

MESSAGE SERVICE SYSTEM
IMPLEMENTATION PROCEDURES
(1AE9 AND LATER GENERIC PROGRAMS)
1A ESS™ SWITCH

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1. GENERAL

This practice provides procedures for implementing the MSS (Message Service System) feature in a 1A ESS switch environment. Included are translator descriptions, RC (recent change) verification information, and RC implementation procedures.

This practice is reissued to correct RC messages and to provide proper nomenclature for the Message Service System. As there are numerous changes, change arrows indicating addition or corrections are not used.

This practice is organized as follows:

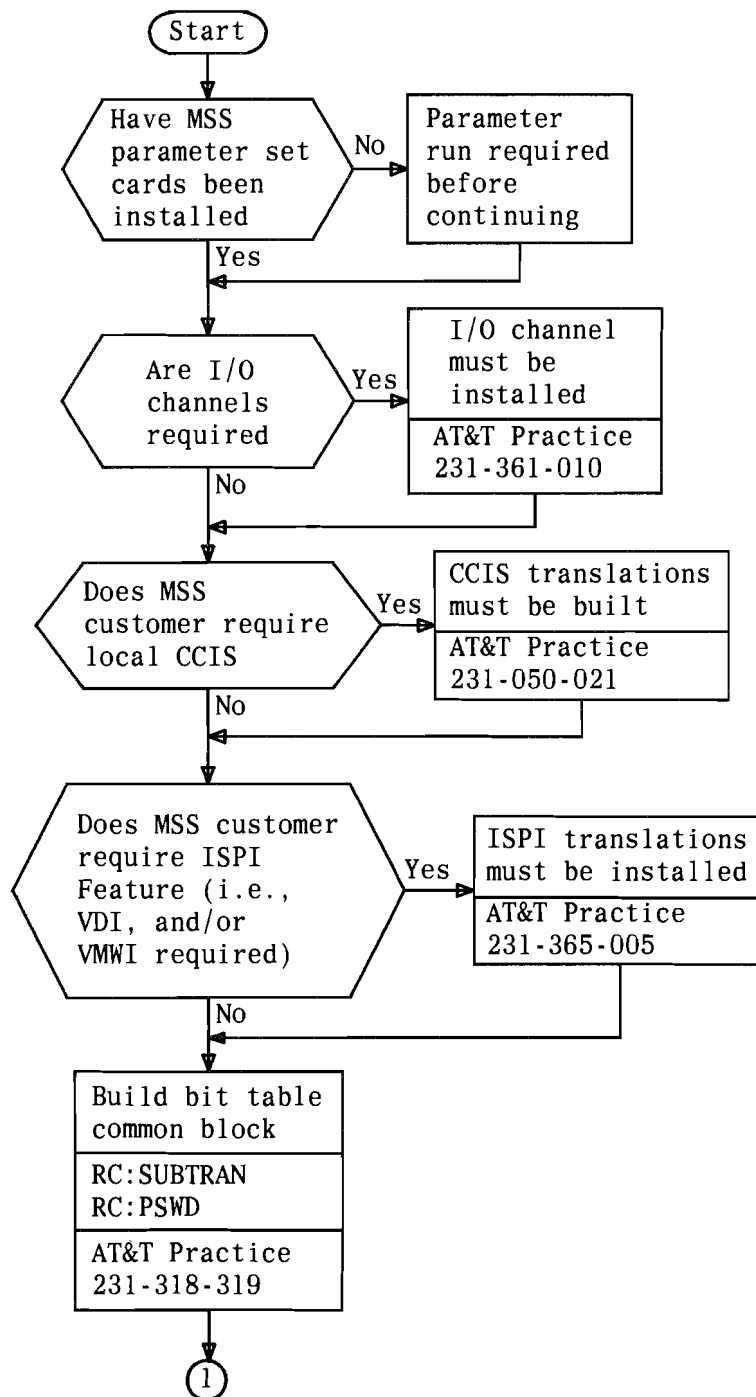
- (a) Abbreviations and Acronyms (Part 2)
- (b) MSS Description and Definitions (Part 3)
- (c) Modified Translations for MSS (Part 4)
- (d) RC Verification Information (Part 5)
- (e) MSS Implementation (Part 6).

Items and fields shown in translator layouts and keywords shown in RC messages are not necessarily included in the list of abbreviations and acronyms. These items and keywords are defined in legends included in translator layouts, or in figures and/or in tables associated with the RC message.

A flowchart showing the recommended sequence for implementing MSS RC translations is shown in Fig. 1. Detailed procedures are given in Part 6.

Note: The RC message keyword coverage shown in Part 6 does not preclude the use of optional words which might pertain to a central office. See the referenced source for complete coverage.

Refer to AT&T Practice 231-318-316 for general information on RC message formats and the interpretation of message flowcharts.



Note:
Refer to first paragraph in 6.1 for details of prerequisites.

Fig. 1 — Message Service System Recent Change Implementation Flowchart (Sheet 1 of 2)

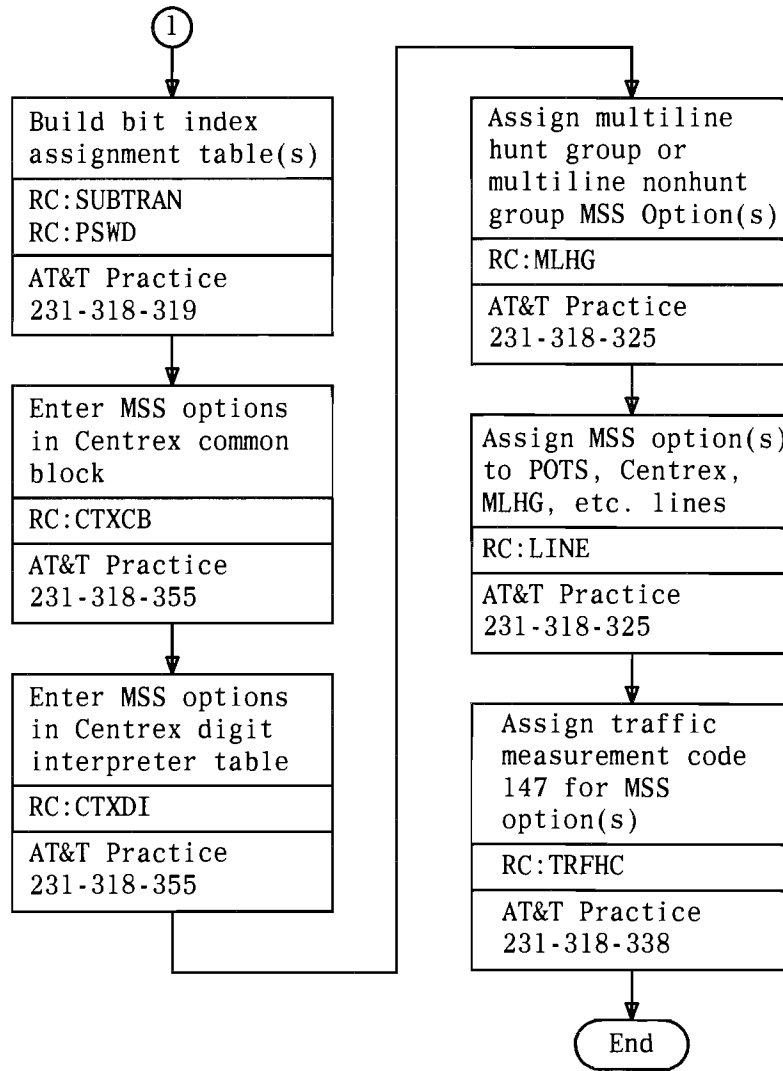


Fig. 1 — Message Service System Recent Change Implementation Flowchart (Sheet 2 of 2)

The ORD (order) number is required in RC:LINE and RC:MLHG messages and is optional in all other RC messages. Keyword ORD number can be entered as follows:

ORD $\eta/\eta/\eta/\eta/\eta/\eta/\eta/n$

$\eta/$ = Optional letter prefix (shown slashed because it may not always be present).

$\eta/\eta/\eta/\eta/\eta/\eta/n$ = Decimal number. Leading zeros can be omitted (e.g., 1 through 9999999).

For example, each of the following is a valid external order number.

ORD 1234567

ORD F6

ORD 27

Refer to AT&T Practice 231-318-317 for RC message program listings, system acknowledgements, and RC18 and RC16 output messages.

Refer to the Translation Guide TG-1A for documentation of translation data and associated forms.

Refer to Translation Output Configuration PA-6A002 for information relating the translation memory (translators) and forms.

Refer to the Input/Output Message Manuals, IM-6A001 and OM-6A001, for a complete description of input and output messages.

Refer to AT&T Practice 231-390-170, Feature Document, for additional information describing the Message Service feature and attributes.

1.1 List of RC Message Indexes and PIDENTs

The RC message indexes and PIDENTs applicable to MSS are shown in Table A. This table contains a listing of the RC input messages and their corresponding message index number, message PIDENT, and program listing number. A separate message PIDENT is provided for each RC input message. The PIDENT is provided with information which is useful in interpreting RC18 and RC16 output messages. For further details of program listings, RC message indexes, and message PIDENTs, refer to AT&T Practice 231-318-317.

| TABLE A | | | |
|------------------------------------|------------|----------------|--------------|
| MSS RC MESSAGE INDEXES AND PIDENTS | | | |
| MESSAGE INDEX | RC MESSAGE | MESSAGE PIDENT | PR REFERENCE |
| 21 | RC:CTXCB | RCCX | PR-6A327 |
| 23 | RC:CTXDI | RCXD | PR-6A368 |
| 0 | RC:LINE | RCLI | PR-6A336 |
| 13 | RC:MLHG | RCHG | PR-6A332 |
| 1 | RC:PSWD | RCPS | PR-6A344 |
| 59 | RC:GENT | RCGT | PR-6A378 |
| 99 | RC:IOP | RCIO | PR-6A1147 |
| 38 | RC:TRFHC | RCHC | PR-6A335 |

1.2 Flowchart Symbols

The following flowchart symbols are used in RC message flowcharts:

- **OPTION Symbol:** The OPTION symbol is used to indicate that all flowlines leaving the symbol are optional. None, one, some, or all such flowlines may be selected.
- ⊗ **EXCLUSIVE OR Symbol:** The EXCLUSIVE OR symbol is used to indicate that exactly one of two or more flowlines leaving the symbol must be selected.
- ⓪ **NONEXCLUSIVE OR Symbol:** The NONEXCLUSIVE OR symbol is used to indicate that one or more of the flowlines leaving the symbol must be selected (no less than one, but more than one may be selected).
- **AND Symbol:** The AND symbol is used to indicate that all flowlines leaving the symbol must be used.
- ┌
|
%
└ **Repeatable Segment:** The repeatable segment symbol is used to indicate that the keyword unit or the specific group of keyword units within the segment bracket can be repeated within the RC message without reentering previous keyword units. Each segment is terminated by the percent sign.

In change message flowcharts, keywords without a variable shown are Y(ES)/N(O) keywords. When a Y(ES)/N(O) feature is added, enter the keyword; when a Y(ES)/N(O) feature is removed, enter the keyword followed by NO or N.

When using a change message flowchart, refer to the associated new message flowchart for valid combinations of keywords.

2. GLOSSARY OF ABBREVIATIONS AND ACRONYMS

Abbreviations and acronyms used in this practice are listed in Table B.

| TABLE B | |
|---|--|
| GLOSSARY OF ABBREVIATIONS AND ACRONYMS | |
| ABBREVIATION OR ACRONYM | DEFINITION |
| ACD | Automatic Call Distribution |
| AMA | Automatic Message Accounting |
| AMHT | Auxiliary Master Head Table |
| AMWI | Audible Message Waiting Indicator |
| BIATL | Bit Index Assignment Table for Lines |
| BRI | Base Route Index |
| BTN | Special Billing Telephone Number |
| 60A | Customer Premises System Console |
| CCIS | Common Channel Interoffice Signaling Indicator |
| CFBL | Call Forwarding Busy Line |
| CFDA | Call Forwarding Don't Answer |
| CFV | Call Forwarding Variable |
| CO | Central Office |
| CSR | Centrex Station Rearrangement |
| CTC | Call Transfer Code |
| CTX | Centrex |
| CTXCB | Centrex Common Block |
| CTXDI | Centrex Digit Interpreter |
| CTXN | Centrex Number |
| CWD | Call Waiting Codes |
| DA 15 | Selected Quarter Hour |
| DAG | Data Accumulation Group |
| DGE | End of Range Digits |
| DGS | Digits to be Interpreted |
| DLG | Data Link Group Number |
| DN | Directory Number |
| DNCL | Directory Number Class Number |
| DNYGPS | Deny Access to a Centrex Access Treatment Restriction Group |
| DP | Distributor Point Number |
| DPP | Distributor Point for Protection Number |
| FD | Feature Document |
| GST | Ground Start |
| HHT | Head Head Table |

| TABLE B (Contd) | |
|---|---|
| GLOSSARY OF ABBREVIATIONS AND ACRONYMS | |
| ABBREVIATION OR ACRONYM | DEFINITION |
| HML | Multiline Hunting Group Number |
| HTY | Multiple Position Hunt |
| IOCHAN | Input/Output Channel |
| ISPI | Intelligent Simplex Peripheral Interface |
| LCC | Line Class Code |
| LCCIS | Local Common Channel Interoffice Signaling |
| LENCL | Line Equipment Number Class Word |
| MCC | Master Control Center |
| MDCSBIATG | Message Service Call Store Bit Index Assignment Table for Groups |
| MDCSBIATL | Message Service Call Store Bit Index Assignment Table for Lines |
| MDCSBIATH | Message Service Call Store Bit Index Assignment Table for Line History |
| MHT | Master Head Table |
| MLG | Multiline Group |
| MLHG | Multiline Hunt Group |
| MSAMA | Message Service Automatic Message Accounting |
| MSC | Message Service Center |
| MS | Message Service |
| MSI | Message Service Indicator |
| MSN | Master Scan Number |
| MSS | Message Service System |
| MWI | Message Waiting Indicator |
| OE | Originating Equipment |
| OTC | Operating Telephone Company |
| POTS | Plain Old Telephone Service |
| PTDT | Prohibit Terminating Disconnect Timing |
| RC | Recent Change |
| RDI | Remote Data Insert |
| SSTYP | Sub-subtype Number |
| STYP | Subtype Number |
| TDA | Translation Data Assembler |
| TER | Multiline Group Terminal Number |
| TMC | Traffic Measurement Code |
| TN | Telephone Number |
| TNN | Trunk Network Number |
| USOC | Universal Service Order Code |
| VDI | Voiceband Digital Interface |
| VDP | Voice Data Protection |
| VMWI | Visual Message Waiting Indicator |

3. MSS DESCRIPTION AND DEFINITIONS

The MSS (Message Service System) provides a centralized and personalized call coverage or message answering capability for Centrex and POTS customers alike on an intraoffice and interoffice basis. Station users wishing to have call coverage subscribe to this service utilizing one of the call forwarding options to route their calls to the MSC (message service center), thereby becoming MSS clients (see Note). The call forwarding options include the following:

- CFBL (Call Forwarding Busy Line)
- CFDA (Call Forwarding Don't Answer)
- CFV (Call Forwarding Variable)
- Make Busy/Night Transfer.

Note: A message service client is a telephone customer who either uses or subscribes to message services.

Refer to AT&T Practice 231-390-170, Feature Document, for further details concerning the Message Service feature.

One or more attendant positions are required at a MSC. An equipped attendant position requires answering equipment and a device to display/print call related information.

After the message has been received, the MSC has the option to activate an MWI (message waiting indicator) at the client set audibly in the form of stuttered dial tone or visually on the client's equipment. The MWI may be deactivated by the MSC or the message service client. Deactivation will normally be done after the message service client has received all stored messages.

Three types of MSC lines are available with certain considerations:

- POTS (plain old telephone service) — Abbreviated codes can be set up by the OTC (operating telephone company) for DNs that are MSCs and message clients.
- Centrex Group — There is **no** indicator for message service in the common block. Individual supplemental auxiliary blocks and DNCL3 words contain the indicator.
- Multiline Hunt Group — If the common block DNCL3 word is set for message service, all lines in the common block are considered message service. If common block DNCL3 word is **not** set for message service, and some members of the MLHG are to be message service, those members must have a DN and LEN set for message service. Also, a client must forward phone calls to these DNs.

3.1 MWI (Message Waiting Indicator)

The MWI provides an audible or visual means of notifying a client that messages are waiting. Clients can choose to have either option. After receiving a message, a client can deactivate a MWI by dialing a MWI deactivation access code. Without MWI, the client has to call the MSC to inquire about messages.

3.1.1 AMWI (Audible Message Waiting Indicator)

The AMWI (audible message waiting indicator) is a standard stutter dial tone.

3.1.2 VMWI (Visual Message Waiting Indicator)

The optional VMWI option provides a visual indication of when a message is waiting. A client with VMWI can deactivate visual message indication by using assigned access codes. To provide optional VMWI, feature package ISPI (intelligent simplex peripheral interface) is required. (Refer to AT&T Practice 231-365-005 for ISPI implementation.)

3.2 Interoffice Signaling Option

If a MSC is not served by the same local switch as the MSS client, interoffice signaling is required. An optional feature package, LCCIS (local common channel interoffice signaling), is used for this purpose. (Refer to AT&T Practice 231-050-021 for more information.)

3.3 Message Service Center Interface

3.3.1 Data Link Interface

I/O channels are required for MSS to transmit data from the switching office to the customer premises' message service equipment. These channels use a standard RS-232 modem with asynchronous 1200 baud ASCII interface, which requires the customer equipment to meet the same requirement. Refer to AT&T Practice 231-302-305 for procedures to add, change, or delete I/O channels.

3.3.2 VDI (Voiceband Digital Interface)

To provide optional tip and ring signaling, which is necessary for the MSC attendant line voiceband digital signaling capability, feature package ISPI is required. (Refer to AT&T Practice 231-365-005 for ISPI implementation.)

3.4 CSR (Centrex Station Rearrangements)

The CSR has the capability for adding or changing new keywords to the RC:LINE: input message for the MSS feature. This is done by allowing the keywords to be used with the existing CSR command, LNCHG. Refer to AT&T Practice 231-390-064, Feature Document, for additional information on CSR.

3.5 Automatic Message Accounting Indexes

There are three types of indexes used for the MSS feature. Rules for these indexes, when needed, follows.

3.5.1 Group Index

The group index (MLHG) is needed if the group is a MSC or has lines within the group that wants AMA (automatic message accounting) counts on a group basis. If the OTC charges a flat rate for MSS, no AMA record is needed, but an index of 1 is assigned.

3.5.2 Line Index

The line index is used when the message service line is not part of a group (MLHG or Centrex) or when AMA records are requested on message service lines that are members of a group (MLHG or Centrex). If OTC charges a flat rate for MSS, no AMA record is needed, but an index of 1 is assigned.

3.5.3 Line Index (for Line History)

This line index is needed for every line that is a MSC that has MWI set (Bit 23 of the LENCL1 word) on its line.

4. MODIFIED TRANSLATIONS FOR MSS

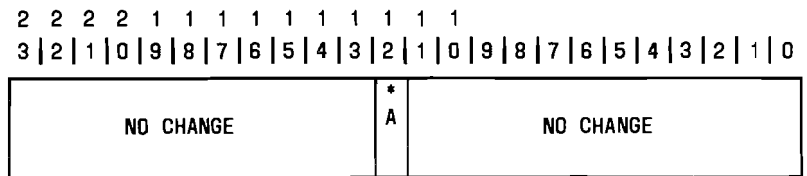
The MSS feature requires modifications to several translators in the 1A *ESS* switch. The following translators/items have been modified for the MSS feature:

- DNCL3 (Directory Number Class 3) Word
- MLHG Common Block
- Centrex Common Block
- Centrex Digit Interpretor
- Prefixed Access Code Translator
- Supplemental OE (originating equipment) Auxiliary Block
- Bit Table Common Block Layout
- Traffic Measurement Codes.

These modifications are described in the following paragraphs.

4.1 DNCL3 (Directory Number Class 3) Word

Bit 12, in the DNCL3 word (Fig. 2) for POTS, MLHG, and Centrex lines, indicates message service. This bit is called the MSI (message service indicator).



*A = MESSAGE SERVICE INDICATOR:
 0 = NO MESSAGE SERVICE
 1 = MESSAGE SERVICE CENTER

Fig. 2 — Directory Number Class 3 Word Layout

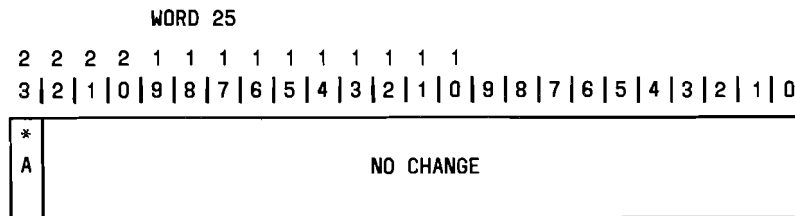
4.3 Centrex Common Block

Word 25, bit 23 (Fig. 4), provides for the Centrex group MWI. When set, all lines in the group have message waiting option.

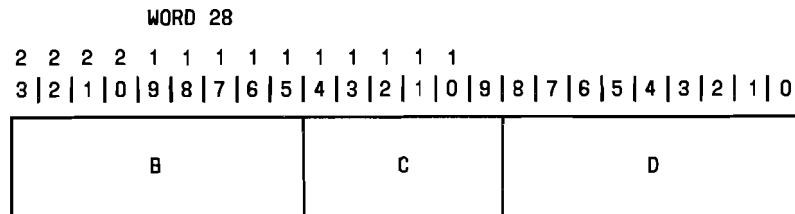
Word 28, bits 23 through 15, contains the message service call store index for the Centrex group. This index points to a block of words in the call store where AMA counts are stored. An index of 2 through 511 may be assigned.

Word 28, bits 14 through 9, is used for the Centrex group message center ID. This ID (range 1 through 63) is unique to the I/O channel.

Word 28, bits 8 through 0, assigns the I/O channel number: where $24 \leq \text{IOCHAN} < 96$.



A = CENTREX GROUP MESSAGE WAITING INDICATOR



B = MESSAGE CENTER AMA CALL STORE INDEX FOR GROUPS

C = CENTREX MESSAGE CENTER ID

D = I/O CHANNEL

Fig. 4 — Centrex Common Block Layout

4.4 Centrex Digit Interpreter Table

The data word (data type 05) (Fig. 5) is used in routing to Centrex special services. A subtype of 28 is used for Centrex group message waiting. Also, a sub-subtype of 1 is used for MWI activation and a sub-subtype of 0 for MWI deactivation.

4.5 Prefixed Access Code Translator

The OTC may assign and change the MSS feature access codes. It is recommended that the OTC use any pair of available assignments from the *4X, *5X, or *7X series to activate and deactivate a message waiting. The data word (Fig. 6), uses a feature type of 28 for the MSS feature. A feature subtype of 1 is used for activation, and a feature subtype of 0 for deactivation.

4.6 Supplemental OE Auxiliary Block

Word 0 — Bit 4 (Fig. 7) indicates the presence or absence of the MSS optional word E.
If bit 4 = 1, optional word E is present.

Note 1: Word 0, bit 4 and optional word E applies to the supplemental LEN OE auxiliary block in the 1AE9 and later generics, and should be reserved in the RLEN OE auxiliary block for future development consistency.

Note 2: MSS is not supported for "packed" supplemental OE translators.

Word E (Optional):

- Bits 23 through 15 — AMA Message Service Call Store Index. If bits are set to 0, no call store word assignment. If bits are set 2 through 511, this indicates call store index for this message service line.

Note 3: An index of 1 is used when OTC is charging flat rate basis for MSS.

- Bit 14 — VMWI. If bit is set to 0, no visual message waiting. If bit is set to 1, visual message waiting available.
- Bit 12 — Message Service Indicator. If bit is set to 0, no message service. If bit is set to 1, the line is for a message service center.
- Bits 10 through 0 — Message Service Call Store Index for Line History. If bits are set to 0, no call store word assignment [also TDA (translation data assembler) default]. If bits are set 1 through 2047, this indicates call store index for this message center line with MWI option.

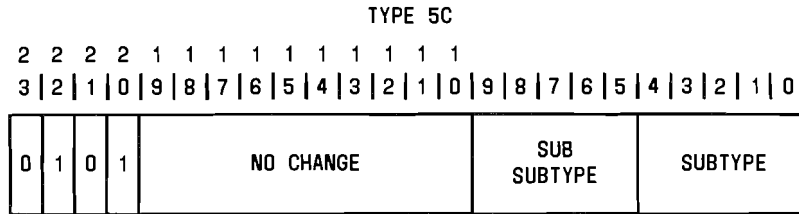


Fig. 5 — Centrex Digit Interpreter Table Layout

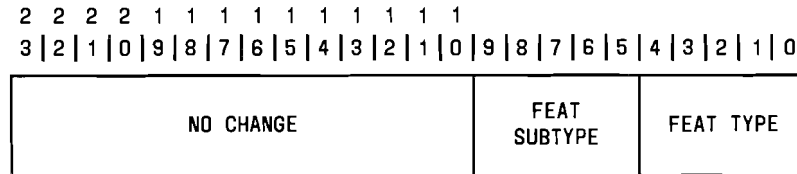
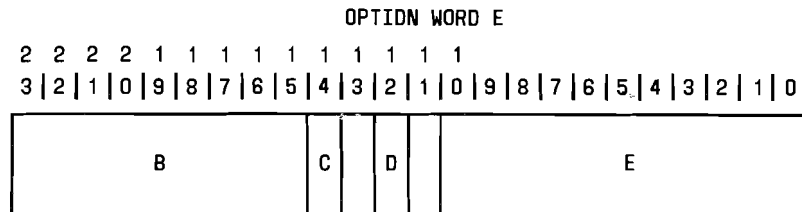
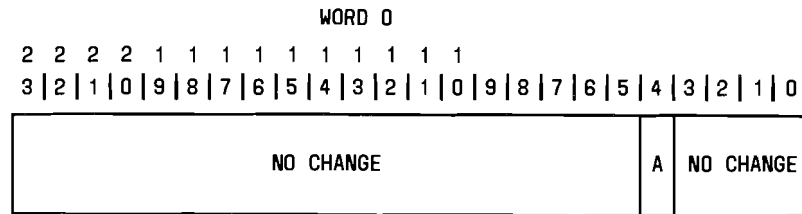


Fig. 6 — Prefixed Access Code Translator Layout



LEGEND:

- A - OPTION WORD E INDICATOR
- B - AMA MESSAGE DESK CALL STORE INDEX FOR LINES
- C - VISUAL MESSAGE WAITING INDICATOR
- D - MESSAGE SERVICE INDICATOR
- E - MESSAGE DESK CALL STORE INDEX FOR LINE HISTORY ON MESSAGE DESK LINES WITH THE MWI OPTION

Fig. 7 — Supplement OE Auxiliary Block Layout

4.7 Bit Table Common Block Layout

The bit table common block (MHT + 140) contains the address of a block of words that point to bit tables (Fig. 8). Words 0, 1, and 3 are used for MSS as follows.

4.7.1 Word 0

Word 0 contains the address of the MDCSBIATL (message service call store bit index assignment table for lines). This table is used by the RC message to assign an index to a message service line. The index allows AMA information to be temporarily stored in a call store table for each line that does not belong to a MLHG or Centrex group and to a line in the group that wants an individual AMA record made. This table is also used in unassigning an index no longer used for MSS. Valid indexes are from 2 through 511 and cannot be greater than the set card (MDLBLK) size.

Note: An index of 1 is used when OTC is charging on a flat rate basis.

4.7.2 Word 1

Word 1 contains the address of the MDCSBIATG (message service call store bit index assignment table for groups). This table is used by the RC message to assign an index to a message service center group (MLHG or Centrex). This index allows AMA information to be temporarily stored in a call store table for each group. This table is also used by the RC message to unassign an index. Valid indexes are from 1 through 511 and cannot be greater than the set card (MDGBLK) size.

Note: An index of 1 is used when OTC is charging on a flat rate basis.

4.7.3 Word 3

Word 3 contains the address of the MDCSBIATLH (message service call store bit index assignment table for line history). This table is used by the RC message to assign an index to a message service. This index allows line history information to be temporarily stored in a call store table for each message service that has the MWI option. This table is also used by the RC message to unassign an index. Valid indexes are from 1 through 2047 and cannot be greater than the set card (MDMBLK) size.

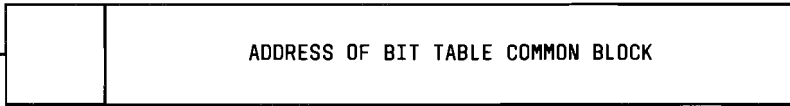
4.8 Traffic Count Translations

Traffic count data for the H (hourly), C (continuous), DA 15 (selected quarter hour), and S1 and S2 (special studies) traffic schedules are provided for MSS. The assigned TMC (traffic measurement code) is 147. The EGOs (equipment group or office count numbers) associated with TMC 147 are described below:

- EGO 000: — Unsuccessful attempts peg count. This counts the number of unsuccessful attempts to deliver call information to message service display station sets due to CCIS (common channel interoffice signaling) errors.
- EGO 001: — MWI activation access code peg count. This counts the number of times that MSC attempts to activate MWI.
- EGO 002: — MWI deactivation access code peg count. This counts the number of times that MSC attempts to deactivate MWI.
- EGO 003: — MWI deactivation access code peg count. This counts the number of times that a client dials the message waiting indicator deactivation access code.
- EGO 004: — Number of calls terminating to MSC which use a data link interface.
- EGO 005: — Number of calls terminating to MSC which use a VDI interface.

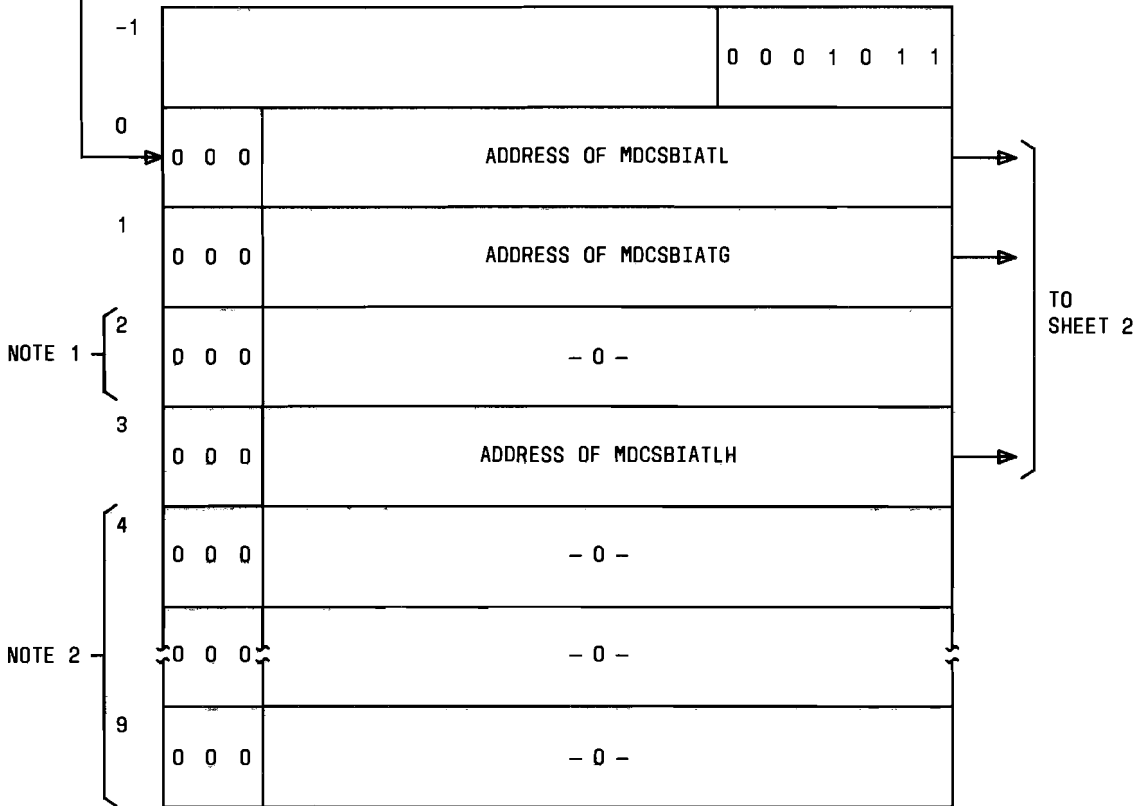
MASTER HEAD TABLE + 140

2 2 2 2 1 1 1 1 1 1 1 1 1 1
 3 | 2 | 1 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0



(A) BIT TABLE COMMON BLOCK (HUCS OR LUCS)

2 2 2 2 1 1 1 1 1 1 1 1 1 1
 3 | 2 | 1 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0



Notes:

- 1. WORD 2 USED BY ANOTHER FEATURE
- 2. WORDS 4 THROUGH 9 USED FOR FUTURE FEATURES

LEGEND:

- MDCSBIATL - MESSAGE DESK CALL STORE BIT
INDEX ASSIGNMENT TABLE FOR LINES
- MDCSBIATG - MESSAGE DESK CALL STORE BIT
INDEX ASSIGNMENT TABLE FOR GROUPS
- MDCSBIATLH - MESSAGE DESK CALL STORE BIT
INDEX ASSIGNMENT FOR TABLE LINE
HISTORY

Fig. 8 — Bit Table Common Block Layout (Sheet 1 of 2)

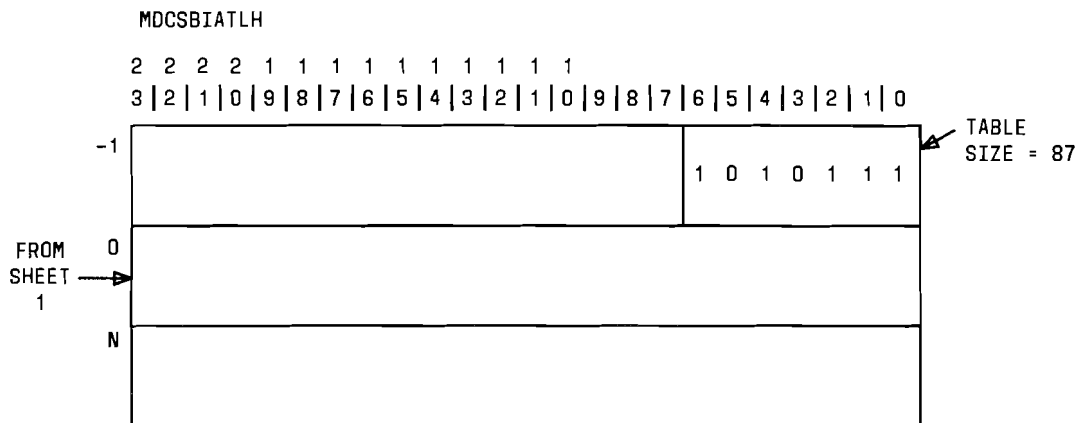
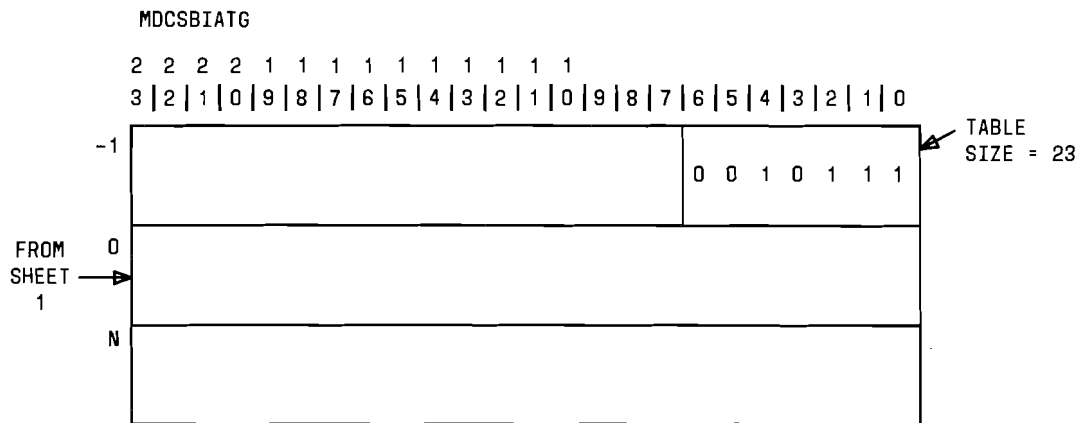
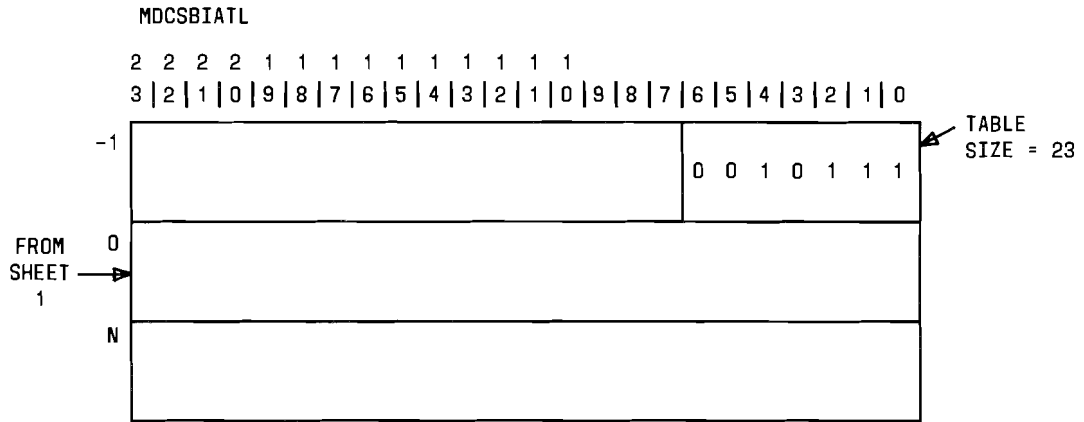


Fig. 8 — Bit Table Common Block Layout (Sheet 2 of 2)

5. RECENT CHANGE VERIFICATION INFORMATION

5.1 VFY-DN Input Message

The VFY-DN message can be used to verify translation information pertaining to a DN (directory number) that has message service. The verify message data is provided via the TR01 output message. This message is used for POTS, MLH (multiline hunt), and Centrex individual line information.

5.2 VF:DNSVY Input Message

Refer to IM-6A001-01 for MSS related keyword options used in the VF:DNSVY message. This message surveys a range of DNs to identify and/or count those numbers having specific assignments or features (such as those with the MSS feature).

5.2.1 VF:DNSVY:FEATRS Input Message

The information requested by the VF:DNSVY:FEATRS verify message data is provided in the TR75 output message. This message surveys a DN or a range of DNs to identify and/or count those numbers having the MSS feature.

5.2.2 VF:DNSVY:LENDN Input Message

The VF:DNSVY:LENDN verify message data is provided in the TR109 output message. This message verifies the LENCL (line equipment number class word), the DNCL (directory number class word) information, CTXN(s), AMA call store index (MSS), visual message waiting option, message service center option, and call store index for the message service line.

5.3 VFY-CSTG-34 Input Message

The VF-CSTG-34 verify message requests specified information pertaining to a multiline hunt group with message service. A TR15 output message responds to the VF-CSTG-34 input message by displaying bit 23 of the LENCL1 (line equipment number class word 1) as the MWI (message waiting indicator) for the group, word 8 displaying call store word assignment, message service ID and I/O channel number, and word 18, bit 12 when set indicating message service indicator.

5.4 VFY-CSTG-35 Input Message

The VFY-CSTG-35 verify message requests specific Centrex group data. The resulting TR17 output message prints the Centrex common block (excluding the digit interpreter table) associated with the Centrex group specified in the input message. The MWI indicator, MSC call store index, Centrex group message center index, I/O channel number, etc., can all be verified by using this input message.

5.5 VFY-XDGNT Input Message

The VFY-XDGNT-43 verify message requests information in the Centrex digit interpreter table associated with the specified Centrex group. The TR02 output message data verifies whether the access code being verified is for activating or deactivating the MWI. The TR02 message also responds with the data type (05) and subtype (28) entries for message service.

6. MSS IMPLEMENTATION

Refer to Fig. 1 for the MSS feature procedural implementation flowchart. The flowchart also makes reference to other documents that provide supporting information.

6.1 Prerequisites

The procedures listed below must be completed before MSS translations can be performed (also see Fig. 1):

- Generic program 1AE9 or later must be installed and operative
- Feature package 9FMDS, and set card 9SMDS must be set
- MSS options must be installed and operative, if required. MSS options include:
 - Data link interface (I/O channels)
 - LCCIS
 - AMWI
 - VMWI (ISPI feature also required)
 - VDI (ISPI feature also required)
 - ISPI (Required with options VMWI and/or VDI).
- If a MSC customer is a Centrex customer, the Centrex common block must be built.

Note: If Centrex translations have not been built, refer to AT&T Practice 231-367-001. Procedures for installing the I/O channels are given in AT&T Practice 231-361-010.

6.2 Build Bit Table Common Block

The bit table common block is a fixed length table of 11 words (-1 word through word 9). The following procedure will seize, initialize, and link a block of memory to the AMHT (auxiliary master head table) and enter the bit table common block length into the -1 word of the HHT (head head table) length table.

1. Seize and initialize to zero an 11-word block of memory by typing:

```
RC:SUBTRAN:
DATA 0
LNG H11
OTHER!
```

The system response should be an **RC18 17 0 INFO** message with the octal starting address (aaaaaaa) and length (bb) of the seized block and an **RC18 17 0 ACPT** message indicating acceptance of the RC:SUBTRAN: message.

Note: The address and length of the seized block should be recorded for future reference. The starting address (aaaaaaa) of the seized block represents the -1 word of the new bit table common block head table.

2. Enter the octal length of the seized memory block (bb) into the -1 word of the bit table common block by typing:

```
RC:PSWD:
ADD aaaaaaa
OLDDAT 0
DAT bb!
```

aaaaaaa = Starting address of the memory block seized in Step 1.

bb = Octal length of seized memory block.

The system response should be an **RC18 1 0 ACPT** message indicating the RC:PSWD message has been accepted.

3. Type the following message to determine if the bit table common block length has been entered correctly.

```
DUMP:CSS,ADR aaaaaaa,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of the address (aaaaaaa). This value should agree with the octal length entered in Step 2.

4. Add 1 to the starting address (aaaaaaa) of the memory block seized in the previous step to obtain the address (cccccc) of word 0 for the bit table common block.
5. Link the seized block to the MHT (master head table) + 214 (octal) as follows:

```
RC:PSWD:  
ADD 7720214  
OLDDAT 0  
DAT ccccc!
```

cccccc = Octal address of word 0 found in Step 2.

The system should respond with an **RC18 1 0 ACPT** message indicating that the message was accepted.

6. Type the following message to determine if the bit table common block has been linked properly to the MHT.

```
DUMP:CSS,ADR 7720214,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of address 7720214. This value should agree with ccccc, the octal address of word 0 of the new bit table common block linked to the MHT in Step 5.

7. Enter the octal length of the bit table common block into the MHT lengths table using the following message:

```
RC:PSWD  
ADD 7720614  
OLDDAT 0  
DAT bb!
```

bb = Octal length of bit table common block.

The system response should be an **RC18 1 0 ACPT** message indicating that the RC:PSWD message was accepted.

8. Type the following message to determine if the bit table common block length has been entered correctly into the head table lengths table.

```
DUMP:CSS,ADR 7720614,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of address 7720614. This value should agree with the octal length entered in Step 7.

6.3 Build MDCSBIAT (Message Service Call Store Bit Index Assignment Tables) Subtranslators

6.3.1 Build MDCSBIATL (Message Service Call Store Bit Index Assignment Table for Lines)

The MDCSBIATL subtranslator is a 23-word block (words -1 through 21) of fixed length. The following procedure will seize, initialize, and link a subtranslator to the bit table common block (Fig.8).

1. Seize and initialize to zero a 23-word block of memory by typing:

```
RC:SUBTRAN:
DATA 0
LNG H23
OTHER!
```

The system should respond with an **RC18 17 0 INFO** message with the octal starting address (ddddddd) and octal length (ee) of the seized block. Also, an **RC18 17 0 ACPT** message should print indicating that the RC:SUBTRAN: message was accepted.

Note: The address and length of the seized block should be recorded for future reference. The starting address (ddddddd) of the seized block represents the -1 word of the new MDCSBIATL subtranslator.

2. Enter the octal length (ee) of the seized memory block into the -1 word of the MDCSBIATL table by typing:

```
RC:PSWD:
ADD ddddddd
OLDDAT 0
DAT ee!
```

ddddddd = Starting address of the memory block seized in Step 1.
ee = Octal length of seized memory block.

The system response should be an **RC18 1 0 ACPT** message indicating that the RC:PSWD message has been accepted.

3. Type the following message to determine if the MDCSBIATL subtranslator length has been entered correctly.

```
DUMP:CSS,ADR ddddddd,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of the address (ddddddd). This value should agree with the octal length (ee) entered in Step 2.

4. Add octal 1 to the starting address (ddddddd) of the memory block seized in the previous step to obtain the address of word 0 (ffffff) for the new MDCSBIATL table.

5. Link the seized block to the bit table common block by typing:

```
RC:PSWD:  
ADD cccccc  
OLDDAT 0  
DAT ffffff!
```

ccccc = Address recorded in 6.2 (aaaaaa) + octal 1.

fffff = Octal address of word 0 found in Step 4.

The system should respond with an **RC18 1 0 ACPT** message indicating that the message was accepted.

6. Type the following message to determine if the MDCSBIATL subtranslator has been linked properly to the bit table common block.

```
DUMP:CSS,ADR cccccc,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of address cccccc. This value should agree with the octal address of word 0 (fffff) of the new MDCSBIATL subtranslator linked to the bit table common block.

6.3.2 Build MDCSBIATG (Message Service Call Store Bit Index Assignment Table for Groups)

The MDCSBIATG subtranslator is a 23-word block (words -1 through 21) of fixed length. The following procedure will seize, initialize, and link a subtranslator to the bit table common block (Fig. 8).

1. Seize and initialize to zero a 23-word block of memory by typing:

```
RC:SUBTRAN:  
DATA 0  
LNG H23  
OTHER!
```

The system should respond with an **RC18 17 0 INFO** message with the octal starting address (ggggggg) and length (hh) of the seized block. Also, an **RC18 17 0 ACPT** message should print indicating that the RC:SUBTRAN: message was accepted.

Note: The address and length of the seized block should be recorded for future reference. The starting address (ggggggg) of the seized block represents the -1 word of the new MDCSBIATG subtranslator.

2. Enter the octal length of the seized memory block (hh) into the -1 word of the MDCSBIATG subtranslator by typing:

```
RC:PSWD:
ADD ggggggg
OLDDAT 0
DAT hh!
```

ggggggg = Starting address of the memory block seized in Step 1.
hh = Octal length of seized memory block.

The system response should be an **RC18 1 0 ACPT** message indicating the RC:PSWD message has been accepted.

3. Type the following message to determine if the MDCSBIATG subtranslator length has been entered correctly.

```
DUMP:CSS,ADR ggggggg,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of the address (ggggggg). This value should agree with the octal length (hh) entered in Step 2.

4. Add octal 1 to the starting address (ggggggg) of the memory block seized in the previous step to obtain the address of word 0 (iiiiiii) for the new MDCSBIATG subtranslator.
5. Link the seized block to the bit table common block by typing:

```
RC:PSWD:
ADD mmmmmmm
OLDDAT 0
DAT iiiiii!
```

mmmmmmm = Address recorded in 6.2 (aaaaaaa) + octal 2.
iiiiiii = Octal address of word 0 found in Step 4.

The system should respond with an **RC18 1 0 ACPT** message indicating that the message was accepted.

6. Type the following message to determine if the MDCSBIATG subtranslator has been linked properly to the bit table common block.

```
DUMP:CSS,ADR mmmmmmm,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of address mmmmmmm. This value should agree with iiiiii, the octal address of word 0 of the new MDCSBIATG subtranslator linked to the bit table common block.

6.3.3 Build MDCSBIATLH (Message Service Call Store Bit Index Assignment Table for Line History)

The MDCSBIATLH subtranslator is an 87-word block (words -1 through 85) of fixed length. The following steps will seize, initialize, and link a subtranslator to the bit table common block (Fig. 8).

1. Seize and initialize to zero an 87-word block of memory by typing:

```
RC:SUBTRAN:  
DATA 0  
LNG H87  
OTHER!
```

The system should respond with an **RC18 17 0 INFO** message with the octal starting address (jjjjjj) and length (kk) of the seized block. Also, an **RC18 17 0 ACPT** message should print indicating that the RC:SUBTRAN: message was accepted.

Note: The address and length of the seized block should be recorded for future reference. The starting address (jjjjjj) of the seized block represents the -1 word of the new MDCSBIATLH subtranslator.

2. Enter the octal length (kk) of the seized memory block into the -1 word of the MDCSBIATLH subtranslator by typing:

```
RC:PSWD:  
ADD jjjjjj  
OLDDAT 0  
DAT kk!
```

jjjjjj = Starting address of the memory block seized in Step 1.
kk = Octal length of seized memory block.

The system response should be an **RC18 1 0 ACPT** message indicating that the RC:PSWD message has been accepted.

3. Type the following message to determine if the MDCSBIATLH subtranslator length has been entered correctly.

```
DUMP:CSS,ADR jjjjjj,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of the address (jjjjjj). This value should agree with the octal length (kk) entered in Step 2.

4. Add octal 1 to the starting address (jjjjjj) of the memory block seized in the previous step to obtain the address of word 0 (llllll) for the new MDCSBIATLH subtranslator.
5. Link the seized block to the bit table common block by typing:

```
RC:PSWD:  
ADD nnnnnnn  
OLDDAT 0  
DAT llllll!
```

nnnnnnn = Address recorded in 6.2 (aaaaaaa) + octal 4.

llllll = Octal address of word 0 found in Step 4.

The system should respond with an **RC18 1 0 ACPT** message indicating that the message was accepted.

6. Type the following message to determine if the MDCSBIATLH subtranslator has been linked properly to the bit table common block.

```
DUMP:CSS,ADR nnnnnnn,L 1!
```

The system response should be a **DUMP:CSS** output message indicating the octal contents of address nnnnnnn. This value should agree with llllll, the octal address of word 0 of the new MDCSBIATLH subtranslator linked to the bit table common block.

6.4 Enter MSS Option(s) in Centrex Common Block

There are no changes to the purpose of the message, the message types, the initial conditions, or the results of message. Refer to AT&T Practice 231-318-355 for other keyword options and the latest RC:CTXCB information.

6.4.1 New Keywords

| | | |
|--------------------|--------|---|
| MWI | YES/NO | Message Service MWI (message waiting indicator). Indicates whether or not a Centrex group has the message waiting option. |
| MSAMA (Note 1) | b/NO | Message Service Automatic Message Accounting Indicator. Used to indicate method of billing for a Centrex group. The value of "b" is either F or C: MSAMA F — Flat rate billing. MSAMA C — Billing on Centrex group basis. |
| IOCHAN | cc/NO | I/O Channel Number. Used to designate I/O channel available for use by message service center lines and hunt groups within the Centrex group. Valid values range from 24 through 95. |
| MSGDSK (Note 2) | dd/NO | Message Service ID. Used to identify a Centrex group receiving MSS information over an I/O channel. Valid values range from 1 through 63. |

Note 1: MSAMA will be input when billing on a flat rate or group basis for Centrex message service center lines.

Note 2: MSGDSK and IOCHAN both must be input to enable message service centers to use an I/O channel for MSS information.

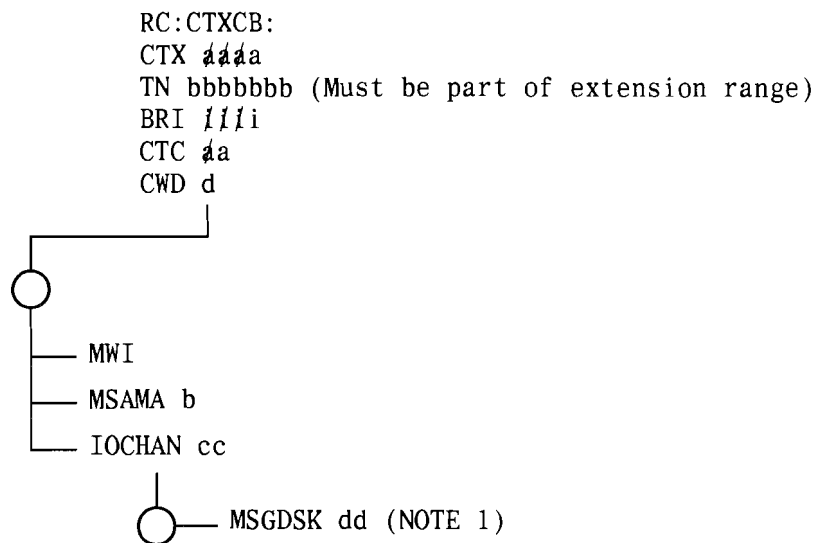
6.4.2 Adding, Changing, or Deleting MSS Options in a Centrex Common Block

6.4.2.1 Adding MSS Options to a Centrex Common Block

Initial Conditions: The Centrex head table exists and the specified Centrex group number is unassigned. If a supplementary auxiliary block is to be built, the supplementary Centrex head table must exist. The supplementary Centrex head table must be built to the same size as the Centrex head table.

Results of Message: A Centrex common block is seized, linked to the Centrex head table, and built as specified. If a supplementary auxiliary block is required, it is seized, linked to the supplementary Centrex head table, and built as specified.

Add MSS options for Centrex common block as shown in Fig. 9. Refer to AT&T Practice 231-318-355 for the latest RC:CTXCB information.



Where:

- CTX *aaaa* = Centrex Group Number (1-9999 - Parameter Limit)
- TN *bbbbbb* = Listed Directory Number
- BRI *iiii* = Base Route Index (200 - Parameter Limit)
- CTC *aa* = Call Transfer Code (0, 2, 8, 12, or 13)
- CWD *d* = Call Waiting Codes (0-7)

Note:

1. MSGDSK must be input with IOCHAN if I/O channel is to be used by message service centers.

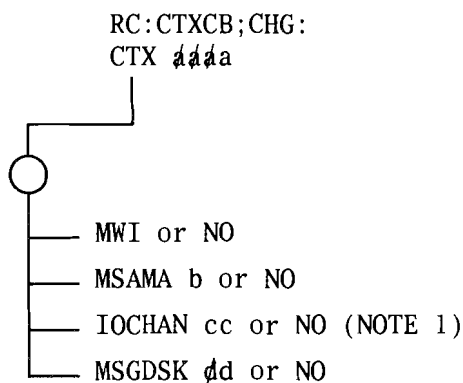
Fig. 9 — Add MSS Option(s) to a Centrex Common Block

6.4.2.2 Changing or Deleting MSS Options in a Centrex Common Block (Except for the Digit Interpreter Portion)

Initial Conditions: The specified Centrex common block exists. If a supplementary auxiliary block is required and does not exist, the supplementary Centrex head table must exist. The supplementary Centrex head table must be built to the same size as the Centrex head table.

Results of Message: Data in the common block is changed as specified. Data in the supplementary auxiliary block is changed, deleted, or an auxiliary block is seized, linked to the head table, and built, if required.

Change or delete MSS option(s) in a Centrex common block as shown in Fig. 10. Refer to AT&T Practice 231-318-355 for the latest RC:CTXCB information.



Where:
 CTX aaaa = Centrex group number

Note:
 1. If IOCHAN and MSGDSK previously inputted, and if IOCHAN changed, MSGDSK must also be changed.

Fig. 10 — Change or Delete MSS Option(s) in a Centrex Common Block

6.5 Enter MSS Option(s) in Centrex Digit Interpreter Table

There are no changes to the purpose of the message, the message types, the initial conditions, or the results of message. Refer to AT&T Practice 231-318-355 for other keyword options and the latest RC:CTXDI information.

6.5.1 Changed Keyword(s)

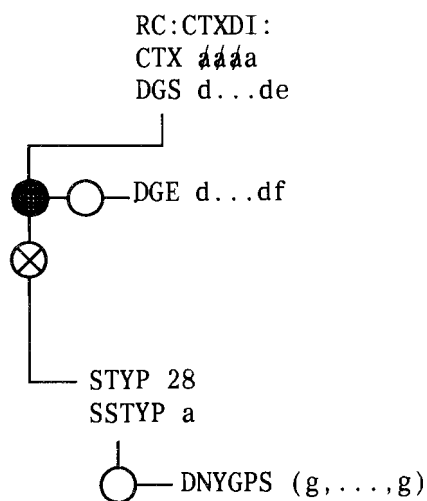
STYP aa Subtype Number. Used to determine what kind of data type 5 entry this Centrex digit interpreter entry is. STYP 28 is used for message service message waiting access codes. A sub-subtype of 1 or 0 is used with subtype 28 to indicate whether the access code is for MWI activation or MWI deactivation, respectively, for a Centrex line.

6.5.2 Add MSS Option(s) to Centrex Digit Interpreter Table

Initial Conditions: The Centrex common block exists with sufficient levels of digit interpreter tables for the final data entry.

Results of Message: The specified final data entry (or range of entries) is entered in (or completely replaces existing entries in) the digit interpreter table.

Add MSS option(s) to Centrex digit interpreter table as shown in Fig. 11.



Where:

- CTX *aaaa* = Centrex group number (1-9999 – parameter limit)
- DGS d...de = Digits to be interpreted (Max of 7 digits)
- DGE d...df = End of range digits to be interpreted (0>9, only last digit)
- SSTYP a = Sub-subtype number
- DNYGPS (g,...,g) = Deny access to a specified centrex access treatment restriction group. Each g may have value of 0 to 7 and 1 to 8 gs may be specified.

Fig. 11 — Add MSS Option(s) For Centrex Digit Interpreter Table

6.6 Assign MSS Options to a New Multiline Hunt Group (Centrex, ESSX-1, and Non-Centrex Except ACD)

There are no changes to the purpose of the message, the message types, the initial conditions, or the results of message.

6.6.1 New Keywords

MDC YES/NO Message Service Center. Used to indicate message service center assignment for hunt group.

| | | |
|--------|--------|---|
| MWI | YES/NO | Message Service Message Waiting Indicator. Used to indicate if all lines in multiline group have message waiting option. |
| MSAMA | b/NO | Message Service Automatic Message Accounting Indicator. Used to indicate method of billing for a message service center line. The value of "b" is F, C, or M: MSAMA F — Billing on a flat rate basis. MSAMA C — Billing on a Centrex group basis. MSAMA M — Billing on a multiline hunt group basis. |
| IOCHAN | aa | Input/Output Channel Number. Used to interface to 1A ESS switch unit. |
| MSGDSK | d/d | Message Service Number. Used to identify individual message service centers in multiline group. |

Note 1: The MSAMA keyword must be input if the hunt group is a message service center. If MSAMA C is input, then the Centrex group must already be assigned MSAMA. The MSAMA keyword may be input when billing on a hunt group basis for message service center lines is desired.

Note 2: If a message service center needs MSS information sent over an I/O channel, keywords IOCHAN and MSGDSK both must be input.

Note 3: If billing on a Centrex group basis is desired, and if the MLHG has an I/O channel and a message service ID assigned, then the Centrex group must also be assigned an I/O channel and a message service ID.

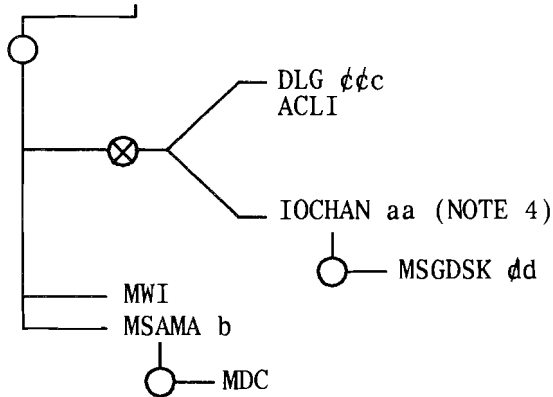
6.6.2 Add MSS Option(s) to a New Multiline Hunting Group (Centrex, ESSX-1, Non-Centrex Except ACD)

Initial Conditions: A group of stations or consoles must be connected so that hunting for an idle line is provided to complete a call. The TN associated with the hunt group must be assigned to route index 85 (unassigned TN), or if Centrex, to Centrex intercept (Centrex base route index). The appropriate line class code must be entered in the USOC (universal service order code) table. If the hunt group is part of a Centrex group, appropriate Centrex translations should be entered.

Results of Message: A multiline hunt group common block is entered in translations. A multiline hunt group head table, containing the address of a hunt list, is entered in translations.

Add MSS option(s) to a new multiline hunting group as shown in Fig. 12.

RC:MLHG:
 ORD nnnnnnnn
 CTX xxxx } Only if Centrex-CO or ESSX-1
 CAT a }
 HML bbbb }
 HSZ nnnn ← NOTES 1 and 2 (if HTY MP, see NOTE 3)
 HTY tt ← Except tt = AD
 LCC ccc
 TN aaaaaaa



Where:

ORD nnnnnnnn = Order Number
 CTX xxxx = Centrex Group Number
 CAT a = Centrex Access Treatment Code
 HML bbbb = Multiline Hunting Group Number
 HSZ nnnn = Number of Hunt-List Terminals
 HTY tt = Hunt Type
 LCC ccc = Line Class Code
 TN aaaaaaa = Telephone Number of MSC
 DLG ccc = Data Link Group Number
 ACLI = Automatic Customer Message
 Output System Calling Line Identification
 IOCHAN aa = Input/Output Channel Number (24 ≤ aa ≤ 95)
 MSGDSK dd = Message Service Number (1 ≤ dd ≤ 63)

Notes:

1. Do not enter HSZ 16. If 16 hunt terminals are required, enter HSZ 17.
2. A multiline hunting group must have at least 1 hunt list, even though it need not have any terminals in the hunt list. Thus, HSZ must be at least 1.
3. For multiposition hunt (HTY MP) the HSZ must be such that an even number of lists are provided (i.e., 16 to 31, or 48 to 63).
4. If I/O channel is used to receive MSS information, MSGDSK must be input.

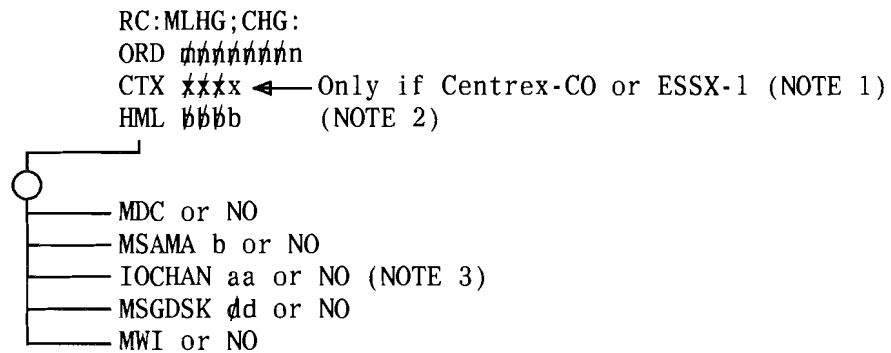
Fig. 12 — Add MSS Option(s) to a New Multiline Hunting Group

6.6.3 Change or Delete MSS Option(s) to a Multiline Hunting Group (Centrex, ESSX-1, Non-Centrex Except ACD)

Initial Conditions: Multiline hunt group common block translations exist for the multiline group to be changed.

Results of Message: Translations associated with the multiline hunt group common block are changed.

Change or delete MSS option(s) to a multiline hunting group (Centrex, ESSX-1, non-Centrex except ACD) as shown in Fig. 13.



Where:

ORD ddddddnn = Order Number
 CTX xxxx = Centrex Group Number
 HML bbbb = Multiline Hunting Group Number
 IOCHAN aa = Input/Output Channel Number ($24 \leq aa \leq 95$)
 MSGDSK dd = Message Service Identification Number ($1 \leq dd \leq 63$)

Notes:

1. With Centrex-CO or ESSX-1, the keyword CTX is required, but the Centrex number xxxx may be a change from the existing one. However, the number xxxx must be in the same MCX complex group or ESSX-1 complex group.
2. If the hunt group number is to be changed, all lines and the hunt group must be removed with OUT messages and reentered with the new hunt group (HML) number.
3. If the IOCHAN aa is changed and MSGDSK has been previously assigned, the MSGDSK must also be changed.

Fig. 13 — Change or Delete MSS Option(s) to a Multiline Hunting Group (Centrex, ESSX-1, Non-Centrex Except ACD)

6.7 Assign MSS Options to POTS, Multiline, and Centrex Lines

There are no changes to the purpose of the message, the message types, the initial conditions, or the results of message. Refer to AT&T Practice 231-318-325 for other RC:LINE keyword options.

6.7.1 New Keywords

| | | |
|-------|--------|--|
| MDC | YES/NO | Message Service Center. Used to identify line with message service center assignment. |
| MWI | YES/NO | Message Service Message Waiting Indicator. Used to indicate if a line has the message waiting option. MWI gives message center lines the capability to activate/deactivate the message waiting indicator on a line. MWI gives message service clients the capability to receive message waiting tones. |
| VMWI | YES/NO | Message Service Visual Message Waiting Indicator. Used to indicate if a line has the visual message waiting option. |
| MSAMA | b | <p>Message Service Automatic Message Accounting Indicator. Used to indicate method of billing for a message service center line. Possible values for "b" are I, F, C, and M:</p> <p>MSAMA I — Billing on an individual line basis.</p> <p>MSAMA F — Billing on a flat rate basis.</p> <p>MSAMA C — Billing on a Centrex group basis. (See Note)</p> <p>MSAMA M — Billing on a multiline hunt group basis. (See Note)</p> |

Note: If MSAMA C or MSAMA M is input to the line, then the Centrex or multiline group must already be assigned MSAMA. The group must have a MSAMA C and a MSAMA M.

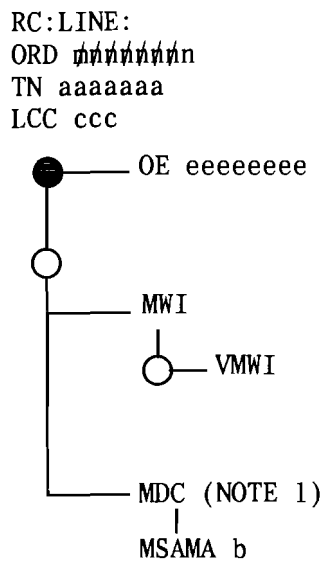
6.7.2 Add, Change, or Delete MSS Options on New Individual Line (Non-Centrex-CO, Non-ESSX-1, Non-MLG)

Initial Conditions: The DN and LEN translations exist for the line to be changed.

Results of Message: The DN and/or LEN translations are changed to reflect the line information. The change(s) is immediately effective in translations.

Add MSS options as shown in Fig. 14.

Change or delete MSS options to an existing individual line as shown in Fig. 15.



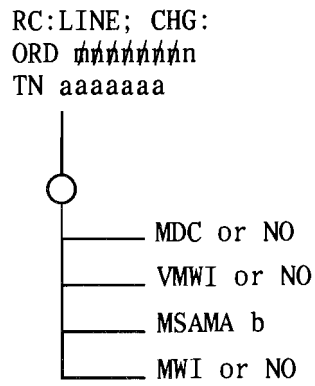
Where:

ORD #####n = Order Number
 TN aaaaaaa = Telephone Number of MSC
 LCC ccc = Line Class Code
 OE eeeeeee = Originating Equipment Number

Note:

1. RSS lines are not allowed to be Message Service Centers

Fig. 14 — Add MSS Options to a New Individual Line (Non-Centrex, Non-ESSX-1, Non-MLG)



Where:

ORD ~~nnnnnnnn~~ = Order Number

TN aaaaaaa = Telephone Number of MSC

Fig. 15 — Change or Delete MSS Options to an Individual Line (Non-Centrex, Non-ESSX-1, Non-MLG)

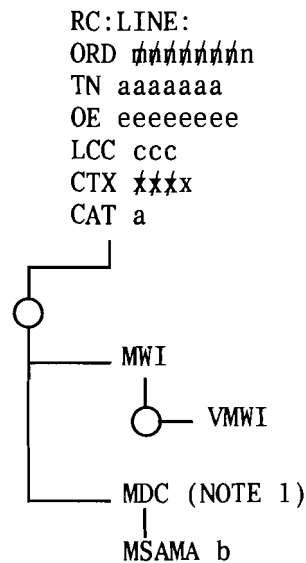
6.7.3 Add, Change, or Delete MSS Options on Centrex-CO or ESSX-1 (Non-MLG) Line

Initial Conditions: Centrex group translations must exist. The TN must be assigned to Centrex intercept (Centrex base route index). The OE (originating equipment) must be assigned.

Results of Message: The DN and LEN translations are entered for the line. The line is placed in service in translations. For an existing Centrex CO line, the changes are effective immediately.

Add MSS options as shown in Fig. 16.

Change or delete MSS options to an existing individual line as shown in Fig. 17.



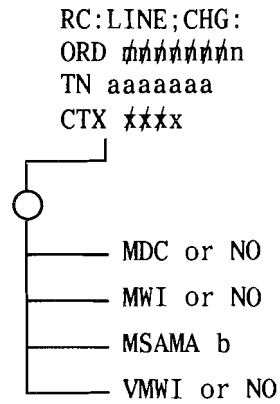
Where:

ORD ##### = Order Number
 TN aaaaaaa = Telephone Number of MSC
 OE eeeeeeee = Originating Equipment Number
 LCC ccc = Line Class Code
 CTX ***x = Centrex Number
 CAT a = Centrex Access Treatment Code

Note:

1. RSS lines are not allowed to be Message Service Centers.

Fig. 16 — Add MSS Options to a Centrex-CO or ESSX-1 (Non-MLG) Line



Where:

ORD #####n = Order Number
TN aaaaaaa = Telephone Number of MSC
CTX ####x = Centrex Number

Fig. 17 — Change or Delete MSS Options to a Centrex-CO or ESSX-1 (Non-MLG) Line

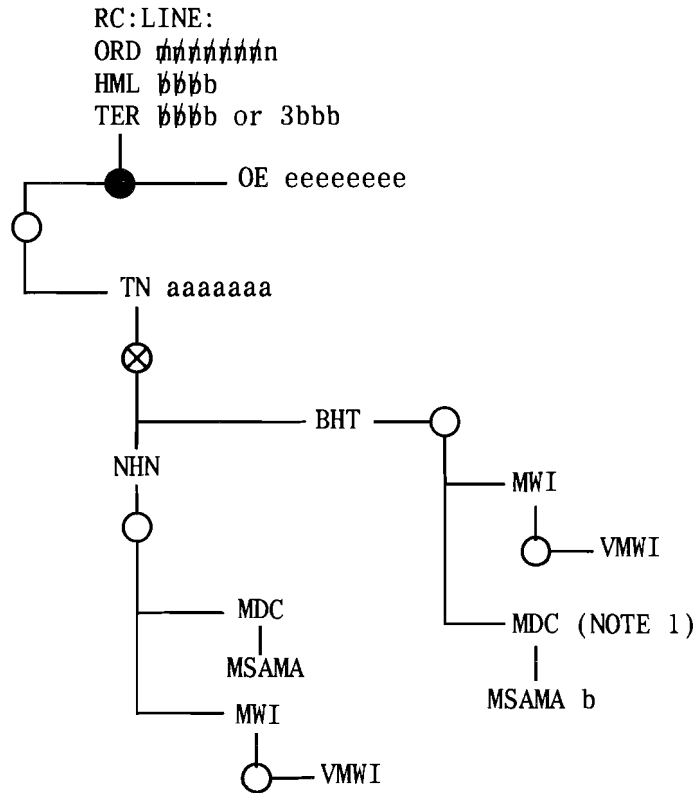
6.7.4 Add, Change, or Delete MSS Options on Multiline Hunt (Non-Centrex) (not Multiple Position Hunt, ACD or Nonhunt)

Initial Conditions: The multiline hunting group message (RC:MLHG) must be entered first. The TN, if required, must be assigned to route index 85 (unassigned TN), or to route index 84 (changed TN). The OE number must be unassigned.

Results of Message: The DN and LEN translations are entered for the terminal. The terminal is placed in service in translations as follows.

Add MSS options to a multiline (non-Centrex) line as shown in Fig. 18.

Change or delete MSS options to a multiline (non-Centrex) line as shown in Fig. 19.



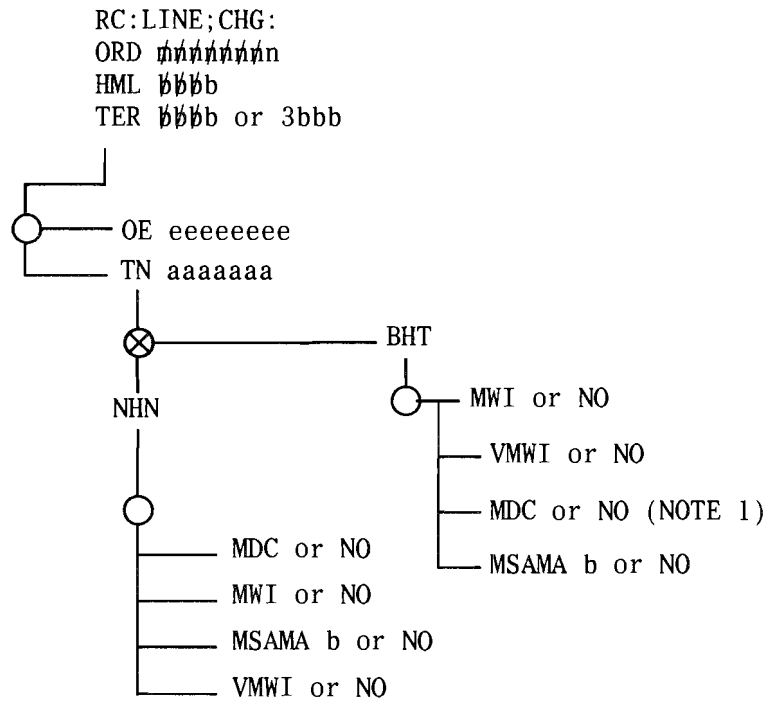
Note:

1. Multiline Hunt Group must have MDC first before the line with MDC option is added to the hunt group

Where:

- ORD ~~nnnnnnnn~~ = Order Number
- HML ~~bbbb~~ = Multiline Hunting Group Number
- TER ~~bbbb~~ or 3bbb = Multiline Group Terminal Number
- OE eeeeeeee = Originating Equipment Number
- TN aaaaaaaa = Telephone Number of MSC
- BHT = Begin-Hunt Terminal
- NHN = Nonhunt Number

Fig. 18 — Add MSS Options to a Multiline (Non-Centrex) Line



Note:

1. Multiline Hunt Group must have MDC first before the line with MDC option is added to the hunt group

Where:

- ORD ~~nnnnnnnn~~ = Order Number
- HML ~~bbbb~~ = Multiline Hunting Group Number
- TER ~~bbbb~~ or 3bbb = Multiline Group Terminal Number
- TN aaaaaaa = Telephone Number of MSC
- BHT = Begin-Hunt Terminal
- NHN = Nonhunt
- OE eeeeeeee = Originating Equipment

Fig. 19 — Change or Delete MSS Options to a Multiline (Non-Centrex) Line

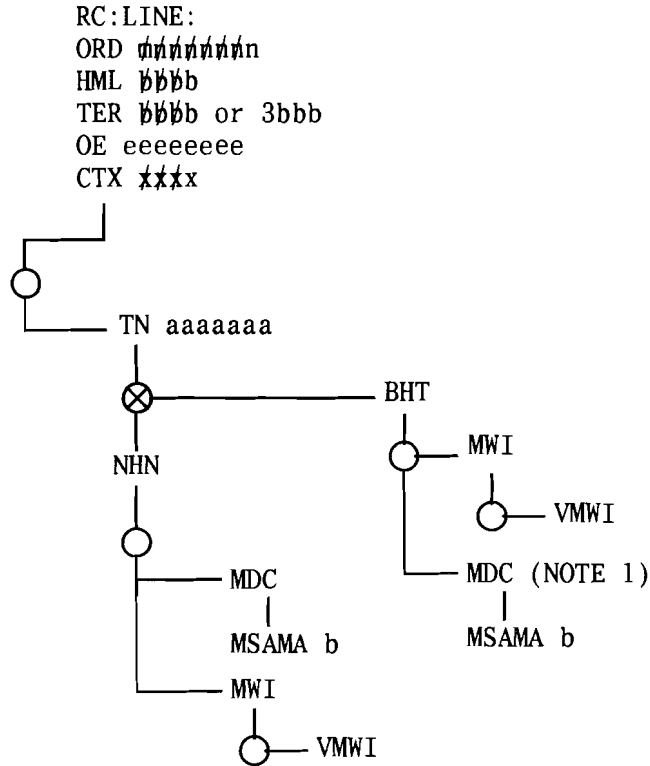
6.7.5 Add, Change, or Delete MSS Options on Multiline Hunt (Centrex or ESSX-1, not Multiple Position Hunt or ACD) Line

Initial Conditions: The multiline hunting group message (RC:MLHG) must be entered first. The TN, if required, must be assigned to Centrex intercept (Centrex base route index). The OE number must be unassigned. For changing a multiline hunt line, the DN and LEN translations must exist for the terminal to be changed.

Results of Message: The DN and LEN translations are entered for the terminal. The terminal is placed in service in translations. For changing a line, the DN and/or LEN translations are changed to reflect the changed information. The change(s) is immediately effective in translations.

Add MSS option(s) to a multiline hunt line (Centrex or ESSX-1, not multiple position hunt) as shown in Fig. 20.

Change or delete MSS option(s) to a multiline hunt line (Centrex or ESSX-1, not multiple position hunt) as shown in Fig. 21.



Note:

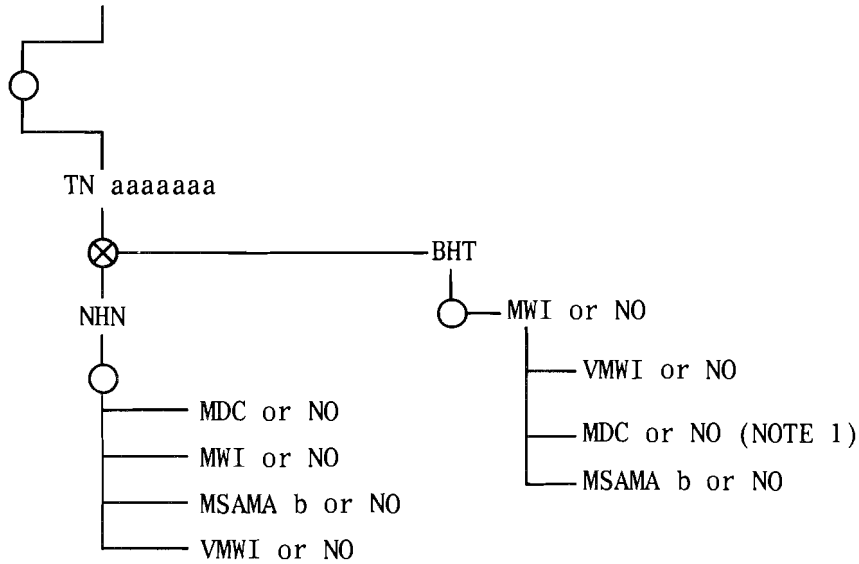
1. Multiline Hunt Group must have MDC first before the line with MDC option is added to the hunt group

Where:

- ORD #####n = Order Number
- HML bbbb = Multiline Hunting Group Number
- TER bbbb or 3bbb = Multiline Group Terminal Number
- OE eeeeeee = Originating Equipment
- CTX xxxx = Centrex Number
- BHT = Begin-Hunt Terminal
- TN aaaaaaa = Telephone Number of MSC
- NHN = Nonhunt Number

Fig. 20 — Add Multiline Hunt (Centrex or ESSX-1, not Multiple Position Hunt or ACD) Line

RC:LINE;CHG:
 ORD ~~nnnnnnnn~~
 HML ~~bbbb~~
 TER ~~bbbb~~ or 3bbb
 CTX ~~xxxx~~



Note:

1. Multiline Hunt Group must have MDC first before the line with MDC option is added to the hunt group

Where:

ORD ~~nnnnnnnn~~ = Order Number
 HML ~~bbbb~~ = Multiline Hunting Group Number
 TER ~~bbbb~~ or 3bbb = Multiline Group Terminal Number
 CTX ~~xxxx~~ = Center Group Number
 TN aaaaaaa = Telephone Number of MSC
 NHN = Nonhunt
 BHT = Begin Hunt Terminal

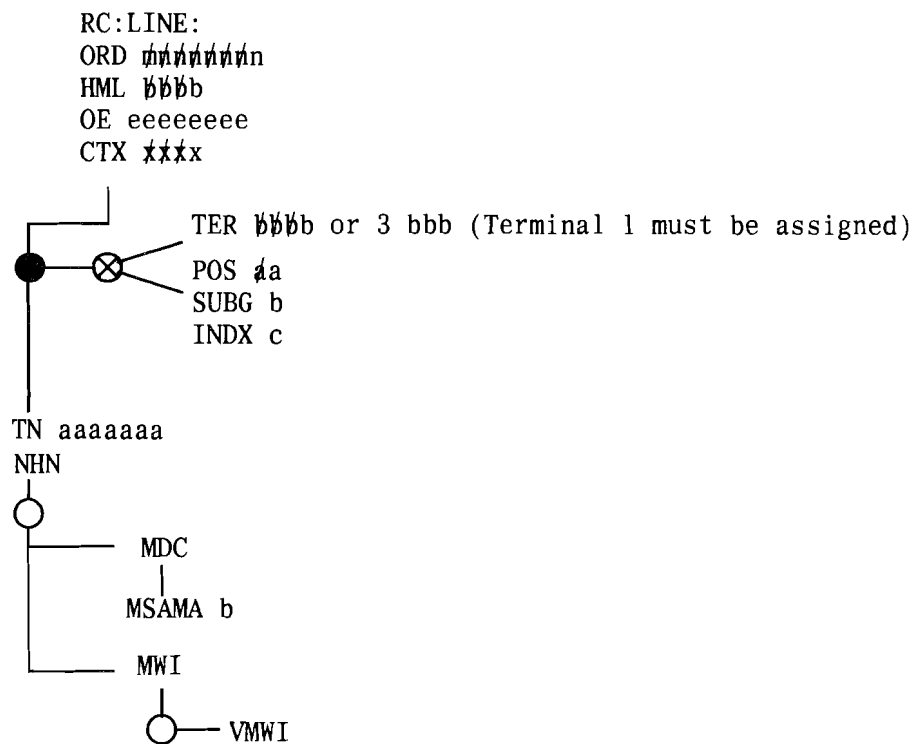
Fig. 21 — Change or Delete Multiline Hunt (Centrex or ESSX-1, not Multiple Position Hunt or ACD)
 Line

6.7.6 Add MSS Option(s) to a Multiple Position Hunt Group (Centrex-CO or ESSX-1)

Initial Conditions: The multiline hunting group message (RC:MLHG) must be entered first. The TN, if required, must be assigned to Centrex intercept (Centrex base route index). The OE number must be unassigned.

Results of Message: The DN and LEN translations are entered for the terminal. The terminal is placed in service in translations.

Add MSS option(s) to a multiple position hunt group (Centrex-CO or ESSX-1) line as shown in Fig. 22.



Where:

- ORD ~~nnnnnnnn~~ = Order Number
 HML ~~bbbb~~ = Multiline Hunting Group Number
 OE eeeeeee = Originating Equipment Number
 CTX ~~xxxx~~ = Centrex Group Number
 TER ~~bbbb~~ or 3 bbb = Multiline Group Terminal Number
 POS ~~da~~ = Position Number in Multiposition Hunt Arrangement
 SUBG ~~b~~ = Subgroup in Multiposition Hunt Group
 INDX ~~c~~ = Index
 TN aaaaaaa = Telephone Number of MSC
 NHN = Nonhunt

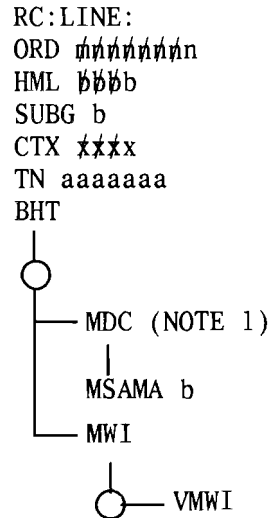
Fig. 22 — Add MSS Option(s) to Multi Position Hunt Group (Centrex-CO, ESSX-1) Line

6.7.7 Add MSS Option to a Begin-Hunt TN in a Multiple Position Hunt Group

Initial Conditions: The multiline hunting group message (RC:MLHG:) must be entered first. The TN must be assigned to Centrex intercept (Centrex base route index).

Results of Message: The DN translations are entered for the subgroup. A begin-hunt TN is assigned to the hunt group subgroup.

Add MSS option(s) to begin-hunt TN as shown in Fig. 23.



Note:

1. Multiline hunt group must have MDC first before the line with MDC is added to the hunt group.

Where:

- ORD 00000000 = Order Number
- HML 0000 = Multiline Hunting Group Number
- SUBG 0 = Subgroup in Multiposition Hunt Group
- CTX 0000 = Centrex Group Number
- TN 00000000 = Telephone Number of MSC
- BHT = Begin-Hunt Terminal

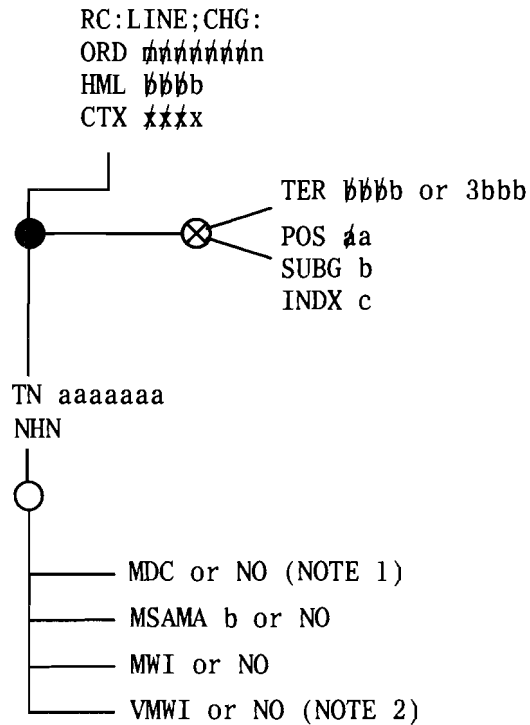
Fig. 23 — Add MSS Option(s) to a Multi-Position Hunt Group Begin-Hunt TN

6.7.8 Change Line for MSS Option(s) in a Multiple Position Hunt Group

Initial Conditions: The DN and LEN translations exist for the terminal to be changed.

Results of Message: The DN and/or LEN translations are changed to reflect the changed terminal information. The change(s) is immediately effective in translations.

Make MSS option change(s) to a line as shown in Fig. 24.



Notes:

1. Multiline hunt group must have MDC first before the line with MDC is added to the hunt group.
2. When changing from VMWI to AMWI, the customer may lose the message waiting indication.

Where:

- ORD ~~nnnnnnnn~~n = Order Number
 HML ~~bbbb~~ = Multiline Hunting Group Number
 CTX ~~xxxx~~ = Centrex Group Number
 TER ~~bbbb~~ or 3bbb = Multiline Group Terminal Number
 POS ~~a~~a = Position Number in Multiposition Hunt Arrangement
 SUBG ~~b~~ = Subgroup in Multiposition Hunt Group
 INDX ~~c~~ = Index
 TN aaaaaaa = Telephone Number of MSC
 NHN = Nonhunt

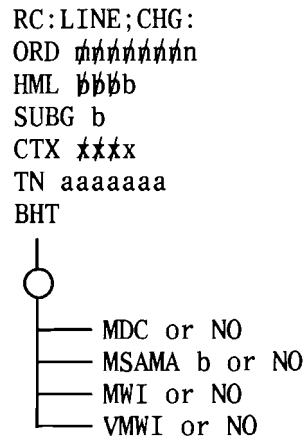
Fig. 24 — Change Line for MSS Option(s) in a Multiple Position Hunt Group

6.7.9 Change MSS Option(s) on a Begin-Hunt TN in a Multiposition Hunt Group

Initial Conditions: The DN translations exist for the subgroup to be changed.

Results of Message: The DN translations are changed to reflect the begin-hunt subgroup information. The change(s) is immediately effective in translations.

Make MSS option change(s) on begin-hunt TN as shown in Fig. 25.



Where:

- ORD 00000000n = Order Number
- HML 0000b = Multiline Hunting Group Number
- SUBG b = Subgroup in Multiposition Hunt Group
- CTX 000x = Centrex Group Number
- TN 0000000 = Telephone Number of MSC
- BHT = Begin-Hunt Terminal

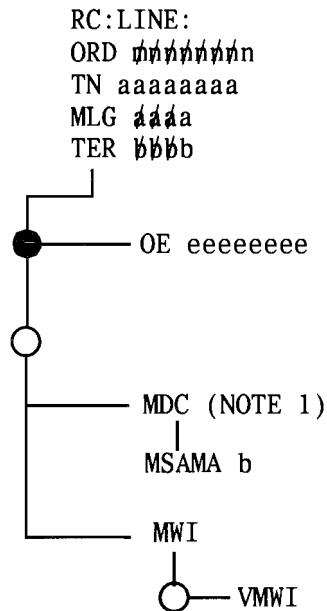
Fig. 25 — Change MSS Option(s) on a Begin-Hunt TN in a Multiposition Hunt Group

6.7.10 Add MSS Option(s) to a Multiline Nonhunting Line (Non-Centrex)

Initial Conditions: The multiline nonhunting group message (RC:MLHG:) must be entered first. The TN must be assigned to route index 85 (unassigned TN) or route index 84 (changed TN). The OE number must be unassigned.

Results of Message: The DN and LEN translations are entered for the terminal. The terminal is placed in service in translations.

Add MSS option(s) to a multiline nonhunting line (non-Centrex) as shown in Fig. 26.



Note:

1. RSS lines not allowed to be Message Service Centers.

Where:

ORD nnnnnnnn = Order Number
 TN aaaaaaaa = Telephone Number of MSC
 MLG aaaa = Multiline Group Number
 TER bbbb = Multiline Group Terminal Number
 OE eeeeeeee = Originating Equipment Number

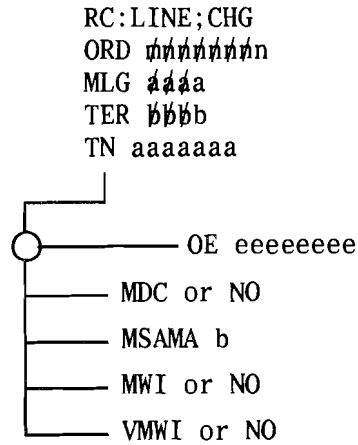
Fig. 26 — Add MSS Option(s) to Multiline Nonhunting Line (Non-Centrex)

6.7.11 Change MSS Option(s) to a Multiline Nonhunting Line (Non-Centrex)

Initial Conditions: The DN and LEN translations exist for the terminal to be changed.

Results of Message: The DN and/or LEN translations are changed to reflect the changed terminal information. The change(s) is immediately effective in translations.

Change MSS Option(s) to a multiline nonhunting line (non-Centrex) as shown in Fig. 27.



Where:

- ORD 00000000 = Order Number
- MLG 0000 = Multiline Group Number
- TER 0000 = Multiline Group Terminal Number
- TN 00000000 = Telephone Number of MSC
- OE eeeeeeee = Originating Equipment Number

Fig. 27 — Change MSS Option(s) to a Multiline Nonhunting Line (Non-Centrex)

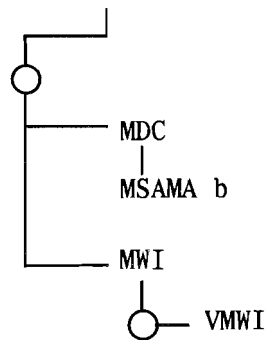
6.7.12 Add MSS Option(s) to a Line in a Multiline Nonhunting Group (Centrex or ESSX-1)

Initial Conditions: The multiline nonhunting group message (RC:MLHG) must be entered first. The TN must be assigned to Centrex intercept (Centrex base route index). The OE number must be unassigned.

Results of Message: The DN and LEN translations are entered for the terminal. The terminal is placed in service in translations.

Add MSS option(s) to a line in a multiline nonhunting group (Centrex or ESSX-1) as shown in Fig. 28.

```
RC:LINE:
ORD 00000000n
TN aaaaaaa
OE eeeeeeee
CTX xxxx
CAT a
MLG 000a
TER 000b
```



Where:

```
ORD 00000000n = Order Number
TN aaaaaaa = Telephone Number of MSC
OE eeeeeeee = Originating Equipment Number
CTX xxxx = Centrex Group Number
CAT a = Centrex Access Treatment Code
MLG 000a = Multiline Group Number
TER 000b = Multiline Group Terminal Number
```

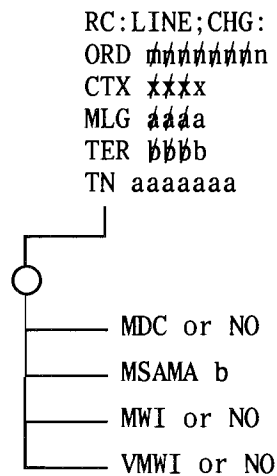
Fig. 28 — Add MSS Option(s) to a Line in a Multiline Nonhunting Group (Centrex or ESSX-1)

6.7.13 Change MSS Option(s) to a Line in a Multiline Nonhunting Group (Centrex or ESSX-1)

Initial Conditions: The DN and LEN translations exist for the terminal to be changed.

Results of Message: The DN and/or LEN translations are changed to reflect the changed terminal information. The change(s) is immediately effective in translations.

Change MSS option(s) to a line in a multiline nonhunting group (Centrex or ESSX-1) as shown in Fig. 29.



Where:

ORD ~~nnnnnnnn~~ = Order Number
CTX ~~xxxx~~ = Centrex Number
MLG ~~ddd~~ = Multiline Group Number
TER ~~bbbb~~ = Multiline Group Terminal Number
TN aaaaaa = Telephone Number of MSC

Fig. 29 — Change MSS Option(s) to a Line in a Multiline Nonhunting Group (Centrex or ESSX-1)

6.7.14 Add, Change, or Delete a Line to an ACD Group

Initial Conditions: The multiline hunting group message (RC:MLHG:) must be entered first. The TN must be assigned to Centrex intercept (Centrex base route index). The OE number must be unassigned. If changing a line, the DN and LEN for the terminal must exist.

Results of Message: The DN and LEN translations are entered for the terminal. The terminal is placed in service in translations. In a change message, the change(s) is immediately effective in translations.

Add a line to an ACD group as shown in Fig. 30.

Change or delete a line in an ACD group as shown in Fig. 31.

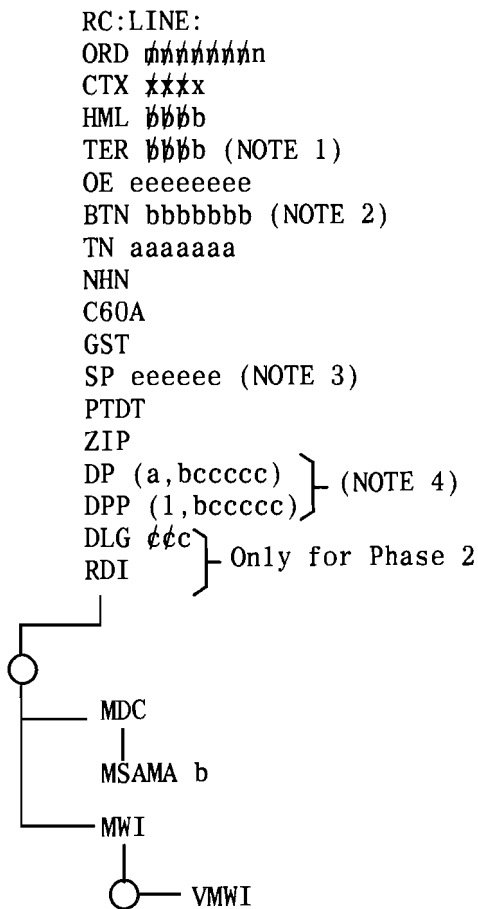


Fig. 30 — Add MSS Option(s) to a Line in an ACD Group (Sheet 1 of 2)

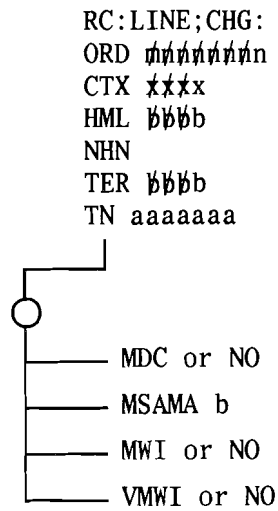
Where:

ORD ~~nnnnnnnn~~n = Order Number
 CTX ~~xxxx~~ = Centrex Group Number
 HML ~~bbbb~~ = Multiline Hunting Group Number
 TER ~~bbbb~~ = Multiline Group Terminal Number
 OE eeeeeee = Originating Equipment Number
 BTN bbbbbbb = Special Billing Telephone Number
 TN aaaaaaa = Telephone Number of MSC
 NHN = Nonhunt Line
 C60A = 60A Customer Premises System Console
 GST = Ground Start Line
 SP eeeeeee = Scan Point Number
 PTDT = Prohibit Terminating Disconnect Timing
 ZIP = Zip Tone (Incoming Call Identifier)
 DP (a,bccccc) = Distributor Point Number
 DPP (1,bccccc) = Distributor Point for Protection Number
 DLG ~~ccc~~ = Data Link Group Number
 RDI = Remote Data Interface

Notes:

1. The first terminal number assigned must be two times the maximum expected quantity of 90A CPS consoles
2. The BTN must be the same as the TN.
3. The SP assignment is made by the RCMAC which must notify the SCC to make the RC:MSN assignment required (attendant interface circuit).
4. The distributor point assigned by the RCMAC for DPP must be the adjacent higher point to the assignment for the last DP (attendant interface circuit)

Fig. 30 — Add MSS Option(s) to a Line in an ACD Group (Sheet 2 of 2)



Where:

```

ORD 00000000n = Order Number
CTX xxxx = Centrex Group Number
HML 0000b = Multiline Hunting Group Number
NHN = Nonhunt
TER 0000b = Multiline Group Terminal Number
TN aaaaaaa = Telephone Number of MSC

```

Fig. 31 — Change or Delete MSS Option(s) to a Line in an ACD Group

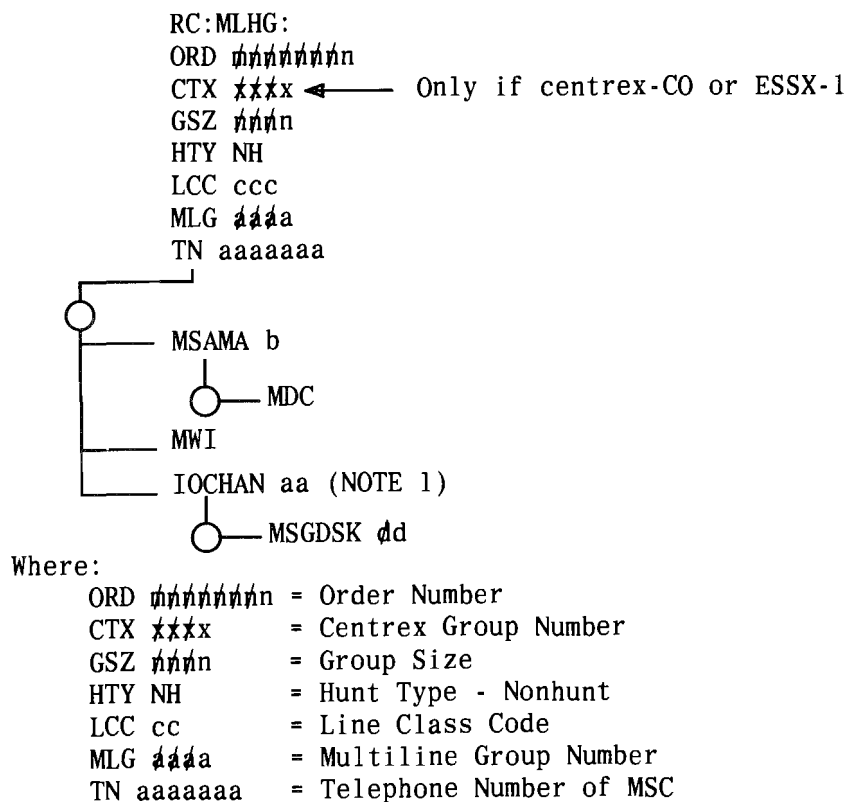
6.8 Assign MSS Option(s) to Multiline Nonhunting Group (Centrex, ESSX-1, or Non-Centrex)

6.8.1 Add MSS Option(s) to a New Multiline Nonhunting Group (Centrex, ESSX-1, or Non-Centrex)

Initial Conditions: A group of stations or consoles must be connected so that common translations are provided for a group of lines. The TN associated with the nonhunt group must be assigned to route index 85 (unassigned TN), or if Centrex, to Centrex intercept (Centrex base route index). The appropriate LCC (line class code) must be entered in the USOC table. If the nonhunt group is part of a Centrex group, appropriate Centrex translations should be entered.

Results of Message: A multiline nonhunt group common block is entered in translations. A multiline nonhunt group head table containing the address of a primary list is entered in translations.

Add MSS option(s) to a new multiline nonhunting group (Centrex, ESSX-1, or non-Centrex) as shown in Fig. 32.



Note:

1. MSGDSK required if I/O channel is to be used to receive MSS information.

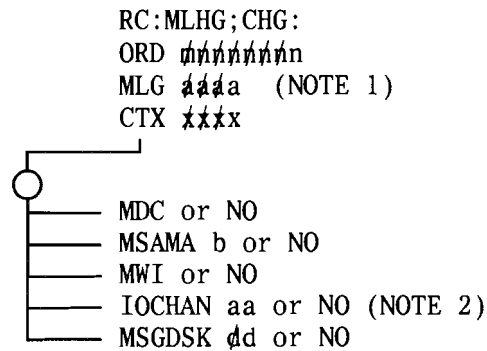
Fig. 32 — Add MSS Option(s) to a New Multiline Nonhunting Group (Centrex, ESSX-1, or Non-Centrex)

6.8.2 Change or Delete MSS Option(s) in a Multiline Nonhunting Group (Centrex, ESSX-1, or Non-Centrex)

Initial Conditions: Multiline nonhunt group common block translations exist for the multiline nonhunt group to be changed.

Results of Message: Translations associated with the multiline nonhunt group common block are changed as specified.

Change or delete MSS option(s) in a multiline nonhunting group (Centrex, ESSX-1, or non-Centrex) as shown in Fig. 33.



Where:

ORD $\overline{nnnnnnnn}$ = Order Number
 MLG \overline{aaaa} = Multiline Group Number
 CTX \overline{xxxx} = Centrex Group Number

Notes:

1. If the hunt group number is to be changed, all lines and the hunt group must be removed with OUT messages and each reentered with the new hunt group (MLG) number.
2. If IOCHAN changed and MSGDSK previously assigned, then MSGDSK must also be changed.

Fig. 33 — Change or Delete MSS Option(s) in a Multiline Nonhunting Group (Centrex, ESSX-1 or Non-Centrex)

6.9 Assign MSS Options to ACD (Automatic Call Distribution) (Phases 1 and 2) Multiline Hunting Group

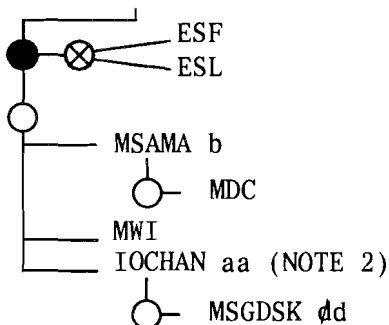
6.9.1 Add MSS Option(s) to a New ACD Multiline Hunting Group

Initial Conditions: The DAG (data accumulation group) (AT&T Practice 231-048-308) and Centrex translations must have been built prior to entering any RC:MLHG messages. The TN associated with the hunt group must be assigned to Centrex intercept (Centrex base route index). The appropriate LCC must be entered in the USOC table.

Results of Message: A multiline hunt group common block is entered in translations. A multiline hunt group head table containing the address of a hunt list is entered in translations.

Add MSS option(s) to a new ACD multiline hunting group as shown in Fig. 34.

RC:MLHG:
 ORD $\overline{nnnnnnnn}$
 CTX \overline{xxxx}
 CAT a
 HML \overline{bbbb}
 HSZ \overline{nnnn}
 HTY AD
 HTC
 DAG \overline{ddd}
 NOFG \overline{ee}
 TN aaaaaaa (NOTE 1)
 LCC ccc
 DPP
 PRB
 TTC
 CST ← Only for Phase 2



Where:

- ORD $\overline{nnnnnnnn}$ = Order Number
- CTX \overline{xxxx} = Centrex Group Number
- CAT a = Centrex Access Treatment Code
- HML \overline{bbbb} = Multiline Hunting Group Number
- HSZ \overline{nnnn} = Number of Hunt-List Terminals
- HTY AD = Hunt Type - Automatic Call Distributor
- HTC = Circular Hunt
- DAG \overline{ddd} = Data Accumulation Group
- NOFG \overline{ee} = Number of Functional Groups
- TN aaaaaaa = Telephone Number of Functional Group
- LCC ccc = Line Class Code
- DPP = Distributor Point for Protection
- PRB = Sets PBX Bit in Ring Code
- TTC = Touch Tone Calling
- CST = Console Status
- ESF = 2-Digit Speed Calling
- ESL = 1-Digit Speed Calling

Notes:

1. The TN should be the same as the listed TN for the primary functional Group
2. MSGDSK required if I/O channel is to be used to receive MSS information.

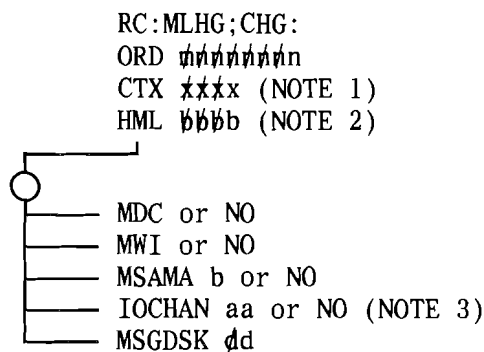
Fig. 34 — Add MSS Option(s) to a New ACD Multiline Hunting Group

6.9.2 Change or Delete MSS Option(s) to an ACD Multiline Hunting Group

Initial Conditions: Multiline hunt group common block translations exist for the multiline hunt group to be changed.

Results of Message: Translations associated with the multiline hunt group common block are changed as specified.

Change or delete MSS Option(s) to an ACD multiline hunting group as shown in Fig. 35.



Where:

```

ORD nnnnnnnnn = Order Number
CTX xxxx      = Centrex Group Number
HML bbbb      = Multiline Hunting Group Number

```

Notes:

1. The keyword CTX is required, but the centrex number ~~xxxx~~ specified may be a change from the existing one. However, the number ~~xxxx~~ must be in the same MCX complex group or ESSX-1 complex group.
2. If the hunt group number is to be changed, all lines and the hunt group must be removed with OUT messages and reentered with NEW messages, using the new hunt group number.
3. If IOCHAN changed and MSGDSK previously assigned, then MSGDSK must also be changed.

Fig. 35 — Change or Delete MSS Option(s) to an ACD Multiline Hunting Group

6.10 Assign Traffic Measurement Code and Traffic Index(es) for MSS Option(s)

Initial Conditions: The specified traffic subtranslators [H, C, or Q (selected quarter hour)] exist with an unassigned code (TMC 10) in the word at each specified index.

Results of Message: For each segment, the specified entry is made in the specified H, C, or Q schedule, or customer traffic group.

Refer to AT&T Practice 231-318-338 for additional traffic related information.

Assign TMC and traffic index(es) for MSS option(s) as shown in Fig. 36.

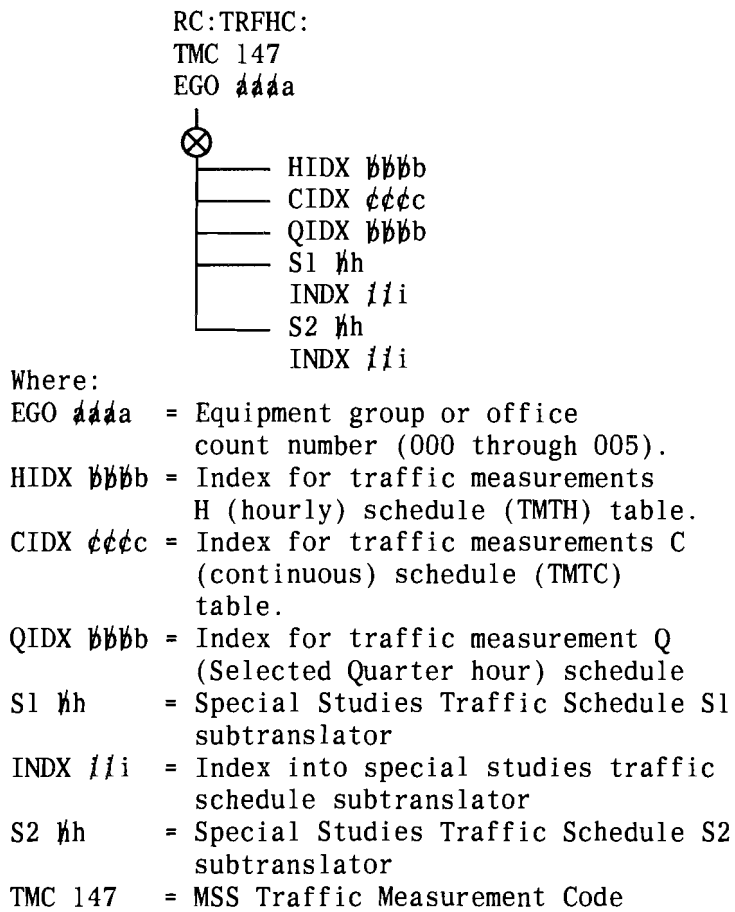


Fig. 36 — Assign Traffic Measurement Code and Traffic Index(es) for MSS Option(s)

7. ISSUING ORGANIZATION

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