MANUAL TRANSLATION MODIFICATION PROCEDURE (LO-1 AND EF-1)

FOR ADDING ADDITIONAL TRUNKS/SERVICE CIRCUITS

NO. 2 ELECTRONIC SWITCHING SYSTEM

1. GENERAL

1.01 This section provides procedures to add new trunks or service circuits to the LO-1 or EF-1 generic program of a No. 2 Electronic Switching System (ESS).

1.02 This is the initial issue of this section.

1.03 A letter a, b, c, etc, added to a step number in the procedure in this section indicates an action which may or may not be required depending upon local conditions. The conditions under which a lettered step, or a series of lettered steps, should be made is given in the procedure, and all steps governed by the same condition are designated by the same letter within a procedure. When a condition does not apply, all steps designated by that letter should be omitted.

PURPOSE AND OBJECTIVE

1.04 The purpose of this manual translation modification procedure is to add new trunks

or service circuits to the office translation parameters without performing an ODA run. The circuit types which may be added by this method are limited to single port trunks and service circuits. In addition SD-2H110 (PD applique) or SD-2H183 (ROTL) may not be added.

1.05 Upon successful completion of this procedure, the forms will define the program store memory locations which are to be modified and the contents of those locations. The implementation of all chips changed must be accomplished by use of the procedures in Section 232-127-303. See Section 232-127-101 for background information on Manual Translation Modification.

GENERAL DESCRIPTION OF PROCEDURE

1.06 The addition of a new trunk or service circuit is accomplished by inserting data, which describes the circuit, into the 'office translation tables. The trunk group, scan point, and terminal equipment translation areas contain the tables which must be modified to include a new circuit. The tables will identify the circuit type, characteristics of the circuit, associated scan points, terminal equipment number, peripheral decoder points, and central pulse distributor enable point.

A. Translation Tables Involved

1.07 The scan point translation tables are essentially divided into two distinct parts. This corresponds to the physical differences in a universal trunk circuit and a miscellaneous trunk or service circuit. Therefore, two separate procedures are provided to deal with the scan point translation tables. One procedure provides for adding universal trunk circuits to scan point translations and the other provides for adding miscellaneous trunk and service circuits to scan point translations.

1.08 Universal trunk circuits have two scan points per circuit which differ only in the value of the low bit. The basic function of the scan point translations is to provide a connection between the scan points and the other peripheral assignments associated with the circuit. This correlation is provided for each circuit by the establishment of a two-word entry containing the individual circuit's assignment within the universal subtranslator. The peripheral decoder (PD) point is algorithmically related to the scan point, given the base PD enable number for a universal trunk frame.

1.09 Miscellaneous trunk and service circuits may have more or less than two scan points. No order exists for the assignment of scan points and peripheral decoders in the case of miscellaneous trunk and service circuits. As in the universal trunk circuits, the basic function of the scan point translations is to provide a connection between the scan points and other peripheral assignments associated with the circuit. However, in the case of a miscellaneous trunk or service circuit, this connection is provided for each circuit by a four-word entry in the miscellaneous or service circuit subtranslator.

1.10 Because no order exists in the assignment of scan points, an additional level of control is needed within the scan point translation tables (Fig. 1). Each supervisory scan point is allocated a special half-word entry within an auxiliary subtranslator as shown in PA-2H200, Fig. 10. The half-word entries in the auxiliary subtranslator are used to link the scan points of the circuit which are contained within the miscellaneous or service circuit subtranslator. The half-word entry contains a pseudo scan point index (PSPI). A base pseudo scan point number (PSPN) and the PSPI are used in combination to provide the link between the scan point and its four-word circuit entry. The four-word circuit entry is located by adding the PSPI and base PSPN together to select the appropriate subtranslation table entry.

1.11 The trunk group translation tables are also divided into two distinct parts as shown in PA-2H200, Fig. 11. The parts in the trunk group translation tables correspond to the difference in the way that service circuits are handled and the way trunk circuits are handled.

1.12 Service circuits have an associated 10-bit number that must be entered in the service circuit list. The 10-bit number is one half the remainder of the PSPN of the circuit minus 35400 or $1/2$ (PSPN - 35400). The value of the largest member number contained within the group data block must be modified if necessary to ensure that the largest member number is as large as the member being added.

1.13 Trunk circuits have a principle scan point number that must be entered in the trunk circuit list. The principle scan point number is considered the base or reference SPN of the circuit.

As in service circuits, the value of the largest member number must be modified, if necessary.

1.14 The terminal equipment number translator tables are used to perform two essential functions for trunk and service circuits. The entry first will identify the circuit as belonging to a class of service that is nonline terminal and having a direct scan point. The second function is identification of the associated directed scan point if any exist.

B. Procedures Required

1.15 As shown in Fig. 1 and discussed in the preceding paragraphs, three translation tables require changes to add a circuit. They are the SPN, trunk group, and TEN translations. Trunk and service circuit (TSCK) forms are provided in addition to procedures to determine the information needed to make these changes.

1.16 TSCK-1 form is used to obtain preliminary information which will be used throughout the procedures. The procedure to obtain the required information for the TSCK-1 form is provided in either Part 1 or Part 2. If a universal trunk circuit is being added, use Part 1, "Procedure for Adding Universal Trunk Circuits to Scan Point Translations." If a miscellaneous trunk or service circuit is being added, use Part 2, "Procedure for Adding Miscellaneous Trunk or Service Circuit to Scan Point Translations."

1.17 One additional form is required for adding universal trunk circuits to scan point translations. This form (TSCK-2) deals with indexing through the SPN translations to the universal subtranslator. The information to be used in the TSCK-2 form is obtained by following the procedures in Part 1.

1.18 An additional form is also required for adding miscellaneous trunk and service circuits to scan point translations. This form is TSCK-3 and it is more involved in that a pseudo scan point index to be added to an auxiliary subtranslator must also be determined. The PSPN is determined and will point to the service circuit subtranslator or miscellaneous trunk subtranslator where the information which identifies the circuit will be placed.

1.19 The TSCK-4 form is used to gather information to be added to the trunk group translator. Part 3, "Procedure for Updating Trunk Group Translations", must be followed when adding any circuit to the program as well as Part 4, "Procedure for Updating Directed Scan Point in TEN Translations." Using the procedure in Part 4 provides the information for the TSCK-5 form which will be added to the TEN translations.

1.20 The ability to add and subtract in octal and add in binary is essential to the successful utilization of the procedures in this section. The size and address of each block will be read out of the No. 2 ESS program store in octal in response to a TTY input message. The standard change in Program Store (CHIPS) procedure required to change the program store cards requires an octal input. All address calculation and indexing is done by octal addition and subtraction. The user must also be able to calculate parity by adding the binary bits that are the contents of the new translator words to be written. Refer to Section 232-127-101, Manual Translation Modification Procedure—General Description, for methods of addition and subtraction in octal, binary-to-octal conversions, and tables for decimal-to-octal conversion.

1.21 All the information gathered will be entered in the No. 2 Chips Table. This table will be used in performing Manual Translation Modification Procedure—Formatting Changes in Program Store Formatting, Section 232-127-303. Section 232-127-303 must be completed before performing Change in Program Store (CHIPS) Procedures, Section 232-004-303.

1.22 If the No. 2 Chips Table or necessary TSCK-1, TSCK-2, TSCK-3, TSCK-4 or TSCK-5 forms are not available to record the translator change information, reproducible forms may be obtained from Section 232-127-101, Manual Translation Modification Procedures - General. Universal Trunks require TSCK-1, TSCK-2, TSCK-4, TSCK-5, and No. 2 Chips Table forms. Miscellaneous trunks and service circuits require TSCK-1, TSCK-3, TSCK-4, TSCK-5, and No. 2 Chips Table forms.

1.23 Parity will not be computed in this section. Parity will only be carried when the octal contents of a word are initially entered into the TSCK table. Parity will be calculated when the procedures in Section 232-127-303 are performed.

1.24 The following defines nomenclature used in the procedures and TSCK forms:

A(X) = Address of X

C(X) = Content of address X

2. PROCEDURES

PART 1—PROCEDURE FOR ADDING UNIVERSAL TRUNK CIRCUITS TO SCAN POINT TRANSLATIONS

STEP	PROCEDURE
1	Provide a complete description of the new circuit to be added to the system by filling out ODA form ESS 2201. A copy of the ESS 2201 form and complete instructions is contained within the TG-2H translation guide. An example of ESS 2201 is shown in Fig. 2. The only exception to the instructions is that ALL scan points are to be entered in sequential order starting with the SPN which has the lowest enable address within the assigned sequence.

The information requested is as follows:

(1) Terminal equipment number

(2) Equipment location

(3) Auxiliary PD point—trunk PD enable

(4) Supervisory scan points—designate the line or trunk function of the SPN, line = L, trunk = T

(5) Directed scan points—SPN, line = L, trunk = T

(6) Trunk order code

(7) Group member

(8) Member number.

Note: Some of the items in TSCK-1 are not required for universal trunk circuits. Leave those items blank. The completed portion of TSCK-1 applicable to universal trunk circuits is found in Fig. 3. The completed TSCK-2 form is found in Fig. 4.

STEP	PROCEDURE
2	Refer to the circuit definition table contained within PA-2H200 drawings to determine the characteristics of the circuit shown in TSCK-1, Items 1 through 4. Ensure proper circuit state index is being using for appropriate generic.
3	Enter the direction of the trunk (TRK) in TSCK-1, Item 6. The values are shown in TSCK-1.
4	Enter the first scan point number (SPN) in TSCK-1, Item 12. The first scan point is the supervisory scan point which has the lowest enable address. This information was recorded on the ESS 2201 form.

STEP	PROCEDURE
5	Convert the first scan point (scanner, row, and column point) from decimal to binary and enter the binary numbers in the format shown in TSCK-1, Item 12.
6	Convert the W_F, X_F, and LB_F of the first SPN from binary to octal and enter the octal numbers in TSCK-1, Item 12.
7	The principle scan point is considered the base or reference SPN for the circuit. The principle SPN is obtained by adding the principle SPN (offset value) to the first scan point number. The principle SPN (offset value) was entered in TSCK-1, Item 4. Enter the principle scan point number in TSCK-1, Item 13.

Note: A principle SPN value of 0 means the first SPN is also the principle SPN of the circuit. Concurrently, a value of 1 indicates the second SPN is the principle SPN, etc.

STEP	PROCEDURE
8	Convert the principal scan point (scanner, row, and column point) from decimal to binary and enter the binary number in format shown in TSCK-1, Item 13.
9	Enter the network, concentrator group, concentrator, switch, and level obtained on ESS 2201 in TSCK-1, Item 14. Convert the decimal entries to binary.
10	Enter the binary digits in the TEN format shown in TSCK-1, Item 14.
11	Convert the TEN(9-14) field and TEN(0-8) field from binary to octal and enter the octal number of TEN(9-14) and TEN(0-8) in TSCK-1, Item 14.
12	Enter the trunk group and member number obtained on ESS 2201 in TSCK-1, Item 15 and 16. Convert the decimal entries to octal and binary.
13	Enter the binary digits in the trunk group and member format shown in TSCK-1, Items 15 and 16.

Note: The trunk group number is a 7-bit number for LO-1 (max. of 256 groups) and an 8-bit number for EF-1 (max. of 512 groups). The member number is an 8-bit number for LO-1 (max. of 512 members) and a 7-bit number for EF-1 (max. of 256 members).

STEP	PROCEDURE
14	Combine the member and group number and enter the 17-bit number into the member and group format shown in TSCK-1, Item 17.
15	Obtain the address of SPTBL from the master table index contained within PA-2H200. Enter the address of SPTBL in TSCK-2, Item 1. Ensure proper SPTBL address is used for the appropriate generic.
16	At the maintenance TTY—

Type in:
UB PS:RP:aaaaaa 0 1!
where aaaaaa = Address of SPTBL.
The system response will be:
UR PS RP aaaaaa bbbbbbbb

STEP	PROCEDURE

where aaaaaa = Address of SPTBL
and bbbbbbbb = Contents of SPTBL.

17   Enter the contents of SPTBL [C(SPTBL)] in TSCK-2, Item 2.

18   Obtain the octal value of W_F from TSCK-1, Item 12 and enter that value in TSCK-2, Item 3.

19   Add C(SPTBL) to W_F to obtain the address of SPTEV [A(SPTEV)]. Enter A(SPTEV) in TSCK-2, Item 3.

20   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa 0 1!
where aaaaaa = Address of SPTEV.
The system response will be:
UR PS RP aaaaaa bbbbbbbb
where aaaaaa = Address of SPTEV
and bbbbbbbb = Contents of SPTEV.

21   Enter the octal contents of SPTEV [C(SPTEV)] in TSCK-2, Item 4.

22   Convert C(SPTEV) from octal to binary. Enter the binary contents in the format shown in TSCK-2, Item 4.

23   Convert USTB from binary to octal and enter the value in TSCK-2, Item 4.

24   Ensure that the value of the STC portion of C(SPTEV) is 011. If a value of STC is other than 011, an error has been made. Do not proceed before correcting the error.

25   Obtain the octal value of X_F from TSCK-1, Item 12 and enter that value in TSCK-2, Item 5.

26   Calculate the sum $2X_F+2$ and enter this value in TSCK-2, Item 5. The numbers MUST be added in octal.

27   Obtain the octal value of USTB from TSCK-2, Item 4 and enter this value in TSCK-2, Item 6.

28   Use $2X_F+2$ calculated in TSCK-2, Item 5 as an entry in item 6 and calculate the address of USTE (0) by adding USTB and $2X_F+2$ together.

29   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa 0 2!
where aaaaaa = address of USTE (0)
The system response will be:
UR PS RP aaaaaa bbbbbbbb cccccccc
where aaaaaa = Address of USTE (0)

STEP	PROCEDURE

and bbbbbbbb = Contents of USTE (0)
and cccccccc = Contents of USTE (1).

Note: USTE (1) is the next succeeding address after USTE (0).

30 Enter the address and contents of USTE (0) and USTE (1) in TSCK-2, Item 7. Ensure that the contents of USTE (0) and USTE (1) are all zeros. If the contents of both words are not all zeros, an error has been made.

31 Enter the following in the binary format shown in TSCK-2, Item 8:
TRK from TSCK-1, Item 6
TEN from TSCK-1, Item 14
MEMBER AND GROUP from TSCK-1, Item 17.

32 Convert from binary to octal and enter the constructed program store words USTE (0) and USTE (1) in TSCK-2, Item 8 and in the No. 2 Chips Table, Item B1 under new contents. The address of USTE (0) and USTE (1) must be entered in the No. 2 Chips Table, Item B1. All zeros should be entered under old contents.

PART 2—PROCEDURE FOR ADDING MISCELLANEOUS TRUNK AND SERVICE CIRCUITS TO SCAN POINT TRANSLATIONS

STEP	PROCEDURE

1 Provide a complete description of the new circuit to be added to the system by filling out ODA form ESS 2201. A copy of the ESS 2201 form and complete instructions is contained within the TG-2H translation guide. An example of ESS 2201 is shown in Fig. 2. The only exception to the instructions is that all scan points are to be entered in sequential order starting with the SPN which has the lowest enable address within the assigned sequence.

The information requested is as follows:

(1) Terminal equipment number

(2) Equipment location

(3) Auxiliary PD point—trunk PD enable

(4) Supervisory scan points—designate the line or trunk function of the SPN, line = L, trunk = T

(5) Directed scan points—SPN, line = L, trunk = T

STEP	PROCEDURE

(6) Trunk order code

(7) Group number

(8) Member number.

Note: Some of the items in TSCK-1 and TSCK-3 are not required for miscellaneous trunk circuits or service circuits. Leave those items blank. The completed portion of TSCK-1 applicable to miscellaneous trunk and service circuits is found in Fig. 5. The completed TSCK-3 form is found in Fig. 6.

2   Refer to the circuit definition table contained within PA-2H200 drawings to determine the characteristics of the circuit shown in TSCK-1, Items 1 through 5. Ensure proper circuit state index is being used for appropriate generic.

3a   If the circuit is a miscellaneous trunk—
Enter the direction of the trunk (TRK) in TSCK-1, Item 7. The values are shown in TSCK-1.

4   Enter the circuit type (CKT) in TSCK-1, Item 7. The vaules are shown in TSCK-1.

5   Subtract 1 from the number of PD buffers entered in TSCK-1, Item 5. Convert from decimal to binary and enter this binary number for BUF - 1 in TSCK-1, Item 8.

6a   If the circuit is a miscellaneous trunk—
Enter the BY number in TSCK-1, Item 9. The values are shown in TSCK-1.

7   Obtain the frame number entered on ESS 2201 and enter this number in TSCK-1, Item 10. Convert the number from decimal to binary and enter the binary number in TSCK-1, Item 10 also. If the frame number is greater than 64_8, only the low 6 binary bits will be used to identify the frame.

8   Obtain the number of the CPD FR, next, card point and buffer entered on ESS 2201 and enter these numbers in TSCK-1, Item 11. Convert the decimal numbers to binary.

9   Enter the binary numbers in the PD buffer format shown in TSCK-1, Item 11. Convert the binary format to octal and enter the octal number beside PD buffer address in TSCK-1, Item 11.

10   Enter the first scan point number in TSCK-1, Item 12. The first scan point is the supervisory scan point which has the lowest address. If the circuit has no supervisory scan point, the first scan point is the directed scan point with the lowest address. This information was recorded on the ESS 2201 form.

11   Convert the first scan point (scanner, row, and column point) from decimal to binary and enter the binary numbers in the format shown in TSCK-1, Item 12.

12   Convert the W_F, X_F, and LB_F of the first SPN from binary to octal and enter the octal number in TSCK-1, Item 13.

STEP	PROCEDURE
13	The principle scan point is considered the base or reference SPN for the circuit. The principle SPN is obtained by adding the principle SPN (offset value) to the first scan point number column point. The principle SPN (offset value) was entered in TSCK-1, Item 4. Enter the principle scan point number in TSCK-1, Item 13.

Note: A principle SPN value of 0 means the first SPN is also the principle SPN of the circuit. Concurrently, a value of 1 indicates the second SPN is the principle SPN, etc.

14	Convert the principle scan point (scanner, row, and column point) from decimal to binary and enter the binary number in the format shown in TSCK-1, Item 13.
15	Enter the network, concentrator group, concentrator, switch, and level obtained on ESS 2201 in TSCK-1, Item 14. Convert the decimal entries to binary.
16	Enter the binary digits in the TEN format shown in TSCK-1, Item 14.
17	Convert the TEN(9-14) field and TEN(0-8) field from binary to octal and enter the octal numbers of TEN(9-14) and TEN(0-8) in TSCK-1, Item 14.
18	Enter the trunk group member number obtained on ESS 2201 in TSCK-1, Items 15 and 16. Convert the decimal entries to octal and binary.
19	Enter the binary digits in the trunk group and member format shown in TSCK-1, Items 15 and 16.

Note: The trunk group number is a 7 bit number for LO-1 (max. of 256 groups) and an 8-bit number for EF-1 (max. of 512 groups). The member number is an 8-bit number for LO-1 (max. of 512 members) and a 7-bit number for EF-1 (max. of 256 members).

20	Combine the member and group number and enter the 17-bit number into the member and group format shown in TSCK-1, Item 17.
21	Obtain the address of SPTBL from the master tale index contained within PA-2H200. Enter the address of SPTBL in TSCK-3, Item 1. Ensure proper SPTBL address is used for appropriate generic.
22	At the maintenance TTY— Type in: UB PS:RP:aaaaaa 0 1! where aaaaaa = Address of SPTBL. The system response will be: UR PS RP aaaaaa bbbbbbbb where aaaaaa = Address of SPTBL and bbbbbbbb = Contents of SPTBL.
23	Enter the contents of SPTBL [C(SPTBL)] in TSCK-3, Item 2.
24	Obtain the octal value of W_F from TSCK-1, Item 12 and enter that value in TSCK-3, Item 3.

STEP	PROCEDURE

25   Add C(SPTBL) to W_F to obtain the address of [A(SPTEV)]. Enter A(SPTEV) in TSCK-3, Item 3.

26   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa 0 1!
where aaaaaa = Address of SPTEV.
The system response will be:
UR PS RP aaaaaa bbbbbbbb
where aaaaaa = Address of SPTEV
and bbbbbbbb = Contents of SPTEV.

27   Enter the octal contents of SPTEV [C(SPTEV)] in TSCK-3, Item 4.

28   Convert C(SPTEV) from octal to binary. Enter the binary contents in the format shown in TSCK-3, Item 4.

29   Convert AXSTB (0) from binary to octal and enter the value in TSCK-3, Item 4.

30   Ensure that the value of the STC portion of C(SPTEV) is 001. If a value of STC is other than 001, an error has been made. Do NOT proceed before correcting the error.

31   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa 0 2!
where aaaaaa = Address of AXSTB (0).
The system response will be:
UR PS RP aaaaaa bbbbbbbb cccccccc
where aaaaaa = Address of AXSTB (0)
and bbbbbbbb = Contents of AXSTB (0)
and cccccccc = Contents of AXSTB (1).

Note: AXSTB (1) is the next succeeding address after AXSTB (0).

32   Enter the octal contents of AXSTB (0) and AXSTB (1) in TSCK-3, Item 5. Part of the contents of AXSTB (0) will be identified as BPSPNT and part of AXSTB (1) will be identified as BPSPNSC.

33   Calculate the sum A(AXSTB (0) + X_F + 2] and enter this value in TSCK-3, Item 6 beside A [AXSTE (0)]. These numbers MUST be added in octal. AXSTB (0) was obtained in TSCK-3, Item 4 and X_F was obtained in TSCK-1, Item 12.

34   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa 0 1!
where aaaaaa = Address of AXSTE (0).
The system response will be:
UR PS RP aaaaaa bbbbbbbb

STEP	PROCEDURE
	where aaaaaa = Address of AXSTE (0) and bbbbbbbb = Contents of AXSTE (0).
35	Enter the octal contents of AXSTE (0) in TSCK-3, Item 7. Convert the octal value obtained into the binary format indicated in Item 7.
36	Obtain the LBF of the scan point number from TSCK-1, Item 12. If the LB = 0, the PSPI will go in the right half of the word. If the LB = 1, the PSPI will go in the left half of the word.
37	Ensure that all zeros are located in the half word in which the new PSPI will be entered. If the half word is not all zeros, an error has been made (ie, the new circuit was assigned scan points currently in use). Do not proceed until the error is corrected.
38b	If the circuit used DC operator signaling— The LB in Step 36 must be 0. In addition, the next word must be all zeros so the format in Item 8 can be written.
39b	At the maintenance TTY— Type in: UB PS:RP:aaaaaa 0 1! where aaaaaa = Address of AXSTE (1). The system response will be: UR PS RP aaaaaa bbbbbbbb where aaaaaa = Address of AXSTE (1) and bbbbbbbb = All zeros.
40a	If the circuit is a miscellaneous trunk— Obtain the BPSPNT from TSCK-3, Item 5. Calculate the initial PSPN (IPSPN) and maximum PSPN (MAXPSPN) in TSCK-3, Item 9 by adding 2_8 and 1000_8, respectively to the BPSPNT.
41c	If the circuit is a service circuit— Obtain the BPSPNSC from TSCK-3, Item 5. Calculate the IPSPN and MAXPSPN in TSCK-3, Item 10 by adding 2_8 and 1000_8, respectively to the BPSPNSC.
42	The IPSPN obtained in the previous step will be used as the current PSPN. Enter the current PSPN in TSCK-3, Item 11.
43	Convert the current PSPN from octal to the binary format in TSCK-3, Item 11.
44	Convert the binary Y_c value of the current PSPN to octal and enter it in TSCK-3, Item 11.
45	Enter the binary value of Z_c in the binary format shown for $4Z_c$.

STEP	PROCEDURE
46	Calculate the value 4Zc by shifting the binary number two places to the left as shown in TSCK-3, Item 11. Convert the binary number to octal and enter the value obtained beside 4Zc in TSCK-3, Item 11.
47	Calcuate the sum of [C(SPTBL) + Yc)] and enter this value in TSCK-3, Item 12. The sum calculated is the address of SPTBLPSPN. C(SPTBL) was entered in TSCK-3, Item 2. Yc was entered in TSCK-3, Item 11.
48	At the maintenance TTY— Type in: UB PS:RP:aaaaaa 0 1! where aaaaaa = Address of SPTBLPSPN. The system response will be: UR PS RP aaaaaa bbbbbbbb where aaaaaa = Address of SPTBLPSPN and bbbbbbbb = Contents of SPTBLPSPN.
49	Enter the octal contents of SPTBLPSPN in TSCK-3, Item 13. Convert the octal number to the binary format in Item 13.
50a	If the circuit is a miscellaneous trunk— Ensure that the value in Item 13 of the STC portion of C(SPTBLPSPN) is 101. If a value of STC is other than 101, an error has been made. Do **NOT** proceed before correcting the error.
51c	If the circuit is a service circuit— Ensure that the value in Item 13 of the STC portion of C(SPTBLPSPN) is 010. If a value of STC is other than 010, an error has been made. Do **NOT** proceed before correcting the error.
52	Convert the value of MT/SCSTB in Item 13 from binary to octal and enter the octal number in TSCK-3, Item 14.
53	Calculate the sum of (MT/SCSTB + 4Zc + 1) and and enter this value in TSCK-3, Item 14. The sum calculated is the address of SUBTRANE (0). 4Zc was entered in TSCK-3, Item 11.
54	At the maintenance TTY— Type in: UB PS:RP:aaaaaa dddddd 2! where aaaaaa = Address of SUBTRANE (0) and dddddd = Address of SUBTRANE (2). The system response will be: UR PS RP aaaaaa bbbbbbbb cccccccc UR PS RP dddddd eeeeeeee ffffffff where aaaaaa = Address of SUBTRANE (0) and bbbbbbbb = Contents of SUBTRANE (0) and cccccccc = Contents of SUBTRANE (1) and dddddd = Address of SUBTRANE (2)

STEP	PROCEDURE

and eeeeeeee = Contents of SUBTRANE (2)
and ffffffff = Contents of SUBTRANE (3).

55d   If the contents of SUBTRANE (0) through SUBTRANE (3) are not all zeros—
Increase the current PSPN by 2.
The current PSPN is entered in TSCK-3, Item 11.

56d   Ensure that the current PSPN is less than MAXPSPN entered in TSCK-3, Item 10 for service circuits and Item 9 for miscellaneous trunks. If PSPN is not less than MAXPSPN, the circuit cannot be added without an ODA run.

57d   Convert the current PSPN from octal to the binary format in TSCK-3, Item 11.

58d   Convert the Y_c value of the current PSPN to octal. Calculate the new value for $4Z_c$ and enter it in TSCK-3, Item 11.

59d   Compare the new value of Y_c with the value obtained from the last PSPN. If the values are the same, repeat Steps 53 through 59d using the new value for $4Z_c$. If the values of Y_c are different, repeat Steps 47 through 59d using the new values of Y_c and $4Z_c$.

60   Enter the address of SUBTRANE (0) through SUBTRANE (3) in TSCK-3, Item 15. SUBTRANE (0) was entered in TSCK-3, Item 14 and SUBTRANE (1) through SUBTRANE (3) are the next three succeeding addresses after SUBTRANE (0).

61   Enter the following in the binary format shown in TSCK-3, Item 15:
CKT from TSCK-1, Item 7
TRK from TSCK-1, Item 6 (TRK = 00 for service circuits)
TEN from TSCK-1, Item 14
BUF - 1 from TSCK-1, Item 8
BY from TSCK-1, Item 9 (BY=0 for service circuits)
MEMBER AND GROUP from TSCK 1, Item 17
FRAME from TSCK-1, Item 10
SCAN POINT NUMBER from TSCK-1, Item 12
PD BUFFER ADDRESS from TSCK-1, Item 11.

62   Convert from binary to octal and enter the constructed program store words of SUBTRANE (0) through SUBTRANE (3) in TSCK-3, Item 15 and in the No. 2 Chips Table, Item B-2 under new contents. The address of SUBTRANE (0) through SUBTRANE (3) must be entered in the No. 2 Chips Table, Item B-2. All zeros should be entered under old contents.

63   Obtain the current PSPN from TSCK-3, Item 11. Enter that number in TSCK-3, Item 16.

64   Obtain the BPSPNSC for a service circuit from TSCK-3, Item 10 or BPSPNT for a miscellaneous trunk from TSCK-3, Item 9. Enter this number in TSCK-3, Item 16 beside BPSPN.

65   Subtract the BPSPN from the current PSPN to obtain the PSPI. Enter this number in TSCK-3, Item 16.

STEP	PROCEDURE

Note: This number must be between 2 and 777 or an error has been made.

66 Convert the PSPI from octal to the binary format in TSCK-3, Item 17.

67a If the circuits is a miscellaneous trunk—
Enter a 0 in the S bit.

68c If the circuit is a service circuit—
Enter a 1 in the S bit.

69 Obtain the LBf of the scan point number from TSCK-1, Item 12. If the LB = 0, enter the PSPI in the right half of the word [AXSTE (0)]. If the LB = 1, enter the PSPI in the left half of the word.

70 Obtain the data that was in the other half of the word from TSCK-3, Item 7. Enter that binary number in the appropriate half of the word [AXSTE (0)] in TSCK-3, Item 18.

Note: If the LBf is 0 and another SPN is to be added for this circuit, repeat Steps 67 through 69 using the next SPN.

71 Convert from binary to octal and enter the constructed program word [AXSTE (0)] in the No. 2 Chips Table, Item B-3 under new contents. Obtain the old contents of AXSTE (0) from TSCK-3, Item 7 and enter this number in the No. 2 Chips Table, Item B-3 under old contents.

72 Obtain the address of AXSTE (0) from TSCK-3, Item 6. Enter this value in TSCK-3, Item 18 an in the No. 2 Chips Table, Item B-3.

73b If the circuit is DC operator signaling—
Obtain the data of AXSTE (1) from TSCK-3, Item 8 and enter the value in the No. 2 Chips Table, Item B-3 under new contents. Enter all zeros under old contents. Obtain the address of AXSTE (1) by adding 1 to A[AXSTE (0)] and enter this value in the No. 2 Chips Table, Item B-3.

74 Repeat Steps 1 through 73 for each additional scan point of this circuit. Substitute the additional scan point for the first scan point. The principle scan point will not change.

PART 3—PROCEDURE FOR UPDATING TRUNK GROUP TRANSLATIONS

STEP	PROCEDURE

Note: For referenced calculations, refer to Fig. 3 and 4. The completed TSCK-4 form is found in Fig. 7.

1 Enter the octal trunk group number obtained in TSCK-1, Item 15 on TSCK-4, Item 1.

STEP	PROCEDURE
2	Convert the octal entry to the binary format shown in TSCK-4, Item 1.
	Note: The trunk group number is a 7-bit number for LO-1 (max. of 256 groups) and a 8-bit number for EF-1 (max. of 512 groups).
3	Convert the B(4-8) field for EF-1 or the B(4-7) field for LO-1 and the B(0-3) field from binary to octal and enter the octal number in Item 1.
4	Obtain the address of GRPTBL from the master table index contained within PA-2H200. Enter the address of GRPTBL in TSCK-4, Item 2.
5	Calculate the sum [A(GRPTBL) + B(4-8) or B(4-7)] and enter the value in TSCK-4, Item 2. This sum is the address of GDBPTR. B(4-8) or B(4-7) was entered in TSCK-4, Item 1.
6	At the maintenance TTY— Type in: UB PS:RP:aaaaaa 0 1! where aaaaaa = Address of GDBPTR. The system response will be: UR PS RP aaaaaa bbbbbbbb where aaaaaa = Address of GDBPTR and bbbbbbbb = Contents of BDBPTR.
7	Enter the octal contents of GDBPTR in TSCK-4, Item 3. Convert the octal value obtained into the binary format indicated in Item 3.
8	Extract the octal value of G type from TSCK-4, Item 3 and enter it in Item 4.
9	Ensure the value in Item 4 is 2 for a service circuit or a 3 for an universal or miscellaneous trunk. If these values were not obtained, an error has been made.
10	Convert the binary value of A(GDP) from TSCK-4, Item 3 to octal and enter this value in TSCK-4, Item 5.
11a	If the circuit is a service circuit— Obtain the binary value of B(0-3) from TSCK-4, Item 1 and enter the value in TSCK-4, Item 6. Calculate the value 4B(0-3) by shifting the binary number two places to the left as shown in TSCK-4, Item 6. Convert the binary number to octal and enter the value obtained beside GRPIX in TSCK-4, Item 6.
12b	If the circuit is a universal or miscellaneous trunk— Obtain the octal value of B(0-3) from TSCK-4, Item 1 and enter the value in TSCK-4, Item 7. Calculate the value 8B(0-3) by shifting the octal number one place to the left, as shown in TSCK-4, Item 7. The value obtained is GRPIX.
13	Enter the value obtained in TSCK-4, Item 5 for A(GDP) in TSCK-4, Item 8. Obtain the value of GRPIX from TSCK-4, Item 6 for a service circuit or TSCK 4, Item 7 for an universal or miscellaneous trunk. Enter this value in TSCK 4, Item 8.

STEP	PROCEDURE

14   Calculate the address of GRP (0) by adding A(GDP) and GRPIX. Enter this value beside A[GRP (0)] in TSCK-4, Item 8.

15   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa dddddd 2!
where aaaaa = Address of GRP(0)
and dddddd = Address of GRP (2).

Note: GRP (2) is the second succeeding address after GRP (0).

The system response will be:
UR PS RP aaaaaa bbbbbbbb cccccccc
UR PS RP dddddd eeeeeeee ffffffff
where aaaaaa = Address of GRP (0)
and bbbbbbbb = Contents of GRP (0)
and cccccccc = Contents of GRP (1)
and dddddd = Address of GRP (2)
and eeeeeeee = Contents of GRP (2)
and ffffffff = Contents of GRP (3).

16   Enter the contents of GRP (0) through GRP (3) in TSCK-4, Item 9.

17   Enter the address and contents of GRP (0) through GRP (3) (obtained in Step 15) into TSCK-4, Item 10. Convert the octal values of the words to the binary format in Item 10.

18   Convert the largest member number field, the A(CKT LIST) field, and the circuit state table index field from binary to octal. Enter the three values in TSCK-4, Item 10.

19   Ensure that the value of the circuit state table index is the same in TSCK-4, Item 10 and TSCK-1, Item 2. If the values are not identical, an error exists. Do not proceed until the error is corrected.

20c   If the circuit is a service circuit or incoming trunk—
Bits 0 through 15 of GRP (1) must be all zeros. If the value is not all zeros, an error exists. Do not proceed until the error is corrected.

21   Obtain the octal value of the member number from TSCK-1, Item 16. Enter this value in TSCK-4, Item 11. Ensure that the octal value of the member number of the circuit being added is no more than one greater than the value of the largest member number obtained in TSCK-4, Item 10. It can be smaller if a hole existed in the group. If the value of the member number of the circuit being added is greater than one over the largest member number, an error has been made. Do not proceed until the error is corrected.

22d   If the new member number is larger than the value obtained for the largest member number—
The word GRP (0) must be modified to reflect this change. Copy the address and binary contents (bits 8 through 20) obtained for the PS word GRP (0) from TSCK-4, Item 10 to

STEP	PROCEDURE

Item 11. Convert this octal member number to the binary format of largest member number (bits 0-7) in Item 11.

23d   Convert the binary contents of GRP (0) to octal and enter the octal number in Item 11. Enter the address and new contents of GRP (0) in the No. 2 Chips Table, Item A-1. Obtain the old data of GRP (0) from TSCK-4, Item 9 and enter this number in the No. 2 Chips Table, Item A-1 under old contents.

Note: For referenced calculations in "b" lettered steps, refer to Fig. 3 and 4.

24b   If the circuit is an universal or miscellaneous trunk—
Enter the value of A(CKT LIST) and member number in TSCK-4, Item 12. The value of A(CKT LIST) was obtained in TSCK-4, Item 10 and the member number was obtained in TSCK-1, Item 16.

25b   Add the two numbers together to obtain A(CKT MBR). Enter this number in TSCK-4, Item 12.

26b   At the maintenance TTY—
Type in:
UB PS:RP:aaaaaa 0 1!
where aaaaaa = Address of CKT MBR.
The system response will be:
UR PS RP aaaaaa bbbbbbbb
where aaaaaa = Address of CKT MBR
and bbbbbbbb = Contents of CKT MBR.

27b   Enter the address of CKT MBR in TSCK-4, Item 13.

28b   Ensure that the content of CKT MBR is not 3777777. If the content is 37777777, the group's "maximum group size" limit has been reached. Refer to Section 232-127-312 before proceeding with this procedure to allocate a new trunk group or change the size of the existing trunk group.

29b   The contents of CKT MBR should be all zeros. If the contents are not all zeros, this member number has been assigned to a circuit which is currently an active member of the group and the value obtained is the principle SPN of the active member. Another member number must be assigned and this procedure must be repeated. The new member number must be entered in the scan point translation information Steps 31 and 32 in Part 1 of Steps 61 and 62 in Part 2.

30b   Obtain the binary value of the principle SPN from TSCK-1, Item 13 if the circuit is a universal trunk. If the circuit is a miscellaneous trunk, obtain the PSPI from TSCK-3, Item 16 and convert the PSPI to a fourteen bit binary number. Enter the principle SPN or PSPI in the binary format shown in TSCK-4, Item 13.

31b   Convert the constructed program store word from binary to octal and enter in TSCK-4, Item 13 and in the No. 2 Chips Table, Item A-2 under new contents. Enter the address of CKT MBR in the No. 2 Chips Table, Item A-2. Enter all zeros under old contents.

STEP	PROCEDURE

Note: For referenced calculations in "a" lettered steps, refer to Fig. 5 and 6.

32a   If the circuit is a service circuit—
Obtain the octal value of the member number from TSCK-1, Item 16. Enter the member number in TSCK-4, Item 14.

33a   Convert the octal number to the binary format shown in TSCK-4, Item 14.

34a   Convert the MEMBER NO/2 field from binary to octal and enter the octal number of MEMBER/2 in TSCK-4, Item 15.

35a   Enter the value of A(CKT LIST) obtained in TSCK-4, Item 10 in TSCK-4, Item 15. Add the two values together to obtain A(CKT MBR). Enter the value in TSCK-4, Item 15.

36a   At the maintenance TTY—
Type in:
UB PS RP aaaaaa 0 1!
where aaaaaa = Address of CKT MBR.
The system response will be:
UR PS RP aaaaaa bbbbbbbb
where aaaaaa = Address of CKT MBR
and bbbbbbbb = Contents of CKT MBR.

37a   Enter the address and contents of CKT MBR in TSCK-4, Item 16.

38a   Ensure that the content of CKT MBR is not 3777777. If the contents is 3777777, the group's circuit state limit has been reached. Refer to Section 232-127-312 before proceeding with this procedure to allocate a new trunk group or change the size of the existing trunk group.

39a   Each member of the service circuit group is assigned a 10-bit entry within the service circuit list table. The word which was entered in the "contents" slot of TSCK-4, Item 16 contains two ten-bit entries. Convert the octal value of this word to binary and record the word in the binary format shown in TSCK-4, Item 16.

40a   Obtain the LB_M from TSCK-4, Item 14. If the LB_M is 0, the 10-bit number for this member will go in the right half of the binary word format provided in TSCK-4, Item 16. If the LB_M is 1, the 10-bit number for this member will go in the left half of the word. Ensure that the contents of the half word entry in this 10-bit number is all zeros. If the contents is not all zeros, this member number has been assigned to a circuit which is currently an active member of the group and the value obtained is the 10-bit entry of the active member.

41a   Obtain the current PSPN from TSCK-3, Item 11 and enter this number in TSCK-4, Item 17.

42a   Subtract 35400s from the current PSPN and enter the number in TSCK-4, Item 17.

STEP	PROCEDURE
43a	Convert the octal number (2*(10-bit number)) in Item 17 of TSCK-4 to the binary format shown in TSCK-4, Item 18.
44a	Enter the 10-bit number located in TSCK-4, Item 1 into the appropriate half word entry of TSCK-4, Item 19. Obtain the address and the second half word entry from TSCK-4, Item 16 and enter these numbers in TSCK-4, Item 19.
45a	Convert from binary to octal and enter the constructed program store word in TSCK-4, Item 19 and in the No. 2 Chips Table, Item A-3 under new contents. Enter the address of CKT MBR in No. 2 Chips Table, Item A-3. Obtain the old contents of CKT MBR from TSCK-4, Item 16 and enter it in the No. 2 Chips Table, Item A-3 under old contents.

PART 4—PROCEDURE FOR UPDATING DIRECTED SCAN POINT IN TEN TRANSLATIONS

STEP	PROCEDURE
1	Obtain the address of TENTBL from the master table index contained within PA-2H200. Enter the address of TENTBL in TSCK-5, Item 1. *Note:* For referenced calculations, refer to Fig. 3 and 4. The completed TSCK-5 form is found in Fig. 8.
2	Obtain the value of TEN(9-14) from TSCK-1 Item 14. Enter this value in TSCK-5, Item 1.
3	Calculate the sum (TENTBL + TEN(9-14)) and enter this value in TSCK-5, Item 1. The sum is the address of OTENT.
4	At the maintenance TTY— Type in: UB PS:RP:aaaaaa 0 1! where aaaaaa = Address of OTENT. The system response will be: UR PS RP aaaaaa bbbbbbbb where aaaaaa = Address of OTENT and bbbbbbbb = Contents of OTENT.
5	Enter the octal contents of OTENT in TSCK-5, Item 2.
6	Enter the 6-digit value of OSTBASE in TSCK-5, Item 2 into TSCK-5, Item 3.
7	Obtain the value of TEN(0-8) from TSCK-1, Item 14. Enter this value in TSCK-5, Item 3.

STEP	PROCEDURE
8	Calculate the sum (OSTBASE + B(0-8)) and enter this value in TSCK-5, Item 3. The sum is the address of OSTENT.
9	At the maintenance TTY— Type in: UB PS:RP:aaaaaa 0 1! where aaaaaa = Address of OSTENT. The system response will be: UR PS RP aaaaaa bbbbbbbb where aaaaaa = Address of OSTENT and bbbbbbbb = Contents of OSTENT.
10	Enter the octal contents of OSTENT in TSCK-5, Item 4.
11	The contents of OSTENT should be all zeros. If OSTENT is not all zeros, an error has been made. Do not proceed before the error has been corrected.
12a	If no directed scan points are assigned to the circuit (refer to ESS 2201)— Enter all zeros in the directed scan point format shown in TSCK-5, Item 5.
13b	If directed scan points are assigned to the circuit, but no supervisory scan points are assigned— Enter the binary value of the principle scan point number from TSCK-1, Item 13 in the directed scan point format shown in TSCK-5, Item 5.
14c	If both directed and supervisory scan points are assigned to the circuit— The directed scan point to be used is the directed scan point with the lowest enable address. This information was recorded on the ESS 2201 form. Obtain the trunk scanner, row, and column point from ESS 2201 and enter these numbers in TSCK-5, Item 6.
15c	Convert the trunk scanner, row, and column point from decimal to binary and enter the binary numbers in the format shown in TSCK-5, Item 6.
16c	Enter the binary value of the directed scan point number obtained in Step 15c in the directed scan point format shown in TSCK-5, Item 5.
17	Convert the binary number to octal and enter the constructed program word in TSCK-5, Items 5 and in the No. 2 Chips Table, Item C.
18	Obtain the address of OSTENT from TSCK-5, Item 3 and enter it in TSCK-5, Item 5 and in the No. 2 Chips Table, Item C. Enter all zeros under old contents.
19	Use the information on the No. 2 Chips Table (completed No. 2 Chips Table is found in Fig. 9) to perform Manual Translation Modification Procedure Formatting Change in program store, Section 232-127-303.

3. GLOSSARY

3.01 The following list defines abbreviations and nonstandard terms used in this section:

AXSTB—Auxiliary Subtranslator Base

AXSTE—Auxiliary Subtranslator Entry

BPSPNSC—Base Pseudo Scan Point Number-Service Circuit

BPSPNT—Base Pseudo Scan Point Number-Trunk

BUF-1—Number of Buffers Minus One

BY—Bylink trunk if equal to 1

CHIPS—Change In Program Store

CKT—Circuit Type

CKT LIST—Circuit List

CKT MBR—Circuit Member

CPD—Central Pulse Distributor

DC—Direct Current

EF—Extended Features Generic Program

ESS—Electronic Switching Systems

FR—Frame

GDBPTR—Group Data Block Pointer

GDP—Group Data Pointer

GRP—Group Pointer

GRPIX—Group Pointer Index

GRPTBL—Group Table

G Type—Group Type

IPSPN—Initial Pseudo Scan Point Number

LB$_F$—Low Bit of First Scan Point Number

LB$_M$—Low Bit of Member Number

LO—Local Office Generic Program

MAXPSPN—Maximum Pseudo Scan Point Number

MEMBER NO/2—1/2 Member Number

MT/SCSTB—Miscellaneous Trunk or Service Circuit Subtranslator Base

ODA—Office Data Assembler

OPT—Option

OSTBASE—Originating Subtranslator Base

OSTENT—Originating Subtranslator Entry

OTENT—Originating Translator Entry

PA-2H200—Electronic Switching System No. 2—Office Data Tables Layout Specification

PD—Peripheral Decoder

PS—Program Store

PSPI—Pseudo Scan Point Index

PSPN—Pseudo Scan Point Number

ROTL—Remote Office Test Line

S—Status

SCKT—Special Circuit Indicator

SD—Schematic Diagram

SPN—Scan Point Number

SPTBL—Scan Point Table

SPTBLPSPN—Scan Point Table Pseudo Scan Point Number

SPTEV—Scan Point Translator Entry Value

STC—Subtranslator Code

SUBTRANE—Subtranslator Entry

TEN—Terminal Equipment Number

TENTBL—Terminal Equipment Number Table

TG-2H—Translation Guide (TG-2H)

TRK—Direction of Trunk

TSCK—Trunk and Service Circuit Form

USTB—Universal Subtranslator Base

USTE—Universal Subtranslator Entry

W$_F$—W Field of First Scan Point Number

X$_F$—Field of First Scan Point Number

MASTER TABLE INDEX

```
SPTBL ──► ┌──────────────┐      ┌───────────┐   MISCELLANEOUS TRUNK AND SERVICE CIRCUIT   ┌──────────────┐   MISCELLANEOUS TRUNK CIRCUIT   ┌──────────────┐
          │ PA-2H201 OR  │      │ SCAN      │ ───────────────────────────────────────►   │ AUXILIARY    │ ───────────────────────────►   │ MISCELLANEOUS│
          │ PA-2H202     │ ───► │ POINT     │                                             │ SUBSTRANSLATOR│                                 │ TRUNK        │
          │ SECTION 400  │      │ TRANSLATOR│   UNIVERSAL TRUNK CIRCUIT                   │              │   SERVICE CIRCUIT               │ SUBTRANSLATOR│
          │ SPN          │      └───────────┘ ──────────────────────┐                    └──────────────┘ ──────────┐                      └──────────────┘
          │ TRANSLATION  │                                          │                                               │
          └──────────────┘                                          ▼                                               ▼
                                                          ┌──────────────┐                              ┌──────────────┐
                                                          │ UNIVERSAL    │                              │ SERVICE      │
                                                          │ SUBTRANSLATOR│                              │ CIRCUIT      │
                                                          └──────────────┘                              │ SUBTRANSLATOR│
                                                                                                        └──────────────┘
```

```
GRPTBL ──► ┌──────────────┐      ┌───────────┐   UNIVERSAL AND MISCELLANEOUS TRUNK      ┌──────────────┐
           │ PA-2H201 OR  │      │ TRUNK     │ ──────────────────────────────────────► │ GROUP DATA   │
           │ PA-2H202     │ ───► │ GROUP     │                                         │ BLOCK        │
           │ SECTION 610  │      │ TRANSLATOR│   SERVICE CIRCUIT                       │ (TRUNK CIRCUITS)│
           │ TRUNK GROUP  │      └───────────┘ ─────────────────┐                      └──────────────┘
           │ TRANSLATION  │                                     │                              │
           └──────────────┘                                     ▼                              │
                                                     ┌──────────────┐                          │
                                                     │ GROUP DATA   │                          │
                                                     │ BLOCK (SERVICE│                         │
                                                     │ CIRCUIT)     │                          │
                                                     └──────────────┘                          │
                                                            │                                  │
                                                            ▼                                  ▼
                                                     ┌──────────────┐                  ┌──────────────┐
                                                     │ SERVICE      │                  │ TRUNK        │
                                                     │ CIRCUIT      │                  │ CIRCUIT      │
                                                     │ LIST         │                  │ LIST         │
                                                     └──────────────┘                  └──────────────┘
```

```
TENTBL ──► ┌──────────────┐      ┌───────────┐
           │ PA-2H201 OR  │      │ ORIGINATING│
           │ PA-2H202     │ ───► │ TRANSLATOR │
           │ SECTION 300  │      └───────────┘
           │ TEN          │            │
           │ TRANSLATION  │            ▼
           └──────────────┘     ┌──────────────┐
                                │ ORIGINATING  │
                                │ SUBTRANSLATOR│
                                └──────────────┘
```

Fig. 1—Translation Tables Involved

ESS 2201-1(05) TG-2H

TRUNK ASSIGNMENT TABLE
NO. 2 ESS

DATE ___ 1 2 3 4 5

BASE & CONTROL ___ 6 7 8 9 10 11

FORM CODE _21_ 14 15

ESS UNIT _____

PAGE ___ OF ___ 19 20 21

one line for each SPN {

ITEM	TERMINAL EQUIPMENT NUMBER					EQUIPMENT LOCATION						AUX PD POINT TRUNK PD — ENABLE —						SUPERVISORY SCAN POINT				DIRECTED SCAN POINT			TRUNK ORDER CODE	OPTION	TRUNK GROUP	MEMBER	SD NUMBER	ROTL NO	REVISE
	NET	CONC GR	CONC	SWITCH	LEVEL	FR TYPE	FRAME NUMBER	UTJF BAY	HORIZONTAL MTG PLT	CKT NO. H/M (UT)	PORT	CPD FR	NEST	CARD	POINT	BUFFER	BUF PT	TRUNK SCANNER	ROW	COL	FIELD	TRUNK SCANNER	ROW	COL							
50	00	00	2	0		U	02	2	24	1	H	01	7	1	6	2		01	07	08	L				15600		234	002	2H101		
51	00	00	2	0		U	02	2	24	1	H	01	7	1	6	2		01	07	09	T				15600		234	002	2H101		
52																															
53																															
54	10	4	4	2	1	T	04		10	3		02	2	1	0	1	1					L	03	16 10	61123		002	010	2H114		
55																															
56																															
57																															
58																															
59																															
60																															
61																															
62																															
63																															
64																															
65																															
66																															
67																															
68																															
69																															
70																															
71																															
72																															
73																															
74																															
75																															
76																															
77																															
78																															
79																															
80																															
81																															
82																															
83																															
84																															
85																															
86																								-7							
87																															
88																															
89																															
90																															
91																															
92																															
93																															
94																															
95																															
96																															
97																															
98																															
99																															

Fig. 2—Trunk Assignment Table

PRELIMINARY INFORMATION   TSCK-1

1. CIRCUIT TYPE   *U*   A. UNIVERSAL TRUNK   = U
                                               B. MISCELLANEOUS TRUNK = M
                                               C. SERVICE CIRCUIT   = S

2. CIRCUIT STATE TABLE INDEX $\underline{2}\,\underline{7}\,\underline{3}_8$

3. PSPN CODE $\underline{-}$

4. PRINCIPLE SPN (OFFSET VALUE) $\underline{0}$

5. FOR MISCELLANEOUS TRUNKS AND SERVICE CIRCUITS ONLY
   NUMBER OF PD BUFFERS   _

6. FOR UNIVERSAL AND MISCELLANEOUS TRUNKS ONLY
   TRK   = $\underline{1}\,\underline{0}_2$
                                               A. NOT USED = 00
                                               B. OUTGOING = 01
                                               C. INCOMING = 10
                                               D. TWO WAY = 11

7. FOR MISCELLANEOUS TRUNKS AND SERVICE CIRCUITS ONLY

   CKT   _ _ _2   A. E & M BYLINK TRUNK   = 011
                                               B. MISCELLANEOUS CIRCUIT = 100
   NOTE: MISCELLANEOUS CIRCUITS INCLUDE   C. BYLINK TRUNK   = 111
         SERVICE CIRCUITS AND MISCELLANEOUS
         TRUNKS OTHER THAN A AND C.

8. FOR MISCELLANEOUS TRUNK AND SERVICE CIRCUITS ONLY
   BUF - 1   _ _ _2

9. FOR MISCELLANEOUS TRUNK CIRCUIT ONLY
   BY   _2
                                               A. FROM A STEP-BY-STEP OFFICE   = 1
                                               B. AN INCOMING E & M DIAL PULSE TRUNK = 1
                                               C. ALL OTHER TRUNKS   = 0

10. FOR MISCELLANEOUS TRUNKS AND SERVICE CIRCUITS ONLY
    FRAME   _ _ _10
        _ _ _ _ _ _ _ _2
            _____/
               FRAME

Fig. 3—TSCK-1—Preliminary Information (Universal Trunks) (Sheet 1 of 4)

11. FOR MISCELLANEOUS TRUNK AND SERVICE CIRCUITS ONLY   TSCK-1
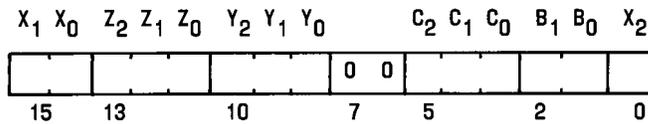
PD BUFFER ADDRESS

CPD FR — 10 $\overline{C_2}\ \overline{C_1}\ \overline{C_0}^2$

NEST — 10 $\overline{X_2}\ \overline{X_1}\ \overline{X_0}^2$

CARD — 10 $\overline{Z_2}\ \overline{Z_1}\ \overline{Z_0}^2$

POINT — 10 $\overline{Y_2}\ \overline{Y_1}\ \overline{Y_0}^2$

BUFFER — 10 $\overline{B_1}\ \overline{B_0}^2$

X_1 X_0	Z_2 Z_1 Z_0	Y_2 Y_1 Y_0	0 0	C_2 C_1 C_0	B_1 B_0	X_2
15	13	10	7	5	2	0

PD BUFFER ADDRESS _ _ _ _ _ _ 8

12. FIRST SCAN POINT NUMBER

TRUNK SCANNER $\underline{0\ 1}_{10}$ $\dfrac{O}{\overline{S_3}}\ \dfrac{O}{\overline{S_2}}\ \dfrac{O}{\overline{S_1}}\ \dfrac{I}{\overline{S_0}}^2$

ROW $\underline{0\ 7}_{10}$ $\dfrac{O}{\overline{R_5}}\ \dfrac{O}{\overline{R_4}}\ \dfrac{O}{\overline{R_3}}\ \dfrac{I}{\overline{R_2}}\ \dfrac{I}{\overline{R_1}}\ \dfrac{I}{\overline{R_0}}^2$

COLUMN POINT $\underline{0\ 8}_{10}$ $\dfrac{I}{\overline{P_3}}\ \dfrac{O}{\overline{P_2}}\ \dfrac{O}{\overline{P_1}}\ \dfrac{O}{\overline{P_0}}^2$

S_3 S_2 S_1 S_0	R_5 R_4 R_3 R_2 R_1 R_0	P_3 P_2 P_1 P_0
0 0 0 1	0 0 0 1 1 1	1 0 0 0
13 10	4	0
W_F	X_F	LB_F
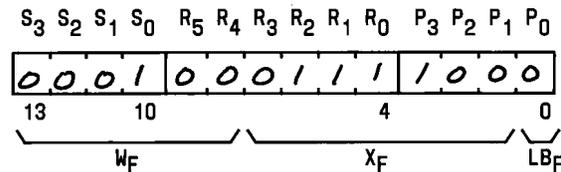
$W_F = \underline{04}_8$

$X_F = \underline{074}_8$

$LB_F = \underline{0}$

Fig. 3—TSCK-1—Preliminary Information (Universal Trunks) (Sheet 2 of 4)

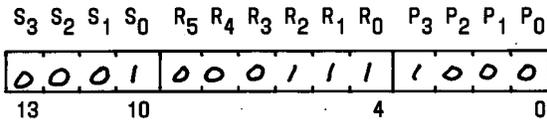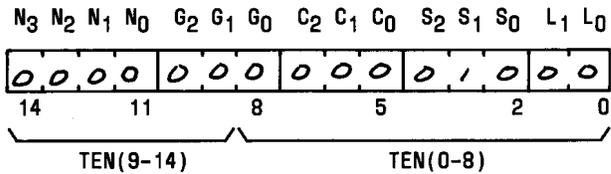13. PRINCIPLE SCAN POINT NUMBER   TSCK-1

TRUNK SCANNER $\underline{0\ \underline{I}}_{10}$ $\underset{\overline{S_3}}{0}\ \underset{\overline{S_2}}{0}\ \underset{\overline{S_1}}{0}\ \underset{\overline{S_0}}{I}$

ROW $\underline{0\ \underline{7}}_{10}$ $\underset{\overline{R_5}}{0}\ \underset{\overline{R_4}}{0}\ \underset{\overline{R_3}}{0}\ \underset{\overline{R_2}}{I}\ \underset{\overline{R_1}}{I}\ \underset{\overline{R_0}}{I}$

COLUMN POINT $\underline{0\ \underline{8}}_{10}$ $\underset{\overline{P_3}}{I}\ \underset{\overline{P_2}}{0}\ \underset{\overline{P_1}}{0}\ \underset{\overline{P_0}}{0}$

S_3	S_2	S_1	S_0	R_5	R_4	R_3	R_2	R_1	R_0	P_3	P_2	P_1	P_0
0	0	0	1	0	0	0	1	1	1	1	0	0	0

13   10   4   0

14. TERMINAL EQUIPMENT NUMBER

NETWORK $\underline{00}_{10}$ $\underset{\overline{N_3}}{0}\ \underset{\overline{N_2}}{0}\ \underset{\overline{N_1}}{0}\ \underset{\overline{N_0}}{0}\,2$

CONCENTRATOR GROUP $\underline{0}_{10}$ $\underset{\overline{G_2}}{0}\ \underset{\overline{G_1}}{0}\ \underset{\overline{G_0}}{0}\,2$

CONCENTRATOR $\underline{0}_{10}$ $\underset{\overline{C_2}}{0}\ \underset{\overline{C_1}}{0}\ \underset{\overline{C_0}}{0}\,2$

SWITCH $\underline{2}_{10}$ $\underset{\overline{S_2}}{0}\ \underset{\overline{S_1}}{I}\ \underset{\overline{S_0}}{0}\,2$

LEVEL $\underline{0}_{10}$ $\underset{\overline{L_1}}{0}\ \underset{\overline{L_0}}{0}\,2$

N_3	N_2	N_1	N_0	G_2	G_1	G_0	C_2	C_1	C_0	S_2	S_1	S_0	L_1	L_0
0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

14   11   8   5   2   0

$\underbrace{\qquad}_{\text{TEN(9-14)}}\underbrace{\qquad\qquad}_{\text{TEN(0-8)}}$

TEN(9-14) = 00_8
TEN(0-8) = $\underline{0\ \underline{I}\ \underline{0}}_8$

Fig. 3—TSCK-1—Preliminary Information (Universal Trunks) (Sheet 3 of 4)

15. TRUNK GROUP 234_{10} 352_8 TSCK-1

LO 1 [   ]
     7   0

EF 1 [0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0]
     8   0

16. MEMBER 002_{10} 002_8

LO 1 [   ]
    16   8

EF 1 [0 | 0 | 0 | 0 | 0 | 0 | 1 | 0]
    16   9

17. MEMBER AND GROUP
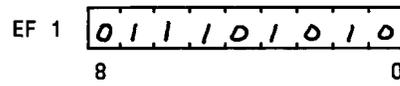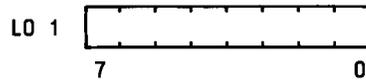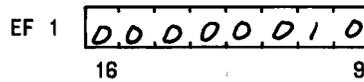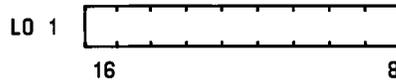
[0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0]
  16   9 8 7   0
           MEMBER   GROUP
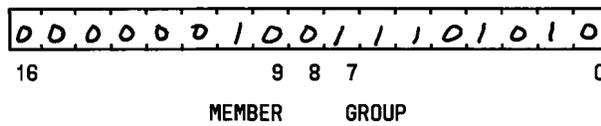
Fig. 3—TSCK-1—Preliminary Information (Universal Trunks) (Sheet 4 of 4)

SPN TRANSLATOR (UNIVERSAL TRUNKS)   TSCK-2

1. A(SPTBL) = 340066_8

2. C(SPTBL) = 0055060_8

3. + W_F 04_8
   _____

   A(SPTEV) 550607_8

4. C(SPTEV) 1334601_8

```
   20      18 17                                                    0
  ┌─────────┬─────────────────────────────────────────────────────┐
  │ 0 1 1 │ 0 1 1 1 0 0 1 1 0 0 0 0 0 0 1 1 1 1 │
  └─────────┴─────────────────────────────────────────────────────┘
     STC                        USTB
```
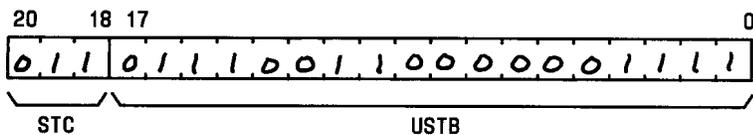
   USTB   = 346017_8

5. X_F 074_8
   + X_F 074_8
   + 2_____2
   $2X_F + 2$ 172_8

6. USTB 346017_8
   +($2X_F$ + 2) 172_8
   _____

   A(USTE (0)) 346211_8

7.   USTE (0) PS LOC 346211_8 OLD CONTENTS 00000000_8
     USTE (1) PS LOC 346212_8 OLD CONTENTS 00000000_8

Fig. 4—TSCK-2—SPN Translator (Universal Trunks) (Sheet 1 of 2)

8. USTE (0)

| 20 | | | 17 | 16 | 15 | 14 | | | | | | | | | | | | | | | 0 |

TRK

TEN

TSCK-2

PS LOCATION $34621\mathit{1}_8$ NEW CONTENTS 5400010_8

USTE (1)

| 20 | | | 16 | | | | | | | | | | | | | | | | | | 0 |

MEMBER AND GROUP

PS LOCATION $34621\mathit{2}_8$ NEW CONTENTS 0002352_8

Fig. 4—TSCK-2—SPN Translator (Universal Trunks) (Sheet 2 of 2)

PRELIMINARY INFORMATION   TSCK-1

1. CIRCUIT TYPE $\underline{S}$

                                    A. UNIVERSAL TRUNK   = U

                                    B. MISCELLANEOUS TRUNK = M

                                    C. SERVICE CIRCUIT   = S

2. CIRCUIT STATE TABLE INDEX $\underline{120}_8$

3. PSPN CODE $\underline{0}$

4. PRINCIPLE SPN (OFFSET VALUE) $\underline{0}$

5. FOR MISCELLANEOUS TRUNKS AND SERVICE CIRCUITS ONLY

    NUMBER OF PD BUFFERS $\underline{1}$

6. FOR UNIVERSAL AND MISCELLANEOUS TRUNKS ONLY

    TRK $= \_\_-2$

                                      A. NOT USED = 00

                                      B. OUTGOING = 01

                                      C. INCOMING = 10

                                      D. TWO WAY = 11

7. FOR MISCELLANEOUS TRUNKS AND SERVICE CIRCUITS ONLY

    CKT $\underline{100}_2$

                                    A. E & M BYLINK TRUNK   = 011

    NOTE: MISCELLANEOUS CIRCUITS INCLUDE   B. MISCELLANEOUS CIRCUIT = 100

           SERVICE CIRCUITS AND MISCELLANEOUS   C. BYLINK TRUNK   = 111

           TRUNKS OTHER THAN A AND C.

8. FOR MISCELLANEOUS TRUNK AND SERVICE CIRCUITS ONLY

    BUF - 1 $\underline{000}_2$

9. FOR MISCELLANEOUS TRUNK CIRCUIT ONLY

    BY $\_2$

                                      A. FROM A STEP-BY-STEP OFFICE   = 1

                                      B. AN INCOMING E & M DIAL PULSE TRUNK = 1

                                      C. ALL OTHER TRUNKS   = 0

10. FOR MISCELLANEOUS TRUNKS AND SERVICE CIRCUITS ONLY

    FRAME $\underline{004}_{10}$
         $\underline{000001\underline{00}}_2$
              _____/
               FRAME

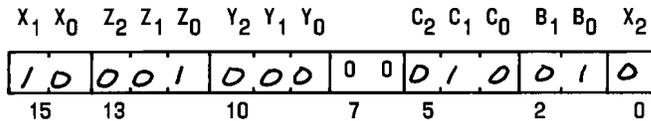**Fig. 5—TSCK-1—Preliminary Information (Miscellaneous Trunk and Service Circuits) (Sheet 1 of 4)**

11. FOR MISCELLANEOUS TRUNK AND SERVICE CIRCUITS ONLY   TSCK-1

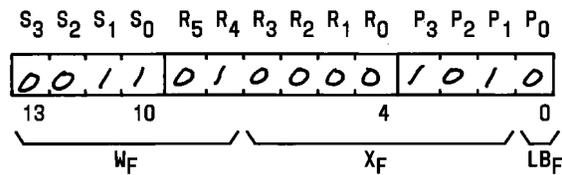PD BUFFER ADDRESS

CPD FR $\underline{2}_{10}$ $\dfrac{0}{C_2} \dfrac{1}{C_1} \dfrac{0}{C_0}2$

NEST $\underline{2}_{10}$ $\dfrac{0}{X_2} \dfrac{1}{X_1} \dfrac{0}{X_0}2$

CARD $\underline{1}_{10}$ $\dfrac{0}{Z_2} \dfrac{0}{Z_1} \dfrac{1}{Z_0}2$

POINT $\underline{0}_{10}$ $\dfrac{0}{Y_2} \dfrac{0}{Y_1} \dfrac{0}{Y_0}2$

BUFFER $\underline{1}_{10}$ $\dfrac{0}{B_1} \dfrac{1}{B_0}2$

X_1	X_0	Z_2	Z_1	Z_0	Y_2	Y_1	Y_0			C_2	C_1	C_0	B_1	B_0	X_2
1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0

15   13   10   7   5   2   0

PD BUFFER ADDRESS $\underline{104022}_8$

12. FIRST SCAN POINT NUMBER

TRUNK SCANNER $\underline{03}_{10}$ $\dfrac{0}{S_3} \dfrac{0}{S_2} \dfrac{1}{S_1} \dfrac{1}{S_0}2$

ROW $\underline{16}_{10}$ $\dfrac{0}{R_5} \dfrac{1}{R_4} \dfrac{0}{R_3} \dfrac{0}{R_2} \dfrac{0}{R_1} \dfrac{0}{R_0}2$

COLUMN POINT $\underline{10}_{10}$ $\dfrac{1}{P_3} \dfrac{0}{P_2} \dfrac{1}{P_1} \dfrac{0}{P_0}2$

S_3	S_2	S_1	S_0	R_5	R_4	R_3	R_2	R_1	R_0	P_3	P_2	P_1	P_0
0	0	1	1	0	1	0	0	0	0	1	0	1	0

13   10   4   0

$\underbrace{\qquad}_{W_F} \underbrace{\qquad\qquad}_{X_F} \underbrace{\ }_{LB_F}$

$W_F = \underline{15}_8$

$X_F = \underline{005}_8$

$LB_F = \underline{0}$

Fig. 5—TSCK-1—Preliminary Information (Miscellaneous Trunk and Service Circuits) (Sheet 2 of 4)

13. PRINCIPLE SCAN POINT NUMBER   TSCK-1

TRUNK SCANNER $0\,3_{10}$ $\dfrac{0}{\overline{S_3}}\ \dfrac{0}{\overline{S_2}}\ \dfrac{1}{\overline{S_1}}\ \dfrac{1}{\overline{S_0}}$

ROW 16_{10} $\dfrac{0}{\overline{R_5}}\ \dfrac{1}{\overline{R_4}}\ \dfrac{0}{\overline{R_3}}\ \dfrac{0}{\overline{R_2}}\ \dfrac{0}{\overline{R_1}}\ \dfrac{0}{\overline{R_0}}$

COLUMN POINT 10_{10} $\dfrac{1}{\overline{P_3}}\ \dfrac{0}{\overline{P_2}}\ \dfrac{1}{\overline{P_1}}\ \dfrac{0}{\overline{P_0}}$

S_3	S_2	S_1	S_0	R_5	R_4	R_3	R_2	R_1	R_0	P_3	P_2	P_1	P_0
0	0	1	1	0	1	0	0	0	0	1	0	1	0

13   10   4   0

14. TERMINAL EQUIPMENT NUMBER

NETWORK 10_{10} $\dfrac{1}{\overline{N_3}}\ \dfrac{0}{\overline{N_2}}\ \dfrac{1}{\overline{N_1}}\ \dfrac{0}{\overline{N_0}}{}_2$

CONCENTRATOR GROUP 4_{10} $\dfrac{1}{\overline{G_2}}\ \dfrac{0}{\overline{G_1}}\ \dfrac{0}{\overline{G_0}}{}_2$

CONCENTRATOR 4_{10} $\dfrac{1}{\overline{C_2}}\ \dfrac{0}{\overline{C_1}}\ \dfrac{0}{\overline{C_0}}{}_2$

SWITCH 2_{10} $\dfrac{0}{\overline{S_2}}\ \dfrac{1}{\overline{S_1}}\ \dfrac{0}{\overline{S_0}}{}_2$

LEVEL 1_{10} $\dfrac{0}{\overline{L_1}}\ \dfrac{1}{\overline{L_0}}{}_2$

N_3	N_2	N_1	N_0	G_2	G_1	G_0	C_2	C_1	C_0	S_2	S_1	S_0	L_1	L_0
1	0	1	0	1	0	0	1	0	0	0	1	0	0	1

14   11   8   5   2   0

TEN(9-14)   TEN(0-8)

TEN(9-14) = 52_8

TEN(0-8) = 211_8

Fig. 5—TSK-1—Preliminary Information (Miscellaneous Trunk and Service Circuits) (Sheet 3 of 4)

15. TRUNK GROUP $\underline{002}_{10}$ $\underline{002}_8$ TSCK-1

LO 1 | 0 0 0 0 0 0 1 0 |
       7   0

EF 1 | |
       8   0

16. MEMBER $\underline{010}_{10}$ $\underline{012}_8$

LO 1 | 0 0 0 0 0 1 0 1 0 |
       16   8

EF 1 | |
       16   9

17. MEMBER AND GROUP
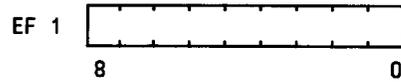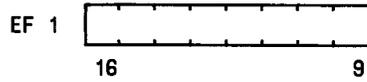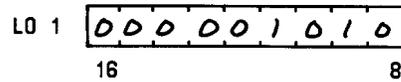
| 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 1 0 |
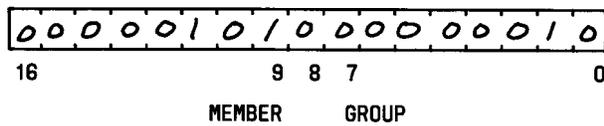 16   9 8 7   0
       MEMBER   GROUP

Fig. 5—TSK-1—Preliminary Information (Miscellaneous Trunk and Service Circuits) (Sheet 4 of 4)

SPN TRANSLATOR (MISCELLANEOUS TRUNK AND SERVICE CIRCUITS)

1. $A(SPTBL) = 240066_8$

2. $C(SPTBL) = 0023741 5_8$

3. $+ W_F = 15_8$

   _____

   $A(SPTEV) = 237432_8$

4. $C(SPTEV) = 1142376 62_8$

```
 20    18 17                                        0
┌──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┐
│0 │0 │1 │1 │0 │0 │0 │1 │0 │0 │1 │1 │1 │1 │1 │1 │1 │0 │0 │1 │0 │
└──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┘
    STC              AXSTB(0)
```

$A(AXSTB (0)) = 423762_8$

5. $C(AXSTB (0)) = 1003217 6_8$

   BPSPNT

$C(AXSTB (1)) = 0003544 6_8$

   BPSPNSC

6. $A(AXSTB (0)) \quad 423762_8$

   $+ X_F \qquad 005_8$

   $+ 2 \qquad\qquad 2$

   _____

   $A(AXSTE (0)) \quad 423771_8$

7. AXSTE (0) OLD CONTENTS $1247000 0_8$

```
 S1        PSPI  1           S0      PSPI   0
┌──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┬──┐
│0 │1 │0 │1 │0 │0 │1 │1 │0 │0 │0 │0 │0 │0 │0 │0 │0 │0 │0 │0 │0 │
└──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┴──┘
 20 19                       10 9                    1  0
      LB = 1                       LB = 0
```
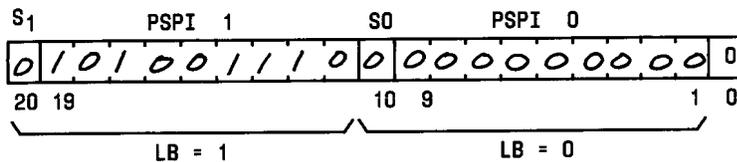
Fig. 6—TSCK-3—SPN Translator (Miscellaneous Trunk and Service Circuit) (Sheet 1 of 4)

TSCK-3

8. REQUIRED FOR DC OPERATOR SIGNALING ONLY

C(AXSTE (1)) $\underline{7}$ $\underline{4}$ $\underline{0}$ $\underline{0}$ $\underline{0}$ $\underline{0}$ $\underline{1}$

9. REQUIRED FOR MISCELLANEOUS TRUNKS ONLY

BPSPNT $\quad$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $_8$

$\qquad$ + $\quad$ 2

$\overline{}$

IPSPN $\quad$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $_8$

BPSPNT $\quad$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $_8$

+ 1 0 0 0

$\overline{}$

MAXPSPN $\quad$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $\underline{}$ $_8$

10. REQUIRED FOR SERVICE CIRCUITS ONLY

BPSPNSC = $\underline{3\,5\,4\,4\,6}_8$

+ $\quad$ 2

$\overline{}$

IPSPN $\quad$ = $\underline{3\,5\,4\,5\,0}_8$

BPSPNSC = $\underline{3\,5\,4\,4\,6}_8$

+ 1 0 0 0

$\overline{}$

MAXPSPN = $\underline{3\,6\,4\,4\,6}_8$

 35452

11. CURRENT PSPN $\underline{35450}_8$

Y_C = $\underline{0\,73}_8$

 124

$4Z_C$ = $\underline{126}_8$

12. C(SPTBL) $\underline{2\,37\,4\,15}_8$

+ Y_C $\qquad$ $\underline{0\,73}_8$

$\overline{}$

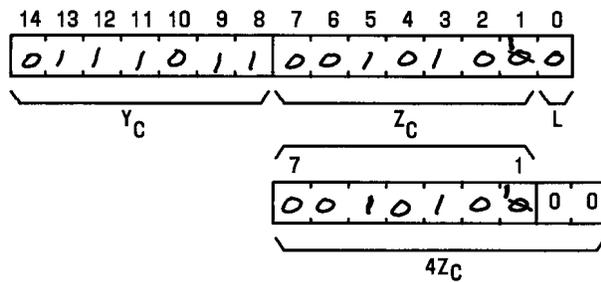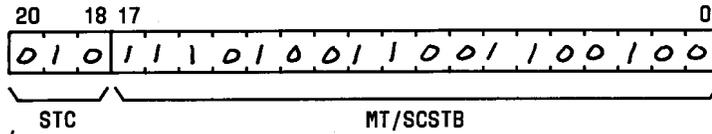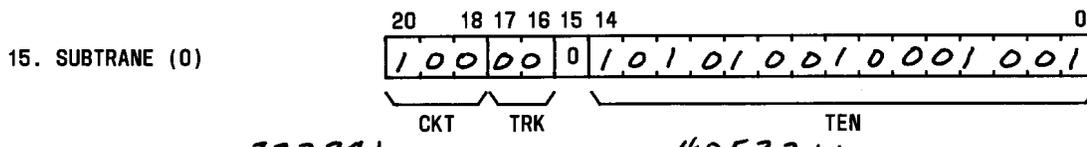A(SPTBLPSPN) $\underline{2\,3\,7\,5\,10}_8$

Fig. 6—TSCK-3—SPN Translator (Miscellaneous Trunk and Service Circuit) (Sheet 2 of 4)
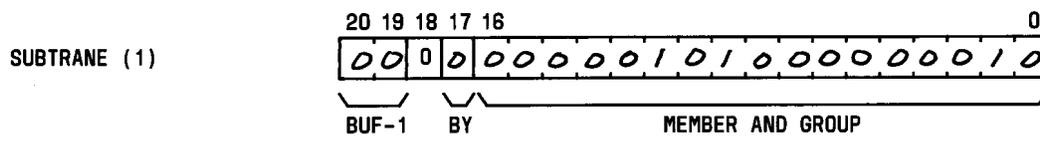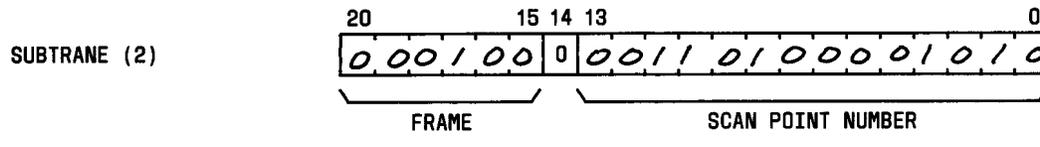
13. C(SPTBLPSPN) = 02723144_8

TSCK-3

```
      20    18 17                                          0
     ┌─────┬───────────────────────────────────────────┐
     │0 1 0│1 1 1 0 1 0 0 1 1 0 0 1 1 0 0 1 0 0│
     └─────┴───────────────────────────────────────────┘
       STC              MT/SCSTB
```

14. MT/SCSTB 723144_8

    +4Z_C 128_8

    +   1

    ─────────────────────

    A(SUBRANE (0)) 723265_8

15. SUBRANE (0)

```
      20    18 17 16 15 14                                 0
     ┌─────┬─────┬──┬───────────────────────────────────┐
     │1 0 0│0 0│0 │1 0 1 0 1 0 0 1 0 0 0 1 0 0 1│
     └─────┴─────┴──┴───────────────────────────────────┘
       CKT   TRK              TEN
```

    PS LOCATION 723271_8 NEW CONTENTS 4052211_8

SUBRANE (1)

```
      20 19 18 17 16                                       0
     ┌─────┬──┬──┬────────────────────────────────────┐
     │0 0 │0 │0 │0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 1 0│
     └─────┴──┴──┴────────────────────────────────────┘
      BUF-1 BY      MEMBER AND GROUP
```

    PS LOCATION 723272_8 NEW CONTENTS 0005002_8

SUBRANE (2)

```
      20                15 14 13                           0
     ┌───────────────────┬──┬──────────────────────────┐
     │0 0 0 1 0 0│0 │0 0 1 1 0 1 0 0 0 0 1 0 1 0│
     └───────────────────┴──┴──────────────────────────┘
         FRAME            SCAN POINT NUMBER
```

    PS LOCATION 723273_8 NEW CONTENTS 0406412_8

SUBRANE (3)

```
      20              15                                   0
     ┌───────────────┬──────────────────────────────────┐
     │0 0 0 0 0│1 0 0 0 1 0 0 0 0 0 0 1 0 0 1 0│
     └───────────────┴──────────────────────────────────┘
                       PD BUFFER ADDRESS
```
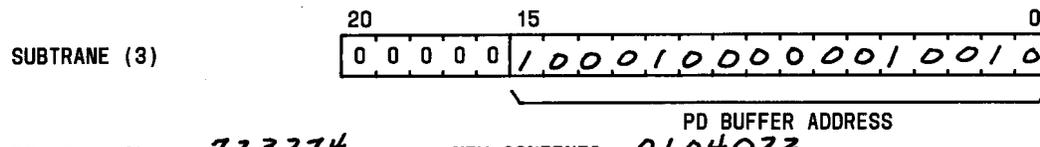
    PS LOCATION 723274_8 NEW CONTENTS 0104022_8

16. CURRENT PSPN 35452_8

    BPSPN 35446_8

    ─────────────────────

    PSPI = 004_8

Fig. 6—TSCK-3—SPN Translator (Miscellaneous Trunk and Service Circuit) (Sheet 3 of 4)

TSCK-3

17. PSPI = | 1 | 0 0 0 0 0 0 1 0 0 |
 S

18. 20 19   11 10 9   1 0
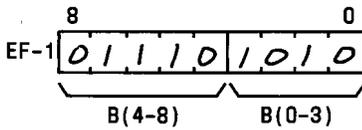| 0 | 1 0 1 0 0 1 1 0 | 1 | 0 0 0 0 0 0 1 0 0 | 0 |

LB = 1   LB = 0

AXSTE (0) P.S. LOC 423771_8 NEW CONTENTS 2472010_8

Fig. 6—TSCK-3—SPN Translator (Miscellaneous Trunk and Service Circuit) (Sheet 4 of 4)
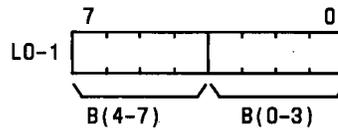
TRUNK GROUP TRANSLATOR

1. TRUNK GROUP 352_8

EF-1 | 0 1 1 1 0 | 1 0 1 0 | (bits 8 to 0)

B(4-8)   B(0-3)

LO-1 | | | (bits 7 to 0)

B(4-7)   B(0-3)

B(4-8) = 16_8

B(0-3) = 12_8

B(4-7) = $\_\_\_8$

B(0-3) = $\_\_\_8$

2. A(GRPTBL) = 341145_8

   +B(4-8) OR (4-7) = 16_8

   _____

   A(GDBPTR) = 341163_8

3. GDBPTR OLD CONTENTS $0343044\ 1_8$

   | 0 1 1 | 1 0 0 0 1 1 0 0 0 1 0 0 1 0 0 0 0 1 | (bits 20 18 17 to 0)

   G TYPE   A(GDP)
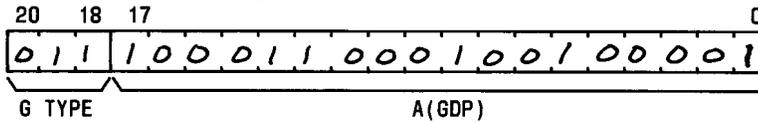
4. G TYPE = 3_8

5. A(GDP) = 430441_8

6. FOR SERVICE CIRCUITS ONLY

   B(0-3)

   | | 0 0 |
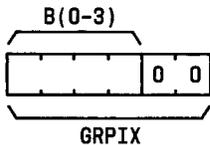
   GRPIX

   GRPIX = $\_\_\_8$

7. FOR UNIVERSAL AND MISCELLANEOUS TRUNKS ONLY

   GRPIX = $12\ 0_8$

          B(0-3)

8. A(GDP) = 430441_8

   +GRPIX = 120_8

   _____

   A(GRP (0)) 430561_8

9. OLD GRP DATA

   C(GRP (0)) = $0040600\ 1_8$

   C(GRP (1)) = 00000000_8

   C(GRP (2)) = 12353650_8

   C(GRP (3)) = 12000273_8

Fig. 7—TSCK-4—Trunk Group Translator (Sheet 1 of 4)

10. OLD GRP INFORMATION

GRP (0)   PS LOC 430561_8 OLD CONTENTS 0406001_8

20   7   0

| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

LARGEST MEMBER NUMBER

GRP (1)   PS LOC 430562_8 OLD CONTENTS 0000000_8

20   15   0

| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

GRP (2)   PS LOC 430563_8 OLD CONTENTS 2353650_8

20   17   0

| 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

A(CKT LIST)

GRP (3)   PS LOC 430564_8 OLD CONTENTS 2000273_8

20   8   0

| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |

CIRCUIT STATE TABLE INDEX

LARGEST MEMBER NO. 001_8
A(CKT LIST) 353650_8
CIRCUIT STATE TABLE INDEX 273_8

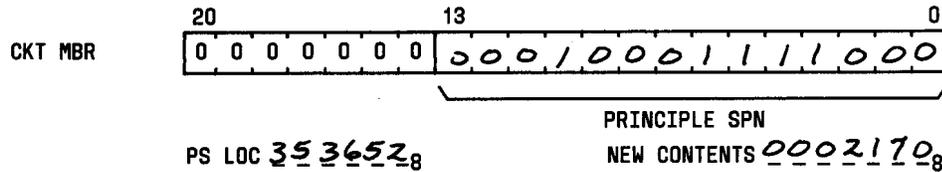11. IF NEW MEMBER NUMBER IS LARGER THAN LARGEST MEMBER NUMBER

NEW MEMBER NUMBER 002_8

20   7   0

GRP(0) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

LARGEST MEMBER NUMBER

PS LOC 430561_8 NEW CONTENTS 0406002_8

12. FOR UNIVERSAL AND MISCELLANEOUS TRUNKS ONLY
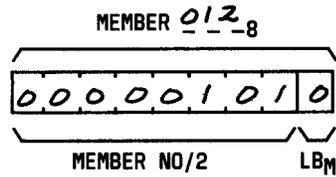
A(CKT LIST)   = 353650_8
+ MEMBER NUMBER = 002_8
_____
A(CKT MBR)   = 353652_8

Fig. 7—TSCK-4—Trunk Group Translator (Sheet 2 of 4)

TSCK-4

13. FOR UNIVERSAL AND MISCELLANEOUS TRUNKS ONLY

CKT MBR

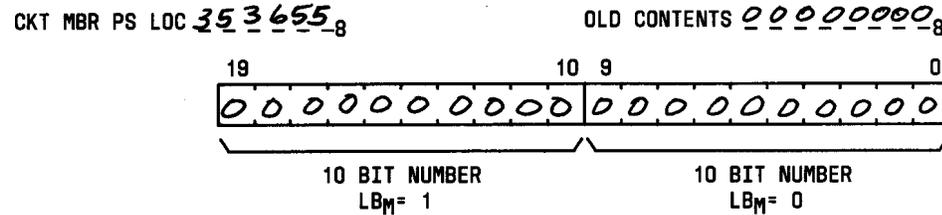```
 20   13   0
|0 0 0 0 0 0 0 |0 0 0 / 0 0 0 / / / / 0 0 0|
```

PS LOC $353652_8$

PRINCIPLE SPN
NEW CONTENTS $0002170_8$

14. FOR SERVICE CIRCUITS ONLY

MEMBER $012_8$

```
|0 0 0 0 0 / 0 / | 0|
```

MEMBER NO/2 LB_M

15. FOR SERVICE CIRCUITS ONLY

MEMBER NO/2 = 005_8

A(CKT LIST) = 353650_8

A(CKT MBR) = 353655_8

16. FOR SERVICE CIRCUITS ONLY

CKT MBR PS LOC 353655_8 OLD CONTENTS 00000000_8

```
 19                      10 9                        0
|0 0 0 0 0 0 0 0 0 0|0 0 0 0 0 0 0 0 0 0|
```

10 BIT NUMBER   10 BIT NUMBER
LB_M= 1 LB_M= 0

17. FOR SERVICE CIRCUITS ONLY

PSPN = 35452_8

-35400

2*(10 BIT NUMBER) 0052_8

18. FOR SERVICE CIRCUITS ONLY

```
|0 0 0 0 0 / 0 / 0 / |0|
```

10 BIT NUMBER

Fig. 7—TSCK-4—Trunk Group Translator (Sheet 3 of 4)

TSCK-4

19. FOR SERVICE CIRCUITS ONLY

CKT MBR

| 19 | | | | | | | | | | 10 | 9 | | | | | | | | | 0 |

```
┌─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┬─┐
│0│0│0│0│0│0│0│0│0│0│0│0│0│0│0│1│0│1│0│1│
└─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┴─┘
```

10 BIT NUMBER
$LB_M = 1$

10 BIT NUMBER
$LB_M = 0$

PS LOC 353 655 $_8$

NEW CONTENTS 00 00 0025 $_8$
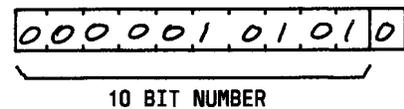
Fig. 7—TSCK-4—Trunk Group Translator (Sheet 4 of 4)

NO. 2 CHIPS TABLE

A. TRUNK GROUP DATA MODIFICATIONS

1. DATA BLOCK ENTRY (LARGEST MEMBER NUMBER)

GRP (0) PS LOC 430561_8 OLD CONTENTS 00406001_8 NEW CONTENTS 0406002_8

2. TRUNK CIRCUIT LIST ENTRY (PRINCIPLE SPN)

CKT MBR PS LOC 353652_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0002170_8

3. SERVICE CIRCUIT LIST ENTRY (10 BIT NUMBER)

CKT MBR PS LOC 353655_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0000025_8

B. SCAN POINT TRANSLATION MODIFICATIONS

1. UNIVERSAL SUBTRANSLATOR ENTRY

USTE (0) PS LOC 346211_8 OLD CONTENTS 00000000_8 NEW CONTENTS 5400010_8

USTE (1) PS LOC 346212_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0002352_8

2. MISCELLANEOUS TRUNK OR SERVICE CIRCUIT SUBTRANSLATOR ENTRY

SUBTRANE (0) PS LOC 723271_8 OLD CONTENTS 00000000_8 NEW CONTENTS 4052211_8

SUBTRANE (1) PS LOC 723272_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0005002_8

SUBTRANE (2) PS LOC 723273_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0406412_8

SUBTRANE (3) PS LOC 723274_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0104022_8

3. AUXILIARY SUBTRANSLATOR ENTRY

AXSTE (0) PS LOC 423771_8 OLD CONTENTS 12470000_8 NEW CONTENTS 2472010_8

AXSTE (1) PS LOC $_____8$ OLD CONTENTS $_____8$ NEW CONTENTS $_____8$

C. TEN TRANSLATOR MODIFICATION

OSTENT PS LOC 440353_8 OLD CONTENTS 00000000_8 NEW CONTENTS 0200000_8

Fig. 8—TSCK-5—TEN Translator

TEN TRANSLATOR

1. A(TENTBL) $\underline{34\ 0733}_8$

   + TEN(9-14) $\underline{00}_8$

   _____

   A(OTENT) $\underline{340733}_8$

2. C(OTENT) = $\underline{1044 0343}_8$

   $\underbrace{\qquad\qquad}_{\text{OSTBASE}}$

3. OSTBASE   = $\underline{440343}_8$

   + TEN(0-8) = $\underline{010}_8$

   _____

   A(OSTENT) = $\underline{440353}_8$

4. C(OSTENT) $\underline{0 00 0 0000}_8$

5. OSTENT

20							13													0
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

$\underbrace{\qquad\qquad\qquad}_{\text{DIRECTED SCAN POINT}}$

PS LOC $\underline{440353}_8$ NEW CONTENTS $\underline{0200000}_8$

6. FOR CIRCUITS WHICH HAVE BOTH DIRECTED AND SUPERVISORY SCAN POINTS

   DIRECTED SCAN POINT NUMBER

   TRUNK SCANNER _ _10 $\overline{S_3}$ $\overline{S_2}$ $\overline{S_1}$ $\overline{S_0}$

   ROW   _ _10 $\overline{R_5}$ $\overline{R_4}$ $\overline{R_3}$ $\overline{R_2}$ $\overline{R_1}$ $\overline{R_0}$

   COLUMN POINT _ _10 $\overline{P_3}$ $\overline{P_2}$ $\overline{P_1}$ $\overline{P_0}$

$S_3\ S_2\ S_1\ S_0\ R_5\ R_4\ R_3\ R_2\ R_1\ R_0\ P_3\ P_2\ P_1\ P_0$

         10   4   0

Fig. 9—No. 2 Chips Table