RECENT CHANGE
PROCEDURES (CENTRAL OFFICE CHANGES)
FOR ALL GENERIC PROGRAMS
NO. 2/2B ELECTRONIC SWITCHING SYSTEM

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1. GENERAL

1.01 This section covers recent change (RC) procedures (including central office, traffic, local test desk, and service order changes) associated with a No. 2/2B Electronic Switching Systems (ESS) office. The ESS order message formats included herein are for all generic programs. This section also includes information for making terminal equipment assignments in an ESS office. Refer to the current issues of Input Message Manuals and Output Message Manuals for additional information on specific messages.

Note: The messages given in this section are for use as examples only. Valid telephone office information should be used during system operations.

1.02 Whenever this section is reissued, the reason(s) for reissue will be given in this paragraph.

1.03 New (conventional) service order codes were adopted for use with the EF-2 and 2B-EF-2 generic programs. However, the translations can be configured with the old (No. 2 ESS unique) service order codes as an option. These old codes are common to all previous No. 2/2B ESS generic programs. The EF-2, 2B-EF-2, and 2BE3 generic programs can be arranged to recognize either option. In this section, the term "conventional (new)" or "No. 2 ESS unique (old)" is used to identify the service order code for the keywords in each input message given (Table A).

1.04 The keywords used in this document are applicable to all generic programs associated with No. 2/2B ESS offices. However, not all keywords are applicable to any one particular generic program. Refer to Table B to identify which specific keywords are used in each generic program. Also, more than one abbreviation may appear in parentheses after a service order code throughout this document which implies the following:

(a) If there is only one abbreviation following the keyword, it is applicable to all generics having that particular feature and is used as indicated in that input message; eg, Complaint Observing (COB)—All generics.

(b) If there are two abbreviations following the keyword, the first one is applicable to the EF-2 and later generics and the second abbreviation is applicable to the EF-1 and earlier generics having that feature and must be used in place of the one used in the input message; eg, Customer Dialed Changes to Speed Calling (CSL) (CH)

EF-1 and earlier

EF-2 and later.

(c) If there are three abbreviations following the keyword, the first one is applicable to the EF-2 and later generics; the second one is applicable to the EF-1 and 2B-EF-1 generics; and the third one

TABLE A

CONVENTIONAL (NEW) KEYWORDS CROSS-REFERENCED TO NO. 2 ESS UNIQUE (OLD) KEYWORDS

CONVENTIONAL (NEW) KEYWORDS	NO. 2 ESS UNIQUE (OLD) KEYWORDS	CONVENTIONAL (NEW) KEYWORDS	NO. 2 ESS UNIQUE (OLD) KEYWORDS
ACC	—	COFL	—
ADND	—	CPG	CPU
ADR	—	CR	—
AFO	—	CREN	—
AFRI	—	CSL	CH
AL	—	CTG	CTG
AOSL	—	CTX	CTX
AOUT	—	CTYP	—
ARI	ARI	CWOR	—
ARMDN	—	CWTA	—
ATC	ATC	DATE	—
ATF	ATF	DGE	DGE
ATOT	—	DGS	—
ATS	ATS	DGT	DGT
ATT	—	DISP	—
ATYP	—	DLT	—
BASE	—	DLY	—
BGP	BP	DMA	DPU
BHT	FHM	DP	SLL
BLC	BLN	DPLR	—
BLN	STB	DPM	MSG
BSY	BSY	DPO	ROR
BTN	BTN	DPP	—
BV	BV	DRI	DRI
CAC	COA	DSPT	—
CARTP	—	DSP0	—
CAT	CAT	DSP1	—
CD	—	DSP2	—
CDRN	—	DSP3	—
CFBA	—	DTP	DTP
CFBN	—	EAB	CHD
CFDA	—	EAN	DCC
CFDN	—	EHT	SHM
CFN	—	END	END
CFO	—	EQPG	—
CGRP	—	ESC	TW
CHI	CHI	ESF	SC
CIL	ICI	ESL	SC
CLO	CLO	ESM	CFV
CMP	CMP	ESX	CWT
CNF	—	E2H	TW
CNR	—	E6G	CFB
CNRG	—	E9G	CFD
COB	COB		

TABLE A (Contd)

CONVENTIONAL (NEW) KEYWORDS CROSS-REFERENCED TO NO. 2 ESS UNIQUE (OLD) KEYWORDS

CONVENTIONAL (NEW) KEYWORDS	NO. 2 ESS UNIQUE (OLD) KEYWORDS	CONVENTIONAL (NEW) KEYWORDS	NO. 2 ESS UNIQUE (OLD) KEYWORDS
FFG	—	NDT	NDT
FFHM	—	NFD	—
FL	RCL	NHT	—
FLHM	—	NIQ	—
FNHM	—	NNX	NNX
FOFG	—	NOP	—
FSH	—	NSN	NSN
FSHM	—	NST	NHM
GRP	—	NTN	NTN
GRTH	—	ODT	—
GSAN	—	OE	TEN
GSAB0	—	OFD	—
GSAB1	—	OGP	—
GST	GND	OMB	—
GSZ	PSZ	OP	OA
HML	GRP	ORD	ORD
HSZ	—	OVM	—
HTY	—	PBD	—
ICG	ICG	PDA	—
ICREN	—	PDB	—
ICTA	—	PFX	PFX
IOE	NTE	PLIT	PLI
IROE	—	PLM	—
ISG	—	POS	—
LAMP	—	POSD	—
LBRI	—	PRFL	—
LCC	LCC	PSG	—
LCIN	—	PTN	—
LDS	—	PTY	PTY
LHT	LHM	QRSDB	—
LIST	—	QSAB	—
LOC	—	RALIT	—
LS	LS	RAX	RA
MALIT	—	RCAC	—
MBR	—	RCFN	—
MFE	—	RDP	—
MN	MN	RDPM	—
MNE	—	RDPO	—
MPRT	—	REC	—
MRI	—	RES	—
MXDE	—	RLMP	—
NCT	NCT	RMB	RMB
NDE	—	RMK	—

TABLE A (Contd)

CONVENTIONAL (NEW) KEYWORDS CROSS-REFERENCED TO NO. 2 ESS UNIQUE (OLD) KEYWORDS

CONVENTIONAL (NEW) KEYWORDS	NO. 2 ESS UNIQUE (OLD) KEYWORDS	CONVENTIONAL (NEW) KEYWORDS	NO. 2 ESS UNIQUE (OLD) KEYWORDS
ROE	—	STRI	—
ROH	—	SUBB	—
RPFX	—	SUBG	—
RSFG	—	TAS	—
RSP	—	TBL	—
RSSCF	—	TBM	—
SALIT	—	TCG	TCG
SAT	—	TDG	TDG
SBAC	—	TDP	TDP
SBGP	—	TER	MBR
SBR	—	THD	THD
SC	—	TLI	—
SCA	—	TLT	TLT
SCCW	—	TMB	—
SDND	—	TN	TN
SDT	SDT	TOP	TOP
SEQPG	—	TP	TDP
SER	SER	TRC	TRC
SFG	SFG	TRS	—
SIEP	—	TTC	TTC
SKEY	KEY	TTT	TTT
SO	SO	TW1	TW
SP	SPN	TW2	TW
SPLR	—	TYP	TYP
SRDN	—	VTI	—
SRTTR	—	WD	—
SSC	SSC	WMC	—
SSR	—		

is applicable to the LO-1 generic; eg, Call Forwarding Variable (ESM) (CFV) (FWD)

LO-1

EF-1 and 2B-EF-1

EF-2 and later.

1.05 This section provides the procedures for entering RC information into the No. 2/2B ESS via the maintenance or service order TTY. The RC message is then transmitted, via the maintenance or the service order channel, to the ESS central processor where it is written into memory.

1.06 In this manner, information pertaining to customer service (such as telephone number, class of service, central office terminal equipment, and special features) is stored in the ESS memory. For customer or company reasons, information pertaining to customer service is constantly subject to change. When a change is required, a new RC message must be originated.

1.07 The RC information transmitted to the ESS must follow input guidelines, and the information must be accurate and complete. Format errors will cause rejection of a message; but clerical errors, such as the transposition of numbers, cannot be recognized by the ESS as errors and will cause incorrect

TABLE B

KEYWORD AND GENERIC LISTINGS

KEYWORD	GENERIC	KEYWORD	GENERIC	KEYWORD	GENERIC	KEYWORD	GENERIC
ACC	EF-2 & later	CH-1	LO-1, EF-1 & 2B-EF-1	DPP	EF-2 & later	ICP	All
ADD	All			DPU	EF-1 & 2B-EF-1	ICTA	EF-2 & later
ADO	LO-1	CH-2	LO-1, EF-1 & 2B-EF-1			IOE	EF-2 & later
ADND	EF-2 & later			DR1	EF-1 & later	IROE	2BE3
ADR	EF-2 & later	CHD	EF-1 & 2B-EF-1	DSP0-3	EF-2 & later	ISG	EF-2 & later
AFO	EF-2 & later			DSPT	EF-2 & later	KEY	LO-1, EF-1 & 2B-EF-1
AFRI	EF-2 & later	CHG	All	DTP	EF-1 & later		
AL	2BE3	CHI	EF-1 & later	EAB	EF-2 & later	L	EF-1 & later
AOSL	EF-2 & later	CIL	EF-1 & later	EAN	EF-2 & later	LAMP	EF-2 & later
AOUT	EF-2 & later	CLO	All	EHT	EF-2 & later	LBRI	EF-2 & later
AP	EF-1 & 2B-EF-1	CMP	EF-1 & later	END	All	LCC	All
		CNF	EF-2 & later	EQPG	2BE3	LCIN	2BE3
ARI	EF-1 & later	CNR	EF-2 & later	ESC	EF-2 & later	LDN	LO-1, EF-2 & later
ARMDN	2BE3	CNRG	EF-2 & later	ESF	EF-2 & later		
ATC	EF-1 & later	COA	EF-1 & 2B EF-1	ESL	EF-2 & later	LDS	All
ATF	EF-1 & later			ESM	EF-2 & later	LHM	LO-1, EF-1 &2B-EF-1
ATOT	EF-2 & later	COB	All	ESX	EF-2 & later		
ATS	EF-1 & later	COFL	EF-2 & later	E2H	EF-2 & later	LHT	EF-2 & later
ATYP	2BE3	CPG	EF-2 & later	E6G	EF-2 & later	LS	EF-1 & later
BASE	EF-2 & later	CPU	EF-1 & 2B-EF-1	E9G	EF-2 & later	MALIT	2BE3
BGP	EF-2 & later			FFG	EF-2 & later	MAN	2BE3
BHT	EF-2 & later	CR	EF-2 & later	FFHM	EF-2 & later	MBR	LO-1 EF-1 & 2B-EF-1
BLC	EF-2 & later	CREN	2BE3	FHM	LO1, EF-1 & 2B-EF-1		
BLN	EF-1 & later	CSL	EF-2 & later			MFE	2BE3
BSY	All	CTG	EF-1 & later	FL	EF-2 & later	MLH	All
BV	EF-1 & later	CTX	EF-1 & later	FLHM	EF-2 & later	MN	EF-1 & later
CAC	EF-2 & later	CTYP	2BE3	FNHM	EF-2 & later	MNE	2BE3
CARTP	2BE3	CWOR	EF-2 & later	FOFG	EF-2 & later	MSG	LO-1, EF-1 &2B-EF-1
CAT	EF-1 & later	CWT	LO-1, EF-1 & 2B-EF-1	FSH	EF-2 & later		
CD	EF-2 & later			FSHM	EF-2 & later		
CDRN	EF-2 & later	CWTA	EF-2 & later	FWD	LO-1	MXDE	EF-2 & later
CFA	EF-1 & 2B-EF-1	DATE	2BE3	GND	LO-1, EF-1 & 2B-EF-1	NCT	EF-1 & later
		DGE	EF-1 & later			NDE	EF-2 & later
CFB	EF-1 & 2B-EF-1	DGS	EF-2 & later	GRP	All	NDT	EF-1 & later
		DGT	EF-1 & later	GRTH	2BE3	NEW	All
CFBA	EF-2 & later	DISP	EF-2 & later	GSAB0-1	2BE3	NFD	EF-2 & later
CFBN	EF-2 & later	DIT	EF-1 & later	GSAN	2BE3	NHM	LO-1, EF-1 & 2B-EF-1
CFDA	EF-2 & later	DLT	All	GST	EF-2 & later		
CFDN	EF-2 & later	DLY	EF-2 & later	GSZ	EF-2 & later	NHT	EF-2 & later
CFN	EF-1 & 2B-EF-1	DMA	EF-2 & later	HML	EF-2 & later	NIQ	EF-2 & later
		DNA	2BE3	HSZ	EF-2 & later	NNX	EF-1 & later
CFO	EF-2 & later	DP	EF-2 & later	HTY	EF-2 & later	NOP	2BE3
CFV	EF-1 & 2B-EF-1	DLPR	EF-2 & later	ICG	EF-1 & later	NSN	EF-1 & later
		DPM	EF-2 & later	ICI	EF-1 & 2B-EF-1	NST	EF-2 & later
CGRP	EF-2 & later	DPO	EF-2 & later				

TABLE B (Contd)

KEYWORD AND GENERIC LISTINGS

KEYWORD	GENERIC	KEYWORD	GENERIC	KEYWORD	GENERIC
NTE	LO-1, EF-1 & 2B-EF-1	REC	EF-2 & later	SPLR	EF-2 & later
NTN	All	RES	EF-1 & later	SPN	LO-1, EF-1 & 2B-EF-1
OA	EF-1 & 2B-EF-1	RI	LO-1, EF-1 & 2B-EF-1	SRDN	2BE3
OE	EF-2 & later	RLMP	EF-2 & later	SRTTR	2BE3
OFD	EF-2 & later	RMB	All	SSC	EF-1 & later
OGP	EF-2 & later	RMK	2BE3	SSR	EF-2 & later
OMB	EF-2 & later	ROE	2BE3	STB	EF-1 & later
OP	EF-2 & later	ROH	EF-2 & later	STRI	EF-2 & later
ORD	All	ROR	L0-1, EF-1 & 2B-EF-1	SUBB	EF-2 & later
OUT	All	RPFX	2BE3	SUBG	EF-2 & later
OVM	EF-2 & later	RPT	EF-2 & later	TAS	EF-1 & later
PBD	EF-2 & later	RSFG	2BE3	TBL	EF-2 & later
PDB	EF-2 & later	RSP	2BE3	TBM	EF-2 & later
PFX	EF-2 & later	RSSCF	2BE3	TCG	EF-1 & later
PLI	L0-1, EF-1 & 2B-EF-1	RTI	EF-2 & later	TDG	EF-1 & later
PLIT	EF-2 & later	RTIM	EF-2 & later	TEN	LO-1, EF-1 & 2B-EF-1
PLM	EF-2 & later	SALIT	2BE3	TER	EF-2 & later
POS	EF-2 & later	SAT	EF-2 & later	TGB	EF-1 & 2B-EF-1
POSD	EF-2 & later	SBAC	EF-2 & later	THD	EF-1 & later
PRFL	EF-2 & later	SBGP	EF-2 & later	TLI	2BE3
PSG	EF-2 & later	SBR	EF-2 & later	TLT	All
PSZ	L0-1, EF-1 & 2B-EF-1	SC1	LO-1, EF-1 & 2B-EF-1	TMB	EF-2 & later
PTN	EF-2 & later	SC2	LO-1, EF-1 & 2B-EF-1	TN	All
PTY	All	SCA	EF-2 & later	TOP	EF-1 & later
QRSDB	2BE3	SCCW	EF-2 & later	TP	EF-2 & later
QSAB	2BE3	SDND	EF-2 & later	TRC	All
QZB	LO-1	SDT	EF-1 & later	TRS	2BE3
RA	LO-1, EF-1 & 2B-EF-1	SEQPG	2BE3	TTC	All
RALIT	2BE3	SER	All	TTT	EF-1 & later
RAX	EF-2 & later	SFG	EF-1 & later	TW	EF-1 & 2B-EF-1
RC	EF-1 & later	SHM	LO-1, EF-1 & 2B-EF-1	TW1	EF-1 & later
RCAC	2BE3	SIEP	EF-2 & later	TW2	EF-1 & later
RCFN	2BE3	SIM	EF-2 & later	TYP	All
RCL	EF-1 & 2B-EF-1	SKEY	EF-2 & later	VTI	EF-2 & later
RDP	2BE3	SLL	LO-1, EF-1 & 2B-EF-1	VY	All
RDPM	2BE3	SO	EF-2 & later	WD	EF-2 & later
RDPO	2BE3	SP	EF-2 & later	WMC	EF-2 & later

translation data to be written into memory. The No. 2/2B ESS has no provisions for delayed activation. Delayed activation is a feature which allows RC messages of some other ESS types to be transmitted to the ESS but is not activated until another input request is made.

1.08 The general category of recent change messages consists of ten classes of input messages. These are identified by the following headings:

(a) A RC (Administrative recent changes)

(b) A VY (Administrative verify)

(c) A TC (Traffic changes)

(d) A TV (Traffic verify)

(e) M LI ST (Store parameters for automatic line installation test [ALIT])

(f) M HD RC (Set high and dry threshold)

(g) A AU (Audit recent changes)

(h) A HP (Administrative help)

(i) A CF (Call forward print and punch)

(j) A CR (Control restriction print and punch).

Categories (a) and (b) include all changeable translations data except categories (c) and (f). This includes lines, trunks, routing, charging, alarms, etc. All categories are allowed from the maintenance TTY. Categories (a), (b), (g), (h), (i), and (j) are allowed from the service order TTY. Categories (b), (c), and (d) are allowed from the traffic TTY. Categories (b), (e), and (f) are allowed from the local test desk TTY.

1.09 Throughout this document where the term Originating Equipment (OE) is used, the keyword that is in agreement with the correct generic program should be used as follows:

(a) Terminal Equipment Number (TEN) is used in the input messages for ESS offices with the LO-1, EF-1, and 2B-EF-1 generics.

(b) Originating Equipment (OE) is used in the input messages for ESS offices with the EF-2 and 2B-EF-2 generics.

(c) Virtual Equipment Number (VEN) is used in the input messages for ESS offices with the 2BE3 generic program.

1.10 The following conditions must be met to implement the various recent change messages listed:

(a) Not all No. 2/2B ESS messages that enter into the recent change buffers are effective immediately. The following messages require a recent change update to be performed before they become active:

A RC:ALM
A RC:ATT
A RC:CTX
A RC:DIT
A RC:DTB
A RC:FHG
A RC:LMP
A RC:LSC
A RC:SCA.

(b) When RC message A RC:MLH is used to change a scan point number (SP) or a key number (SKEY), a recent change update must be performed for this change to become active.

(c) There are two RC messages, A RC:GRP and A RC:SIM in which only word zero is RC hunted. All other words of these messages require a RC update to become active.

(d) The RC message A TC:TRK is active immediately upon successful completion of the message except when used to assign or remove a peg counter on an incoming bylink trunk group. When used to assign or remove a peg counter on an incoming bylink trunk group, a RC update must be performed for it to become active.

1.11 The main frame cross-connection jumper is the only jumper necessary to establish service for a customer in the No. 2/2B ESS central office. It cross-connects the cable pair with the central office terminal equipment.

1.12 Whenever the term TOUCH-TONE® service is used, it refers to the equipment required to provide this service to the customer.

A. Definitions

1.13 The following terms are defined in accordance with their use in this section:

(a) ***Electronic Switching System (ESS):*** An electronic switching system which utilizes the

stored program control to provide telephone service.

(b) ***Memory:*** The storage unit into which information can be placed and which can be referred to at a later time.

(c) ***Translation:*** Customer service information contained in the memory such as telephone numbers, central office terminal equipment, and class of service. It does not include cable pair information.

(d) ***Call Store:*** A recent change area of a temporary memory.

(e) ***Program Store or Main Store:*** The semipermanent (read only) memory unit that stores the office translation information, the generic program, and the parameters.

(f) ***Recent Change Area:*** The section of the ESS temporary memory into which changes or additions in office translation are temporarily stored before the semipermanent memory (program store) is changed.

(g) ***Central Processor:*** The equipment unit that controls the operations of the other ESS equipment units according to instructions stored in the program store.

(h) ***Input Device:*** The hardware and/or software unit(s) which the input personnel use to communicate with the ESS. This unit may be as simple as a teletypewriter but is more commonly a computer-based support system which modernized the input function by incorporating microprocessor technology and the magnetic storage medium.

(i) ***Cross-Connection Jumper:*** It is used to connect the cable pair selected for a particular customer to the central office terminal equipment.

B. Administrative Procedures for Establishing a Line Class Code (LCC)

1.14 A translation committee consisting of Installation and Maintenance, Residence/Business Service Center, comptroller, and network administrator (traffic dial administrator) representatives will be formed before the cutover of an ESS office. This committee will:

(a) Compile the trunking, routing, and charging information that must be stored in the ESS office memory

(b) Establish the 3-character alphanumerical line class codes (LCCs) that are to be programmed into the ESS office memory to describe the classes of service.

1.15 There may be times when there is no standard Universal Service Order Code (USOC) to describe the class of service (for example, vacation rate service). In that case, the translation committee will assign a 3-character code to describe the type of service within the ESS office. If there is no LCC to describe the class of service desired, the local company Network Administrator should clear any newly assigned LCC with the AT&T Network Administrator.

1.16 Once these LCCs have been programmed into the ESS office, they are the only codes that may be entered on a service order.

2. MODULAR DISTRIBUTING FRAME

2.01 In No. 2/2B ESS, modular type distributing frames are usually used to interconnect outside plant facilities, trunk circuits, service circuits, miscellaneous circuits, carrier circuits, and network circuits. Figure 1 illustrates how the various modules are cabled together. The protector frame (PROT), the combined distributing frame (CDF), and the intermediate distributing frame (IDF) are of primary concern to the plant assignment office. The CDF is the frame on which most central office jumpers will be placed. It contains terminations of exchange customer cables, terminating equipment networks, and some miscellaneous central office equipment. In some cases, tie cable pairs are necessary between the CDF and IDF for certain types of equipment.

2.02 Some offices converting to ESS may use the existing main distributing frame (MDF). The assigning of cable pairs and terminal equipment described does not pertain to existing MDFs. These offices will use the present method of choosing terminal equipment and cable pairs.

2.03 In those ESS installations where the modular frames are used, the plant assignment office will assign terminal equipment, after cutover, under

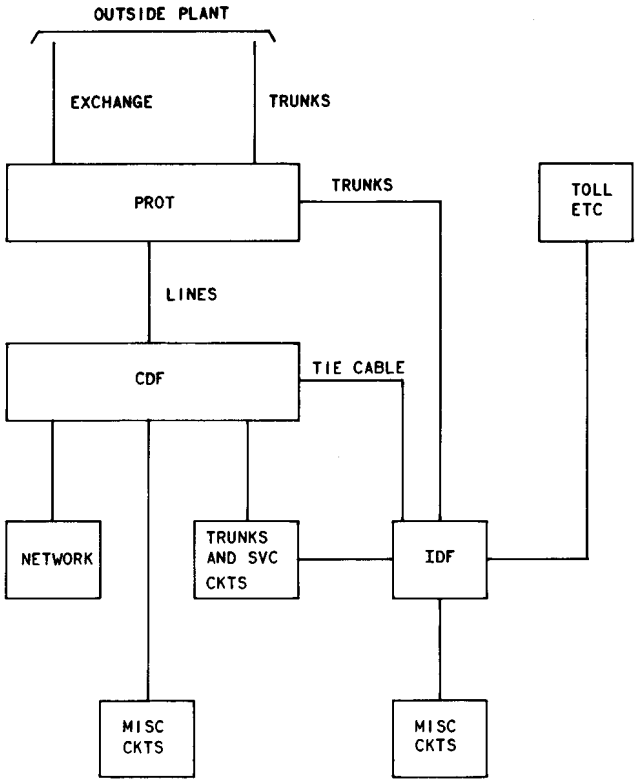


Fig. 1—Combined Distributing Frame—Intermediate Distributing Frame Cable Plan

the direction of the Network Administrator. The terminal equipment selected for assignment is based on class-of-service requirements and cable pair termination location. The Network Administrator will supply lists of spare terminal equipment to be used by the plant assignment office.

2.04 The CDF can be separated into three components:

- CDF module
- CDF vertical
- CDF terminal strips.

A. CDF Module

2.05 A module consists of ten verticals (Fig. 2). These verticals, numbered 00 through 09, are provided for terminating the underground cable pairs and terminal equipment. In ESS offices with more than one module, the additional verticals will be numbered 10 through 19 and 20 through 29, etc.

B. CDF Verticals

2.06 The terminal equipment is terminated on the odd-numbered CDF verticals 3, 5, etc, and the underground pairs on the even-numbered verticals 0, 2, etc.

2.07 The verticals have eight points (four pairs) of connections horizontally. These points are divided in half, four to the left side and four to the right side. The entire vertical is divided this way.

Note: One circuit would use two points of horizontal connections (ring and tip).

C. CDF Terminal Strips

2.08 The cable pairs are permanently wired from the protector frame to the CDF in groups of 20. These groups are spread over the CDF horizontally and are not spread vertically as on conventional frames.

2.09 The first group of 20 cable pairs (1 through 20) would be in cable vertical 00, the second group (21 through 40) in cable vertical 02, the third group (41 through 60) in cable vertical 04, etc.

2.10 On the cable verticals, the cable pairs are terminated ten on the left half and ten on the right half of the even-numbered verticals. For example, on cable pairs 1 through 20, the count of 1 through 10 would be on the left half and the count of 11 through 20 on the right half.

2.11 On the terminal equipment verticals, the originating equipment (OE) numbers are terminated and identified in the same manner according to left or right half of the vertical.

D. Assigning Terminal Equipment and Cable Pairs

2.12 For terminal equipment assignment purposes, the terminations on each vertical are divided in half vertically in order to provide a left and right arrangement.

2.13 To effectively utilize the CDF cross-connections, the jumper from the terminal

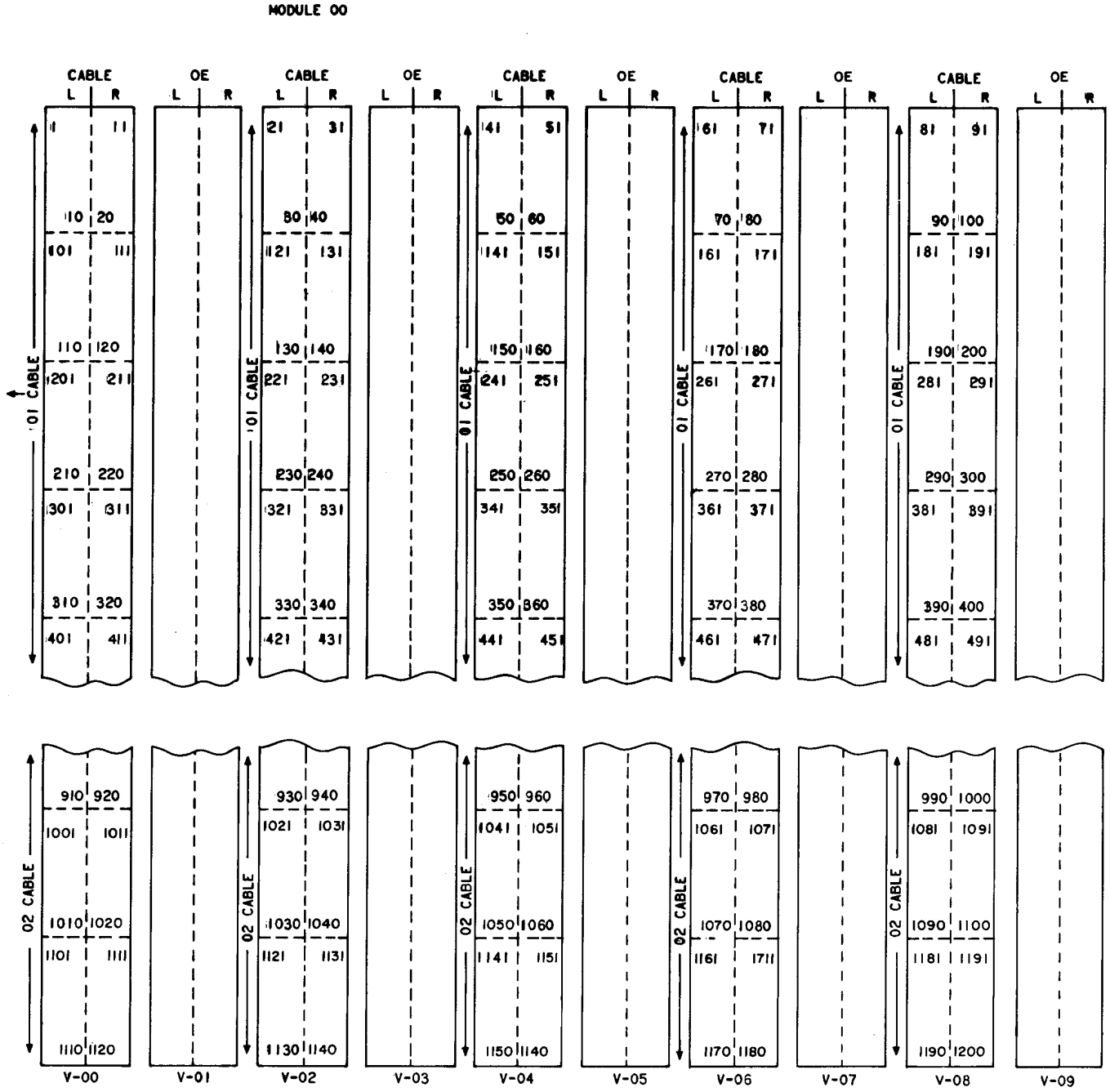


Fig. 2—Partially Equipped Combined Distributing Frame Module Showing Cable and Terminal Equipment Terminations

equipment to the cable pairs must be as short as possible. The first choice (first choice cross-connection [Fig. 3]) should be used whenever possible.

(a) Service assigned to a cable pair that terminates on the left half of a cable vertical should be assigned to OE on the right half of the left adjacent OE vertical.

(b) Conversely, service assigned to a cable pair that terminates on the right half of a cable vertical should be assigned to OE on the left half of the right adjacent OE vertical.

Note: These assignments are designated as short cross-connections.

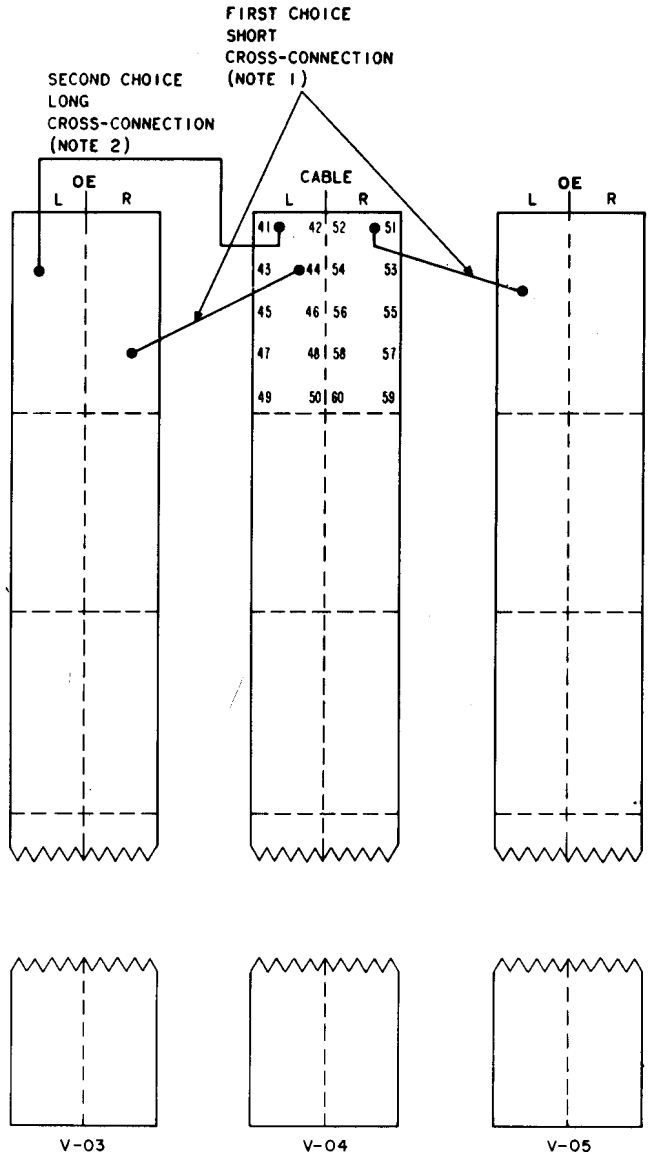
(c) Vertical 00 left of module 00 has no line equipment for a short cross-connect away. Therefore, spread the assignment equally over OE in verticals 01L to 09R. This is done in the following manner for Fig. 2:

PAIR	FIRST CHOICE TEN
1—10	V—01L
101—110	V—01R
201—210	V—03L
301—310	V—03R
•	•
•	•
•	•

2.14 When it is not possible to make short cross-connection assignments, OE as near to the cable vertical as possible is chosen. These assignments are called long cross-connections or second choice cross-connection (Fig. 3). Every effort should be made to keep the number of long cross-connections to a minimum.

2.15 In central office areas with dedicated outside plant, the first choice OE vertical is recorded on the feeder cable record as a permanent entry (Fig. 4). For the initial dedicated assignment, the first choice OE vertical is obtained from the feeder cable record and posted as a permanent entry on the dedicated plant assignment card (DPAC) so that it will be available for subsequent assignments (Fig. 5).

2.16 In central office areas with multiple outside plant, the first choice OE verticals should be



NOTES:
1. WITH A SHORT CROSS-CONNECTION ORIGINATING EQUIPMENT NUMBER VERTICAL MIDPOINT OR CABLE VERTICAL MIDPOINT SHOULD NOT BE CROSSED OVER.
2. LONG CROSS-CONNECTIONS SHOULD BE KEPT TO A MINIMUM.

Fig. 3—Choosing Cross-Connection Jumper

recorded as a permanent entry on the customer cable record (Fig. 6).

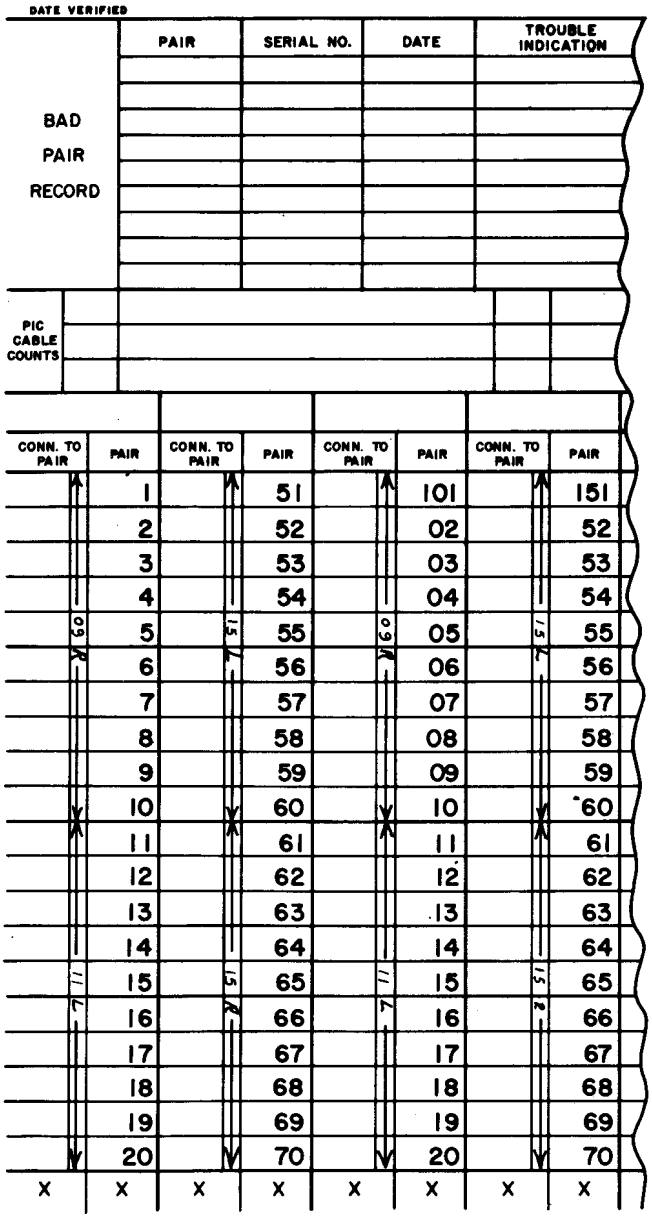


Fig. 4—600-Pair Feeder Cable Pair Record—First Choice Terminal Equipment Number Vertical

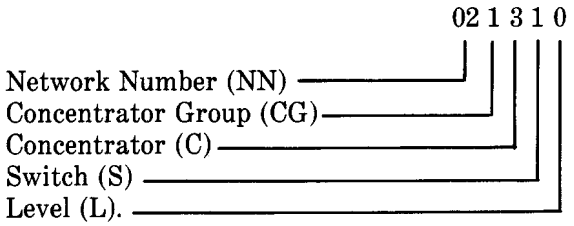
2.17 The Network Administrator supplies the assignment office with available OE. These lists are by left and right verticals. When the assignment employee selects the cable pair from the appropriate record, the first choice OE vertical is obtained. The proper OE is then selected from the appropriate OE list.

2.18 Vertical locations of the assigned cable pair and OE should be entered on the service order. This information should also be part of the repair service bureau line card. The USO format for this data is as follows:

ASGM
IOE 00 3060/MFV 03R/F1 10-44, MFV 04L,
R3520 Ann-4, BL-W + W-BR.

E. Originating Equipment Number

2.19 The OE number is a 6-digit number that describes an appearance in the ESS network. For example, a typical OE assignment as it should appear on all work orders is 02 1310. The following describes what the OE means to central office personnel:



Note: NN, CG, C, & S = 0-7; L = 0-3 Class A lines have L = 0 with S = even number. The OE numbers 0000, 0070, 0470, 1070, and 1470 of each network cannot be used. Ground start lines must have L = 0 or 2.

F. Terminal Equipment Transfers

2.20 When the Network Administrator issues terminal equipment transfers (TETs) in order to maintain office balance, the TETs will contain the old and the new terminal equipment and the telephone number. The Repair Service Bureau provides the cable pair assignment associated with the telephone number from their line card record.

2.21 In order to work the TET, close coordination is essential between the RCMAC and the cen-

S.C. AREA 35 EXCH

PROT	TE	RE	BLOCK			
YES	5		17			

HOUSE OR BLDG. NO.	TEL. NO.	SERV.	PTY OR RC	CENTRAL OFFICE EQUIPMENT	ESS JMPR LOC	LI	OTHER INFORMATION	CABLE NO. PAIR	SOP	TERMINAL LOCATION	BP	COLOR
3520	368-6348	IFR		00 30 60	03R			10,44		R3520	1	1-WB$_5$

STREET	FROM	TO	SOP NO.
ANN			1 2

Fig. 5—Dedicated Plant Assignment Card—First Choice Terminal Equipment Number Vertical

tral office personnel. An ESS RC message must be prepared for each TET. At the same time the ESS order is processed, the central office cross-connection must be transferred from the old to the new terminal equipment. Unless this work is coordinated, customer service can be interrupted.

2.22 The TETs should be kept to a minimum since they may necessitate the use of a long cross-connection on the CDF.

G. Cable Transfer

2.23 The transfer of a cable pair may or may not require an ESS RC message. The field work can be completed by running a back tap shoe or by using a front tap shoe from the central office equipment to the new pair. When the field work is completed, the cross-connection from the central office equipment to the old pair will be removed.

2.24 In most cases, the completed cable transfers may create a long cross-connection on the CDF. To eliminate this long cross-connection, a spare originating equipment number is assigned in the adjacent CDF vertical to the new cable pair.

2.25 To physically change this terminal equipment number, a TET, a copy of cable transfer sheet (E-2573), or a copy of line or station transfer sheet (E-2574) must be issued. Sufficient copies must be prepared to correct Network Administrator and Repair Service Bureau records.

2.26 Completed copies of the TET should be forwarded to the Network Administrator and to the Repair Service Bureau.

3. INPUT DEVICE ARRANGEMENTS

3.01 The ESS RC information may be sent to the ESS over more than one TTY channel (Fig. 7).

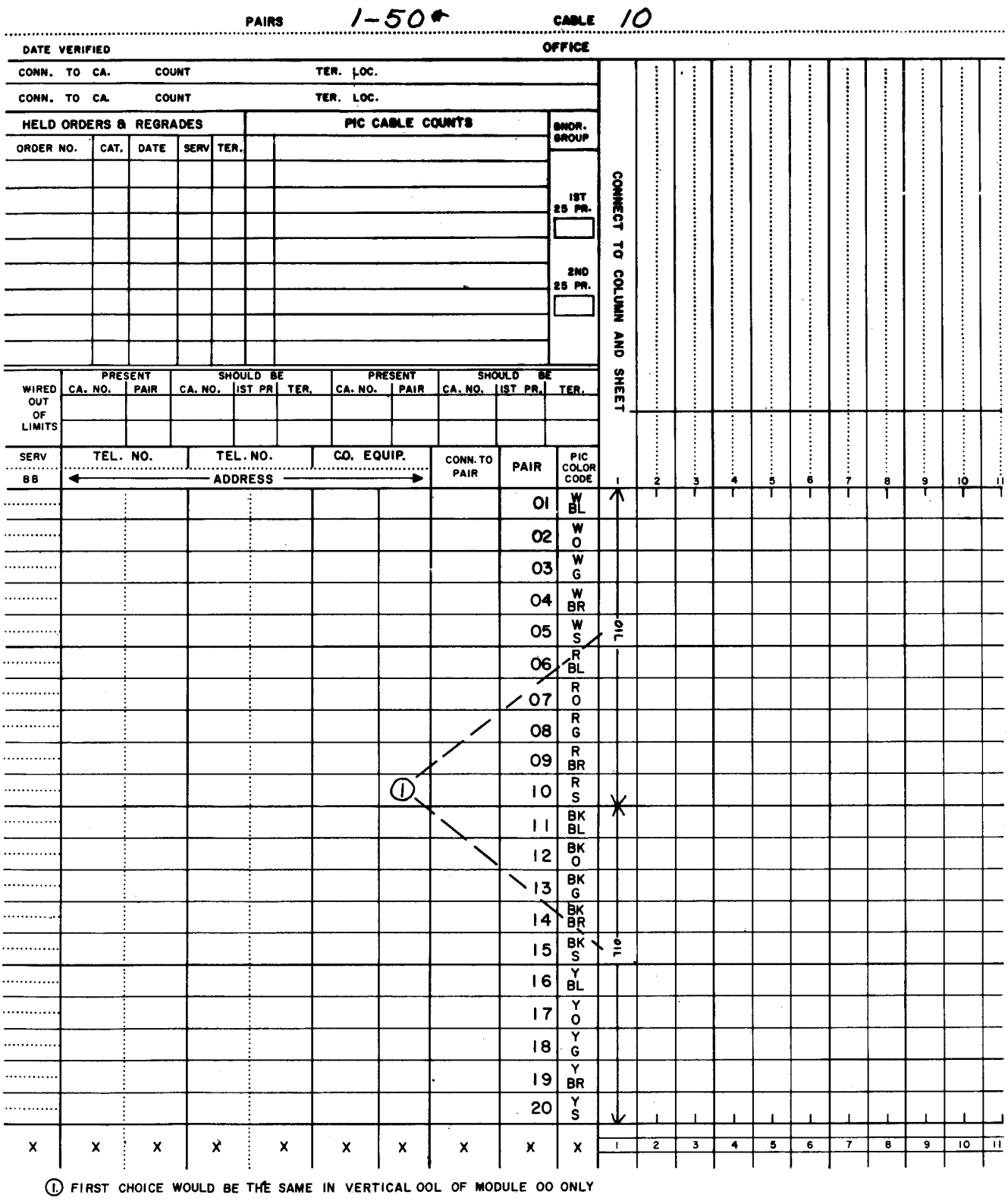


Fig. 6—Customer Cable Record—Multiple Plant—First Choice Terminal Equipment Number Vertical

One is a service order channel from RCMAC. The others are maintenance channels from the Switching Control Center (SSC) or at the ESS location. The maintenance channels are primarily used for the maintenance of the ESS office and are not generally used for transmitting line related RC order information to the ESS.

- The ESS orders are permitted over the service order and the maintenance channels, but the ESS can process only one message at a time. When a message is in progress via the service order channel, another cannot be inserted via the maintenance channel and vice versa.

- Any service order RC message sequences can be directly inputted through the service order channel or maintenance channel as formatted in the examples shown. The user needs only to substitute valid numerical action data into the message sequence to build a valid service order for the No. 2/2B ESS.

3.02 The maintenance TTY function is provided through the multipled channels 0 and 1. For No. 2 ESS only, separate central pulse distributor (CPD) and scanner control points are provided for the local and remote maintenance TTYs for added reliability. All categories of input messages are allowable from the maintenance TTYs (A RC, A VY, A TC, A TV, A CF, A CR, A HP, A AU). Typing procedures for the maintenance TTY are described in Section 232-003-301 for the No. 2 ESS and Section 232-303-301 for the No. 2B ESS.

3.03 The traffic TTY function is provided through channel 2. All traffic related input messages are normally inputted through this channel (A TC, A TY, A VY). All traffic schedules, except the plant maintenance schedule, are outputted through this channel. However, a traffic schedule can also be individually requested to be immediately printed from any TTY on a one-shot basis. Typing procedures for the traffic TTY are described in Section 232-003-301 for the No. 2 ESS and Section 232-303-301 for the No. 2B ESS.

SERVICE ORDER TTY

3.04 The service order TTY is a standard 35-type TTY, with a No. 2/2B ESS "Stunt Box" option, which is used to type the ESS order information provided through channel 3. All service order related messages are normally inputted through this channel (A RC, A VY). It is required that this TTY be equipped with a paper tape punch and reader. It is recommended that service orders be prepared on paper tape on another machine in advance of input. The tape will preserve a record of the inputted message. The system will punch paper tapes of customer dialed changes to their speed calling lists, if so requested. Typing procedures for the service order TTY are described in Section 232-003-301 for the No. 2 ESS and Section 232-303-301 for the No. 2B ESS.

3.05 The local test desk TTY function is provided through channel 4. The messages outputted on this channel relate to the high and dry list, line insulation test results, and other line oriented messages. The local test desk TTY can also input A VF messages.

3.06 The trunk maintenance TTY function is provided through channel 5. The messages outputted on this channel relate to trunk maintenance features.

3.07 Any channel may be equipped as a local TTY, a remote TTY (through data set connection), or both. All channel assignments are optional except the local maintenance TTY.

3.08 The local maintenance TTY and remote maintenance TTY are backed up by each other because of the channel 0 and 1 multiple. Any of the four other channels may be backed up by any channel from 0 to 5. Normally, the maintenance TTY is used for backup of unequipped channels unless otherwise specified. The backup channel assumes all functions of the channel that is unequipped or out of service.

ESS ORDER ACKNOWLEDGMENT

3.09 Each ESS order which the assignment office personnel transmits into the ESS receives an acknowledgment from the ESS. The acknowledgment is a brief output message from the ESS to inform the plant assignment office personnel what action resulted from the ESS order.

3.10 The following acknowledgment messages are returned by the RC program.

OK—The message was ***OK.*** It was accepted, and the work requested has been accomplished. If the mes-

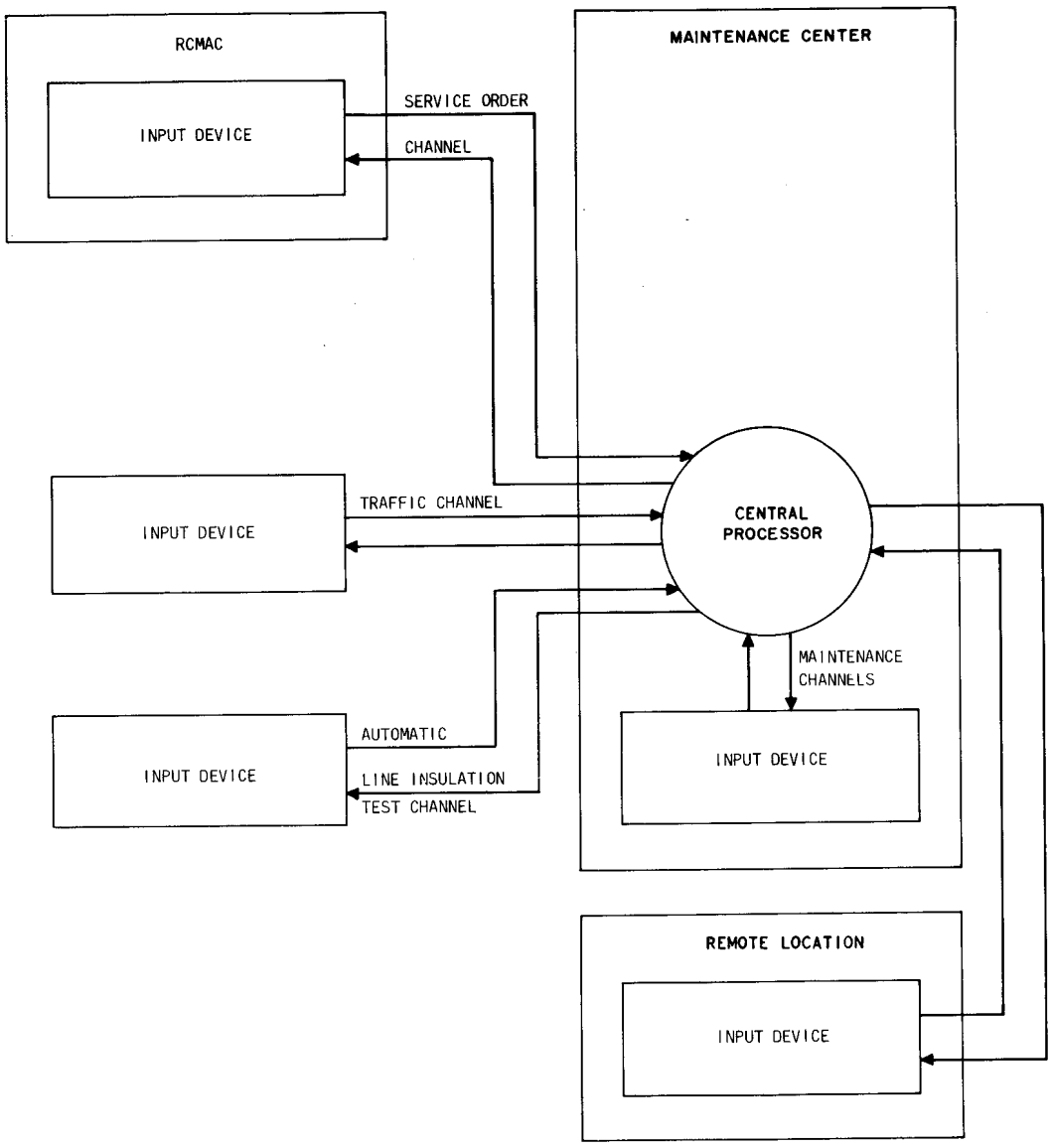


Fig. 7—Input Device Arrangements

sage came from paper tape, the paper tape reader will be turned back on.

PF—The message was received and is being acted upon. A *P*rintout will *F*ollow. If the message came from paper tape, the paper tape reader will be turned back on.

RL—The message should be *R*epeated *L*ater. If the message came from paper tape, the tape reader will not be turned back on. This response may come for any of the following reasons.

(a) If an output was requested, the TTY waiting list may be full.

(b) The TTY program may have missed an input character due to a long scan time. All messages from paper tape are likely to obtain the same result at this time. Try only

hand-typed messages if this response persists.

(c) Some other channel is currently processing a recent change or verify message.

(d) Or a MLH group OUT was started but not completed because there is not enough room in RC area. The MLH group OUT must be completed before anything else will be allowed.

3.11 The following acknowledgment messages are returned by the program when an error is detected. They are typed immediately following the execute character (! or /). In every case below, the ***entire*** message, even if multiple line, will be aborted, and the paper tape reader will ***not*** be turned back on if this message came from paper tape.

?A—This message contains an error in the action field. The paper tape reader will not be turned back on.

?C—The message appears to be a legal message, but it is not allowed from this channel. The paper tape reader will not be turned back on.

?D—This message contains an error in the data field. The paper tape reader will not be turned back on.

?E—Although the basic format appears correct, an inconsistency within the message has been detected. The paper tape reader will not be turned back on.

?F—A format error has occurred. The right kind of characters were not typed. The paper tape reader will not be turned back on.

?I—The first two fields of the message were not legal. The paper tape reader will not be turned back on.

?O—This channel is marked out of service. It must be restored to service before being used. (See paragraph 3.14.) The paper tape reader will not be turned back on.

?P—A TTY parity error occurred during the input message. This message was not accepted by the system. Request TTY diagnostics on the channel being used. (See paragraph 3.14.) The paper tape reader will not be turned back on.

?T—A time-out occurred while waiting for more input characters. This time-out is about 45 seconds. See paragraph 4.09 for information on how to avoid timing out. The paper tape reader will not be turned back on.

?X—The channel is in the paper tape mode, and the message does not contain the necessary paper tape control characters. The control characters X OFF and ETX must be used to take the channel out of the current mode.

??—Either a system initialization of some degree occurred during the execution of this message (but not necessarily because of it) or the system has been forced into the digit mode (which could cause the loss of a character). The system cannot tell if the message is complete. The user must investigate and possibly repeat the message if not completed.

> ***Caution: Do not reenter the message repeatedly until central office switching personnel have been consulted to determine the reason for this response. The paper tape reader will not be turned back on.***

NA—Control of message processing has been lost and correct acknowledgment is not possible. The user must investigate and possibly repeat the message if not completed. The paper tape reader will not be turned back on.

NB—The entire No. 2B ESS TTY buffer area is currently full. The message should be repeated after waiting a few seconds.

NG—The message was not accepted (***N****o* ***G****ood*). The action or data fields were not accepted. If the message came from paper tape, the X OFF character may not have preceded the execute (! or /) or abandon (&) character. If the message came from paper tape, the paper tape reader will not be turned on. The message must be retyped correctly from the beginning. If for any reason a service order cannot be processed, an error message is printed out with an error number to indicate the reason for the difficulty as shown below:

END! NG

tt AR RC ERR bbbbbb

tt = Number indicating minutes after the hour.

AR VY ERR = This indicates that this is an error message, and the number identifying the particular reason for rejection should be checked.

bbbbbb = Number identifying particular reason for rejection (see OM-2H200).

The following is an example of an ESS order that was rejected and the reason it was rejected:

A RC:L/
ORD 1234/
TYP OUT/
OE 00 5223/
TN 554 9971/
END! NG (Note 1)

21 AR RC ERR 324300 (Note 2).

Note 1: NG is system response indicating that the ESS order was rejected and is not part of the input message.

Note 2: Number 324300 (see OM-2H200) indicates that telephone number 554 9971 is currently unassigned, but available for assignment, and can only be used in a NEW type ESS order.

3.12 Three general error responses are of particular interest. If the response indicates the RC areas are full, an RC update procedure must be performed before any further changes are made. If the error message indicates that no more program store translation tables are available, an Office Data Administration (ODA) run must be made to allocate more tables for this function before any further inputs of this type are made.

3.13 If a translation error message is printed for the data that was to be changed or verified, it is strongly recommended that the source of the error be determined. The translation error should then be handled by local operating company practices.

ESS TTY MAINTENANCE

3.14 For TTY maintenance procedures, refer to Section 232-003-301 for the No. 2 ESS and Section 232-303-301 for the No. 2B ESS.

4. PROCESSING AN ESS ORDER

A. Assignment of Order Number to an ESS Order

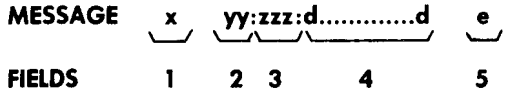
4.01 Each ESS order must have a 1- to 4-digit serial number assigned to it. Assignment of this number is determined by local procedures. These order numbers generally range from 0 to 9999. (The number 0 or 9999 is generally used as a substitute or dummy number.)

4.02 Each ESS order should be assigned a number and be numbered consecutively. The ESS Order Log (Fig. 8) is used to maintain a cross-reference of the ESS order to the service order.

4.03 When an ESS order tape is prepared, the DATE USED column should be posted by the employee preparing the tape. At the time the tape is transmitted to the RC area, the DATE ACTIVATED column should be posted. Other columns should be posted as required.

B. Service Order Message Format

4.04 The basic format for No. 2/2B ESS service order input RC messages can be divided into four fields, as follows:



THOUSANDS_____

HUNDREDS_____

ESS ORDER LOG

ESS ORDER NO.	DATE USED	USED BY	SERVICE ORDER NO.	DUE DATE	ACTIVATED DATE	ACTIVATED BY	REMARKS
00							
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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31							
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35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							

Fig. 8—ESS Order Log

(1) The first character of the first field will always be A for service order input messages. A single space is inserted between fields.

(2) The yy field defines the unit or program to which the message applies. For service order messages, this field will be (RC) for recent change portion of the program store and (VY) for service order verification messages.

(3) This field defines the type of action desired, or the object of the previous field, (L) for the line messages, (MLH) for multiline hunting group messages. This field may be expressed in one, two, or three characters.

(4) This field, commonly referred to as the data field is reserved for variable information that may be supplied with the input message. This field is not used for line messages (L); however, for multiline hunting group messages (MLH), this field will be 1; for multiline hunting group member, this field will be 2.

(5) This character is not a field of the input message, but it is vital and is defined as the execute character. The execute character must follow each line of an input message. One or more spaces may precede it, except when the input is coming from paper tape. The standard execute character, the exclamation point (!), is used on all single line messages. Where the input message is of multilines, the execute character is a slash (/), indicating more information is to follow. The last line of the input message must use the exclamation point (!) to indicate the end of the message.

Note: Semicolons are not used elsewhere in the message except as noted in the example format.

4.05 The data field consists of keyword units and is the remaining portion of an RC message. The data field must begin on the second line of the message.

4.06 The ESS service order is formatted to meet the program requirements of the ESS office. The ESS order is a free-flow order that uses mnemonic codes known as ***keywords.*** The keyword indicates the type of data that follows, such as TN 555 1212 for telephone number. The keywords and other ESS order information must be in proper language and format. The keywords, except for the beginning and ending entries, can be in any sequence. It is recommended that a sequence for typing keywords be adopted that is most convenient for each office. Before the end-of-message keyword is typed, the order should be proofread for typing errors or missing keywords. If a keyword has been inadvertently omitted or typed incorrectly, it can be added or changed and then the end-of-message keyword typed. If other typographical errors are discovered, they must be corrected before the ESS order is transmitted to the recent change area.

4.07 Other service orders, as well as most other recent changes, use a single line input message with data fields in fixed format.

C. Typical ESS Order

4.08 The following is a typical ESS order for a new telephone with 1FR service:

A RC:L/ (Note 1)
ORD 0001/
TYP NEW/
OE 00 2160/
TN 554 1150/
LCC 1FR/
END! OK (Note 2).

Note 1: The A RC:L indicates that an ESS order is being entered. The slash (/) is used for continued input indication. This character ends a line of input and informs the ESS that another related data line will be immediately inserted. The keyword format and its associated data is checked also.

Note 2: The END! indicates that the message is completed. The OK is the system response indicating that the message was accepted.

D. Typing an ESS Order On-Line

Note: All ESS RC orders should be typed off-line to maintain a complete and error free history of accepted messages. Only verify messages should be typed on-line.

4.09 A typical example of a verify message is:

A VY:RI:32!

Input fields are separated by spaces or colons as shown above. Colons are used to separate the action field from adjacent fields except when the action field is the last field. In this case, the execute character is typed in place of the colon following the field. One or more extra spaces may be typed between fields, before the first character, or before the execute character, as convenient. Time-out (?T) can be prevented by typing extra spaces before or after any field. Time-out can also be prevented at any time by typing a rub out character in the input stream.

4.10 An execute character must follow each line of an input message. One or more spaces may precede it, except when the input is coming from paper tape. The standard execute character, the exclamation point (!), is to be used on all single line messages. Where the input message is a multiline input message, the execute character is a slash (/), indicating more information is to follow. The last line of the input must use the exclamation point to indicate the end of the message. The slash must never be used on a single link input message.

4.11 An input message may be entered any time the channel is not busy with another message. After the first character is typed, a sharp sign (#) will be returned if the entire TTY buffer area is currently full. The typist should wait a few seconds and try again. If, after several tries, the area is still full, the priority of the input message can be increased if absolutely necessary. This action deletes one output message from the output buffer. The priority is increased by depressing the BREAK key, typing a SPACE, then following immediately with the desired input message. The preceding action will completely discard the remaining portion of the output message and put the TTY in the input state. Any output messages generated by this input will be put into the output buffer, if there is room, and will be typed after any output messages currently waiting for this TTY.

4.12 If an error has been typed or if the input message should be abandoned for any other reason, the abandon character, the ampersand (&), should be typed. This causes the line being inputted to be erased and a line feed, carriage return to be given. If the previous line ended in an exclamation point (!), an extra line feed is given, but if the previous line ended in a slash (/), only the current line is abandoned and all previous lines are retained. The current line may then be retyped correctly. The ampersand can also be used to allow comments to be typed, either between messages or between lines of a multiline message. After the comment is typed, the ampersand is typed to abandon this line.

E. Typing an ESS Order Off-Line

4.13 Whenever an ESS order is typed off-line, it is essential that a paper tape is punched simultaneously. The tape is needed for transmitting the order to the ESS.

4.14 A tape is perforated (punched) by the typing reperforator while the ESS order is being typed. This should be done with the service order TTY in the off-line (local) mode. This method allows for proofreading of the ESS order prior to transmitting the order to the ESS. In using this procedure, a backup file of tapes will be available in the event they are needed. Tape input also assures rapid inputting of changes that require two separate message sequences (such as changing the party number of an assigned TN).

4.15 Reference should be made to Fig. 9 for a flowchart for preparation and processing of an ESS order and tape.

F. Recent Change (RC) Audits

4.16 In order to check the integrity of the RC data, the No. 2/2B ESS program will normally run an audit check over all RC buffers every 2 hours. These audits are run on the even numbered hours. If no errors are detected, no message is printed.

4.17 The RC audit checks the validity of the RC tables in call store; it does ***not*** check the validity of the translation data stored in the tables. For example if a change is made in OE translator, the new word in the RC buffers is checked for correct parity, but the data is not translated to check if it properly defines a line. The audit also checks all pointers to data words and the number of entries in the data tables for consistency.

4.18 If audit failures are detected in the RC buffers, an RC update should ***not*** be made because this will place bad data into the translation memory. The error condition should be corrected as soon as

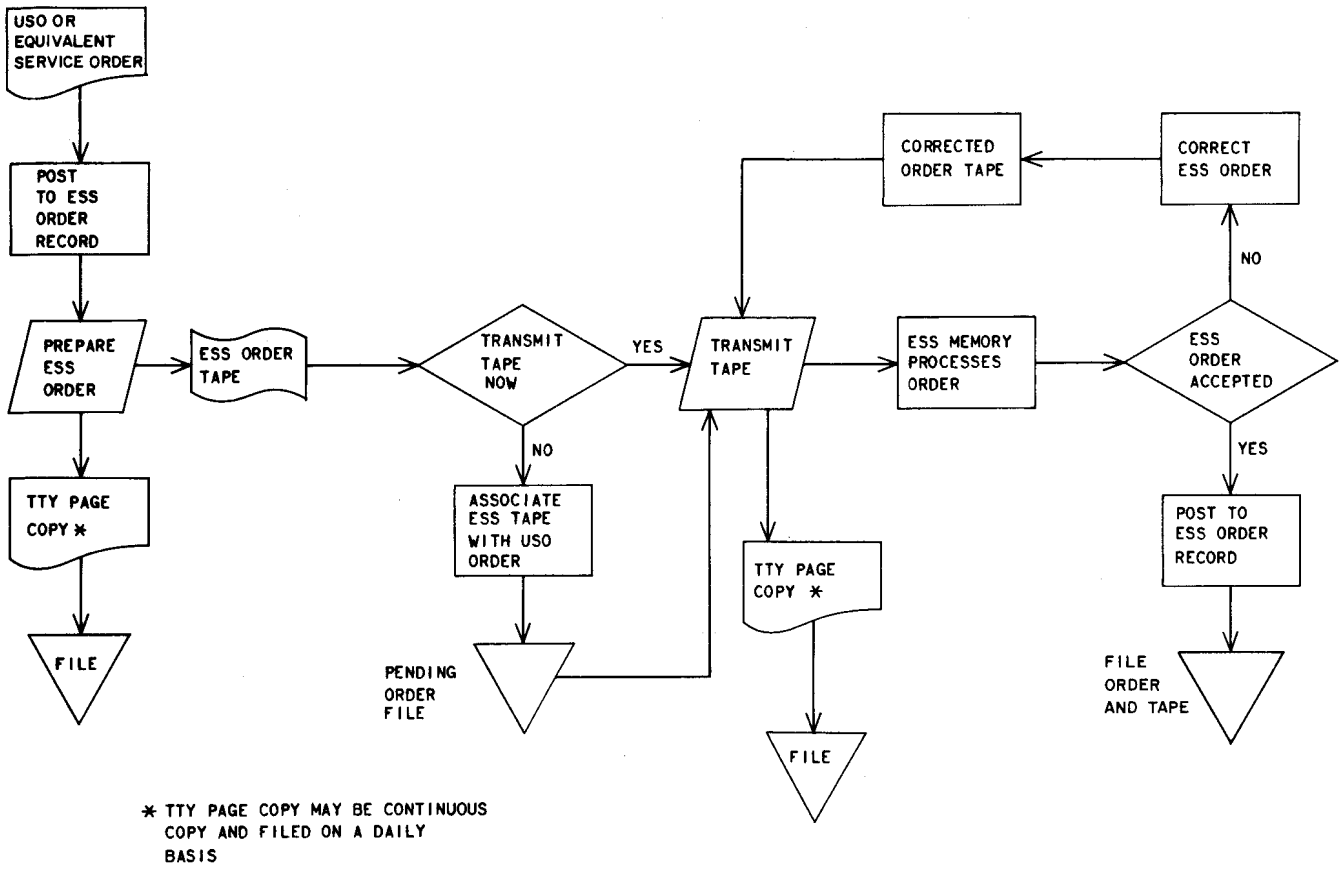

Fig. 9—Flowchart for Preparation and Processing of ESS Service Order and Tape

possible since system failures can occur if bad data is accessed from the RC buffers by the program. Contact the central office personnel and do not insert further recent change or verify messages until instructed by them.

4.19 An immediate RC buffer audit can be requested at any time if the audits are not inhibited. The input message A AU:RC! will cause the RC buffer audits to be immediately run and generate a response indicating the results. The response is described in OM-2H200.

G. ESS Order File

4.20 For reference purposes, future dated service orders are filed by due date in the pending order file.

4.21 A history file of accepted ESS orders should be retained. History file tape should be retained until advised by the central office personnel that the RC area has been updated.

Note: The RC area of the ESS could be wiped out, before the RC area has been updated, due to a central office trouble condition. This condition would eliminate all recent ESS order activity originated by the tape transmission of ESS orders. If this occurs, it will be necessary to retransmit all ESS orders by using the tapes.

H. Line Class Code (LCC)

4.22 A translation committee consisting of plant, commercial, comptroller, and Network Administrator representatives will be formed before the cutover of an ESS office. The committee will do the following:

(a) Compile the trunking, routing, and charging information that must be stored in the ESS office memory.

(b) Establish the 3-character alphanumerical line class codes (LCCs) that are to be programmed into the ESS office memory to describe the classes of service.

4.23 There may be times when there is no standard universal service order code (USOC) to describe the class of service (for example, vacation rate service). In that case, the translation committee will assign a 3-character code to describe the type of service within the ESS office. If there is no LCC to describe the class of service desired, the local company Network Administrator should clear any newly assigned LCC with the AT&T Network Administrator.

4.24 Once these LCCs have been programmed into the ESS office, they are the only codes that may be entered on a service order.

4.25 The Network Administrator will record the LCC on form ESS 2306 line class code table (Fig. 10). The Network Administrator must supply a copy of form ESS 2306 to the assignment office. Assignment office personnel should attach this copy to this section. The Network Administrator will then:

(a) Send copies of the form to Western Electric Company to program these LCCs into the ESS office and to the assignment office for processing ESS orders.

(b) Notify the loop assignment center if any LCCs are changed or added by sending an updated copy of form ESS 2306 (see Fig. 10).

4.26 The ESS service order should be typed off-line (via type) to provide for proofreading before it is entered into the recent change area.

4.27 After the service order is proofread, the punched tape is inserted into a tape reader, and the order is transmitted to the ESS.

4.28 Information received by the ESS is stored in the recent change area of a temporary memory designated call store. (Periodically the information in the recent change area is transferred by central office personnel to the program store which is a semipermanent memory.) If for any reason the information received by the ESS is not in the proper format, sequence, or certain information is left out, the central processor automatically sends back an acknowledgment and rejects the order. If everything is in the proper order, the central processor sends back an acknowledgment that the order has been accepted.

4.29 Information that has been transmitted and accepted by the ESS, but is later discovered to contain an error (such as transposition of digits in a telephone number), can be changed or removed. To make a correction, a change or out order must be used.

4.30 With the advent of EF-2, 2B-EF-2, and 2BE3 generic programs, several new keywords are now available. In addition, several keywords have been revised as a result of the new generic program. The results of these changes and additions are referred to as conventional (new) keywords. The keywords used in the No. 2 ESS prior to the EF-2, 2B-EF-2, and 2BE3 generic programs are referred to as the No. 2 ESS unique (old) keywords. The conventional keywords are cross-referenced to the equivalent unique keywords in Table A. Table B is a listing of the keywords and the generic program in which these keywords are used in a No. 2/2B ESS.

I. Program Message Handling Techniques

4.31 The series of messages that make up a service order through a recent change (RC) area in the call store is handled by several data administration programs. After the complete message is inputted and the execute character processed, the program formats into the RC area all the information currently in the call store regarding this line. The new information is then overlaid onto this RC area. The modified line information is then placed into the RC buffers at the proper locations.

4.32 By using the overlay technique, it is not necessary to input all the previously defined information about a line. The only information required on a service order is the new information and sufficient information about the line to uniquely identify it.

ESS 2306

LINE CLASS CODE TABLE
NO. 2 ESS

DATE ___ - ___ - ___ (1 2 3 4 5)

BASE & CONTROL ___ (6 7 8 9 10 11)

ESS UNIT ___

PAGE ___ (21) OF ___

FORM CODE 36 (14 15)

ITEM (22 23)	LINE CLASS CODE (25 27)	MAJOR CLASS ORIG. (28 29)	MAJOR CLASS TERM. (30 31)	SYNONYMOUS LCC (32 34)	TOLL DIVERSION (35)	REMARKS (36 79)	REVISE (80)	ITEM (22 23)	LINE CLASS CODE (25 27)	MAJOR CLASS ORIG. (28 29)	MAJOR CLASS TERM. (30 31)	SYNONYMOUS LCC (32 34)	TOLL DIVERSION (35)	REMARKS (36 79)	REVISE (80)
00								50							
01								51							
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49								99							

EXAMPLE

Fig. 10—Form 2306—Line Class Code Table

4.33 The first step of the program store (No. 2 ESS) or main store (No. 2B ESS) update procedure is to freeze the RC buffer areas in call store. The only items updated into program store or main store are the frozen entries. If the RC buffers are not full, new service orders may be inputted without interfering with the update. When the update is complete, only the frozen entries are erased from the buffer area.

J. Listing of Keywords in an ESS Order

4.34 The following is a listing of keywords, keyword modifiers, and message types (denoted by *) used in an ESS order.

ACC Entry in the speed call list to be changed.

***ADD** Add: Indicates that a feature or an equipment is added to the ESS order. A feature or equipment may be added (one or all of them at the same time) when basic service is established on a NEW type ESS order or added on a CHG type ESS order by use of the keyword ADD following the feature.

ADND Attendant Do Not Disturb.

ADO Add-On Conference (Feature): This service allows a customer to hold one party with privacy exclusion while talking to another and the ability to add another party to an established connection in a 3-way function.

ADR Address.

AFO Attendant Call Forwarded Outside.

AFRI Route Index to be used by terminating calls to a centrex line which has been call-fowarded to the attendant.

AL Alarm indicator. Specifies major and minor alarm.

AOSL Automatic Line Insulation Test.

AOUT Attendant Outward Restriction.

AP Barge-in Permitted: Indicates that the caller is permitted to barge-in on a call on a directed pickup basis. It may be used to add or delete BP. For this purpose, either ADD or DLT will always follow this keyword. This feature is for future development.

ARI ACOF (Attendant Control of Facilities) Route Index: If ACOF is in effect, trunks 00 affected, go to either the attendant (if ACOF route index = 0), or to a specified route index.

ARMDN Stand-alone recorded Announcement machine base Remote Miscellaneous Distributor point Number (RMDN). This keyword is used to indicate the RMDN used to turn the recorded announcement on and off. There could be more than one RMDN used to do this, so the RMDN inputted would be the first and the others would follow in sequence (they must be assigned in sequence and not span over two boards).

ATC Attendant Type Code: The range is 1 through 7.

ATF Attendant Speed Calling Feature.

ATOT Attendant Toll Restriction.

ATS Attendant Speed Calling Secondary.

ATYP Alarm type.

BASE This keyword is used when doing bulk service orders. It is placed after the keywords that will be held constant for all the bulk service orders and is used with ***RPT*** keyword.

BC Business Change.

BD Business Disconnect.

BGP Barge in Permitted.

BHT First Hunt Member.

BLC Bill Listed Number.

BLN Special Toll Billing.

BSY Busy Tone Feature.

BTN Bill to Number Feature: The telephone number to which the customer services are billed is generally the listed (directory) number. If the customer service is requested to be billed to another telephone number, then that number is referred to as the billed number.

BV Busy Verify.

CAC Country Access Code tables: This keyword provides for the implementation of the International Direct Distance Dialing feature.

CARTP Carrier Type used for the channel.

CAT Centrex Access Treatment Code.

CD Customer Account Recording.

CDRN Customer Dialed Account Recording Digits Required.

CFA Call Forward—All Calls Feature.

CFB Call Forwarding—Busy Line Feature.

CFBA Call Forwarding—Busy Line—All Calls.

CFBN Call Fowarding—Busy Line—Telephone Number: This number is the telephone number to which an incoming telephone call will be forwarded if the called station is busy and has the Call Forwarding—Busy Line feature.

CFD Call Forwarding—Don't Answer Feature.

CFDA Call Forwarding—Don't Answer—All Calls.

CFDN Call Forwarding—Don't Answer— Telephone Number: This number is the telephone number to which an incoming telephone call will be forwarded if the called station does not answer and has Call Forwarding—Don't Answer feature.

CFN Call forward to number.

CFO Call Forwarding—Outside the Centrex Group.

CFV Call Forward Variable Feature.

CGRP Do Not Disturb Control Group.

CH 1 Customer Dialed Change to Speed Calling 1-Digit List.

CH 2 Customer Dialed Change to Speed Calling 2-Digit List.

CHD Call Hold Feature.

CHG Change: A type of ESS order. (See TYP keyword.)

CHI Charge Index: The range is decimal 1 through 127.

CIL Incoming Call Identification Lamp code.

CLO Customer Line Overflow Counter Number Feature.

CMP Camp-On Feature.

CNF Conference Key.

CNR Control Restrict other lines for FSH.

CNRG Control Restrict Treatment Code.

COA Central Office Access Code Number.

COB Complaint Observing Feature.

COFL Allow Calls on Forwarded Line.

CPG Call Pickup Group Number Feature.

CPU Call Pickup Feature.

CR Control Restriction Code.

CREN Channel Remote Equipment Number.

CSL Change Speed Calling.

CTG 6-Port Conference Circuit Trunk Group Number.

***CTX** Centrex Group Number: The range is decimal 1 through whatever the maximum defined centrex group number is for this office (maximum of 127).

CTYP Carrier Type of Channel Digroup.

CWOR Call Waiting Originating.

CWT Call Waiting.

CWTA Call Waiting Terminating All Calls.

DATE The month and year to be changed to.

DGE Number of Digits Expected: The maximum number is 7.

DGS Digits to be associated with speed calling dial code, divided into a maximum of 65 fields.

DGT The Digits which point to the terminal entry to be changed. It may be from 1 to 4 digits in length. The digits allowable are 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, *, #1.

DISP Controlled Restriction Disposition Code.

***DIT** A terminal entry in the Digit Interpreter Table.

***DLT** Delete: Indicates that a feature or an equipment is deleted from an ESS order.

DLY Provide 800-ms Delay After Sleeve Is Operated.

DMA Directed Pickup Feature.

DNA Do Not Assign.

DP Sleeve Lead enable number: This keyword specifies the peripheral decoder point used to operate an Auxiliary Line Circuit for service observing, fire, police, noise suppression, etc.

DPLR Destination Port Lamp Rate.

DPM Message Register Enable number: This keyword is used when a peripheral decoder buffer (PDB) must be assigned to obtain a message register.

DPO Remote Overflow Register number: This keyword specifies the DPA to be used when overflow from the PBX is to be registered remotely.

DPP Open Switch Interval protection enable number: This keyword specifies the PD point used to operate or release the OSIP circuit.

DPU Directed Pickup Feature.

DRI Dialing Error Route Index.

DSP0 Disposition of DID calls to this station when total or DND restrictions are in effect.

DSP1 Disposition of non-DID calls to this station when total or DND restrictions are in effect.

DSP2 Disposition of DIAL-9 calls from this station when outward restriction is in effect.

DSP3 Disposition of originations from this station when total restriction is in effect.

DSPT Disposition telephone number or route index.

DTP The Data Type presently stored in the terminal entry. (See paragraph 28.10.)

UNA—UNAssigned (or all zero).

UND—UNDefined digit in speed calling range.

SC—# (12) format if table is Speed Call range.

COT—Central Office Trunk access.

CTX—Centrex or PBX-CO extension.

TIE—TIE trunk access.

FX—FX trunk access.

DPU—Pickup.

CCS—Common Controlled Switching arrangment.

RI—Route Index for special routine.

WAT—Wide Area Telecommunication service.

SS—Special Service access.

ATT—Attendant access.

MER—Most Economical Routing access.

PTB—First Word of Digit Tables.

EAB Dial Call Hold.

EAN Dialed Controlled Conference.

EHT Stop Hunt Member: This keyword specified the last member to be hunted when the stop hunt feature is in effect. The number may be less than or equal to the HSZ.

END End of Service Order.

EQPG RSS Equipage. This keyword is used to indicate the RSS mod size to be used by call processing. ODA sets this value to zero on all initial runs and as long as the value stays zero, no maintenance testing or call processing can be done; only some link diagnostics. To allow only maintenance testing, the EQPG must be typed in using the same value shown by SEQPG and the growth bit must be set (see GRTH). SEQPG indicates the RSS mod size the common block is designed to handle. In order for the RSS to be able to be used by call processing and maintenance, the growth bit must be zeroed and EQPG must equal SEQPG.

ESC Threeway Calling Add-On.

ESF Two-digit 30-code speed calling.

ESL One-digit 8-code speed calling.

ESM Call Forwarding Variable.

ESX Call Waiting.

E2H Threeway call transfer individual all calls.

E6G Call Forwarding—Busy Line.

E9G Call Forwarding—Don't Answer.

FFG Centrex group limiting number of lines call forwarded inside.

FFHM The FSH group First Hunt Member.

FHM First Hunt Member. This keyword specifies the first member hunted for a given telephone number. The number associated with the keyword may be less than or equal to the hunt size (HSZ).

FL Recall.

FLHM The FSH groups Last Hunt Member.

FNHM The FSH groups Nite Hunt Member.

FOFG Centrex group limiting number of lines forwarded outside.

FSH Flexible Station Hunting: This keyword places the line on the FSH group.

FSHM The FSH groups Stop Hunt Member.

FWD Call Forwarding.

GND Ground start.

GRP The trunk group in the terminal entry. The range is 70 through the maximum defined for this office (maximum is 511).

GRTH Growth. This keyword is ***not*** used when increasing an RSS from a half to a full mod or a full mod to two mods. Instead it is used for the initial cutover of an RSS. The keyword is used in conjunction with the EQPG keyword and is used to allow maintenance testing of a new RSS before it is put into service. The growth bit changed (set) by this keyword will stop only call processing on an RSS. Bit is set to zero by ODA.

GSAB0-1 There are four ground start applique boards per RSS mod. This keyword is used to indicate which of these boards are equipped on MOD 0-1. The boards do not have to be equipped in sequence.

GSAN Ground Start Applique for RSS.

GST Ground Start (equipment option).

GSZ Group Size: This keyword specifies the maximum number of members (terminals), 2-way and out-dial only that the group may have. The number may be less or equal to the maximum predefined size of the group, from the ODA input forms.

HML Multiline Hunt Group Number.

HSZ Hunt size: This keyword specifies the maximum number of members in the member list that can be hunted over when a call comes into the office in an attempt to find an idle member. The number may be less than or equal to the GSZ.

HTY Hunt Type.

ICG Intercentrex Calling Group.

ICI Incoming call identification lamp number.

***ICP** Intercept: Indicates the type of ESS order. This code is used when a customer service is to be disconnected and placed on operator intercept.

ICTA Intercentrex (within ICC) Call Transfer Allowed.

IOE New Originating Equipment Number.

IROE New RSS Originating Equipment Number.

ISG Intercom SIM Group.

KEY Key Number. This keyword specifies the key number that is associated with a scan point number.

***L** Line Recent Change Message.

LAMP This keyboard specifies the particular lamp on the lamp table being changed. Each lamp is associated with a PDB.

LBRI Loopback Route Index.

LCC Line Class Code: The LCCs are codes for all items of service. Each of the codes consist of three characters; each of which may be either a number or a letter. These characters indicate the major class of service of the customer.

LCIN Logical Channel Identify for Normal messages.

LDN Listed Directory Number.

LDS Simulated Trunk Facilities Group Number for Incoming Calls (Listed Directory Number).

LHM Last Hunt Member: This keyword specifies the last member hunted for a given telephone number. This number may be less than or equal to the hunt group number (HSZ).

LHT Last Hunt Member: This keyword specifies the last member hunted for a given directory number. The number may be less than or equal to the HSZ.

LIST The centrex list of the speed call change.

LS Look for Sharp (#): Indicates that the next digit dialed may be a sharp. It may be used to add or delete LS. Either ADD or DLT will follow this keyword.

MALIT ALIT test mode. This keyword is used to indicate which test mode of the line insulation test circuit to use.

MAN Manual line.

MBR Member Terminal Number. This keyword specifies the member number. This number may be less than or equal to multiline group size (PSZ).

MFE The type of Modem that is used with the SPUC/DL at the Far End of the link (0 = unequipped or for T1 carrier, 1 = 200 series and 2 = 2000 series modem).

***MLH** Multiline Hunt Group: This message type is used to insert, change, or remove any or all translation data for the group or member.

MN Manual Trunk Group: This keyword is used to indicate a manual tie trunk group. Either ADD or DLT will follow this keyword.

MNE The type of Modem that is used with the SPUC/DL at the Near End of the link (0 = unequipped or for T1 carrier, 1 = 200 series and 2 = 2000 series modem).

MRI Memory Record Index.

MSG Message Register: A peripheral decoder point must be associated with the ***MSG*** keyword.

MXDE Maximum Digits Expected: The range of MXDE is from 7 to 12.

NCT Data Restrictions.

NDE Minimum Number of Digits Expected: The range of NDE is from 7 to 12.

NDT The New Data Type to be stored in the terminal entry (see keyword DTP for types allowed).

***NEW** New: Indicates a type of ESS order. (See TYP keyword.)

NFD New Frame Data link and console number: This keyword is the new frame data link and console number to which attendant is to be assigned.

NHT Night Service.

NIQ No idle list or call waiting queue.

NNX The office code to be prefixed.

NOP The Not Operational bit that controls call processing access to a SPUC/DL. Must be either ADD or DLT if the key word is used.

NP Nonpublished.

NSN Night Service Number.

NST Night Hunt Member: This keyword specifies the last member to be hunted when night service is in effect. The number may be less than or equal to the hunt group size (HSZ).

NTE New Terminal Equipment Number. Used when changing the TEN.

NTN New Telephone Number: Used when changing the TN.

OA This keyword indicates when the dialed access code is to be outpulsed. Either ADD or DLT is required if this keyword is used.

OE Originating Equipment Number.

OFD Old Frame Data link and console number: This keyword is the number combination for the old frame data link and console number to which the attendant was assigned.

OGP Old service circuit group number.

OMB Old service circuit member number.

OP Outpulse Access Code: This keyword indicates when the dialed access code is to be outpulsed. Either ADD or DLT is required if this keyword is used.

ORD ESS Order Number: The ESS order number from 0 to 9999 is required on every ESS order.

***OUT** A type of ESS order. (See TYP keyword.)

OVM Hunt List Overflow Member: This keyword is the member to which hunting overflows if all hunt members are busy. Ranges to 1 to 255.

PBD Position Busy Data.

PDA Peripheral Decoder Buffer Address: This keyword is used to specify the peripheral decoder buffer address used for the call waiting lamp.

PDB Peripheral Decoder Buffer: This keyword specifies the PD buffer point used to operate the trunk group busy or ACOF lamps.

PFX Prefix Digits: This may be 1, 2, or 3 decimal digits.

PLA/PLI/PLIT Prohibit Line Insulation Test: This message type is used to prohibit automatic line insulation test (ALIT) from being performed except restore verify.

PLM Prohibit Line Maintenance.

POS Position busy.

POSD Position Status Data.

PRFL Professional Hunt List.

PSG 3-Port SIM Group.

PSZ Multiline Group Size: This keyword specifies the maximum size that the multiline hunt group may have. The number may be less than or equal to the maximum predefined gorup size.

PTN Pointer.

PTY Party Ringing Code Number: This keyword identifies the party position of a 2-party or multiparty line. For 2-party lines, 1 identifies the ring party and 2 identifies the tip party. For a multiparty line, 1 through 8 identifies the party positions.

QRSDB The maximum number of scan and distributor boards equipped. This keyword is used to indicate the total number of scan and distributor boards equipped. There are eight boards, four per mod.

QSAB The number of stand-alone boards equipped. If there are none equipped, there cannot be any special routing directory numbers in the SRDN table.

RALIT ALIT resistant option. This keyword will indicate what resistance to use within the RSS to ALIT test ESS lines. This option is independent of the host ALIT resistance option.

RAX Rate Area data: The geographical area served by the ESS central of-

fice. This keyword is used with keyword LCC to determine the line class code. If it is not used, it is assumed to be zero. The range is 0 through 7.

***RC** Recent Change Input Message.

RCAC Remote Country Access Code tables.

RCFN This keyword is used to input the remote directory number.

RCL Recall Feature.

RD Resident Disconnect.

RDP Distribution Point (Sleeve lead) for RSS.

RDPM RSS Distribution Point Message.

RDPO RSS Distribution Point Overflow.

REC Record the centrex group peg usage and overflow for 3-port SIM group and intercom SIM group on AMA every hour.

RES Restriction code: The range is from 0 to 177777 and must be ***octal.*** CAT code 0 is associated with the right most bit and CAT code 15 with the left most bit.

RI Route Index: Used to indicate the type of intercepting and special routing information to be provided for different call types.

RLMP Register or lamp for overflow.

RMB Remote Make Busy: This keyword specifies which remote make busy key a given number is assigned.

RMK Used to indicate reasons why the line was unassigned.

ROE RSS Originating Equipment Number.

ROH Carrier line.

ROR Remote Overflow Register: The lamp indicator is associated with an overflow register and a multiline hunt group.

RPFX This keyword is used to input any remote directory number prefix digits.

RPT This keyword is used when doing bulk service orders. It is placed at the end of each individual order of the bulk order. When ***RPT*** is used, that order will be executed using the ***CASE*** keywords along with those preceding the ***RPT.***

RSFG Remote Call Forward Simulated Facilities Group Number: This keyword is used to control the number of calls actively forwarded at one time.

RSP RSS Scan Point Number.

RSSCF RSS Coin First option.

RTI Route Index: This is the route index used whenever special routing is to be employed when the given terminal entry is reached. The range is decimal 8 through whatever is the maximum specified; no default value is assumed.

RTIM Manual Line Route Index. This keyword places an originating route index on manual line.

SALIT ALIT test sensitivity. This keyword is used to indicate the ALIT test sensitivity to be used by the RSS and it is independent of the option the host ESS uses.

SAT Satellite Transfer.

SBAC Source Billing on Attendant Handled Calls.

SBGP SCA subgroup number that indicates a FSH first and last hunt member.

SBR Short Burst of Ring on line that is forwarded.

SC 1 Speed Calling 1-Digit: Allows a customer to place a call by dialing one digit.

SC 2 Speed Calling 2-Digit: Allows a customer to place a call by dialing two digits.

SCA Simplified Console Attendant.

SCCW Six seconds of audible ringing followed by silence on call waiting originating.

SDND Station Do Not Disturb.

SDT Second Dial Tone returned. This keyword indicates whether or not second dial tone should be returned to the calling party after the specified access code is dialed. Either ADD or DLT will always follow this keyword.

SEQPG ODA Set Equipage: This keyword is only used during a type NEW recent change. Its only purpose is as an error check to ensure that the correct size RSS common block wanted is being taken form the spare common blocks.

SER Series Completion Feature: This service is used to hunt telephone numbers in series and may be assigned only to 1-party class of service.

SFG The Simulated Facilities Group number. The range is 1 through whatever the maximum defined simulated facilities group number is for this office (maximum is 127).

SHM Stop Hunt Member: This keyword specifies the last member to be hunted when the stop hunt feature is in effect. Stop hunt is used to make a series of multiline hunting terminals busy by operating the stop hunt key by the customer. When this key is operated, no hunting is performed beyond the terminal specified. This number may be less than or equal to the hunt group size (HSZ).

SIEP Stable Information Entry Pointer.

SIM Simulated Trunk Group.

SKEY Key Number. This keyword specifies the key number that is associated with a scan point number.

SLL Sleeve Lead: A peripheral decoder point must be associated with the ***SLL*** keyword. Sleeve leads are used to transmit data from the ESS to remote equipment.

SO Seven digit CCSA dialing only. If a centrex group has only 7 digit CCSA dialing, the information for the trunk group is stored in the terminal entry and this keyword must be ADD. If the centrex group has only one CCSA group and is allowed to dial both 7 and 10 digits, this keyword may either be omitted or qualified with DLT.

SP Scan Point Number: Scan point assignments are obtained from the Network Administrator and recorded on form ESS 2576.

SPLR Source Port Lamp Rate.

SPN Same as SP.

SRDN Special Routing Directory Number. This keyword is used to add, change, or delete any of the four special routing directory numbers. This keyword can be entered up to four times to change all four entries. This can be done because an entry is found by matching the dialed digits fields typed with the entries dialed digits fields. This keyword cannot be used if the value of QSAB is zero.

SRTTR Station Ringer TOUCH-TONE* Telephone on-hook leakage test Resistance requirement.

* Trademark

SSC Special Service Code: The range is decimal 1 through 21 (see TG-2H for definitions).

SSR Special Service Register.

STB Special Toll Billing Feature.

STRI Satellite Transfer Route Index.

SUBB This keyword takes an octal miscellaneous subtranslator base address and finds an empty entry.

SUBG Subset of a Flexible Station Hunting Group: This keyword designates a ***BHT through an LHT.***

TAS Trunk Answer From Any Station Feature.

TBL Table and entry pointer.

TBM Trunk Busy Memory.

TCG Two common controlled switching access (CCSA) groups. If this centrex group has two CCSA groups (both 7 and 7/10 digit dialing), the information for the 7-digit only group is contained in the terminal entry. Information for the 7/10 group is contained in the centrex group information. Either ADD or DLT will always follow this keyword.

TDG Ten-Digit CCSA Group Number.

TDP Ten-Digit CCSA Dialing Permitted.

TEN Terminal Equipment Number: A 6-digit number.

TER Member: This keyword specifies the member number. The number may be less than or equal to the GSZ.

TGB Trunk Group Busy lamp.

THD Thru Dial Feature.

TLI Transmission Loss Insertion.

TLT Test Line Terminal.

TMB Trunk Make Busy.

TN Telephone Number. The customer telephone number must be entered as all numbers; prefix letters are not accepted.

TOP Time Out Plan for Speed Calling.

TP One digit CCSA dialing permitted.

TRC Trace (Calling Line Identification) Feature: This service traces all incoming calls to the customer telephone number and types a record on the maintenance TTY.

TRS Alarm Transition State.

TTC TOUCH-TONE® Calling: This equipment option utilizes a subset having 10 or 12 buttons to push instead of a dial to rotate in the selection of a telephone number. Each button pushed produces a different combination of two audible tones representing a digit. Certain equipment must be installed in the central offices to convert the tones to dial pulses.

TTT Tie Trunk Type: A 1-digit octal number (see TG-2H for definitions).

TW Threeway Calling Feature: This feature allows the customer to add another party to an established call.

TW1 Call Transfer—Attendant Feature: This feature permits the centrex customer to transfer an incoming call to the attendant.

TW2 Call Transfer—Individual Feature: This feature permits the centrex customer to place an existing incoming call on hold, call another

party in or out of the centrex group, and to add the original party to a 3-way call setup or a call transfer to the second party (only one party may be outside the centrex group).

TW 3 Call Transfer-Individual-All Calls Feature: This feature permits the centrex customer to place any existing call on hold, call another party in or out of the centrex group, and add the original party to a 3-way call setup or a call transfer to the second party (only one party may be outside centrex group).

TYP Type: The ESS must know what type of order it is processing. One of the following codes must be associated with the TYP keyword in the ESS order:

(a) NEW (New Customer)—This code is used when telephone service is given to a new customer.

(b) CHG (Change)—This code is used when the data information stored in the ESS for the existing customer is to be changed.

(c) OUT (Disconnect Service)—This code is used when a customer service is to be disconnected and placed on machine intercept.

(d) ICP (Intercept)—This code is used when a customer service feature is to be disconnected and placed on operator intercept.

Note: Before a telephone number on ICP can be made available for reassignment, an OUT order must be prepared and transmitted.

UCL Unconditional Recent Change: This will allow the line recent change to bypass the OE/ROE busy test.

VAC Vacant (or no remarks specified).

VTI Variable Timing Index: This keyword extends the basic call forwarding don't answer timing interval.

VY Verification: This request message is used to verify line and MLHG translation information.

WD Change Word of a Route Index.

WMC Working Member Count.

Refer to glossary at the end of this section for a detailed explanation of those keywords which are designations for specific generic program features.

DELAYED RECENT CHANGE MESSAGES

4.35 The No. 2/2B ESS has no capability for delayed RC messages. The definitions of a delayed recent change is a change that is inputted into the RC buffers but not activated until another input request is made.

4.36 Table C shows when each of the messages is activated. The junctor reassignment flags and program store copy of the traffic work table require the changes to be placed in program store before they are effective and activated.

5. FLOWCHARTS

5.01 A special kind of diagram called a service order RC message flowchart is used to define formats for the various ESS service order RC messages. There are several types of service order RC messages used in No. 2/2B ESS. The six most commonly used RC messages are:

(1) A RC:L/ individual line

(2) A RC:MLH:1/ multiline hunting group

(3) A RC:MLH:2/ multiline hunting group member

(4) A RC:SC/ speed calling list changes

(5) A RC:CTX:000/ centrex group

(6) A RC:FHG:000 000/ flexible station hunt group.

5.02 The service order RC message flowchart, as well as the service order verification (VY)

TABLE C

RECENT CHANGE ACTIVATION

MESSAGE	WHEN MESSAGE IS ACTIVATED	
	AT SUCCESSFUL COMPLETION OF MESSAGE	AT RC UPDATE
A AU:INH	X	
A AU:RC	X	
A AU:RST	X	
A RC:ABT	X	
A RC:ALM		X
A RC:ATT	X	
A RC:CAC	X	
A RC:CF	X	
A RC:CGA	X	
A RC:CGP	X	
A RC:CHL	X	
A RC:CR	X	
A RC:CRI	X	
A RC:CST	X	
A RC:CTX		X
A RC:DAY	X	
A RC:DIG	X	
A RC:DIT		X
A RC:DLG	X	
A RC:DTB		X
A RC:FHG		X
A RC:GRP	WORD 0 ONLY	WORDS 1-7
A RC:HCS	X	
A RC:HRI	X	
A RC:L	X	
A RC:LMP		X
A RC:MHT	X	
A RC:MLH	All except key number specifications	Key number specifications
A RC:NCG	X	

TABLE C (Contd)

RECENT CHANGE ACTIVATION

MESSAGE	WHEN MESSAGE IS ACTIVATED	
	AT SUCCESSFUL COMPLETION OF MESSAGE	AT RC UPDATE
A RC:PRF	X	
A RC:PST	X	
A RC:PUN	X	
A RC:RCH	X	
A RC:RI	X	
A RC:RSP	X	
A RC:RSS	X	
A RC:SC	X	
A RC:SCA		X
A RC:SIM	WORD 0 ONLY	WORDS 1-3
A RC:SVC	X	
A RC:TMB	X	
A RC:TRK	X	
A RC:VTN	X	
A RC:ZRO	X	
A TC:FSH	X	
A TC:LSC		X
A TC:MLH	X	
A TC:PRC	X	
A TC:SVC	X	
A TC:TRK	X	

message flowchart, employs flowlines and dummy lowercase letters to specify data variables. Unique logic symbols are used to define the group (set) of all valid RC and VY messages which may be composed from a particular message flowchart.

A. Flowchart Symbols

5.03 The following flowchart symbols are used in RC and VY flowcharts as indicated:

○ OPTION Symbol: The OPTION symbol is used to indicate that all flowlines leaving the symbol are optional. Any or all such flowline (keyword units) may be selected.

⊗ ***EXCLUSIVE OR Symbol:*** The EXCLUSIVE OR symbol indicates that exactly ***one*** of the flowlines leaving the symbol can be selected.

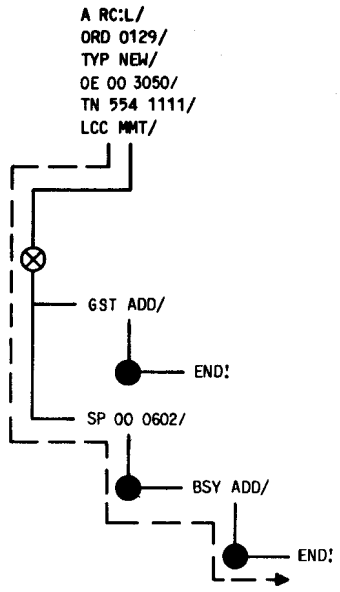
⓪ ***NONEXCLUSIVE OR Symbol:*** The NONEXCLUSIVE OR symbol indicates that one or more of the flowlines leaving the symbol must be selected.

⊘ ***NOT ALLOWED Symbol:*** The ***NOT ALLOWED*** symbol indicates that any flowline leaving this symbol is ***NOT*** allowed.

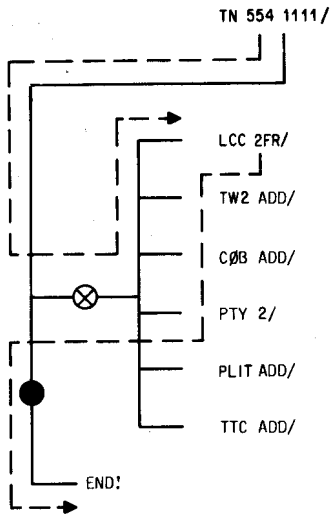
● ***AND Symbol:*** The AND symbol indicates that all flowlines leaving the symbol must be used.

B. Flowlines

5.04 Where a vertical/horizontal flowline leaving a keyword exists, it should be followed to its conclusion (END!). Every flowline terminates with the keyword END! The broken line in the following example flowchart indicates how the path ***may*** be followed.



5.05 Where an exit flowline does not exist after selecting the appropriate keyword, return to the action symbol and proceed to the next action symbol:



C. Line Messages

5.06 The flow diagram in Fig. 11 provides the proper keyword format required in the preparation of service order line messages for new assignments.

5.07 The flow diagram in Fig. 12 provides the proper keyword format required in the preparation of service order line messages for new assignments in a Remote Switching System (RSS).

D. Multiline Hunting Group Messages

5.08 Figure 13 provides the flow diagram indicating the proper keyword format required in the preparation of service order multiline hunting group messages for new assignments.

5.09 Figure 14 provides the flow diagram indicating the proper keyword format required in the preparation of service order multiline hunting group messages for new assignments in an RSS.

E. Multiline Hunting Group Member Messages

5.10 Figure 15 provides the flow diagram indicating the proper keyword format required in the preparation of service order multiline hunting group member messages in order to assign new data.

5.11 Figure 16 provides the flow diagram indicating the proper keyword format required in the preparation of service order multiline hunting group member messages in order to assign new data in an RSS.

F. Telephone Company Changes to Speed Calling Lists

5.12 The flow diagram in Fig. 17 provides the proper keyword format required in the preparation of a service order for telephone company changes to speed calling lists.

G. Centrex Group

5.13 The flow diagram in Fig. 18 provides the proper keyword format required in the preparation of service order coding for a centrex group add and/or change assignments.

H. Centrex Flexible Station Hunt Group

5.14 The flow diagram in Fig. 19 provides the proper keyword format required in the preparation of a service order to add, change, or remove data or to input new data in a centrex flexible station hunt (FSH) group.

5.15 In addition to the message flowcharts given in this section, keyword information with respect to the type of line may be referenced in tables included in IM-2H200. These tables indicate when a keyword is allowed or not allowed for a particular type of line.

6. EXAMPLES OF NONCENTREX LINE MESSAGES

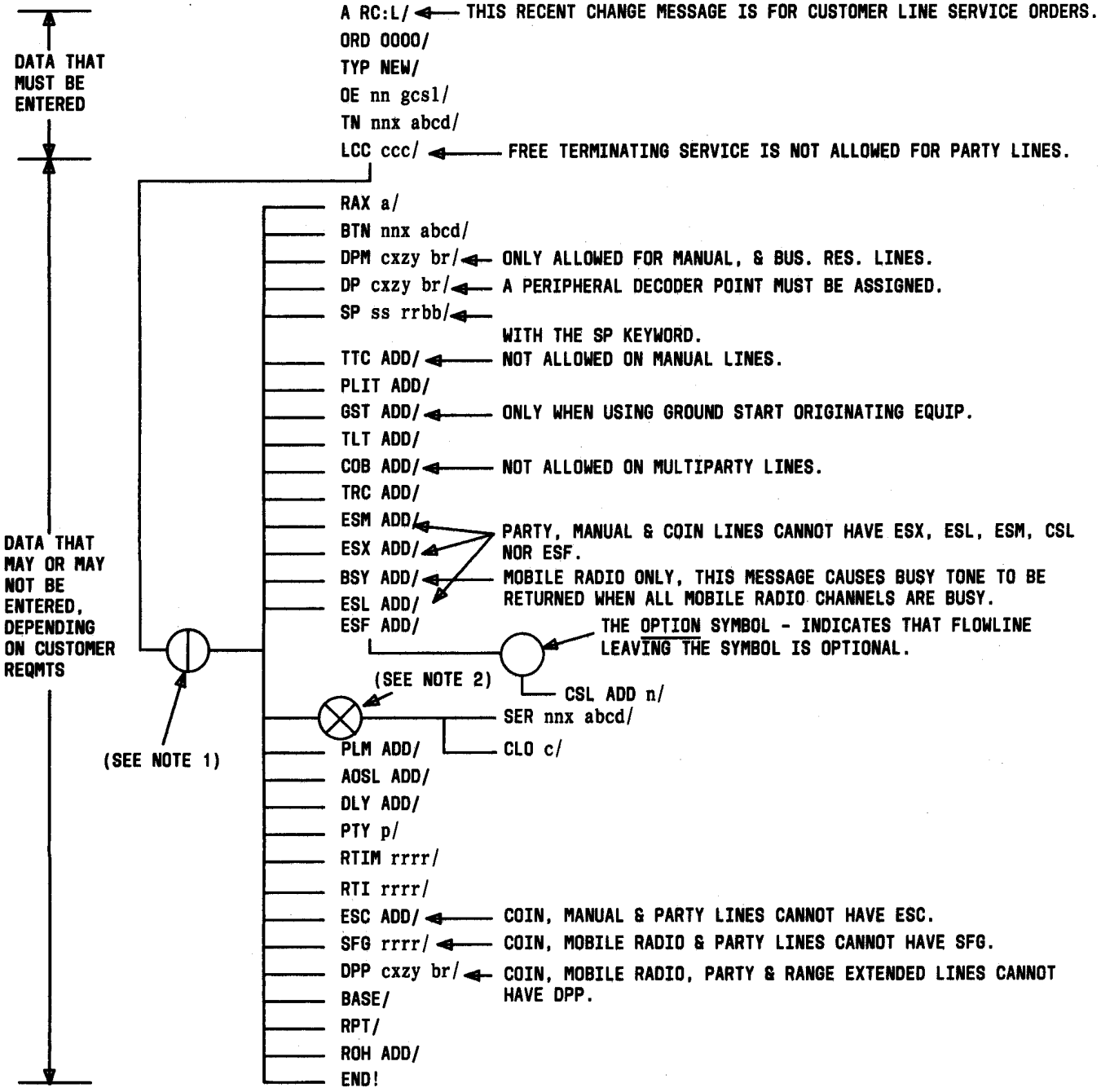
6.01 The following is an example of the use of ***some*** of the keywords in a NEW type ESS order for noncentrex (Fig. 11). One or all of the features and equipment may be added depending on customer requirements.

A RC:L/
ORD 0002/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1FR/
BTN 554 1135/
TTC ADD/
RAX 3/
ESL ADD/
CSL ADD 1/
ESX ADD/
ESC ADD/
COB ADD/
TRC ADD/
END!

6.02 The following is an example of the use of some of the keywords in a CHG-type ESS order for noncentrex. One or all of the features or equipment may be added, changed, or deleted depending on customer requirements.

A RC:L/
ORD 0011/
TYP CHG/
OE 00 1260/
TN 554 2211/
TTC ADD/
PLIT DLT/
ESL ADD/
CSL ADD 1/
ESX DLT/
E2H DLT/
COB ADD/
TRC ADD/
END!

6.03 The following is an example of the use of keywords in an OUT type ESS order.



NOTES:
1. THE NON EXCLUSIVE OR SYMBOL - INDICATING THAT ONE OR MORE OF THE FLOWLINES LEAVING THE SYMBOL MUST BE SELECTED.
2. THE EXCLUSIVE OR SYMBOL-INDICATING THAT EXACTLY ONE OF THE TWO FLOWLINES LEAVING THE SYMBOL CAN BE SELECTED

Fig. 11—Line Messages—New Assignments Flowchart

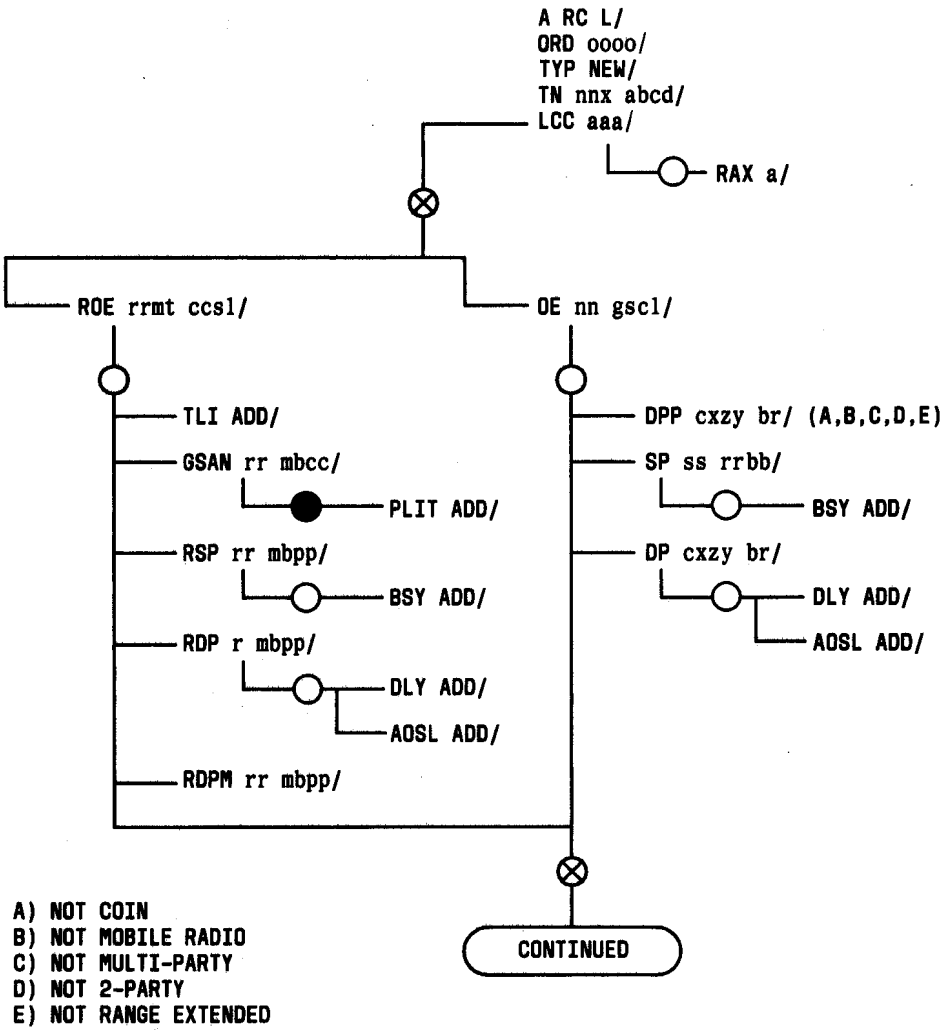


Fig. 12—RSS Line Messages—New Assignments Flowchart (Sheet 1 of 2)

A RC:L/
ORD 0010/
TYP OUT/
OE 00 2160/
TN 554 1201/
END!

6.04 The following information should be considered when any ESS order is being prepared:

Caution: If a dial pulse customer is to be added to a multiparty TOUCH-TONE service line, the input message to add the party must be the same as adding another TOUCH-TONE service party.

(a) Complete and accurate information must be recorded on the ESS 2100 series forms as specified in the Translation Guide, TG-2H, prior to executing any TTY input messages.

(b) If the office is equipped with range extension, caution must be exercised in selecting the OE to be used. If a line requires range extension (line resistance greater than 1300 ohms), it ***must*** be assigned to OE within a network concentrator equipped for range extension. If the line does not require range extension, it ***must not*** be assigned to a range extended network concentrator.

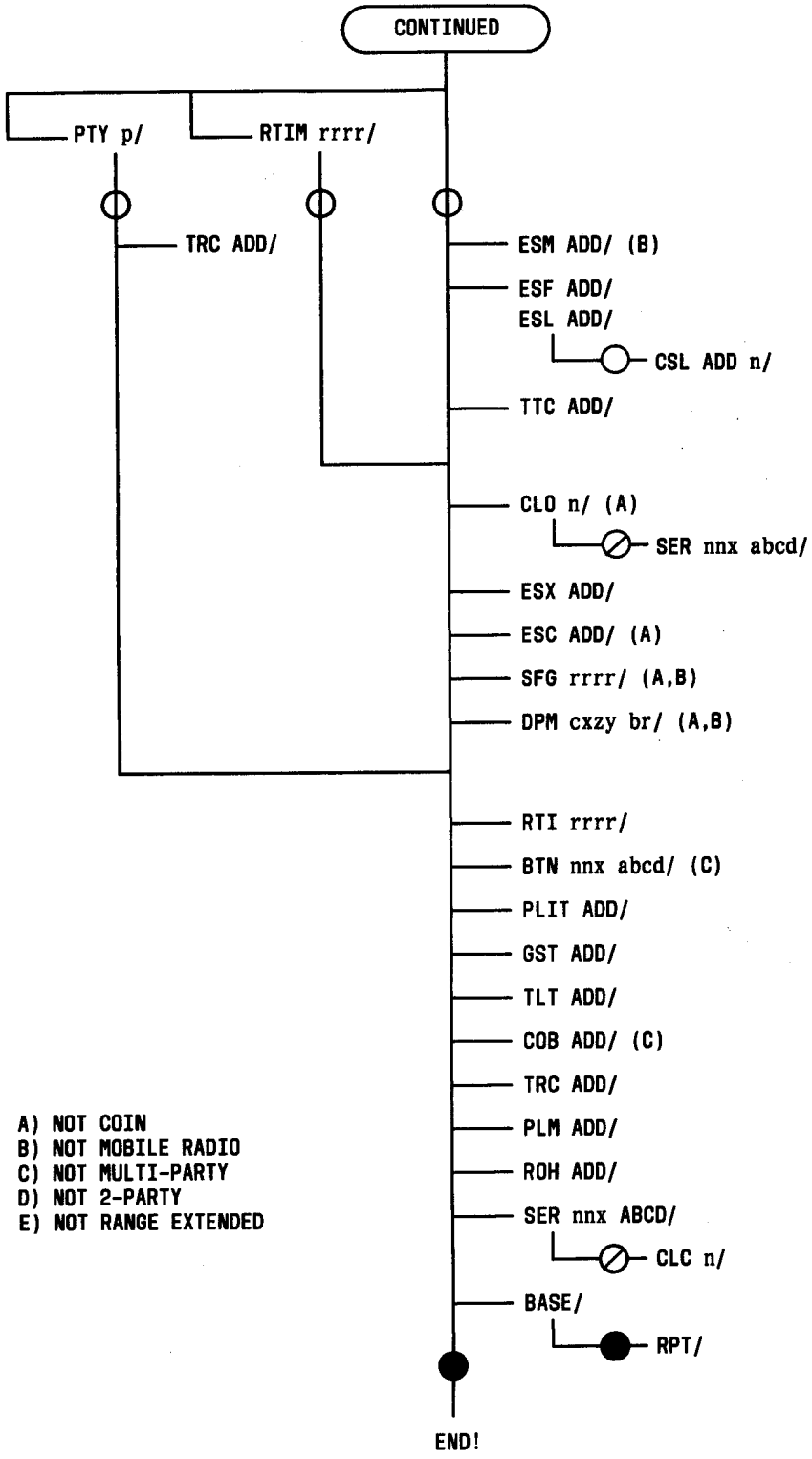


Fig. 12—RSS Line Messages—New Assignments Flowchart (Sheet 2 of 2)

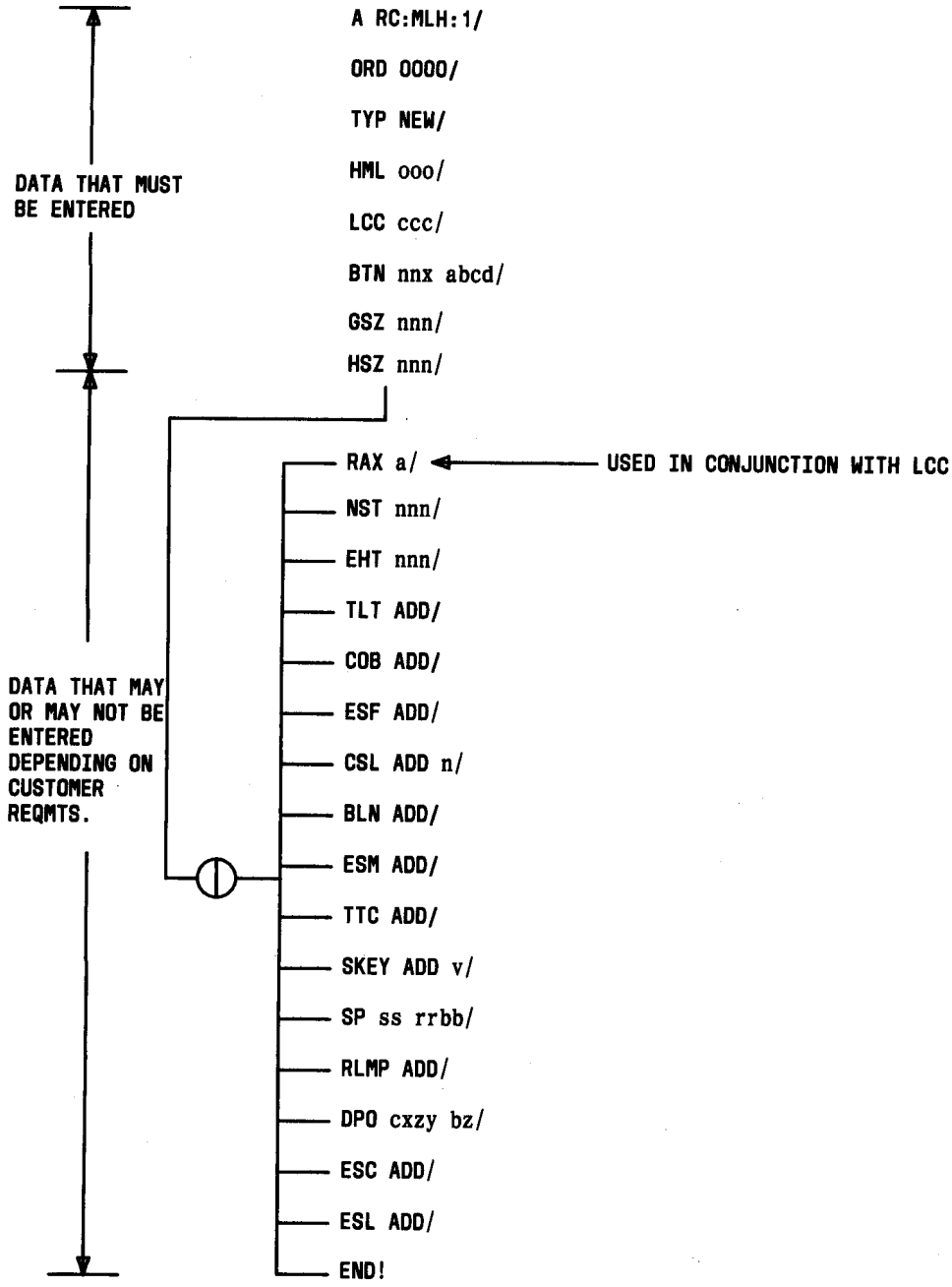


Fig. 13—Multiline Hunting Group Messages—New Assignments Flowchart

(c) The base rate area can be defined as that portion of an exchange area in which tariff specified types and grades of service are furnished at base rates. The base rates do not vary with the distance from the central office rate center without mileage, locality, or zone changes. If only one rate area is defined within an office, it is always assumed by the program to be rate area 0 and no input information is required. If a line must be defined as in other than rate area 0, the following additional input line is required in the ESS order to specify the rate area:

RAX a/
a = rate area number.

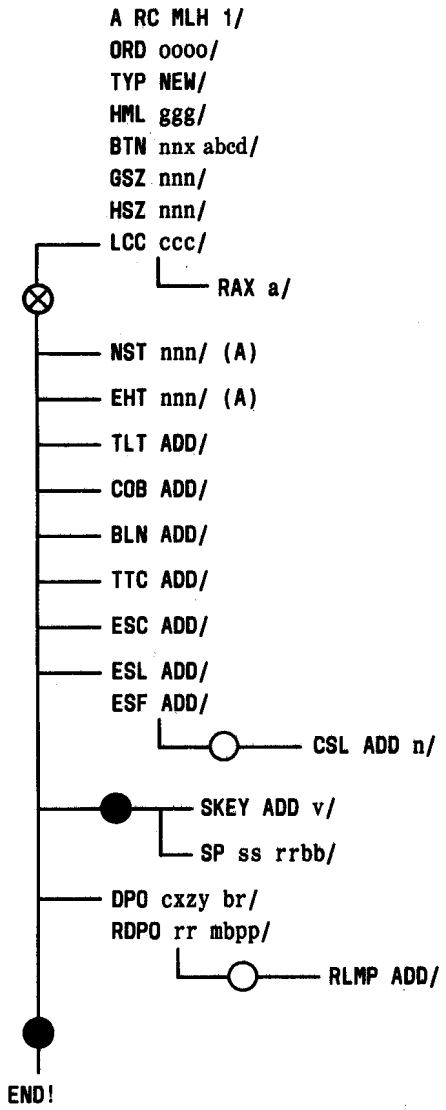


Fig. 14—RSS Multiline Hunting Group Messages—New Assignments Flowcharts

(d) On all party line ESS orders (NEW, CHG, ICP, or OUT), the party number is needed to identify the line. However, if the request is to remove a TN that is on intercept, party keyword is ***not*** required.

A. Individual Party Flat Rate—Residential Service (1FR)

6.05 The following format is used to establish flat rate billing for individual party residential service:

A RC:L/
ORD 0001
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1FR/
RAX 1/
END!

B. Individual Party Flat Rate—Business Service (1FB)

6.06 The following format is used to establish flat rate billing for individual party business service:

A RC:L/
ORD 0002/
TYP NEW/
OE 01 1060/
TN 554 1135/
LCC 1FB/
RAX 1/
END!

C. Two-Party Flat Rate—Residential Service (2FR)—Ring Party

6.07 The following format is used to establish flat rate billing for 2-party (ring) residential service:

A RC:L/
ORD 0004/
TYP NEW/
OE 01 2160/
TN 554 3051/
LCC 2FR/
PTY 1/
RAX 1/
END!

Note: On all party line ESS orders the party number is needed to identify the line.

D. Two-Party Flat Rate—Residential Service (2FR)—Tip Party

6.08 Use the following format to establish flat rate billing for 2-party (tip) residential service.

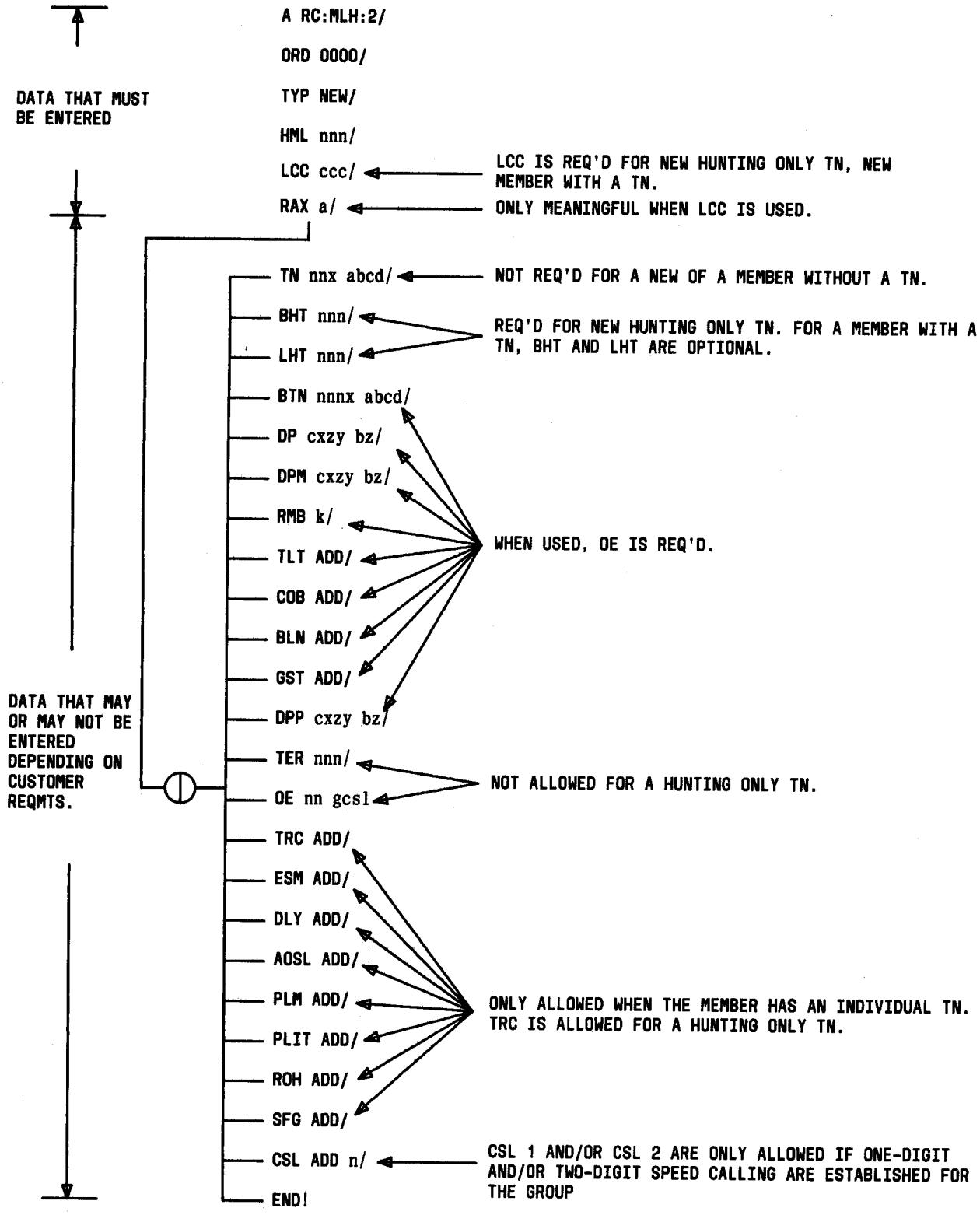


Fig. 15—Multiline Hunting Group Member Messages—New Assignments Flowchart

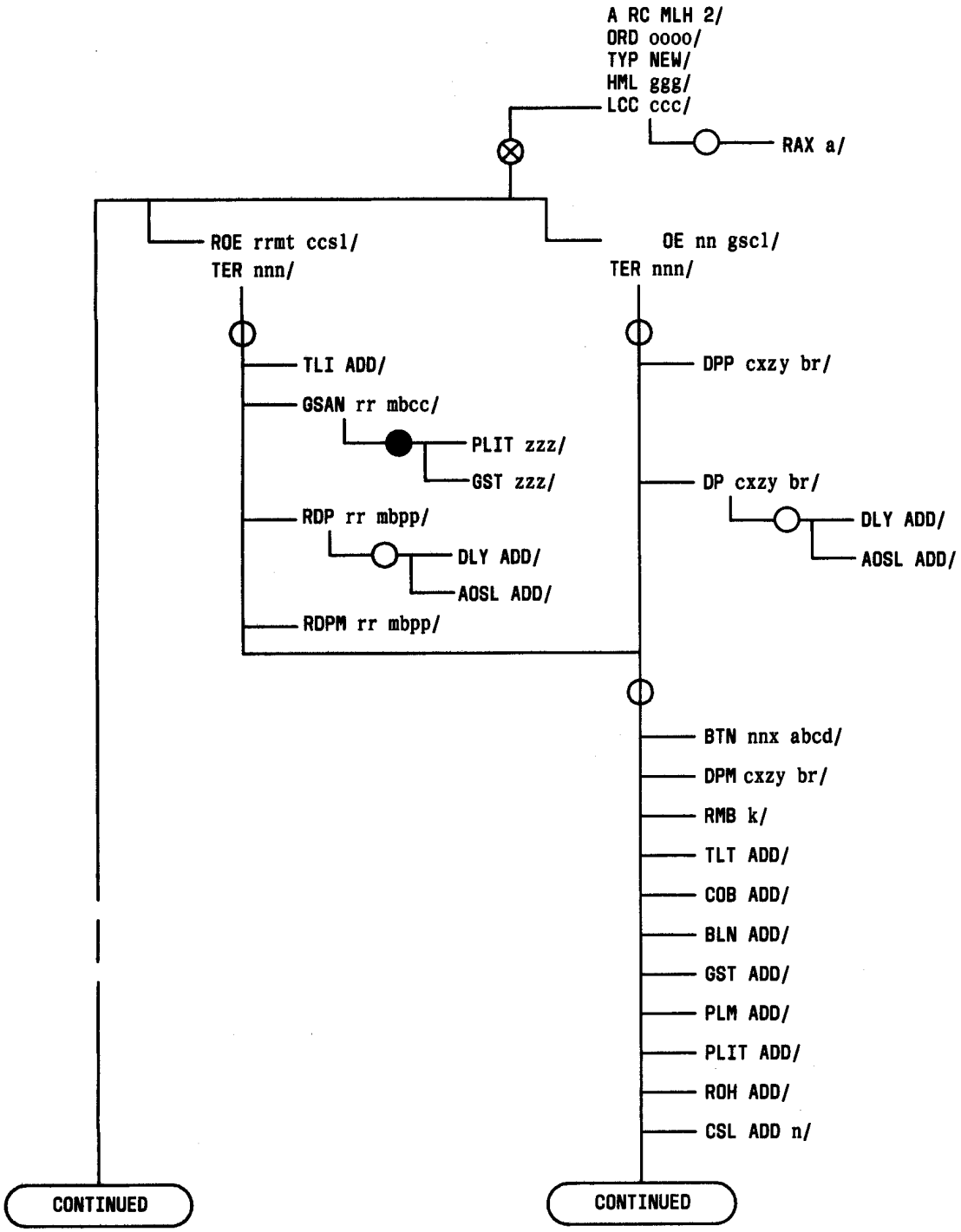


Fig. 16—RSS Multiline Hunting Group Member Messages—New Assignments Flowchart (Sheet 1 of 2)

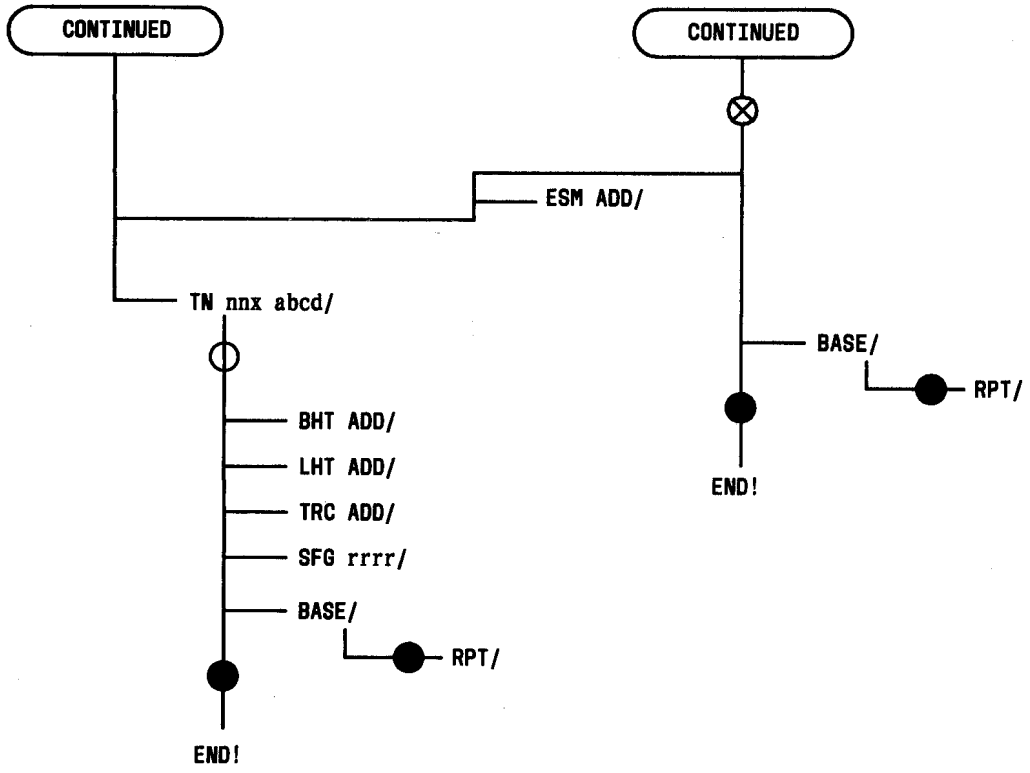


Fig. 16—RSS Multiline Hunting Group Member Messages—New Assignments Flowchart (Sheet 2 of 2)

A RC:L/
ORD 0005/
TYP NEW/
OE 00 3260/
TN 554 3134/
LCC 2FR/
PTY 2/ (Note)
RAX 1/
END!

Note: Not all features or equipment are available to party line customers. Refer to paragraphs associated with individual messages.

E. Multiparty

6.09 Use the following format to establish new service for multiparty lines:

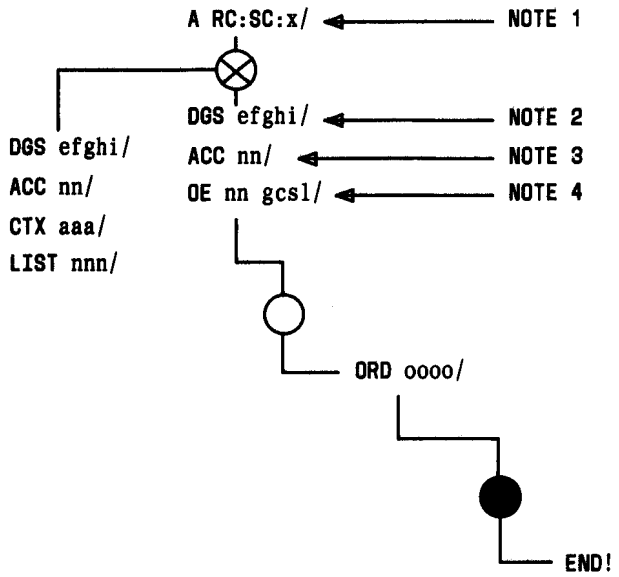
A RC:L/
ORD 0001/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 4FR/
PTY 3/
RAX 1/
END!

Caution: ***If a dial pulse customer is to be added to a multiparty TOUCH-TONE service line, the input message to add the party must be the same as adding another TOUCH-TONE service party.***

F. Coin Service

6.10 Use this format to establish new service for dial tone first coin service:

A RC:L/
ORD 0021/
TYP NEW/
OE 00 3460/
TN 554 8910/
LCC 1PC/
RAX 1/
END!



NOTES:

1. x=1 FOR A CHANGE TO 1-DIGIT SPEED CALL, x=2 FOR A CHANGE TO 2-DIGIT SPEED CALL
2. THE TN ASSOCIATED WITH SC DIAL CODE. THE TN CONTAINS FROM 3 TO 14 DIGITS (EXCEPT 2BE3), DIVIDED INTO A MAXIMUM OF 5 FIELDS AS FOLLOWS:

e	f	g	h	i
x	xxx	xxx	xxx	xxxx

   FOR 2BE3, THE TN CONTAINS 1 AND 3 TO 16 DIGITS, DIVIDED INTO A MAXIMUM OF 5 FIELDS AS FOLLOWS:

e	f	g	h	i
xxxx	xxxx	xxxx	xxxx	xxxx

   THE DIGITS OF THE NUMBER TO BE INPUTTED SHOULD FILL EACH FIELD IN SUCCESSION BEGINNING AT THE RIGHT.

3. FOR SINGLE-DIGIT-RANGE 2-9 FOR NON-CTX LINES
   FOR TWO-DIGIT RANGE 20-49.
   THE CODE SHOULD INDICATE THE SC LIST TO BE CHANGED. THE CUSTOMER MUST ALREADY HAVE THE SC SERVICE.
4. THE FOLLOWING VALUES OF OE ARE NOT ALLOWED:

nn	gcsl
oo	0000
nn	0070
nn	0470
nn	1070
nn	1470

Fig. 17—Telephone Company Changes to Speed Calling Lists—Change Assignments Flowchart

6.11 Use this format for prepay coin service using ground start originating equipment to establish new service:

A RC:L/
ORD 0021/
TYP NEW/
OE 00 3460/
TN 554 8910/
LCC 1PC/
GST ADD/
RAX 1/
END!

G. Mobile Radio

6.12 A scan point must be assigned with mobile radio to indicate that all channels are busy. Scan point assignments must be posted to the exchange customer cable records. A recent change update is required to activate the mobile radio feature.

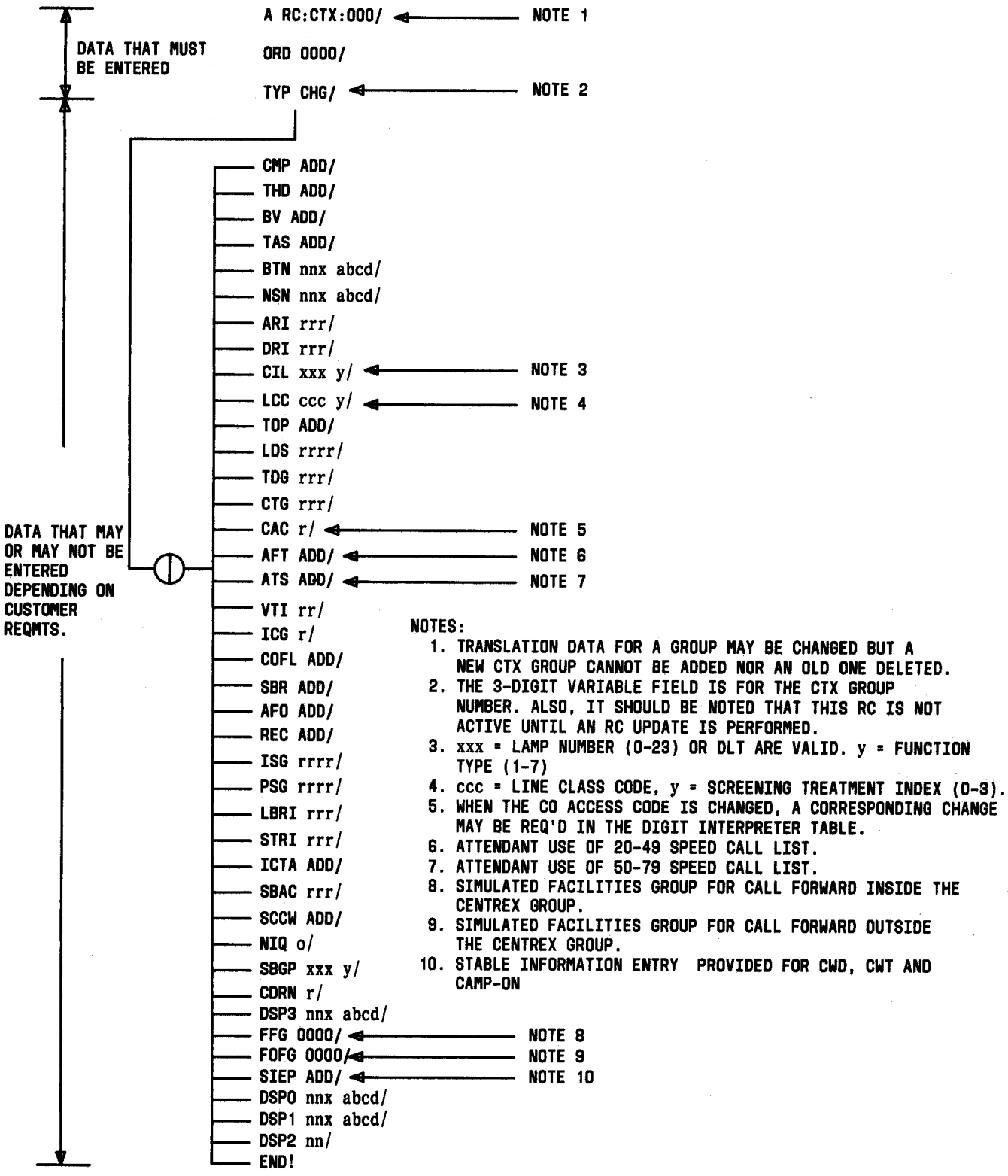


Fig. 18—Centrex Group Add/Change Assignments Flowchart

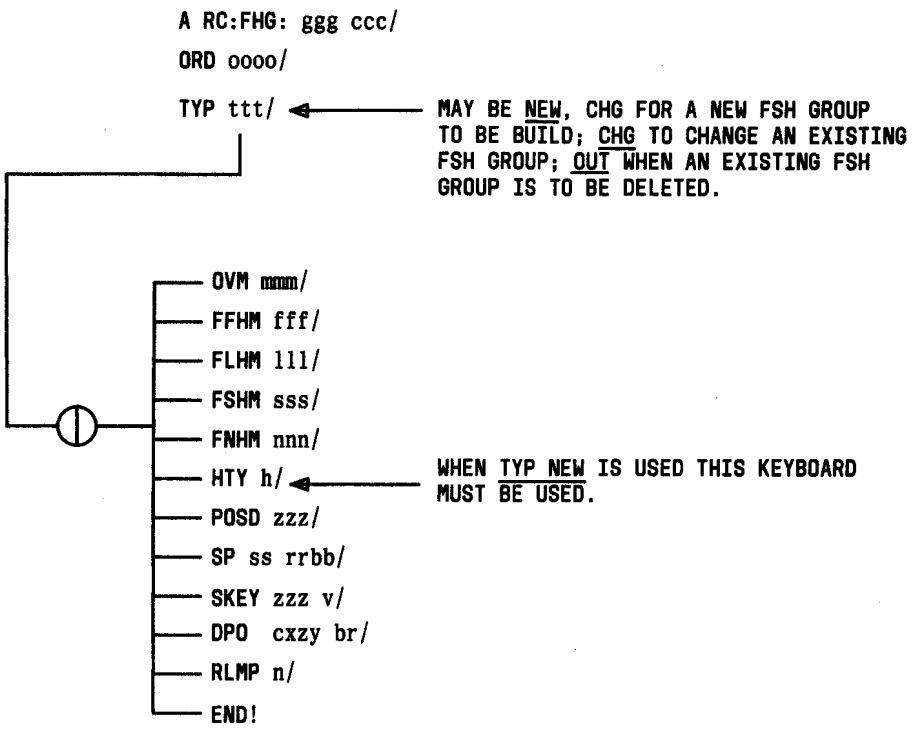
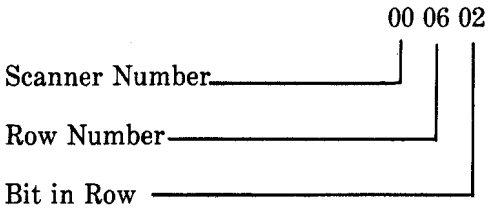


Fig. 19—Centrex Flexible Station Hunt Group Assignment Flowchart

New Installation With Mobile Radio

A RC:L/
ORD 0129/
TYP NEW/
OE 00 3050/
TN 554 1111/
LCC MMT/
SP 00 0602/ (Note 1)
BSY ADD/ (Note 2)
END!

Note 1: A scan point must be assigned with the SP keyword. The following describes what the scan point means:



Note 2: The BSY keyword is optional. BSY ADD/ causes busy tone to be returned when all mobile radio channels are busy. BSY DLT/ causes reorder to be returned when all mobile radio channels are busy. If the BSY keyword is omitted, reorder tone will be returned when all mobile radio channels are busy.

6.13 This message is used to remove the scan point assigned with mobile radio that indicates all channels are busy.

A RC:L/
ORD 0127/
TYP CHG/
OE 00 3050/
TN 554 1111/
LCC MMT/
SP 00 0602/
BSY DLT/
END!

H. Outward WATS (Wide Area Telecommunication Service)

New Installation With Outward WATS (Measured or Full Time)

6.14 Outward Wide Area Telecommunication Service is a feature that provides for billing all calls made within a specified region to the originating party at a special measured or full-time rate. The measured rate allows the customer to pay for the line based on the amount of time the line is used. The full-time rate allows an unrestricted number of outgoing calls. To assign this feature to a line:

```
A RC:L/
ORD 0010/
TYP NEW/
OE 00 2160/
TN 554 1201/
LCC WMJ/
RAX 1/
END!
```

I. 800 Service Feature

New Installation With Full Business Day

6.15 The 800 Service is a terminating feature that provides for billing calls to a terminating party instead of the originating party. The full business day line allows the customer unrestricted number of incoming calls made per line. To implement this feature, a simulated facility group number must be assigned to the line.

```
A RC:L/
ORD 0014/
TYP NEW/
OE 00 3060/
TN 554 1234/
SFG 2/
LCC WFI/
RAX 1/
END!
```

New Installation With Measured Time

6.16 This feature may be implemented for centrex lines or noncentrex manual lines; however, the 800 Service feature is not applicable to coin lines, party lines, or mobile lines. Assigning the 800 Service feature is realized by assigning a simulated facilities group (SFG) to the line. The service order input message would appear as:

```
A RC:L/
ORD 0001/
TYP NEW/
OE 00 1202/
TN 562 2530/
LCC WM3/
SFG 2/
END!
```

6.17 Measured Time 800 Service is identical to Full Business Day 800 Service except that measured time 800 Service allows the customer to pay for the line based on the amount of time the line is used. To assign this feature to a line:

```
A RC:L/
ORD 1234/
TYP NEW/
OE 00 3060/
TN 554 1234/
SFG 3/
LCC WM3/
RAX 1/
END!
```

6.18 To remove the 800 Service from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0322/
TN 318 7238/
SFG/
END!
```

J. Free Terminating Service

6.19 Free terminating service is provided by the assignment of the LCC to a line. Party lines are not permitted to have free terminating service.

New Installation With Free Terminating Service

```
A RC:L/
ORD 0142/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1FT/
RAX 1/
END!
```

6.20 The following message is used to add free terminating service to a line:

A RC:L/
ORD 0143/
TYP CHG/
OE 01 1060/
TN 554 1135/
LCC 1FT/
RAX 1/
END!

6.21 This format is used to remove free terminating service:

A RC:L/
ORD 0144/
TYP CHG/
OE 00 3060/
TN 554 1111/
LCC 1FR/ (Note)
RAX 1/
END!

Note: Change to nonfree LCC.

6.22 In order to suspend service, an LCC is used whose expansion yields a major class of denied service. This LCC must be recorded on the Line Class Code Table, form ESS 2306 (Fig. 10).

(a) For a party line, the party number is needed to identify the line. The 4- and 8-party lines can only have terminating service suspended.

(b) When suspending terminating or suspending originating and terminating service, a route index is needed; but if a route index is not typed, the route index on ESS 2303 output form or a default value of 008 will be used.

(c) A separate LCC in each rate area must be defined for each type of suspension (deny termination, deny origination, or deny both) for each party of 2-party lines. A separate LCC for terminating only suspension in each rate area must be defined for each party of 4- and 8-party lines.

6.23 The following format is used to suspend originating service only:

A RC:L/
ORD 0023/
TYP CHG/
OE 00 3260/
TN 554 3485/
LCC DOG/
RAX 1/
END!

6.24 The following format is used to suspend terminating service only:

A RC:L/
ORD 0004/
TYP CHG/
OE 01 2160/
TN 554 3051/
LCC DTR/
RT1 009/
RAX 1/
END!

6.25 The following format is used to suspend originating and terminating service:

A RC:L/
ORD 1000/
TYP CHG/
OE 00 3260/
TN 554 3485/
LCC DBW/
RTI 009/
RAX 1/
END!

K. Bill to Number (BTN)

6.26 The telephone number to which customer calls are billed is generally referred to as the listed (directory) number. If the customer requests that the service be billed to another telephone number, then the other telephone number is referred to as the bill to number (BTN). The BTN must be an office code defined in that office (see form ESS 2303).

Note: For a party line, the party number is needed to identify the line. Rate area is necessary only if defined as other than 0.

New Installation With Bill to Number

A RC:L/
ORD 0030/
TYP NEW/
OE 00 3060/
TN 554 1111/

LCC 10B/
RAX 1/
BTN 554 1135/
END!

Adding or Changing Bill to Number

A RC:L/
ORD 0031/
TYP CHG/
OE 00 2160/
TN 554 1201/
BTN 554 1111/
END!

Changing Bill to Number to the Listed TN

A RC:L/
ORD 0032/
TYP CHG/
OE 00 2160/
TN 554 1201/
BTN 554 1201/ (Note)
END!

> ***Note:*** The telephone number associated with the BTN keyword is the same as the telephone number associated with the TN keyword.

L. Call Forwarding Variable (ESM) (CFV) (FWD)

6.27 Call forwarding variable allows a customer to have all incoming calls routed to another telephone number. To use this feature, the customer dials the access code 72. Upon hearing second dial tone, the customer dials the 7-digit or 10-digit number within the central office free calling area to which calls are to be transferred. The number dialed will then be rung. If it is answered, the forwarding is established. If the number is not answered, the forwarding is not established unless the customer repeats the dialing procedures within 2 minutes of the first procedure. The customer will hear two bursts of tone, and the number dialed will again be rung. This establishes the forwarding even though the number dialed is not answered. To cancel the call forwarding, the customer must dial the access code 73 and wait for a 4-second time-out. A # symbol may be substituted for the 4-second time-out on 12-button TOUCH-TONE* telephone sets. While forwarding is in effect, calls may be originated from the line normally, but all incoming calls are routed to the line which is forwarded.

*Trademark

> ***Note:*** Party lines, manual lines, coin lines, and measured rate lines cannot have the call forwarding feature.

New Installation With Call Forwarding Variable

A RC:L/
ORD 0100/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 10B/
ESM ADD/
END!

6.28 To remove call forwarding variable from a line:

A RC:L/
ORD 0102/
TYP CHG/
OE 01 1060/
TN 554 1135/
ESM DLT/
END!

M. Call Waiting (ESX) (CWT)

6.29 Call waiting is a feature that informs a customer who is talking on the line that an incoming call is waiting and allows the customer to hold the existing connection to answer the new call. A call waiting tone indicates to the customer that a call is waiting. If the customer takes no action, the tone is repeated once 12 seconds later. To answer the incoming call, the customer depresses the switchhook momentarily. This puts the existing party on hold and answers the incoming call. By depressing the switchhook again, the customer can place the new call on hold and return to the original call. Note that all three cannot be brought together in a conference state. If the customer with ESX hangs up with a party on hold or on call waiting, the customer is rung and is connected to the held call upon answer. If a party on hold or on call waiting hangs up, the line is disconnected. If the party being talked to hangs up, the customer can talk to another party on hold or on call waiting by momentarily depressing the switchhook.

> ***Note:*** Party lines, manual lines, and coin lines cannot have the call waiting feature.

New Installation With Call Waiting

A RC:L/
ORD 0103/
TYP NEW/
OE 01 2160/
TN 554 3051/
LCC 1OB/
RAX 1/
ESX ADD/
END!

6.30 To add call waiting to existing line:

A RC:L/
ORD 0104/
TYP CHG/
OE 01 2160/
TN 554 3051/
ESX ADD/
END!

6.31 To remove call waiting from a line:

A RC:L/
ORD 0105/
TYP CHG/
OE 01 2160/
TN 554 3051/
ESX DLT/
END!

N. Threeway Calling Add-On (ESC) (TW) (ADO)

6.32 The threeway calling add-on feature allows a customer to add another party to a call already established. To use this feature, the customer depresses the switchhook momentarily while talking to another party. This will give the customer dial tone so that the second number may be dialed. The customer may now talk to this party privately. The original party is on hold until the customer operates the switchhook to connect all three in the conference mode. This may be accomplished before or after the second party answers. If the party to be added on does not answer, operation of the switchhook will add on the original party and a second operation of the switchhook will disconnect the second party. If either of the two parties the customer is talking with hangs up, the remaining line will still be connected. If the customer hangs up, all three lines will be disconnected.

> ***Note:*** Party lines, manual lines, and coin lines cannot have the add-on conference feature.

New Installation With Threeway Calling Add-On

A RC:L/
ORD 0129/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1FR/
RAX 1/
ESC ADD/
END!

6.33 To remove threeway calling from a line:

A RC:L/
ORD 0131/
TYP CHG/
OE 01 1060/
TN 554 1135/
ESC DLT/
END!

O. Complaint Observing (COB)

6.34 The complaint observing feature allows all message rate calls from a line to be detail billed on the AMA tape. The purpose of this feature is to provide detailed information regarding all charges made for toll calls.

> ***Note:*** For a party line, the party number is needed to identify the line. Rate area is necessary only if defined as other than 0.

New Installation With Complaint Observing

A RC:L/
ORD 0129/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1FR/
RAX 1/
COB ADD/
END!

6.35 The following input message must be used to cause all message rate calls from lines with the complaint observing feature to be detail billed on the AMA:

M AM:OBS:fg hi n!

All message rate calls normally recorded on the AMA will be detail billed until the message is canceled or

the call store is cleared by a stable clear maintenance action caused by a system failure.

6.36 To remove complaint observing from a line:

```
A RC:L/
ORD 0102/
TYP CHG/
OE 01 1060/
TN 554 1135/
COB DLT/
END!
```

P. TOUCH-TONE Calling (TTC)

6.37 The TOUCH-TONE calling feature allows the use of a pushbutton set instead of a rotary dial set at the customer premises.

> ***Note:*** For a party line, the party number is needed to identify the line. Rate area is necessary only if defined as other than 0.

New Installation With TOUCH-TONE Calling

```
A RC:L/
ORD 0132/
TYP NEW/
OE 00 2160/
TN 554 1201/
LCC 1FR/
RAX 1/
TTC ADD/
END!
```

6.38 To remove TOUCH-TONE calling from a line:

```
A RC:L/
ORD 0134/
TYP CHG/
OE 00 2160/
TN 554 1201/
TTC DLT/
END!
```

Q. Prohibit Line Insulation Test (PLIT) (PLI)

6.39 The prohibit line insulation test (PLIT) prevents the automatic line insulation test (ALIT) from being performed except restore verify. The PLIT is assigned on an individual basis to a line. (PLA should be used with the 2BE3 generic.)

> ***Note:*** For a party line, the party number is needed to identify the line. Rate area is necessary only if defined as other than 0.

New Installation With Prohibit Line Insulation Test

```
A RC:L/
ORD 0135/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1OB/
RAX 1/
PLIT ADD/
END!
```

6.40 To add prohibit line insulation tests to a line:

```
A RC:L/
ORD 0136/
TYP CHG/
OE 00 3011/
TN 553 2121/
PLIT ADD/
END!
```

6.41 To remove prohibit line insulation tests from a line:

```
A RC:L/
ORD 0137/
TYP CHG/
OE 01 1060/
TN 554 1135/
PLIT DLT/
END!
```

R. Call Trace (Calling Line Identification) (TRC)

6.42 There are two types of call tracing available in the No. 2/2B ESS. The first type of trace identifies calls that are currently in progress on a 1-shot basis, and the other type identifies either all calls to a given line in the office or for a given number outside the office. Call tracing is covered in detail in TOP 232-090-022 for the No. 2B ESS and TOP 232-090-023 for the No. 2 ESS.

> ***Note:*** For a party line, the party number is needed to identify the line. Rate area is necessary only if defined as other than 0.

New Installation With Call Trace

```
A RC:L/
ORD 0150/
TYP NEW/
OE 00 3060/
```

TN 554 1111/
LCC 1FR/
RAX 1/
TRC ADD/
END!

6.43 When the trace feature is assigned to a telephone number, the Network Administrator should be notified to have the trace recorded on forms ESS 2101 and ESS 2105 for that number and MLHG.

6.44 Whenever a call attempt is made to a telephone number which has the trace feature applied, a TTY message is printed whether or not the call is completed.

6.45 To remove call trace from a line:

A RC:L/
ORD 0152/
TYP CHG/
OE 00 3060/
TN 554 1111/
TRC DLT/
END!

S. Series Completion (SER)

6.46 Series completion is a form of hunting which allows calls to be routed to another telephone number if the called line is busy. Any telephone number assigned to the office may be used as the series completion number. Series completion lines must be added on separate ESS orders. The lines must be entered in reverse order (last line first, etc). The various types of series completion assignments are as follows:

(1) New Installation With Series Completion

(2) Adding a New Installation to First Line in an Existing Series Completion Group

(3) Adding a New Installation to Last Line in an Existing Series Completion Group

(4) Adding an Existing Line to Last Line in an Existing Series Completion Group

(5) Adding an Existing Line to First Line in an Existing Series Completion Group

(6) Exchanging First Line in an Existing Series Completion Group With an Existing Line

(7) Exchanging Last Line in an Existing Completion Group with an Existing Line

(8) Exchanging Any Line (Except First Line or Last Line) in an Existing Series Completion Group with an Existing Line

(9) Removing First Line in an Existing Series Completion Group

(10) Removing Last Line in an Existing Series Completion Group

(11) Removing Middle Line in an Existing Series Completion Group.

Note: For a party line, the party number is needed to identify the line. SER cannot be added to a line with CLO.

New Installation With Series Completion

6.47 Three ESS orders are used to connect the following three lines in series completion.

- 5548151—First line in series completion group
- 5543485—Middle line in series completion group
- 5543379—Last line in series completion group.

6.48 In the following example, the three lines are entered in reverse order (last line first, etc).

(1) Use this format for the first order which is the last line in the series completion group:

A RC:L/
ORD 0106/
TYP NEW/
OE 01 1160/
TN 554 3379/
LCC 1OB/
END!

(2) Use this format for the second order which is for the middle line in the series completion group:

A RC:L/
ORD 0107/

TYP NEW/
OE 00 2360/
TN 554 3485/
LCC 1OB/
SER 554 3379/
END!

Note: SER telephone number is the same as TN number in first order.

(3) Use this format for the third order which is for the first line in the series completion group:

A RC:L/
ORD 0108/
TYP NEW/
OE 01 1260/
TN 554 8151/
LCC 1OB/
SER 554 3485/
END!

Note: SER telephone number is the same as TN number in second order.

Adding a New Installation to the First Line in an Existing Series Completion Group

6.49 In the following example, telephone number 5548379 (a new line) is series completed to telephone number 5548151 (the first line in the series completion group).

A RC:L/
ORD 0109/
TYP NEW/
OE 00 3460/
TN 554 8379/
LCC 1OB/
SER 554 8151/
END!

Adding a New Installation to the Last Line in an Existing Series Completion Group

6.50 In the following example, telephone number 5543379 (the last line in the series completion group) is series completed to telephone number 5548784 (a new line).

6.51 Two ESS orders are needed. The first order is to install the new line 5548784 and the second order is to change the last line 5543379 so that the last line is series completed to the new line 5548784.

(1) Use this format for the first order:

A RC:L/
ORD 0110/
TYP NEW/
OE 01 1360/
TN 554 8784/
LCC 1OB/
END!

(2) Use this format for the second order:

A RC:L/
ORD 0111/
TYP CHG/
OE 01 1160/
TN 554 3379/
SER 554 8784/
END!

Adding an Existing Line to the Last Line in an Existing Series Completion Group

6.52 In the following example, telephone number 5543379 (the last line in the series completion group) is series completed to telephone number 5541111 (an existing line).

A RC:L/
ORD 0112/
TYP CHG/
OE 01 1360/
TN 554 3379/
SER 554 1111/
END!

Adding an Existing Line to the First Line in an Existing Series Completion Group

6.53 In the following example, telephone number 5541135 (an existing line) is series completed to telephone number 5548151 (the first line in the series completion group).

A RC:L/
ORD 0113/
TYP CHG/
OE 01 1060/
TN 554 1135/
SER 554 8151/
END!

Exchanging the First Line in an Existing Series Completion Group With an Existing Line

6.54 In the following example, telephone number 5548151 (the first line in the series completion group) is exchanged with 5541201 (an existing line). Two ESS orders are needed. The first order is to remove the first line 5548151 from the series completion group, and the second order is to install the existing line 5541201 in the series completion group.

(1) Use this format for the first order:

A RC:L/
ORD 0114/
TYP CHG/
OE 01 1060/
TN 554 8151/
SER/
END!

(2) Use this format for the second order:

A RC:L/
ORD 0115/
TYP CHG/
OE 00 2160/
TN 554 1201/
SER 554 3845/
END!

Exchanging the Last Line in an Existing Series Completion Group With an Existing Line

6.55 In the following example, telephone number 5543379 (the last line in the series completion group) is exchanged with 5543134 (an existing line).

Note: The change is made on line 5543485 which series completes to last line 5543379.

A RC:L/
ORD 0117/
TYP CHG/
OE 01 1360/
TN 554 3485/
SER 554 3134/
END!

Exchanging Any Line (Except the First Line or the Last Line) in an Existing Series Completion Group With an Existing Line

6.56 In the following example, telephone number 5543485 (the middle line in the series completion group) is exchanged with 5543051 (an existing line).

6.57 Three ESS orders are needed. The first order is to remove the middle line 5543485 from the series completion group; the second order is to install the existing line 5543051 in the middle line position and to have the new middle line series completed to the last line 5543379, and the third order is to have the first line 5548151 series completed to the new middle line 5543051.

(1) Use this format for the first order:

A RC:L/
ORD 0118/
TYP CHG/
OE 00 2360/
TN 554 3485/
SER/
END!

(2) Use this format for the second order:

A RC:L/
ORD 0119/
TYP CHG/
OE 01 2160/
TN 554 3051/
SER 554 3379/
END!

(3) Use this format for the third order:

A RC:L/
ORD 0120/
TYP CHG/
OE 01 1260/
TN 554 8151/
SER 554 3051/
END!

Removing the First Line in an Existing Series Completion Group

6.58 In the following example, telephone number 5548151 (the first in the series completion group) is removed from the group.

A RC:L/
ORD 0122/
OE 00 2160/
TN 554 8151/
SER/
END!

Removing the Last Line in an Existing Series Completion Group

6.59 In the following example, telephone number 5543379 (the last line in series completion group) is removed from the group.

Note: The change is made to the middle line 5543485 which series completes to the last line 5543379.

A RC:L/
ORD 0123/
TYP CHG/
OE 01 1360/
TN 554 3485/
SER/
END!

Removing the Middle Line in an Existing Series Completion Group

6.60 In the following example, telephone number 5543485 (the middle line in series completion group) is removed from the group.

Note: Removal of the middle line 5543485 breaks the series completion chain. The series completion chain must be reestablished by series completing the first line 5548151 to the last line 5543379.

6.61 Two ESS orders are needed. The first order is to change the first line 5548151 to series complete to the last line 5543379, and the second order is to remove the middle line 5543485 from the group.

(1) Use this format for the first order.

A RC:L/
ORD 0125/
TYP CHG/
OE 01 1260/
TN 554 8151/
SER 554 3379/
END!

(2) Use this format for the second order:

A RC:L/
ORD 0124/
TYP CHG/
OE 01 2160/
TN 554 3485/
SER/
END!

T. Sleeve Lead (DP)

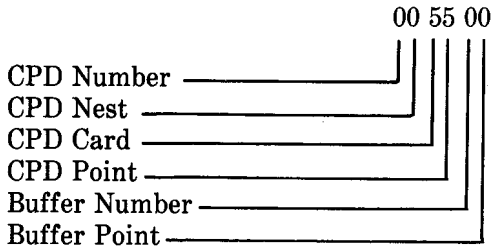
6.62 Sleeve leads are required to pass data from the ESS to remote equipment. Sleeve leads require cable facility assignments. Sleeve lead assignments must be obtained from the Network Administrator, and they must be posted to the Exchange Customer Cable Records or Dedicated Plant Assignment Card in the same manner as other miscellaneous equipment.

Note: For a party line, the party number is needed to identify the line.

New Installation With Sleeve Lead

A RC:L/
ORD 0138/
TYP NEW/
OE 00 3060/
TN 554 1111/
LCC 1OB/
DP 0055 00/ (Note)
END!

Note: A peripheral decoder point must be assigned with the DP identifier. The following describes what the peripheral decoder point means to central office personnel:



6.63 To remove sleeve lead from a line:

Note: When DP is removed, DLY and AOSL are also removed if on the line.

A RC:L/
ORD 0141/
TYP CHG/
OE 01 1060/
TN 554 1135/
DP/
END!

U. Message Register (DPM) (MSG)

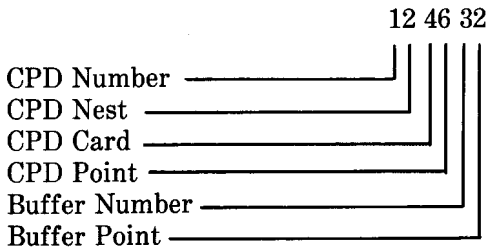
6.64 The DPM keyword precedes the peripheral decoder point that is associated with the message register. A cable facility assignment is required to connect the peripheral decoder to the remote message register. The peripheral decoder must be posted in the assignment records (ECCR or DPAC). The peripheral decoder assignment is obtained from the Network Administrator.

> ***Note:*** Party lines, mobile radio lines, and coin lines are not permitted to be equipped with a message register.

New Installation With Message Register

```
A RC:L/
ORD 0103/
TYP NEW/
OE 01 2160/
TN 554 3051/
LCC 1OB/
DPM 1246 32/ (Note)
END!
```

> ***Note:*** A peripheral decoder point must be assigned with the DPM identifier. The following describes what the peripheral decoder point means to central office personnel.



6.65 To remove message register from a line:

```
A RC:L/
ORD 0105/
TYP CHG/
OE 01 2160/
TN 554 3051/
DPM/
END!
```

V. Special Coded Ringing

6.66 A special ringing code may be assigned to an individual party or 2-party telephone. The ring codes that may be used are the same as 8-party semiselective ringing.

Individual Party

6.67 Coded ringing may be assigned to an individual party by changing the LCC to a special LCC that has the desired ring code defined in the major terminating class.

Two Party

6.68 One or both parties on 2-party lines may have coded ringing assigned by changing the line(s) LCC to a special LCC that has the desired ring code defined in the major terminating class. For special situations, both parties may be rung and billed as tip party or as ring party if the LCCs are defined with the appropriate major terminating classes.

W. Ground Start (GST) (GND)

6.69 To designate a line as ground start:

```
A RC:L/
ORD 0001/
TYP NEW/
OE 01 0232/
TN 555 1212/
LCC 1SP/
GST ADD/
END!
```

> ***Note:*** For party lines, the party number is also required to uniquely identify the line. The keyword GSAN is a RSS ground start applique number and is required on all RSS coin or ground start lines.

6.70 The service order must be coordinated with work in the office to restrap the line ferrod for ground start. The OE assignment rules specify that all ground start lines should appear on network levels 0 or 2.

6.71 To change a line to loop start:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0232/
TN 555 1212/
GST DLT/
END!
```

X. 800 Service

6.72 The 800 Service is a terminating feature that provides for billing all calls to a terminating party (called party) instead of the originating party (calling party). This feature may be implemented for centrex line or noncentrex manual lines; however, the 800 Service feature is not applicable to coin lines, party lines, or mobile lines. Assigning the 800 Service feature is realized by assigning a simulated facilities group (SFG) to the line:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 00 1202/
TN 562 2530/
SFG 2/
END!
```

6.73 To remove the 800 service feature from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0322/
TN 318 7238/
SFG 0/
END!
```

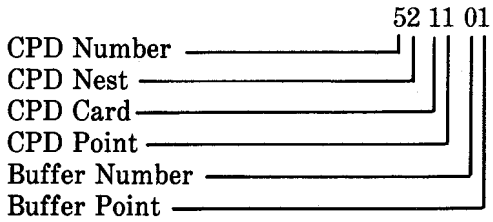
Y. Open Switch Interval Protection (DPP)

6.74 The open switching interval protection feature eliminates the open circuit to the central office battery during a switching sequence. This is accomplished by a software change which connects battery through the open switching interval protection circuit during what would have been the open interval.

New Installation With Open Switch Interval Protection

```
A RC:L/
ORD 0020/
TYP NEW/
OE 01 1062/
LCC 10B/
TN 554 2122/
DPP 5211 01/
END!
```

Note: A peripheral decoder point must be assigned with the DPP identifier. The following describes what the peripheral decoder point means to central office personnel.



6.75 To remove the open switching interval protection from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0322/
TN 318 7238/
DPP/
END!
```

Z. Prohibit Automatic Line Maintenance Test (PLM)

6.76 This feature prevents the junctor reassignment (JASINT) and network fabric (NETFAB) programs from performing maintenance tests on individual line. This feature also prevents the automatic line insulation test (ALIT) program from performing insulation tests.

New Installation With Prohibit Automatic Line Maintenance Test

```
A RC:L/
ORD 0002/
TYP NEW/
OE 002 1132/
TN 554 2211/
LCC 10B/
PLM ADD/
END!
```

6.77 To remove prohibit automatic line maintenance test from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0222/
TN 322 1345/
PLM DLT/
END!
```

AA. Automatic Line Insulation Test (AOSL)

6.78 This maintenance feature provides an indication to the processor that automatic line insulation test should operate the sleeve lead ***before*** testing the line.

New Installation With Automatic Line Insulation Test

A RC:L/
ORD 0112/
TYP NEW/
OE 01 2111/
TN 554 2121/
DP 0055 00/
LCC 10B/
AOSL ADD/
END!

> ***Note:*** This feature can not be added if a sleeve lead is not defined for the line.

6.79 To remove automatic line insulation test from a line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0322/
TN 332 2310/
AOSL DLT/
END!

AB. Carrier Line (ROH)

6.80 This call processing feature indicates that a particular line is a carrier line and should ***not*** be given receiver off-hook tone. To assign the carrier line feature to a line:

A RC:L/
ORD 0113/
TYP NEW/
OE 01 3123/
TN 554 3111/
ROH ADD/
END!

6.81 To remove carrier line feature from a line:

A RC:L/
ORD 0001/
TYP CHG/
OE 00 4402/
TN 562 2547/
ROH DLT/
END!

AC. Reduction of Service Order Input for Lines

6.82 Keywords BASE and RPT are used as a means of executing many recent changes in one service order. Bulk service order assignments are allowed for the following types of line messages:

- Line
- Speed Call
- Simplified Console Attendant
- Multiline Hunt Group Number.

Bulk service order messages are activated by first typing the keyword data that is common to all of the messages to be entered, followed by the special keyword ***BASE/.***

6.83 The keyword data that is unique to the first service order is then entered, followed by the special execute keyword ***RPT/.*** This keyword will appear to the EF-2 or later generic program to be the execute character (!).

6.84 Each subsequent service order may be executed by typing only the keywords whose data is unique to that particular message followed by the keyword ***RPT/.*** The string of service orders may be ended by using the keyword ***END!*** instead of ***RPT/*** at the end of the last message. An example of a bulk service order is as follows:

A RC:L/
ORD 0001/
TYP CHG/
TTC ADD/
ESL ADD/
BASE/
TN 555 2100/
OE 01 2100/
RPT/
TN 555 2101/
OE 01 2101/
RPT/
TN 555 2102/
OE 01 2102/
DP 0015 11/
RPT/

TN 555 2103/
OE 01 2103/
RPT/
TN 555 2104/
OE 01 1623/
END!

AD. Provide an 800-Millisecond Delay (DLY)

6.85 Providing 800-ms delay after sleeve lead is operated feature ensures trunk-to-line assignments with concentrator switching systems. To assign this feature to a line:

New Installation With Delay Feature

A RC:L/
ORD 0114/
TYP NEW/
OE 01 3213/
TN 555 2121/
DP 0055 00/
LCC PBX/
DLY ADD/
END!

> ***Note:*** This message cannot be entered if a sleeve lead is not defined for a line.

6.86 To remove 800-ms delay after sleeve lead is operated:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 3333/
TN 312 2456/
DLY DLT/
END!

> ***Note:*** When the sleeve lead feature is removed from a line, the automatic line insulation test (AOSL) and 800-ms delay after sleeve lead is operated features are also removed.

AE. One-Digit Speed Calling (ESL) (SC1)

6.87 This message is used to assign the 1-digit speed calling (8-code) feature to an initial line.

> ***Note:*** This message cannot be assigned to party lines, manual lines, or coin lines.

New Installation With 1-Digit Speed Calling

A RC:L/
ORD 0123/
TYP NEW/
OE 01 1124/
TN 555 2211/
ESL ADD/
CSL ADD 1/
END!

6.88 The numbers are stored in the list either by customer action or by the operating company as shown below. These numbers are accessed by dialing the single speed calling digit (2 through 9) and then either the # digit or waiting for a 4-second time-out.

6.89 The speed calling change feature allows changes to be directly dialed by the customer into the speed call list. This is performed by going off-hook and dialing 74 and then the # digit or waiting for a 4-second time-out. Upon receipt of a second dial tone, the dial code to be changed is dialed and then the number to be associated with this code. The range of the 1-digit codes is 2 through 9. The number may be 7, 8, 10, or 11 digits in length plus a prefix. After dialing is completed, a confirmation is returned of 100 milliseconds of dial tone, 100 milliseconds of silence, and then 300 milliseconds of dial tone. Examples of this dial sequence are shown below.

For 1-digit speed calling:

11-Digit	74-2-1-201-555-1212
10-Digit	74-4-201-555-1212
8-Digit	74-6-1-555-1212
7-Digit	74-8-555-1212.

6.90 The dialed changes are checked by the program to determine if the number of digits is correct. A customer (non-MLHG) may remove an entry from the speed call list and not insert another. The telephone number of the customer is dialed in as the new number for the dial code being changed.

6.91 The customer dialed changes to speed calling lists enter the recent change buffers exactly as other service orders. ***A record of all changes***

should be generated as they are inputted by the customer. The input message to cause these tapes to be created by the TTY as the changes are dialed in is:

A RC:PUN:1!

These tapes provide a record of speed calling changes and are perforated in standard service order format so that they must be directly inputted through the service order channel, in the same sequence as received, should recent change areas be destroyed before the changes are updated in permanent memory. The input message to instruct the machine to no longer produce tapes from customer dialed changes is:

A RC:PUN:0!

6.92 To remove the 1-digit speed calling feature from an existing line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0233/
TN 555 1212/
ESL DLT/
CSL DLT 1/
END!

Note: When deleting ESL from a line, its corresponding CSL must also be deleted.

AF. Two-Digit Speed Calling (ESF) (SC2)

6.93 This message is used to add the 2-digit speed calling feature (30-code) to an initial line.

New Installation With 2-Digit Speed Calling

A RC:L/
ORD 0123/
TYP NEW/
LCC 1FT/
OE 01 3101/
TN 554 2010/
ESF ADD/
CSL ADD 2/
END!

Note: Speed calling features cannot be assigned to party lines, manual lines, or coin lines.

6.94 The numbers are stored in the list either by customer action or by the operating company as shown. These numbers are accessed by dialing the 2-digit speed calling code (20 through 49) and then either the # digit or waiting for a 4-second time-out.

6.95 The speed calling change feature allows a customer to directly dial changes into the speed call lists. This is performed by going off-hook and dialing 75 and then the # digit or waiting for a 4-second time-out. Upon receipt of a second dial tone, the dial code to be changed is dialed and then the number to be associated with this code. The range of the 2-digit codes is 20 through 49. The number may be 7, 8, 10, or 11 digits in length, plus a prefix. After dialing is completed, a confirmation is returned of 100 milliseconds of dial tone, 100 milliseconds of silence, and then 300 milliseconds of dial tone. Examples of this dial sequence are shown below.

For 2-digit speed calling:

11-Digit	75-20-1-201-555-1212
10-Digit	75-36-201-555-1212
8-Digit	75-40-1-555-1212
7-Digit	75-48-555-1212.

6.96 To remove the 2-digit speed calling feature from an existing line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0233/
TN 555 1212/
ESF DLT/
CSL DLT 2/ (Note)
END!

Note: When deleting ESF from a line, its corresponding CSL must also be deleted.

AG. Customer Dialed Changes to Speed Calling Lists (CSL) (CH)

6.97 These messages are used to provide a customer with the ability to directly dial changes to a speed calling list.

Note: If the capability is assigned to a line, the line must have the speed calling feature.

New Installation With Changes in 1-Digit Speed Calling Lists

A RC:L/
ORD 0001/
TYP NEW/
LCC 1FT/
OE 01 0123/
TN 554 2121/
ESF ADD/
CSL ADD 1/
END!

New Installation With Changes in 2-Digit Speed Calling Lists

A RC:L/
ORD 0001/
TYP NEW/
OE 01 0123/
LCC 1FT/
TN 554 2121/
ESF ADD/
CSL ADD 2/
END!

6.98 To remove the customer change feature on a 1-digit calling list:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0233/
TN 555 1212/
CSL DLT 1/
END!

6.99 The customer dialed change feature for a 2-digit speed calling list may be removed exactly as above, except CSL DLT 2/ must be used instead of CSL DLT 1/.

AH. Customer Line Overflow (CLO)

6.100 The customer line overflow feature assigns an overflow counter to a line to determine the number of incoming calls that receive a busy tone. There are four possible counters (0 through 3) which may be assigned by the CLO feature. These are printed out on traffic H and C schedules.

6.101 This message is used to assign the overflow counter to an initial line.

New Installation With Customer Line Overflow

A RC:L/
ORD 0002/
TYP NEW/
LCC 1FT/
OE 01 1001/
TN 554 1215/
CLO 1/ (Note)
END!

Note: CLO cannot be added to line with SER.

6.102 To remove customer line overflow from a line:

A RC:L/
ORD 0211/
TYP CHG/
OE 01 2756/
TN 318 7238/
CLO/
END!

AI. Manual Line Service

6.103 A manual line is a line that cannot originate calls without the aids of an operator. Terminations are not affected. A manual line is defined on a type NEW service order only by typing a line class code which has a major originating class of ten. A route index may also be specified which indicates how the call is to be routed. The default value is zero. To assign manual line service to a line (assuming MAN is the assigned LCC).

A RC:L/
ORD 0001/
TN 554 1234/
OE 00 3261/
LCC MAN
RTIM 46/ (optional)
END!

AJ. Manual Line Route Index (RTIM)

6.104 This message is used to assign an originating route index on manual lines:

New Installation With Manual Line Route Index

A RC:L/
ORD 0001/
TYP NEW/

CE 01 4211/
TN 554 1235/
LCC 1FT/ (Required)
RTIM 011/
END!

6.105 This message is used to remove the route index from a manual line.

A RC:L/
TYP CHG/
ORD 0007/
OE 01 5142/
TN 552 2547/
RTIM/
END!

AK. Route Index (RTI) (RI)

6.106 This message is used to assign the route index used when terminating translations indicate special routing.

Initial Installation With Route Index

A RC:L/
ORD 0002/
TYP NEW/
OE 02 1201/
TN 555 1133/
RTI 012/
END!

6.107 This message is used to change the route index when terminating translations indicate special routing.

A RC:L/
ORD 0001/
TYP CHG/
OE 01 1222/
TN 555 1133/
RTI 012/
END!

AL. Test Line Terminal (TLT)

6.108 This message is used to assign a test line terminal to a new installation.

New Installation With Test Line Terminal

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0132/
TN 554 1363/
TLT ADD/
END!

6.109 This message is used to change the test line terminal to existing line.

A RC:L/
ORD 0002/
TYP CHG/
OE 02 2141/
TN 554 2211/
TLT ADD/
END!

6.110 This message is used to remove the test line terminal from an existing line.

A RC:L/
TYP CHG/
ORD 0009/
OE 01 2317/
TN 554 7123/
TLT DLT/
END!

AM. Restoring Temporarily Suspended Service

6.111 All lines that have been denied service, regardless of the class of service, require the same ESS order format to restore service. The only difference in the ESS order format is the LCC that is used.

> ***Caution: Extreme care should be taken to use the original LCC in the ESS order when restoring service to a suspended line. The use of an incorrect LCC can cause translation problems.***

Use this format:

A RC:L/
ORD 1000/
TYP CHG/
OE 00 3260/
TN 554 3485/
LCC 1FR/
RAX 1/
END!

AN. Placing a Number on Special Routing

6.112 To place a TN on special routing (such as a MW test line, code conversion, etc), follow the procedure given in paragraph 6.115. Use the proper RTI to get the routing desired. It is ***not*** correct to enter a new line with the special routing LCC (major terminating class = 32).

AO. Changing Type of Service

6.113 The types of service available for the EF-2 and later generic programs are: 1-party, 2-party, multiparty, mobile, coin, manual, multiline hunting group, centrex line, centrex extension or nonconsole attendant, and centrex attendant universal console.

Changing 2-Party Flat Rate Residential Service (2FR) to Individual Party Residential Service (1FR)

6.114 Two ESS orders are required to change from one type of service to another type of service. The first order is an OUT-type order to take out the entire service (PTY 2). The second order is a NEW-type order to establish the new class of service with the appropriate LCC (1FR).

> ***Note:*** Before typing the first order, the information associated with the telephone number should be verified (see paragraph 30.03). The verified information should be used as reference when typing the second order.

(a) Use this format for the first order:

```
A RC:L/
ORD 0016/
TYP OUT/
OE 00 3260/
TN 554 3485/
PTY 2/
END!
```

(b) Use this format for the second order:

```
A RC:L/
ORD 0017/
TYP NEW/
OE 01 1260/
TN 554 3485/
LCC 1FR/
RAX 1/
END!
```

Changing a Telephone Number (TN) That Is on a Recorded Announcement Machine Intercept (Blank Number) to Operator Intercept

6.115 An intercepting RTI code routes a recorded announcement machine intercept (blank number) call to operator intercept or any other special treatment. Two ESS orders are required. The first order is a NEW type to assign the telephone number that was on a recorded announcement machine intercept. The second order is an ICP type order to place the telephone number on operator intercept. All ICP type orders must have an RTI code associated with the ESS order if other than 008. Route index codes may vary by office. Consult the table of RTI codes for each individual office.

(a) Use this format for the first order:

```
A RC:L/
ORD 1003/
TYP NEW/
OE 01 1060/ (Note 1)
TN 554 1135/
LCC 1FR/ (Note 2)
END!
```

> ***Note 1:*** Select any vacant OE.
>
> ***Note 2:*** The LCC typed cannot be one for special routing (major terminating class = 32).

(b) Use this format for the second order:

```
A RC:L/
ORD 1004/
TYP ICP/
OE 01 1060/ (Note 1)
TN 554 1135/
RTI 009/ (Note 2)
END!
```

> ***Note 1:*** The OE is now available for reassignment.
>
> ***Note 2:*** If RTI is not typed, the RTI which is shown on the ESS 2303 output form for the particular office code is used. If no RTI is specified, a default value of 008 will be inserted by the program.

Removing a TN From Operator Intercept to Machine Intercept (Unassigned Condition)

6.116 Calls to unassigned TNs are given the blank number treatment specified for the hundreds

group of telephone numbers. Use the following format to remove a TN from operator intercept to machine intercept:

A RC:L/
ORD 0001/
TYP OUT/
TN 555 1212/
END!

Removal of Active Line—TN to Machine Intercept (Unassigned Condition)

6.117 To completely remove a line from service, unassign both TN and OE. The party number is required for party lines to identify the correct line.

A RC:L/
ORD 0001/
TYP OUT/
OE 01 1060/ (Note)
TN 554 1135/ (Note)
END!

Note: The OE and TN are now available for reassignment. All calls to the TN while in this unassigned condition will be given the blank number treatment specified for the hundreds group of telephone numbers.

Removal to Intercept (Disconnected Number Treatment)

6.118 All ICP type orders will be routed to an intercept as specified by the route index code associated with the ESS order. Route index codes may vary by office. Consult the table of route index codes for each individual office.

A RC:L/
ORD 0006/
TYP ICP/
OE 00 3060/ (Note 1)
TN 554 1111/ (Note 2)
RTI 009 (Note 3)
END!

Note 1: The OE is now available for reassignment.

Note 2: Telephone numbers (TNs) that are placed on intercept cannot be reassigned until they are removed by an OUT order.

Note 3: If the route index is not typed, the route index which is shown on the ESS 2303 output form for the particular office code is used. If no route index is specified, a default value of 008 will be inserted by the program.

The party number is required for party lines to identify the correct line.

Changing Originating Equipment Number (OE)—Use Same TN

6.119 Changing the originating equipment number (OE) requires coordination between the assignment office and frame personnel. After the new OE is selected, the OE assignments are forwarded to the frame personnel. The frame personnel will attempt to place a call from the new OE. This is necessary to ensure that the OE is spare and to condition it for the new OE order. If dial tone is present on the new OE, the frame personnel will notify the assignment personnel so that an investigation can be made. If OE is spare, the frame personnel will back tap a cross-connect from the cable pair to the new OE. The assignment personnel will then be notified to input the message to establish the new OE in translation. After the order is entered in translation, the back tap to the old OE may be removed.

6.120 Use this format to establish the new OE in translations.

A RC:L/
ORD 0130/
TYP CHG/
OE 01 1060/ (Note 1)
TN 554 1135/
IOE 01 1001/ (Note 2)
END!

Note 1: Old originating equipment number.

Note 2: New originating equipment number.

6.121 When changing the OE of a party line, each party assigned must be moved by a separate ESS order. The party number is needed to identify the line.

Changing TN—Use Same OE

6.122 Before preparing the ESS order, determine if calls to the old telephone number are to be given the unassigned or intercept treatment. If the calls to the old telephone number are to be given

unassigned treatment, use ***Procedure A.*** If the calls to the old telephone number are to be given intercept treatment, use ***Procedure B.***

(a) Procedure A—Old Telephone Number to Unassigned

6.123 Unassigned treatment for an old telephone number is as follows:

A RC:L/
ORD 0101/
TYP CHG/
OE 01 1060/
TN 554 1135/ (Note 1)
NTN 554 1162/ (Note 2)
END!

Note 1: Old telephone number 554 1135 is now unassigned (blank number) and calls will be given the blank number treatment specified for this hundreds group of telephone numbers (see paragraph 30.26).

Note 2: New telephone number.

(b) Procedure B—Old Telephone Number to Intercept

6.124 Two ESS orders are required. The first ESS order uses the format in paragraph 6.115 to reassign the old telephone number to the desired intercept treatment and free the OE to reassignment. The second ESS order uses the format in paragraph 6.05 to assign the new TN and the old OE in a new type ESS order.

Changing Ringing Code of a 2-Party TN

6.125 The following procedure is used to change the tip party to the ring party or the ring party to the tip party. Two ESS orders are required. The first order is an OUT-type order to take out the entire service. The second order is a NEW-type order to reestablish the entire service and change the tip party to the ring side. These orders should not be inputted until instructions are received from the installation or repair personnel that the field work has been or is about to be completed.

Note: Before typing the first order, the information associated with the telephone number should be verified (see paragraph 30.03). The verified information should be used as reference when typing the second order.

(a) Use this format for the first order:

A RC:L/
ORD 0017/
TYP OUT/
OE 01 2160/
TN 554 3051/
PTY 2/ (Note 1)
END!

(b) Use this format for the second order:

A RC:L/
ORD 0020/
TYP NEW/
OE 01 2160/
TN 554 3051/
LCC 2FR/ (Note 2)
PTY 1/
RAX 1/
END!

Note 1: On all party line ESS orders, the party number is needed to identify the line.

Note 2: Changing the ringing code of a 2-party TN is not required to maintain 2-party service in the ring side or the tip side.

6.126 The following procedure assigns a new originating equipment number and changes the ring party to the tip side. Two ESS orders are required. The first order is an OUT-type order to take out the entire service. The second order is a NEW-type order to reestablish the entire service, change the originating equipment number, and change the ring party to the tip side.

Note: Before typing the first ESS order, the information associated with the telephone number should be verified (see paragraph 30.03). The verified information should be used as reference when typing the second ESS order.

(a) Use this format for the first order:

A RC:L/
ORD 0019/
TYP OUT/
OE 01 2160/
TN 554 3051/

PTY 1/
END!

(b) Use this information for the second order:

A RC:L/
ORD 0020/
TYP NEW/
OE 01 1360/
TN 554 3051/ (See Note)
LCC 2FR/
RAX 1/
PTY 2/
END!

Note: The TN 554 3051 is the same as the TN in the first order.

AP. All Channels Busy (ACB) or All Trunks Busy (ATB) Scan Point Assignment

6.127 Lines or trunks serving Subscriber Loop Carrier (SLC) Systems, Loop Switching Systems (LSS), Mobile Radio and 1A Line Concentrator Systems may have an associated ACB or ATB scan point (Table C). The Line Class Code will identify the class of service requiring the scan point assignment. A recent change update is required to activate any of the above mentioned services. The input message is as follows:

A RC L/
ORD 0129/
TYP NEW/
OE 00 3050/
TN 554 1111/
LCC ccc/ (Note 1)
SP 00 0602/ (Note 2)
BSY ADD/ (Note 3)
END!

Note 1: The ccc field identifies the service that is being added or removed.

Note 2: A scan point must be assigned with the SP keyword.

Note 3: The BSY keyword is optional. Keyword BSY ADD/ causes busy tone to be returned when all channels or trunks are busy. Keyword BSY DLT/ causes reorder to be returned when all channels or trunks are busy. If the BSY keyword is omitted, reorder tone will be returned when all channels or trunks are busy.

6.128 To remove the class of service, use the message that follows:

A RC L/
ORD 0129/
TYP CHG/
OE 00 3050/
TN 554 1111/
LCC ccc/
SP 00 0602/
BSY DLT/
END!

7. EXAMPLES OF MULTILINE HUNTING GROUP MESSAGES

7.01 The main attribute of a multiline hunting group (MLHG) is that one telephone number may be associated with a number of members (lines) and the hunting is performed over terminal equipment numbers. In general, a PBX is served by an MLHG, but some of the smaller PBXs are treated at the central office as a series completion group. Series completion is handled at the central office by attempting sequentially to connect to a series of telephone numbers. It is recommended that four or less members be handled by series completion if no hunt groups, etc, are required and the equipment is not ground start.

A. MLHG Keywords

7.02 The following keywords are associated only with an MLHG ESS order:

A RC:MLH:1/ Order indicates to the ESS that a request will follow to establish, change, or remove an MLHG.

A RC:MLH:2/ Order indicates to the ESS that a request will follow to establish, change, or remove a member number associated with an MLHG.

A listing of commonly used keywords, keyword modifiers, and message types associated with an MLHG ESS order is provided as follows:

ADO—Add-On Conference

AOSL—Automatic Line Insulation Test

BHT—First Hunt Member

BLN—Special Toll Billing

BTN—Bill to Number

CH—Customer Dialed Change to Speed Calling

COB—Complaint Observing

CSL—Customer Dialed Change to Speed Calling

DLY—Provide 800-ms Delay After Sleeve Is Operated

DP—Sleeve Lead Enable Number

DPM—Message Register Enable Number

DPO—Remote Overflow Register Number

DPP—Open Switch Interval Protection Enable Number

EHT—Stop Hunt Member

ESC—Threeway Calling

ESF—Two-Digit 30-Code Speed Calling

ESL—One-Digit 8-Code Speed Calling

ESM—Call Forwarding Variable

FHM—First Hunt Member

FWD—Call Forwarding

GND—Ground

GRP—Group Number

GSAN—RSS Ground Start Applique Number

GST—Ground Start

GSZ—Multiline Group Size

HML—Group Number

HSZ—Number Hunt Size

IOE—New Originating Equipment Number

IROE—NEW RSS Originating Equipment Number

KEY—Key Number

LCC—Line Class Code

LHM—Last Hunt Member

LHT—Last Hunt Member

MBR—Member Number

MLH—Multiline Hunt Group

MSG—Message Register

NHM—Night Hunt Member

NST—Night Hunt Member

NTE—New Terminal Equipment Number

NTN—New Telephone Number

OE—Originating Equipment Number

ORD—Order Number

PLIT—Prohibit Line Insulation Test

PLM—Prohibit Line Maintenance

PSZ—Multiline Group Size

QZB—Special Toll Billing

RAX—Rate Area

RCAC—Remote Directory Number Country Access Code Digits

RCFN—Remote Directory Number

RDP—RSS Sleeve Lead Remote Distributor Point

RDPM—RSS Message Register Remote Distributor Point

RDPO—RSS Remote Overflow Register Remote Distributor Point

RI—Route Index

RLMP—Remote Overflow Lamp/Register

RMB—Remote Make Busy Key Number

RMK—Remark Code

ROE—RSS Originating Equipment Number

ROH—Carrier Line

ROR—Remote Overflow Register

RTI—Route Index

SC—Speed Calling

SFG—Simulated Facilities Group Number

SHM—Stop Hunt Member

SKEY—Key Number

SLL—Sleeve Lead

SP—Scan Point Number

STB—Special Toll Billing

TEN—Terminal Equipment Number

TER—Member Number

TLT—Test Line Terminal

TN—Telephone Number

TRC—Trace

TTC—TOUCH-TONE Calling

TW—Threeway Calling

TYP—Type

UCL—Unconditional Recent Change.

B. Establishing an MLHG

Note: Complete and accurate information must be recorded on the ESS 2105 form as specified in the Translation Guide, TG-2H prior to executing any TTY input messages.

7.03 Before any MLHG ESS orders are entered, a skeleton MLHG with sufficient maximum size must have been entered on a previous Office Data Administration (ODA) run.

7.04 To establish an MLHG by recent change, two separate and distinct operations are required. The first operation establishes the basic MLHG, identifies the MLHG number, the line class code, the billing number, the total number of members (lines in the MLHG), the number of hunted and outdial-only (nonhunted) members, the night hunt member (if one exists), the stop hunt member (if one exists), and any features or equipment (common to entire group) such as TOUCH-TONE calling, speed calling, etc. For example:

```
A RC:MLH:1/ (Note 1)
ORD 0001/
TYP NEW/ (Note 2)
HML 001/ (Note 3)
LCC PBX/ (Note 4)
BTN 554 9091/ (Note 5)
GSZ 007/ (Note 6)
HSZ 005/ (Note 7)
RAX 6/ (Note 8)
NST 0001/ (Note 9)
SP 0958 12/ (Note 10 and 21)
SKEY ADD N/ (Note 11 and 21)
TTC ADD/ (Note 12)
ESL ADD/ (Note 13)
EHT 032/ (Note 14)
TLT ADD/ (Note 15)
COB ADD/ (Note 16)
CSL ADD 1/ (Note 17)
BLN ADD/ (Note 18)
DPO 1246 21/ (Note 19)
LMP ADD/ (Note 20)
END!
```

Note 1: The 1 informs the ESS that a request will follow to establish, change, or remove an MLHG. (In this example, the request is to establish an MLHG and the TYP is new.) The 1 is not the MLHG number (Note 3).

Note 2: The TYP can be NEW, CHG, or OUT.

Note 3: The 001 is the MLHG number.

Note 4: This is the line class code.

Note 5: This is the MLHG billing number.

Note 6: Number of members (both hunted and outdial-only [nonhunted]) in the MLHG.

The multiline group size (GSZ) starts with 000; therefore, 007 indicates that there are eight members. The number of members cannot be greater than the amount specified in the ODA run but may be less, providing for a future increase.

Note 7: Number of hunted members. In this example, there are six hunted members (000 through 005). The remaining two members (006 and 007) are outdial-only (nonhunted).

Note 8: This keyword is used in conjunction with LCC to supply area data in establishing the line class code.

Note 9: The 000 is the night hunt member number. The night hunt member must be a hunted member and is associated with a scan point.

Note 10: The 0958 12 is the scan point associated with the night hunt member. The scan point is controlled by a key on the customer premises. Refer to Table C for other No. 2/2B ESS features requiring scan point number assignment.

Note 11: This keyword specifies the key number that is associated with a scan point number. It may be used in TYPE NEW service orders to add KEYS, or in TYPE CHG service orders to add or delete KEYS.

Notes 12 and 13: These indicate that TOUCH-TONE calling and 1-digit speed calling are added to the entire MLHG. A member cannot be restricted from using these features. The 1-digit speed calling list information is not entered at this time but is entered in the second operation.

Note 14: Specifies number of the last member to be hunted. The EHT number cannot be greater than the hunt size.

Note 15: Adds a test line terminal to the hunt group.

Note 16: Adds the complaint observing feature to the hunt group.

Note 17: Adds the ability to change the 1-digit speed calling list.

Note 18: Adds special toll billing to the hunt group.

Note 19: Adds peripheral decoder point used to register overflow of calls to a hunt group.

Note 20: Adds call waiting lamp or attendant console to indicate overflow.

Note 21: When recent change header message A RC MLH is used to change a scan point number or a key number, a recent change update must be performed for this change to become active.

7.05 The base rate area can be defined as that portion of an exchange area in which tariff specified types and grades of service are furnished at base rates. The base rates do not vary with the distance from the central office rate center without mileage, locality, or zone changes. If only one rate area is defined within an office, it is always assumed by the program to be rate area 0, and no input information is required. If a line must be defined as in other than rate area 0, the following additional input line is required in the ESS order to specify one rate area.

RAX a/

a = rate area number.

C. MLHG Features and Equipment Options

7.06 The second operation to establish an MLHG by recent change is to assign special MLHG features and equipment options. The types of assignments that can be made for MLHG features and equipment options are as follows:

(a) New Installation With Hunting and Outdial-Only (Nonhunting) Members and a special toll billing feature are common to the entire MLHG

(b) Changing Line Class Code of Entire MLHG

(c) Changing a Rate Area of an MLHG

(d) Test Line Terminal Feature

(e) Adding an Outdial-Only Member

(f) Adding a Hunted Member

(g) Night Stop Feature

(h) Stop Hunt Feature

(i) Remote Make-Busy Feature

(j) Remote Overflow Lamp/Register

(k) TOUCH-TONE Calling

(l) Prohibit Line Insulation Tests

(m) Toll Diversion

(n) Special Toll Billing

(o) Bill to Number

(p) Threeway Calling

(q) One-Digit Speed Calling

(r) Two-Digit Speed Calling

(s) Customer Dialed Changes to Speed Calling Lists

(t) TELCO Inserted Changes to Speed Calling Lists

(u) Call Forwarding Variable

(v) Complaint Observing

(w) Ground Start

(x) Call Trace

(y) Provide 800-ms Delay After Sleeve Lead Is Operated

(z) Automatic Line Insulation Tests

(aa) Prohibit Line Maintenance

(ab) Carrier Line

(ac) Open Switch Interval Protection

(ad) Simulated Facilities Group.

D. Bill to Number (BTN) Assignment

7.07 It is required that every assigned MLHG have a bill to number (BTN) for the MLHG members. This number may be any assigned or unassigned TN. In addition, individual lines in the MLHG may have their own billing numbers against which changes are recorded, rather than against the BTN for the MLHG as a whole. The BTN must be an office code defined in the office (see ESS 2303 output form).

7.08 To change the BTN assigned to an MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
BTN 555 1201/
END!
```

E. Changing Line Class Code of Entire MLHG (LCC)

7.09 A line class code change is performed on an MLHG change order only when it is desired to change the major originating class of the MLHG.

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
LCC MLH/
END!
```

The line class code must be defined in the LCC table in translations.

F. Changing a Rate Area of an MLHG

7.10 If more than one rate area is defined within the office, it is required to also input a line in the RC message indicating the rate area in which the MLHG is assigned. This is necessary to enable the program to assign the correct screening class from the LCC table to the MLHG (eg, rate area 1):

```
RAX 1/.
```

7.11 To change the rate area of an MLHG, it is necessary to type in the new rate area on an MLHG change order to enable the program to assign the new screening class from the LCC table to this MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
```

LCC PBX/
RAX 1/
END!

G. Precut Test Line Terminal Feature Assignment

7.12 The test line terminal feature allows an MLHG line to originate and terminate before the office is cut into service. The feature may be assigned on a MLHG basis or on an individual MLHG line basis. ***This feature is not designed for use after cutover.***

H. New Installation With Hunted and Outdial-Only (Nonhunted) Members

7.13 To establish MLHG 002 with five hunted members and two outdial-only members, special toll billing, and prohibit line insulation tests, enter the following ESS order:

A RC:MLH:1/
ORD 0029/
TYP NEW/
HML 002/
BTN 554 1135/
GSZ 007
HSZ 005/
LCC MLH/
BLN ADD/
PLIT ADD/
END!

> ***Note:*** One or more of the features and equipment may be added depending on customer requirements.

I. Adding an Outdial-Only Member

7.14 All outdial-only members of an MLHG must appear after the hunted members of the MLHG. A new outdial-only member may be added to the end of the terminal list. If all members are now assigned, the maximum size of the MLHG (GSZ) must be increased to define an additional member in the MLHG.

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
GSZ 009/
END!

> ***Note:*** The GSZ defined may not be larger than the maximum size specified by the ODA. The new outdial-only member may then be inserted as a new installation (TYP NEW) service order after the last member presently in service.

J. Adding a Hunted Member

7.15 All hunted members of an MLHG must appear in the terminal list before any outdial-only members. If no spares exist in the list of hunted members, the list must be lengthened to define an additional hunted member in the MLHG. For example, assume that MLHG 002 has nine members in its terminal list of which the first seven are hunted over. The last two then are outdial-only members. The initial step to add another hunted member is to increase the MLHG maximum size since all members are currently assigned.

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
GSZ 009/
HSZ 007/
END!

Next, the outdial-only line that is assigned to member 007 must be removed by a disconnect (TYP OUT) service order.

A RC:MLH:2/
ORD 0002/
TYP OUT/
HML 002/
TER 007/
OE 01 0233/
END!

Then reinsert as member 009 by a new installation (TYP NEW) service order (paragraph 8.09).

7.16 If the new line should be the last terminal in the hunted list, it may then be inserted as a new installation (TYP NEW) as member 007 [paragraph 8.05(g)]. If it must be inserted in the list (eg, between the members 005 and 006), the line assigned as member 006 must be removed by a disconnect (TYP OUT) service order (paragraph 7.15) and reinserted as member 007 by a new installation (TYP NEW) service order [paragraph 8.05(g)].

7.17 The final step is to change the last hunt member of the hunt group to include the new hunted member (paragraph 8.07).

K. Night Stop Feature Assignment

7.18 The night stop feature is defined in an MLHG by assigning a scan point ferrod to the MLHG which is wired to a night stop key on the customer premises. A recent change update is required to activate the night stop feature.

> ***Note:*** Before entering this message, notify Network Maintenance to ensure that the system contains the correct translations.

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
SKEY ADD N/
SP 02 1809/ (Note)
END!

This message will associate the given scan point (input line SP) with the night stop key (input line SKEY). In a single service order message, only one key may be defined in this manner. A separate message is required for each control key to be assigned. Only one night stop key may be assigned to an MLHG.

> ***Note:*** To activate the night stop feature after it has been implemented by a recent change message, a recent change update must be performed. For recent change update procedures, refer to TOP 232-090-022 for the No. 2B ESS or TOP 232-090-023 for the No. 2 ESS.

7.19 Only one member of an MLHG may be specified as the night stop member. This member may also be the stop hunt member if desired and/or have a remote make busy key associated with it just as any other member. A recent change update is required to activate the night stop feature. To designate an MLHG member as the night stop member:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
NST 006/
END!

7.20 The member assigned as the night stop member must be one of the members of the MLHG over which hunting is performed. When the night key is thrown, all normal hunt groups assigned within the MLHG are ignored. Calls made to any telephone number associated with that MLHG will begin hunting at member 000 and hunt through the member designated as the night stop member.

L. Stop Hunt Feature Assignment

7.21 The stop hunt feature is defined in an MLHG by assigning a scan point ferrod to the MLHG which is wired to a stop hunt key on the customer premises. A recent change update is required to activate the stop hunt feature.

> ***Note:*** Before entering this message, notify Network Maintenance to ensure that the system contains the correct translations.

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
SKEY ADD S/
SP 02 1809/
END!

This message will associate the given scan point (input line SP) with the stop hunt key (input line SKEY). In a single service order message, only one key may be defined in this manner. A separate message is required for each control key to be assigned. Only one stop hunt key may be assigned to an MLHG.

> ***Note:*** To activate the stop hunt feature after it has been implemented by a recent change message, a recent change update must be performed. For recent change update procedures, refer to TOP 232-090-022 for the No. 2B ESS or TOP 232-090-023 for the No. 2 ESS.

7.22 Only one member of an MLGH may be specified as the stop hunt member. This member may also be in the night stop member if desired and have a remote make busy key associated with it just as any other member.

M. Stop Hunt Member (EHT) (SHM) Assignment

7.23 To designate an MLHG member as the stop hunt member:

A RC:MLH:1/
ORD 0001/
TYP CHG/

HML 002/
EHT 006/
END!

The member assigned as the stop hunt member must be in the MLHG over which hunting is performed. When the stop hunt key is thrown, all hunt groups will start at their normal member but will not pass the stop hunt member.

7.24 To remove the stop hunt from an MLHG, type the following message with a blank data field on the stop hunt member (EHT) line:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
EHT/ (Note)
END!

> ***Note:*** The stop hunt key position will now be ignored by the program, but the scan point assigned to the key for this MLHG is still defined. To reassign the stop hunt feature to the MLHG, an EHT member need only be specified on a recent change service order as above.

7.25 To remove the definition of the stop hunt feature in the MLHG, use the input message:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
SKEY DLT S/
SP 02 1809/
END!

The scan point is now available for reassignment.

N. Test Line Terminal (TLT) Feature Assignment

7.26 To assign the test line terminal feature to all lines of an existing MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
TLT ADD/
END!

> ***Note:*** If the feature has also been assigned to an individual MLHG line, that particular line will not be affected by this input message.

7.27 To remove the test line terminal feature from an existing MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
TLT DLT/
END!

O. Remote Make-Busy Feature (RMB)

7.28 Up to seven different remote make-busy keys (1 through 7) may be associated with an MLHG. To define a remote make-busy key in an MLHG, a scan point must be assigned to a remote make-busy key on the customer premises. A recent change update is required to activate the remote make-busy feature.

> ***Note:*** Before entering this message, notify Network Maintenance to ensure that the system contains the correct translations.

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
SKEY ADD 1/
SP 02 1809/
END!

This message will associate the given scan point (input line SP) with the specified remote make-busy key (key 1 in this example). In a single service order message, only one key may be defined in this manner. A separate message is required for each control key to be assigned.

> ***Note:*** To activate the make-busy feature after it has been implemented by a recent change message, a recent change update must be performed. For recent change update procedures, refer to TOP 232-090-022 for the No. 2B ESS or TOP 232-090-023 for the No. 2 ESS.

7.29 Any member of the MLHG over which hunting is performed (including the night stop and stop hunt members) may be associated with any one of the MLHG keys. There is no restriction to the number of members that may be controlled by a given key, but a member may be controlled by only one key. An example of a member associated with a given key is as follows.

```
A RC:MLH:2/
ORD 0002/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
RMB 1/
END!
```

When a remote make-busy key is thrown, all members which are assigned to that key are treated as busy for all incoming calls. These member lines may continue to originate calls normally. The hunt sequences of the hunt groups are not affected except that more busy lines are seen.

7.30 To remove the remote make-busy key assignment from a member:

```
A RC:MLH:2/
ORD 0002/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
RMB 0/
END!
```

> ***Note:*** If the remote make-busy key assignment of a given key is removed from all members to which it was assigned, the key position of that particular key will be ignored by the program; but the scan point assigned to the key for this MLHG will still be defined. Members may again be associated with this remote make-busy key as shown in paragraph 7.29.

7.31 To remove the definition of a single remote make-busy key from an MLHG, use the input message:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
SKEY DLT 1/
SP 02 1809/
END!
```

The scan point is now available for reassignment.

P. Remote Overflow Register or Lamp Assignment (DPO)

7.32 The remote overflow register operates a call waiting lamp on the attendant console indicating an overflow condition. Only one remote overflow register (lamp) may be associated with an MLHG.

(a) To add a remote overflow register to an MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
DPO 1245 21/
END!
```

(b) To add a remote overflow lamp to an MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
DPO 1246 21/
RLMP ADD/
END!
```

7.33 To remove a remote overflow register/lamp from an MLHG, the remote overflow register/lamp DPO input line is typed with a blank data field:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
DPO/
END!
```

Q. Adding TOUCH-TONE Calling (TTC)

7.34 The TOUCH-TONE calling feature is assigned on an MLHG basis. An MLHG with the TOUCH-TONE calling feature may have both TOUCH-TONE service lines and dial-pulse lines. To add the TOUCH-TONE calling feature:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
TTC ADD/
END!
```

7.35 To remove TOUCH-TONE calling:

```
A RC:MLH:1/
ORD 0001/
```

TYP CHG/
HML 002/
TTC DLT/
END!

R. Toll Diversion Assignment

7.36 A PBX may be assigned the toll diversion feature by assigning a line class code to the PBX that has the toll diversion feature. Note that the line class code must have been defined in translations by a previous ODA run.

7.37 To remove the toll diversion feature from a PBX, a line class code must be assigned to the PBX that does not have the toll diversion feature.

S. Special Toll Billing (BLN) (QZB) Assignment

7.38 The special toll billing feature (formerly QZ billing) may be assigned to the entire MLHG or to individual members within an MLHG. Whenever possible, it is recommended that the special toll billing feature be assigned to the entire MLHG instead of individual lines of the MLHG to save translation memory.

7.39 To assign the special toll billing feature to an entire MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
BLN ADD/
END!

7.40 To remove the special toll billing feature from the entire MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
BLN DLT/
END!

T. Threeway Calling (ESC) (TW) (ADO) Assignment

7.41 The threeway calling feature is assigned on an MLHG basis. If the feature is assigned to an MLHG, all member lines will have the feature. To assign threeway calling to an MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESC ADD/
END!

7.42 The threeway calling feature allows a customer to add another party to a call already established. To use this feature, the customer depresses the switchhook momentarily while talking to another party. This will give the customer dial tone so that the second number may be dialed. The customer may now talk to this party privately. The original party is on hold until the customer operates the switchhook to connect all three in the conference mode. This may be accomplished before or after the second party answers. If the party to be added on does not answer, operation of the switchhook will reconnect the original party and a second operation of the switchhook will disconnect the second party. If either of the two parties the customer is talking with hang up, the remaining line will still be connected. If the customer hangs up, all three lines will be disconnected.

7.43 To remove the threeway calling feature from an MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESC DLT/
END!

U. One-Digit Speed Calling (ESL) (SC 1) Assignment

7.44 The speed calling feature is assigned on an MLHG basis. If an MLHG has the 1-digit speed calling feature assigned, then all lines in that MLHG have the feature and may use the common list assigned to the MLHG. To assign 1-digit speed calling (8-number repertory) to an MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESL ADD/
END!

7.45 The numbers are stored in the list either by customer action or by the operating company.

These numbers are accessed by dialing the single speed digit (2 through 9) and then calling either the # digit or waiting for a 4-second time-out.

7.46 Examples are shown below of service orders to assign a number to a code on a customer speed calling list or to change the number associated with a code. The first field after SC is the speed calling code to which the number is being assigned.

> ***Note:*** The DGS is the telephone number being entered into a speed calling list. For 2BE3, up to 16 digits can be input into no more than 5 fields of 4 digits. The OE is the line which is to have its speed calling list changed.

One-digit speed calling:

```
A RC:SC:1/
ORD 0001/
ACC 2/
DGS 1 201 555 1212/
OE 01 0233/
END!
```

```
A RC:SC:1/
ORD 0001/
ACC 4/
DGS 1 201 555 1212/
OE 01 0233/
END!
```

```
A RC:SC:1/
ORD 0001/
ACC 6/
DGS 555 1214/
OE 01 0233/
END!
```

```
A RC:SC:1/
ORD 0001/
ACC 8/
DGS 555 1215/
OE 01 0233/
END!
```

7.47 To remove the entire 1-digit speed calling list and the feature from an MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESL DLT/
CSL DLT 1/ (Note)
END!
```

> ***Note:*** When removing ESL from a line, the corresponding CSL must also be removed.

V. Two-Digit Speed Calling (ESF) Assignment

7.48 The speed calling feature is assigned on an MLHG basis. If an MLHG has the 2-digit speed calling feature assigned, then all lines in that MLHG have the feature and may use the common list assigned to the MLHG. To assign 2-digit speed calling (30-number repertory) to an MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESF ADD/
END!
```

7.49 The numbers are stored in the list either by customer action or by the operating company. These numbers are accessed by dialing the 2-digit speed calling code (20 through 49) and then either the # digit or waiting for a 4-second time-out.

Two-digit speed calling:

```
A RC:SC:2/
ORD 0001/
ACC 20/
DGS 1 201 555 1216/
OE 01 0233/
END!
```

```
A RC:SC:2/
ORD 0001/
ACC 36/
DGS 555 1217/
OE 01 0233/
END!
```

```
A RC:SC:2/
ORD 0001/
ACC 40/
DGS 555 1218/
OE 01 0233/
END!
```

```
A RC:SC:2/
ORD 0001/
ACC 48/
```

```
DGS 555 1219/
OE 01 0233/
END!
```

7.50 The new number to be placed on the list is checked by the program to determine if the number of digits is valid. An entry may be removed from the list and no new entry inserted for the dial code by inserting the telephone number of the customer as the new entry (non-MLHG line only) or by inserting the number of the busy tone test line in the office.

7.51 To remove the entire 2-digit speed calling list and the feature from an MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESF DLT/
CSL DLT 2/
END!
```

Note: When removing ESF from a line, the corresponding CSL must also be removed.

W. Customer Dialed Changes to Speed Calling List (CSL)

7.52 The feature allowing the MLHG customer lines to dial in direct changes to their speed calling list may be assigned on a group or member basis. To provide all MLHG members with the ability to directly dial changes to their 1-digit speed calling list:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
CSL ADD 1/
END!
```

Note: Before the customer dialed change ability can be assigned, the MLHG must have the speed calling feature.

7.53 The customer dialed change feature for the 2-digit speed calling list assigned to the MLHG may be assigned exactly as above except by using CSL ADD 2/ instead of CSL ADD 1/.

7.54 To remove the customer dialed change feature on a 1-digit speed calling list.

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
CSL DLT 1/
END!
```

7.55 The customer dialed changed feature for the 2-digit speed calling list assigned to the MLHG may be removed exactly as above except by using CSL DLT 2/ instead of CSL DLT 1/.

X. TELCO Inserted Changes to Speed Calling Lists

7.56 The operating company may assign numbers to speed calling lists and modify existing numbers on lists that are assigned to MLHGs exactly as shown. For a list associated with an MLHG, the OE chosen in the input message may be any OE that is assigned to a member of the MLHG.

Y. Call Forwarding Variable (ESM) (CFV) (FWD) Assignment

7.57 Entire MLHGs or individual lines within an MLHG may be assigned the call forwarding variable feature. Whenever possible, it is recommended that the call forwarding variable feature be assigned to the entire MLHG instead of individual lines of the MLHG to save translation memory. See paragraph 6.27 for a description of the call forwarding variable feature.

7.58 To assign the call forwarding variable feature to an entire MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
ESM ADD/
END!
```

7.59 To cancel the call forwarding feature from a line, the customer must dial the access code 73 followed by a # digit or a 4-second time-out from the forwarded line.

7.60 To remove the call forwarding feature from the entire MLHG:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
```

HML 002/
ESM DLT/
END!

Note: If the feature has also been assigned to an individual line in the MLHG, that line is not affected by the message.

Z. Complaint Observing (COB) Assignment

7.61 Entire MLHGs or individual lines within a MLHG may be assigned the complaint observing feature. This feature allows all message rate calls from lines with the feature to be detail billed on the AMA tape. The purpose of this feature is to provide detailed information regarding all charges made for toll calls. Complaint observing is performed for all lines with the feature when activated as described.

Note: When an MLHG or individual MLHG member line is assigned the complaint observing function, it is recommended that the Dial Administrator be notified that a notation should be indicated in the REMARKS field for that MLHG or line on form ESS 2105.

7.62 To assign the complaint observing feature to an MLHG so that all lines will be complaint observed:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
COB ADD/
END!

7.63 The following input message must be used to cause all message rate calls from lines with the complaint observed feature to be detail billed on the AMA:

M AM:OBS:fg hi n!

All message rate calls normally recorded on the AMA will be detail billed until the message is canceled or the call store is cleared by a stable clear maintenance action caused by a system failure.

7.64 To remove the complaint observing feature from an MLHG:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
COB DLT/
END!

Note: If the complaint observing feature is also assigned to an individual member line of the MLHG, that line will still have the feature.

AA. Remove Night Stop (NST)

7.65 To remove the night stop feature from an MLHG, type the following message with a blank data field on the night hunt stop member (NST) line:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
NST/ (Note)
END!

Note: The night stop key position will now be ignored by the program, but the scan point assigned to the key for this MLHG is still defined. To reassign the night stop feature to the MLHG, an NST member need only be specified on a RC service order as above.

7.66 To remove the assignment of the night stop feature in the MLHG, use the input message:

A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
SKEY DLT N/
SP 02 1809/
END!

The scan point is now available for reassignment.

8. EXAMPLES OF MULTILINE HUNTING GROUP MEMBER MESSAGES

A. Establishing an MLHG Member

8.01 After an MLHG has been assigned, the lines may be assigned by assigning originating equipment (OEs) numbers to the member numbers of the MLHG. Those OEs assigned to the member numbers greater than the HSZ specified in the MLHG

assignment order will be outdial-only lines. An individual service order is required to define each member line.

A RC:MLH:2/ (Note 1)
ORD 0002/ (Note 2)
TYP NEW/
LCC MLH/
HML 002/
TN 555 1212/ (Note 3)
BHT 000/
LHT 005/
TER 000/ (Note 4)
OE 01 0233/ (Note 5)
END!

Note 1: The 2 informs the ESS that a request will follow to establish, change features of a member, or remove a member of an MLHG. In this example, the request is to establish a member and the TYP is NEW.

Note 2: The 002 is the MLHG number.

Note 3: TN 555 1212 is the new member number to be added to MLHG 002.

Note 4: Member Number 000, Note 6 of paragraph 7.04. Seven more ESS orders are required to enter member numbers 001 through 007.

Note 5: The 01 0233 is the originating equipment number (OE). The OE must be currently unassigned. Any desired OE may be assigned to any member number. (If the LCC of the MLHG defines ground start, special strapping is required. The ESS order must be coordinated with work in the central office to restrap the line ferrod for ground start on all members assigned to the MLHG. The OE assignment rules specify that ground start member should appear on network level 0.)

8.02 The speed calling 1-digit list (added in paragraph 7.04, Notes 12 and 13) must be built one number at a time against an OE associated with any member number. In the following example, one number of the list is built against OE 00 3060:

A RC:SC:1/
ACC 2/
DGS 1 741 0394/
OE 00 3060/
END!

8.03 If a TN is specified, a hunting subgroup may also be defined by specifying BHT and LHT. If BHT or LHT is not specified on a TYP NEW, the member number will be automatically used.

8.04 If the office is equipped with range extension, caution must be exercised in selecting the OE to be used. If a line requires range extension, it ***must*** be assigned to an OE associated with a network concentrator equipped for range extension. If the line does not require range extension, it ***must not*** be assigned to an OE associated with a range extended concentrator.

B. Establishing Seven Members

8.05 To establish the seven members (001 through 007), enter the following seven ESS orders. Members 001 through 005 are hunted members and members 006 and 007 are outdial-only members.

(a) First ESS order to establish hunted member 001 is:

A RC:MLH:2/
ORD 0030/
TYP NEW/
LCC MLH/
HML 002/
TER 001/
OE 00 3060/
END!

(b) Second ESS order to establish hunted member 002 is:

A RC:MLH:2/
ORD 0031/
TYP NEW/
LCC MLH/
HML 002/
TER 002/
OE 00 2360/
END!

(c) Third ESS order to establish hunted member 003 is:

A RC:MLH:2/
ORD 0032/
TYP NEW/
LCC MLH/
HML 002/
TER 003/

OE 01 1250/
END!

(d) Fourth ESS order to establish hunted member 004 is:

A RC:MLH:2/
ORD 0033/
TYP NEW/
LCC MLH/
HML 002/
TER 004/
OE 00 3260/
END!

(e) Fifth ESS order to establish hunted member 005 is:

A RC:MLH:2/
ORD 0034/
TYP NEW/
LCC MLH/
HML 002/
TER 005/
OE 01 1060/
END!

(f) Sixth ESS order to establish outdial-only member 006 is:

A RC:MLH:2/
ORD 0035/
TYP NEW/
LCC MLH/
HML 002/
TER 006/
OE 00 3460/
END!

(g) Seventh ESS order to establish outdial-only member 007 is:

A RC:MLH:2/
ORD 0036/
TYP NEW/
LCC MLH/
HML 002/
TER 007/
OE 01 2160/
END!

8.06 To remove an MLHG that has been assigned:

A RC:MLH:1/
ORD 0001/
TYP OUT/
HML 002/
END!

The skeleton MLHG, as defined by the ODA, is immediately available for reassignment.

> ***Note:*** This service order removes all MLHG translations including the terminal list. The hunting subgroups for the MLHGs that are associated with the hunting only TN must be removed by individual service orders for each hunting only TN.

C. Establishing Hunting Only Telephone Number

8.07 A hunting only telephone number defines a hunting subgroup within an MLHG. This TN is not associated with a particular member and has no OE (ie, it has only terminating translation defined). A hunting only telephone number is assigned by specifying the MLHG to which it is to be assigned, the line class code, the member number at which hunting is to begin (BHT), and the member number after which hunting is stopped (LHT). An individual service order is required for each hunting only TN assigned to an MLHG.

A RC:MLH:2/
ORD 0010/
TYP NEW/
HML 002/
LCC PBX/
RAX 1/
TN 555 1212/
BHT 002/
LHT 005/
END!

8.08 As a result of this service order, call to TN 555 1212 will first attempt to complete to the OE assigned to member 002. If 002 is busy, it will attempt to complete to member 003, then 004, and lastly to member 005. If all four members are busy, the overflow lamp (if assigned) for this MLHG will be incremented and a busy signal returned to the calling party. Hunting over a hunting subgroup will begin at the first hunt member (BHT) and proceed consecutively to the last hunt member (LHT) of the hunting subgroup. Overlapping hunting subgroups are permitted as well as hunting subgroups of one or all members of the MLHG.

D. Establishing Outdial Only Telephone Number

8.09 An outdial only telephone number is only allowed to originate a call. An outdial only member cannot be within a hunting group or subgroup. To establish an outdial only line:

```
A RC:MLH 2/
TYP NEW/
ORD 0003/
HML 002/
TER 010/
OE 01 0242/
END!
```

8.10 The line class code must be defined in the LCC table in translations. However, it need not be the same as that specified for the MLHG as a whole. For a hunting only TN, the screening class, 2-bit code, and major originating class must be the same as for the group.

8.11 The BHT and LHT must be within the huntable members (HSZ) for the MLHG. Also, the BHT must be less than or equal to the LHT.

8.12 If the MLHG is in other than rate area 0, an additional input line is required to specify the rate area (eg, rate area 1):

```
RAX 1/.
```

8.13 If only one rate area is defined in the office, it is always assumed by the program to be rate area 0.

E. Change Remote Make Busy Key (RMB)

8.14 Any member of the MLHG over which hunting is performed (inluding the night stop and stop hunt members) may be associated with any one of the MLHG keys. There is no restriction to the number of members that may be controlled by a given key, but a member may be controlled by only one key. An example of a member associated with a given key is:

```
A RC:MLH:2/
ORD 0002/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
RMB 1/
END!
```

When a remote make busy key is thrown, all members which are assigned to that key are treated as busy for all incoming calls. These member lines may continue to originate calls normally. The hunt sequences of the hunt groups are not affected except that more busy lines are seen.

8.15 To remove the remote make-busy key assignment from a member:

```
A RC:MLH:2/
ORD 0002/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
RMB 0/ (Note)
END!
```

> ***Note:*** If the remote make-busy key assignment of a given key is removed from all members to which it was assigned, the key position of that particular key will be ignored by the program; but the scan point assigned to the key for this MLHG will still be defined. Members may again be associated with this remote make-busy key as shown in paragraph 7.29.

8.16 To remove the definition of a single remote make-busy key from an MLHG, use the input message:

```
A RC:MLH:1/
ORD 0001/
TYP CHG/
HML 002/
KEY DLT 1/
SP 02 1809/
END!
```

The scan point is now available for reassignment.

F. Changing or Adding TN of an Assigned Member

8.17 To add a TN to an assigned member, use the following message:

```
A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
```

BHT 000/
LHT 008/
OE 01 0233/
TN 555 1438/ (Note)
LCC PBX/
END!

Note: The TN must be currently unassigned. Any TN may be assigned to any member.

8.18 To change the TN of an assigned member, use the following message:

A RC:MLH:2/
ORD 0002/
TYP CHG/
HML 002/
TER 006/
LHT 008/
OE 01 0233/
TN 555 1438/
NTN 555 1234/ (Note)
END!

Note: The new telephone number (NTN) must have previously been in the unassigned condition. This service order will automatically place the old TN in the unassigned condition. Calls to unassigned TNs are given the blank number treatment specified for the hundreds group of the telephone numbers.

8.19 To delete the TN of an assigned member, use the following message:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN/
END!

Note: Calls to unassigned TNs are given the blank number treatment specified for the hundreds group of telephone numbers (see paragraph 30.25)

G. Changing OE of an Assigned Member

8.20 To change the OE of an MLHG member, use the following message:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
TN 555 1438/ (Note)
OE 01 0233/
IOE 01 6262/
END!

Note: If a TN is assigned to a member, it must be inputted on all service order messages for the member.

H. Changing Type of Service

8.21 If a member has a TN associated with it, it may be assigned a line class code different from that assigned to the MLHG.

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1212/
LCC PBX/
END!

8.22 If more than one data area is defined within the office, it is required to also input a line indicating the rate area in which the MLHG is assigned. This is necessary to enable the program to assign the correct screening class from the LCC table to the TN (eg, rate area 1):

RAX 1/.

Free Terminating Service

8.23 The No. 2/2B ESS provides free terminating service through proper assignment of the line class code to a member TN. A line class code must have previously been defined in the line class code table in translations with a major terminating class of 13. The major originating class must be the same as the line class code major originating class assigned to the MLHG as a whole. To assign free terminating service to a member TN, the member must be inputted as a new installation (TYP NEW) with the assigned line class code, or a TYP CHG order must be made to assign the line class code.

Temporary Service Suspension

8.24 Temporary service suspension ***cannot*** be accomplished on MLHG lines.

I. Adding to or Changing the Size of a Hunting Subgroup Associated With a Member TN

8.25 To define or change the member number of the start of a given hunting sequence (hunt group), enter the member number at which hunting is to begin (BHT):

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1212/
BHT 003/
END!

J. Change Member Number (LHT)

8.26 To define or change the member number where the hunting sequence (hunt group) stops, enter the member number after which the hunting is to stop (LHT):

A RC:MLH:2/
ORD 0001/
HML 002/
TER 006/
OE 01 0233/
TN 555 1212/
LHT 005/
END!

If desired, modification of BHT and LHT may be performed in the same service order.

K. Test Line Terminal (TLT) Feature

8.27 The test line terminal feature allows an MLHG line to originate and terminate before it is cut over into service. The feature may be assigned on an MLHG basis or on an individual MLHG line basis. ***This feature is not designed for use after cutover.***

8.28 To assign the test line terminal feature to an individual line of an existing MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
TN 555 1435/
OE 01 0233/
TLT ADD/
END!

8.29 To remove the test line terminal feature from an individual line of an existing MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
TN 555 1438/
OE 01 0233/
TLT DLT/
END!

Note: If the feature is also assigned to the entire MLHG, it is not affected by this message.

L. Special Toll Billing (BLN) (STB) (QZB) Assignment

8.30 The special toll billing (BLN) feature may be assigned to the MLHG as a whole or to individual members within an MLHG. Whenever possible, it is recommended that the special toll billing feature be assigned to the entire MLHG instead of individual lines of the MLHG to save translation memory.

8.31 To assign the BLN feature to an individual line in an MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/ (Note)
BLN ADD/
END!

Note: If a TN is assigned to a member, it must be inputted on all service order messages for this member.

8.32 To remove the special toll billing feature from a line of an MLHG:

A RC:MLH:2/
ORD 0001/

TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/
BLN DLT/
END!

Note: If the feature is assigned to the entire MLHG, it is not affected by the message.

M. Change Bill to Number for MLHG Line (BTN)

8.33 To assign or change a bill to number (different from the billing number for the MLHG) to an MLHG line:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/
BTN 555 1202/
END!

Note: The BTN must be an office code defined in the office (see form ESS 2303).

8.34 To remove the special billing number from an MLHG line so that it is billed like other regular lines in the MLHG, the BTN that is inputted must be the same as the BTN for the MLHG as a whole.

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 001/
TER 006/
OE 01 0233/
TN 555 1438/ (Note)
BTN 555 1201/
END!

Note: If a TN is assigned to a member, it must be inputted on all service order messages for this member.

N. Message Register (DPM) (MSG) Assignments

8.35 Message register assignments may be made to individual member lines of an MLHG. To assign a message register to a line, a spare peripheral decoder point, which is assigned to a message register, must be selected from form ESS 2575 (CPD and PD Assignment Record). (See paragraph 6.64.)

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/ (Note)
DPM 1246 32/
END!

Note: If a TN is assigned to a member, it must be inputted on all service order messages for this member.

8.36 To remove a message register from an existing line, the messge register input line (DPM) is typed with a blank data field:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/
DPM DLT/
END!

O. Sleeve Lead (DP) (SLL) Assignments

8.37 Sleeve lead assignments may be made to individual member lines of an MLHG. A spare peripheral decoder point must be obtained from the Network Administrator to assign a sleeve lead to a line. A record of peripheral decoder points is kept on form ESS 2575 (CPD and PD Assignment Record). (See paragraph 6.64.)

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/ (Note)
DP 1246 32/
END!

Note: If a TN is assigned to a member, it must be inputted on all service order messages for this member.

8.38 To remove a sleeve lead from an existing line, the sleeve lead input line (DP) is typed with a blank data field:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/
DP DLT/ (Note)
END!

> ***Note:*** When the sleeve lead feature is removed from a line, the automatic line insulation test (AOSL) and 800-ms delay after sleeve lead is operated features are also removed.

P. Ground Start (GST) (GND) Assignments

8.39 Ground start assignments in an MLHG are made on an individual member basis. To designate a line as ground start:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 003/
OE 01 0212/
TN 555 1438/ (Note 1)
GST ADD/ (Note 2)
END!

> ***Note 1:*** If a TN is assigned to a member, it must be inputted on all service order messages for this member.
>
> ***Note 2:*** The service order must be coordinated with work in the office to restrap the line ferrod for ground start. The OE assignment rules specify that all ground start lines should appear on network levels 0 or 2.

Q. Change Line to Loop Start

8.40 To change a line to loop start:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 003/
OE 01 0212/
TN 555 1438/
GST DLT/ (Note)
END!

> ***Note:*** The service order must be coordinated with work in the office to restrap the line ferrod for loop start.

R. Customer Dialed Changes to Speed Calling Lists (CSL) (CH) Assignments

8.41 The feature allowing the MLHG customer lines to dial direct changes to their speed calling list is assigned on a group or member basis. To provide an MLHG member with the ability to directly dial in changes to their 1-digit speed calling list:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/ (Note 1)
CSL ADD 1/ (Note 2)
END!

> ***Note 1:*** If a TN is assigned to a member, it must be inputted on all service order messages for this member.
>
> ***Note 2:*** Before the customer dialed change ability can be assigned to a member, the MLHG must have the speed calling feature.

8.42 The customer dialed change feature for the 2-digit speed calling list assigned to the MLHG may be assigned exactly as above except by using CSL ADD 2 instead of CSL ADD 1.

8.43 It is recommended that the recent changes be recorded on paper tape.

8.44 To remove the customer feature on a 1-digit speed calling list:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/

TN 555 1438/ (Note)
CSL DLT 1/
END!

Note: If a TN is assigned a member, it must be inputted on all service order messages for this member.

8.45 To remove the customer feature for a 2-digit speed calling list assigned to the MLHG, use the same message as above except CSL DLT 2/ is used instead of CSL DLT 1/.

S. Call Forwarding (ESM) (CFV) (FWD) Assignments

8.46 Entire MLHGs or individual lines within an MLHG may be assigned the call forwarding variable feature. Whenever possible, it is recommended that the call forwarding variable feature be assigned to the entire MLHG instead of individual lines of the MLHG to save translation memory.

8.47 To assign the call forwarding variable feature to an individual line in an MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/ (Note)
ESM ADD/
END!

Note: A TN must be assigned to this member and it must be inputted on all service order messages for this member.

8.48 To remove the call forwarding feature from a line of an MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/
ESM DLT/
END!

Note: If this feature is assigned to the entire MLHG it will not be removed by this message.

T. Complaint Observing (COB) Assignment

8.49 Entire MLHGs or individual lines within an MLHG may be assigned the complaint observing feature. This feature allows all message rate calls from lines with the feature to be detail billed on the AMA tape. The purpose of this feature is to provide detailed information regarding all charges made for toll calls.

8.50 To assign the complaint observing feature to an individual member line of an MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/ (Note)
COB ADD/
END!

Note: If a TN is assigned to a member, it must be inputted on all service order messages for this member.

8.51 The following input message must be used to cause all message rate calls from lines with the complaint observing feature to be detail billed on the AMA:

M AM:OBS:fg hi n!

All message rate calls normally recorded on the AMA will be detail billed until the message is canceled or the call store is cleared by a stable clear maintenance action caused by a system failure.

8.52 To remove the complaint observing feature from an individual member line of an MLHG:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TER 006/
OE 01 0233/
TN 555 1438/
COB DLT/
END!

Note: If the complaint observing feature is also assigned to the MLHG, it will not be affected by this message.

U. Call Trace (Terminating Call Identification) (TRC) Assignment

8.53 All calls to a member telephone number (TN) assigned to an MLHG may be identified by TTY as they occur by adding the trace feature to the TN.

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
OE 01 0233/
TER 006/
TRC ADD/
END!

8.54 When the trace feature is assigned to a telephone number, the Traffic Dial Administrator should be notified to have the trace recorded on forms ESS 2100 and ESS 2105 for that number and MLHG.

8.55 Whenever a call attempt is made to a telephone number in the office on trace, regardless of whether or not the call is completed, one of the following TTY output messages is printed:

INTEROFFICE - AI TK LCT
INTRAOFFICE - AI L LCT

The data fields of the above messages are described in OM-2H200 and indicate both terminals of the call that was traced.

8.56 To remove the trace feature from a member telephone number:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
OE 01 0233/
TER 006/
TRC DLT/
END!

8.57 To remove the call trace feature from a telephone number assigned to an MLHG hunt group:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
TRC DLT/
END!

V. Changing Line Class Code of an MLHG Member

8.58 It is possible to assign a line class code (LCC) to a multiline hunt member which has a major originating class or screening class which is different from that contained in the group.

To change the LCC for a member:

A RC:MLH:2/
TYP CHG/
ORD 0001/
OE 01 0232/
HML 002/
TER 001/
TN 555 1212/
LCC DIF/
END!

The TN is required if the member has an associated directory number. If more than one rate area is defined within the central office, it is required to also input a line indicating the rate area in which the MLHG is assigned. This is necessary to enable the program to assign the correct screening class from the LCC table to the TN (eg, rate area 1):

RAX 1/.

W. Changing a Hunting Subgroup Associated With a Hunting Only TN Procedure

8.59 A hunting only TN defines a hunting subgroup within an MLHG. This TN is not associated with a particular member and has no OE (ie, it has only terminating translations defined).

X. Changing TN of an Assigned Hunt Subgroup (Hunting Only TN)

8.60 To change the telephone number (TN) assigned to a hunting subgroup, use the message:

A RC:MLH:2/
ORD 0001/
TYP CHG/

HML 002/
TN 555 1212/
NTN 555 1200/ (Note)
END!

Note: The new telephone number (input line NTN) must have previously been in the unassigned condition. This service order will automatically place the old TN in the unassigned condition. Calls to unassigned TNs are given the blank number treatment specified for the hundreds group of telephone numbers.

Y. Changing Size of a Hunting Subgroup Associated With a Hunting Only TN (BHT)

8.61 To change the member number of that start of a given hunting sequence (hunt subgroup):

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
BHT 003/
END!

Z. Change Member Number (LHT) (LHM)

8.62 To change the member number at which the hunting sequence (hunting subgroup) stops:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
LHT 005/
END!

If desired, modification of BHT and LHT may be performed in the same service order if they are to be changed or for informational purposes.

AA. Changing Line Class Code of a Hunting Subgroup Associated With a Hunting Only TN Assignment

8.63 The hunting subgroup specified by a hunting TN may be assigned a line class code different from that assigned to the MLHG. However, it is required that the screening codes and major originating class of LCC assigned to the TN be the same as that currently assigned to the MLHG and that the LCC be defined in the LCC Table.

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
LCC PBX/
END!

8.64 If more than one rate area is defined within the office, it is required to also input a line indicating the rate area in which the MLHG is assigned. This is necessary to enable the program to assign the correct screening class from the LCC Table to the TN (eg, rate area 1):

RAX 1/.

AB. Call Trace (Terminating Call Identification) (TRC)

8.65 All calls to a given hunting only telephone number (TN) assigned to an MLHG hunting subgroup may be identified by TTY as they occur by adding the trace feature to the hunting subgroup.

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
TRC ADD/
END!

When the trace feature is assigned to a telephone number, the Network Administrator should be notified to the trace recorded on form ESS 2105 for that number and MLHG.

8.66 Whenever a call attempt is made to a telephone number in the office on trace, regardless of whether or not the call is completed, a TTY message is outputted as shown in paragraph 8.55.

8.67 To remove the trace feature from a telephone number assigned to an MLHG hunt group:

A RC:MLH:2/
ORD 0001/
TYP CHG/
HML 002/
TN 555 1212/
TRC DLT/
END!

AC. Prohibit Line Insulation Test (PLIT) (PLI) Assignment

8.68 Prohibit line insulation test feature is assigned on an MLHG basis. If an MLHG has the prohibit line insulation test, then all of the lines in the MLHG are designated as having prohibit line insulation test assignment. To designate an MLHG as prohibit line insulation test assignment:

```
A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
PLIT ADD/
END!
```

8.69 To remove prohibit line insulation test from an MLHG:

```
A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
PLIT DLT/
END!
```

AD. Prohibit Automatic Line Maintenance Test (PLM) Assignment

8.70 This feature prohibits NETFAB and JASINT programs from performing maintenance tests. The prohibit automatic line maintenance test is also used to prohibit ALIT program from performing insulation tests. To designate an MLGH prohibit automatic line maintenance test assignment:

```
A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
PLM ADD/
END!
```

8.71 To remove prohibit automatic line maintenance test from an MLHG.

```
A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
PLM DLT/
END!
```

AE. Provide 800-ms Delay After Sleeve Lead Is Operated (DLY)

8.72 Providing 800-ms delay after sleeve lead is operated ensures trunk-to-line assignments with concentrator switching systems. To assign an MLHG to this feature, the following example is provided:

```
A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
DLY ADD/
END!
```

Note: This feature cannot be added if a sleeve lead is not defined for the line.

8.73 To remove 800-ms delay after sleeve lead is operated feature:

```
A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
DLY DLT/
END!
```

AF. Carrier Line (ROH)

8.74 This call processing feature indicates that a particular line is a carrier line and should ***not*** be given receiver off-hook tone. To apply the carrier line feature to an MLHG:

```
A RC:MLH:2/
TYP CHG/
```

ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
ROH ADD/
END!

8.75 To remove carrier line (ROH) feature from an MLHG:

A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
ROH DLT/
END!

AG. Automatic Line Insulation Test (AOSL)

8.76 This maintenance feature provides an indication that automatic line insulation tests should operate the line sleeve lead before testing the line. To assign the automatic line insulation test to an MLHG:

A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
AOSL ADD/
END!

Note: This feature cannot be added if a sleeve lead is not defined for the line.

8.77 To remove automatic line insulation test (AOSL) from an MLHG:

A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
AOSL DLT/
END!

AH. 800 Service

8.78 The 800 Service feature is a terminating feature that provides for billing all calls to a terminating party (called party) instead of the originating party (calling party). There are two types of 800 Service lines to which a customer may subscribe: full business day—where the customer is unrestricted as to the number of incoming calls made per line; and measured time—where the customer pays for the line based on the amount of time the line is used. The assignment is identical except that a separate simulated facilities group is used for the measured time 800 Service. This feature may be implemented for centrex lines or noncentrex lines; however, the 800 Service feature is not applicable for coin lines, party lines, or mobile lines. A simulated facilities group (SFG) number is assigned to the line in order to implement the 800 Service feature. The service order input message would appear as:

Note: Before entering this message, notify Network Maintenance to ensure that the system contains correct translations.

A RC:MLH:2/
ORD 0001/
TYP CHG/
OE 00 1202/
TN 562 2530/
HML 002/
TER 001/
SFG 5/
END!

8.79 To remove either measured time or full business day 800 Service from an MLHG, the simulated facilities group number is set to zero, thus causing the 800 Service to become deactivated.

A RC:MLH:2/
TYP CHG/
ORD 0001/
TN 562 3001/
OE 01 4252/
HML 001/
TER 002/
SFG 0/
END!

AI. Open Switching Interval Protection (DPP)

8.80 This feature eliminates the nonconnection to the central office battery during a switching

sequence. This feature is accomplished by applying an open switching interval protection circuit which is treated by the system as an applique circuit. A spare peripheral decoder point must be obtained from the Network Administrator to assign open switch interval protection to a line. A record of peripheral decoder points is kept on form ESS 2575. To add DPP to MLHG member:

A RC:MLH:2/
TYP CHG/
ORD 0001/
HML 002/
TER 002/
TN 562 3001/
OE 00 4222/
DPP 0512 11/
END!

8.81 To remove open switching interval protection from an MLHG member:

A RC:MLH:2/
TYP CHG/
ORD 0001/
HML 002/
TER 002/
TN 562 3001/
OE 00 4222/
DPP/
END!

AJ. Placing a Hunting Only TN on Intercept

8.82 To remove a hunt subgroup from an MLHG, the telephone number (TN) assigned to that hunt subgroup may be assigned as routing to intercept (eg, Route Index 009):

A RC:MLH:2/
ORD 0001/
TYP ICP/
HML 002/
TN 555 1212/
RTI 009/
END!

Any calls to this TN will now be routed to the intercept via Route Index 009. Note that other route indexes could just as well be inputted, thus routing calls to some other treatment. If the route index is not typed, the route index which is shown on the ESS 2303 output form is used. If no route index is specified, a default value of 008 will be inserted by the program.

8.83 The only service order allowed on this TN after the TYP ICP order is the TYP OUT service order for a TN.

A RC:L/
ORD 0001/
TYP OUT/
TN 555 1212/
END!

AK. Placing a Hunting Only TN to the Unassigned Condition

8.84 To remove a hunting subgroup from an MLHG, the hunting only telephone number assigned to that hunt group may be removed from service.

A RC:MLH:2/
ORD 0001/
TYP OUT/
HML 002/
TN 555 1212/
END!

Calls to unassigned TNs are given the blank number treatment specified for the hundreds group of telephone numbers. The TN is immediately available for reassignment.

AL. Placing an MLHG Member With a TN on Intercept

8.85 To remove a member from a MLHG, the telephone number assigned to that member may be assigned as routing to intercept (eg, Route Index 009):

A RC:MLH:2/
ORD 0001/
TYP ICP/
HML 002/
TER 006/
OE 01 0223/
TN 555 1438/
RTI 009/
END!

Any calls to this TN will now be routed to the intercept via Route Index 009. Note that other route indexes could just as well be inputted, thus routing to

some other treatment. If the route index is not typed, the route index which is shown on the ESS 2303 output form is used. If no route index is specified, a default value of 008 will be inserted by the program.

8.86 The only service order allowed on this TN after the TYP ICP order is the TYP OUT service order for a TN.

```
A RC:L/
ORD 0001/
TYP OUT/
TN 555 1212/
END!
```

AM. Placing an MLHG Member With a TN to the Unassigned Condition

8.87 To remove a hunt group from an MLHG, the TN assigned to that hunt group may be removed from service.

```
A RC:MLH:2/
ORD 0001/
TYP OUT/
HML 002/
TER 006/
OE 01 0233/
TN 555 1212/
END!
```

Calls to unassigned TNs are given the blank number treatment specified for the hundreds group telephone numbers. The TN and OE are immediately available for reassignment.

AN. Remove Member Line From Terminal List

8.88 To remove a member line from the terminal list of an MLHG:

```
A RC:MLH:2/
ORD 0001/
TYP OUT/
HML 002/
TER 006/
OE 01 0233/
END!
```

A vacancy will now exist in the terminal list. If the member was an outdial-only member, it will have no effect on the hunt groups. If the member was a hunted member, the call processing programs will treat this member number (with an all zero OE) as permanently busy. In this way, vacancies are permitted in the terminal list without affecting the hunt group continuity. However, the vacancy will count as a busy member in traffic usage counts. The OE is immediately available for reassignment.

9. RC PROCEDURES FOR TRUNKS AND SERVICE CIRCUITS

Note: The RC procedures given in this section are allowed from TTY channels 0, 1, and 3. In practice, however, they should be used only from the maintenance channels (0 and 1). The verify procedures are available from all channels.

TRUNKS

9.01 All trunk circuits in the office must have been defined by the ODA program. When an ODA run is made, spare trunks are defined in spare trunk circuit groups so that translations exist when they are needed.

9.02 For details on trunk message formats and data fields, refer to the Input Message Manual. Each example listed performs only the one desired task. As indicated in the Input Message Manual, these functions can be performed simultaneously in the same message. It is not necessary to make up a separate message for each change to a trunk.

9.03 Groups 64 and 65 contain the noncontrolling ports of all multiport circuits so no changes can be made in groups 64 or 65.

A. Verification

9.04 To verify the contents of a trunk group:

```
A VY:GRP:123!
```

Following this message will be a printout of words 0 through 7 of the trunk group if the group has no 4-word expansion assigned. Words 0 through 11 will be printed if a 4-word expansion is assigned, where word 8 is the first word of the 4-word expansion. Also for each word, the printout will contain the program store and recent change value in octal.

9.05 When word changes are required to the trunk group, the recent change message would appear as.

A RC:GRP:123 1/
WD 0 1234567 1001001/
WD 1 1002143 1010101/
END!

Note: The number 123 is the group number, 1 will add a 4-word expansion to group; 2 will remove expansion.

9.06 Given the trunk group and member number, (eg, group 81, member 16) a trunk may be verified by the following input message:

A VY:TRK:81 16!

The response message will indicate whether that member is not equipped in the group, or if the group defined size is not that large. If the member exists, the response will indicate the OE, first peripheral decoder point, auxiliary peripheral decoder point, first directed scan point, and first supervisory scan point, if they exist.

9.07 To verify a trunk, service circuit, or attendant OE, use the following message:

A VY:L/
OE 01 0232/
END!

The information returned is that which would have been returned had the trunk or service circuit been verified by group and member, or had the attendant been verified by FDC (frame, data link, console). See the following messages in IM/OM 2H200-04 or 2H200-05 for more detail:

AR VY TRK
AR VY SVC
AR VY ATT.

B. Changing the Member Number of a Trunk

9.08 To move a trunk circuit from one member number to another (eg, from group 080, member 006 to group 080, member 002), use the following input message:

A RC:TRK/
OGP 080/
OMB 006/
GRP 080/
MBR 002/ (Note)
END!

Note: If the new group member number is left blank, the trunk is assigned to the first available member in the group.

9.09 A trunk must be made maintenance busy before it is allowed to be moved. Any testing should be done from the spare group for that circuit type.

9.10 When a member number change is made by the above message, a verification message response will follow automatically.

C. Moving Trunk From One Group to Another

9.11 To move a trunk circuit from one trunk group to another (eg, from group 80, member 6 to group 116, member 2), use the following input message:

A RC:TRK/
OGP 080/
OMB 006/
GRP 116/
MBR 002/ (Note)
END!

Note: If the new group member number is left blank, the trunk is assigned to the first available member in the new group.

9.12 A trunk must be made maintenance busy before it is allowed to be moved. Any trunk wiring changes and testing should be performed from the spare trunk group for that circuit type.

9.13 When a group change is made by the above message, a verification message response will follow automatically.

D. Changing OE of a Trunk Circuit

9.14 The OE to which a given trunk circuit is assigned can be changed in translation by the following input message:

A RC:TRK/
OGP 080/
OMB 006/
OE 01 0232/
IOE 91 6263/ (Note)
END!

Note: The new OE (IOE) must have previously been assigned. The old OE is immediately available for reassignment.

9.15 The trunk circuit must be made maintenance busy before the OE may be changed. Wiring changes must also be performed to change a OE assignment of a trunk. The ferrod associated with the new TTY must be unstrapped. (See Section 232-010-301.)

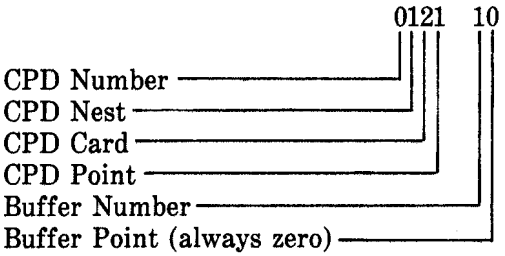
9.16 When the OE of trunk is changed by the above message, a verification message response will follow automatically.

E. Changing PDA of a Trunk Circuit

9.17 The peripheral decoder buffer point address (PDA) is the peripheral decoder point used to operate the trunk. The PDA to which a given trunk circuit is assigned can be changed in translation by the following input message:

A RC:TRK/
OGP 080/
OMB 006/
PDA 0121 10/
END!

where:



SERVICE CIRCUITS

9.18 All service circuits in the office must have been defined by the ODA program. When an ODA run is made, spare service circuits are defined in spare service circuit groups so that translations exist when they are needed.

9.19 For details on service circuit message formats and data fields, refer to the Input Message Manual. Each example listed performs only the one desired task. As indicated in the Input Message Manual, these functions can be performed simultaneously in the same message. It is not necessary to make up a separate message for each change to a service circuit.

> ***Note:*** Groups 64 and 65 contain the noncontrolling parts of all multiport circuits so no changes can be made in groups 64 or 65.

A. Verification

9.20 Given the service circuit group and member number, (eg, group 40, member 4) a service circuit may be verified by the input message:

A VY:SVC:40 4!

The response message will indicate whether or not member 4 is equipped in group 40 or if the group defined size is less than 40. If the member is correct, the response will indicate the OE, first peripheral decoder point, auxiliary peripheral decoder point, first directed scan point, and first supervisory scan point, if they exist.

9.21 To verify a trunk, service circuit, or attendant OE, use the following message:

A VY:L/
OE 01 0232/
END!

The information returned is that which would have been returned had the trunk or service circuit been verified by group and member, or had the attendant been verified by FDC (frame, data link, console). See the following messages in IM/OM 2H200-04 or 2H200-05 for more details:

AR VY TRK
AR VY SVC
AR VY ATT.

B. Changing the Member Number of a Service Circuit

9.22 To move a service circuit from one member number to another (eg, from group 040, member 004 to group 040, member 002), use the following input message:

A RC:SVC/
OGP 040/
OMB 004/
GRP 040/
MBR 002/ (Note)
END!

> ***Note:*** If the new group member number is left blank, the service circuit is assigned to the first available member in the group.

9.23 A service circuit must be made maintenance busy before it is allowed to be moved. Any testing should be done from the spare group for that circuit type.

9.24 When a member number change is made by the above message, a verification message response will follow automatically.

C. Moving Service Circuit From One Group to Another

9.25 To move a service circuit from one group to another (eg, from group 40, member 4 to group 56, member 2), use the following input message:

A RC:SVC/
OGP 040/
OMB 004/
GRP 056/
MBR 002/ (Note)
END!

> ***Note:*** If the new group member is left blank, the service circuit is assigned to the first available member in the new group.

9.26 A service circuit must be made maintenance busy before it is allowed to be moved. All circuit testing should be performed from the spare service circuit group for that circuit type.

9.27 When a group change is made by the above message, a verification message response will automatically follow.

D. Changing OE of a Service Circuit (IOE) (NTE)

9.28 The OE to which a given service circuit is assigned can be changed in translation by the following input message:

A RC:SVC/
OGP 040/
OMB 004/
OE 01 0232/
IOE 01 6262/ (Note)
END!

> ***Note:*** The new OE (IOE) must have previously been unassigned. The old OE is immediately available for reassignment.

9.29 The service circuit must be made maintenance busy before the OE may be changed. Wiring changes must also be made to change the OE assignment of a service circuit.

9.30 When the OE of a service circuit is changed by the above message, a verification message response will follow automatically.

ADDING ADDITIONAL TRUNK AND SERVICE CIRCUIT HELP MESSAGES

9.31 Changes to the trunk and simulated trunk group words are difficult because octal calculations are involved. For example, the bill to number (BTN) and manual trunk disposition (MTD) are stored in translations in a packed octal form. In order to change one of these numbers, the new number must be converted to the packed octal form and inputted as a work change. The EF-2 and 2B-EF-2 generic programs contain help messages that will convert a decimal directory number to its packed octal form and print the results on the TTY as well as several other types of HELP messages. These help messages are designed to minimize conversion errors and are designed ***ONLY*** to be used in conjunction with the Manual Translation Modification procedures in Sections 232-127-312 and 232-327-314.

A. Group Translation Data

9.32 The following help message is designed to provide the craft personnel with the locations within the group translation tables to be modified when adding new circuit members. The base location of the group data block and the locations of the corre-

sponding circuit list member entry may be obtained via use of the following input message:

A HP:G/
GRP 111/
MBR 123/
END!

The following output message provides the group data block location and the circuit list entry location:

AR HP G
GRP 111 1010101
MBR 123 1010101 01010101
END!

B. Scan Point Translation

9.33 The following message will provide the craft personnel with the location in the scan point translation tables of the scan point required to add a new circuit to the office. The message can differentiate between universal trunks and miscellaneous trunk/service circuits via the output message. The input message is as follows:

A HP:G/
SP 23 1413/
END!

9.34 The output message for universal trunks is as follows:

AR HP G
SP 23 1413
UTB 1212121 2121211
UWD1 1121212 1121212
UWD2 2211212 1111222
END.

Note: If the universal trunk is undefined, variable fields will not print output messages for UWD1 or UWD2.

9.35 The output message for miscellaneous trunk/service circuit is as follows:

AR HP G
SP 23 1513
AS BSE 3333333
AS ENT 1122211 2222111
END.

Note: If the miscellaneous trunk is undefined, variable fields will not print output messages for AS BSE or AS ENT.

C. Circuit Subtranslator Entry

9.36 The input message in paragraph 9.37 is used in conjunction with the scan point translation input message (paragraph 9.33) whenever a miscellaneous trunk or service circuit is to be added.

9.37 The first eight words of the auxiliary subtranslator contains four 2-word entries. These entries identify the connecting subtranslators as per type (miscellaneous trunk or service circuit subtranslator) and contain the base address of the associated subtranslator tables. The preceding scan point translator input message (AS BSE, word 1) provides the base address of a connecting circuit subtranslator obtained from one of the four entries and is used as the input. The input message that follows locates a free 4-word block within the specified circuit subtranslator and prints out the starting location.

A HP:T/
SUBB 0 1234567/
END!

9.38 The output message is as follows:

AR HP T
SUBB 1212121
SUBE 2222222 121
END.

In this message SUBB is the scan point subtranslator base location, miscellaneous trunk or service circuit subtranslator base location obtained from one of the four 2-word entries contained within the first eight words of the auxiliary subtranslator.

9.39 SUBE is the location of a 4-word free entry located within the circuit subtranslator whose base address was specified in the input message.

D. Terminal Equipment Translator

9.40 Terminal equipment originating subtranslator entry (OSE) that corresponds to a specified originating equipment number can be identified via an administrative help message.

A HP:G/
OE 01 1233/
END!

The resulting output message contains the OSE as a full word with the originating subtranslator corresponding with the OE specified.

E. Table and Entry Translation

9.41 The following administrative help message can be used to find the address of 2-, 4-, 6- or 8-word expansions.

```
A HP:T/
TBL 0 566/
END!
```

The resulting output message contains the pointer and address of the expansion in keyword TBL.

```
AR HP T
TBL 566 1244323
END.
```

F. Program and Call Store Allocation

9.42 To find a block of spare program store words use input message:

```
A RC:PST:1024 10!
```

This message will find a block of spare program store 1024 words in size where the first address of the block has ten low zeros.

9.43 The first and last address of the spare program store block, the pointer and address of the two word expansion, are printed out in the output message:

```
AR RC PST 1024 10
ADR 1234000 1236000
END.
```

9.44 To find a block of spare call store of a 32-word block, use input message:

```
A RC:CST:32 10!
```

9.45 The first and last address of the spare or unused call store appears in the output message:

```
AR RC CST 32 10
ADR 1334000 1334040
END.
```

G. Place Spare Words in Program Store and Call Store

9.46 To place spare words in program store into spares:

```
A RC:PST 1024/
ADR 0 123400/
END!
```

9.47 To place spare words in call store into spares:

```
A RC:CST 32/
ADR 0 133400/
END!
```

H. Find an Empty 2-Word Expansion

9.48 To find a 2-word expansion in the program store table:

```
A RC:PST/
TBL 2/
END!
```

9.49 The resulting output message provides the expansion pointer and the address of the expansion.

```
AR RC PST
TBL 01645 533188
```

10. TRUNK GROUP

Note: The RC procedures given in this section are allowed from TTY channels 0, 1, and 3. In practice, however, they should be used only from the maintenance channels (0 and 1). The verify procedures are available from all channels.

10.01 A trunk group consists of eight program store words plus four optional words in general purpose expansion pointed to by word 7. Any number of words may be changed one at a time. The old octal contents of the word to be changed, as well as the new information, must be entered. Before using the message, consult with TG-2H, Division 4, Sections 2c and 2e and complete ESS 2202-3 (Trunk Group Table, No. 2 ESS) and ESS 2204 (Trunk Feature Table, No. 2 ESS) forms for the group in question. Then, using PA-2H204 or PA-2H205, Section 610, convert the data from the forms to the octal representation for all words of the group. Then to change a given word of the trunk group data, use the following message:

```
A RC:GRP:71 1/
WD 1 1234567 2234567/
END!
```

The above message will change word 1 of trunk group 71 from O(1234567) to O(2234567). Even parity is cal-

culated by the program for the new information to be entered. The digit 1 places a 4-word expansion on word 7 of the group. A digit 2 would delete the expansion, and digit 0 would be no change to word 7 for expansions. In the header message, digit 1 represents adding a 4-word expansion to the trunk group, while digit 2 would delete a 4-word expansion from the trunk group.

10.02 A RC to a trunk group is effective immediately for word 0 and bits 0 through 3 of word 6, (bylink peg counter) of the translator. However, a RC update must be performed for any changes to words 1 through 5, bits 4 through 15 of word 6, and word 7 to be effective; ie, only word 0 and bits 0 through 3 of word 6 are RC hunted.

10.03 Before using this message, it is recommended that the No. 2 ESS Translation Guide, TG-2H, be consulted, especially Division 4, Section 2e, Table A.

10.04 To verify the octal contents of all data words in both program store and RC for a given trunk group:

A VY:GRP:71!

The octal contents in RC will only print out if different from that in program store.

11. SERVICE CIRCUIT GROUP

Note: The RC procedures given in this section are allowed from TTY channels 0, 1, and 3. In practice, however, they should be used only from the maintenance channels (0 and 1). The verify procedures are available from all channels.

11.01 A service circuit group consists of four program store words. Any number of words may be changed at one time. The old octal contents of the word to be changed, as well as the new information, must be entered. Before using the message, consult with TG-2H, Division 4, Section 2C and complete ESS 2202-1 and ESS 2202-2 (Trunk Group Table, No. 2 ESS) forms for the group in question. Then using PA-2H204 or PA-2H205, Section 610, convert the data from the forms to the octal representation for all words of the group. Then to change a given word of the service circuit group data, use the following message:

A RC:GRP:29/
WD 0 1234567 1234560/
END!

The above message will change word 0 of service circuit group 29 from O(1234567) to O(1234560). Even parity is calculated by the program for the new information to be entered.

11.02 A RC to word 0 of a service circuit group is effective immediately. However, a RC update must be performed for any change to words 1 through 3 to be effective; ie, only word 0 is RC hunted.

11.03 To verify the octal contents of all data words in both program and RC for a given service circuit group:

A VY:GRP:29!

The octal contents in RC will be returned only if different from that in program store.

12. CARRIER GROUP ALARM TABLE AND TRUNK GROUP/TRUNK MAKE BUSY TABLE

Note: The RC procedures given in this section are allowed from TTY channels 0, 1, and 3. In practice, however, they should be used only from the maintenance channels (0 and 1). The verify procedures are available from all channels.

12.01 In order to add a trunk to a "carrier group" alarm table, the carrier group definition must have been established by a previous ODA run. The RC message may be used to add any number of members of various trunk groups to the carrier group member table. The members of this table are then removed from service when the associated ferrod is saturated. In essence, this is a trunk remote make busy facility which may be controlled by a carrier group alarm contact closure, a remote make busy key, etc (refer to Translation Guide TG-2H, Division 4, Section 21 for explanation of ESS-2216 Carrier Group Table).

A. Verify Carrier Group

12.02 To verify all trunks associated with a given carrier group alarm table, use the input message:

A VY:CGA:007!

The response will indicate all trunks (by group and member) which are associated with carrier group number 7.

B. Adding a Trunk to a Carrier Group

12.03 Before a trunk can be added to an existing carrier group table, certain translation tables and pointers must be established by the ODA. Assuming these are established, add a new trunk to a carrier group as follows:

A RC:CGA:007 152 003 1!

This message will add trunk group 152, member 3 to carrier group number 7 if room exists in the table.

C. Removing a Trunk From a Carrier Group

12.04 To remove a trunk from a carrier group, use the following input message:

A RC:CGA:007 152 003 0!

This message will remove trunk group 152, member 3 to carrier group number 7.

D. Verify Trunk on Carrier Group

12.05 In addition to the response normally given by the verification of a trunk (refer to the Output Message Manual [OM-2H200-04 or OM-2H200-05]), the carrier group number is returned. For example, a verify of trunk group 152, member 3 would return:

CGN 007.

E. Verify Trunk Group and Member Assigned to a Trunk Make Busy Table

12.06 To verify the trunk group and member assigned to a trunk make busy table, use the following input message:

A VY:TMB:1!

This message will verify trunk make busy Table 1.

F. Adding a Trunk Group to a Trunk Make Busy Table

12.07 To add a trunk group to a trunk make busy table, use the following input message:

A RC:TMB:1 2 3 1!

13. RC PROCEDURES FOR ROUTING AND CHARGING

Note: The RC procedures given in this section are allowed from TTY channels 0, 1, and 3. In practice; however, they should be used only from the maintenance channels (0 and 1). The verify procedures are available from all channels.

HUNTING OF ROUTING AND CHARGING CHANGES (EF-1)

13.01 For the No. 2 ESS with the EF-1 generic program, the following message should be used when changes to the 3-digit translator should be RC hunted. This message does not apply to No. 2B ESS.

A RC:RCH:d!

d = A 1-digit variable field that indicates if a recent change hunt is to be done.

d = 0 = do not recent change hunt.

d = 1 = recent change hunt.

Note: The variable automatically reverts to 0 after a RC update.

13.02 The input message A RC:RCH:1! is required before the following messages become effective:

A RC:CRI
A RC:DIG
A RC:NCG
A RC:RI.

ROUTE INDEX EXPANSIONS

13.03 Caution must be exercised when changing a route index expansion. Several different call situations may use the same route index. Different code groups (ESS 2304-R) may use the same route index as a direct route index or different special routing cases (ESS 2301-R) may also use that same route index as an alternate route index. All uses of a route index must be considered before it is changed.

13.04 The route index is a 3-digit number ranging from 008 to 511 (001-005 and 007-511 for 2BE3), by which trunk group numbers and routing information are associated with data based on the telephone number (ESS 2100 form), a line or trunk class code (ESS 2301 form), an area code and office code (ESS 2300 form), an incoming trunk digit translation (ESS 2209 form), or centrex group table (ESS 2109 form).

13.05 A given word of a route index expansion may be changed by specifying the octal contents

of the program store word to be changed as well as the new information to be entered. The 2-word code conversion expansion, as pointed to by a route index with exit code 6 and destination code 17, is not recent changeable.

13.06 The quantity of information obtained (via the route index) requires two data words in the 1024 word Route Index Expansion Table, limiting the total number of route indexes to 512. The first eight entries (ESS 2303-1 form) 000-007 are reserved for intraoffice codes (except 2BE3) corresponding to normalized office codes (NOC) 0-7. With 2BE3 and later generic programs, the relationship between Route Indexes 000-007 and NOC 00-07 no longer exists. Route Index 000 is not allowed. Route Indexes 008-019 (ESS 2303-2 form) are also dedicated within the generic program and must be defined even where the function is not desired by the operating company. The dedicated route indexes are defined in Table D. The quantity of route indexes which may be linked together (as in alternate routing) is six (initial plus five others).

13.07 Service circuits that are required in every No. 2/2B ESS office, do not require a defined route index because they are accessed by the generic program via a dedicated trunk group number. Service circuits that require a telephone number or other optional treatment require a route index. Additional service circuits accessed by the program may be assigned a route index, if desired.

13.08 Trunk group number assignments for operating company defined trunk groups vary with the generic program installed in the office. TELCO defined trunk group numbers are limited to the 070-511 range. Additional service circuits may be assigned within the 070-511 trunk group number range. However, starting with trunk group number 080, service circuits and trunk groups cannot be mixed within any group of 16 trunk group numbers; ie, 080-095, 096-111, 112-127, etc. As an example, if a service circuit is assigned to trunk group number 096, a trunk group cannot be assigned to trunk group number 097-111.

A. Verification

13.09 To verify the contents in both the program store and recent change (RC) areas of call store for the given route index, use the following input message:

A VY:RI:aaa!

aaa = A 3-digit variable field that represents the route index.

13.10 A route index occupies a 2-word block of program store or the RC area of call store. The output message following a route index verification request is as follows:

AR VY RI aaa yyyyyy zzzzzz

aaa = A 3-digit variable field that represents the route index.

yyyyyy = The octal contents of program store.

zzzzzz = The octal contents of recent change area of call store (Note).

Note: Only prints out if different from program store.

B. Changing a Route Index (EF-1 and 2B-EF-1)

13.11 A route index consists of two program store words. Either or both may be changed, but only one at a time. Both the old octal contents of the word to be changed and the new information must be entered. The 3, 7, or 8-digit number for the code expansion is not recent changeable. Before using the message, consult the translation guide TG-2H, Division 4, Section 3d, and fill out an ESS 2303 form for the route index in question. Using PA-2H202 or PA-2H203, Section 510, convert the data from the ESS 2303 form to the octal representation for both words of the route index. To change a given word of the route index expansion table, use the following message:

A RC:RI:aaa/
WD x yyyyyy zzzzzz/
END!

13.12 For EF-1 generic only, to activate or deactive this RC, refer to the description in IM-2H200 of the following message:

A RC:RCH.

C. Changing a Route Index (EF-2 and Later)

13.13 A route index consists of two to four program store words. Any one of the four may be changed with each message. Before using the follow-

TABLE D

DEDICATED ROUTE INDEXES

ROUTE INDEXES	NOTE	DESCRIPTION
000-007	3	Normalized office code.
008	1	Route index for regular intercept [announcement, Automatic Intercept System (AIS) or operator]. Normally accessed via recent change intercept change treatment default treatment.
009	1	Route index for disconnect intercept (announcement, AIS, or operator. Normally accessed via recent change.
010	1	Route index for trouble intercept (announcement, AIS, or operator). Normally accessed via recent change. Also used when program encounters a line on the plugged up list.
011		Route index used when an origination from a manual line is encountered.
012		Route index used when a customer with at least one custom calling feature attempts to use a custom calling feature which the customer is not entitled to have. Also when a dialing or procedural error related directly to a custom calling feature is encountered.
013		Route index to be used for all 2-party message rate reverting calls. Also used for all reverting calls if the data in items 07 and 08 of ESS 2500 (General Information Table) indicates.
014	1	Route index to be used on all blank 4-digit numbers, blank hundreds groups, and all 4-digit translation errors.
015	2	Route index to be used on noncoin calls which should be routed to the permanent signal (P.S.) operator.
016	2	Route index to be used on coin calls which should be routed to the P.S. operator. Route index 015 and 016 may use the same trunk group if desired.
017		Route index to be used in the first phase of P.S. treatment. Normally defined with P.S. announcement, group 018.
018		Route index to be used in the first phase of partial dial (P.D.) treatment. Normally defined with P.D. announcement trunk group, 019.
019		Route index to be used for all translation errors other than 4-digit errors (see route index 014). This route index cannot go to an AIS. It is possible to use this route index with an announcement or tone trunk.

Note 1: These route indexes may use Call Types 16, 17, 18, 24, 29, or 30; or 10 for AIS only. Care should be used in assigning the above route indexes to insure that the proper call type and trunk type association is made.

Note 2: If these route indexes are defined with a fake trunk group containing no members, Column 50 (tone) must be left blank.

Note 3: With 2BE3 and later generic programs the relationship between route indexes 000-007 and NOC 00-07 no longer exists. Route index 000 is not allowed.

ing input message, consult with TG-2H, Division 4, Section 3d, and complete ESS 2303 form for the route index in question. Then, using PA-2H204 or PA-2H205, Section 510, convert the data from the ESS 2303 form to the octal representation for the appropriate words of the route index. Then, to change a given word or words of the route index expansion table, use the following message:

A RC:RI:aaa/
WD x zzzzzzz/
WD x zzzzzzz/
END!

D. Deleting a Route Index

13.14 A route index could have to be removed for one of several reasons including:

(a) The route index is no longer used.

(b) The route index could have been created incorrectly or only created on a temporary basis.

13.15 The route index for EF-1 and 2B-EF-1 is deleted by the following message:

A RC:RI:aaa/
WD x yyyyyy 000000/
END!

13.16 The route index for EF-2 and later generics is deleted by the following message:

A RC:RI:aaa/
WD x zzzzzzz/
WD x zzzzzzz/
END!

aaa = A 3-digit variable field that represents the route index.

x = The word in the route index expansion to be deleted.

yyyyyy = Octal contents of the program store word to be changed.

zzzzzzz = Octal contents (0000000) to be entered into recent change.

Even parity will be calculated and inserted.

THREE- AND SIX-DIGIT TRANSLATION

13.17 In general, a 3- or 6-digit code will point to a code index. From the code index expansion, a direct route index is obtained as well as another pointer to screening translators. From the line class of service in the screening translators, the charge index and possibly an alternate route index are obtained. None of the information in the screening translators is able to be modified by RC techniques. The only item in a code index expansion that is recent changeable is the direct route index.

A. Verifying Code Assignment

13.18 The following input messages verify to which code index a given 3-digit (eg, 555) or 6-digit (eg, 312 555) code directly points:

A VY:DIG:555!
A VY:DIG:312 555!

The response message will indicate the first code index to which the given code is pointing. The exit code of the code index expansion indicates the format of the expansion. Different exit codes are used to handle the possible 1 or 0 prefixing of a number.

B. Verifying Which Route Index Is Assigned to a Code Index

13.19 As shown in the Code Index Expansion Tables formats (see paragraph 13.20), exit codes 1, 2, 3, and 6 do not contain direct route indexes. These expansion types point to other code indexes for special conditions. The remaining code index expansion types (eg, code index 12) have a direct route index which may be verified by the following input message:

A VY:CRI:12!

13.20 The response message will indicate the direct route index associated with this code index expansion and the expansion exit code. This direct route index is not necessarily used by all 3- or 6-digit codes pointing to this code index. The exit code determines whether this direct route index is to be used for the dialed prefix code or if the direct route index of another code index must be used for the dialed prefix. The prefix digit treatment in the code index expansions with direct route indexes is as follows.

EXIT CODE 4:
no pfx - use this direct route index
0 pfx - use this direct route index
1 pfx - use this direct route index.

EXIT CODE 5:
no pfx - use this direct route index
0 pfx - points to code index
1 pfx - use this direct route index.

EXIT CODE 7:
no pfx - points to code index
0 pfx - points to code index
1 pfx - use this direct route index.

EXIT CODE 8:
no pfx - use this direct route index
0 pfx - points to code index
1 pfx - points to code index.

If it is necessary to verify the direct route indexes assigned to the code index expansions to which a prefix points, a direct octal readout of the first word of the first code index expansion is required. From the format for the correct exit code, the code index to which a prefix points may be determined. Then the code index expansion may be verified by the following message:

A VY:CRI:004!

004 = aaa = a 3-digit variable field that represents the code index.

13.21 The direct route index used for each prefix of a 3- or 6-digit code may be obtained from the office records. This can be done by finding the code group for each prefix for the desired 3- or 6-digit code on ESS 2300-R and then looking up the direct route index on ESS 2304-R.

C. Treating a 3- or 6-Digit Code the Same as Some Other Code

13.22 Any 3- or 6-digit code may be modified by RC to provide routing and charging identical to some other 3- or 6-digit codes defined in the office. This means that the routing and charging for the two codes will be identical for every class of service. It also means that the prefix digits for the two codes will be handled in the same way.

13.23 To provide the same treatment for a 3- (eg, 555) or 6-digit (eg, 312 555) code that is given to some other 3- or 6-digit code, the old code index to which the 3- or 6-digit code now points (eg, 70), and the new code index to which the other 3- or 6-digit code points (eg, 112) must be known and inputted into the machine via the following message:

A RC:DIG:555 0 70 112! (3-digit)
A RC:DIG:312 555 70 112! (6-digit)
A RC:DIG:312 555 70 112 0! (2BE3 6-digit).

13.24 The equivalent of doing this on the office records is copying all the data from the line for one 3- or 6-digit code being changed. For the EF-1 generic only, to activate or deactivate this RC, refer to the description of the following message in IM-2H200:

A RC:RCH.

D. Assigning a New Direct Route Index to a Code Index

13.25 Before changing the direct route index of a code index, all of the 3- or 6-digit codes that point to that code index and all prefixing conditions in other code index expansions that point to that code index should be well known. Many different 3- or 6-digit codes may point to a given code index expansion either directly or indirectly through the prefixing on another code index expansion. Changing the direct route index on this code expansion will affect the routing of all calls of 3- or 6-digit codes that either directly or indirectly point to it.

13.26 To change the direct route index (eg, from 86 to 81) of a code index expansion (eg, code index 30), use the following input message:

A RC:CRI:30 86 81!

13.27 On the office records, this is equivalent to changing the direct route index for all code groups on ESS 2304-R to which the 3- or 6-digit codes with those prefixes belong. For the EF-1 generic only, to activate or deactivate this RC, refer to the description of the following message in IM-2H200:

A RC:RCH.

E. Assigning a New Direct Route Index to a 3- or 6-Digit Code

13.28 A direct route index may be assigned for a given 3- or 6-digit code, different from any

other route index which points to the same first code index. The first step is to create a new code index expansion exactly identical to the first code index expansion to which the 3- or 6-digit code now points. A new code index must be selected that is defined in the machine, but not currently in use (ESS 2304-R). To create a new code index expansion (eg, code index 103) exactly like an existing expansion (eg, code index 61), use the following input message:

A RC:NCG:61 103!

13.29 After creating the new code index expansion, the direct route index may be changed (eg, from route index 86 to 81) exactly as in the above example by the following input message:

A RC:CRI:103 86 81!

13.30 The last step is to assign the chosen 3- (eg, 555) or 6-digit code (eg, 312 555) to this newly created code index expansion by the following input message:

A RC:DIG:555 0 61 103! (3-digit)
A RC:DIG:312 555 61 103! (6-digit)
A RC:DIG:555 0 61 103 1! (2BE3 3-digit).

For the EF-1 generic only, to activate or deactivate this RC, refer to the description of the following message in IM-2H200:

A RC:RCH.

13.31 The result will be that the 3- or 6-digit code is routed and charged exactly as before, except for the prefix cases that use the direct route index of this code index expansion. These prefix cases are determined by the expansion exit code.

> ***Note:*** This procedure is applicable only for 3- or 6-digit codes that point to a first code index with an expansion exit code of 4, 5, 7, or 8.

13.32 The equivalent of doing this on the output records is to change the code index for the 3- or 6-digit codes on ESS 2300-R. The exit code of the expansion indicates which prefixing cases use the new direct route index in the expansion. The 3- or 6-digit codes with these prefixes must still be considered members of the same code groups as before for charging purposes. They will no longer use the same direct route index as the code group shown on ESS 2304-R. A rate indicating the new route index to be used for that 3- or 6-digit code and associated prefix should be made in the REMARKS field.

F. Treating a 3- or 6-Digit Code Exactly as Some Other Code but With a Different Direct Route Index

13.33 A given 3- or 6-digit code may be changed to provide a treatment like some other 3- or 6-digit codes already defined in the office; however, it will have a different direct route index. The first step is to create a new code index exactly like the index used by the 3- or 6-digit code desired. The following input message must be used as described in paragraph 13.28.

A RC:NCG:61 103!

13.34 The direct route index of that new code index is then modified as follows:

A RC:CRI:103 86 81!

13.35 The last step is to point the 3- or 6-digit code being changed to the new code index with the modified direct route index as follows:

A RC:DIG:555 0 61 103! (3-digit)
A RC:DIG:312 555 61 103! (6-digit)
A RC:DIG:312 555 0 61 103 1! (2BE3 6-digit).

G. Changing Prefixes for a 3- or 6-Digit Code

13.36 A completely new prefixing scheme not previously used in the office may not be defined by recent change techniques. However, a 3- or 6-digit code treatment may be modified so that the prefixing scheme is identical to that used by some other 3- or 6-digit code. If this is done, the charging pattern and special routing for every line class of service must also be the same. It is then equivalent to treating a 3- or 6-digit code exactly the same as some other 3- or 6-digit code as shown in paragraph 13.33 except both will have the same direct route index.

H. Deleting a Code Index

13.37 A given code index could have to be removed for one of several reasons including:

(a) No 3- or 6-digit codes are assigned to the code index.

(b) A new code index was created incorrectly.

The code index is deleted by the following message:

A RC:NCG:75 ---!

> ***Note:*** It is important to remember that this message ***will not*** make any checks to ensure that the code index is unused before it is removed.

CHARGING

A. Changing the Day Type

13.38 The days of the week may be assigned to any one of four different day types.

- Weekday
- Holiday
- Special 1
- Special 2

13.39 The assignment of a day to a type may only be made by RC. It will ***not*** be done by the ODA. The message to assign a day to a particular day type is as follows:

A RC:DAY:d t!

d = A 1-digit field that represents the day of the week. Range is 1 through 7; 1 = Sunday, 7 = Saturday.

t = A 1-digit field for the code the day is to have. Range is 0 through 3.

= 0 = Weekday

= 1 = Holiday

= 2 = Special 1

= 3 = Special 2

This RC is active immediately upon successful completion of the message.

13.40 The message to assign Monday as a holiday would be as follows:

A RC:DAY:2 1!

> ***Note:*** A day should not be assigned to a day type for which the daily rates have not been defined by the ODA.

B. Verifying the Day Type of a Day

13.41 The day type to which a given day has been assigned by a RC request may be determined by the TTY verify request:

A VY:DAY!

The response message, as described in the Output Message Manual, will indicate the day type of all seven days of the week.

C. Changing the Daily Rate

13.42 The three daily rates that may be assigned within a day type are:

- Day Rate
- Evening Rate
- Night Rate.

The assignment of a given rate for each hour of the day in a day type is made by the ODA only. The daily rate in a day type cannot be modified by RC procedures.

13.43 If Special 1 or Special 2 day types are not normally used for other purposes, they may be utilized to perform rate changes (eg, to Start Night Rate at 5:00 pm instead of at 6:00 pm). In an ODA run prior to the effective date of the rate change, the special day type can be defined for new rates. To activate the new rate, the days affected need only be assigned to the special day type by the following RC message:

A RC:DAY:d t!

The ***d*** is the day to be changed and the ***t*** is the day type as described in the Input Message Manual (see paragraph 13.39).

13.44 To activate rate changes for Tuesday, if the rate change was assigned to special 2 day type, the following message is used:

A RC:DAY:3 2!

D. Changing Charging Pattern for 3- or 6-Digit Code

13.45 A completely new charging pattern not previously used in the office cannot be defined

by RC. However, a 3- or 6-digit code treatment may be modified so that the charging pattern and special routing pattern for all classes of service are identical to that used by some other 3- or 6-digit code. If this is done, the prefix case routing and charging must also be the same. It is then equivalent to treating a 3- or 6-digit code exactly the same as some other 3- or 6-digit code except perhaps for the direct route index. Examples of this are shown in paragraphs 13.33 through 13.35.

E. Detail Bill All Message Rate Calls

13.46 All message rate (bulk billed) calls originating from an office that are normally recorded by the automatic message accounting (AMA) can be requested to be detail billed on the AMA by the following input message:

M AM:OBS:fg hi 1!

The data fields are specified as shown in the Input Message Manual. After the message is inputted, all message rate calls will be detail billed until the message is canceled or the call store is cleared by a stable clear.

13.47 To stop detail billing of all message rate calls, the same message used above is again inputted with the ***n*** data field as specified in the following RC input message.

M AM:OBS:fg hi 0!

0 = No AMA observing or detail billing in effect.

13.48 Whether observing and detail billing is currently in effect can be determined by requesting the AMA status information (see input message M PU SI in Input Message Manual).

F. Complaint Observed Coin Lines

13.49 The following input message can be used to detail bill all calls from coin lines with the complaint observed feature:

M AM:OBS:fg hi 2!

> ***Note:*** Refer to Input Message Manual IM-2H200-04 or IM-2H200-05 for an explanation of the variable fields.

After this message is inputted all coin calls, whether or not they are normally AMA recorded, are detail billed on the AMA tape until the message is canceled or the call store is cleared by a stable clear maintenance action caused by a system failure.

13.50 To stop detail billing of all calls from complaint observed coin lines, the same message used above is inputted with the ***n*** data field as specified in the following RC input message.

M AM:OBS:fg hi 0!

0 = No AMA observing or detail billing in effect.

G. Complaint Observed Message Rate Lines

13.51 The following input message can be used to cause all message rate calls from lines with the complaint observed feature to be detail billed on the AMA:

M AM:OBS:fg hi 4!

> ***Note:*** Refer to Input Message Manual IM-2H200-04 or IM-2H200-05 for an explanation of the variable fields.

All message rate calls normally recorded on the AMA will be detail billed until the message is canceled or the call store is cleared by a stable clear maintenance action used by a system failure.

13.52 To stop detail billing of message rate calls from complaint observed lines, the same message used above is inputted with the date field as specified in the following RC input message:

M AM:OBS:fg hi 0!

0 = No AMA observing or detail billing.

H. Type of Observing Being Done by the AMA

13.53 To determine if any detail billing of calls is being done by the AMA, use the message:

M PU:SI!

13.54 The output data given by this request tells what, if any, observing has been activated by the message:

MR AM SI fg hi sss tuv.

> ***Note:*** Other outputs will also be printed at this time.

14. HUNDREDS GROUP ROUTE INDEX

14.01 The pointer in the number group table can point to a 2-word expansion instead of directly to the hundreds group table. This 2-word expansion contains a pointer to the hundreds group table, a route index, and a fully restricted terminating bit. This expansion is used when it is known that the manner in which calls are to be completed to a given group of 100 directory numbers will change in bulk from time to time. When the route index is zero, all calls to this group of 100 directory numbers complete normally to the line expansion in the hundreds group table. When the route index is not zero, all calls to this group of 100 TNs receive the treatment given by the route index. This route index allows 100 directory numbers to be intercepted and sent to an announcement, or to another central office, etc, with one RC message (refer to Translation Guide (TG-2H, Division 4, Section 5b, for explanation of ESS-2501 Office Code Table).

14.02 The fully restricted bit allows one RC message to change the terminating characteristics of all centrex stations in the hundreds group. When the hundreds group is marked fully restricted terminating, all numbers in the group of 100 TNs corresponding to centrex stations are treated as fully restricted terminating. A fully restricted terminating station is denied the ability to receive any calls except extension-to-extension calls. When the fully restricted bit is not set, each station is as defined in its centrex line expansion.

14.03 The verification printout on a line whose number group is route indexed will contain, in addition to the normal information, the following keyword:

HRI 233.

Where 233 is the route index in the number group table.

> ***Note:*** A line whose number group is route indexed or fully restricted terminating may be recent changed in the normal manner.

A. Verification of a Number Group Route Index

14.04 To verify whether a number group entry is fully restricted terminating or route indexed, use the input message:

A VY:HRI:555 1212!

14.05 The response will indicate the route index (if any) that is assigned to the group of telephone numbers from 555 1200 to 555 1299 and also whether or not the TNs are fully restricted terminating. Any TN within this range may be used for the verification.

B. Changing Route Index or Fully Restricted Terminating Feature

14.06 A route index activation field has been added for the 2BE3 and later generics. The route index activation field (b) is used to activate (1) or deactivate (0) the use of the route index on the number group entry.

14.07 If the number group entry to be changed is a 2-word expansion, the route index and the fully restricted terminating feature may be changed, added, or deleted as follows:

A RC:HRI:555 1212 rrr f!
or
A RC:HRI:555 1212 rrr f b! (2BE3)

where rrr = route index or zero if no route index is desired.

f = 1 add fully restricted terminating.

= 0 or blank delete fully restricted terminating.

b = route index active bit (0 or 1).

14.08 To add fully restricted terminating but not have a route index:

A RC:HRI:555 1210 0 1! (Except 2BE3)

14.09 To have a route index but not fully restricted terminating:

A RC:HRI:555 1212 012 0! (Except 2BE3)

This will assign the block of TNs from 555 1200 to 555 1299 to route index 12.

14.10 To remove both the route index and fully restricted terminating feature:

A RC:HRI:555 1210 0 0! (Except 2BE3)

14.11 To have a route index but not fully restricted terminating:

A RC:HRI:555 1212 012 0! (Except 2BE3)

This will assign the block of TNs from 555 1200 to 555 1299 to route index 12.

14.12 To remove both the route index and fully restricted terminating feature:

A RC:HRI:555 1212 0 0! (Except 2BE3)

14.13 When a route (rrr) is recent changed on to a number group entry for 2BE3, it will become active immediately unless the route index active bit (b) is set.

14.14 To change the route index active bit for 2BE3, the route index (rrr) and fully restricted bit (f) fields must have a dash (—) to indicate those fields will not be changed.

A RC:HRI:555 1212 - - b!

14.15 To change the fully restricted bit (f) for 2BE3, the route index field must have a dash and the activation bit field can be left off.

A RC:HRI:555 1212 - f!

14.16 To change the route index (rrr) for 2BE3, the fully restricted and route index fields can be left off.

A RC:HRI:555 1212 rrr!

15. BLANK NUMBER TREATMENT

15.01 The blank number treatment given to an unassigned telephone number, within a range of 100 TNs, may be verified by:

A VY:VTN:555 1212!

The above message will verify the treatment given to the block of the 100 TNs from 555 1200 to 555 1299.

15.02 The response is:

AR VY VTN 555 1212 e yyy

where:

e = 0 Noncentrex originated calls to this block of 100 TNs are routed to route index 14. Centrex originated calls are routed to the dialing error route index which is located in the centrex group translator.

= 1 yyy = Route Index used for blank code treatment (special routing).

= 2 yyy = Centrex group used for attendant intercept.

15.03 To change the blank number treatment given to a block of 100 TNs:

A RC:VTN:555 1212 e yyy!

where:

e = 0 delete entry

= 1 yyy = Route Index

= 2 yyy = Centrex group for attendant intercept.

16. MISCELLANEOUS RC PROCEDURES

Note: The RC procedures given in this section are allowed from TTY channels 0, 1, and 3. In practice, however, they should be used only from the maintenance channels (0 and 1). The verify procedures are available from all channels.

ASSIGNING A NEW MISCELLANEOUS OFFICE ALARM

16.01 New office alarms can be wired to alarm ferrods and this assignment specified in translations by using the input message:

A RC:ALM:rr ss cc bt 1!

rr = The scanner row number where the ferrod is to be changed. Range is decimal 32 through 42.

ss = The scanner number range is 00 through 11 for No. 2 ESS or 00 through 30 for No. 2B ESS.

cc = The routine code number range is 0 through 6.

bt = The bit number of the ferrod in the row. Range is decimal 0 through 15.

The data fields are described in the Input Message Manual. The scanner row in which the ferrod is found

must be in a miscellaneous alarm row as defined on ESS 2506-R. the transition causing the alarm condition for the new assignment will be as defind for that scanner row.

16.02 The new ferrods assigned for alarms by this message are not effective until a RC update is performed to place the information in permanent memory.

REMOVING A MISCELLANEOUS OFFICE ALARM

16.03 The assignment of a miscellaneous office alarm ferrod can be removed from translations by inputting the message:

A RC:ALM:rr ss cc bt 1!

The data fields are described in the Input Message Manual.

16.04 The assignment is not removed from translations until a RC update is performed to place the information in permanent memory.

VERIFYING A MISCELLANEOUS OFFICE ALARM

16.05 The current assignment of a miscellaneous office alarm ferrod in translations can be verified by verifying the scanner row in which the ferrod appears within input message:

A VY:ALM:rr ss cc!

The ***rr*** field is the scanner row (in decimal) in the miscellaneous alarm rows of master scanner 0 in which the desired ferrod appears. As described in the Output Message Manual, the response will indicate whether or not each ferrod of that row is currently assigned. The specific alarm to which a given ferrod is assigned is not stored in translation. The remarks field on the office records must be checked for this ferrod to determine which alarm is assigned to it. Note that the transition causing the alarm and the type of alarm given is the same for every ferrod in the row and cannot be verified by TTY request.

CUSTOMER LINE OVERFLOW REGISTERS

16.06 This feature gives centrex lines their own customer line overflow (CLO) registers for assignment. In addition, a CLO has been defined to indicate which originating equipment number (OE) is assigned to which register. To obtain the OE assigned to a centrex CLO register, use the following input message:

A TV:CLO:7!

16.07 The output message will appear with the OE assigned to the specified CLO register.

AR TV CLO 7 01 5242

Registers 0 through 3 are for noncentrex lines. Registers 4 through 7 are for centrex lines.

16.08 The Automatic Line Insulation Tests (ALIT) checks the insulation and the ability to make originations of all lines in the office, including MLHG lines. The following changes can be made from MTC and LTD channels only. Insulation tests are not performed on ground start lines in the office.

LINE INSULATION TESTS

A. Types of Tests Available

16.09 Three types of tests are available to be run by the automatic line insulation test program.

(a) ***Short Circuit and Ring to Ground Test***—This test is used to detect leakage between tip and ring and leakage between ring and ground.

(b) ***Tip and Ring to Ground***—This test detects leakage from tip or ring to ground.

(c) ***Foreign Electromotive Force Test***—This test is used to detect the presence of a foreign potential on either the tip or ring.

16.10 All tests are usually run using the line installation test (LIT) circuit. The sensitivity of the test requested depends on the circuit cross-connections and the test range requested. These tests and the procedures for using them are described in detail in the line insulation test program PD-2H114.

B. Changing Store ALIT Parameters

16.11 To change the stored parameters which indicate how to automatically run the ALIT tests, use the input message:

M LI:ST:a b!

As explained in the Input Message Manual, the ***a*** field indicates which single test to run or if all three tests should be run and the ***b*** field indicates the test sensitivity range.

If the variables are zero or unspecified, the stored parameters will be printed.

16.12 When the variables are correctly specified, the new parameters are stored in the RC area of the call store until the program store is updated.

HIGH AND DRY LIST

16.13 There are three conditions that will cause the High and Dry List to be printed. It is automatically printed out at specified times, immediately printed when the number of parties on the list exceeds some threshold value, or may also be manually requested.

16.14 The high and dry list may be manually requested to be printed from either the maintenance or local test desk channel by the input message:

M HD:PR!

16.15 To change the time or threshold value for automatically printing the high and dry list on the local test desk channel, use the input message:

M HD:RC:a bbb!

a = office time used for timing regular printouts of the high and dry list.

bbb = threshold number of lines entered into the high and dry list in a 5-minute period necessary to trigger a printout of the high or dry list.

COUNT SPARE EXPANSION BLOCKS

16.16 The following input message can be used to determine the total number of unused 2-, 4-, 6-, or 8-word entries in translations:

A AU:TBL!

or

A VY:TBL!

The resulting output message contains the unused 2-word entries in program store, the unused 4-word entries in program store, the unused 6-word entries in program store, and the unused 8-word entries in program store (not recent change).

17. RC PROCEDURES FOR TRAFFIC AND PLANT MEASUREMENTS

Note: The messages in this section are allowed only on the maintenance and traffic channels.

GENERAL

17.01 A No. 2/2B ESS central office must be capable of providing an operating company with various types of statistical information necessary to properly engineer and administer that office. The traffic and plant measurement program in No. 2/2B ESS provides on a scheduled or immediate demand basis the required information. (Refer to Section 232-120-301.) Several traffic and plant measurement TTY output messages provide the information to engineer traffic dependent equipment, to guide division of revenue, to assist marketing activities, to guide and evaluate maintenance activities, and to determine the quality and quantity of service provided by the system.

ASSIGNING ITEMS TO TRAFFIC SCHEDULES

A. H and C Schedules

17.02 The measurements on the H and C schedules are separated into six sections. The first two sections, trunk and service circuit measurements and MLH measurements may appear on both the H and C schedules. The four remaining sections contain office total, bylink, preroute and class of service, and junctor measurements. Each ***section,*** not each measurement, can be assigned to either the H or C schedule but ***not*** to both. The assignment structure is recent changeable by a TTY input message:

T WO:HCS:ab!

This message is used to enter a recent change into the traffic data area specifying which sections of traffic data are to be printed on the H or C output schedules.

17.03 The following example of H or C schedule assignment is provided to show the correlation between the bit number, the binary bits and the octal data word. To assign office totals (OFT),

junctor group (JCT), bylink group (BYL) and preroute and line screening class (PRC) measurement sections to the H and C schedules, the four bits corresponding to these sections must be set to 0, 1, 1, and 0.

BIT NUMBER	3	2	1	0
TRAFFIC SECTION	PRC	BYL	JCT	OFT
OCTAL DATA WORD	a		b	
POSITION WEIGHT	1	4	2	1
BINARY BITS*	0	1	1	0
OCTAL VALUE	0		6	

a = 0
b = 6

*1 = C Schedule
0 = H Schedule

The input message would appear as:

T WO:HCS:06!

B. Customer Line Usage (CLU) Assignments

17.04 The CLU section of the Weekly Usage List (WUL) contains registers for recording line use by up to 64 different lines. This section is primarily used for load balancing of networks. To determine what lines are currently assigned to the CLU section of the W schedule, use the input message:

T PR:WUL!

C. Measurement on Concentrators (Option 1)

17.05 All 64 lines of any given concentrator multiple may be measured (eg, network 1, concentrators 4 and 36) by the input message:

T CC:CON:1 4!

If the network has a 2:1 concentration, only the 32 lines on the concentrator (numbered from 0-31) will be recorded in the first 32 registers of the CLU section. If the network has 4:1 concentration, the 32 lines on each of the multipled concentrators will be recorded.

D. Measurements on Selected Lines (Option 2)

17.06 Up to 64 individual lines may be recorded in one of the 64 registers in the CLU section of the W schedule. To assign a line to a given register (eg, a line with TN 555 1212 to register 17), use the input message:

T CC:CLU:17 555 1212!

To record data for selected lines, register 0 must be assigned to a directory number.

E. Class of Service—Line Screening Class

17.07 Line Screening Classes may be assigned to any of seven traffic registers in the PRC section for preroute class of service measurements. The PRC section may optionally appear in either the H or C schedule printouts.

17.08 To verify the traffic register assignment of any line screening class (eg, Line Screening Class 5), the input message to be used is:

A TV:LSC:5!

The response will indicate whether or not the line screening class is assigned to a counter and, if so, will indicate the counter number.

17.09 Any member of Line Screening Classes may be assigned to one of the seven registers (eg, Line Screening Class 5 to counter 3) by the input message:

A TC:LSC:5 3!

17.10 To remove a line screening class from a class of service counter, use the same message as above except with no traffic counter specified:

A TC:LSC:5!

17.11 The changes to line screening class assignments to traffic registers are not effective until the program store is updated by a recent change update.

F. Preroute Peg Counter Assignments

17.12 The 3- and 6-digit dialed codes may be assigned to any 32 traffic registers in the PRC

section. The PRC may optionally appear on either the H or C schedule printouts.

17.13 To verify the traffic register assignment of 3-digit (eg, 554) or 6-digit codes (eg, 312 555), the input message to be used is:

A TV:PRC:555!
A TV:PRC:312 555!

The response will indicate whether or not it is assigned to a counter and the counter number.

17.14 Any number of 3-digit or 6-digit codes may be assigned to one of the 32 preroute peg count registers (eg, 554 to counter 6 and 312 554 to counter 23) by the message:

A TC:PRC:554 0 6!
A TC:PRC:312 554 23!

17.15 To remove a 3-digit or 6-digit code from a preroute peg counter, use the same message as above except with no traffic counter specified:

A TC:PRC:554!
A TC:PRC:312 554!

17.16 The changes to 3- and 6-digit code preroute peg counters are effective immediately.

G. Customer Line Overflow (CLO)

17.17 A customer line may be assigned to any one of four traffic registers in the OFT section of the H or C schedule to count the number of times the line is busy when a second call is attempted to be completed to the line. The measurement may be made on any line except those that have a series completion feature.

A TV:CLO 4!

This message will verify the OE using CLO counter #4.

17.18 The output message would appear as:

AR TV CLO 4 01 0233.

17.19 The following message may now be used to verify the OE:

A VY:L/
OE 01 0233/
END!

17.20 To verify whether or not a line is assigned to an overflow counter (eg, 555 1212), use the input message:

A VY:L/
TN 555 1212/
END!

or:

A VY:L/
OE 01 0233/
END!

If a CLO output line response appears, it indicates the line is assigned to a counter and also states the counter number.

17.21 To assign a line to CLO counter (eg, to counter 2):

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0233/
TN 555 1212/
CLO 2/
END!

For party lines, the party number is also required to uniquely identify the line.

17.22 To remove a CLO counter assigned to a line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0233/
TN 555 1212/
CLO/
END!

For party lines, the party number is also required to uniquely identify the line.

17.23 Assignments of lines to CLO counters are effective immediately.

H. MLHG Assignments

17.24 Any MLHG defined may have its traffic registers associated with the MLH section on

the H schedule or C schedule or appear on no schedule.

17.25 To verify which schedule, if any, any MLH is assigned (eg, MLH 10), use the input message:

A TV:MLH:10!

17.26 To assign an MLH to the MLH section of the H schedule:

A TV:MLH:10 0!

17.27 To assign an MLH to the MLH section of the C schedule:

A TC:MLH:10 1!

17.28 To remove an MLH from either the H schedule or C schedule, use the same message as above, but with the last field blank:

A TC:MLH:10!

17.29 The assignment of a given MLHG to a schedule is effective immediately.

I. Service Circuit Group Assignments

17.30 Any service circuit group defined may have its traffic counters associated with the TRK section on the H schedule or C schedule or appear on no schedule.

17.31 To verify which schedule, if any, a service circuit group is assigned (eg, group 17), use the input message:

A TV:SVC:17!

17.32 To assign a service circuit group to the TRK section of the H schedule:

A TC:SVC:17 0!

17.33 To assign a service circuit group to the TRK section of the C schedule:

A TV:SVC:17 1!

17.34 To remove a service circuit group from either the H schedule or C schedule, use the same message as above, but with the last field blank.
A TC:SVC:17!

17.35 The assignment of a service circuit group to a schedule is effective immediately.

J. Trunk Group Assignments

17.36 Any trunk group defined may have its traffic registers associated with the TRK section on the H schedule or C schedule or appear on no schedule.

17.37 To verify which schedule, if any, a trunk group is assigned (eg, group 112), use the input message:

A TV:TRK:112!

17.38 To assign a trunk group to the TRK section of the H schedule:

A TC:TRK:112 1 0!

17.39 To assign a trunk group to the TRK section of the C schedule:

A TC:TRK:112 1 1!

17.40 To remove a trunk group from either the H schedule or C schedule, use the same message as above, except with the last field blank:

A TC:TRK:112 1!

17.41 The assignment of a trunk group to a schedule is effective immediately.

K. Bylink Trunk Group Assignments

17.42 Any bylink trunk group may be assigned to a peg counter in the BYL section. The BYL section may optionally appear on either the H schedule or C schedule. Any bylink trunk group not assigned to an individual peg counter (counters 2-16) in the BYL section will be included in the counts accumulated in counter 1.

17.43 To verify to which peg counter a bylink trunk group (eg, group 86) is assigned, use the input message:

A TV:TRK:86!

17.44 To assign a bylink trunk group to a specific peg counter in the BYL section (eg, to counter 7):

A TC:TRK:86 2 7!

17.45 To remove a bylink trunk group from a specific counter assignment (and thereby include it in count of peg counter 1 with all other unassigned bylink trunk groups), use the same message as above except with the last field blank:

A TC:TRK:86:2!

17.46 The assignment of a bylink trunk group to a peg counter in the BYL section is effective only after a recent change update is performed.

L. Outgoing Toll Count

17.47 Any number of trunk groups may be assigned to one of the four outgoing toll call peg counters on the D schedule.

17.48 To verify the assignment of a trunk group (eg, group 250 to an outgoing toll count register), use the input message:

A TV:TRK:250!

17.49 To assign a trunk group to an outgoing toll count register (eg, to counter 2):

A TC:TRK:250 3 2!

17.50 To remove a trunk group from an outgoing toll count register, use the same message as above except with the last field blank:

A TC:TRK:250 3!

17.51 The assignment of a trunk group to an outgoing toll counter is effective immediately.

18. ADDITIONAL RC MESSAGES APPLICABLE TO THE 2BE3 AND LATER GENERICS

A. Stopping an Administrative Message in Progress

18.01 This message should be used with caution because it will stop any verify another user on another channel started or, if used during a recent change, it could cause incomplete or inconsistent translations. To stop any administrative message in progress:

A RC:ABT!

B. Assigning an ESS OE to a RSS Voice Channel

18.02 The following message will assign an ESS originating equipment number (OE) to an RSS voice channel XCREN in the ***XCRENVEN*** table. The message will also change the OE entry in the originating subtranslator (VENTBL) to indicate the XCREN it is assigned to and the channel carrier type (N or T). In order to make any change, the OE cannot be in use (busy) and the XCREN must be out of service.

18.03 To build a totally new XCREN entry in the XCRENVEN table and originating subtranslator:

A RC:CHL/
TYP NEW/
OE nn gcsl/
CREN rrmt ccsl/
CARTP tt/
END!

Upon completion of the recent change, the XCREN will be in the out-of-service state.

18.04 To completely remove an XCREN from the XCRENVEN and originating subtranslator tables:

A RC:CHL/
TYP OUT/
OE nn gcsl/
CREN rrmt ccsl/
END!

18.05 Use the following message to change the CREN:

A RC:CHL/
TYP CHG/
OE nn gcsl/
CREN rrmt ccsl/
ICREN rrmt ccsl/
END!

18.06 Use the following message to change the OE assigned to a CREN:

A RC:CHL/
TYP CHG/
OE nn gcsl/
CREN rrmt ccsl/
IOE nn gcsl/
END!

C. Changing Serial Peripheral Unit Controller Data Link (SPUC/DL) Group Member Data

18.07 The following message will recent change some of the SPUC data link group member (SPUCLGRP) data but it cannot add or delete a SPUC data link group or member. It will only change certain values for the bring up of a new member or reconfiguring an existing (or spare) SPUC/DL member. The ***SPUCLINK*** table is also changed by this message and is used to make a link, assigned to a SPUC member, operational (usable by call processing). The format of the message is:

```
A RC:DLG:xx nn/
LOC fff mmmc/
NOP zzz/
MNE n/
MFE n/
END!
```

18.08 The keywords in this message can be used one at a time or in any combination. Some examples are:

```
A RC:DLG:xx nn/
NOP ADD/
END!
```

```
A RC:DLG:xx nn/
MFE 1/
MNE 2/
END!
```

```
A RC:DLG:xx nn/
LOC 001 4001/
END!
```

```
A RC:DLG:xx nn/
NOP DLT/
LOC 001 4001/
MNE 1/
MFE 2/
END!
```

D. Allocating and Storing Spare High Call Store

18.09 The following message is used to allocate (or store) spare high call store (unrestricted) from the SPRHCS table. This message works the same way the A RC:CST and A RC:PST messages do. The message has two uses. To allocate spare high call store:

```
A RC:HCS:ssss zz!
```

18.10 To put spare high call store back into the ***SPRHCS*** table:

```
A RC:HCS:ssss/
ADR 0 aaaaaaa/
END!
```

E. Changing the SPUC/DL Message Header Table

18.11 The following messages are used to change the SPUC/DL message header table. These messages cannot be used if any of the SPUCLINK entries (SPUC/DL member) that point to the message header table to be changed are in service (NOP bit set). A new message header table entry cannot be added or an old one deleted with this message.

18.12 To change AMARC billing data message header entry:

```
A RC:MHT: 0 0/
LCIN gg ccc/
END!
```

18.13 To change AMARC time of day message header entry:

```
A RC:MHT: 1 0/
LCIN gg ccc/
END!
```

18.14 To change EADAS billing data message header entry:

```
A RC:MHT: 0 1/
LCIN gg ccc/
END!
```

18.15 To change EADAS time of day message header entry:

```
A RC:MHT: 1 1/
LCIN gg ccc/
END!
```

F. PBX Keys

18.16 To build a new PBX key entry, the SKEY and HML keywords are both required. The current entry must be unassigned (type=0) and the PBX group must be assigned (equipped).

18.17 To build a new PBX key entry:

A RC:RSP:rr mbpp 0 1/
KEY nn/
HML ggg/
END!

18.18 To make a change to a PBX, the "ot" must equal the "nt" (type=1). Neither keyword is required, but no change will occur if they are not typed. To make a change to a PBX:

A RC:RSP:rr mbpp 1 1/
SKEY nn/
HML ggg/
END!

18.19 To delete this type of entry, keywords are not allowed and the "nt" to be changed to must be unassigned (type=0):

A RC:RSP:rr mbpp 1 0!

G. Line Remote Make Busy Key

18.20 To add or delete (there is no change) a line remote make busy key entry (type=2), no keywords are allowed because there is no data other than the entry type.

18.21 To add a new entry of this type:

A RC:RSP:rr mbpp 0 2!

18.22 To delete this type entry:

A RC:RSP:rr mbpp 2 0!

H. Alarm Entries

18.23 To build a new alarm entry, the keywords ATYP, AL, and TRS are required. In addition, ATYP can only be one of three types of alarms, printout only (ATYP=2), miscellaneous (ATYP=3), or building (ATYP=16). Also the entry being changed must be unassigned (TYPE=0).

18.24 To build a new alarm entry:

A RC:RSP:rr mbpp 0 3/
ATYP tt/
AL b/
TRS b/
END!

18.25 To change the data on any alarm entry, all or none of the three keywords can be typed. If none are typed, nothing will change.

A RC:RSP:rr mbpp 3 3/
ATYP tt/
AL b/
TRS b/
END!

18.26 To remove an alarm entry type:

A RC:RSP:rr mbpp 3 0!

I. Special Routing Lines

18.27 In the 2BE3 generic, a special routing line can be built in one step as follows:

A RC:L/
TYP ICP/
ORD xxxx/
TN nxx abcd/
RTI rrr/
END!

18.28 To change the route index of a line that is special routed, the following message is used:

A RC:L/
TYP CHG/
ORD xxxx/
TN nxx abcd/
RTI rrr/
END!

J. Marking Unassigned Lines

18.29 To indicate the date and reason a line was made unassigned, the following message is used:

A RC L/
TYP ICP/
ORD xxxx/
TN nxx abcd/
OE nn gcsl/
RTI rrr/
DATE mm yy/
RMK kkk/
END!

18.30 The DATE and/or RMK can also be changed on an existing unassigned or special routed line:

A RC L/
TYP CHG/
ORD xxxx/

TN nxx abcd/
DATE mm yy/
RMK kkk/
END!

K. Remote Call Forwarding

18.31 The following keywords are required for building remote call forward lines:

A RC:L/
TYP zzz/
ORD xxxx/
TN nxx abcd/
RSFG rrrr/
RCFN dddddd dddd/
END!

or

A RC:MLH:2/
ORD xxxx/
TYP zzz/
HML nnn/
RSFG rrrr/
RCFN dddddd dddd/
END!

REMOTE SWITCHING SYSTEM (RSS) MESSAGES

A. RSS Line Transmission Loss Insertion (TLI)

18.32 The following message is used to add 2 decibels of transmission loss to reduce singing caused by feedback only on RSS lines. This message is only used as a temporary fix until the outside problem is corrected.

A RC:L/
ORD xxxx/
TYP CHG/
TN nxx abcd/
TLI ADD/
END!

B. RSS Common Block Changes

18.33 There are three types of change that can be made to the RSS common block. The first is TYPE NEW. When doing a type new, the spare bit (SPR) must be set on the RSS common block and the EQPG field must be zero.

18.34 All keywords can be used during a TYP NEW except EQPG. SEQPG must be typed and it must equal the value found on the common block. This is done to ensure that the correct size RSS common block is selected.

A RC:RSS:rr 2/
SEQPG n/
.
.
.
END!

18.35 Once the common block has been removed from spare and before or during the change where the EQPG is set to the value of SEQPG, CTYP0 fields "aa bb" and an ROE or OE must be defined.

A RC:RSS:rr 2/
SEQPG n/
EQPG n/
CTYP0 aa bb/
ROE rrmt ccsl (or) OE nn gcsl/
.
.
.
END!

18.36 Once the EQPG has been set up, maintenance testing can be done but no call processing. To get call processing to work, the growth bit must be zeroed. This cannot be done unless the EQPG has been previously set up or is set up during the same recent change (either on a TYP NEW or change).

A RC:RSS:rr 0 (or 2)/
EQPG n/
GRTH 0/
.
.
.
END!

18.37 Once a TYP NEW has been performed on an RSS common block, the only other type change that can be done on that RSS common block are type change and out. After a TYP OUT, only a TYP NEW can be done because the OUT sets the spare bit and a change can only be done if the spare bit is zero.

18.38 To add SRDNs, type in:

A RC:RSS:rr 0/
SRDN 255 2533 562 2103/
SRDN 911 ---- 562 2100/

```
SRDN 0-- ---- 562 3000/
QSAB 5/
:
END!
```

18.39 To correct a typing error when putting in a SRDN, type in:

```
A RC:RSS:rr 0/
SRDN 255 2533 562 2100/
SRDN 255 2533 562 2103/
:
END!
```

18.40 To change a SRDN that already exists (dialed digits of 255 2533), type in:

```
A RC:RSS:rr 0/
SRDN 255 2533 562 2100/
:
END!
```

18.41 To delete a SRDN, type in:

```
A RC:RSS:rr 0/
SRDN 255 2533/
SRDN 911 ----/
SRDN 0-- ----/
.
.
.
END!
```

18.42 To define some digroup carrier types, type in:

```
A RC:RSS:rr 0/
CTYP0 1 1 2 - 1/
CTYP1 - - 1/
.
.
.
END!
```

18.43 To define some ground start applique boards, type in:

```
A RC:RSS:rr 0/
GSAB0 1--1/
GSAB1 011-/
:
END!
```

18.44 When an RSS common block is to be made spare, a TYP OUT must be done. A TYP OUT will zero all data (including the RSS scan point table data) except SEQPG and will set the spare bit. The only keyword required and allowed is EQPG with "n" equal to zero. It must be typed as an error check to insure a delete was really wanted.

```
A RC:RSS:rr 3/
EQPG 0/
END!
```

19. EXAMPLES OF CENTREX GROUP MESSAGES

19.01 The flow diagram in Fig. 18 provides the format required in the preparation of service order messages for centrex group add or change assignments.

> ***Note:*** Complete and accurate information must be recorded on the ESS 2107, 2108, and 2109 forms as specified in the translation guide TG-2H prior to executing any TTY input messages.

19.02 The EF-1 and later generic programs provide for the availability of a centrex group operation with Centrex-CO as established and changed by the central office. The members of a centrex group may have many features associated with the line which are not otherwise available. These features are divided into several categories and are applied as follows:

- Centrex Group—In General
- Centrex Station Line—Individual
- Centrex Universal Attendant Console
- Centrex Simplified Console Attendant
- Centrex Flexible Station Hunt Group.

These features are described in the following paragraphs with example TTY inputs shown for making changes to each on the service order or maintenance TTY channels.

19.03 A new centrex group may not be established by recent change procedures. The only type

of service order which is allowed is a TYP CHG. It is possible for a dummy centrex group to have been previously established by input to the ODA on form ESS 2109. This group must have had the speed call lists built and the attendant list defined on form ESS 2109. All other features can then be added or changed by recent change.

19.04 For additional details on service order message formats and data fields, refer to the Input Message Manual IM-2H200. Each of the examples which follow performs only the one desired task. A number of functions can be performed by a single service order message. It is not necessary to make up separate service orders for each individual change to the centrex group data.

> ***Note:*** Recent changes to the centrex group data are not active until the next recent change update. Recent changes to centrex line and centrex attendant console are active immediately.

A. Verification (VY)

19.05 Before any service order activities are performed, it is recommended that the centrex group data be verified. This is done by the following request:

A VY:CTX:007 a!

a = 0, return information in program store

a = 1, return information in RC call store or information from program store if none in RC.

This will verify all of the group data for centrex group 7.

B. Number of Equipped Attendants

19.06 This is the number of attendants belonging to a specific centrex group. This number is used to determine the size of the idle list/call wait queue, size of the attendant list, and the number of the attendant block. The number of equipped attendants is ***not*** recent changeable. It is updated by ODA when an attendant frame, data link, and console are added to or removed from the centrex group.

C. Thru Dial (THD)

19.07 Attendant thru dialing allows the attendant to dial a trunk access code, receive second dial tone, and pass this second dial tone to the SOURCE party (a centrex extension); thereby, allowing this SOURCE party to complete dialing. The thru dial option is only available with the universal console (not the simplified console). To add the thru dial option:

A RC:CTX:007/
ORD 0001/
TYP CHG/
THD ADD/
END!

19.08 The flow diagram in Fig. 19 provides the keyword format required in the preparation of service order line messages for removal or suspension assignments.

19.09 To remove the thru dial option:

A RC:CTX:007/
ORD 0001/
TYP CHG/
THD DLT/
END!

D. Camp-On (CMP)

19.10 This feature allows any call which the attendant attempts to complete to a busy station line within the centrex system to be held waiting until the called station becomes idle. The called station is then automatically rung and connected to the waiting call. To add camp-on, the group must have stable information entry (SIE) provided (see paragraph 19.71). To add the camp-on feature to a centrex customer group:

A RC:CTX:007/
ORD 0001/
TYP CHG/
CMP ADD/
END!

19.11 To remove the camp-on feature:

A RC:CTX:007/
ORD 0001/
TYP CHG/
CMP DLT/
END!

E. Data Restriction (NCT)

19.12 It may be desirable, in certain instances, not to return camp-on tone to the busy line (eg,

if a line is a computer port). To cause no camp-on tone (data restriction) on the line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0232/
TN 555 1212/
CTX 002/
NCT ADD/
END!

19.13 To restore camp-on tone (data restriction) to the line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0232/
TN 555 1212/
CTX 002/
NCT DLT/
END!

F. Dial "0" Night Service Number (NSN)

19.14 The night service number in the centrex block is the telephone number to which all dial "0" calls will terminate when the regular attendant positions are in night service. The night service number must be a centrex extension in this customer group. To change or add the dial "0" night service number:

A RC:CTX:007/
ORD 0001/
TYP CHG/
NSN 555 1212/
END!

19.15 To remove the dial "0" night service order number from translation:

A RC:CTX:007/
ORD 0001/
TYP CHG/
NSN/
END!

> ***Note:*** This feature should be removed with caution. If the attendant position is placed in night service, calls will attempt to complete to the indicated NSN (all zero) and will receive reorder tone.

G. Trunk Answer From Any Station (TAS)

19.16 The trunk answer from any station feature allows incoming calls, normally directed to the attendant, to activate a common alerting signal (associated with the night station) on the customer premises when the attendant positions are in night service. These calls may then be answered by any nonrestricted station in the centrex system who dials a special trunk answer code. To add the trunk answer from any station feature to a centrex customer group:

A RC:CTX:007/
ORD 0001/
TYP CHG/
TAS ADD/
END!

19.17 To remove the trunk answer from any station feature:

A RC:CTX:007/
ORD 0001/
TYP CHG/
TAS DLT/
END!

H. Incoming Call Identification Lamps (CIL)

19.18 The incoming call identification lamps allow an attendant at a universal attendant console position to visually identify the type of call directed to that position. In addition to the ICI lamp provided in the listed directory number line expansion, the capability to assign seven more lamps for specific purposes is provided on a per-centrex basis. The specific functions are as follows:

1—Dial zero
2—Attendant conference
3—Manual line
4—Call forwarding—don't answer
5—Call forwarding—busy line
6—Call transfer—attendant
7—Attendant intercept.

Any lamp (0 through 23 for 2B consoles; 0 through 5 or 0 through 11 for 1B consoles) may be assigned to the specific purpose by inputting the correct ICI code. For example, to assign lamp 17 to indicate call forwarding—busy line:

A RC:CTX:007/
ORD 0001/

TYP CHG/
CIL 17 5/
END!

19.19 To remove the CIL lamp for call forwarding—busy line:

A RC:CTX:007/
ORD 001/
TYP CHG/
CIL DLT 5/
END!

I. ACOF Route Index (ARI)

19.20 Attendant control of facilities (ACOF) is a centrex option that enables the attendant to selectively control extension access to WATS, FX, CCSA, and tie trunk groups. This service allows the attendant to limit traffic on crowded trunk groups during periods of high traffic demand. Control of these trunk groups can be implemented at the option of the customer by operating a key or dialing a code. Trunk groups under the control of the attendant can have station calls optionally routed to a recorded announcement, reorder, or to the attendant. For a trunk group to be under ACOF control, the trunk group data for each trunk group must be appropriately marked. An ACOF lamp can be lighted whenever the trunk group is under control of the attendant.

19.21 This route index specifies the treatment given to a controlled trunk group (controlled under ACOF) if the trunk group is not to be taken to the attendant. To change the ACOF route index:

A RC:CTX:007/
ORD 0001/
TYP CHG/
ARI 32/
END!

The route index specified must have an exit code of six and a destination code of 13 for local announcement, ie, call type = 29.

> ***Note:*** The trunk group(s) under ACOF control must be marked as to whether ACOF is to the attendant or to the ARI.

19.22 To route the ACOF route index causing ACOF trunks to go to the attendant:

A RC:CTX:007/
ORD 0001/
TYP CHG/
ARI 0/
END!

J. Dialing Error Route Index (DRI)

19.23 This route index specifies the treatment given to partial dial or misdialed centrex calls. To add or change the dialing error route index:

A RC:CTX:007/
ORD 0001/
TYP CHG/
DRI 33/
END!

The route index specified must have an exit code of 6, ie, the call type must be 16 or greater.

K. Speed Call Dialing Plan (TOP)

19.24 Two 1-digit (6 TNs maximum) speed call dialing plans are offered to centrex customers. One employs 2-digit access (dedicated digits plan) and the other employs 1-digit access with an additional end-of-dialing digit (the TOUCH-TONE telephone sharp symbol "#") or a 4-second time-out to signal the end-of-speed call dialing. Likewise, two 2-digit (30 TNs maximum) speed call dialing plans are offered to centrex customers. One employs 4-digit access (dedicated digits plan) and the other employs 2-digit access with an additional end-of-dialing digit (the TOUCH-TONE telephone sharp symbol "#") or a 4-second time-out to signal the end-of-speed call dialing. To assign the time-out (or dial "#") plan for both 1-digit (6-code) and 2-digit (30-code) speed calling to a centrex customer group (see paragraph 19.26):

A RC:CTX:007/
ORD 0001/
TYP CHG/
TOP ADD/
END!

To assign the dedicated digits plan to both 1-digit and 2-digit speed calling (see paragraph 19.25):

A RC:CTX:007/
ORD 0001/
TYP CHG/
TOP DLT/
END!

Note: A given centrex group ***cannot*** mix plans for 1-digit and 2-digit speed call.

(1) Dedicated Digits Plan

LIST	DIGITS	EXAMPLE OF ABBREVIATED CODE
1-Digit	E#(or E followed by a 4-second time-out)	3#(3)
1—Digit	E#(or E followed by a 4-second time-out)	3#(3)
2—Digit	UX#(or UX followed by a 4-second time-out)	47#(47)

19.25 The dedicated digits plan has a 1-digit number dedicated to each 1-digit speed calling list and a 2-digit number dedicated to each 2-digit speed calling list for use with the code number for dialing as follows:

A, B, C = any nonambiguous dedicated digit chosen for each speed calling list along with and not conflicting with access codes for FX, WATS, CCSA, TIE trunks, extensions, and other special service codes
E = any digit 2 through 7 (code number)
U = any digit 2 through 4 (2-7 for attendant speed calling) (code number)
X = any digit 0 through 9.

It is recommended that A = B = C = 0, 1, 8, or 9 (1 is preferable) be chosen for this dialing plan so as to avoid possible conflicts with extension assignments and interference between the 1-digit and 2-digit lists. It may be the case that certain centrex customers have special numbering plan constraints. For these cases, extreme caution must be exercised in choosing these three digits (A, B, and C) so that ambiguous assignments are not made between these two lists and the remaining numbering plan.

(2) Time-Out (#) Plan

19.26 The time-out plan uses a special digit to indicate the end of dialing. This digit (#) is the twelfth button on the TOUCH-TONE telephone set. If the customer does not have a 12-button TOUCH-TONE telephone set or does not depress the "#" digit within 4 seconds, a 4-second time-out is substituted for this digit. A customer group that chooses this plan can use either the # or time-out interchangeably. The digits comprising the abbreviated code for this plan are outlined as follows.

E = any digit 2 through 7
U = any digit 2 through 4 (2-7 for attendant speed calling)
X = any digit 0 through 9.

Note: A given centrex group ***cannot*** mix plans for 1-digit and 2-digit speed call.

L. Ten-Digit Common Control Switching Arrangement (CCSA) Group (TDG)

19.27 A centrex group may have the capability of dialing seven or ten digits for CCSA (plus the access code). If certain stations are restricted to seven digits while others may dial seven or ten digits, two CCSA trunk groups are provided. In this case, the CCSA group number stored in the centrex block is for the group that permits 7- or 10-digit dialing (not restricted to seven digits). To add or change this group number:

A RC:CTX:007/
ORD 0001/
TYP CHG/
TDG 37/
END!

If the centrex group has only one CCSA group, that group number is stored in the Digit Interpreter Table and the entry in the 10-digit group is zero.

M. Group Billing Number (BTN)

19.28 The group billing number may or may not be one of the numbers assigned to the stations

in the centrex group. In addition, stations in the centrex group may have their own individual billing number. To change the billing number assigned to the centrex group:

A RC:CTX:007/
ORD 0001/
TYP CHG/
BTN 555 1212/
END!

N. Central Office Access Code (CAC) (COA)

19.29 It is possible to specify the access code (limited to one digit) to be dialed for access to the exchange network ("9" is typical). To change this access code (for example from "7" to "9"):

Caution: When the central office access code is changed, the change must be reflected in the digit interpreter terminal entry for this digit. Refer to Part 28, Digit Interpreter Table.

A RC:CTX:007/
ORD 0001/
TYP CHG/
CAC 9/
END!

O. Screening Class

19.30 Screening for a centrex line implies screening after "dial 9." Each customer group may have up to four (range is 0 to 3) screening treatments for dial 9 calls. The centrex attendant screening treatment must be entered as screening treatment 0. The screening classes are inputted by typing in a line class code which contains the desired screening treatment. For example, if the screening class assigned the attendant is to be changed:

A RC:CTX:007/
ORD 0001/
TYP CHG/
LCC ATT 0/
END!

P. Variable Timing Index for Call Forwarding—Don't Answer (VTI)

19.31 The basic time period for call forwarding—don't answer to take place is 11 seconds. This time period may be extended in increments of approximately 3.2 seconds. A maximum of fifteen 3.2-second increments may be added. (Refer to Table E.) To change the call transfer—don't answer timing interval from 11 seconds, to approximately 20 seconds:

A RC:CTX:007/
ORD 0001/
TYP CHG/
VTI 3/
END!

TABLE E

VARIABLE TIMING INDEX		
VTI (rr)	TIMING (SEC)	NO OF RINGS (APPROX)
00	10.4—11.2	2
01	11.2—14.4	
02	14.4—17.6	3
03	17.6—20.8	
04	20.8—24.0	4
05	24.0—27.2	
06	27.2—30.4	5
07	30.4—33.6	
08	33.6—36.8	6
09	36.8—40.0	
10	40.0—43.2	7
11	43.2—46.4	
12	46.4—49.6	8
13	49.6—52.8	
14	52.8—56.0	9
15	56.0—59.2	

Q. Simulated Trunk Group for the Listed Directory Number (LDS)

19.32 Simulated trunk facilities are used to provide a method of bookkeeping on LDN calls or to limit the number of simultaneous WATS calls (or PBX CO dial "9" and LDN calls). To change or add a simulated trunk group:

```
A RC:CTX:007/
ORD 0001/
TYP CHG/
LDS 37/
END!
```

R. Three-Port Simulated Trunk Group (PSG)

19.33 A 3-port simulated trunk group is used for centrex threeway calling, add-on, call waiting, and call hold calls by providing a 3-port conference circuit. To add 3-port simulated trunk group:

```
A RC:CTX:1
TYP CHG/
ORD 0001/
PSG 0016/
END!
```

19.34 To remove a 3-port simulated trunk group from a centrex group:

```
A RC:CTX:1
ORD 0001/
TYP CHG/
PSG 0/
END!
```

S. Intercentrex Group Calling Number (ICG)

19.35 A centrex group may be associated with an intercentrex group calling (ICG). This feature allows extensions in several separate centrex groups (within the same ICG) to dial each other by only dialing the extension number (no office code). To change the ICG for centrex group 7:

```
A RC:CTX:007/
TYP CHG/
ORD 0001/
ICG 2/
END!
```

19.36 To remove the intercentrex group calling (ICG) number.

```
A RC:CTX:007/
TYP CHG/
ORD 0001/
ICG 0/
END!
```

T. 6-Port Conference Trunk Group (CTG)

19.37 To assign or change the 6-port conference trunk group number for a centrex group:

```
A RC:CTX:007/
TYP CHG/
ORD 0001/
CTG 119/
END!
```

19.38 To remove the 6-port conference trunk:

```
A RC:CTX:007/
TYP CHG/
ORD 0001/
CTG 0/
END!
```

U. Attendant Speed Calling (ATF, ATS)

19.39 An attendant can have access to two different 2-digit speed call lists. The first speed call list, list 1, is accessed by codes 20-49 and may be a list which is shared by centrex stations. To allow the attendant access to speed call list 1:

```
A RC:CTX:007/
TYP CHG/
ORD 0001/
ATF ADD/
END!
```

19.40 The attendant can have access to a second 2-digit speed call list, list 0, by using codes 50-79. This list may be shared by attendants only. To allow access to this speed call list:

```
A RC:CTX:007/
TYP CHG/
ORD 0001/
ATS ADD/
END!
```

19.41 To disallow the attendant access to speed call list 1:

```
A RC:CTX:007/
```

TYP CHG/
ORD 0001/
ATF DLT/
END!

19.42 To disallow access to speed calling list 0:

A RC:CTX:007/
TYP CHG/
ORD 0001/
ATS DLT/
END!

V. Silence on Call Waiting Originating

19.43 The silence on call waiting originating feature allows 6 seconds of audible ringing followed by silence on call waiting originating. To add this feature to a centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
SCCW ADD/
END!

Restriction of the number of simultaneous calls involved in a particular centrex group is provided by the simulated facilities group (SFG). The SFG includes 3-Port Simulated Trunk Group, Intercom Simulated Trunk Group and Record Peg Usage.

19.44 To remove silence on call waiting originating:

A RC:CTX:1/
TYP CHG/
ORD 0001/
SCCW DLT/
END!

W. Intercom Simulated Trunk Group (ISG)

19.45 An intercom simulated trunk group is provided on each call originated by a centrex station or centrex attendant that terminates to another centrex station or centrex attendant in the same centrex group (intercentrex calls). To assign intercom simulated trunk group to a centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
ISG 0017/
END!

X. Record Peg Usage (REC)

19.46 Record Peg Usage (REC) is used to indicate whether or not to record the peg usage and overflow count for 3-Port simulated trunk group and intercom simulated trunk groups on AMA every hour. To add this feature:

A RC:CTX:1/
TYP CHG/
ORD 0001/
REC ADD/
END!

19.47 To remove record peg usage from a centrex group:

A RC:CTX:1
TYP CHG/
ORD 0001/
REC DLT/
END!

Y. Customer Dialed Account Recording (CDRN)

19.48 The customer dialed account recording (CDAR) feature allows a centrex customer to add a personal account number to telephone bills for any AMA recorded call. The CDAR feature is available to any centrex line, attendant, or incoming tie trunk. The customer first dials a previously defined CDAR access code of one to four digits. The customer then dials the account number of one to eight digits to be associated with the call. The account number is a previously specified number of digits to be dialed and recorded. The digits recorded will appear on the customer's telephone bill with other normal entries. The customer may then receive a second dial tone and may continue dialing as with an ordinary call. Implementing this feature requires the capability to recent change data in the centrex group expansion and the digit interpreter tables. The centrex group expansion table is used to retain the number of CDAR account number digits required for all CDAR identified calls from its centrex group To add the CDAR feature:

A RC:CTX:1/
TYP CHG/
ORD 0001/
CDRN 4/
END!

19.49 The digit interpreter table is used to identify CDAR access codes. A value for the special

service code (SSC) is designated to identify CDAR calls for a dial sequence which is not associated with a routing access code. The following example defines a CDAR access code for a dial sequence not associated with a routing access code:

A RC:DIT/
CTX 1/
DGT 12/
NDT SS/
DTP SS/
SSR 2/
SSC 21/
END!

Z. Allow Calls on Forwarded Lines (COFL)

19.50 The allow calls on forwarded lines feature permits lines in the centrex group that are call forwarded to originate calls. To add this feature to a centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
COFL ADD/
END!

19.51 To remove allow calls on forwarded lines:

A RC:CTX:1/
TYP CHG/
ORD 0001/
COFL DLT/
END!

AA. Short Burst of Ring on Forwarded Line (SBR)

19.52 The use of this feature allows the centrex lines that are call forwarded to receive a short burst of ring to indicate when a call has been placed to those lines. To add this feature, the RC message would appear as:

A RC:CTX:1/
TYP CHG/
ORD 0001/
SBR ADD/
END!

19.53 To remove short burst of ring on forwarded line:

A RC:CTX:1/
TYP CHG/
ORD 0001/
SBR DLT/
END!

AB. Source Billing on Attendant Handled Calls (SBAC)

19.54 This feature causes the centrex group ***attendant*** billing number to be replaced with the ***source*** party billing number in all AMA records whenever the attendant extends the source party call. To add this feature to the centrex group, the RC would look like this:

A RC:CTX:1/
TYP CHG/
ORD 0001/
SBAC ADD/
END!

19.55 To remove source billing on attendant handled calls:

A RC:CTX:1/
TYP CHG/
ORD 0001/
SBAC DLT/
END!

AC. Attendant Idle List/Call Waiting Queue for a Centrex Group (NIQ)

19.56 An attendant idle list/call waiting queue (AIL/CWQ) can be associated with a centrex group. The skeleton for the attendant idle list/call waiting queue must be established by the ODA program, and its contents are maintained by call processing programs. A binary flag in the centrex group expansion block indicates whether or not the feature is currently defined for the centrex group. To assign this feature to a centrex group:

A RC:CTX:4/
ORD 0001/
TYP CHG/
NIQ 0/
END!

Note: When NIQ = 0, it implies that an attendant idle list/call waiting queue exists. When NIQ = 1, ***no*** attendant idle list/call waiting queue exists.

19.57 To remove attendant idle list/call waiting queue for a centrex group.

A RC:CTX:1/
TYP CHG/
ORD 0001/
NIQ 1/
END!

AD. Attendant Call Forward Outside the Centrex Group (AFO)

19.58 Attendant call forward outside the centrex group allows any station or attendant to call forward outside the centrex group. To add this feature to a centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
AFO ADD/
END!

19.59 To remove attendant call forward outside the centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
AFO DLT/
END!

AE. Intercentrex Call Transfer Screening (ICTA)

19.60 This feature allows a station in one centrex group to transfer an incoming external party to a station in another centrex group, provided both centrex groups have the same intercentrex calling (ICG) number. To add ICTA to a centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
ICTA ADD/
END!

19.61 To remove intercentrex call transfer screening from a centrex group:

A RC:CTX:1/
TYP CHG/
ORD 0001/
ICTA DLT/
END!

AF. Provide Route Index for Attendant Loop-Back Calls (LBRI)

19.62 The route index for attendant loop-back calls feature provides a route index for calls placed by the centrex group attendant to a line that is transferred to an attendant. To implement this feature the following recent change message is required:

A RC:CTX:1/
TYP CHG/
ORD 0001/
LBRI 58/
END!

19.63 To remove the feature providing route indexes for attendant loop-back calls:

A RC:CTX:1/
ORD 0001/
TYP CHG/
LBRI 0/
END!

AG. Satellite Attendant Transfer Via Tie Trunk

19.64 Satellite attendant transfer via tie trunk allows a call to route to an attendant at the centrex main-satellite and provides the ability to concentrate all attendant facilities at the main location. The routing is accomplished via a directory number which identifies an FX line that terminates as an incoming manual tie trunk at the main location, or via an outgoing tie trunk group that terminates as an incoming tie trunk at the main location. The satellite attendant transfer via tie trunk feature allows stations at the main location and satellite locations to have access to the attendants on a flash or flash and dial attendant access code basis from any satellite centrex station having the call transfer—attendant or call transfer—individual features.

19.65 To implement this feature requires changes to the centrex group, digit interpreter tables, attendant access terminal entry, and special routing terminal entry. The information relating to changing the centrex group appears in the following paragraph. However, changing the digit interpreter table, attendant access terminal entry, and special routing terminal entry appears in paragraph 28.22.

19.66 The change in the ***centrex group*** involved adding a satellite transfer route index

(STRI) to transfer an incoming direct inward dialed or common controlled switching arrangement facility call from a centrex station to an attendant located at the main location. The centrex station must have call transfer-attendant service without dial hold and be located at the satellite location in a main/satellite configuration. The route index must have an exit code of 6 and destination code of 17 or 22. To change the STRI in the centrex group, the recent change message format would appear as:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
STRI 58/
END!
```

AH. Simulated Facility Group (SFG) for Call Forward Inside and Outside the Central Group (FFG, FOFG)

19.67 The centrex group has the ability to limit the number of lines call forwarded inside and outside the group by assigning a simulated facility group (SFG) to call forward inside (FFG) and/or one to call forward outside (FOFG). To add this feature to a centrex group:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
FFG 0051/
FOFG 0052/
END!
```

Note: In this example, FFG is assigning call forward inside simulated facilities group number 51. The FOFG is assigning call forward outside to simulated facilities group number 52.

19.68 To remove simulated facility group for call forward inside and outside a centrex group:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
FFG 0/
FOFG 0/
END!
```

AI. Optional Second Dial Tone (ODT)

19.69 For centrex lines to receive a second dial tone on customer-dialed speed call changes, the optional second dial tone (ODT) bit must be set along with the second dial tone bit in the digit interpreter entry. To add ODT to the centrex group, use the message that follows:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
ODT 0001
END!
```

19.70 To remove the ODT from the centrex group, use the message that follows:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
OFT DLT/
END!
```

AJ. Stable Information Entry Provided for CWO, CWT and Camp-On (SIEP)

19.71 In order to assign CWO and CWT to a station and camp-on to a centrex group stable information entry (SIE) must be provided. To indicate that SIEs are provided, the centrex group SIEP bit must be set. The recent change message would appear as:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
SIEP ADD/
END!
```

19.72 To remove SIE provided indication for CWO, CWT and camp-on from a centrex group:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
SIEP DLT/
END!
```

AK. Control Restriction Disposition for Centrex Group

19.73 In addition to having a control restriction disposition for centrex station lines and control groups, a centrex group can have disposition types:

- DSP0—Disposition of DID calls to this station when total or DND restrictions are in effect.

- DSP1—Disposition of non-DID calls to this station when total or DND restrictions are in effect.
- DSP2—Disposition of DIAL-9 calls from this station when outward restriction is in effect.
- DSP3—Disposition of originations from this station when total restriction is in effect.

Each disposition type has a route index or directory number assigned and uses them to appropriately route the restriction calls.

19.74 To assign the disposition types to a centrex group:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
DSP1 58/
DSP3 255 2200/
END!
```

19.75 To remove control restriction disposition for a control group from a centrex group:

```
A RC:CTX:1/
TYP CHG/
ORD 0001/
DSP1/
DSP3/
END!
```

AL. Busy Verify (BV)

19.76 This feature allows the attendant to establish a "talking" connection to an apparently busy station line to determine if the station line is in working order. When the attendant is connected to a busy line, periodic spurts of tone are applied to alert the talking parties of the attendant's presence. Busy verify is only available with the universal attendant console. To add the busy verify feature to centrex group 7, the following TTY input message is used:

```
A RC:CTX:007/
ORD 0001/
TYP CHG/
BV ADD/
END!
```

19.77 To remove the busy verify feature:

```
A RC:CTX:007/
ORD 0001/
TYP CHG/
BV DLT/
END!
```

AM. Subgroup Number (SBGP)

19.78 The subgroup number and the function used by the number are specified by using the following message:

```
A RC:CTX:007/
ORD 0009/
TYP CHG/
SBGP 019 7/ (Note)
END!
```

Note: This indicates that subgroup 019 uses the attendant intercept function.

20. EXAMPLES OF CENTREX STATION LINE MESSAGES

20.01 Complete and accurate information must be recorded on the ESS 2101 and 2107 forms as specified in Translation Guide TG-2H prior to executing any RC input messages.

20.02 A centrex station line is an individual line which is a member of a centrex group and the available features are controlled by that group. To assign a new line or make changes to an established line, the service order or maintenance channel is used.

20.03 For additional details on service order message formats and data fields, refer to the Input Message Manual (IM-2H200). Each example listed below performs only the one desired function. These functions can be performed simultaneously in a single service order message. It is not necessary to make up a separate service order for each individual change to a line.

20.04 In the following discussions, the word centrex will be used to mean Centrex-CO. Keyword CTX (the centrex group number) is required on all RC messages for a centrex line (not for a line verify).

20.05 To assign a new centrex line, the OE must be currently unused, and the TN must be currently unassigned. To assign a centrex station line:

```
A RC:L/
```

ORD 0001/
TYP NEW/
CTX 002/
TN 555 1212/
TW1 ADD/ (Note 1)
OE 01 0232/
CAT 12/
LCC CTX/ (Note 2)
RAX 2/
END!

Note 1: All of the above keywords are required for a new centrex line. However, TW2 or E2H may be used instead of TW1. The universal service order code (USOC) must be defined in the line class code table in translations.

Note 2: The USOC specifies what originating major class, terminating class, and screening class a line will have. The RAX code may be used with LCC to determine the classes. If it is not used or if one rate area is defined within an office, it is always assumed by the program to be rate area 0.

20.06 If this line is defined as in other than rate area 0, an additional input line is required to specify the rate area (eg, rate area 1):

RAX 1/.

If only one rate area is defined within an office, it is always assumed by the program to be rate area 0.

20.07 For a PBX-CO extension, it is recommended that the telephone number used have a pseudo-office code, ie, a normalized office code (NOC) of 8 to 13.

A. Disconnecting Service

20.08 To remove an active centrex station line from service but to leave the TN defined as routing to operator intercept (route index 9):

A RC:L/
ORD 0001/
TYP ICP
TN 555 1212/
OE 01 0232/
CTX 002/
RTI 009/
END!

If the route index is not typed, the TN will be assigned to attendant intercept. Any calls to the TN are now routed to intercept via route index 9. The OE from this line is immediately available for reassignment after the TYP ICP order. The only service order allowed on this TN after an ICP service order is a TYP OUT order.

20.09 To completely remove a centrex station line from service and free both the OE and TN (TN to the unassigned condition):

A RC:L/
ORD 0001/
TYP OUT/
CTX 002/
TN 555 1212/
OE 01 0232/
END!

Both the TN and OE are free for reassignment immediately following the TYP OUT order. Any calls to the TN while in this unassigned condition will be given the blank number treatment specified in paragraph 15.01.

20.10 The only service permitted for a centrex line on intercept is TYP OUT service order to free the TN for reassignment by placing it in the unassigned condition:

A RC:L/
ORD 0001/
TYP OUT/
TN 555 1212/
END!

20.11 Refer to paragraph 15.01 for a description of the blank number treatment for an unassigned TN. When the line was previously changed by a TYP ICP service order assigning the Route Index to the TN, the OE was freed for reassignment and the translations removed.

B. Special Bill to Number (BTN)

20.12 The telephone number to which a centrex station line is billed is generally referred to as the listed (directory) number or BLC. If the station line is to be billed to another telephone number, the other telephone number is referred to as the bill to number (BTN). To assign a special bill to number different from the listed (directory) number to BLC or to change a special bill to number now assigned:

A RC:L/

TYP CHG/
ORD 0001/
TN 555 1212/
OE 01 0232/
CTX 002/
BTN 555 1313/
END!

20.13 To remove the special billing number from an extension, input the directory number as the new special billing number:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
BTN 555 1212/
END!

20.14 Typing in a request to bill calls to the centrex group billing number will also remove the special billing number.

C. Bill Listed Number (BLC)

20.15 To bill calls to the centrex group billing number:

A RC:L/
TYP CHG/
ORD 0001/
TN 555 1212/
OE 01 0232/
CTX 002/
BLC ADD/
END!

20.16 To stop billing calls to the group billing number:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
BLC DLT/
END!

Calls will then be billed to the directory number. Typing in a special billing number will also stop billing calls to the centrex group billing number.

D. Recall (FL)

20.17 Centrex extensions connected to another extension do not have the ability to send a flash signal from one to the other. Adding the recall feature to an extension allows a centrex line connected to the recallable extension to signal the extension by flashing. To provide the capability of being recalled:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
FL ADD/
END!

20.18 To remove the recall feature:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
FL DLT/
END!

E. Special Toll Billing (BLN) (STB) (QZB)

20.19 To assign the special toll billing feature to a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
BLN ADD/
END!

20.20 To delete the special toll billing feature from a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
BLN DLT/
END!

F. Centrex Access Treatment Code (CAT)

20.21 A centrex access treatment (CAT) code allows or denies a station access to the following:

Dial "0"
Dial "9"
Tie Trunks
FX Trunks
CCSA Trunks
WATS
Most Economical Routing
Paging
Recorded Telephone Dictation
Code Call
Code Call Pickup
Trunk Answer From Any Station
Trunk Flash Request.

Access codes may be associated with one or more of 16 CAT codes (0 to 15). Each centrex station has a CAT code that allows or denies access to these codes.

20.22 To change the centrex access treatment afforded an existing centrex station:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CAT 13/
END!

G. Route Index to Attendant

20.23 When a centrex line is placed on attendant intercept, a route index ***must*** be given to place a line on attendant intercept:

A RC:L/
ORD 0001/
TYP ICP/
TN 255 2126/
OE 01 0400/
CTX 001/
RTI 4/
END!

Note: This will place TN 255 2126 on route index 4.

H. Call Transfer—Attendant (TW1)

20.24 A line (party A) which has the call transfer—attendant feature (TW1) may use it in the following way. When party A is in the talking state with some incoming party B (CCSA, DID, or TIE line if the TFR bit is set = 1) A's switchhook is momentarily depressed (flashed). The attendant is alerted by visual and audible signals while audible ring is returned to both parties, A and B. If A remains connected when the attendant answers, the attendant is bridged on the connection with both parties. The attendant may now transfer the incoming call to another station line after A disconnects or after the attendant releases A, using the RLS DEST key. Refer to Section 232-190-301 for detailed information and restrictions.

20.25 To assign or change the call transfer—attendant feature to an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
TW1 ADD/
END!

20.26 To remove or change the call transfer—attendant feature from a line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 9232/
TN 555 1212/
TW1 DLT/
END!

I. Call Transfer—Individual (TW2)

20.27 A line (party A) that has the call transfer—individual feature may use it in the following way. When party A has a talking connection with some incoming call (CCSA, DID, or TIE/line if TRF bit = 1), party A momentarily depresses the switchhook (flashes) to get dial tone. Party A may then dial another party (C) within the centrex group and talk with that party privately. During this period, B is in the hold state. Party A may flash back to

B if C does not answer or, after C answers, to connect all three parties together in the talking state. If A hangs up before C answers, B will hear audible and the connection will be made normally when C answers. Refer to Section 232-190-301 for detail information and restrictions.

20.28 To assign or change the call transfer—individual feature to an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0233/
TN 555 1212/
TW2 ADD/
END!

20.29 To remove the call transfer—individual feature from a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
TW2 DLT/
END!

J. Call Transfer—Individual—All Calls (E2H) (TW)

20.30 Operation of call transfer—individual—all calls is similar to call transfer—individual with additional capabilities. A station user can transfer any established call to another party. Refer to Section 232-190-301 for detail information and restrictions.

20.31 To assign or change the call transfer—individual—all calls feature to an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
E2H ADD/
END!

20.32 To remove the call transfer—individual—all calls feature from a centrex line.

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
E2H DLT/
END!

K. Call Hold (EAB)

20.33 The call hold feature allows a station user to put any call in progress on hold by flashing the switchhook and then dialing a hold code, thus freeing the line for the purpose of originating another call or returning to a previously held call. Only one call per station line may be held at a time. The held line cannot be added to another call. To add call hold to an existing station:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
EAB ADD/
END!

20.34 To remove the call hold feature from an existing centrex station:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
EAB DLT/
END!

L. Ten-Digit CCSA Dialing Permitted (TP)

20.35 The station user is allowed to dial the CCSA access code plus seven or ten digits instead of being restricted to seven digits. To add this feature to an existing centrex station:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/

TP ADD/
END!

20.36 To remove 10-digit CCSA dialing from a centrex station:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
TP DLT/
END!

M. Call Pickup (CPG) (CPU)

20.37 A station user can answer any calls directed to another station within the user's own pickup group by dialing a special pickup code. To add call pickup to an existing station, the pickup group to which the line will be assigned must be specified:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 002/
OE 01 0232/
CPG 7/
END!

To verify station lines in a call pickup group, see paragraph 18.28.

20.38 To remove the call pickup feature from an existing centrex station, the pickup group is entered as 0, 00, or 000.

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CPG 0/
END!

N. Directed Call Pickup (DMA) (DPU)

20.39 A station user can answer calls directed to a specific station line in the centrex system by dialing the unique answer code which is defined by the digit interpreter table of the station whose calls are to be answered. To allow an existing centrex station to be picked up on a directed basis:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
DMA ADD/
END!

20.40 To remove the directed call pickup feature from a line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
DMA DLT/
END!

O. One-Digit Speed Calling (ESL) (SC1)

20.41 To assign the 1-digit (8-code) speed calling feature to an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
ESL 12/
END!

The above message will assign the station line to the 1-digit speed calling list number 12 which may be shared by other stations in that centrex group. The range of a 1-digit speed call list is 1 through the maximum assigned to the centrex group. Each centrex group can have up to one thousand and twenty-three 1-digit lists.

20.42 Telephone numbers or station line numbers are stored in the list either by customer action or by the operating company. Each centrex customer group has a choice of two dialing plan options which are described in paragraph 19.24.

20.43 Each centrex line that has access to a 1-digit speed calling list also automatically has the

ability to change list (CSL ADD 1 is not required). For this reason, it is not recommended that more than two extensions share a given 1-digit list.

20.44 To remove the 1-digit speed calling feature from an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
ESL DLT/
CSL DLT 1/(Required if on a line)
END!

P. Customer Dialed Changes to 1-Digit Speed Calling List (ESL) (SC1)

20.45 Any centrex line which has access to a 1-digit speed calling list automatically has the ability to change that list if the change speed calling access code is defined in the centrex digit interpreter table. The procedure for changing a 1-digit list is similar to changing a 2-digit list with only the change speed call access code being different.

Q. Customer Dialed Changes to 2-Digit Speed Calling List (ESF) (SC2)

20.46 To provide a line with the ability to directly dial in changes to the 2-digit list:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
ESF 3/
CSL ADD 2/
END!

Before the extension dialed change ability can be assigned to a line, the line must have the 2-digit speed calling feature and the change speed calling access code must be defined in the centrex digit interpreter table.

20.47 From the viewpoint of the customer, multiple assignments to the 2-digit list are encouraged. There are no program limitations on the number of stations allowed to make dial changes, but as this number increases, so does confusion and uncertainty as to the actual contents of the list. For this reason, it is usual to restrict the number of extensions which have this ability.

20.48 To dial a change into the speed call list, the station goes off-hook and dials the speed call change access code for the customer group (eg, "107"). If this extension is allowed to change the speed calling list, second dial tone is received. After reception of second dial tone, the station dials in the abbreviated code to be changed, followed by the new number to be stored. After dialing is completed, a confirmation is returned consisting of two short bursts of tone. If the customer remains off-hook for an additional 1 second, the call is recycled to dial tone as a new origination. The TN dialed may be from 3 digits (centrex station line) to 14 digits in length.

20.49 The customer dialed changes to speed calling lists enter the system exactly as other service orders. A paper tape TTY record of all changes should be generated as they are inputted by the customer. The input message to cause these tapes to be created as the changes are dialed is:

A RC:PUN:1!

20.50 These tapes provide a record of speed calling changes and are punched in standard service order format so that they may be directly inputted through the service order channel should that be necessary. Therefore, it is recommended that the office always be in the punch mode. The input message to instruct the machine to no longer produce tapes from extension dialed changes is:

A RC:PUN:0!

20.51 The message to remove the ability to directly dial changes to the 2-digit speed calling list from a line is:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
ESF DLT/
CSL DLT 2/
END!

R. Two-Digit Speed Calling (ESF)

20.52 To assign the 2-digit (30-code) speed calling feature to an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
CSL ADD 2/
ESF 3/
END!

The above message will assign the station to the 2-digit speed calling list number 3 which may be shared by other stations in that centrex group (see paragraph 30.21). The range of 2-digit speed call lists is 1 through the maximum number of assigned to the centrex group. Each centrex group can have up to sixty-three 2-digit speed call lists.

20.53 Telephone numbers or station line numbers are stored in the list either by customer action or by the operating company. Each centrex customer group has a choice of two dialing options which are described in paragraph 19.24.

20.54 To remove the 2-digit speed calling feature from an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
ESF DLT/
CSL DLT 2/ (Required if on a line)
END!

S. TOUCH-TONE Calling (TTC)

20.55 To add TOUCH-TONE calling (TTC) to a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
TTC ADD/
END!

20.56 To delete a TOUCH-TONE calling feature from a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
TTC DLT/
END!

T. Prohibit Line Insulation Tests (PLIT) (PLI)

20.57 To add prohibit line insulation tests feature on a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 0232/
TN 555 1212/
CTX 002/
PLIT ADD/
END!

20.58 To remove the prohibit line insulation test feature from a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
PLIT DLT/
END!

U. Ground Start (GST) (GND)

20.59 To designate a centrex line as ground start:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
GST ADD/
END!

Note: The service order must be coordinated with work in the office to restrap the line ferrod

for ground start. The OE assignment rules specify that all ground start lines should appear on network switch levels 0 or 2.

20.60 To change a centrex line to loop start:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
GST DLT/
END!
```

Note: The service order must be coordinated with work in the office to restrap the line ferrod loop start.

V. Sleeve Lead (DP) (SLL)

20.61 To assign a sleeve lead to an existing centrex line, a spare peripheral decoder point, which is assigned to an auxiliary line circuit, must be selected (see paragraph 6.62 for detailed information).

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
DP 1246 32/
END!
```

20.62 To remove a sleeve lead from an existing centrex line, the sleeve lead input line (DP) is typed with a blank data field.

Note: When DP is removed, DLY and AOSL will be removed if on the line.

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
DP/
END!
```

W. Message Register (DPM) (MSG)

20.63 To assign a message register to an existing centrex line, a spare peripheral decoder point which is assigned to a message register must first be selected (see paragraph 6.64 for detailed information).

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0232/
TN 555 1212/
CTX 002/
DPM 1246 32/
END!
```

20.64 To remove a message register from an existing centrex line, the message register input line (DPM) is typed with a blank data field:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 0232/
TN 555 1212/
CTX 002/
DPM/
END!
```

X. Test Line Terminal (TLT)

20.65 The test line terminal feature allows a line to originate and terminate before it is cut over into service. ***This feature is not designed for use after cutover.*** To assign the test line terminal feature to a previously defined centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
TLT ADD/
END!
```

20.66 To remove the test line feature from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
TLT DLT/
END!
```

Y. Complaint Observing (COB)

20.67 The complaint observing function allows all message rate calls from lines with this feature to be detail billed on the AMA tape. The purpose of the complaint observing feature is to provide detailed information regarding all charges made for toll calls.

20.68 Complaint observing is performed for all lines with the feature when activated as described in the Input Message Manual (IM-2H200) under message M AM:PBS:fg hi n!. To assign the complaint observing feature to a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
COB ADD/
END!

20.69 The following input message must be used to cause all message rate calls from lines with the complaint observed feature to be detail billed on the AMA:

M AM:OBS:fg hi n!

All message rate calls normally recorded on the AMA will be detail billed until the message is canceled or the call store is cleared by a stable clear maintenance action caused by a system failure.

20.70 To remove the complaint observing feature from a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
COB DLT/
END!

Z. Call Trace (TRC)

20.71 There are two types of call tracing available in the No. 2/2B ESS. The first type of trace identifies calls that are currently in progress on a 1-shot basis, and the other type identifies either all calls to a given line in the office or all calls for a given number outside the office. Call trace is covered in detail in Section 232-190-106 (Call Tracing Feature).

20.72 Terminating Call Identification: All calls to a given line may be identified by TTY printout as they occur by adding the call tracing feature. To add the call tracing feature to a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
TRC ADD/
END!

Whenever a call attempt is made to a line on call trace, regardless of whether or not the call is completed, a TTY message is outputted.

20.73 To remove the call tracing feature from a centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
TRC DLT/
END!

AA. Changing TN of an Assigned Centrex Line

20.74 To change the telephone number (TN) assigned to an OE:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
NTN 555 1313/
END!

20.75 The new telephone number (NTN) assigned must have previously been in the unassigned condition. This service order will automatically place the old TN in the unassigned condition. See para-

graph 15.01 for a description of the treatment given an unassigned telephone number.

AB. Changing OE of an Assigned Centrex Line

20.76 Changing the originating equipment number (OE) requires coordination between the dial assignment staff and the switching center personnel. After the new originating equipment number (IOE) is selected and verified to be unassigned, the OE assignments are forwarded to the frame personnel. The frame personnel will attempt to place a call from the IOE. This is necessary to ensure that the OE is spare and to condition it for the IOE order. If dial tone is present on the IOE, the frame personnel will notify the assignment personnel so that an investigation can be made. If OE is a spare, the frame personnel will back tap a cross-connect from the cable pair to the IOE. The assignment personnel will then be notified to input the message to establish the IOE in translation. After the order is entered in translation, the back tap to the old OE may be removed. The old centrex line defined on the old OE is moved to the IOE by the input message:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
IOE 01 0233/
CTX 002/
END!

20.77 Switching center personnel are now notified to disconnect the jumper from the cable pair to the old OE. The old OE is now available for reassignment. The IOE must previously have been unassigned.

> ***Note:*** Caution must be exercised in selecting the IOE to be used in offices equipped with range extension. If the range extension feature is used with the old OE it ***must*** be used with the IOE selected.

AC. Changing the Line Class Code of an Assigned Centrex Line

20.78 A centrex line may be reassigned any valid centrex line class code, except an LCC for a universal attendant console or a manual LCC. The manual LCC may be entered only on a type NEW recent change (see paragraph 20.80). The centrex line class code USOC must have been previously defined in the line class code table in translations. To change the assigned line class code:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 002/
LCC CX1/
RAX 1/
END!

If the rate area is other than 0, it must be inputted. If the rate area is 0, it may be omitted.

AD. Assigning Free Terminating Service

20.79 The No. 2/2B ESS provides free terminating service through proper assignment of the line class code to a centrex station line. A centrex line class code must be previously defined in the office line class code table with the free terminating bit set. To assign a centrex line free terminating service, the line must be inputted with this line class code or a TYP CHG service order must be made to change the line class code for the line. To assign free terminating service to a line (assuming FRE is the assigned LCC):

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
LCC FRE/
RAX 1/
END!

If the rate area is other than 0, it must be inputted. If the rate area is 0, it may be omitted.

AE. Manual Line Service

20.80 Station lines which are so arranged alert the attendant when the station user goes off-hook for service. Dial tone is not provided for these lines, and all originating connections are made by the attendant. Manual line service is provided through proper assignment of the line class code to a centrex line. A centrex line class code must be previously de-

fined in the office line class code table which indicates manual line service. To assign a centrex line to be a manual line, the line must be inputted with this line class code. To assign manual line service to a line (assuming MLS is the assigned LCC):

A RC:L/
ORD 0001/
TYP NEW/
CTX 002/
OE 01 0232/
TN 555 1212/
LCC MLS/
END!

AF. Fully Restricted Terminating Station

20.81 A fully restricted terminating station line is denied the ability to receive any but station-to-station calls. Restricted calls are routed to the dialing error route index (typically an announcement). Fully restricted terminating service is provided through proper assignment of the line class code to a centrex line. A centrex line class code must be previously defined in the office line class code table which indicates fully restricted service. To assign a centrex line to be fully restricted terminating, the line must be inputted with this line class code or a TYP CHG service order must be made to change the line class code for the line. To assign fully restricted terminating service to a line (assuming FRS is the assigned LCC):

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
LCC FRS/
END!

AG. Temporary Service Suspensions

20.82 Temporary suspension of service is accomplished in the No. 2/2B ESS by changing the class of service to deny originations, deny terminations, or both. In order to perform suspensions by this technique, a centrex suspension line class code must be previously defined in translation for each of the three cases. To place an in-service centrex line on temporary suspension of service, the line must be inputted with the proper line class code or a TYP CHG service order must be made to change the line class code for the line. To assign temporary service suspension to a line (assuming TSS is the assigned LCC):

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
LCC TSS/
END!

AH. Call Forwarding Variable (ESM)

20.83 To assign the call forwarding-variable feature to an existing centrex line:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 002/
OE 01 0232/
ESM ADD/
END!

20.84 ***Station User Activates Call Forwarding Variable:*** To use the call forwarding feature, the customer first dials the call forwarding—variable code. After hearing second dial tone, the station user variable dials the number (must be within the centrex group) to which the user's calls are to be forwarded. The station user then hears a confirmation tone indicating that call forwarding—variable has been established. While call forwarding—variable is activated, the station line can only be used to cancel call forwarding—variable or dial the attendant ("0"). When a forwarding station line is called, the call is routed to the forwarded line.

20.85 ***Attendant Activates Call Forwarding—Variable for a Station Line:*** The attendant obtains dial tone, dials the access code, and hears second dial tone. The attendant then dials the number of the station line to be placed on call forwarding variable. After hearing a third dial tone, the attendant dials the number (within the centrex group) to which the calls are to be forwarded. The attendant then hears a confirmation tone indicating that call forwarding—variable has been established.

20.86 ***Station User Cancels Call Forwarding Variable:*** The station user dials the cancel code. The user then hears confirmation tone indicating that call forwarding variable has been canceled.

20.87 ***Attendant Cancels Call Forwarding Variable for a Station Line:*** The attendant obtains dial tone, dials the cancel code, and hears second dial tone. The attendant then dials the number of the station line for which call forwarding variable is to be canceled. The attendant will hear confirmation tone, indicating that call forwarding—variable has been canceled.

20.88 To remove the call forwarding—variable feature from an existing line:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
OE 01 0232/
TN 555 1212/
ESM DLT/
END!
```

AI. Call Forwarding—Busy Line (E6G) (CFB)

20.89 The call forwarding—busy line feature automatically routes incoming DID, CCSA, or TIE line (if TFR bit = 1) calls to an attendant or another line when the called station is busy. If the station has call forwarding—don't answer—all calls (CFDA), all calls will receive call forwarding—busy line treatment. If a call forwarding telephone number is inputted, the calls will forward to it. If no call forwarding number is given, calls will forward to the attendant.

20.90 In EF-2 and later generic programs, a separate call forwarding number can be defined for call forwarding—busy line and call forwarding—don't answer. If a number is not specified, the call is transferred to an attendant. To assign this feature to an existing centrex station and have the calls fowarded to the attendant, the following message is entered:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 001/
E6G ADD/
END!
```

Note: This causes a call to be forwarded to the attendant if the line is busy. The call forwarding—busy line feature cannot be added if the line has customer line overflow (CLO).

20.91 To remove call forwarding—busy line feature:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 756 2210/
OE 02 1002/
CTX 001/
E6G DLT/
END!
```

Note: The call forwarding—busy line member must be deleted if the feature is to be deleted.

AJ. Call Forwarding—Busy Line—All Calls (CFBA)

20.92 To change the call forward busy line so that all calls are call forwarded (not just CCSA and DID calls), call forwarding—busy line—all calls (CFBA) must be added. To add this feature to a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 756 2126/
OE 02 1102/
CTX 1/
CFBA ADD/
END!
```

20.93 To remove the call forwarding—busy line—all calls feature from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFBA DLT/
END!
```

Note: When call forwarding—busy line—all calls (CFBA) is removed from a centrex line the

call forwarding—busy line (E6G) feature is removed also. To keep the E6G feature assigned to the line, E6G must be added when CFBA is removed. Refer to paragraph 20.90.

AK. Call Forwarding—Busy Line Number (CFBN)

20.94 The forwarded to number (CFBN) must be different from the assigned line TN, and in the same centrex group. A call forwarding—busy line number cannot be added unless the line has the call forwarding—busy line feature.

20.95 To cause a line which does not have the call forwarding—busy line feature forward calls to TN 555 1313 (where 555 1313 must be a centrex station in this customer group):

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
OE 01 0232/
CTX 001/
CFBN 555 1313/
END!

20.96 To have calls forwarded to the attendant or to delete the call forwarding—busy line number:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFBN/
END!

20.97 To remove the call forwarding—busy line number feature:

A RC:L/
ORD 0001/
TYP CHG/
TN 756 2210/
OE 02 1002/
CTX 001/
CFBN/
END!

AL. Call Forwarding—Don't Answer (E9G)

20.98 This feature automatically routes incoming DID, CCSA, or TIE line (if TFR bit = 1) calls to the attendant or another line when the called station does not answer within a minimum of 11 seconds. (This interval may be extended, as explained in paragraph 19.31, on a per-centrex group basis.) If the station line has call forwarding don't answer (see paragraph 20.103), all calls will receive call forwarding—busy line treatment. To assign this feature to an existing centrex station and have the calls forwarded to the attendant:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E9G ADD/
END!

20.99 To remove the call forwarding—don't answer feature from a centrex station:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E9G DLT/
END!

> ***Note:*** The call forwarding—don't answer number must be removed if the feature is to be deleted. A line may have call forwarding—don't answer and call forwarding—busy line features and their associated call forwarding numbers. Also, call forwarding—don't answer and call forwarding—busy line may have the call routed to the same TN.

AM. Call Forwarding—Don't Answer Number (CFDN)

20.100 To cause a centrex line which does not have the call forwarding—don't answer feature forward calls to TN 555 1313 (where 555 1313 must be a centrex station in this customer group):

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E9G ADD/

CFDN 555 1313/ (Note)
END!

Note: The forwarded to number must be different from the TN assigned, and in the same centrex group. A call forwarding—don't answer number cannot be added unless the line has the call forwarding—don't answer feature.

In addition to call forwarding—don't answer, the station now has station hunt (see paragraph 20.119). Call forwarding—don't answer cannot be added independently from station hunt or call forwarding—busy line (see paragraph 20.89).

20.101 To cause this centrex line call forwarding—don't answer to the attendant:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFDN/
END!

20.102 The forwarded to number (CFDN) must be different from the assigned TN line and in the same centrex group. A call forwarding—don't answer number cannot be added unless the line has the call forwarding—don't answer feature.

A RC:L/
ORD 0003/
TYP CHG/
TN 756 2210/
OE 02 1002/
CTX 001/
CFDN/
END!

AN. Call Forwarding—Don't Answer—All Calls (CFDA)

20.103 The call forwarding—don't answer—all calls feature is less restrictive than call forwarding—don't answer in that all calls are forwarded in case of no answer. To assign this feature and cause calls to forward to the attendant:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFDA ADD/
END!

Note: The line must already have call forwarding—don't answer feature.

20.104 To cause a centrex line which does not have the call forwarding—don't answer—all calls feature to forward calls to TN 555 1313, use the following format: (TN 555 1313 must be a centrex extension in this customer group.)

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E9G ADD/
CFDN 555 1313/
END!

Note: If the line had call forwarding—busy line, adding call forwarding—all calls would change the feature to station hunt.

20.105 To cause ***this*** centrex line to call forward—don't answer—all calls to the attendant:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFDN/
END!

20.106 To remove the call forwarding—don't answer—all calls feature from a centrex station:

A RC:L/
TYP CHG/
ORD 0001/
CTX 002/
TN 555 1212/
OE 01 0232/
CFDA DLT/
END!

Note: When call forwarding—don't answer—all calls (CFDA) is removed from a

centrex line the call forwarding—don't answer (E9G) feature is removed also. To keep the E9G feature assigned to the line, E9G must be added when CFDA is removed (refer to paragraph 20.98).

AO. Examples of Call Forwarding

20.107 Call forwarding—don't answer and call forward—busy line to attendant:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E6G ADD/
E9G ADD/
END!
```

20.108 Call forwarding—busy line to attendant and call forwarding—don't answer to a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFDA ADD/
E6G ADD/
E9G ADD/
CFDN 555 1313/
END!
```

20.109 Call forwarding—don't answer and call forward—busy line to centrex line:

```
A RC:L/
ORD 001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E6G ADD/
E9G ADD/
CFDN 555 1313/
END!
```

AP. Call Forwarding Outside the Centrex Group (CFO)

20.110 Centrex call forwarding outside the centrex group is an arrangement that allows a centrex customer to redirect calls intended for the customer's telephone to another telephone outside the customer's group. The customer initiates call forwarding outside the centrex group by dialing the call forwarding access code followed by the central office access code and then the directory number to which the calls are to be forwarded. To add this feature to a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 001/
TN 255 2101/
OE 01 4252/
CFO ADD/
END!
```

20.111 To remove call forwarding outside the centrex group:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 001/
TN 255 2101/
OE 01 4252/
CFO DLT/
END!
```

AQ. Centrex Call Waiting

20.112 Centrex call waiting is a feature that allows a customer already involved in a conversation to know by means of an alerting signal when another call is attempting to complete to that station. The three types of call waiting are:

(1) Call Waiting—Originating

(2) Call Waiting—Terminating (incoming call only)

(3) Call Waiting Terminating—All Calls.

AR. Call Waiting Originating (CWOR)

20.113 This feature allows a centrex station with the feature to direct a call waiting tone toward a busy station in the same centrex group. To add CWOR to a line:

```
A RC:L/
ORD 0001/
```

```
TYP CHG/
TN 755 2108/
OE 00 0312/
CTX 001/
CWOR ADD/
END!
```

20.114 To remove call waiting originating from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 755 2108/
OE 00 0312/
CTX 001/
CWOR DLT/
END!
```

AS. Call Waiting Terminating (ESX) (CWT)

20.115 Call Waiting Terminating (CWT) allows a busy centrex station with the feature to receive call-waiting tone when another call is directed toward the station. This type of call waiting is applicable for incoming direct inward dialed (DID) and common controlled switching arrangement (CCSA) calls only. To add CWT to a line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 755 2108/
OE 00 0312/
ESX ADD/
CTX 001/
END!
```

20.116 To remove call waiting terminating from a line:

```
A RC:L/
ORD 0002/
TYP CHG/
TN 755 2108/
OE 00 0312/
CTX 001/
ESX DLT/
END!
```

AT. Call Waiting Terminating—All Calls (CWTA)

20.117 The Call Waiting Terminating—All Calls (CWTA) feature allows a busy centrex station to receive a call waiting tone when another call is directed toward the station. This applies to all calls to the station. A line is not allowed to have CWTA unless it also has CWT. To add CWTA to a line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 755 2108/
OE 00 0312/
CTX 001/
CWTA ADD/
END!
```

20.118 To remove call waiting terminating—all calls from a line:

```
A RC:L/
ORD 0002/
TYP CHG/
TN 755 2108/
OE 00 0312/
CTX 001
CWTA DLT/
END!
```

AU. Station Hunt

20.119 The station hunt feature is less restrictive than call forwarding—busy line in that all incoming calls hunt. To assign station hunt:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
E6G ADD/
CFBA ADD/
CFBN 555 1313/
END!
```

> ***Note:*** Only one call forwarded number can be specified for each station line. This number will apply to any and all station line features, including call forwarding—busy line, call forwarding—don't answer, and station hunt.

The program checks to see that the call forward telephone number is assigned and also that it is a centrex station in this customer group before allowing it to be used as a call forward number. The specified call

forward number would also be used for call forwarding—don't answer if this line has the feature. If no call forward number is specified, calls will hunt to the attendant. Keyword CFBA causes all calls to be forwarded. Station hunt is, in essence, call forwarding—busy line all calls.

20.120 To remove the station hunt feature from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
OE 01 0232/
CFBN/
E6G DLT/
CFBA DLT/
END!
```

AV. Open Switching Interval Protection (DPP)

20.121 This feature eliminates the open to the central office battery during a switching sequence. This feature is accomplished by applying an open switching interval protection (DPP) circuit which is treated by the system as an applique circuit. To add DPP to a line:

```
A RC:L/
TYP CHG/
ORD 0001/
CTX 001/
TN 255 2101/
OE 01 4252/
DPP 0512 11/
END!
```

20.122 To remove centrex open switch interval protection from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 001/
TN 255 2101/
OE 01 4252/
DPP/
END!
```

AW. Centrex Customer Line Overflow Registers (CLO)

20.123 The centrex customer line overflow register feature provides overflow registers to a centrex line to count the number of times a given centrex line is found to be in a busy or talking condition by a second call attempt. The feature is implemented or assigned to a line with the following format:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 00 1234/
TN 321 4962/
CTX 001/
CLO 2/
END!
```

> ***Note:*** The same centrex line cannot be assigned call forwarding—busy line (E6G) and customer line overflow register (CLO) feature at the same time.

20.124 To remove centrex customer line overflow registers:

```
A RC:L/
ORD 0001/
TYP CHG/
OE 00 1234/
TN 321 4962/
CTX 001/
CLO/
END!
```

AX. 800 Service

20.125 The 800 Service is a terminating feature that provides for billing all calls to a terminating party (called party) instead of the originating party (calling party). This feature can be implemented in a centrex or noncentrex station; however, the 800 Service feature is not applicable for coin lines, party lines, or mobile lines. Assigning the 800 Service feature is realized by assigning a simulated facilities group (SFG) to the line. The service order input message would appear as:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 562 2530/
SFG 4/
END!
```

20.126 To remove 800 Service, use the following RC input message.

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 262 2540/
OE 00 1202/
SFG 0/
END!
```

AY. Attendant Outward Restriction (AOUT)

20.127 When a line is given the attendant outward restriction (AOUT) feature, the attendant can restrict all outward directed calls from this station. To add AOUT:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
AOUT ADD/
END!
```

20.128 To delete attendant outward restriction from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
AOUT DLT/
END!
```

AZ. Attendant Total Restriction (ATOT)

20.129 When a line is given attendant total restriction (ATOT) feature, all incoming and outgoing calls are controlled restricted by the attendant. To add attendant total restriction:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
ATOT ADD/
END!
```

20.130 To remove attendant total restriction:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
ATOT DLT/
END!
```

BA. Attendant Do Not Disturb (ADND)

20.131 When the attendant do not disturb (ADND) feature is given to a line, incoming calls are prevented from reaching a centrex station by the attendant. To add attendant do not disturb:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
ADND ADD/
END!
```

20.132 To remove attendant do not disturb:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
ADND DLT/
END!
```

BB. Station Do Not Disturb (SDND)

20.133 When given station do not disturb (SDND) feature, a line can dial do not disturb for itself. To add station do not disturb:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
SDND ADD/
END!
```

20.134 To remove station do not disturb:

```
A RC:L/
```

ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
SDND DLT/
END!

BC. Control Group (CGRP)

20.135 Each station which may be controlled in some way belongs to a control group. To add a station to a control group:

A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
CGRP 4/ (Note)
END!

> ***Note:*** This will add TN 255 2126 to control group 4. If a station is removed from a control group, its controlled restriction and do not disturb features must be removed also.

20.136 To remove a station from a control group:

A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
CGRP/
END!

BD. Control Group Treatment Code (CNRG)

20.137 If a station is to control restrict other lines it must be given a control group treatment code. The treatment code is used in conjunction with the particular control group restriction code to determine whether that station is permitted to control restrict other lines. To add a control group treatment code:

A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
CNRG 5/
END!

20.138 To remove a control group treatment code from a line:

A RC:L/
ORD 0001/
TYP CHG/
TN 255 2126/
OE 01 0400/
CTX 001/
CNRG/
END!

BE. Control Restricted List

20.139 To activate one or more stations on the control restricted list:

A RC:CR/
TN 255 2126/
CR 1111/
END!

20.140 To remove control restriction activations on a station:

A RC:CR/
TN 255 2126/
CR 0000/
END!

BF. Print of Control Restricted List

20.141 The message A CR:PR! is used to print the entire control restricted list. The output is the telephone number or control group and the control restrictions active on that line or group at the time the message was typed. The output is:

AR CR PR
TN 255 2126/
CR abcd
.
.
.
CTX 1
CGRP XX
CR abcd
.
.
.

The last two lines are repeated until all the restricted lines are printed.

BG. Punch of Controlled Restriction List

20.142 The message A CR:PUN! is used to punch on paper tape the entire contents of the control restricted list. The output is as follows:

```
AR CR PUN
A RC CR
TN 255 2126/
CR abcd
.
.
.
A RC CR
CTX 1
CGRP XX
CR abcd
.
.
.
```

The last three lines are repeated until there is a message for each control restricted line.

BH. Defining Control Restriction Disposition Types, TNs and Route Indexes for Centrex Stations

20.143 There are four control restriction disposition types that can be assigned to a centrex station as follows:

- DSP0—Disposition of DID calls to this station when total or DND restrictions are in effect.
- DSP1—Disposition of non-DID calls to this station when total or DND restrictions are in effect.
- DSP2—Disposition of dial 9 calls from this station when outward restriction is in effect.
- DSP3—Disposition of originations from this station when total restriction is in effect.

Each disposition type has a route index or directory number assigned and uses them to appropriately route the restricted calls.

20.144 To assign the disposition types along with their route index or directory number to a centrex line:

```
A RC:L/
TYP CHG/
ORD 0001/
CTX 001/
TN 255 2100/
OE 00 0033/
DSP0 255 2400/
DSP2 58/
DSP3 255 2400/
END!
```

Only three disposition types can be assigned to a line at one time and the line must not have flexible station hunting. All disposition directory numbers must be within the centrex group.

20.145 To remove control restriction disposition from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2100/
OE 00 0033/
DSP0/
DSP2/
DSP3/
END!
```

BI. Prohibit Automatic Line Maintenance Test (PLM)

20.146 Prohibit automatic line maintenance test feature is used to inhibit false test failures on most types of lines. To add this feature to a centrex line:

```
A RC:L/
TYP CHG/
ORD 0001/
TN 562 2457/
OE 00 4542/
CTX 001/
PLM ADD/
END!
```

20.147 To remove prohibit automatic line maintenance test (PLM) from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 4221/
OE 00 1100/
CTX 001/
PLM DLT/
END!
```

BJ. Provide 800-ms Delay After Sleeve Lead Is Operated (DLY)

20.148 Providing 800-ms delay after sleeve lead is operated feature ensures trunk-to-line assignments with concentrator switching systems. To assign this feature to a centrex line:

```
A RC:L
TYP CHG/
ORD 0001/
CTX 001/
TN 577 2349/
OE 00 4301/
DLY ADD/
END!
```

20.149 To remove 800-ms delay after sleeve lead is operated from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 4221/
OE 00 1110/
CTX 001/
DLY DLT/
END!
```

BK. Carrier Line (ROH)

20.150 The carrier line (ROH) feature indicates that a particular line is a carrier line and should not be given receiver off-hook tone. To assign the carrier line feature to a centrex line:

```
A RC:L/
TYP CHG/
ORD 0001/
CTX 001/
TN 562 1432/
OE 00 4124/
ROH ADD/
END!
```

20.151 To remove carrier line from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 4157/
OE 00 2131/
CTX 001/
ROH DLT/
END!
```

BL. Automatic Line Insulation Test (AOSL)

20.152 This maintenance feature provides an indication to the processor that automatic line insulation test should operate the sleeve lead ***before*** testing the line. To assign the automatic line insulation test to a centrex line:

```
A RC:L/
TYP CHG/
ORD 0001/
CTX 001/
TN 531 2452/
OE 00 2143/
AOSL ADD/
END!
```

Note: This feature cannot be added if a sleeve lead is not defined for the line.

20.153 To remove automatic line insulation test (AOSL) from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2116/
OE 00 4221/
CTX 001/
AOSL DLT/
END!
```

BM. Control Restriction for Individual Stations

20.154 With the control restriction for individual stations feature, certain stations can be restricted on an individual basis. To add this feature to a centrex line:

```
A RC:L/
TYP CHG/
ORD 0001/
CTX 001/
TN 255 2126/
OE 01 0400/
CNR ADD/
END!
```

20.155 To remove control restriction for individual stations from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 4157/
```

OE 00 2113/
CTX 001/
CNR DLT/
END!

21. EXAMPLES OF CONTROL GROUP MESSAGES

21.01 A control group contains a control restriction code (CR) and up to four control restriction disposition types along with their TNs or route indexes. To define a control group:

A RC:CGP:1 4/
TYP NEW/
ORD 0001/
CR 0531/
DSP0 58/
DSP1 255 2200/
DSP2 255 2300/
DSP3 64/
END!

Note: This example adds control group 4 to centrex group 1. The control restriction code is 15 bits long where each bit corresponds to a control treatment code for stations that wish to control the stations within the control group.

A. Changing a Control Group

21.02 To change any information within a control group, all the keywords used in defining a control group are used. However, the only difference is that a TYP CHG is used.

A RC:CGP:1 4/
TYP CHG/
ORD 0001/
CR 1430/
DSP2/
END!

Note: This example changes the control restriction code and removes disposition type 2 from control group 4 in centrex group 1.

B. Remove Control Group

21.03 To remove a control group from a centrex line:

A RC:GRP:1 4/
ORD 0001/
TYP OUT/
END!

C. Scan Point Number Assigned to a Control Group

21.04 A scan point number can be assigned to a control group. The scan point number activates one of the control restrictions for all stations assigned to the group.

A RC:CGP:1 4/
TYP CHG/
ORD 0001/
SP 01 2301/
SKEY ADD 3/
END!

Note: This example adds controlled total restriction (ADD 3) key to SP 01 2301 for control group 4, centrex group 1.

D. Remove Scan Point Number From a Control Group

21.05 To remove a scan point number from a control group:

A RC:GRP:1 4/
ORD 0001/
SP 01 2301/
SKEY DLT/
END!

Note: This example shows the removal of controlled total restriction key to SP 01 2301 for control group 4, centrex group 1.

22. CENTREX INTERNATIONAL DIRECT DISTANCE DIALING

22.01 International direct distance dialing (IDDD) allows a customer to place directly dialed calls to points outside of the United States and Canada. With this feature the customer is able to make overseas station-to-station, person-to-person, and operator-assisted calls. Recent changing in the Country Access Code (CAC) tables can be accomplished, providing a CAC table exists for the desired code. New tables cannot be added by recent changing translations. An ODA run or CHIPS are the only means for accomplishing this. However, the minimum and maximum number of digits that can be di-

aled following a 2- or 3-digit IDDD prefix is changed with the RC message as follows:

A RC:CAC:321/
TYP CHG/ (Note 1)
MXDE 8/ (Note 2)
NDE 8/ (Note 3)
END!

Note 1: Valid entries are NEW, CHG, and OUT. TYP NEW indicates that this is a new entry that may be entered if the proper tables exist and if the entry is currently unassigned. TYP OUT indicates that the terminating entry for a given CAC is to be zeroed. This action would indicate to call processing that no entry exits.

Note 2: The MXDE keyword is the maximum number of digits expected in the CAC plus the national telephone number. This number should be equal to the NDE if the exact number of digits is specified. Valid codes range from 7 to 12.

Note 3: The NDE keyword is the exact number of digits expected in the CAC plus the national telephone number, ***or*** if the exact NDE cannot be specified, the minimum number of digits expected. Valid codes range from 7 to 12.

22.02 To delete an access code from the list or to make a CAC illegal, use:

A RC:CAC:321/
TYP OUT/
END!

22.03 In some cases, it may be desirable to delete an entire level of entries to create a new CAC. In order to accomplish this, the pointer must be zeroed. This can be done via RC if all entries in the table to be dropped have their entry type (T) set to a "1" and are unassigned.

22.04 For example, presume CAC codes 342 and 343 exist and that new CAC 34 is required. To create this new CAC, codes 342 and 343 must be deleted according to procedures in paragraph 22.02. The new CAC can then be created using the procedures in paragraph 22.01 of this section. Notice that in this example, every CAC in the 34X table must be unassigned, and that once this table is removed, only an ODA update can replace it.

A. Verifying Access Code

22.05 To verify a CAC, the following RC message is used:

A VY:CAC:aaa!

aaa = the complete country access code to be verified.

22.06 This message can verify the maximum number of digits expected (MXDE) and the exact number of digits expected (NDE) for an assigned CAC. If the CAC is unassigned, "UNA" will be printed at the TTY. Furthermore, if an attempt is made to verify a CAC whose entry-type bit (T) is not "1," an error message is printed. This condition would indicate that this entry is a pointer to another table.

22.07 The output formats for the verify message are as follows:

For nonterminating codes

AR RC ERS nnnnnn

nnnnnn = the number of the exact error message. An explanation of this message can be found in the Output Message Manual (OM).

For unassigned codes

AR VY CAC aaa
UNA
END

aaa = the CAC verified.

For assigned codes

AR VY CAC aaa
MXDE m
NDE nn
END

aaa = the CAC verified.

MXDE = the maximum number of digits expected.

NDE = the number of digits expected or the minimum number of digits expected.

When the variable fields of MXDE and NDE are equal, that number specifies the exact number of digits expected.

B. Increasing the Size of the CAC Table

22.08 To add a 16-word digit table to the IDDD dialing tree, a spare digit table must have been established by the ODA. In addition, the terminal entry for the digit received must be unassigned.

22.09 Use the following message to increase the size of the CAC table:

A RC:DTB: 1/
DGT ddd/
TYP NEW/
END!

DGT ddd = the digit(s) (entry) in the dialing tree which is to have a table added. It may be one to three digits in length. The numbers 1 through 9 are valid digits.

This RC is not effective until a RC update is performed.

C. Decreasing the Size of the CAC Table

22.10 To remove a 16-word CAC digit table, the terminal entry for the digit received must point to the table to be removed and words 1 through 15 of the table must be zero. That is, all terminal entries must be unassigned.

22.11 To remove a digit table from an access code, use the following:

A RC:DTB: 1/
DGT ddd/
TYP OUT/
END

DGT ddd = the digit(s) (entry) in the dialing tree which is to have a table added. It may be one to three digits in length. The numbers 1 through 9 are valid digits.

22.12 This RC is not effective until a RC update is performed. Following the RC update, the table may be reassigned.

23. CENTREX FLEXIBLE STATION HUNT (FSH) GROUP

23.01 A number of functions can be performed by a single service order message. Thus, it is not necessary to make a separate service order for each individual change to the flexible station hunt (FSH) group data. It is important to note that a recent change to the FSH group data is not active until the next recent change update. The flow diagram in Fig. 19 provides the format required in the preparation of service order messages for Centrex FSH Group new, change, or out assignments.

A. Assign a New Flexible Station Hunt Group

23.02 To assign a new flexible station hunt group, the group must be currently unassigned. A centrex group must also be currently assigned to a FSH group. To assign a new FSH group:

A RC:FHG:2 1/ (Note 1)
ORD 0001/
TYP NEW/
HTY 1/ (Note 2)
END!

Note 1: This RC message is ***not*** active until a RC update is performed. This first variable field in header message represents the flexible station hunt group number, range is 1 to 255. The second variable field represents the centrex group number that FSH group belongs to, range is 1 to 255.

Note 2: Hunt type, where:

1 = regular
2 = uniform call distribution
3 = preferential
4 = circular
5 = no-hunt.

23.03 To remove a FSH group, all members must be removed individually. To remove the group:

A RC:FHG:2/
ORD 0001/
TYP OUT/
END!

B. Assign a Different Attendant to a FSH Group

23.04 To change the attendant to which a FSH group is assigned:

A RC:FHG:2 1/
ORD 0001/
ATT 3/
END!

C. Change the Hunt Type of a FSH Group

23.05 The type of hunting that a FSH group does is determined by its hunt type. To change the hunt type of a FSH group:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
HTY 3/
END!
```

Note: A hunt type can be added or changed but cannot be removed.

D. Assign an Overflow Member

23.06 The overflow member is the member of the FSH group to which hunting overflows if all hunt members are busy. To make number 24 an overflow member to FSH group 2 of centrex group 3:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
OVM 24/
END!
```

23.07 To remove an overflow member:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
OVM/
END!
```

E. Assign a Last Hunt Member

23.08 The last hunt member together with the first hunt member define the range of lines to hunt when a directory number having regular hunting is called. The hunt proceeds sequentially (by member number) from the first hunt member to the last hunt member. To add a last hunt member of 6:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
FLHM 6/
END!
```

23.09 To remove last hunt member:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
FLHM/
END!
```

F. Assign a First Hunt Member

23.10 The first hunt member defines the member with which regular hunting should commence. To add a first hunt member of 3:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
FFHM 3/
END!
```

23.11 To remove first hunt member:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
FFHM/
END!
```

G. Assign Position Busy Data Feature

23.12 The position busy data feature indicates that a position busy scan point is provided for the flexible station hunt group associated with a simplified console attendant. To add a position busy scan point:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
PDB ADD/
END!
```

23.13 To remove position busy scan point number:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
PBD DLT/
END!
```

H. Assign Position Status Scan Point

23.14 This feature signifies that a position status scan point exists for a flexible station hunt

group associated with a simplified console. To add a position status scan point:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
POSD ADD/
END!

23.15 To remove position status scan point:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
POSD DLT/
END!

I. Assign Night Stop Feature

23.16 The night stop feature is defined in a FSH group by assigning a scan point ferrod to the FSH group which is wired to a night stop key on the customer premises. A spare scan point in a control field must be obtained from the Network Administrator. A record of scan points is kept on form ESS 2576 (Scan Point Assignment Record).

> ***Note:*** Before entering the message, notify Network Maintenance to ensure that this system contains the correct translations.

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
SKEY ADD N/
SP 02 1809/
END!

23.17 This message will associate the given scan point (input line SP) with the night stop key (input line SKEY). In a single RC message, only one key may be defined in this manner. A separate message is required for each control key to be assigned. Only one night stop key may be assigned to a FSH group.

23.18 To remove the assignment of the night stop feature in the FSH group:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
SKEY DLT N/
SP 02 1809/
END!

> ***Note:*** The scan point is now available for reassignment.

J. Designate a FSH Group Member as the Night Stop Member

23.19 Only one member of a FSH group may be specified as the night stop member. If desired, a remote make-busy key associated with this member just as any other member. To designate a FSH group member as the night stop member:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
FNHM 006/
END!

23.20 When the night stop key is activated, the hunting process starts at the first member of the FSH group and hunts to and includes the night stop member. When night stop is in effect, preferential hunting does not take place.

23.21 To remove night stop feature from a FSH group:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
FNHM/
END!

> ***Note:*** The night stop key position will now be ignored by the EF-2 and later generic programs but the scan point assigned to the key for this FSH group is still defined. To reassign the night stop feature to the FSH group, a FNHM member need only be specified on a RC service order.

K. Assign Stop Hunt Member Feature

23.22 Only one member of a FSH group may be specified as the stop hunt member. A member may also be the night stop member and if desired have a remote make-busy key associated with it just as any other member. To designate a FSH group member as the stop hunt member:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/

FSHM 006/
END!

23.23 When the stop hunt key is activated, the stop hunt member is the last line in all hunting sequences where the stop hunt member is greater than the first hunt member number and less than the last hunt member. For preferential list hunting, each member of the list is compared to the stop hunt member. If the stop hunt member is encountered before finding an idle station, the overflow member is not checked and busy treatment is returned.

L. Assign Stop Hunt Feature

23.24 The stop hunt feature is defined in a FSH group by assigning a scan point ferrod to the FSH group that is wired to a stop hunt key on the customer premises. A spare scan point must be obtained from the Network Administrator. A record of scan point assignments is kept on form ESS 2576 (Scan Point Assignment Record).

> ***Note:*** Before entering this message, notify Network Maintenance to ensure that the system contains the correct translations.

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
SKEY ADD S/
SP 02 1809/
END!

23.25 This message will associate the given scan point with the stop hunt key. In a single recent change message, only one key may be defined in this manner. A separate message is required for each control key to be assigned. Only one stop hunt key may be assigned to a FSH group.

23.26 To remove the assignment at the night stop feature in the FSH group:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
SKEY DLT S/
SP 02 1809/
END!

M. Assign a Remote Overflow Register or Lamp

23.27 The remote overflow register or lamp indicates an overflow condition. Only one remote overflow register/lamp may be associated with a FSH group. A spare peripheral decoder point must be obtained from the Network Administrator to assign a remote overflow register to a FSH group. A record of peripheral decoder points is kept on form ESS 2575 (CPD and PD Assignment Record). To add a remote overflow register:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
DPO 1245 21/
RLMP 1/ (Note)
END!

> ***Note:*** The add a remote overflow lamp this keyword line would appear as RLMP 0/.

23.28 To remove remote overflow lamp or register from a FSH group:

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
DPO/
RLMP/
END!

N. Assign Remote Make Busy Feature

23.29 Up to seven different remote make-busy keys (1 through 7) may be associated with a FSH group. To define a remote make-busy key in a FSH group, a scan point must be assigned to a remote make-busy key on the customer premises. A spare scan point must be obtained from the Network Administrator. A record of scan points is kept on form ESS 2576 (Scan Point Assignment Record).

> ***Note:*** Before entering this message, notify Network Maintenance to ensure that the system contains correct translations.

A RC:FHG:2 3/
ORD 0001/
TYP CHG/
SKEY ADD 1/
SP 02 1809/
END!

23.30 This message will associate the given scan point with the specified remote make-busy key (key 1 in the above example). In a single recent

change message, only one key may be defined in this manner. A separate message is required for each control key to be assigned.

23.31 Any member of the FSH group (including the night hunt and stop hunt members) may be associated with any of the group remote make-busy keys. There are no restrictions on the number of members which may be controlled by a given key, but a member may be controlled by only one remote make-busy key. An example of a member associated with a given key follows:

```
A RC:FHG:2 3 7/
ORD 0001/
TYP CHG/
RMB 1/
END!
```

23.32 This message will associate member 7 of FSH group 2, centrex group 3, with remote make-busy key 1. When a remote make-busy key is operated, all members which are assigned to that key are treated as busy for all incoming calls. These member lines may continue to originate calls normally. The hunt sequences of hunt groups remain the same except more busy lines are seen.

23.33 To remove remote make-busy key assignment from a member:

```
A RC:FHG:2 3/
ORD 0002/
TYP CHG/
RMB 01/
END!
```

> ***Note:*** If the remote make-busy key is removed from all members to which it was assigned, the key position of that key will be ignored by the program; but the scan point assigned to the key for this FSH group will still be defined. Members may again be assigned to the remote make-busy key.

O. Remove the Definition of a Remote Make-Busy Key

23.34 To remove the definition of a remote make-busy key from a FSH group:

```
A RC:FHG:2 3/
ORD 0001/
TYP CHG/
SKEY DLT 1/
SP 02 1809/
END!
```

24. CREATING A NEW FSH MEMBER

24.01 After a FSH group has been assigned, the members may be assigned by assigning the FSH group and member number to a centrex line. The centrex line and the FSH group must be assigned to the same centrex group. The FSH member must be currently unassigned. An individual service order is required to define each member line. The following message will assign TN 555 1212 to FSH group 2, member 1.

```
A RC:L/
ORD 0001/
TYP CHG/ (Note 1)
TN 555 1212/
OE 01 0233/ (Note 2)
CTX 001/
FSH 2 1/ (Note 3)
END!
```

> ***Note 1:*** A TYP NEW message may be used if the line translation is being defined at the same time it is being assigned to a FSH group.
>
> ***Note 2:*** The originating equipment number (line OE) is not used when assigning a listed directory number to a FSH group.
>
> ***Note 3:*** The legal member numbers are 1 through 255 or the FSH member list size, whichever is smaller.

When a member is added, the working count is updated in the FSH group.

24.02 To remove a member from a FSH group:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2152/
OE 00 1231/
CTX 001/
FSH/
END!
```

This message will delete this member from the FSH group member list. It will update the working member count of the FSH group. Any FSH features asso-

ciated with this line will be deleted also. When a FSH member is placed on interrupt or removed completely using TYP OUT, the line is removed from the FSH member list, the working member count is updated, and all FSH features are removed.

A. Assign FSH Hunt Type (HTY)

24.03 A hunt type may be added to a member if it is desired to have a hunt type different from its FSH group. There are five types of hunting which can be executed on calls to a FSH member. The valid types are:

- Regular Hunting
- Uniform Call Distribution
- Preferential Hunting
- Circular Hunting
- No Hunt.

To add a hunt type to a line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 5102/
OE 01 2121/
CTX 001/
HTY 4/
END!
```

24.04 To remove a hunt type from a line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 5102/
OE 01 2121/
CTX 001/
HTY/
END!
```

B. Assign a Preferential List (PRFL)

24.05 A preferential list is required if the line has a hunt type of 3 (preferential hunting). A preferential list is not allowed with any other hunt type. In order for a member line to have preferential hunting and a preferential list, the FSH group must have a preferential list defined. The preferential list number must be 64 or the number of the largest list defined for this group whichever is smaller. To add a preferential list:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2152/
OE 01 1212/
CTX 001/
HTY 3/
PRFL 4/
END!
```

24.06 A preferential list can be changed one position at a time. To add a member to a position in the list:

```
A RC:PRF:2 15 3 4!
```

This will change list 15 in FSH group 2 by adding member number 4 to position 3. This action will replace whatever was previously in position 3.

24.07 To remove a preferential list from a FSH member:

```
A RC:L/
ORD 0002/
TYP CHG/
TN 255 2152/
OE 01 1212/
CTX 001/
HTY/
PRFL 0/
END!
```

24.08 A member number of zero indicates that the specified position is to be zeroed. This action will zero position 3 in preferential list 15 in FSH group 2. To remove a member from a position in a preferential list:

```
A RC:PRF:2 15 3 0!
```

C. Assign a FSH First Hunt Member (FFHM) (FHM)

24.09 A FSH first hunt member may be added to a FSH group that does not have preferential hunting. The FSH first hunt member defines the member number at which hunting is to begin for the number. To add a FSH first hunt member:

```
A RC:L/
```

```
ORD 0001/
TYP CHG/
TN 255 2152/
OE 01 1212/
CTX 001/
FFHM 8/
END!
```

24.10 The member assigned as the FSH first hunt member need not be assigned to a TN, although this is not a recommended procedure. The only requirement on the FSH first hunt member number is that it must not be greater than the maximum allowed member number for that FSH group.

24.11 To remove a FSH first hunt member:

```
A RC:L/
ORD 0002/
TYP CHG/
TN 255 1212/
OE 01 1212/
CTX 001/
FFHM/
END!
```

D. Assign FSH Last Hunt Member (FLHM) (LHM)

24.12 A FSH last hunt member may be added to a FSH group. The FSH last hunt member defines the member number at which hunting is to stop for this member. To add a FSH last hunt member:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 255 2152/
OE 00 1231/
CTX 001/
FLHM 10/
END!
```

24.13 The member number assigned as the FSH last hunt member need not be assigned to a TN, although this is not a recommended procedure. It is required that the FSH last hunt member number be less than the maximum allowed member number for the FSH group.

24.14 To remove a FSH last hunt member:

```
A RC:L/
ORD 0002/
TYP CHG/
TN 255 2152/
OE 00 1231/
CTX 001/
FLHM/
END!
```

25. UNIVERSAL ATTENDANT EQUIPMENT (FRAME, DATA LINK, CONSOLE)

A. Adding a New Universal Attendant

25.01 To add a new universal attendant to a centrex group, a spare attendant must have been established by the ODA. A spare attendant is one whose frame, data link, and console (FDC) is unassigned and whose centrex group number is zero. When adding an attendant to a centrex group, the following rules must be followed (see TG-2H, Division 4, Sections 1g and 1h):

(1) The console to be moved (old FDC) must be marked out of service. See message M AC RMV in IM-2H200-04 or IM-2H200-05.

(2) If the customer is to have more than one console, console zero must be added first new (FDC). Additional consoles must be in sequential order. For a single console customer any console position may be used. The first console assigned is the primary attendant consoles.

25.02 To add a universal attendant to centrex group 5 which has no attendants assigned:

```
A RC:ATT/
TYP NEW/
ORD 0001/
OFD 210/
NFD 012/
CTX 005/
END! (Note)
```

This will result in frame 2, data link 1, and console 0 (OFD 210) being reassigned as frame 0, data link 1, console 2 (NFD 012). This attendant will then be assigned to centrex group 5 and assigned attendant console number 1. The attendant console number is assigned by the progam. The new console position will be marked out of service.

> ***Note:*** This change is not effective until a RC update has been performed.

B. Removing a Universal Attendant

25.03 To remove an attendant from a centrex group, the only restriction is that the primary console be removed last. To remove a console which has been marked out of service:

```
A RC:ATT/
TYP OUT/
ORD 0001/
OFD 012/
NFD 210/
CTX 005/
END!
```

The centrex group specified is the group to which the attendant equipment group is presently assigned. The new FDC must be presently unassigned. The attendant equipment group assigned to FDC 012 in centrex group 5 will be removed to FDC 210 and the centrex group number zeroed. The attendant equipment group is now spare, marked out of service, and may be reassigned. In addition, conference and night service features are removed if they have been assigned. This change is not effective until a RC update is performed.

C. Changing a Universal Attendant

25.04 To move an attendant from one FDC position to another and still associate the attendant with the same centrex group, the new FDC must presently be unassigned and the old FDC out of service. To move an attendant equipment group:

```
A RC:ATT/
TYP CHG/
ORD 0001/
OFD 012/
NFD 022/
CTX 005/
END!
```

This change is not effective until a RC update is performed.

D. Trunk Busy Memory

25.05 A centrex customer may have type 2 universal attendant consoles equipped with the trunk group busy memory option. Console position one is assigned the trunk busy memory feature and is not available for assignment to an attendant. When changing trunk busy memory, the FDC need not be marked out of service.

25.06 To assign trunk busy memory:

```
A RC:ATT/
TYP CHG/
ORD 0001/
NFD 011/
CTX 005/
TBM ADD/
END!
```

25.07 To remove trunk busy memory:

```
A RC:ATT/
TYP CHG/
ORD 0001/
OFD 011/
CTX 005/
TBM DLT/
END!
```

25.08 It is also possible to delete trunk busy memory and assign a new attendant to the FDC in one order:

```
A RC:ATT/
TYP NEW/
ORD 0001/
OFD 210/
NFD 011/
CTX 005/
TBM DLT/
END!
```

This removes trunk busy memory from FDC 011 and moves a spare attendant from FDC 210 to FDC 011. The old FDC must be taken out of service before this change can be made. The change is not effective until a RC update is performed.

E. Night Service

25.09 Only the primary attendant console can have the night service feature. When the attendant position is in night service, all calls directed to the attendant will be taken to the proper night service number. To add night service:

```
A RC:ATT/
TYP CHG/
ORD 0001/
OFD 010/
```

NFD 010/
CTX 005/
NHT ADD/
END!

25.10 To remove the night service feature:

A RC:ATT/
TYP CHG/
ORD 0001/
OFD 010/
NFD 010/
CTX 005/
NHT DLT/
END!

F. Conference

25.11 Universal attendant consoles may have keys designated "CONF 1" and "CONF 2." To make both keys operational:

A RC:ATT/
TYP CHG/
ORD 0001/
OFD 012/
NFD 012/
CTX 005/
CNF ADD 1/
CNF ADD 2/
END! (Note)

Note: This change is not effective until a RC update is performed.

25.12 To make "CONF 2" nonoperational:

A RC:ATT/
TYP CHG/
ORD 0001/
OFD 012/
NFD 012/
CTX 005/
CNF DLT 2/
END! (Note)

Note: This change is not effective until a RC update is performed.

G. Change OE of Loop and Port

25.13 To change the OE assigned to a loop and port of a universal attendant console:

A RC:ATT/
TYP CHG/
ORD 0001/
OFD 012/
NFD 012/
OE 01 0232/
IOE 01 0233/
END! (Note)

Note: This change is effective immediately.

H. Verify

25.14 To verify the contents in program store for the universal attendant:

A VY:ATT:0/
OFD 012/
END!

25.15 To verify the contents in RC (or program store if the information has not been changed):

A VY:ATT:1/
OFD 012/
END!

The only information that is effective immediately is a change in the TEN for an attendant loop and port. All other attendant changes are only effective when a RC update is performed. For further information, refer to the appropriate Input/Output Message Manual.

26. CENTREX SIMPLIFIED CONSOLE ATTENDANT (SCA)

26.01 This feature provides simplified console attendant capabilities from 50A or 50B Customer Premises System (CPS) consoles or from standard key telephone sets and CALL DIRECTOR® telephones without requiring data link equipment and with the No. 2/2B ESS providing switching and control. The attendant can use the simplified consoles to assist incoming and outgoing listed directory number (LDN), dial "0," foreign exchange, and wide area telecommunication service (WATS) calls. The No. 2/2B ESS routes these calls to the appropriate attendant line. The attendant may then transfer or route the calls according to the desires of the calling party.

26.02 Implementation of SCA may begin after verification is received that the centrex group

allows SCA and the FSH group data has been defined for the associated SCA. Refer to Part 30 (Verifications) for the proper verification procedure. It must be noted that a given centrex group cannot be defined to contain both SCA and Universal Console Attendants. To specify each of the lines which will be SCA and members of the FSH group:

A RC:L/
ORD 0001/
TYP CHG/
OE 01 2331/
TN 227 3962/
LCC SCO/
CTX 002/
FSH 127/
END!

A. Adding New SCA Group

26.03 To define a new simplified console attendant group, use the following format:

A RC:SCA:1 2/
TYP NEW/
FSH 1/ (Note)
END!

> ***Note:*** On a type NEW, the SCA number is updated within the FSH group using this message. Refer to Part 30 for verification procedure in defining a new SCA block.

B. Modifying the Definition of an Existing Simplified Console Attendant

26.04 There are three characteristics that are unique to a single SCA; the associated FSH group number, the first and last hunt members of the various subgroups of the FSH group, and the scan point number definitions. Each of the three can be modified after the SCA has been established.

Changing the Associated FSH Group

26.05 To change the associated FSH group:

A RC:SCA:2 3/
TYP CHG/
FSH 4/
END!

Changing the Subgroup Specifications

26.06 To change the subgroup specifications:
A RC:SCA:2 3/
TYP CHG/
SBGP 4/
FFHM 2/
FLHM 12/
END!

> ***Note:*** This message will verify that the last hunt number is not less than the first hunt member number for the same subgroup.

Changing the Scan Point Number Data

26.07 To change the scan point number data:

A RC:SCA:4 1/
TYP CHG/
SP 1742 50/
SKEY ADD 2/
END!

C. Specifying SCA Lamp Table Data

26.08 A SCA lamp table can be specified for each centrex group. The length of the table is defined in the centrex group attendant list translator. All of the information within the SCA lamp table is recent changeable. To specify an SCA lamp table:

A RC:LMP:2/
PDA 1121 30/
LAMP 11/
PDB 7405 60/
END!

> ***Note:*** The EF-2, 2B-EF-2 and 2BE3 generic programs will verify that the lamp number does not exceed the length of the SCA lamp table.

D. Changing the Attendant Idle List/Call Waiting Queue for the Centrex Group

26.09 An attendant idle list/call waiting queue may be either added or removed from the centrex group via recent change using a centrex group header message:

A RC:CTX:4/
TYP CHG/
ORD 0001/
NIQ 0/
END!

E. Adding Attendant Lines to SCA

26.10 Single lines can be added to a SCA after defining the SCA. The recent change message is identical to that used when defining a new SCA. The line must be a member of the FSH group associated with the SCA. In the following example, the SCA feature is added to a line at the same time the line becomes a member of a FSH group. It is ***not*** necessary to explicitly identify the SCA to which the line is to be added because the SCA number is contained in the specified FSH group.

```
A RC:L/
ORD 0001/
TYP CHG/
OE 01 1202/
TN 562 2530/
CTX 002/
LCC SCO/
FSH 5 4/
END!
```

F. Removing Attendant Line From SCA

26.11 Removing an attendant line from the SCA can be accomplished by deleting the line.

```
A RC:L/
ORD 0001/
TYP OUT/
TN 562 2530/
OE 00 1202/
END!
```

G. Deleting an Existing Simplified Console Attendant

26.12 To remove all of the data within the SCA block:

```
A RC:SCA:2 1/
TYP OUT/
END!
```

H. Deleting a FSH Group Associated With SCA

26.13 The FSH group that is associated with a SCA can be deleted from a line. However, if the FSH group is not deleted, it is necessary to manually, line by line, remove the lines associated with the SCA and FSH group.

I. Defining a New Simplified Console Attendant Block

26.14 The following input message will also verify that a skeleton SCA block had been created for the centrex group and SCA number, and FSH group has been defined. The length of an SCA block is contained in the second word of the SCA block. Each specified subgroup number (SBGR) is compared with the length of the SCA block to ensure that the data outside the SCA block is not overwritten with illegal subgroup data. For each subgroup, the first hunt member number (FFHM) is verified to be not greater than the last hunt member number (FLHM), and last hunt member number is verified to be not higher than the number of members defined for the FSH group.

26.15 When the new SCA block is created, the SCA number is written into the associated FSH group translation block. If the new SCA number is higher than any currently defined SCAs for the centrex group, then the new SCA number is written into the first word of the centrex group expansion block. To define a new SCA block:

```
A RC:SCA:2 1/
TYP NEW/
FSH 125/
SP 01 2213/
SKEY ADD 1/
BASE/
SBGP 23/
FFHM 141/
FLHM 156/
RPT/
SBGP 25/
FFHM 166/
FLHM 182/
END!
```

27. CENTREX UNIVERSAL ATTENDANT CONSOLE (LISTED DIRECTORY NUMBER)

Note: The universal attendant console line is established and changed ***only*** by the central office.

27.01 The listed directory number (LDN) expansion associated with the universal attendant console can only be accessed by the directory number. It has no OE associated with it. Each centrex group may have one or more LDNs.

A. New Listed Directory Number (LDN)

27.02 To assign a new LDN to a universal attendant console, the TN must be currently unassigned.

```
A RC:L/
ORD 0001/
TYP NEW/
CTX 002/
TN 555 1212/
NSN 555 1313/
LCC ATT/
CIL 12/
END!
```

B. Line Class Code (LCC)

27.03 The line class code contained in translation must define this line as a universal attendant console, but not an attendant. In addition, the line class code will also specify whether this is a PBX-CO or Centrex-CO attendant. The line class code used must ***always*** be that for a universal attendant console and may never be recent changed to a line from an attendant.

C. Test Line Terminal (TLT)

27.04 The test line feature allows a listed directory number to be called before the office cutover. ***This feature is not designed for use after cutover.*** To assign the test line terminal feature to a listed directory number for a universal attendant console:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 001/
TLT ADD/
END!
```

27.05 To remove the test line terminal feature from a listed directory number for a universal attendant console:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 001/
TLT DLT/
END!
```

D. Call Trace (TRC)

27.06 There are two types of call tracing available in the No. 2/2B ESS. The first type of trace identifies calls that are currently in progress on a 1-shot basis, and the other type identifies either all calls to a given line in the office or all calls originating from a line in the office for a given number outside the office. A TTY printout will identify these calls as they occur. Call tracing is covered in detail in Section 232-190-106 (Call Tracing Feature).

27.07 All calls to a given line may be identified by TTY printout as they occur by adding the call tracing feature. To add the call tracing feature to the listed directory number:

```
A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
TRC ADD/
END!
```

27.08 Whenever a call is made to this listed directory number, a TTY message is outputted whether or not the call is completed.

27.09 To trace outgoing calls and calls in progress, refer to Input/Output Message Manuals (IM/OM-2H200).

27.10 To remove the call tracing feature from a centrex line:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 002/
TRC DLT/
END!
```

E. Incoming Call Identification Lamp Number (CIL) (ICI)

27.11 The incoming call identification lamp number is the lamp number that is associated with a call to a particular listed directory number. To change the incoming call identification lamp number:

```
A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 002/
CIL 12/
END!
```

27.12 To remove incoming call identification lamp number (CIL):

A RC:L/
ORD 0001/
TYP CHG/
CTX 001/
TN 562 2530/
CIL/
END!

F. LDN Night Service Number (NSN)

27.13 This service provides an arrangement to route incoming exchange network (DID) or CCSA calls, normally directed to this listed directory number, to a preselected station line within the centrex system when the regular attendant position is placed in night service. The LDN night service number must be assigned and be a centrex station in this customer group. To change the LDN night service number, TN 555 1313 must be assigned and be a centrex station in this customer group:

A RC:L/
ORD 0001/
TYP CHG/
TN 555 1212/
CTX 002/
NSN 555 1313/
END!

27.14 To remove the LDN night service number from the listed directory number, the NSN input line is typed with a blank field:

A RC:L/
ORD 0001/
TYP CHG/
CTX 002/
TN 555 1212/
NSN/
END!

Removal of the night service number should be done with caution. If the attendant position is placed in night service, calls will attempt to complete to the indicated NSN (all zero) and will receive reorder tone.

G. 800 Service

27.15 The 800 Service feature is a terminating feature that provides for billing all calls to a terminating party (called party) instead of the originating party (calling party). There are two types of 800 Service lines to which a customer may subscribe: full business day—where the customer is unrestricted as to the number of incoming calls made per line; and measured time—where the customer pays for the line based on the amount of time the line is used. The assignment is identical except that a separate simulated facilities group is used for the measured time 800 Service. This feature may be implemented for centrex lines or noncentrex lines; however, the 800 Service feature is not applicable for coin lines, party lines, or mobile lines. A simulated facilities group (SFG) number is assigned to the line in order to implement the 800 Service feature. The recent change input message would appear as:

> ***Note:*** Before entering this message, notify Network Maintenance to ensure that the system contains the correct translations.

A RC:L/
ORD 0001/
TYP CHG/
CTX 001/
TN 562 2530/
SFG 5/
END!

27.16 To remove either measured time or full business day 800 Service from a centrex universal attendant console, the simulated facilities group number is set to zero thus causing the 800 Service to become deactivated.

A RC:L/
ORD 0001/
TYP CHG/
CTX 001/
TN 562 2530/
SFG 0/
END!

28. DIGIT INTERPRETER TABLE

28.01 Digit interpreter tables are used to build dialing patterns for each centrex group. These include access codes as well as station numbers (refer to Translation Guide TG-2H, Division 4, Section 1h, for explanation of ESS-2109 Centrex Group Table, and fill out completely before starting RC).

28.02 To add a 16-word digit interpreter table to the dialing tree for a given centrex group a

spare digit interpreter table must have been established by the ODA. In addition, the terminal entry for the digit received must be unassigned (see paragraph 28.04). To add a digit interpreter table to digit access code 17:

A RC:DTB/
TYP NEW/
DGT 17/
CTX 127/
END!

This RC is not effective until a RC update is performed.

28.03 To remove a 16-word digit interpreter table, the terminal entry for the digit received must point to the table to be removed and words 1 through 15 of the table must be zero, ie, all terminal entries must be unassigned. To remove a digit interpreter table from access code 17:

A RC:DTB/
TYP OUT/
CTX 127/
DGT 17/
END!

This RC is not effective until a RC update is performed. Following the RC update, the table may be reassigned to the digit interpreter table for any centrex group.

A. Digit Interpreter Table Attendant Access Terminal Entry

28.04 To RC an attendant access terminal entry in a digit interpreter table, all information for the new terminal entry must be specified. Information not specified is assumed to be zero. Information which ***does not*** change ***must*** still be inputted. Changes to a terminal entry are not effective until a RC update is performed.

28.05 To verify the contents in program store for the terminal entry for digits "11":

A VY:DIT:0/
DGT 11/
CTX 001/
END!

28.06 To verify the contents in RC (or program store if no information is changed) for the terminal entry for digits "11".

A VY:DIT:1/
DGT 11/
CTX 001/
END!

28.07 The following is a list of keywords used in recent changing a terminal entry. (Refer to Translation Guide TG-2H for more details):

- ***ATC r:*** Attendant type code. The range is 1 through 7 (see TG-2H for definitions).
- ***BV zzz:*** Busy verify. Variable field ***zzz*** may be either ADD or DLT.
- ***CD zzz:*** Customer account recording. For this purpose, zzz may be either ADD or DLT.
- ***CHI rrr:*** The charge index. The range is decimal 1 through 127 (see TG-2H for more information).
- ***CIL xxx:*** Incoming call identification code. Variable field xxx should contain the lamp number. Range is 0 through 23.
- ***CTX aaa:*** The centrex group number. The range is decimal 1 through whatever the maximum defined centrex group number is for this office (maximum of 127).
- ***DGE n:*** The number of digits expected. The range is 0 through 7 (refer to TG-2H for more detail).
- ***DGT nnnn:*** The digits which point to the terminal entry to be changed. It may be from 1 to 4 digits in length. The digits allowable are 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, *, #.
- ***DISP n:*** Controlled restriction disposition code. Variable field n should contain the disposition number, range 0 through 6.
- ***DIT:*** A terminal entry into the digit interpreter table.
- DLT r: The number of digits to delete. The range is 0 through 7 (refer to TG-2H for more detail).
- ***DPLR n:*** Destination port lamp rate. Variable field n should contain the rate number. Range is 0 through 3.

- ***DTP ttt:*** The data type presently stored in the terminal entry. The data types allowed for ttt are (Table F).

  UNA—UNAssigned (or all zero).

  UND—UNDefined digit in speed calling range.

  SC—# (12) format if table in Speed Calling range.

  COT—Central Office Trunk access.

  CTX—CenTreX extension.

  TIE—TIE trunk access.

  FX—FX trunk access.

  DPU—Direct PickUp.

  CCSA—Common Controlled Switching Arrangement.

  RI—Route Index for special routine.

  WATS—Wide Area Telecommunication Service.

  SS—Special Service access.

  ATT—ATTendant access.

  MER—Most Economical Routing access.

  DTB—Digit Table Word 0 entry all 1s.

- ***GRP nnn:*** The trunk group in the terminal entry. The range is 70 through the maximum defined for this office (maximum is 511).

- ***LCC ccc:*** Line class code. The LCC is used to specify the screening class and 2-bit code to be used for a MER data type terminal entry. Keyword RAX may be used with LCC to determine the information. If it is not used, it is assumed to be zero. The valid characters for ***ccc*** may be found in Line Class Code Record 2300.

- ***LS zzz:*** Look for Sharp (#). Indicates that the next digit dialed may be a sharp. It may be used to add or delete LS. For this purpose, ***zzz*** may be either ADD or DLT. Either ADD or DLT is requird if this keyword is used.

- ***MN zzz:*** This keyword is used to indicate a Manual tie trunk group. For this purpose, ***zzz*** may be either ADD or DLT. Either ADD or DLT is required if this keyword is used.

- ***NDT ttt:*** The new data type to be stored in the terminal entry (see keyword DTP for types allowed).

- ***NNX nnx:*** The office code to be prefixed (refer to TG-2H for more detail).

- ***OP zzz (OA zzz):*** This keyword indicates when the dialed outpulse access code is to be outpulsed. For this purpose, ***zzz*** may be either ADD or DLT. Either ADD or DLT is required if this keyword is used.

- ***PFX nnn:*** The prefix digits. This may be 1, 2, or 3 decimal digits (refer to TG-2H for more detail).

- ***RAX d (RA):*** Rate area data. This keyword is used with keyword LCC to determine the line class code. If it is not used, it is assumed to be zero. The range is 0 through 7.

- ***RES rrrrrr:*** The restriction code. The range is from 0 to 177777 and must be ***octal.*** CAT code 0 is associated with the rightmost bit and CAT code 15 with the leftmost bit.

- ***RTI rrr (RI rrr):*** Route index. This is the route index used whenever special routing is to be employed when the given terminal entry is reached. A route index must be specified; no default value is assumed.

- ***SAT zzz:*** Satellite transfer. For this purpose, zzz may be either ADD or DLT.

- ***SBGP xx:*** Subset of a flexible station hunting group. Designation of a BHT through LHT is obtained through use of this keyword. Variable field xx should contain the subgroup number. Range is 1 through 31.

- ***SDT zzz:*** This keyword indicates whether or not second dial tone should be returned to the

TABLE F

DIGIT INTERPRETER TABLE
NEW DATA TYPE

KEYWORDS	UNA	UND	SC	COT	CTX	TIE OR FX	DPU	CCS	RI	WAT	SS	ATT	MER	DTB
CTX	R	R	R	R	R	R	R	R	R	R	R	R	R	R
DTP	R	R	R	R	R	R	R	R	R	R	R	R	R	R
NDT	R	R	R	R	R	R	R	R	R	R	R	R	R	R
DGT	R	R	R	R	R	R	R	R	R	R	R	R	R	R
RES				R	R	R	R	R	R	R	R	R	R	
SFG				A						R				
SDT			A	A		A		A		A				
OP						A		A						
PFX					A	A	A	A						
NNX					R		R							
DGE					R	R	R				B			
LS					A		A							
GRP						A		A			B			
MN						A								
TTT						A								
BGP							A							
TCG								A						
SO								A	R					
RTI														
SSC											R			
ATC												R		
LCC													R	
RAX													A	
DLT					A	A		A						
CHI					A	A		A						
BV											O			
DISP											A			
CIL												A		
SBGP												A		
DPLR												A		
SPRL												A		
CD				A		A		A		A				
SAT									A					
SSR				A	A	A	A	A	A	A	A	A	A	
END	A	A	A	A	A	A	A	A	A	A	A	A	A	A

LEGEND:
R = The keyword is required.
A = The keyword is allowed.
blank = The keyword is not allowed.
B = The keyword is allowed for 2BE3.
O = The keyword is allowed except for 2BE3.

calling party after the specified access code is dialed. For this purpose, ***zzz*** may be either ADD or DLT. Either ADD or DLT is required if this keyword is used.

- ***SFG nnn:*** The simulated facilities group number. The range is 1 through whatever the maximum defined simulated facilities group number is for this office (maximum is 127).

- ***SO x:*** Subtype CCSA only. Variable field (x) may be 4 for 7- or 10-digit dialing or 5 for 7-digit dialing only.

- ***SPLR n:*** Source port lamp rate. Variable field n should contain the rate number. Range is 0 through 3.

- ***SSC nn:*** Special service code. The range is decimal 1 through 15 (see TG-2H for definitions).

- ***SSR n:*** Special service register. Variable field n is for the register number.

- ***TCG zzz:*** Two common controlled switching arrangement (CCSA) access groups. If this centrex group has two CCSA groups (both 7 and 7/10 digit dialing), the information for the 7-digit only group is contained in the terminal entry. Information for the 7/10 group is contained in the centrex group information. For this purpose, ***zzz*** may be either ADD or DLT. Either ADD or DLT is required if this keyword is used.

- ***TTT r:*** Tie trunk group. The r field is a 1-digit octal number (see TG-2H for definitions).

28.08 An example is not given for each new data type (NDT). However, Table F is provided, which specifies all keywords which are allowed for each NDT. A change to a terminal entry in the digit interpreter table is not effective until a recent change update is performed.

28.09 To change the terminal entry for digits "723" from a CCSA access code to unassigned:

```
A RC:DIT/
DGT 723/
CTX 001/
DTP CCS/
NDT UNA/
END!
```

If all terminal entries for digits "723" are now unassigned, an error message is outputted to indicate that this 16-word digit interpreter table may be removed (see paragraph 28.03).

28.10 The data type (DTP) specified is the DTP from recent change if the terminal entry was changed. To change the terminal entry for digit "9" from unassigned to central office trunk access:

```
A RC:DIT/
DGT 9/
CTX 001/
DTP UNA/
NDT COT/
RES 177776/
SFG 2/
SDT ADD/
END!
```

The above message will make this code accessible to all centrex extensions in the group which have a CAT code other than 0, assign simulated facilities group 2, and return second dial tone. This may require a change in the centrex group data for the CO access code.

28.11 To change the terminal entry for digit "2" from central office trunk access to centrex or PBX-CO extension:

```
A RC:DIT/
DGT 2/
CTX 001/
DTP COT/
NDT CTX/
PFX 1/
NNX 555/
DGE 3/
LS ADD/
END!
```

The above message will prefix digits "555 1" onto the 3-digit extension received and since digit "2" is within the range of speed calling (2 through 7), the look for sharp is set indicating that the next digit may be a sharp (#). If the sharp did follow, this would be a 1-digit speed call code.

28.12 With the EF-2 and later generic programs, the attendant access terminal entry contains

a designation port lamp rate (DPLR), a source port lamp rate (SPLR), an incoming call indicator lamp code (CIL) or simplified attendant console subgroup number, an attendant type code (ATC), and a restriction code (RES). Refer to paragraph 28.23 for an example of the application involving the use of these keywords.

28.13 The digit interpreter table also contains a special routing entry. The special routing entry, in turn, contains a satellite transfer bit (SAT), a route index (RTI), and a restriction code (RES). To RC this data:

A RC:DIT/
CTX 002/
DGT 109/
DTP RI/
NDT RI/
SAT ADD/
RTI 59/
RES 177777/
END!

28.14 Provisions are made in EF-2 and later generic programs to change the route index by creating a satellite transfer route index. This message appears in paragraph 28.25.

B. Flexible Centrex Register Assignment

28.15 The flexible centrex register assignment feature allows special service assignment to a centrex group digit interpreter table attendant access terminal entry. The assignment of traffic registers to each centrex group in sizes of 0, 1, 2, or 3 registers is provided by the use of keyword SSR:

A RC:DIT/
CTX 001/
DGT 12/
NDT SS/
DTP SS/
SSC 13/ (Note 1)
GRP 72/ (Note 2)
RES 177777/
SSR 2/ (Note 3)
END!

Note 1: Refer to the TG-2H for definition.

Note 2: The trunk group is the one in the terminal entry. The range is 70 through the maximum defined for the office.

Note 3: The unique part of this input message is keyword SSR. SSR has a range of 0 through 3, where:

0 = No special service register assigned

1 = Assigned register one

2 = Assigned register two

3 = Assigned register three.

C. Station 6-Port Conference

28.16 This feature allows a centrex group station to have up to six parties on a line at one time. To obtain this feature a change in the centrex group digit interpreter table is required.

A RC:DIT/
CTX 001/
DGT 12/
DTP SS/
NDT SS/
SSR 2/
SSC 13/ (Note 1)
GRP 269/
RES 177777/
END! (Note 2)

Note 1: Refer to TG-2H.

Note 2: This change is for a special service terminal entry where SSC is the special service code and GRP is the 6-port trunk group.

D. Operational or Busy Verify of Centrex Trunks

28.17 This feature allows a centrex station to verify whether a particular trunk group member is busy or operational. This feature is implemented by a change to the centrex group digit interpreter table:

A RC:DIT/
CTX 001/
DGT 109/
DTP SS/
NDT SS/
BV ADD/
DGE 5/
SSR 1/
RES 177777/
SSC 12/ (Note 1)
END! (Note 2)

Note 1: Refer to TG-2H.

Note 2: This input message is to centrex group 1s digit 109, special service (SS) terminal entry. SSC 12 is the special service code, BV is the busy verify bit and DGE is the number of digits expected. When BV is not specified operational verify is used.

E. Single Digit Dialing

28.18 Single digit dialing feature allows a centrex station user to reach other centrex stations by dialing a single digit. The use of variable length codes also allows a station user to dial a mixture of 2-, 3-, or 4-digit access codes to reach different facilities. To add this feature, the digit interpreter table and the directed pickup extension terminal entries must be changed. This RC message would appear as:

A RC:DIT/
CTX 001/
DGT 3/
NDT DPU/
DTP DPU/
LS ADD/
SSR 2/
DGE 3/
NNX 255/
PFX 311/
BP ADD/
END!

28.19 Following this message, the centrex extension terminal entries would require changing. This format would appear as:

A RC:DIT/
CTX 001/
DGT 3/
NDT CTX/
DTP CTX/
LS ADD/
SSR 2/
DGE 3/
NNX 255/
PFX 311/
BP ADD/
END!

F. CAT Code Screening on Centrex Station (and Directed Call Pickup) Dialed Calls

28.20 CAT code screening provides the ability to prevent certain centrex stations from dialing certain codes within the centrex customer dialing plan. The CAT code screening in the EF-2 and later generic programs includes centrex station-to-station dialed calls and centrex station dialed directed call pickup calls. To implement this procedure would require changing the digit interpreter table. The RC message to change the directed pickup extension terminal entries in the digit interpreter table would appear as:

A RC:DIT/
CTX 001/
DGT 3/
NDT DPU/
DTP DPU/
LS ADD/
SSR 2/
DGE 3/
NNX 255/
PFX 204/
RES 177777/
END!

28.21 Following this message, the centrex extension terminal entries would require changing. This format would appear as:

A RC:DIT/
CTX 001/
DGT 3/
NDT CTX/
LS ADD/
SSR 2/
DGE 3/
NNX 255/
PFX 311/
RES 177777/
END!

G. Satellite Attendant Transfer Via Tie Trunk

28.22 Satellite attendant transfer via tie trunk allows a call to route to an attendant at the centrex main-satellite, and provides the ability to concentrate all attendant facilities at the main location. The routing is accomplished via a directory number which identifies an FX line that terminates as an incoming manual tie trunk at the main location or via an outgoing tie trunk group that terminates as an incoming tie trunk at the main location. The satellite attendant transfer via tie trunk feature allows stations at the main location and satellite locations to have access to the attendants on a flash or flash

and dial attendant access code basis from any satellite centrex station having the call transfer—attendant or call transfer—individual features.

28.23 To implement this feature requires changes to the centrex group, digit interpreter tables, attendant access terminal entry and special routing terminal entry. The information relating to changing the centrex group appears in paragraph 19.66. Changing the digit interpreter table, attendant access terminal entry and special routing terminal entry appears below.

28.24 The change in the ***centrex group digit interpreter table*** involves changing the special routing and attendant access terminal entry. Centrex lines with call transfer—individual (TW2) and call transfer—individual—all calls (E2H) service require the use of the attendant access entry.

28.25 The ***attendant access entry*** is routed to a special routing entry that checks the satellite bit to determine if the special routing entry route index or the satellite transfer route index in the centrex group was set. The attendant access entry then contains a destination port lamp rate (DPLR), a source port lamp rate (SPLR), an incoming call indicator (CIL), or simplified attendant console subgroup number, an attendant type code (ATC), and a restriction code (RES). To change the centrex group digit interpreter table, the RC message would follow this format:

```
A RC:DIT/
CTX 1/
DGT 0/
NDT ATT/
DPT ATT/
SPLR 3/
DPLR 2/
ATC 1/
CIL 13/
RES 177777/
END!
```

28.26 The ***special routing entry*** now contains a satellite transfer bit, a route index, and a restriction code. To add the satellite transfer feature:

```
A RC:DIT/
CTX 1/
DGT 109/
DTP RI/
NDT RI/
SAT ADD/
RTI 59/
RES 177777/
END!
```

28.27 The ***route index table is changed*** to create a satellite transfer route index (STRI) by using the following RC input message:

```
A RC:RI:58/
WD 0 17770756/
WD 1 00260000/
WD 2 00053042/
WD 3 00050540/
END!
```

29. THE CHANGING, PRINTING, AND PUNCHING OF THE CALL FORWARD LIST

29.01 Two methods exist for entering Call Forwarding recent changes. The first method described below is for use with EF-2 and later generics. The second method is for use in retrofitting an office from LO-1 or EF-1 to EF-2 and later generics.

METHODS FOR EF-2 AND LATER GENERICS

A. Adding to or Deleting From the Call Forward List

29.02 A RC of a call forward list would have the following general format:

To add to the list

```
A RC:CF/
TN nnx abcd/
CFN x xxx xxx xxx abcd/ (Note)
END!
```

To delete from the list

```
A RC:CF/
TN nnx abcd
END!
```

> ***Note:*** For 2BE3, the CFN keyword is as follows:

```
CFN xxxx xxxx xxxx xxxx/.
```

For the keyword CFN—to enter a #, type a -, and to enter a *, type a +.

B. Printing the Call Forward List

29.03 To print the call forward list use the following message:

A CF:PR!

29.04 The response will have the form of the example below for each entry in the call forward list. All entries on the list will print out together.

AR CF:PR
TN 562 2516
CFN 9 301 570 2531
TN 562 2533
CFN 522 2494
.
.
.
END

C. Punching the Call Forward List

29.05 To punch the call forward list use the following:

A CF:PUN!

29.06 The response will have the form of the example below for each entry in the call forward list. All entries on the list will punch out together.

A RC:CF/
TN 562 2516/
CFN 9 301 570 2531!
A RC:CF/
TN 562 2533/
CFN 562 2494!
.
.
.
A RC:CF/
END

METHODS FOR RETROFITTING FROM LO-1 OR EF-1 TO EF-2 AND LATER GENERICS

A. Adding a Directory Number to the List

29.07 To add a directory number to the call forward list, use the following:

A CF:ENT/
nnx abcd pnpa nnx abcd/ *
9999!
* Repeated for as many lines as necessary.

nnx abcd = the forwarded line.

p npa nnx abcd = the number to which it is forwarded. The "p" and/or the "npa" digits may be omitted if they are not present in the "forward to" number.

B. Deleting a Directory Number From the List

29.08 To remove a directory number from the call forwarding list, use the following:

A CF:RMV:nn gcsl nnx abcd!

nn = the network number (00-14).

g = the concentrator group number (0-7).

c = the concentrator number (0-7).

s = the switch number (0-7).

l = the switch level number (0-3).

nnx abcd = the telephone number.

30. VERIFICATIONS

VERIFICATION REQUEST MESSAGE—INDIVIDUAL LINE

30.01 All verify procedures given in this section are allowed from all TTY channels. The RC procedures are allowed from channels 0, 1, and 3 only.

30.02 The following verification request messages can be used to verify line translation information. Reference should be made to Input Message Manual (IM-2H200) and Output Message Manual (OM-2H200) for additional information.

A. Verify Telephone Number Information

30.03 Use this format.

A VY:L/
TN nnx abcd/
END!

nnx abcd = the telephone number.

30.04 The system response should be PF (printout follows) and an output message with the information. Reference should be made to paragraph 3.37 and OM-2H200 for more information.

30.05 If the system response is NG, indicating that the verification request was rejected, see paragraph 3.11 for more information.

30.06 If the system response is RL (repeat later), the verification request should be repeated at a later time.

30.07 The following is an example of how an input verification request message, system response, and output message may appear on the service order TTY. The verification is for telephone number 554 9382 which has 1FR service, TOUCH-TONE service, and is associated with originating equipment number 00 3371.

A VY:L/
TN 554 9382/
END! PF (Note 1)

47 AR VY L
TN 554 9382
OE 00 3371
BTN 554 9382
LCC 1FR (Note 2)
RAX 0
TTC
END!

Note 1: PF (printout follows) is the system response and is not part of the input message. An output message will follow.

Note 2: In this example and throughout this section, the LCC for your office must be used. Refer to local LCC Table Form 2306 (Fig. 12).

B. Verify Originating Equipment Number Information

30.08 Use this format:

A VY:L/
OE nn gcsl/
END!

nn gcsl = Originating equipment number.

The system response should be PF and an output message with the information will follow.

The information returned in the output message is the trunk (or service circuit) group and member number and all information that would have been returned if the trunk (or service circuit) had been verified (refer to IM- and OM-2H200 for more details).

C. Verify Speed Calling List Information

30.09 Use one of the following formats:

A VY:SC/
TN nnx abcd/
END!

nnx abcd = Telephone number.

or

A VY:SC/
OE nn gcsl/
END!

nn gcsl = Terminal equipment number.

or

A VY:SC/
CTX 0/
LIST nnn x/
END!

x = A 1 will indicate 6-code speed calling, while a 2 will indicate a 30-code speed calling list.

The system response should be PF and an output message with the information.

VERIFICATION REQUEST MESSAGES—MULTILINE HUNTING GROUP

30.10 The following verification request messages can be used to verify MLHG information. Reference should be made to Input Message Manual and Output Message Manual for additional information.

A. Verify Entire MLHG

30.11 Use the following format:

A VY:MLH:aaa!

aaa = MLHG number.

The system response should be a PF and an output message with the information.

B. Verify Specific Member of MLHG

30.12 Verification of a specific member of an MLHG may be performed by group and member number by use of the following format:

A VY:MLH:aaa bbb!

aaa = MLHG group number

bbb = Member number.

The system response should be a PF and an output message with the information.

30.13 If the OE is known (eg, 01 0233), it may be verified by using the line verification message.

A VY:L/
OE 01 0233/
END!

The system response should be a PF and an output message with the information.

30.14 If the member has the option TN and it is known (eg, 555 2883), it may be verified by using the line verification message:

A VY:L/
TN 555 2883/
END!

The system response should be a PF and an output message with the information.

C. Verify Hunt Group Data

30.15 To verify a specific hunt group within an MLHG (eg, hunt group with TN 555 1212), use the input message:

A VY:L/
TN 555 1212/
END!

The system response should be a PF and an output message with the information.

D. Verification Request Message—Centrex Group

30.16 To verify a centrex group the group number and the indicator to request a verify from recent change are required. The input message would appear as:

A VY:CTX:001 b!

b = 0, return information in program store.

b = 1, return information in call store (RC) or information from program store if none in RC.

This will verify all of the group data for centrex group 1.

VERIFICATION MESSAGES—CUSTOMER BILLING

A. Verify All OEs Sharing the Same Billing Number

30.17 This message is used to find and print out all originating equipment numbers associated with the specified billing number.

A VY:BTN/
BTN nnx abcd/
END!

nnx abcd = Billing number.

> ***Note:*** Refer to the Input Message Manual (IM-2H200-04 or IM-2H200-05) for more information about this message.

The system response should be a PF and an output message with the information.

B. Verify All OEs Sharing the Same Message Register

30.18 This message is used to find and print out all terminal equipment numbers associated with the specified message register.

A VY:MSG/
DPM cxzy br/
END!

cxzy br = Message register enable number.

> ***Note:*** Refer to the Input Message Manual IM-2H200 for more information about this message.

The system response should be a PF and an output message with the information.

VERIFICATION MESSAGES—MISCELLANEOUS

A. Verify All OEs Sharing the Same Sleeve Lead

30.19 This message is used to find and print out all originating equipment numbers associated with the specified sleeve lead.

A VY:SLL/
DP cxzy br/
END!

cxzy br = Sleeve enable number.

> ***Note:*** Refer to the Input Message Manual IM-2H200 for more information about this message.

The system response is a PF and an output message with the information.

B. Verification of All OEs Sharing the Same Open Switching Interval Protection

30.20 To verify an open switching interval protection feature the input message would appear as:

A VY:OSI/
DPP cxzy b/
END!

cxzy br = Open switch interval protection number.

> ***Note:*** Refer to the Input Message Manual IM-2H200 for more information about this message.

C. Verify Centrex Station Lines Sharing Speed Call List

30.21 Any number of centrex station lines may share a given 1-digit (6-code) or 2-digit (30-code) speed call list. The only restriction is that the station be part of the same centrex group.

30.22 To verify which stations have access to 1-digit speed call list 12 for centrex group 7:

A VY:SCL/
SC 12 1/
CTX 007/
END!

> ***Note:*** The output message will be SC 1 12.

All station lines (telephone numbers) which have access to 1-digit speed call list 12 will be printed out. If 0 inputted for the list number, all stations for the given centrex group which have 1-digit speed calling will be printed out with their respective 1-digit speed call list number.

30.23 To verify which stations or extensions have access to 2-digit speed call list 2 for centrex group 7:

A VY:SCL/
SC 3 2/
CTX 007/
END!

> ***Note:*** The output message will list SC 2 3.

All stations which have access to 2-digit speed call list 3 will have their telephone numbers printed out. If 0 is inputted to the list number, all stations for the given centrex group which have 2-digit speed calling will be printed out with their respective 2-digit speed call list number.

30.24 To verify which stations or extensions have access to either 1-digit speed call list 12 or 2-digit speed call list 3:

A VY:SCL/
CTX 007/
SC 12 1/
SC 3 2/
END!

> ***Note:*** The output message will list SC 1 12 and SC 2 3.

All station lines which have access to 1-digit speed call list 12 or to 2-digit speed call list 3 will have their telephone numbers printed out.

Verification of Station Lines in a Call Pickup Group

30.25 Any number of centrex extensions may be part of a given call pickup group. To verify which extensions belong to a given group:

A VY:CPU/
CTX 002/
CPG 5/
END!

All extensions which have access to this call pickup group will have their telephone numbers printed out.

If 0 is inputted for the call pickup group, all extensions for the given centrex group which do ***not*** have the call pickup feature are printed out.

D. Blank Number Treatment Verification

30.26 The blank number treatment given to an unassigned TN may be verified where 555 1212 is a TN within the block of interest:

A VY:VTN:555 1212!

The above message will verify the treatment given to the block of 100 TNs from 555 1200 to 555 1299.

30.27 The response is:

AR VY:VTN:555 1212 e yyy

where:

e = 0 Noncentrex calls to this block of 100 TNs are routed to RTI 14. Centrex calls are routed to the dialing error route index which is located in the centrex group translator.

e = 1 yyy = Route Index used for vacant code treatment.

e = 2 yyy = Centrex group used for attendant intercept.

30.28 To change the vacant code treatment given to a block of 100 TNs:

A RC:VTN:555 1212 e yyy!

where:

e = 0 delete entry

e = 1 yyy = Route Index

e = 2 yyy = Centrex group for attendant intercept.

E. Verification of Centrex Digit Interpreter Table

30.29 To verify a centrex digit interpreter table, use input message:

A VY:DIT:1/
CTX 001/
DGT 3/ (Note)
END!

Note: The variable field represents the digit that points to the terminal entry to be verified. It may be from 1 to 4 digits in length. The allowable digits are 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0.

The 1 in the A VY DIT 1/ message indicates a verify from RC.

F. Verification of a Simplified Console Attendant Block

30.30 To verify a simplified console attendant (SCA) block, a new message was created for EF-2 and 2B EF-2 generic programs:

A VY:SCA:007 014 0!

where 007 is the group number, 014 is the SCA number, and 0 means that the data is to be from program store.

G. Verification of Simplified Console Attendant Lamp Data for a Centrex Group

30.31 To verify the data contained in the SCA lamp table for a centrex group would require the use of input message:

A VY:LMP:007 0!

where 007 is the centrex group number and 0 means the data to be from program store. A 1 means the data is to be from RC.

H. Verification of Flexible Station Hunt (FSH) Member

30.32 To verify a FSH member prior to any RC activities:

A VY:FHM:1 7!

This request will verify member 7 of FSH group 1.

If the member number is ***not*** known, but the TN or OE number is known, one of the following requests may be used:

A VY:L/
TN 255 2105/
END!

or

A VY:L/
OE 01 0223/
END!

Each of these two input messages will verify all the features on the line including its FHG group and member number and all other FSH features associated with that line.

I. Verification of Flexible Station Hunt (FSH) List

30.33 To verify a FSH list:

A VY:FHL: 123!

J. Verification of a Flexible Station Hunt (FSH) Group

30.34 To verify a FSH group:

A VY:FHG: 123 3!

This message will verify the group data for FSH group 123.

K. Verification of a Flexible Station Hunt (FSH) Group Preferential Hunt List

30.35 Preferential lists are assigned to a FSH group which allows preferential hunting. To verify the contents of a particular preferential list, use the following message:

A VY:PRF: 2 15!

L. Verification of a Country Access Code (CAC) for International Direct Distance Dialing

30.36 To verify a Country Access Code (CAC) for international direct distance dialing, the following RC message is used:

A VY:CAC:321!

VERIFICATION MESSAGE APPLICABLE TO THE 2BE3 AND LATER GENERICS

A. Aborting Administrative Verify Messages in Progress

30.37 The following message will abort any RC or verify message in progress that could be causing the RL response on other administrative messages.

30.38 To stop any administrative verify message in progress, use the following message:

A VY:ABT!

B. Verification of RSS Channel Data

30.39 To verify RSS channel data found in the XCRENVEN table or the originating subtranslator:

A VY:CHL/
OE nn gcsl/
END!

or

A VY:CHL
CREN rrmt ccsl/
END!

C. Verification of SPUC/DL Group and Member Data

30.40 To verify the SPUC/DL group and member data:

A VY:DLG:ggg!

or

A VY:DLG:ggg mm!

D. Verification of Entry Types

30.41 In most cases, this message will start a line verify (AR VY L), a channel verify (AR VY CHL), a multiline hunt line verify (AR VY MLH), or a trunk member verify (AR VY TRK or AR VY SUC). All other cases of originating subtranslator entry types will use this message output header (AR VY OE).

30.42 To verify all entry types found in the originating subtranslator:

A VY:OE/
OE nn gcsl/
END!

or

A VY:OE/
VEN 00000/
END!

or

A VY:OE/
ROE rrmt ccsl/
END!

E. Verification of Data From the SPUC/DL Message Header Table

30.43 To verify data from the SPUC/DL message header table:

A VY:MHT:aa tt!

F. Verification of RSS Scan Point Table

30.44 To verify an entry in an RSS scan point table:

A VY:RSP:rr mbpp!

G. Verification of RSS Common Block Data

30.45 To verify an RSS common blocks data:

A VY:RSS:rr!

31. CENTREX TELCO INSERTED CHANGES TO SPEED CALLING LISTS

31.01 Examples are shown below of service orders to assign a telephone number to a code on a customer speed calling list, or to change the number associated with a code.

A. Building 1-Digit Speed Calling Numbers

31.02 The speed calling 1-digit list must be built one number at a time against OE associated with any member number. The DGS is the telephone number which is being assigned and may be up to 14 (16 in 2BE3) digits in length. In the following example, one number of the list is built against OE 00 3060.

A RC:SC:1/
ORD 0001/
ACC 2/
OE 00 3060/ (Note)
DGS 1 741 0394/
END!

> ***Note:*** Keywords LIST and CTX may be used in lieu of keyword OE. LIST is the centrex list of the speed call change to be entered. CTX is the centrex group whose list is being changed.

B. Building 2-Digit Speed Calling Numbers

31.03 Calling 2-digit list must be built one number at a time against OE associated with any member number. The DGS is the telephone number which is being assigned and may be up to 14 (16 in 2BE3) digits in length. In the following example, one number is built against OE 01 0232.

A RC:SC:2/
ORD 0001/
ACC 20/
DGS 9 201 555 1212/
OE 01 0232/ (Note)
END!

> ***Note:*** Keywords LIST and CTX may be used in lieu of keyword OE. Keyword LIST is the centrex list of the speed call change to be entered. Keyword CTX is the centrex group whose list is being changed.

31.04 If a terminal number (DGS) is specified, a hunting subgroup may also be defined by specifying BHT and LHT. If BHT or LHT is not specified on a TYP NEW, the member number will be automatically used.

31.05 If the office is equipped with range extension, caution must be exercised in selecting the OE to be used. If a line requires range extension, it ***must*** be assigned to an OE associated with a network concentrator equipped for range extension. If the line does not require range extension, it ***must not*** be assigned to an OE associated with a range extended concentrator.

32. GLOSSARY

32.01 The following is a glossary defining terms used in this RC document. A listing of keywords and their definitions is found in paragraph 4.34. For a more complete listing of terms, see Section 232-190-003.

AFO-Attendant Call Forward Outside the Centrex Group: Attendant call forward outside the centrex group allows any station or attendant to call forward outside the centrex group.

AIOD-Automatic Identified Outward Dialing: A method of automatically sending this identity of a calling station over a data link from a PBX to the central office when the calling station places a dial "9" call. This data is used if and when the call is billed.

AOSL-Automatic Line Insulation Test: Test program designed to detect service effecting faults

and future installation faults on lines as well as faulty line ferrods and ferreed cutoff contacts automatically.

AOUT-Attendant Outward Restriction: With this feature the attendant can restrict all outward directed calls from a single station.

ATF-Attendant Speed Calling Feature: This feature allows station users to assign abbreviated codes to certain called numbers. This permits the dialing of selected numbers using fewer digits than normally required.

ATOT-Attendant Total Restriction: This feature allows the attendant to restrict certain incoming and outgoing calls.

BSY-Busy Tone Feature: Either BSY ADD/ or BSY DLT/ is used. BSY/ADD causes busy tone to be returned when all mobile radio channels are busy. BSY/DLT causes reorder when all mobile radio channels are busy.

BTN-Bill to Number Feature: The telephone number to which the customer services are billed is generally the listed (directory) number. If the customer requests that the service be billed to another telephone number, the BTN keyword will be used.

CAC-International Direct Distance Dialing: This feature allows a customer to direct distance dial calls to locations outside of the United States and Canada. With this feature the customer will be able to make overseas station-to-station, person-to-person, and operator-assisted calls.

CDAR-Customer Dialed Account Recording: This feature allows a centrex customer to add a personal account number to the telephone bill for any AMA recorded call. The feature is available to any centrex line, attendant, or incoming tie trunk.

CFB-Call Forwarding—Busy Line Feature: This feature automatically routes incoming DID, CCSA, or TIE line calls to an attendant or another line when the called station is busy.

CFD-Call Forwarding—Don't Answer Feature: This feature automatically routes incoming DID, CCSA, or TIE line calls to an attendant or another line when the called station does not answer within a minimum of 11 seconds. This time may be extended in increments of 3.2 seconds to approximately 1 minute.

CFBN (CFN)-Call Forwarding Number Feature: This feature allows a line which does not have the call forwarding—busy line feature to be forwarded to another centrex station. Only one CFBN can be specified for each station.

CFDA (CFA)-Call Forwarding—Don't Answer—All Calls Feature: The call forwarding—don't answer— all calls feature allows all calls to be forwarded to an attendant or another line in case the called station does not answer. The basic period of time for call forwarding is 11 seconds. This time may be extended in increments of 3.2 seconds to approximately 1 minute.

CFO-Call Forwarding Outside the Centrex Group: This feature allows any station or attendant to call forward outside the centrex group.

CFV-Call Forwarding Variable Feature: Call forwarding allows a customer to have all incoming calls routed to another telephone number. To use this feature, the customer dials the access code 72. Upon hearing second dial tone, the customer dials the 7-digit or 10-digit number to which calls are to be transferred if the trunk group is marked to indicate that call forwarding is allowed. The number dialed will then be rung. If it is answered, the forwarding is established. If the number is not answered, the forwarding will not be established unless the customer repeats the dialing procedures within 2 minutes of the first procedure. The customer will hear two bursts of tone, and the number dialed will again be rung. This establishes the forwarding even though the number dialed is not answered. To cancel the call forwarding, the customer must dial the access code 73 and wait for a 4-second time-out. A # symbol may be substituted for the 4-second time-out on 12-button TOUCH-TONE telephone sets. While forwarding is in effect, calls may be originated from the line normally, but all incoming calls are routed to the line which is forwarded. Party lines, manual lines, coin lines, and measured rate lines cannot have the call forwarding feature.

CH 1 and CH 2-Customer Dialed Changes to 1-Digit and 2-Digit Speed Calling: The speed calling change feature allows a customer to dial changes into the 1-digit and 2-digit speed calling lists. The range of the 1-digit code is 2 through 9. The range of the 2-digit code is 20 through 49.

CHD-Call Hold Feature: The call hold feature allows a station user to put any call in progress on hold by flashing the switchhook and then dialing a hold code, thus freeing the station line to originate another call or to return to a previously held call. Only one call per station line may be held at a time.

COFL-Allow Calls On Forwarded Lines: This feature will allow lines in the centrex group that are call forwarded to originate calls.

CLO-Customer Line Overflow Counter Number Feature: This feature assigns an overflow counter to a line to determine the number of incoming calls that receive a busy tone. This measurement may be assigned to any line, except those which have the series completion feature. The assignment of a customer line to an overflow register becomes effective immediately. There are four possible counters (0 through 3) which may be assigned by the CLO feature.

CMP-Camp-on Feature: This feature allows any call which the attendant attempts to complete to a busy station line within the centrex system to be held waiting until the called station becomes idle. The called station is then automatically rung and connected to the waiting call.

COB-Complaint Observing Feature: This feature provides detailed information regarding all charges made for toll calls from a line, to be billed on an AMA tape.

CPG (CPU)-Call Pick Up Feature: This feature allows a station user to answer any calls directed to another station within the user pickup group by dialing a special pickup code.

CSL 1-Customer Dialed Changes to Speed Calling 1-Digit List Feature: The speed calling change feature allows a customer to directly dial changes into the speed calling lists. The range of the 1-digit code is 2 through 9.

CSL 2-Customer Dialed Changes to Speed Calling 2-Digit List Feature: The range of the 2-digit code is 20 through 49. The customer may have the ability to alter both 1-digit speed calling lists and 2-digit speed calling lists.

CTX: Centrex is a centralized exchange service; a type of service similar to private branch exchange (PBX) service where the stations have direct inward dialing (DID) and station identification on direct outward dialing (DOD) by AIOD or IOD or operator tickets. Centrex may be provided on either of two bases, depending on the economy of providing the service:

- ***Centrex-CU:*** Where the equipment is located on the customer premises. The equipment located on the customer premises must not be a No. 2/2B ESS.

- ***Centrex-CO:*** Where the centrex calls are switched by the local central office. The stations are connected with this equipment by individual cable pairs. This equipment may serve more than one customer, but independence is provided for each system. The console or attendant position is usually located on the customer premises.

CWT-Call Waiting Transfer Feature: The call waiting feature allows a customer to be notified of a waiting call by a burst of tone while engaged in a call. The feature also allows the customer to hold the existing connection to answer the new call. If the customer takes no action, the tone is repeated once 10 seconds later.

CWTA-Call Waiting Transfer—All Calls: This feature allows a busy centrex station with the feature to receive a call waiting tone when another call is directed toward the station. However, the line is not allowed to have CWTA unless it also has call waiting terminating (CWT).

CWOR-Call Waiting Originating: This feature allows a centrex station to direct a call waiting tone towards a busy station in the same centrex group.

DGT-Single Digit Dialing: Single digit dialing is a centrex station feature that allows a customer to reach another station customer by dialing a single digit. The use of variable length access codes also allows a customer station to dial a combination of 2, 3 or 4 digit access codes to reach different facilities or services.

DMA-Directed Pickup Feature: The directed call pickup feature allows a station user to answer calls directed to a specific station line in a centrex system by dialing the unique answer code which is defined by the digit interpreter table of the station whose calls are to be answered.

DPP-Open Switching Interval Protection: This features eliminates the open to the central office battery during a switching sequence.

DPU-Directed Pickup Feature: The directed call pickup feature allows a station user to answer calls directed to a specific station line in a centrex system by dialing the unique answer code which is defined by the digit interpreter table of the station whose calls are to be answered.

EAB-Call Hold Feature: The call hold feature allows a station user to put any call in progress on hold by flashing the switchhook and then dialing a hold code, thus freeing the line for the purpose of originating another call or returning to a previously held call. Only one call per station line may be held at a time.

ESC-Threeway Calling Feature: This feature allows the customer to add another party to an established call.

ESF (SC-2)-Speed Calling 2-Digit Feature—ESL Speed Calling 1 Digit Feature: These features allow the customer to assign abbreviated codes (1-digit or 2-digit) to certain called numbers. This permits the dialing of selected numbers using fewer digits than normally required. These features are available to both rotary dial and TOUCH-TONE telephone customers and may be assigned simultaneously to a customer.

ESM (CFV)-Call Forwarding—Variable Feature: Call forwarding allows a customer to have all incoming calls routed to another telephone number. To use this feature, the customer dials the access code 72. Upon hearing second dial tone, the customer dials the 7-digit or 10-digit number to which calls are to be transferred if the trunk group is marked to indicate that call forwarding is allowed. The number dialed will then be rung. If it is answered, the forwarding is established. If the number is not answered, the forwarding will not be established unless the customer repeats the dialing procedures within 2 minutes of the first procedure. The customer will hear two bursts of tone, and the number dialed will again be rung. This establishes the forwarding even though the number dialed is not answered. To cancel the call forwarding, the customer must dial the access code 73 and wait for a 4-second time-out. A # symbol may be substituted for the 4-second time-out on 12-button TOUCH-TONE telephone sets. While forwarding is in effect, calls may be originated from the line normally, but all incoming calls are routed to the line which is forwarded. Party lines, manual lines, coin lines, and measured rates lines cannot have the call forwarding feature.

ESX (CWT)-Call Waiting Transfer Feature: A customer with the call waiting feature will be notified with two bursts of tone if an additional call is directed to this number while the customer is engaged in a call. The feature also allows the customer to hold the existing connection to answer the new call. If the customer takes no action, the tone is repeated once 10 seconds later.

E2H-Call Transfer—Individual—All Calls Feature: This feature permits the centrex customer to place any existing call on hold, call another party in or out of the centrex group, and add the original party to a 3-way call setup or a call transfer to the second party (only one party may be outside centrex group).

E6G (CFB)-Call Forwarding—Busy Line Feature: This feature automatically routes incoming DID, CCSA, or TIE line calls to an attendant or another line when the called station is busy.

E9G (CFD)-Call Forwarding—Don't Answer Feature: This feature automatically routes incoming DID, CCSA, or TIE line calls to an attendant or another line when the called station does not answer within a minimum of 11 seconds. This time may be extended in increments of 3.2 seconds to approximately 1 minute.

FSH-Flexible Station Hunting: Flexible station hunting is a centrex feature that allows incoming calls to hunt over a preselected group of stations in an attempt to find an idle station. Flexible station hunting modifies other hunting features as follows:

- ***Circular Hunt:*** Allows hunting to continue beyond the range of the original hunt.
- ***Uniform Call Distribution:*** Allows the first hunt member to be advanced by one each time the hunt group is called.
- ***Preferential Hunt:*** Allows hunting from the preferential list of stations to the main list of stations if no idle station is found.

FL (RCL)-Recall Feature: The recall feature allows a centrex line connected to the recallable exten-

sion to signal the extension by flashing the switchhook.

ICTA-Intercentrex Call Transfer Screening: This feature is used by centrex groups and is implemented by transferring an incoming external party to a station in another centrex group, provided both centrex groups have the same intercentrex group number.

800 Service: 800 Service is a centrex and noncentrex feature that allows a customer a form of distance dialing, in consideration of a monthly charge. The customer may receive calls from a specified geographical area with no charge to the originating caller.

MLH-Multiline Hunt: Multiline hunt is a noncentrex feature that allows calls to sequentially hunt a group of stations in order to locate an idle station within the group.

PBX-Private Branch Exchange: The private branch exchange is a telephone system installed for the benefit of a private organization. The system is usually located on the customer premises with facilities for connecting the telephone stations, which it serves, to trunks to a central office or for connecting these stations to tie trunks to another private branch exchange or switched service network.

SAT-Satellite Attendant Transfer: This feature allows satellite station in a main-satellite service to transfer calls from the satellite station to the main-satellite over tie or FX trunks. With this feature, two or more customer locations are treated as one customer group instead of treating each location as an individual group. Attendant facilities are generally only located at the main-satellite location.

SBAC-Source Billing of Attendant Handled Calls: This feature is used by centrex groups and is implemented by replacing the billing number of the attendant with the source party billing number in all AMA records whenever the attendant extends the source party call.

SBR-Short Burst of Ring On Forwarded Line: This feature will allow the centrex lines that are call forwarded to receive a short burst of ring to indicate when a call has been placed to those lines.

SCCW-Silence on Call Waiting Originating: This feature allows 6 seconds of audible ringing followed by silence on call waiting originating.

SER-Series Completion Feature: The series completion feature is a form of hunting which allows calls to be routed to another telephone number if the called line is busy. Any telephone number assigned to the centrex office may be used as the series completion number. Series completion lines are added on separate ESS service orders. The series telephone number must be entered in reverse order; last line first.

STB-Special Toll Billing Feature: This feature permits customer billing of each outward toll call to the telephone number originating the call. The calling party number along with the called number, timing of the call, and other information is recorded by the automatic message accounting (AMA) machine.

Station 6-Port Conference Feature: This feature allows a centrex group station to have up to six parties on a line at one time.

TAS-Trunk Answer From Any Station Feature: The trunk answer from any station feature allows incoming calls, normally directed to the attendant, to activate a common alerting signal on the customer premises when the attendant positions are in night service. These calls may then be answered by any nonrestricted station in the centrex system who dials a special trunk answer code.

THD-Thru Dial Feature: This feature allows the attendant to dial a trunk access code, receive a second dial tone, and pass this second dial tone to the ***source*** party (a centrex extension), thereby, allowing the ***source*** party to complete dialing.

TRC-Call Trace (Calling Line Identification) Feature: This feature allows identification of calls that are currently in progress on a 1-shot basis, of calls to a given line in a central office area, or of calls for a given number outside the central office area.

TW-Threeway Calling Feature: This feature allows the customer to add another party to an established call.

TW1-Call Transfer-Attendant Feature: This feature permits the centrex customer to transfer an incoming call to the attendant.

TW2-Call Transfer—Individual Feature: This feature permits the centrex customer to place an existing incoming call on hold, call another party in or

out of the centrex group, and to add the original party to a 3-way call set-up or a call transfer to the second party (only one party may be outside the centrex group).

TW3-Call Transfer—Individual—All Calls Feature: This feature permits the centrex customer to place any existing call on hold, call another party in or out of the centrex group, and add the original party to a 3-way call setup or a call transfer to the second party (only one party may be outside centrex group).

WATS-Wide Area Telecommunications Service: WATS is a service that provides a special line service to allow the customer (noncentrex or centrex) to make or receive calls to a certain zone(s) or band(s) on a direct distance dialing basis for a monthly charge. The continental United States is divided into six zones or bands for rate purposes. A centrex station may have to dial one to four digits to access the DDD network.