

NO. 2 ELECTRONIC SWITCHING SYSTEM
SERVICE FEATURES
MULTILINE HUNTING

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1. GENERAL

1.01 This section is a description of multiline hunting as it pertains to the No. 2 Electronic Switching System (ESS) office for plain old telephone service (POTS). (The EF-1 program has no provision for multiline hunting of centrex lines. The only type of hunting arrangement for these lines is station hunting).

1.02 When this section is reissued the reason for reissue will be listed in this paragraph.

2. DESCRIPTION

2.01 Multiline hunting (MLH) is a hunting arrangement whereby one or more directory numbers are associated with a number of members (lines) and the hunting is performed over terminal equipment numbers (TENS) stored in program store in the PBX/multiline hunt translator. (Fig. 1 depicts the translation format associated with multiline hunting.) The members comprise a multiline hunting group (MLHG). The multiline hunting group number, which serves as the primary index to the processor for seeking information about a MLHG, consists of 3 digits beginning with 001 (000 is not permitted) and numbered consecutively with a maximum number of 255 for both the LO-1 and EF-1 programs.

2.02 Lines associated with a multiline hunting group are identified within the group by a member number, ranging from 000 to 255. Any number of directory numbers may be assigned to multiline hunting group. Each directory number assigned corresponds to a subset of the multiline hunting group called a "hunt group." The parameter of a hunt group is defined by two member numbers within the multiline hunting group. When a directory number is dialed, hunting commences with the smaller of the two member numbers (first hunt member) and continues sequentially through to the larger member number (last hunt member) as the status bits in call store are scanned for an idle member.

2.03 *The number of multiline hunting groups and the maximum number of members in a multiline hunting group defined in translations cannot be modified by recent change techniques.* Therefore, the network administrator should provide for future growth by allowing for skeleton or dummy multiline hunting groups. The

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quantity and maximum size of the dummy groups should be based on the projected demand for new service plus the projected number of series completion chains which may require conversion to MLHGs prior to the next office data administration (ODA) run. This is necessary to assure the allocation of a translator for each MLHG, a member list and a call store status block. One MLHG can serve both ground start and loop start lines.

2.04 Recent change messages, entered on the service order teletypewriter, may be used to change all information in existing multiline hunting groups (except the MLHG number and the maximum number of members).

2.05 Some members in a multiline hunting group may be outdial only. These members must not be included in a hunting list, nor can they be assigned a directory number. They are considered as members for the "size" requirement only. Only the originating major class found in the multiline hunt group block may be assigned to these lines in offices with the LO-1 program. If more than one originating class is required, each originating class must be in separate multiline hunting groups or one originating class may be assigned to a series completion chain with hunting to a multiline hunting group number. The EF-1 program, Issue 3.3, does not have this limitation for POTS.

2.06 The members of a group may be either ground start or loop start. However, a multiline hunting group member requiring ground start operation cannot be assigned to a concentrator arranged for range extension.

2.07 Test multiline hunting groups are included in full translation information prior to cutover. These assignments should be made per TG-2H, Division 5, General Office Translations.

2.08 *Any unassigned member (no TEN association) of a multiline hunting group is treated by the program as a permanently busy member so that hunting can be performed over it. However, maximum usage (36 CCS) will be recorded for each member skipped.*

A. Features

2.09 Included with MLHGs are three features which affect the hunting process. Fig. 2 is

a graphic representation of these features. They are as follows:

(1) **Night Stop:** The night stop feature is activated by a key located on the customer premises. If a directory number associated with a MLHG is dialed, the normal hunting sequence is ignored. Instead of starting the hunting sequence with the member number associated with the directory number and continuing until the last hunt member is reached, the hunting starts with the first hunt member of the MLHG (member number 000) and stops with the "night stop" member.

(2) **Stop Hunt:** The stop hunt feature is also activated by a key on the customer premises. When activated, the MLHG is effectively split into two parts defined by the stop hunt number having an associated directory number. Hunting which begins at a member number smaller than the stop hunt member number may not continue beyond the stop hunt member. Hunting which begins at a member number larger than the stop hunt member number may continue normally.

Note: If both night stop and stop hunt keys are operated simultaneously, the night stop feature has precedence.

(3) **Remote Make Busy:** The remote make busy (RMB) feature is likewise activated by keys at the customer premises. A MLHG may have as many as seven RMB keys. Upon operation of an RMB key, a preselected set of members associated with the key is made to appear busy to incoming calls. This set may include any number of members which need not be numbered sequentially.

B. Criteria for using Multiline Hunting

2.10 Those circumstances under which MLH must be used are:

- (a) Hunt lines associated with ground start PBX equipment.
- (b) Any customer with more than eight hunting lines (preferably those in excess of four lines).
- (c) Any customer with more than one hunt group or overlapping hunting lists. The

overlapping hunt list makes it possible to point a directory number to an existing MLHG and assign any member as the first hunt member and any higher numbered member as the last hunt member.

(d) If remote make busy, stop hunt or night stop features are desired (see 2.09).

(e) Inward wide area telephone service (WATS) lines must use a MLHG assignment to obtain the necessary traffic registrations. The requirements for Inward WATS are peg count, usage, overflow and a sleeve lead assignment (when required). A sleeve lead assignment is required to operate the auxiliary timer used for measured and flat rate Inward WATS. With the LO-1, issue 4.6, program, and the EF-1 program a sleeve lead is required to operate an overflow register associated with the line (see Fig. 3).

Note: Generally, PBXs are assigned to multiline hunting groups, but some of the smaller PBXs are treated at the central office as a series completion chain. Series completion is handled at the central office by attempting sequentially to connect a series of directory numbers (consult Dial Facilities Management Practice, Division H, Section 10e(2), Series Completion.) It is recommended that four or fewer members be handled by series completion if no hunt groups are required and the equipment is not ground start.

C. Traffic Registers

2.11 Every multiline hunting group defined in the office has a set of dedicated traffic registers assigned to it in its call store status block (Every MLHG has an area in call store in which the status of all control keys, the busy/idle status

of each member and the traffic registers for the MLHG are kept. This address cannot be altered by recent change procedures). There are three registers per multiline hunting group which collect peg count, usage and overflow data for use in the administration of a group. These registers can be assigned per MLHG to appear on the H or C schedule (but not both) or on no schedule. This assignment may be changed by recent change techniques.

3. REFERENCES

3.01 The following sources provide additional information concerning multiline hunting:

- (1) BSP 232-118-101 — Basic Translation Data, Description, Issue 2
- (2) BSP 680-536-010 — ESS Service Order Procedures, Using the Service Order Teletypewriter, Issue 2
- (3) No. 2 ESS-Translation Guide, TG-2H, Division 3 — Office Data Administration System
 - Division 4 — Preparation of Forms
 - Division 5 — General Office Translations
 - Division 6 — Administrative Changes and Growth
 - Division 7 — Translators
 - Division 8 — Office Records
 - Division 10 — Traffic Measurements
- (4) Input Manual, IM-2H200

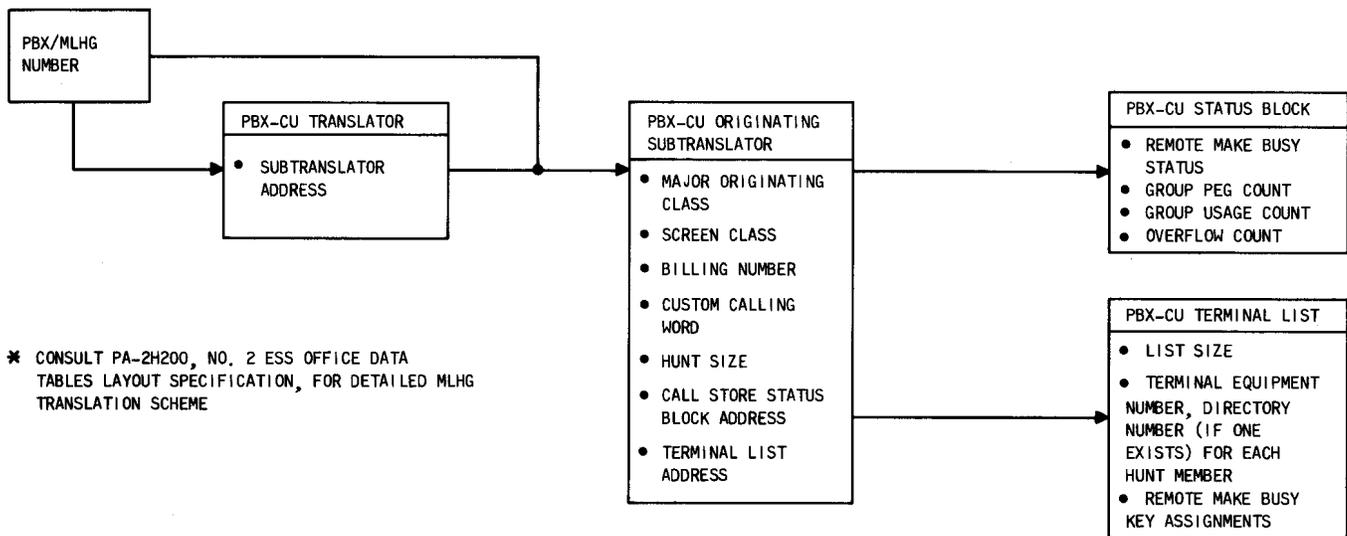


Fig. 1—PBX/MLHG Translation Format

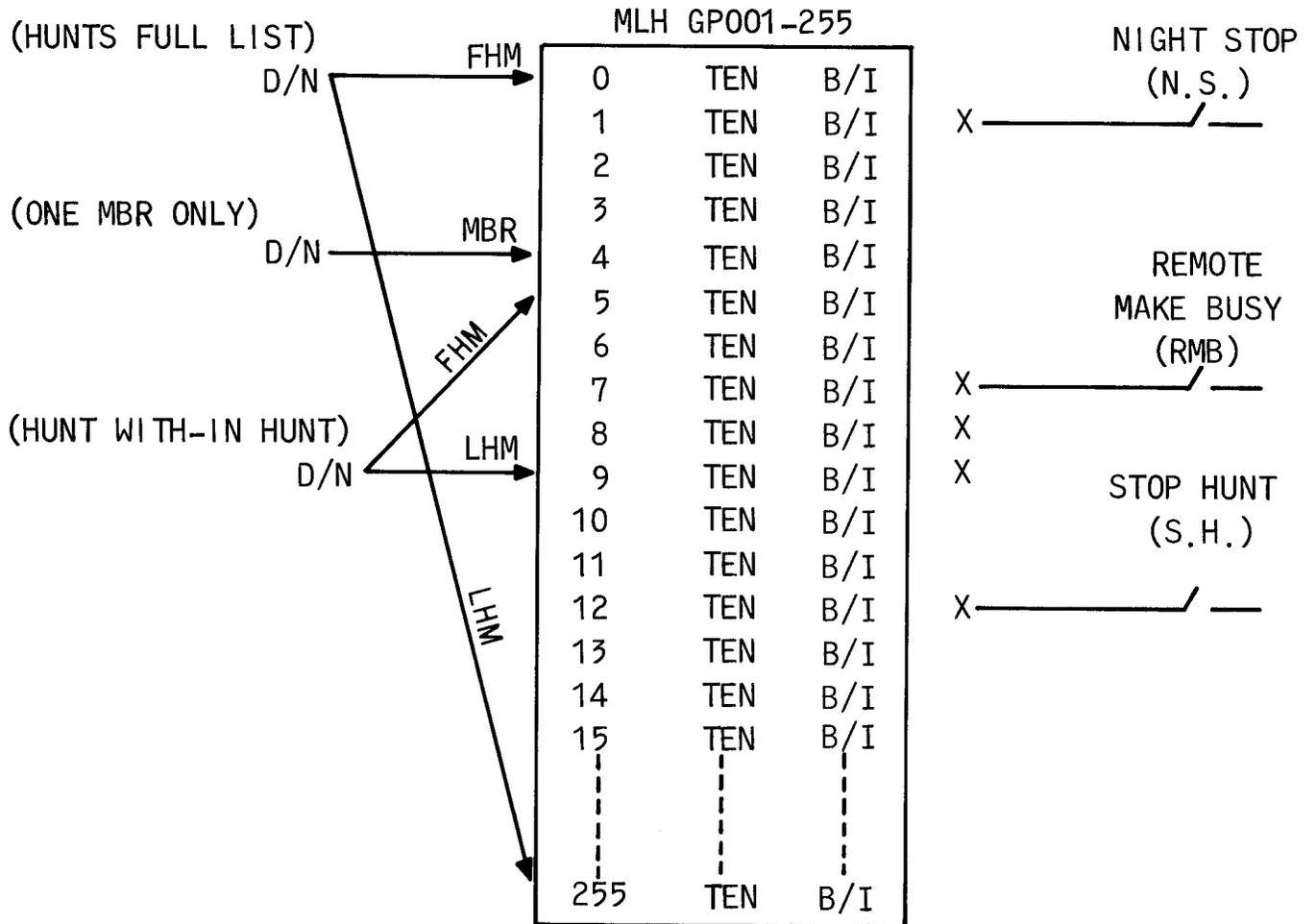


Fig. 2—Multiline Hunting Group Features

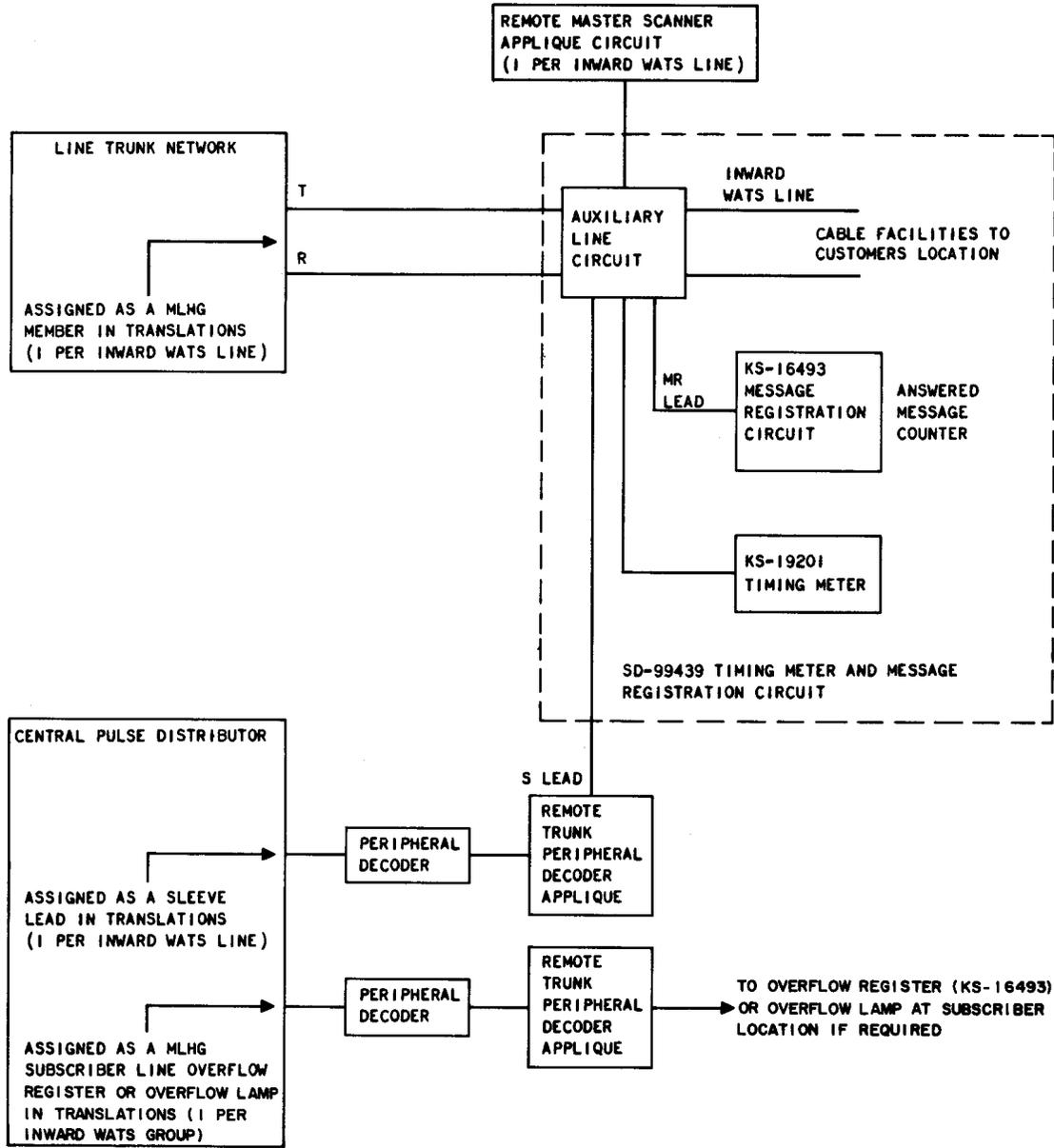


Fig. 3—No. 2 ESS Inward Wats Equipment Arrangement