. For further details, refer to reference A(5) in Part 18.

13. TESTING

13.01 Teletypewriter input and output messages, found in the ESS Input Message Manuals [references B(1) and B(2) in Part 18] and ESS Output Message Manuals [references B(3) and B(4) in Part 18] may be used to verify OUTWATS. These messages are:

- (a) The VFY-DN input message verifies features associated with one or a group of DNs. System response should be a TR01 output message.
- (b) The V-SFGN input message verifies the simulated facilities auxiliary block associated with the input simulated facilities group number. System response should be a TR35 output message.

(c) The VFY-LEN input message verifies features associated with a line. System response should be a TR03 output message.

(d) The V-DNCTX input message verifies digit interpreter data in the DN-to-CTX translator for a specific DN. System response should be a TR48 output message.

(e) The VFY-XDGNT input message verifies digit interpreter table entries. System response should be a TR18 output message.

13.02 Test calls may be made to verify that OUTWATS is established and to assure that the transactions are recorded on AMA tape.

14. ADVANCE PLANNING

14.01 Not applicable.

ADMINISTRATION

15. MEASUREMENTS

15.01 Traffic measurements relating to OUTWATS data are made on an SFG basis; ie, each WATS band (level) for each customer has a unique SFG associated with it, and the traffic measurements are made on the SFG. Peg, usage, and overflow counts are taken in accordance with reference A(16) in Part 18 and are output on the traffic teletypewriter according to the traffic schedule specified by the network administrator.

16. CHARGING

AUTOMATIC MESSAGE ACCOUNTING

16.01 Details of direct dialed 7- or 10-digit OUTWATS calls are recorded on AMA tape in the OUTWATS serving office. Each transaction is characterized by one of two entry types: entry type 25 (Fig. 8) or entry type 11 (Fig. 9). Entry type 25 identifies the OUTWATS band used and the calling station number; entry type 11 does not.

SUPPLEMENTARY INFORMATION

17. GLOSSARY

Band (Level) Hunting—When WATS is provided via simulated facilities, all WATS calls

are initially associated with a specific band (level) as determined by the dialed access code for OUTWATS. If the facilities associated with the indicated band (level) are busy, a higher band (level) may be used to handle the call whenever the customer has service from the higher band (level) and desires this arrangement.

Simulated Facilities Group (SFG)— Simulated Facilities is an ESS switch feature which allows certain services to be offered without requiring dedicated hardware for the service. A simulated facilities group is required to administer each defined service.

WATS Band—A WATS band and/or a WATS band number is a number representing a geographical area to which the OUTWATS customer may call and be billed in accordance with the applicable WATS tariff. The customer must subscribe for the WATS band which contains the desired call origination points.

18. REFERENCES

18.01 The following documentation contains information pertaining to or affected by the OUTWATS feature:

A. AT&T Practices

(1) Practice 231-048-304—ARS, CCOL, CHRGX, DIGTRN, DITABS, DNHT, IDDD, IWSA, NOCNOG, NOGRAC, RATPAT, RI, RLST, TDXD, and TNDM—Rate and Route Recent Change Formats (1E6/1AE6 and 1E7/1AE7 Generic Programs)

(2) Practice 231-048-305—GENT, PSBLK, PSWD, and SUBTRAN—Recent Change Formats (1E6/1AE6 and 1E7/1AE7 Generic Programs)

(3) Practice 231-048-307—CTRF, DIGTRN, NUTS, TNCTX, TRFHC, TRFICU, and TRFSLB Traffic Measurement Recent Change Formats (1E6/1AE6 and 1E7/1AE7 Generic Programs)

(4) Practice 231-048-309—CTXCB, CTXDL, CTXEXR, CXDICH, DITABS, DLG, FLXDG, FLXRD, and FLXRS Centrex CO/

TAPE POSITION	DATA GROUP	DATA
1		START OF ENTRY CODE (V)
2-3		ENTRY TYPE (25)
4-5	A	INFORMATION DIGITS
6-7		SERVICE FEATURES
8		NONCHECK DUMMY (NCD) CHARACTER
9-15		CONNECT TIME 1 NCD CHARACTER 7-DIGIT CONNECT TIME
16-22	B	CALLING STATION NUMBER
23-30	C	DISCONNECT TIME 1 MIDNIGHTS PASSED DIGIT 7-DIGIT DISCONNECT TIME
31-40	D	CALLED NUMBER
41-42	G	WATS BAND NUMBER
43-47*	14	SFLN
48-	-	OPTIONAL DATA GROUPS, IF ANY†
XX-		NCD CHARACTER‡

* The format of this field is ABBBB, where A is 1 (full business day service) or 2 (measured time service) and BBBB is NCD characters for physical OUTWATS, and SFLN for simulated OUTWATS when the system can obtain the SFLN or all zeros when the system cannot obtain the SFLN.

† Type of entry 25 may have the following: J (calling NPA), L (entry extender), M (optional information), P (data group U indicator), Q (trunk network number), U2 (customer dialed account recording), U40 (CSAID), and/or U100 (minimum recordable duration).

‡ The number of NCD characters recorded is the quantity required to extend the entry to a multiple of five digits.

Fig. 8—Type of Entry 25 Format

ESSX-1 Recent Change Formats—(1E6/1AE6 and 1E7/1AE7 Generic Programs)

(5) Practice 231-048-310—ANIDI, BISI, CAMA, CFG, CLAM, CPD, JUNCT, LRE, MSN, NMTGC, PLM, PUC, PUCMB, RCHAN, ROTL, RSP, RSSCB, SCGA, SIMFAC, and TMBCGA Recent Change Formats (1E6/1AE6 and 1E7/1AE7 Generic Programs)

(6) Practice 231-048-312—ACT, CFV, DNRNGE, LINE, MLHG, MOVE, MPTY, OBS, SCLIST, SIMFAC, TNESN, TWOPTY, and VSS Line Recent Change Formats (1E6/1AE6 through 1E8/1AE8A Generic Programs)

(7) Practice 231-060-220—Trunks and Miscellaneous Circuits, Network Switching Engineering

(8) Practice 231-061-450—Program Stores, Network Switching Engineering

(9) Practice 231-061-460—Call Stores, Network Switching Engineering

(10) Practice 231-062-460—Processor Community Engineering, Program Store, Network Switching Engineering

TAPE POSITION	DATA GROUP	DATA
1		START OF ENTRY CODE (V)
2-3		ENTRY TYPE (11)
4-5	A	INFORMATION DIGITS
6-7		SERVICE FEATURES
8		NONCHECK DUMMY (NCD) CHARACTER
9-15		CONNECT TIME 1 NCD CHARACTER 7-DIGIT CONNECT TIME
16-22	B	CALLING NUMBER*
23-30	C	DISCONNECT TIME 1 NCD CHARACTER 7-DIGIT DISCONNECT TIME
31-40	D	CALLED NUMBER
41-45†	14	SFLN
46-	-	OPTIONAL DATA GROUPS, IF ANY‡
XX-		NCD CHARACTER§

* The calling number may be the directory number assigned to the LEN or the standard OUTWATS billing number.

† The format of this field is ABBBB, where A is 1 (full business day service) or 2 (measured time service) and BBBB is NCD characters for physical OUTWATS, and SFLN for simulated OUTWATS when the system can obtain the SFLN, or all zeros when the system cannot obtain the SFLN.

‡ Type of entry 11 may have the following: J (calling NPA), L (entry extender), M (optional information), P (data group U indicator), U2 (customer dialed account recording), and/or U100 (minimum recordable duration).

§ The number of NCD characters recorded is the quantity required to extend the entry to a multiple of five digits.

Fig. 9—Type of Entry 11 Format

(11) Practice 231-062-465—Processor Community Engineering, Duplicated Call Store, Network Switching Engineering

(12) Practice 231-062-470—Processor Community Engineering, Unduplicated Call Store, Network Switching Engineering

(13) Practice 231-062-475—Processor Community Engineering, File Stores, Network Switching Engineering

(14) Practice 231-090-058—Feature Document, Attendant Control of Trunk Group Access Feature

(15) Practice 231-090-142—Feature Document, Flexible Route Selection Feature

(16) Practice 231-090-207—Feature Document, Traffic Measurements Feature

(17) Practice 231-090-229—Feature Document, Simulated Facilities Feature

(18) Practice 231-090-274—Feature Document, 800 Service—Originating and Screening Feature

(19) Practice 231-090-408—Feature Document, Outgoing Trunk Queueing Feature (Phase I)

(20) Practice 780-004-020—Outward Wide Area Telecommunications Service, Customer Services, Network Operations Methods

(21) Practice 231-090-275—Feature Document—800 Service—Terminating End Office Feature

(22) Practice 231-090-120—Feature Document—Carrier Interconnect Feature.

B. Teletypewriter Input and Output Message Manuals

- (1) Input Message Manual IM-1A001
- (2) Input Message Manual IM-6A001
- (3) Output Message Manual OM-1A001

(4) Output Message Manual OM-6A001.

C. Other Documentation

- (1) Office Parameter Specification PA-591001
- (2) Office Parameter Specification PA-6A001
- (3) Parameter Guide PG-1
- (4) Parameter Guide PG-1A
- (5) Translation Guide TG-1A
- (6) Translation Output Configuration PA-591003
- (7) Translation Output Configuration PA-6A002.