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List ST 420 Date ____

ETS ROUTING AND TRUNKING ADMINISTRATION

Contents

1. GENERAL

1.01 This section describes the ETS memory records of routing and trunk group information which must be kept by ETS maintenance personnel. It also describes the order and record flow between the routing engineer, the ETS order writer, and ETS maintenance personnel, to effect and keep track of recent changes.

1.02 This section does not describe memory tables or recent change message format or content. The assumption is made that the reader is familiar with these subjects.

2. OFFICE DATA TABLE PRINTOUT

2.01 Western Electric ships a copy of the Office Data Table Printout (hereafter called "printout" or "data printout") to the ETS maintenance personnel after the memory tape has been compiled. The printout consists of listings, by table name and location in memory, of all the data tables, as well as a listing of the contents of each data table in memory.

2.02 Many data tables remain constant or nearly constant, or change only with a Western Electric job which increases quantities of sender link frames, common control equipment, or electronic equipment. The Office Data Printout for these tables should be filed in a binder and kept as a permanent record of these tables until a job requires table changes, or a recompile is done which will generate new records. Minor changes in these tables may be made directly on the printout pages.

2.03 The following tables contain routing, trunk group, and trunk group register data and will be changed frequently by recent change messages:

- ITKTAB
- TGP
- ACPRY, NACPRY, TASIPR, TAS2PR, TAS3PR
- GRID TABLES
- RPTAB
- COCOTB
- SCRTAB
- CGP
- RPTAB
- OTKTAB
- TXTAB
- PPDATA
- (GRIDS)*
- (ITGI)*
- (OGT RI's)*

*not memory tables — record tables only.

2.04 The following load map record tables will also have changes as tables are added or moved in memory:

— Free Areas

— Data Tables Listed by Store Frame Location

— Data Tables Listed by TIDENT

— External Symbols Referenced in Tables and Absolute Address of each Reference

2.05 The information in the table listed in 2.03 should be transcribed in pencil onto the forms described in this practice. Once completed, these forms will become the office record, and the Office Data Table Printout for the tables should then be discarded.

2.06 Accuracy and legibility are of utmost importance in the transcription process. The forms will constitute permanent office records and will be used as a source of information to identify memory problems, as well as a record of memory status.

2.07 The information in the tables listed in 2.04 must be updated by interleafing new information as described in part 4 of this practice.

3. OFFICE DATA FORMS (P 3100 - P 3113 and P 3115)

3.01 Transcribe the printout information onto these forms as soon as it is received in the central office maintenance center, before any recent changes are initiated. Following is a description of each form and an explanation of where the required entries are found in the data printout tables.

3.02 Incoming Trunk and Sender Link Information

(a) Sender Link Frame Numbering (Exhibit 1): You will need one of these forms for your office; reproduce Exhibit 1 for local use. Each sender link frame in a 4A office has a unique type and number designation. For example, an office may have sender link frame numbers MF-00 to -112 and DP-00 to -04. The ETS, however, has a different numbering system. Each sender link frame is designated by the sender pot and is assigned a number from 00 to 15 within the pot. Consult office drawings to correlate ETS and office sender link frame numbering.

(1) The vertical numbers on the form refer to ETS sender link frame numbers. Enter the appropriate office sender link frame number in the square which marks the intersection of the corresponding pot and ETS frame number.

(2) File the form in a binder in front of the TGP tables.

(b) TGP (Exhibit 2): The TGP tables are listed in the data printout (see Exhibit 3). These tables give the incoming trunk group identification number (ITGI) for each trunk assigned to an incoming sender link frame termination. The ITGI identifies a trunk group only, not a specific trunk within the group. Associate the callouts below with those on Exhibit 2.

❶ TGP: Enter the TGP table number.

❷ SLN: Enter the electromechanical sender link frame number. Use your Sender Link Frame Numbering form (Exhibit 1) to establish the frame number associated with the ETS controller group and frame number shown on the data printout of the TGP tables (Exhibit 3).

❸ GRP_____SLF_____: Enter the ETS controller group and sender link frame number within the group.

❹ TRK: The numbers reflect the horizontal and vertical position of the trunk on the sender link frame.

❺ ITGI: Enter the four digit trunk group identification number which appears next to the corresponding trunk position on the table printout.

NOTE: When you have completed all TGP tables, file them in a binder by ETS controller group and frame number. At the front of the TGP tables, file a TGP table description from the data table printout. (See Exhibits 4A and B).

(c) ITKTAB (Exhibit 5): The ITKTAB is listed in the data printout (See Exhibit 6). It

gives the characteristics of each incoming trunk group by ITGI number. Beginning with ITGI 0000, copy the ITKTAB table onto P-3101. File the forms in ITGI order. At the front of the ITKTAB, file the printout description of the ITKTAB (See Exhibits 7A and 7B). Note that the description includes maximum table length.

(d) Incoming Trunk Common Language Record (Exhibit 8): This table corresponds to the WETRK 1 (Exhibit 9) printout table and associates common language and suffix as shown on form ETS 8075-01 with the computer assigned ITGI. It may be helpful to make two lists, one alphabetical and one by ID number. If only one list is made, it should record trunk groups alphabetically and leave extra lines at frequent intervals to allow for trunk group additions in more or less alphabetical order. When the record is complete, two legible copies of the alphabetical record should be made and transmitted to the ETS trunk order writer, who will forward one copy to the machine (dial) administrator. Do not enter any information in the "C" register column. The dial administrator will enter the network management register assignments in this column. File the record behind the descriptive page of the WETRK 1 data printout (Exhibit 10).

3.03 Code and Code Routing Information

(a) Primary Instruction Tables (ACPRY, NACPRY, TAS1PR, TAS2PR, TAS3PR – see Exhibit 11): These tables list the thousand 3-digit codes in each domain and the type of route translation associated with the codes (see Exhibit 12 for an example of the printout). Associate the callouts below with those on Exhibit 11.

❶ Enter the name of the domain.

❷ List the thousand codes in numerical order.

❸ Enter an "X" in the appropriate column if the code is 3-digit (3D), 6-digit using grid area table (6D), 3-digit requiring screening (SC), or 3-digit incoming test code (TL). Leave blank if the code is vacant. If the call is INWATS, (INW), enter OIG, TIG or TRG, as appropriate.

❹ For 3-digit codes and INWATS codes, enter "Y" if an authorized CAMA route, "N" if not authorized. Leave blank for other codes.

❺ For 3-digit codes and 3-digit test codes, enter "N" for no skip, "3" for skip three, "6" for skip six, or "C" for code conversion required. Leave blank for other codes.

❻ For 3-digit codes, 3-digit test codes, and vacant codes, enter the 4-digit route pattern index. For other codes, leave blank.

❼ For codes requiring screening, enter the screening table number. Look up the screening table number in the "Data Tables Listed by Tident" printout (See Exhibit 14). Enter the octal table location ("origin of table") on the P-3105.

❽ For 6-digit codes only, enter number of digits (4, 5 or 6) required to translate. For other codes, leave blank.

❾ For 6-digit codes and originating and terminating INWATS codes, enter the grid area table index number which locates the 6-digit translations in the grids. For other codes, leave blank.

❿ If the code is marked TL, enter the type of test line. Enter "A" for AITT-A, "B" for AITT-B, and "T" for T-set. If the code is not marked TL, but the ABC digits of the code are associated with a type 3 (codeblock) preplanned network control, enter the control key number associated with the code. (See 3.05 for a description of the PPDATA printout, Exhibits 42 and 43). If you later receive a recent charge order modifying the routing of the code or disconnecting the code and you receive no accompanying network control change order, you should notify the ETS order writer that this code is associated with a preplanned control. It will be the responsibility of the order writer to check if a network control table change is necessary.

NOTE 1: If the routing for a code is the same as for a previous code on the data printout, enter "SAME —" and the previously listed 3-digit code across the line.

NOTE 2: File the descriptive pages (first page and last pages) of one of the____PRY

printouts in front of the P-3105's. See Exhibits 13A, B, C, and D.

(b) GRID A/GRID A2 (Exhibit 15): This table combines grid and CGP address information contained in the GRID A (Exhibit 16), GRID A2 (Exhibit 17) and GRIDMAP (Exhibit 18) tables of the office data printout. Associate the callouts below with those on Exhibit 15.

1. From the GRID A2 table, enter the GA2 words in numerical order. Enter also the associated CGP table number and 3-digit code.

2. Enter the domain, grid table number (GRID, not GD column on GRIDMAP), grid width (WID) and right-most bit (RMB) for each code, from the GRIDMAP table.

3. Enter the octal grid table and CGP address (origin of table) by looking up the grid table number and CGP table number in the Data Tables Listed by Tident printout (Exhibit 19A and 19B).

(c) GRIDMAP (Exhibit 20A): You will need two to four of these forms for your office, depending on the number of grid tables in use. Obtain these by reproducing Exhibit 20A. Information for this form is on the Grid Map Symbolic Table printout (see Exhibit 18). Exhibit 20B shows a sample completed form. Associate the callouts below with those on Exhibit 20B.

1. List all grid tables in numerical order. Grid tables are marked GRID, not GD, in the printout.

2. Look up the grid table number in the Data Tables listed by TIDENT and enter the grid table address.

3. Enter the following information for the grids within each grid table, beginning at the right of the page with the right-most bit 00 and working to the left:

   - grid number
   - domain of code using the grid
   - right most bit
   - width
   - ABC code.

4. Spare bits are shown by entering all information except the grid number, the domain, and an ABC code.

(d) GRID Tables (Exhibit 21): The GRID tables describe routing for the thousand 6-digit codes per ABC code. There are two GRID table forms: P-3107 numbered 00-49, and P-3107A, numbered 50-59. Associate the callouts below with those on Exhibit 21.

1. List across the page, in numerical order, the 3-digit codes which require 6-digit translation. Leave some blank columns to allow for future addition of codes in approximately numerical order. GRID, GRID A2, OR GRIDMAP can all be used to obtain this information (See Exhibits 16, 17, and 18).

2. Below each code, enter the grid table number in which the code is located.

3. On the GRIDMAP, find the "GD" (grid) number associated with each ABC code. This grid number is the index to the GRID printouts (Exhibit 22) which list the CGI's (code group indices) for each 6-digit code. Enter the corresponding CGI for each 6-digit code listed on the P 3107.

(e) CGP (Exhibit 23): Few CGP tables are larger than 64 words. Use the prenumbered form P 3108 unless table length exceeds 64 words. Use the unnumbered P 3108A if the table length does exceed 64 words. Copy each CGP table from the CGP printout (See Exhibit 24), and file the P 3108's in CGP table order. File one copy of the CGP table description (See Exhibit 24) in front of the P 3108's.

(f) SCREENING (Exhibit 25): Information to fill out the P-3110 comes from the SCR table printouts (Exhibit 26A). Associate the callouts below with those on Exhibit 25.

1. Enter the screening table number, code(s) using the screening table, and the domain in which these codes appear (see PRY tables).

2. Enter the ACR, VSK, and RPI information as shown on printout.

❸ Enter "X" in VAC column if screening class is routed to Vacant Code Announcement.

❹ Look up screening table numbers in Data Tables Listed by Tident printout, and enter the octal table location (see Exhibit 14).

NOTE: File one copy of the screening table printout description in front of the P-3110's (see Exhibit 26A and 26B).

(g) RPTAB (Exhibits 27A and 27B): Information for this form comes from the RPTAB printout (Exhibits 28 and 31). Exhibit 27B shows an example of a route multiple listing. Associate the callouts below with those on Exhibit 27A.

❶ RPI: Enter in numerical order.

❷ RM: Enter the route multiple register number if the RPI is the index to a route multiple (See Exhibit 31). Route multiples may have up to 21 next routes. Allow 21 lines on the P-3111 for each route multiple, even if all 21 next routes are not in use. If next routes are added in the future, you will have the space to show them on the form.

❸ RTI: This refers to the route instruction if all trunks associated with the RPI are busy and no alternate route (RPI) exists. Enter "No" if an alternate route does exist. Otherwise, enter OF, MB, or RO, as applicable. For route multiple entries, use this column to enter the route multiple index (RMI), 00-20 (see Exhibit 27B).

❹ TPC: Enter "Y" or "N." This column will be blank for route multiple entries.

❺ NRPI: If RTI has a "No" entry, the next RPI must be listed here. For route multiple entries, list all NRPI's in order.

NOTE: Items 6-11 will always be blank for route multiple entries.

❻ AR: Applicable only if the RPI is associated with code conversion. Enter "Y" or "N" as appropriate if item 7 shows "Y." In all other cases, leave blank.

❼ CCF: Enter "Y" or "N."

❽ OTSP: Enter the appropriate letter to indicate the outgoing traffic separation class.

❾ TGI: Enter the listed trunk group index.

❿ CCDIG: Applicable only if code conversion is used. Enter the number of received digits required for code conversion.

⓫ CCI: Applicable only if code conversion is used. This number is the index into the COCOTB table.

NOTE: File the RPTAB printout descriptive pages (Exhibits 29A, B, and C) in front of the P-3111 forms.

(h) Route Multiple — RPTAB (Exhibit 30): This table uses information from the RPTAB printout (Exhibit 31) and the Table of Outgoing Trunk Group — Route Indices printout (Exhibits 32A and B). Use of this table is optional. It allows you to see at a glance which trunk groups use route multiples. Associate the callouts below with those on Exhibit 30.

❶ Enter, in numerical order, the RPI's which are indices to route multiples.

❷ Enter the next route pattern indices (NRPI's) for each route multiple RPI.

❸ Look up the first NRPI of each RPI in the Table of Outgoing Trunk Group — Route Indices printout (see Exhibit 32B) to determine which trunk group is associated with each route multiple.

NOTE: Route Multiple RPI's are not listed in the Table of Outgoing Trunk Group — Route Indices, only their associated NRPI's. Enter the trunk group common language name, excluding the suffix, on Form P 3112.

(i) COCOTB (Exhibit 33): Information for this form can be found on the COCOTB printout (Exhibit 34). Associate the callouts below with those on Exhibit 33.

❶ CCI: The code conversion index references the first word in memory of a series of one or more lines of code conversion. Each line of code conversion requires two

words in memory, so one complete code conversion index series will use twice as many words as it contains code conversions. If any change has been made to the code conversion tables after the original compile or recompile, there may be blank words at intervals in the table. Be sure to leave a space on the P 3109 for every two words of blank memory so that new information may be entered as it is placed in memory.

(2) ABC, DEF: Enter digits to be code converted.

(3) LAST: Enter "Y" if this is the last line of code conversion for this code conversion index. Otherwise, leave blank.

(4) VSK, CCD: Enter appropriate skip and code conversion information.

(5) RPI. Enter the route pattern index used by this CCI. You may find the RPI by scanning the RPTAB tables (Exhibit 27) for this CCI, or you may go back to the____PRY tables and look up the code associated with the CCI and find its corresponding RPI.

NOTE: File the descriptive pages of the COCOTB printout (Exhibits 35A and 35B) in front of the P 3109 COCOTB records.

3.04 Outgoing Trunk Group Information

(a) OTKTAB (Exhibit 36): Information for this form can be found on the OTKTAB printout (Exhibit 37A). This table describes the characteristics and physical location of each outgoing trunk group. Each trunk group requires a minimum of four and a maximum of seven words of memory (three words of general information plus one word per subgroup). The P 3113 is laid out to accommodate six 4-subgroup trunk groups per page. Associate the callouts below with those on Exhibit 36.

(1) TGI: The TGI of the trunk group references the first word in memory associated with the trunk group. Enter all outgoing trunk groups in numerical TGI order. Leave space on the form to insert (a) new trunk group(s) if there is a blank space in memory (i.e., one or more trunk groups were moved in memory or disconnected since the compile or recompile).

(2) Trunk Group Name: Find the TGI number in the Table of Outgoing Trunk Group — Route indices (Exhibit 37B), and enter the associated common language name and suffix in this space.

(3) GB, PSC, SLN, POS, SGRP, RANK: Copy the appropriate entries from the first memory word of the trunk group general information on the printout. This line contains group busy relay information.

(4) TRM, LCT, CDLC, CLASS: Copy the appropriate entries of the second word of information from the printout. This line contains trunk group type and characteristics information.

Note that for:

LCT — "YES" (Make the test) = 0

CDLC — "YES" (Cancel the delay loop closure) = 1

(5) PART, TRI: Copy the appropriate entries of the third word of information from the printout. This line contains information for scoring traffic registers.

Note that P2 on the printout is equivalent to the word segment labeled "PART" on the P 3113.

— "NO" is equal to zero and means that this is a one-part trunk group or the last part of a two-part trunk group.

— "YES" is equal to one and indicates that this is the first part of a two-part trunk group.

This information will make a difference in the way traffic registers are scored.

(6) TRN, TBC, TB, GS, GE: Copy the appropriate entries of the fourth through the seventh word. If there are less than four sub-groups:

- Cross out with pencil those sub-groups for which no memory space has been allotted (a compile or recompile will not leave space for blank sub-groups).

- Leave room for blank sub-groups if

memory space is available (memory space will be available only if a trunk group in the OTKTAB has been moved or disconnected since the compile or recompile.)

NOTE: Notice that item 6 on the descriptive pages (Exhibit 38B) lists the spare words. On the last page of the P 3113's, enter the current spare words available at the end of the OTKTAB, as shown on Exhibit 36. File the descriptive pages of the OTKTAB printout (Exhibits 38A and 38B) in front of forms P 3113.

(b) TXTAB (Exhibit 39): Information for this form can be found on the TXTAB printout (Exhibit 40A). This table relates a traffic register index (TRI), which is shown on the OTKTAB, to the assigned peg count-overflow traffic register number. Associate the callouts below with those on Exhibit 39.

❶ TRI: The TXTAB printout lists even TRI's only. List even and odd TRI's in numerical order on the P 3104.

❷ PCOV: Enter the peg count — overflow register number associated with the TRI. Even-numbered TRI's are associated with the register number marked "PCOV-EVEN." Registers associated with odd-numbered TRI's are shown next to the immediately preceding even TRI and marked "PCOV-ODD."

❸ TGI: Look up each TRI on the Table of Outgoing Trunk Groups — Route Indices, and enter the corresponding TGI.

NOTE: File the TXTAB printout descriptive page (Exhibit 40B) immediately preceding the P 3104's.

(c) Outgoing Trunk Common Language Record (Exhibit 41A): Information for this form may be found on the Table of Outgoing Trunk Groups — Route Indices printout (Exhibit 41B) and the Network Control Pre-Programmed Data printout (Exhibit 42). This form will provide a reference of all the major indices and registers assigned to each outgoing trunk group. Associate the callouts below with those on Exhibit 41A.

❶ Enter the Trunk Group Name, TGI, RPI(s), RI(s), TRI and PCOV from the Table of Outgoing Trunk Groups — Route Indices printout, listing the trunk groups in alphabetical order and leaving space between trunk groups to allow for additional route patterns per trunk group and additional trunk groups in approximately alphabetical order.

❷ No entry is required in the "C REG" column. This column is for the use of the network manager.

❸ Proceed to the Network Control Pre-Programmed Data printout (Exhibit 42). The printout lists the network control console key numbers, the type of control assigned to each key, the TGI of the trunk group associated with the key control, and, for reroute controls, the RPI associated with the reroute. In the "NM PP CONTROLS" column of the P 3103, list the key number(s), if any, associated with the trunk groups whose TGI's and RPI's appear on the PPDATA printout.

NOTE: When the record is complete, make three legible copies and transmit them to the ETS trunk order writer. The order writer will retain one copy, send one copy to the route engineer and one copy to the network manager. File the P 3103s in a binder.

3.05 Network Management Information. The network control console located in the network management center of the 4A machine is equipped with key positions 000 to 099. These keys can be associated in memory with overrides to the normal routing programs. Keys 000 to 089 can each be associated with one specific routing change. Keys 090 to 099 can be associated with up to ten routing changes. (See Section 212-810-101, page 7, item F.)

(a) Form P 3115, Network Control Preprogrammed Data, (Exhibit 43) will be used to record the network control routing changes associated in memory with the network console key positions. Information to enter on this form will be found on the PPDATA printout (Exhibit 42). Associate the callouts below with those on Exhibit 43.

❶ Key: Enter the key numbers, from 000

to 099. For keys 090 to 099, enter each key number ten times since each key may have up to ten lines (twenty words) of memory associated with it.

❷ TYPE: Enter the number "0," "1," "2," or "3" to indicate the type of routing change associated with the key (skip, reroute, cancel alternate route, or codeblock).

❸ PCT: Enter "0," "1," "2," or "3" to show what percent (25-50-75-100) of the calls to which the control could be applied should actually be subjected to the routing change.

❹ A/AD: Not applicable for type 3 controls. Enter "0" or "1." A "0" indicates that only traffic using the trunk group whose TGI is shown on an alternate route basis is to be affected; a "1" indicates that all traffic (first routed and alternate routed) using the trunk group whose TGI is shown will be affected by the reroute.

❺ TGI: Not applicable for type 3 controls. Enter the TGI of the trunk group associated with the control. It is very important that the TGI be correct. If, for any reason, the TGI of one of the trunk groups associated with a network control is changed, the preprogrammed network control TGI must also be corrected in memory (and in the office records). Failure to update the network control memory will result in controls being applied to wrong trunk groups in network crisis situations. Such mistakes can lead to heavy service penalties.

❻ RPI: Applicable for type 1 controls only. This is the RPI to which traffic overflowing from the trunk group whose TGI is listed will route if the control is activated. For type 1 controls, the control key number should be entered on the Outgoing Common Language Record in the "NM PP CONTROLS" for the trunk group whose TGI is shown and also for the trunk group whose RPI is shown. If a recent change is made which changes the RPI number, the Outgoing Common Language Record will indicate that you must also make a correction in memory to the preplanned network control table. Failure to do so will result in incorrect routing when the control is activated.

❼ T/F: Applicable only to type 2 controls. Enter "0" or "1." "0" means that traffic overflowing from the trunk group whose TGI is listed will be blocked. "1" means traffic routing to the trunk group whose TGI is shown will be blocked. Leave blank for control types 0, 1, and 3.

❽ HTR: Applicable only to type 2 controls. Enter "0" or "1." "0" means the control will be applied to all codes which fall into the parameters set by items 3, 4, 5, and 7 above. "1" means the control will be applied only to codes meeting the parameters set by items 3, 4, 5, and 7 above and listed in memory in the NACHTR and ACHTR (hard to reach) tables. Leave blank for control types 0, 1, and 3.

❾ ANN: Applicable only to control types 2 and 3. Shows to which announcement the codes blocked by the control will route. Entries are 0 = No Circuit Announcement, 1 = Emergency Announcement 1, or 2 = Emergency Announcement 2. Leave blank for control types 0 and 1.

NOTE: The remaining columns apply to control type 3 (code block) only and will be blank for control types 0, 1, and 2.

❿ 3D/6D: "0" means code block will be applied to calls with the listed ABC digits. "1" means code block will be applied to calls with the listed ABC DEF digits.

⓫ REM: If associated with keys 000-094, entry should always be "0." If associated with keys 95 to 99, a "1" may be shown. The "1" indicates that the control can be activated by a signal sent from a higher ranking office (assuming a signal circuit from the higher ranking office has been wired to the key).

⓬ DOM: List the domain in which the 3D or 6D code associated with the control is located. Valid entries are:

0 = TAS 3

2 = TAS 2

3 = TAS 1

4 = NAC

5 = AC

13 ABC-DEF: Lists ABC or ABC DEF digits which determine code block. Post the network control key number associated with the code on the appropriate form P 3105 (Primary Instruction Table) as described in 3.03 (a) (10) of this section.

(b) File Form P 3115 in a binder with the other office record forms. In front of the P 3115 set, file the descriptive pages of the PPDATA printout (see Exhibits 44A and B).

3.06 Message Format

To facilitate interrogation of the ETS memory and formulation of recent change messages, make up a page of sample message formats for messages associated with each data table, and file them with the data table records. (See sample pages, Exhibits 45 and 50.)

4. OFFICE MEMORY LOCATION (LOAD MAP) RECORDS

4.01 The load map tables should be filed in front of all other records of ETS memory. The tables are listed in 2.04 (See Exhibits 46A-D for samples.) Every time data is added to, removed from, or shifted in memory, these tables must be updated to reflect current memory space and table location status.

4.02 The updates may most easily be made by crossing out information no longer valid and entering corrected information in pencil on the facing page, as shown in Exhibits 47A and 47B.

4.03 It is very important that these tables accurately reflect the current status of memory since the ETS is not presently programmed to print out spare memory areas upon request.

5. ETS FORM CODE RECORDS

5.01 The ETS-8075 forms, generally known as "form codes," are the "English language" or "Telephonese" records of ETS routing and trunking information. These records are filled out by the routing engineer, the trunk order writer, and the network manager at the beginning of the ETS installation job.

5.02 Information from these records is keypunched and processed by Western Electric to produce the office memory tape which is loaded into the ETS.

5.03 A complete set of copies of all ETS-8075 forms should be kept in each office.

5.04 Recent changes will be issued by the routing engineer and trunk order writer on these forms. You will translate them into code language and enter them into the machine. ETS-8075 forms from completed orders should be filed with your form code record set, and outdated form codes should be eliminated so your set is always current.

6. RECENT CHANGE ORDER FLOW

6.01 All routing and trunking memory change requests will be sent to you from the trunk order bureau. Each request will consist of two copies of a transmittal sheet, Form ETS 8075-T (see Exhibit 48A), and one or more forms of the E-8075 series (popularly known as form codes), which are the English language ETS trunking and routing memory records. There are three basic recent change order types.

(a) Routing: Add or disconnect codes, or change the treatment or routing of existing codes. Routing information is contained on forms E-8075-02, 03 and 05. Routing orders are initiated by routing engineers.

(b) Trunking: Add, disconnect or rearrange trunks, trunk groups or traffic registers. Trunking information is found on forms E-8075-01, 04, 06, and 07. Trunking orders are initiated by Trunk Assignment Bureaus.

(c) Network Control: Associate or disassociate network management console keys with traffic control features for specific codes and trunk groups. Network Control Information is found on form codes E-8075-12 to -17. Network control orders are initiated by Network Managers.

6.02 The ETS 8075-T recent change order trans-

mittal will show the following information (see Exhibit 48A):

(a) The office name in common language.

(b) Order Type: Indicates whether this is a 'Change" to existing data, a "Disconnect" or an "Addition." The order may list only one type or may be a combination of two types or all three types. Our example shows an order including a disconnect (one trunk from a sender link location), an add (one trunk on a new sender link location), and a change (trunk block connector).

(c) Type Form Codes Attached: Shows the actual form code numbers attached and, in brackets, the number of sheets for each form code. In our example, we show two form code 01's and one form code 04 attached.

(1) When you receive the order, check the quantities indicated to be sure you have all the forms.

(2) If there is a discrepancy between the numbers indicated on the transmittal and the actual quantity and type of form codes attached to the transmittal, immediately describe the discrepancy in the Teletype Code Message space of the transmittal.

(3) Notify your trunk assignment contact by telephone of the discrepancy, and log the conversation on the transmittal.

(4) Log all further conversations up to and including the resolution of the discrepancy on the transmittal. (See Exhibit 48A.)

(d) Due Date: Shows the date the recent change must be activated in the machine. The due date for all code routing recent changes is established by the routing engineer. If this date does not agree with a cutover or recent change date relayed to you by the network manager or the trunk order supervisor, contact the routing engineer and the other involved supervisors to verify the due date. The routing engineer will reaffirm the due date or issue a revised official due date. If this order requires coordination with other orders, be sure all related orders are completed in the proper sequence. For example, if the order involves a trunk block change, be sure the electro-mechanical order to make the change is completed before you activate the recent change order.

(1) The importance of coordinating recent changes with electro-mechanical changes can not be overemphasized. Trunk block changes and trunk connect and disconnect orders must be worked jointly to avoid service penalties.

(2) Good planning is vital to smooth operation on major cutovers.

(e) Replaced by Order Number: This space will always be blank. If you receive a replacement for an order in your possession, enter the replacing order number on the original order transmittal. This will be an indication for your records and for the trunk bureau and the routing engineer that the original order has been superseded and should not be worked.

(f) Order Number: Shows the number (three or more digits) of this particular order. The trunk order writer or routing engineer may also indicate the following on an order transmittal:

(1) That this order is replacing (correcting) another order.

- Find the original order transmittal, and enter the replacing order number on it as described in (e) above.

- If you have already entered pending information from the original order on the office data forms P 3100 to P 3113 and P 3115 and other office records, correct these forms and records immediately. If you have already cut tapes for the original order, destroy the incorrect tapes. Associate correct tapes with the replacing order.

- Return one copy of the replaced order transmittal to the trunk order bureau, with the notation "Order Replaced — Not Worked" in the space marked "Teletype Code Message."

- Work the replacing order as a normal recent change.

(2) That an order already issued is canceled in its entirety.

- Find the transmittal of the canceled order and enter "canceled" in the "Replaced by Order No." space.

- Remove pending order information from all affected office data forms P 3100 to P 3113 and P 3115 and other office records so that only current memory status is shown. If you have already cut tapes for the canceled order, destroy them.

- Return one copy of the canceled order transmittal to the trunk order bureau, with the notation "Order Canceled — Not Worked" in the space marked "Teletype Code Message." This will serve as a confirmation that you received the cancel notice.

(3) That the due date of an already issued order has been changed as shown.

- Attach the date change transmittal to the original order.

- Change the date on your log of scheduled recent changes.

- Return one copy of the date change transmittal to the trunk order bureau with the notation "Due date change noted and corrected on order_____," using the original order number.

(4) That the entire order is a record change only. Such orders can be issued for trunk group common language changes or cases where existing records do not agree with the ETS memory, but the memory contains correct information.

- Correct all records according to the information on the order and sign off on the "Compiler List Updated" line at the bottom of the transmittal.

- Enter "Record change completed" in the teletypewriter code message space of the transmittal, and return one copy of the transmittal to the trunk order bureau.

(g) Replaces Order No.: This space will contain the number of the order this transmittal is replacing or modifying when such information is appropriate.

(h) Coordinate with Order Nos.: The trunk order bureau will list all hardware trunk orders and all other recent change orders which are related to this order and must be worked with it or prior to it. It is your responsibility to make sure before the due date that you have the paper for all the related recent change orders.

(i) Description of Change: The routing engineer or trunk bureau will describe in simple language the changes requested by this order.

(j) Teletype Code Message: Some recent change personnel use this space to write out the recent change teletype messages. Most locations, however, have devised time-saving preprinted message format sheets (see sample, Exhibit 50) for recent change messages. It is recommended that this space be used for notes regarding the working of the recent change order. If, because of lack of time, you received a verbal correction to the order from the routing engineer or the trunk order writer, describe the correction in this space.

(k) ETS Basic Records: Enter your initials and the date on the "Compiler list updated" line at the time you update the P 3100-3113's associated with the order.

(l) Recent Change Order: Enter your initials and the date as you complete the teletype coding, tape cutting, and loading and testing. Enter your initials and the date when the recent change is activated.

6.03 Process recent change orders as follows:

(a) Make a log of orders as soon as they are received. The log should show the order number, due date, date received, and type of order, and should have a space for activation date. (See Exhibit 49 for sample log.) This log is required in addition to the E-5214 Work Item Tally Sheet which is used only to record work unit credits.

(b) Check to make sure the order is complete and correct. Do not wait until the cut date

to verify these items; straightening out discrepancies early will result in a better completion record.

(c) Verify that you have all coordinated orders.

(d) Clear any discrepancies with your contact in the trunk order bureau.

(e) Write the teletype code messages.

(1) Use forms P 3100-P 3113 and office load maps to locate memory space.

(2) Enter pending new information on forms P 3100 to P 3113 and office load maps at the time you write teletype messages (see (f) below).

(3) If you run into any double assignments or discrepancies, request corrections from the trunk bureau. Document each conversation with the trunk bureau with a note in the "Teletype Code Message" space (see Exhibit 48A).

(f) Enter pending recent changes on forms P 3100 - P 3113 and office load maps as follows (see sample Exhibit 51).

(1) Disconnects — Draw pencil line above entries to be disconnected. In margin of form next to item being disconnected, enter disconnect order number.

(2) Add — Enter new information. In margin of form, next to item being added, enter add order number.

(3) Change — Enter new information above old (use small writing). In margin of form next to item being changed, enter change order number.

(g) After you complete (a) through (f) above, file the order transmittal (both copies) and all attached form codes in a Pending Order File, which should be in order number sequence.

(h) Cut, load, and pretest the input tape sometime prior to the due date.

(i) Activate the tape on the due date according to recent change procedures.

(j) Enter the date activated in the Recent Change Order Log and on the transmittal.

(k) File all form codes associated with the recent change in your form code records, and remove and destroy all replaced form codes.

(l) Update forms P 3100 - P 3113 and office load maps to show pending information as active in memory.

(1) Erase disconnected information out of records.

(2) Erase pending order number from added information.

(3) Erase old version and change order number, and enter new information for change orders.

(m) File your copy of the order transmittal in numerical sequence in your completed order file.

(n) Send one copy of the transmittal to the trunk order bureau. Be sure you have noted on the transmittal any corrections to the order you made on an oral basis (this should be a rare occurrence).

NOTE: If you have made verbal changes, attach a copy of the form code(s) which required correction and clearly show the change you made.

(o) If the order involved a common language or ITGI change, add, or deletion on an incoming trunk group:

(1) Make two copies of the changed page(s) of the P 3102.

(2) Indicate the changed line or lines with a red arrow in the right margin.

(3) Send the two copies to the trunk order writing bureau with the order completion transmittal.

(4) The trunk bureau will keep one copy.

(5) The trunk bureau will send the second copy to the dial administrator (network manager).

(p) If the order involved a TGI, RPI and RI, TRI and PCOV, or NM PP CONTROLS change on an outgoing trunk group:

(1) Make three copies of the changed page(s) of the P 3103.

(2) Indicate the changed line or lines with a red arrow in the right margin.

(3) Send the three copies to the trunk order writing bureau with the order completion transmittal.

(4) The trunk bureau will keep one copy.

(5) The trunk bureau will send one copy to the routing engineer.

(6) The trunk bureau will send one copy to the dial administrator (network manager).

NOTE: The order completion transmittal and accompanying forms should be mailed to the trunk bureau immediately upon completion of the order. The dial administrator (network manager) must have up-to-date records to apply network controls and collect and interpret machine data.

6.04 Your ETS order writer should issue most pending orders to you at least one week in advance of the due date. If a major cutover is impending, the order writer should notify you of the cut as soon as the trunk bureau becomes aware of it so you can schedule your work load.

(a) Network Management orders will generally require immediate or near immediate activation. Every effort should be made to complete these orders at the specified time.

(b) Some orders will inevitably be rush orders that allow less than a week for completion. Every effort should be made to complete these orders on the required due date. If you receive short-interval orders frequently and without good cause, discuss the situation with your routing engineer and trunk order writer. Short-interval orders should be the exception, not the rule.

7. EFFECTIVE MEMORY USE

7.01 Most ETS machines have great quantities of memory space, and the prospect of running out of useable memory is remote. Nevertheless, inefficient use of memory can lead to frequent time-consuming table moves and to the day when a recompile becomes necessary because tables in memory are scattered throughout available space. Interviews with ETS recent change personnel and people involved with recompiles resulted in the following recommendations:

(a) Always work disconnects or the disconnect section of change orders. The single major memory discrepancy problem encountered in recompiles (all offices will have a recompile sometime) is obsolete information in memory locations that should have been zeroed. To avoid possible routing errors and time-consuming corrections when a recompile is made, zero memory on disconnects!

(b) Always insist on confirming paper from routing and trunk order groups when, because of lack of time, you must receive a correction by telephone or initiate a correction yourself. Do not consider the order complete until you receive the written correction. If you have not received a correction by the time you activate an order, ask for a "record only" correcting order on your completion transmittal. Oral changes and corrections are a major reason for record discrepancies which can lead to memory errors.

(c) If you receive a common language name change for an incoming trunk group, check your records to see if this is really a two-way group. If it is, notify the trunk order writer and ask for name-change paper on the outgoing group also (including routing form codes). Common language disagreements in the various records constitute the single major record discrepancy encountered in recompiles, and straightening the records out at that point is a time-consuming and frustrating chore.

(d) If you receive a common language name change for an outgoing trunk group, make sure the change has been issued on routing and

trunking form codes. Check to see if the group is really two-way. If it is, request paper to change the name of the incoming group also if no paper was issued with the outgoing order.

(1) Ask your trunk order coordinates not to assign a working trunk to trunk block location TC 00-0 GS00-GE01. Vacant group busy relay subgroups and spare OTKTAB locations show this assignment in memory. If calls are routed to a vacant location in memory in error, they will access these two trunks. We recommend these locations be left vacant so that calls accessing them will fail and the memory error will become apparent.

(2) RPI0000 should be assigned to vacant code announcement to eliminate misrouting calls which reach zeroed memory locations on CGP tables or____PRY tables in error. If the initial compile or recompile did not assign RPI 0000 to vacant code, we suggest you make sure the next recompile will do so. Ask your trunk order writer to give the vacant code trunk group a name that will put it first alphabetically. You could, of course, make the change via recent change procedure, but the number of RPI entries for vacant code make this procedure impracticable.

(3) On each CGP table, CGI 0000 should be for the Vacant Code trunk group if nonprincipal city routing is used. The compiler follows this procedure, and you should continue it as you add 6-digit areas.

(4) If principal city routing is used, establish CGI 0000 as the principal city. The compiler follows this procedure, and you should continue it.

(f) The compiler generates one CCI for each RPI associated with code conversion, even if a second RPI requires exactly the same code conversion information. This situation occurs when a trunk group is so big that it has two or more relays associated with it (i.e., it has an "A" rank and "B" rank, or even a second numerical rank). For network engineering purposes, it is one trunk group, and, consequently, code conversion information for each rank will be the same. In some machines with large amounts of code conversion, a significant amount of space can be wasted with CCI duplication. We recommend that you examine your records, and, if the problem is extensive in your machine, that you eliminate duplicate CCI tables and allow more than one RPI with identical code conversion requirements to use the same CCI.

(g) When you enter a new assignment in memory, use the first available space. For example, if you are adding an entry to the RPTAB table, look for vacancies within the table created by disconnects first, and assign into a "hole" within the table rather than adding the new assignment at the end of the table. At all times keep the memory as free of "holes" as possible — but consistent with common sense. Don't, for example, enter a six word long CCI table into a six word space if you can be reasonably certain that new codes will be added to the table in the foreseeable future.

7.02 Memory records and efficient memory use are your responsibility. You understand better than the routing engineer and the trunk order writer what can and cannot be done to conserve memory space and how all the tables in memory tie together. The routing engineers and the trunk order writers have been given guidelines on memory use, but you are in the best position to point out poor practices to them. Open lines of communication will improve performance for everyone.

8. QUARTERLY MEMORY STATUS REPORT

8.01 Issue a memory status report according to the schedule below to inform the routing engineer and trunk order writing supervisor of current memory use status. The report must be approved by the second level ETS maintenance supervisor. Send one copy of the report to the immediate supervisor of the routing engineer. Send a second copy to the second level ETS order writing supervisor. Keep the original of the report.

Report Memory Status as of:	Send to Routing Engineer and Trunk Order Writer by:
January 15	February 1
April 15	May 1
July 15	August 1
October 15	November 1

8.02 The memory status report will consist of three items: the Memory Table Status

Report (Exhibit 52A), the CGP Status Report (Exhibit 53), and the Grid Map (Exhibit 20A).

8.03 Memory Table Status Report (See Exhibit 52B): This report summarizes memory space usage for the major routing and trunking tables. Reproduce Exhibit 52A for your use.

(a) Office: Enter common language office designation.

(b) Status as of: Enter day, month and year of memory status check.

(c) Report by: Enter your name.

(d) Telephone: Enter your telephone number.

(e) # SCR Tables: Enter the number of screening tables in memory.

(f) For each of the listed tables and for the total memory, make the following entries: (One word = 20 bits).

(1) Enter the maximum table length permissible by design limitations.

(2) Enter the maximum space reserved for the table in your office memory.

(3) Enter the total number of words currently in use (refer to the appropriate form P 3100 to P 3113 for a word count).

(4) Enter the number of words in the longest run of consecutive spare words within the table (generally, this will be at the end of the table in question).

(5) Enter the total spare words in the table (office maximum minus words in use).

(g) The two vacant lines may be used to list other tables.

(h) Notes: Enter any items you consider significant with regard to memory use.

EXAMPLE: "Inadequate planning of spare subgroup space in OTKTAB is forcing many trunk group moves within the OTKTAB. When you write order for a new trunk group, please indicate expected maximum size over next several years so that subgroup space can be reserved. It is not necessary to make trunk block assignments to spare subgroups. Just state the number required."

(i) First and second level managers will sign on the top right of the form to indicate that they have reviewed the form and understand the current status of memory.

(1) APPROVED: The first and second level ETS recent change maintenance supervisors will sign and enter the date. The report may then be duplicated and sent to the immediate supervisor of the routing engineer and the second level ETS trunk order writing supervisor.

(2) RECEIVED: The second level trunk order supervisor and the immediate supervisor of the routing engineer will each receive a copy of the report. Each will sign the copy received to indicate understanding of the memory status. Each will then forward the report to the respective first line supervisor. The respective first line supervisors will sign the copy received to indicate understanding of the memory status and will keep the report in file at least until the next report is received.

8.04 CGP Status Report: This report will give the routing engineer a picture of the availability of new treatments per 6-digit code. The routing engineer knows which 6-digit areas have projected new trunk groups and a consequent need for additional treatments, and can therefore arrange in advance of a cut to increase grid widths of codes in danger of running out of treatments. Early planning in this sector will insure meeting cutover due dates. Reproduce Exhibit 53 for your use.

(a) Header entries will be the same as described in 8.03 (a)-(d).

(b) Enter CGP table number, domain in which code appears, and ABC digits of code.

(c) Enter the total length of the CGP table (number of possible treatments).

(d) Enter number of treatments in use.

(e) Enter number of treatments still available.

8.05 GRID MAP: Attach a copy of your office Grid Map (Exhibits 20A-20B) to each copy of the memory status report you send out. The routing engineer should analyze the grid fill and inform you of any foreseen requirements for adding one or more grids because of needed grid width expansion or new 6-digit translation requirements.

8.06 If analysis of the report (or any other event) points to the possibility of a memory problem, the person recognizing the impending difficulty (recent change supervisor, routing engineer, or ETS trunk order supervisor) should call a meeting of all interested and involved parties to discuss the problems and formulate a plan of action.

8.07 Accurate records, good planning, and good communication between all groups involved in memory position and administration will prevent crises and promote good memory use.

ETS SENDER LINK FRAME NUMBERING

Sender Link Frame	← Sender Pot →															Sender Link Frame
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
00																	00
01																	01
02																	02
03																	03
04																	04
05																	05
06																	06
07																	07
08																	08
09																	09
10																	10
11																	11
12																	12
13																	13
14																	14
15																	15

EXHIBIT 1

Pacific Telephone
Nevada Bell

P 3100 (6-73)
(212-800-900PT)

TRUNK GROUP

TGP 162 SLN 117 MF GRP L SLF 05

TRK	ITGI	TRK	ITGI	TRK	ITGI	TRK	ITGI
00	0320	25	0003	50	0003	75	0361
01	0324	26	0003	51	0003	76	0003
02	0003	27	0003	52	0003	77	0003
03	0321	28	0003	53	0334	78	0003
04	0003	29	0003	54	0003	79	0003
05	0003	30	0327	55	0003	80	0003
06	0003	31	0003	56	0003	81	0003
07	0003	32	0321	57	0003	82	0003
08	0003	33	0325	58	0003	83	0416
09	0003	34	0328	59	0003	84	0003
10	0331	35	0003	60	0319	85	0003
11	0326	36	0003	61	0327	86	0021
12	0321	37	0003	62	0003	87	0003
13	0003	38	0003	63	0003	88	0068
14	0003	39	0003	64	0003	89	0003
15	0003	40	0326	65	0003	90	0003
16	0003	41	0003	66	0003	91	0003
17	0003	42	0335	67	0003	92	0301
18	0003	43	0329	68	0003	93	0003
19	0003	44	[illegible]	69	[illegible]	94	0003
20	0003					95	0003
21	0003					96	0021
22	0322					97	0003
23	0003	48	0003	73	0101	98	0003
24	0003	49	0003	74	0003	99	0003

Note that 0003 is the TGID used for vacant MF sender link frame locations. No trunk is working in these locations.

EXHIBIT 2

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

1 FOR EXHIBIT 2

SYMBOLIC NAME # TGP152

3 FOR EXHIBIT 2

TRUNK GRP TABLE FOR CONT GRP L AND SLF NUMBER 05

DECIMAL				OCTAL
TRK POS	ITGI	TRK POS	ITGI	
****	****	****	****	*******
0001	0324	0000	0320	1210500
0003	0321	0002	0003	1202003
0005	0003	0004	0003	0006003
0007	0003	0006	0003	0006003
0009	0003	0008	0003	0006003
0011	0326	0010	0331	1214513
0013	0003	0012	0321	0006501
0015	0003	0014	0003	0006003
0017	0003	0016	0003	0006003
0019	0003	0018	0003	0006003
0021	0003	0020	0003	0006003
0023	0003	0022	0322	0006502
0025	0003	0024	0003	0006003
0027	0003	0026	0003	0006003
0029	0003	0028	0003	0006003
0031	0003	0030	0327	0006507
0033	0325	0032	0321	1212501
0035	0003	0034	0328	0006510
0037	0003	0036	0003	0006003
0039	0003	0038	0003	0006003
0041	0003	0040	0326	0006506
0043	0329	0042	0335	1222517
0045	0003	0044	0003	0006003
0047	0003	0046	0003	0006003
0049	0003	0048	0003	0006003
0051	0003	0050	0003	0006003
0053	0334	0052	0003	1234003
0055	0003	0054	0003	0006003
0057	0003	0056	0003	0006003
0059	0003	0058	0003	0006003
0061	0327	0060	0319	1216477
0063	0003	0062	0003	0006003
0065	0003	0064	0003	0006003
0067	0003	0066	0003	0006003
0069	0003	0068	0003	0006003
0071	0003	0070	0003	0006003

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EXHIBIT 3

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

TGP001 CONT.

DECIMAL				CCTAL
TRK POS	ITGI	TRK POS	ITGI	
****	****	****	****	*******
0073	0005	0072	0004	0012004
0075	0003	0074	0006	0006006
0077	0003	0076	0003	0006003
0079	0003	0078	0003	0006003
0081	0005	0080	0007	0012007
0083	0009	0082	0008	0022010
0085	0003	0084	0010	0006012
0087	0003	0086	0003	0006003
0089	0003	0088	0003	0006003
0091	0003	0090	0003	0006003
0093	0011	0092	0008	0026010
0095	0003	0094	0012	0006014
0097	0003	0096	0003	0006003
0099	0003	0098	0003	0006003

NOTES-

1. THIS IS A 0050 WORD RELOCATABLE TABLE IN PROTECTED MEMORY.

2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68031 AND THE BTL PROGRAM PIDENT IS CGRP .

3. THE PURPOSE OF THIS TABLE IS TO INDENTIFY THE INCOMING TRUNK GROUP NUMBER ASSOCIATED WITH A POSITION ON A SENDER LINK FRAME.

4. TABLE HEADING INFORMATION -
   4.1 TRK POS - SPECIFIES THE TRUNK POSITION ON A SENDER LINK FRAME, 00-99.

   4.2 ITGI - SPECIFIES THE INCOMING TRUNK GROUP INDEX ASSIGNED BY THE DATA COMPILER

TABLE DESCRIPTION

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EXHIBIT 4A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

TGP001 CONT.
PROGRAM AND USED AS AN INDEX INTO
THE ITKTAB AND WETRK1 TABLES.

TABLE DESCRIPTION

5. DATA FOR THIS TABLE IS OBTAINED FROM FORM CODE
01 OF THE E8075 QUESTIONAIRE.

PAGE 0073

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EXHIBIT 4B

Pacific Telephone
Nevada Bell

P 3101 (6-73)
(212-800-900PT)

ITKTAB

FROM ITGI 0000 TO ITGI 0049

ITGI	TYPE	TPC	ITSP	AO	SCL	ITGI	TYPE	TPC	ITSP	AO	SCL
0000	AM	N	0	0	00	[illegible]					
0001	OV	N	0	N	00						
0002	DP	N	0	N	00						
0003	MF	N	0	N	00	0028	DP	Y	4	N	00
0004	MF	Y	2	N	00	0029	DP	Y	1	N	00
0005	MF	Y	2	N	00	0030	DP	Y	1	N	00
0006	MF	Y	2	N	00	0031	DP	Y	4	N	00
0007	MF	Y	2	N	00	0032	DP	Y	1	N	00
0008	MF	Y	2	N	00	0033	MF	Y	1	N	00
0009	MF	Y	1	N	00	0034	MF	Y	1	N	00
0010	MF	Y	2	N	00	0035	MF	Y	1	N	00
0011	MF	Y	2	N	00	0036	MF	N	3	N	01
0012	MF	Y	2	N	00	0037	OV	Y	1	N	00
0013	MF	Y	2	N	00	0038	OV	Y	4	N	00
0014	MF	Y	2	N	00	0039	MF	Y	2	N	00
0015	MF	Y	1	N	00	0040	MF	N	0	N	00
0016	MF	Y	2	N	00	0041	MF	Y	1	N	00
0017	DP	N	0	N	00	0042	MF	N	3	N	00
0018	DP	N	0	N	00	0043	MF	N	0	N	00
0019	DP	N	0	N	00	0044	MF	N	3	N	00
0020	DP	N	0	N	00	0045	MF	Y	2	N	00
0021	DP	N	0	N	00	0046	MF	N	2	N	00
0022	DP	N	0	N	00	0047	MF	Y	4	N	00
0023	DP	N	0	N	00	0048	MF	N	0	N	00
0024	DP	Y	1	N	00	0049	MF	Y	1	N	00

These four ITGI's represent vacant sender link positions for CAMA, overseas, DP, and MF sender link frames, respectively.

EXHIBIT 5

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

SYMBOLIC NAME # ITKTAB
TRUNK GROUP INFORMATION TABLE
*LAST 50 ENTRIES ARE SPARE

ITGI	TYPE	DECIMAL TPC	ITSP	AO	SCL	OCTAL
*******	****	****	****	****	****	*******
000000	AM	N	0	0	00	0000020
000001	OV	N	0	N	00	0400000
000002	DP	N	0	N	00	1000000
000003	MF	N	0	N	00	1400000
000004	MF	Y	2	N	00	1440400
000005	MF	Y	2	N	00	1440400
000006	MF	Y	2	N	00	1440400
000007	MF	Y	2	N	00	1440400
000008	MF	Y	2	N	00	1440400
000009	MF	Y	1	N	00	1440200
000010	MF	Y	2	N	00	1440400
000011	MF	Y	2	N	00	1440400
000012	MF	Y	2	N	00	1440400
000013	MF	Y	2	N	00	1440400
000014	MF	Y	2	N	00	1440400
000015	MF	Y	1	N	00	1440200
000016	MF	Y	2	N	00	1440400
000017	DP	N	0	N	00	1000000
000018	DP	N	0	N	00	1000000
000019	DP	N	0	N	00	1000000
000020	DP	N	0	N	00	1000000
000021	DP	N	0	N	00	1000000
000022	DP	N	0	N	00	1000000
000023	DP	N	0	N	00	1000000
000024	DP	Y	1	N	00	1040200
000025	DP	Y	1	N	00	1040200
000026	DP	Y	1	N	00	1040200
000027	DP	Y	1	N	00	1040200
000028	DP	Y	4	N	00	1041000
000029	DP	Y	1	N	00	1040200
000030	DP	Y	1	N	00	1040200
000031	DP	Y	4	N	00	1041000
000032	DP	Y	1	N	00	1040200
000033	MF	Y	1	N	00	1440200
000034	MF	Y	1	N	00	1440200
000035	MF	Y	1	N	00	1440200

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EXHIBIT 6

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

ITKTAB CONT.

ITGI	TYPE	DECIMAL TPC	ITSP	AO	SCL	OCTAL
*******	****	****	****	****	****	*******
000366	SPARE					0000000
000367	SPARE					0000000
000368	SPARE					0000000
000369	SPARE					0000000
000370	SPARE					0000000
000371	SPARE					0000000
000372	SPARE					0000000
000373	SPARE					0000000
000374	SPARE					0000000
000375	SPARE					0000000
000376	SPARE					0000000
000377	SPARE					0000000
000378	SPARE					0000000
000379	SPARE					0000000
000380	SPARE					0000000
000381	SPARE					0000000
000382	SPARE					0000000
000383	SPARE					0000000
000384	SPARE					0000000
000385	SPARE					0000000

NOTES-

1. THIS IS A 0386 WORD RELOCATABLE TABLE IN PROTECTED MEMORY.

2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68031 AND THE BTL PROGRAM PIDENT IS CGRP .

3. THE PURPOSE OF THIS TABLE IS TO DESCRIBE INCOMING TRUNK GROUPS.

4. TABLE HEADING INFORMATION -

TABLE DESCRIPTION

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EXHIBIT 7A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

ITKTAB CONT.

4.1 ITGI - IS A DATA COMPILER PROGRAM ASSIGNED NUMBER THAT SPECIFIES THE INCOMING TRUNK GROUP INDEX AND USED IN TGPNNN AND WETRK1 TABLES.

4.2 TYPE - SPECIFIES THE SENDER LINK FRAME TYPE -
AM IS CAMA
OV IS OVERSEAS
DP IS DIAL PULSE
MF IS MULTIFREQUENCY

4.3 TPC - SPECIFIES THE THROUGH PEG COUNT -
N IS NOT THROUGH
Y IS THROUGH

4.4 ITSP - SPECIFIES THE INCOMING TRAFFIC SEPARATION GROUP - 0 EQUALS NONE OR 1,2,3,4

4.5 AO - SPECIFIES AREA OF ORIGIN -
N IS HOME AREA NON-CAMA
0 IS HOME AREA CAMA
1 IS CAMA ADJ. AREA 1
2 IS CAMA ADJ. AREA 2

4.6 SCL - SPECIFIES SCREENING CLASS OF THE INCOMING TRUNK. 00-15.

5. DATA FOR THIS TABLE IS OBTAINED FROM FORM CODE 01 OF THE E8075 QUESTIONAIRE.

TABLE DESCRIPTION

PAGE 0600

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EXHIBIT 7B

Pacific Telephone
Nevada Bell

P 3102 (6-73)
(212-800-900PT)

INCOMING TRUNK COMMON LANGUAGE RECORD

FROM AC TO CE

TRUNK GROUP NAME	ITGI	"C" REG
ACLD NZ ZA 4AT O	0299	
AKRN OH 25 OOT O	0161	
ALBQ NM TO 4AT O	0046	
ALBY NY SS 4AT O	0163	
ALMD CA 11 52C 0	0317	
ALMD CA 11 52C 1	0324	
ALMD CA 11 52C 2	0331	
AMRL TX DR OOT O	0169	
ANCR AK ZA IMB O	0204	
ANHM CA 01 4AT O	0041	
ANTC CA 11 75C O	0138	
ARLH IL AH 09T O	0209	
ARTN VA 34 01T O	0264	
ATLN GA TL 4AT O	0154	
BFLO NY FR 4AT O	0174	
BKFD CA 01 30T O	0162	
BKLY CA 01 54A 0	0222	
BKLY CA 01 54A 1	0270	
BKLY CA 01 64C 0	0212	
BKLY CA 01 64C 1	0262	
BKLY CA 01 84E 0	0219	
BKLY CA 01 84E 1	0266	
BKLY CA 01 84J 0	0226	
BKLY CA 01 84J 1	0248	
BKLY CA 01 ITB 0	0247	
BLDR CO MA XBT O	0208	
BLNG MT 30 OOT O	0054	
BLTM MD DT 4AT O	0077	
BNGH NY HY 03T O	0283	
BRHM AL MT 4AT O	0156	
BSTN MS ZC 4AT O	0082	
CENL IL CE OIT O	0255	
CHCG IL CG 4MT O	0235	
CHCG IL CL 01T O	0229	
CHRL NC CA 4AT O	0127	
CHTN WV 38 4AT O	0215	
CLEV OH 62 4MT O	0058	

EXHIBIT 8

TEL.CO. PACIFIC TEL CO OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771 1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ OAKLAND CALIF
RUN NUMBER 0030 DATE 06/21/71

SYMBOLIC NAME # WETRK1
TABLE OF NUMBERS ASSIGNED TO INCOMING TRUNK GROUPS

		TRUNK GROUP CODE			ITGI
****	**	**	***	*	*******
DUMMY	CAMA				000000
DUMMY	OVERSEAS				000001
DUMMY	DIAL PULSE				000002
DUMMY	MULTIFREQUENCY				000003
WDLD	CA	11	C1T	0	000004
NAPA	CA	01	C1T	0	000005
CHIC	CA	01	C1T	0	000006
MTRY	CA	01	1TB	0	000007
MRCD	CA	01	C1T	0	000008
OKLD	SP	DP	2IE	0	000009
MYVI	CA	01	C1T	0	000010
UKIH	CA	01	C1T	0	000011
PTLM	CA	01	C1T	0	000012
SNRF	CA	11	47C	0	000013
RDCY	CA	02	4AT	0	000014
LSVG	NV	XB	38T	0	000015
SNRF	CA	02	45J	0	000016
TEST	BC	CK	006	0	000017
TEST	BD	CK	009	0	000018
TEST	BD	CK	005	0	000019
TEST	BD	CK	004	0	000020
TEST	BC	CK	00C	0	000021
TEST	BC	CK	001	0	000022
TEST	BC	CK	010	0	000023
OKLD	SP	DP	IIA	0	000024
HNLL	HA	ZA	01T	0	000025
BVTN	OR	XA	C1T	0	000026
CSBY	OR	XX	C1T	0	000027
OKLD	CA	03	SMD	1	000028
OKLD	SP				000029
HNLL	HA				000030
KLFL	OR				000031
OKLD	SP				000032
OMAH	NB				000033
NSVL	TN				000034
WASH	DC	24	4AT	0	000035
BOIS	ID	BA	00T	0	000036

This table is printed in ITGI order, not in alphabetical order.

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EXHIBIT 9

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

WETRK1 CONT.

		TRUNK GROUP CODE			ITGI
****	**	**	***	*	*******
SNLN	CA	11	357	0	000334
OKLD	CA	12	56A	4	000335

NOTES-

1. THIS IS A TABLE FOR INFORMATION ONLY AND DOES NOT APPEAR IN SPC MEMORY AS A TABLE.

2. THE PURPOSE OF THIS TABLE IS TO IDENTIFY TRUNK GROUP CODE INFORMATION APPEARING IN THE TGPNNN AND ITKTAB TABLES.

3. TABLE HEADING INFORMATION -
   3.1 TRUNK GROUP CODE - SPECIFIES THE TRAFFIC CODE COLUMNS BY TOWN, STATE, BUILDING, TRAFFIC UNIT, AND SUFFIX AS PROVIDED BY THE TELEPHONE COMPANY.

   3.2 ITGI - AN INDEX ASSIGNED BY THE DATA COMPILER PROGRAM TO EACH INCOMING TRUNK GROUP.

4. DATA FOR THIS TABLE IS OBTAINED FROM FORM CODE 01 OF THE E8075 QUESTIONAIRE.

TABLE DESCRIPTION

PAGE 0611

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EXHIBIT 10

Pacific Telephone
Nevada Bell

P 3105 (6-73)
(212-800-900PT)

PRIMARY INSTRUCTION

1 NAC PRY
FROM CODE 000
8 TO CODE 024

2 CODE	3 TYPE 3D	6D	SC	TL	INW	4 ACR	5 VSK	6 RPI	7 SCR OCTAL	TAB #	8 DIG	9 GAT	10 TL
000		X									6	062	
001								1680					
002		X									6	063	
003		X									6	064	
004	X					N	N	1710					
005								1680					
006		X									6	065	
007								1680					
008	X					N	C	2022					
009		X										066	
010								1680					
011								1680					
012								1680					
013								1680					
014	X					N	3	1320					
015		X									6	067	
016		X									6	068	
017	X					N	C	1713					
018	X					N	C	1713					
019	X					N	C	1716					
020		X									6	069	
021		X									6	070	
022								1680					
023	X					N	3	2094					
024	X					N	3	1710					

Note that RPI 1680 is vacant code in this office. This is not recommended procedure. Make RPI 0000 vacant code.

EXHIBIT 11

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

PRIMARY INSTRUCTION TABLE
SYMBOLIC NAME NACPRY
NON AREA CODE PRIMARY INST TABLE

*TYPES OF ENTRIES -

1. 3D - 3 DIGIT, NON SCREENING
2. SCR - 3 DIGIT CODE REQUIRING SCREENING
3. 6DG - 6 DIGIT CODE USING GRID AREA TABLE
4. ITT - 3 DIGIT, INCOMING TEST CODE %RETURN TEST LINE□
5. OIG - ORIGINATING INWATS CODE USING GRID AREA TABLE
6. TIG - THROUGH INWATS CODE USING GRID
7. TRG - TERMINATING INWATS CODE USING GRID AREA TABLE
8. VCA - VACANT CODE ANNOUNCEMENT ROUTING
9. *SAME* - SAME ROUTING SPECIFIED AS PREVIOUS CODE, SEE PREVIOUS CODE GIVEN.

CODE	TYPE	TRANSLATION INFORMATION	CCTAL
000	6DG	DIG 6 GAT 062	2060175
001	VCA	RPI 1680	1006441
002	6DG	DIG 6 GAT 063	2060177
003	6DG	DIG 6 GAT 064	2060201
004	3D	VSK N ACR N RPI 1710	1226535
005	VCA	RPI 1680	1006441
006	6DG	DIG 6 GAT 065	2060203
007	VCA	RPI 1680	1006441
008	3D	VSK C ACR N RPI 2022	1207715
009	6DG	DIG 6 GAT 066	2060205
010	VCA	RPI 1680	1006441
011	VCA	RPI 1680	1006441
012	VCA	RPI 1680	1006441
013	VCA	RPI 1680	1006441
014	3D	VSK 3 ACR N RPI 1320	1245121
015	6DG	DIG 6 GAT 067	2060207
016	6DG	DIG 6 GAT 068	2060211
017	3D	VSK C ACR N RPI 1713	1206543
018	3D	VSK C ACR N RPI 1713	1206543
019	3D	VSK C ACR N RPI 1716	1206551
020	6DG	DIG 6 GAT 069	2060213
021	6DG	DIG 6 GAT 070	2060215
022	VCA	RPI 1680	1006441
023	3D	VSK 3 ACR N RPI 2094	1250135
024	3D	VSK 3 ACR N RPI 1710	1246535

TABLE ENTRIES

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EXHIBIT 12

TEL.CO. PACIFIC TEL CO — OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771 — 1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ — OAKLAND CALIF
RUN NUMBER 0030 — DATE 06/21/71

PRIMARY INSTRUCTION TABLE
SYMBOLIC NAME ACPRY
AREA CODE PRIMARY INST TABLE

*TYPES OF ENTRIES -

1. 3D - 3 DIGIT, NCN SCREENING
2. SCR - 3 DIGIT CODE REQUIRING SCREENING
3. 6DG - 6 DIGIT CODE USING GRID AREA TABLE
4. ITT - 3 DIGIT, INCOMING TEST CODE &RETURN TEST LINE□
5. OIG - ORIGINATING INWATS CODE USING GRID AREA TABLE
6. TIG - THROUGH INWATS CODE USING GRID
7. TRG - TERMINATING INWATS CODE USING GRID AREA TABLE
8. VCA - VACANT CODE ANNOUNCEMENT ROUTING
9. *SAME* - SAME ROUTING SPECIFIED AS PREVIOUS CODE, SEE PREVIOUS CODE GIVEN.

TABLE DESCRIPTION

CODE	TYPE	TRANSLATION INFORMATION	OCTAL
000	VCA	RPI 1680	1006441
001	VCA	RPI 1680	1006441
002	VCA	RPI 1680	1006441
003	VCA	RPI 1680	1006441
004	VCA	RPI 1680	1006441
005	VCA	RPI 1680	1006441
006	VCA	RPI 1680	1006441
007	VCA	RPI 1680	1006441
008	VCA	RPI 1680	1006441
009	VCA	RPI 1680	1006441
010	VCA	RPI 1680	1006441
011	VCA	RPI 1680	1006441
012	VCA	RPI 1680	1006441
013	VCA	RPI 1680	1006441
014	VCA	RPI 1680	1006441
015	VCA	RPI 1680	1006441
016	VCA	RPI 1680	1006441
017	VCA	RPI 1680	1006441
018	VCA	RPI 1680	1006441
019	VCA	RPI 1680	1006441
020	VCA	RPI 1680	1006441
021	VCA	RPI 1680	1006441
022	VCA	RPI 1680	1006441
023	VCA	RPI 1680	1006441
024	VCA	RPI 1680	1006441

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EXHIBIT 13A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

ACPRY	CONT.		
968	VCA	RPI 1680	1006441
969	VCA	RPI 1680	1006441
970	VCA	RPI 1680	1006441
971	VCA	RPI 1680	1006441
972	VCA	RPI 1680	1006441
973	VCA	RPI 1680	1006441
974	VCA	RPI 1680	1006441
975	VCA	RPI 1680	1006441
976	VCA	RPI 1680	1006441
977	VCA	RPI 1680	1006441
978	VCA	RPI 1680	1006441
979	VCA	RPI 1680	1006441
980	VCA	RPI 1680	1006441
981	VCA	RPI 1680	1006441
982	VCA	RPI 1680	1006441
983	VCA	RPI 1680	1006441
984	VCA	RPI 1680	1006441
985	VCA	RPI 1680	1006441
986	VCA	RPI 1680	1006441
987	VCA	RPI 1680	1006441
988	VCA	RPI 1680	1006441
98C	VCA	RPI 1680	1006441
990	VCA	RPI 1680	1006441
991	VCA	RPI 1680	1006441
992	VCA	RPI 1680	1006441
993	VCA	RPI 1680	1006441
994	VCA	RPI 1680	1006441
995	VCA	RPI 1680	1006441
996	VCA	RPI 1680	1006441
997	VCA	RPI 1680	1006441
998	VCA	RPI 1680	1006441
999	VCA	RPI 1680	1006441

NOTES***

1. THE PRIMARY INSTRUCTION TABLE IS A 1000 WORD RELOCATABLE TABLE LOCATED IN PROTECTED MEMORY.

2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68031 AND THE BTL PIDENT IS CGRP.

TABLE DESCRIPTION

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EXHIBIT 13B

```
TEL.CO. PACIFIC TEL CO              OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771                    1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ                    OAKLAND CALIF
RUN NUMBER 0030                     DATE 06/21/71


ACPRY  CONT.
  3. THIS TABLE IS INDEXED VIA ABC DIGITS.

  4. THE PURPOSE OF THIS TABLE IS TO PROVIDE 3 DIGIT
     CODE TRANSLATION CAPABILITY.

  5. UNASSIGNED OR SPARE CODES ARE ROUTED TO VACANT
     CODE ANNOUNCEMENT TRUNK.

  6. PRIMARY INSTRUCTION WORD FORMATS BY TYPE OF ENTRY -

       *ENTRY TYPE* *BITS*     *BINARY VALUE AND/OR FUNCTION*

        TYPE#SCR      19-0      ADDRESS OF 3 DIGIT SCREENING TABLE
        *******      ******     ******

        TYPE#6DG        0       1
                      10-1      INDEX INTO GRIDA & GRIDA2
                      12-11     00
                      14-13     NUMBER OF DIGITS REQ@D TO TRANSLATE
                      18-15     0000
                      19        1
        *******      ******     ******

        TYPE#3D         0       1
                      12-1      RPI
                      14-13     VSK
                       15       0
                       16       ACR %0#ACR, 1# NO ACR□
                      19-17     010
        *******      ******     ******

        TYPE#ITT        0       1
                      12-1      RPI
                      14-13     VSK
                      16-15     10#TSET TEST CALL, 00#AITT-A
                                  01#AITT-B
                      19-17     000
        *******      ******     ******

        TYPE#DIG        0       1
                      10-1      INDEX INTO GRIDA & GRIDA2
```

TABLE DESCRIPTION

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EXHIBIT 13C

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

ACPRY CONT.

	14-11	0000
	15	ACR %0# ACR, 1# NO ACR¤
	19-16	0111
*******	******	******
TYPE#TIG	0	1
	14-1	00000000000000
	15	ACR %0# ACR, 1# NO ACR¤
	19-16	0110
*******	******	******
TYPE#TRG	0	1
	10-1	INDEX INTO GRIDA & GRIDA2
	14-11	0000
	15	ACR %0# ACR, 1# NO ACR¤
	19-16	0011
*******	******	******
TYPE#VCA	0	1
	12-1	RPI %FOR VCA¤
	19-13	C100000
*******	******	******

TABLE DESCRIPTION

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EXHIBIT 13D

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

********** DATA TABLES LISTED BY TIDENT, %I.E. TABLE NAME¤ **********

DATA TABLE AND VERSION		TYPE	ORIGIN OF TABLE	END OF TABLE	LENGTH OCT	LENGTH DEC
RRTE	1	2	3 02070	3 02075	6	6
R2HPEL	1	2	2 64312	2 64313	2	2
R7WRU	1	2	3 04246	3 04247	2	2
SCR000	1	3	34 52774	34 53013	20	16
SCR001	1	3	34 53014	34 53033	20	16
SCR002	1	3	34 53034	34 53053	20	16
SCR003	1	3	34 53054	34 53073	20	16
SCR004	1	3	34 53074	34 53113	20	16
SCR005	1	3	34 53114	34 53133	20	16
SCR006	1	3	34 53134	34 53153	20	16
SCR007	1	3	34 53154	34 53173	20	16
SCR008	1	3	34 53174	34 53213	20	16
SCR009	1	3	34 53214	34 53233	20	16
SCR010	1	3	34 53234	34 53253	20	16
SCR011	1	3	34 53254	34 53273	20	16
SCR012	1	3	34 53354	34 53373	20	16
SCR013	1	3	34 53374	34 53413	20	16
SCR014	1	3	34 53414	34 53433	20	16
SCR015	1	3	34 53434	34 53453	20	16
SCR016	1	3	34 53454	34 53473	20	16
SCR017	1	3	34 53474	34 53513	20	16
SCR018	1	3	34 53514	34 53533	20	16
SCR019	1	3	34 53534	34 53553	20	16
SCR020	1	3	34 53554	34 53573	20	16
SCR021	1	3	34 53574	34 53613	20	16
SCR022	1	3	34 53614	34 53633	20	16
SCR023	1	3	34 53634	34 53653	20	16
SCR024	1	3	34 53654	34 53673	20	16
SCR025	1	3	34 53674	34 53713	20	16
SCR026	1	3	34 53714	34 53733	20	16
SCR027	1	3	34 53734	34 53753	20	16
SCR028	1	3	34 53754	34 53773	20	16
SCR029	1	3	34 53774	34 54013	20	16
SCR030	1	3	34 54014	34 54033	20	16
SCR031	1	3	34 54034	34 54053	20	16
SCR032	1	3	34 54054	34 54073	20	16
SCR033	1	3	34 54074	34 54113	20	16
SCR034	1	3	34 54114	34 54133	20	16
SCR035	1	3	34 54134	34 54153	20	16
SCR036	1	3	34 54154	34 54173	20	16
SCR037	1	3	34 54174	34 54213	20	16
SCR038	1	3	34 54214	34 54233	20	16
SCR039	1	3	34 54234	34 54253	20	16

SCREENING TABLE NUMBERS

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EXHIBIT 14

Pacific Telephone
Nevada Bell

P 3106 (6-73)
(212-800-900PT)

GRIDA/GRIDA2

FROM WORD 000 TO WORD 024

GA2 WORD ❶	CODE ❶	DOM ❷	GRID TABLE ❷	CGP ❶	GRIDA			GRIDA2
					GRID ADDRESS ❸	WID ❷	RMB ❷	CGP ADDRESS ❸
000	201	AC	00	000	0310130	4	000	3452434
001	202	AC	00	001		3	004	3451554
002	203	AC	00	002		3	007	3451564
003	205	AC	00	003		3	010	3451574
004	206	AC	00	004		3	013	3451604
005	208	AC	01	005	0312100	4	000	3452454
006	209	AC	01	006		4	004	3452474
007	212	AC	01	007		2	008	345101 0
008	213	AC	01	008		4	010	3452514
009	214	AC	01	009		3	014	3451614
010	215	AC	01	010		2	017	3451014
011	216	AC	02	011	0314050	3	000	3451624
012	219	AC	02	012		3	003	3451634
013	301	AC	02	013		4	006	3452534
014	303	AC	02	014		4	010	3452554
015	304	AC	02	015		4	014	3452574
016	305	AC	03	016	0316020	3	000	3451644
017	307	AC	03	017		3	003	3451654
018	312	AC	03	018		3	006	3451664
019	313	AC	03	019		3	009	3451674
020	314	AC	03	020		3	012	3451704
021	318	AC	03	021		3	015	3451714
022	404	AC	04	022	0317770	3	000	3451724
023	405	AC	04	023		3	003	3451734
024	406	AC	04	024		3	006	3451744

EXHIBIT 15

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

GRID AREA TABLE PART 1
SYMBOLIC NAME GRIDA
* EVEN ENTRIES REQUIRE GRID TABLE ADDRESS
** ODD ENTRIES USE GRID BITS HEADING

GA WORD	TABLE	CODE	OCTAL
000	GRID00	201	0000000
001			3467206
002	GRID00	202	0000000
003			3464206
004	GRID00	203	0000000
005			3464346
006	GRID00	205	0000000
007			3464506
008	GRID00	206	0000000
009			3464646
010	GRID01	208	0000000
011			3467206
012	GRID01	209	0000000
013			3466206
014	GRID01	212	0000000
015			3462406
016	GRID01	213	0000000
017			3466506
018	GRID01	214	0000000
019			3464706
020	GRID01	215	0000000
021			3463046
022	GRID02	216	0000000
023			3465206
024	GRID02	219	0000000
025			3464146
026	GRID02	301	0000000
027			3466306
028	GRID02	303	0000000
029			3466506
030	GRID02	304	0000000
031			3466706
032	GRID03	305	0000000
033			3465206
034	GRID03	307	0000000
035			3464146
036	GRID03	312	0000000

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EXHIBIT 16

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

GRID AREA TABLE PART 2
SYMBOLIC NAME GRICA2

GA2 WORD	TABLE	CODE	OCTAL
000	CGPC00	201	0000000
001	CGP001	202	0000000
002	CGP002	203	0000000
003	CGPC03	205	0000000
004	CGP004	206	0000000
005	CGP005	208	0000000
006	CGP006	209	0000000
007	CGP007	212	0000000
008	CGP008	213	0000000
009	CGPC09	214	0000000
010	CGP010	215	0000000
011	CGP011	216	0000000
012	CGP012	219	0000000
013	CGP013	301	0000000
014	CGP014	303	0000000
015	CGP015	304	0000000
016	CGP016	305	0000000
017	CGP017	307	0000000
018	CGP018	312	0000000
019	CGPC19	313	0000000
020	CGP020	314	0000000
021	CGP021	318	0000000
022	CGP022	404	0000000
023	CGP023	405	0000000
024	CGP024	406	0000000
025	CGP025	408	0000000
026	CGPC26	412	0000000
027	CGP027	414	0000000
028	CGP028	415	0000000
029	CGP029	416	0000000
030	CGP030	503	0000000
031	CGP031	504	0000000
032	CGP032	509	0000000
033	CGPC33	512	0000000
034	CGP034	513	0000000
035	CGP035	516	0000000
036	CGP036	601	0000000
037	CGP037	602	0000000
038	CGP038	609	0000000

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EXHIBIT 17

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

SPARE GRID MAP SYMBOLIC TABLE PART 1
SYMBOLIC NAME SPAREGD
PROGRAM CONSTRAINTS REQUIRE MINIMUM OF
3 3-BIT GRIDS AS SPARE MEMORY FOR GROWTH

GD	GRID	RMB	SPARE	WIDTH
SPR	00	016	3	003
SPR	08	017	3	003
SPR	10	017	3	003
SPR	11	017	3	003
SPR	13	017	3	003
SPR	14	015	3	003
SPR	15	007	3	003
SPR	15	010	3	003
SPR	15	013	3	003
SPR	15	016	3	003

GRID MAP SYMBOLIC TABLE PART 2
SYMBOLIC NAME GRIDMAP

GRID TABLE NUMBERS

GD	GRID	ABC	RMB	WIDTH	DOMAIN
00	00	201	000	004	AC
01	00	202	004	003	AC
02	00	203	007	003	AC
03	00	205	010	003	AC
04	00	206	013	003	AC
05	01	208	000	004	AC
06	01	209	004	004	AC
07	01	212	008	002	AC
08	01	213	010	004	AC
09	01	214	014	003	AC
10	01	215	017	002	AC
11	02	216	000	003	AC
12	02	219	003	003	AC
13	02	301	006	004	AC
14	02	303	010	004	AC
15	02	304	014	004	AC
16	03	305	000	003	AC
17	03	307	003	003	AC
18	03	312	006	003	AC
19	03	313	009	003	AC
20	03	314	012	003	AC
21	03	318	015	003	AC

THESE CODES ARE CONTAINED IN ONE GRID TABLE (00).

NUMBER OF BITS IN USE

RIGHT-MOST BIT IN USE

EXAMPLE: CODE 318 USES RIGHT-MOST BIT 015. THE TOTAL NUMBER OF BITS USED IS THREE, SO CODE 318 USES BITS 015, 016, and 017 OF GRID 03.

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EXHIBIT 18

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

********** DATA TABLES LISTED BY TIDENT, %I.E. TABLE NAME¤ **********

DATA TABLE AND VERSION	TYPE	ORIGIN OF TABLE	END OF TABLE	LENGTH CCT	LENGTH DEC
F2UT07 1	2	3 04244	3 04245	2	2
F2UT08 1	2	2 64132	2 64137	6	6
F2UT09 1	2	2 64140	2 64141	2	2
F2UT10 1	2	2 64142	2 64165	24	20
F2UT11 1	2	2 64166	2 64171	4	4
F2UT12 1	2	3 04172	3 04175	4	4
F2UT14 1	2	3 04176	3 04215	20	16
F2UT17 1	2	3 04216	3 04225	10	8
F2UT19 1	2	3 04226	3 04227	2	2
F2UT36 1	2	3 04230	3 04235	6	6
F2UT41 1	2	3 04236	3 04237	2	2
F2UT42 1	2	3 04240	3 04241	2	2
F2UT48 1	2	3 04242	3 04243	2	2
F2UT49 1	2	3 04022	3 04023	2	2
F9DRFM 1	3	34 52414	34 52423	10	8
F9DRMF 1	3	34 52424	34 52433	10	8
F9DRMM 1	3	34 51546	34 51553	6	6
F9F8HT 1	2	3 04124	3 04131	6	6
GP00KF 1	3	34 77334	34 77573	240	160
GP01KF 1	3	34 55414	34 55437	24	20
GP02KF 1	3	34 55440	34 55463	24	20
GP03KF 1	3	34 55464	34 55507	24	20
GP04KF 1	3	34 55510	34 55533	24	20
GP05KF 1	3	34 55534	34 55557	24	20
GP06KF 1	3	34 55560	34 55603	24	20
GP07KF 1	3	34 55604	34 55627	24	20
GP08KF 1	3	34 55630	34 55653	24	20
GP09KF 1	3	34 55654	34 55677	24	20
GP10KF 1	3	34 55700	34 55723	24	20
GRIDA 1	2	3 00204	3 00703	500	320
GRIDA2 1	2	3 00704	3 01143	240	160
GRID00 1	3	3 10130	3 12077	1750	1000
GRID01 1	3	3 12100	3 14047	1750	1000
GRID02 1	3	3 14050	3 16017	1750	1000
GRID03 1	3	3 16020	3 17767	1750	1000
GRID04 1	3	3 17770	3 21737	1750	1000
GRID05 1	3	3 21740	3 23707	1750	1000
GRID06 1	3	3 23710	3 25657	1750	1000
GRID07 1	3	3 25660	3 27627	1750	1000
GRID08 1	3	3 27630	3 31577	1750	1000
GRID09 1	3	3 31600	3 33547	1750	1000
GRID10 1	3	3 33550	3 35517	1750	1000
GRID11 1	3	3 37470	3 41437	1750	1000

GRID TABLE LISTINGS

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EXHIBIT 19A

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

********** DATA TABLES LISTED BY TIDENT, %I.E. TABLE NAME¤ **********

DATA TABLE AND VERSION		TYPE	ORIGIN OF TABLE	END OF TABLE	LENGTH OCT	LENGTH DEC
ACHTR	1	3	34 77034	34 77133	100	64
ACNACT	1	2	3 01154	3 01253	100	64
ACPRY	1	3	3 35520	3 37467	1750	1000
ACRR	1	3	34 76334	34 76433	100	64
AO	1	2	3 02742	3 02743	2	2
AOBCD	1	2	3 02766	3 02767	2	2
A1	1	2	3 02744	3 02745	2	2
A1BCD	1	2	3 02770	3 02771	2	2
A2	1	2	3 02746	3 02747	2	2
A2BCD	1	2	3 02772	3 02773	2	2
A9HDTB	1	2	3 04160	3 04163	4	4
A9PSC.	1	3	34 00060	34 00177	120	80
A9PSC1	1	3	34 77660	34 77777	120	80
A9SROW	1	2	3 04154	3 04157	4	4
BIGOR	1	2	3 02774	3 02775	2	2
B2MASK	1	2	1 73424	1 73425	2	2
CANEDS	1	2	3 02750	3 02751	2	2
CCHEAD	1	2	3 03032	3 03033	2	2
CGP000	1	3	34 52434	34 52453	20	16
CGP001	1	3	34 51554	34 51563	10	8
CGP002	1	3	34 51564	34 51573	10	8
CGP003	1	3	34 51574	34 51603	10	8
CGP004	1	3	34 51604	34 51613	10	8
CGP005	1	3	34 52454	34 52473	20	16
CGP006	1	3	34 52474	34 52513	20	16
CGP007	1	3	34 51010	34 51013	4	4
CGP008	1	3	34 52514	34 52533	20	16
CGP009	1	3	34 51614	34 51623	10	8
CGP010	1	3	34 51014	34 51017	4	4
CGP011	1	3	34 51624	34 51633	10	8
CGP012	1	3	34 51634	34 51643	10	8
CGP013	1	3	34 52534	34 52553	20	16
CGP014	1	3	34 52554	34 52573	20	16
CGP015	1	3	34 52574	34 52613	20	16
CGP016	1	3	34 51644	34 51653	10	8
CGP017	1	3	34 51654	34 51663	10	8
CGP018	1	3	34 51664	34 51673	10	8
CGP019	1	3	34 51674	34 51703	10	8
CGP020	1	3	34 51704	34 51713	10	8
CGP021	1	3	34 51714	34 51723	10	8
CGP022	1	3	34 51724	34 51733	10	8
CGP023	1	3	34 51734	34 51743	10	8
CGP024	1	3	34 51744	34 51753	10	8

CGP TABLE LISTINGS

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EXHIBIT 19B

GRID MAP

GRID TABLE NUMBER:											GRID
______											DOMAIN
ADDRESS:											RMB
______											WIDTH
											CODE
GRID TABLE NUMBER:											GRID
______											DOMAIN
ADDRESS:											RMB
______											WIDTH
											CODE
GRID TABLE NUMBER:											GRID
______											DOMAIN
ADDRESS:											RMB
______											WIDTH
											CODE
GRID TABLE NUMBER:											GRID
______											DOMAIN
ADDRESS:											RMB
______											WIDTH
											CODE
GRID TABLE NUMBER:											GRID
______											DOMAIN
ADDRESS:											RMB
______											WIDTH
											CODE

Corresponding CGP Table Length = 2^n, Where n = Grid Width.

EXHIBIT 20A

GRID MAP

GRID TABLE NUMBER:	④	04		03		02		01		00	GRID
		AC		AC		AC		AC		AC	DOMAIN
00	016	013		010		007		004		000	RMB
ADDRESS:	003	003		003		003		003		004	WIDTH
310130		206		205		203		202		201	CODE
GRID TABLE NUMBER:		10		09	08		07	06		05	GRID
	②	AC		AC	AC		AC	AC		AC	DOMAIN
01		17		14	10		8	4		0	RMB
ADDRESS:		2		3	4		2	4		4	WIDTH
312100		215		214	213		212	209		208	CODE
GRID TABLE NUMBER:			15		14		13	12		11	GRID
			AC		AC		AC	AC		AC	DOMAIN
02	18		14		10		6	3		0	RMB
ADDRESS:	1		4		4		4	3		3	WIDTH
314050			304		303		301	219		216	CODE
GRID TABLE NUMBER:		21		20	19		18	17		16	GRID
		AC		AC	AC		AC	AC		AC	DOMAIN
03	18	15		12	9		6	3		0	RMB
ADDRESS:	1	3		3	3		3	3		3	WIDTH
316020											CODE
GRID TABLE NUMBER:		27		26	25		24	23		22	GRID
		AC		AC	AC		AC	AC		AC	DOMAIN
04	18	15		12	9		6	3		0	RMB
ADDRESS:	1	3		3	3		3	3		3	WIDTH
317770		414		412	408		406	405		404	CODE

Corresponding CGP Table Length = 2^n, Where n = Grid Width.

EXHIBIT 20B

Pacific Telephone
Nevada Bell

P 3107 (6-73)
(212-800-900PT)

GRID TABLES

AC
FROM CODE 201
TO CODE 209

ABC →	201	202	203		205	206		208	209			
GRID TABLE	0	0	0		0	0		1	1			
DEF ↓	CGI	CGI	CGI	CGI	CGI	CGI	CGI	CGI	CGI	CGI	CGI	CGI
000	0000	0000	0000		0000	0000		0000	0000			
0 01	0000								0001			
0 02	0001								0002			
0 03	0000								0000			
0 04	0000								0001			
0 05	0002								0001			
0 06	0000								0001			
0 07									0001			
0 08									0000			
0 09												
0 10												
0 11												
0 12												
0 13												
0 14												
0 15												
0 16												
0 17												
0 18												
0 19												
0 20												
0 21												
0 22	0001		0001									
0 23	0000		0000					0001				
0 24	0000		0000					0000				

EXHIBIT 21

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

GRID
SYMBOLIC NAME GD000 ← GD NUMBER
AREA 201 RMB 000 WIDTH 004
ABC digits — DEF DIGITS

CODE	INDX	CODE	INDX
000	000000	001	000000
002	000001	003	000000
004	000000	005	000002 ← CGI's
006	000000	007	000000
008	000000	009	000000 ← etc.
010	000000	011	000000
012	000000	013	000000
014	000000	015	000000
016	000000	017	000000
018	000000	019	000000
020	000000	021	000000
022	000001	023	000000
024	000000	025	000003
026	000000	027	000003
028	000000	029	000000
030	000000	031	000000
032	000000	033	000000
034	000000	035	000000
036	000004	037	000000
038	000000	039	000000
040	000000	041	000000
042	000000	043	000000
044	000000	045	000000
046	000005	047	000000
048	000000	049	000000
050	000000	051	000000
052	000000	053	000000
054	000000	055	000002
056	000000	057	000002
058	000000	059	000000
060	000000	061	000000
062	000006	063	000000
064	000000	065	000003
066	000000	067	000000
068	000002	069	000000
070	000000	071	000000
072	000000	073	000000
074	000000	075	000000

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EXHIBIT 22

Pacific Telephone
Nevada Bell

P 3108 (6-73)
(212-800-900PT)

CODE GROUP

CGP 001
CODE 202

CGI	ACR	VSK	RPI
000	N	3	2865
001	N	6	2862
002	N	3	2862
003			
004			
005			
006			
007			
008			
009			
010			
011			
012			
013			
014			
015			
016			
017			
018			
019			
020			
021			

CGI	ACR	VSK	RPI
022			
023			
024			
025			
026			
027			
028			
029			
030			
035			
036			
037			
038			
039			
040			
041			
042			
043			

CGI	ACR	VSK	RPI
044			
045			
046			
047			
048			
049			
050			
051			
052			
053			
054			
055			
056			
057			
058			
059			
060			
061			
062			
063			

Indicate maximum number of CGI's possible in CGP table by drawing pencil line under last available CGI (limit is determined by grid width).

EXHIBIT 23

```
TEL.CO. PACIFIC TEL CO                    OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771                   1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ                   OAKLAND CALIF
RUN NUMBER 0030                           DATE 06/21/71


CODE GROUP TABLE
SYMBOLIC NAME ..... CGP001
CODE GROUP TABLE FOR CODE      202
* SCREENING CODES REQUIRE SCR TABLE ADDR

INDX                    ACR     VSK      RPI      OCTAL
000                       N       3     2865    1253143
001                       N       6     2862    1273135
002                       N       3     2862    1253135
003                    *SPARE WORD*             1006441
004                    *SPARE WORD*             1006441
005                    *SPARE WORD*             1006441
006                    *SPARE WORD*             1006441
007                    *SPARE WORD*             1006441

LENGTH OF CODE GROUP TABLE,IN 20 BIT HALFWORDS, 008

NOTES***

  1. THE CODE GROUP TABLE IS VARIABLE LENGTH %2 TO 1000 WORDS¤
     RELOCATABLE TABLE LOCATED IN PROTECTED MEMORY.

  2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68031. AND
     THE BTL PIDENT IS CGRP.

  3. THIS TABLE IS INDEXED VIA THE ASSOCIATED GRID TABLE.

  4. UNASSIGNED OR SPARE CODES ARE ROUTED TO
     VACANT CODE ANNOUNCEMENT TRUNK.

  5. THE PURPOSE OF THIS TABLE IS TO INDICATE A ROUTING
     PATTERN AND SPILL INFORMATION FOR SIX DIGIT TRANSLATIONS.

  6. SPILL CONTROL CODES - FOR ALL CGP TABLES

          *VSK*     *NON INWATS*      *INWATS*
            C     CODE CONVERSION  C.C. %WITH BAND MODIFICATION¤
            N       NO SKIP        SK3 & C.C. 800
            3       SKIP 3         SK3 & C.C. 088
            6       SKIP 6         C.C. %NO BAND MODIFICATION¤

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```

CGP TABLE

TABLE DESCRIPTION

EXHIBIT 24

Pacific Telephone
Nevada Bell

P 3110 (6-73)
(212-800-900PT)

SCREENING

SCR TABLE NUMBER 000

DOMAIN AC

SCR OCTAL TABLE LOCATION 3452774

CODES USING SCL
960-100 (6D)

SCL	ACR	VSK	RPI	VAC	SCL	ACR	VSK	RPI	VAC
000	N	6	2697		008				X
001	N	6	2703		009				
002				X	010				
003					011				
004					012				
005					013				
006					014				
007					015				

EXHIBIT 25

TEL.CO. PACIFIC TEL CO OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771 1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ OAKLAND CALIF
RUN NUMBER 0030 DATE 06/21/71

SCREENING TABLE (TABLE NUMBER)
SYMBOLIC NAME SCR000
SCREENING TABLE FOR CODE SCR 960100

SCL	ACR	VSK	RPI		OCTAL
000	N	6	2697		1272423
001	N	6	2703		1272437
002			1680	VCA	1006441
003			1680	VCA	1006441
004			1680	VCA	1006441
005			1680	VCA	1006441
006			1680	VCA	1006441
007			1680	VCA	1006441
008			1680	VCA	1006441
009			1680	VCA	1006441
010			1680	VCA	1006441
011			1680	VCA	1006441
012			1680	VCA	1006441
013			1680	VCA	1006441
014			1680	VCA	1006441
015			1680	VCA	1006441

(SCREENING TABLE)

NOTES***

1. THE SCREENING TABLE IS A 16 WORD RELOCATABLE TABLE LOCATED IN PROTECTED MEMORY.
2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68031, AND THE BTL IDENT IS CGRP.
3. THIS TABLE IS INDEXED VIA SCREENING CLASS CODE.
4. UNASSIGNED OR SPARE CODES ARE ROUTED TO VACANT CODE ANNOUNCEMENT TRUNK.
5. THE PURPOSE OF THIS TABLE IS TO DETERMINE THE EFFECT OF INCOMING TRUNK CLASS ON CODE GROUPING, AND TO INDICATE A ROUTING PATTERN AND SPILL INFORMATION FOR 6 OR 3 DIGIT TRANSLATIONS.
6. CAMA COLUMN INDICATES 0 FOR CAMA, 1 FOR NO CAMA.
7. VSK COLUMN INDICATES SPILL CONTROL

(TABLE DESCRIPTION)

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EXHIBIT 26A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

SCR000 CONT.
0 FOR CODE CONVERSION REQUIRED,
1 FOR NO SKIP,
2 FOR SKIP THREE, AND
3 FOR SKIP SIX.

TABLE DESCRIPTION

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EXHIBIT 26B

Pacific Telephone
Nevada Bell

P 3111 (6-73)
(212-800-900PT)

RPTAB

FROM RPI 0000 TO RPI 0087

1 RPI	2 RM	3 RTI	4 TPC	5 NRPI	6 AR	CCF	OTSP	9 TGI	10 CC DIG	11 CCI
0000		OF	Y		N	Y	A	0000	3	0000
0003		No	Y	0228		N	A	0005		
0006		No	Y	0348		N	A	0009		
0009		No	Y	0348		N	A	0009		
0012		No	Y	0348		N	A	0009		
0015		No	Y	0348		N	A	0009		
0018		No	Y	0360	N	Y	A	0009	6	0002
0021		MB	N		N	Y	E	0014	3	0004
0024		MB	N				-	0019	3	0008
0027		No							4	
0030		No							6	0012
0033		MB							3	0018
0036		MB	N					vv33	3	0024
0039		No	Y	0336		N	A	0038		
0042		No	Y	0336		N	A	0038		
0045		No	Y	2613		N	A	0043		
0048		No	Y	2286		N	B	0047		
0051		No	Y	0048		N	B	0054		
0054		MB	N		N	Y	B	0058	3	0028
0057		No	Y	0183		N	A	0062		
0060		No	Y	2865		N	A	0066		
0063		No	Y	2865		N	A	0066		
0066		No	Y	2034		N	A	0070		
0069		No	Y	2034		N	A	0070		
0072		No	Y	2055	N	Y	A	0070	6	0032
0075		No	Y	0066		N	A	0075		
0078		No	Y	2277		N	A	0079		
0081		No	Y	0027		N	A	0083		
0084		No	Y	2922	N	Y	A	0083	6	0036
0087		No	Y	1011		N	B	0087		

This sample record page shows an example of unnecessary proliferation of route indices by the routing engineer, resulting in wasted memory space. One RPI would suffice.

EXHIBIT 27A

Pacific Telephone
Nevada Bell

P 3111 (6-73)
(212-800-900PT)

RPTAB

FROM RPI 1578 TO RPI 1623

RPI	RM	RTI	TPC	NRPI	AR	CCF	OTSP	TGI	CC DIG	CCI
1578		No	Y	0228		N	A	1235		
1581		No	Y	0183		N	A	1239		
1584		MB	Y			N	A	1244		
1587		MB	Y			N	A	1249		
1590		No	Y	0336		N	A	1256		
1593		No	Y	2286		N	A	1262		
1596		No	Y	0048		N	A	1268		
1599	04	00		1638						
		01		1626						
		02		1641						
		03		1620						
		04		1635						
		05		1623						
		06		1647						
		07		1629						
		08		1644						
		09		1632						
		10		—						
		11		—						
		12		—						
		13		—						
		14		—						
		15		—						
		16		—						
		17		—						
		18		—						
		19		—						
		20		—						
1620		RO	N			N	N	1833		
1623		RO	N			N	A	1742		

EXHIBIT 27B

```
TEL.CO. PACIFIC TEL CO               OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771                     1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ                     OAKLAND CALIF
RUN NUMBER 0030                      DATE 06/21/71

SYMBOLIC NAME  #  RPTAB

ROUTE PATTERN TABLE

  RPI   TYPE           DECIMAL                         OCTAL


0000  SCC         RTI   TPC       NRPI
                  OF    Y                              0030000
               CCAR CCF OTSP   TGI
                  N   Y  A        0000                 1220000
              CCDIG    # 3          CCI  # 0000        0400000


0003  SNCC        RTI   TPC       NRPI
                  NO    Y         0228                 0010344
               CCAR CCF OTSP   TGI
                  Y   N  A        0005                 0020005
              CCDIG    # 0000                          0000000


0006  SNCC        RTI   TPC       NRPI
                  NO    Y         0348                 0010534
               CCAR CCF OTSP   TGI
                  Y   N  A        0009                 0020011
              CCDIG    # 0000                          0000000


0009  SNCC        RTI   TPC       NRPI
                  NO    Y         0348                 0010534
               CCAR CCF OTSP   TGI
                  Y   N  A        0009                 0020011
              CCDIG    # 0000                          0000000


0012  SNCC        RTI   TPC       NRPI
                  NO    Y         0348                 0010534
               CCAR CCF OTSP   TGI



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```

EXHIBIT 28

```
TEL.CO. PACIFIC TEL CO                    OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771                          1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ                          OAKLAND CALIF
RUN NUMBER 0030                           DATE 06/21/71

RPTAB  CONT.
 RPI   TYPE              DECIMAL                       OCTAL
2472   SCC          RTI   TPC      NRPI
                    OF    N                            0020000
                 CCAR CCF OTSP   TGI
                   Y   Y  N        2752                0205300
                CCDIG   # 3         CCI # 1996         0403714


2475   SNCC         RTI   TPC      NRPI
                    OF    Y                            0030000
                 CCAR CCF OTSP   TGI
                   Y   N  A        2756                0025304
                CCDIG   # 0000                         0000000


2478   SCC          RTI   TPC      NRPI
                    RO    N                            0060000
                 CCAR CCF OTSP   TGI
                   N   Y  B        2760                1245310
                CCDIG   # 6         CCI # 1998         0043716


2481   SCC          RTI   TPC      NRPI
                    RO    N                            0060000
                 CCAR CCF OTSP   TGI
                   N   Y  B        2764                1245314
                CCDIG   # 6         CCI # 2046         0043776
2484            SPARE                                  0000000

ROUTE PATTERN INDICES THRU 2583 INCLUSIVE ARE THE SAME AS ABOVE.

NOTES

  1. THIS IS A 2584 WORD RELOCATABLE TABLE IN
     PROTECTED MEMORY.                                  } TABLE
                                                        } DESCRIPTION
  2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68032


PAGE   2669                                        PRINTED IN U.S.A.
```

EXHIBIT 29A

TEL.CO. PACIFIC TEL CO OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771 1587 FRANKLIN RM1512
BELL ORDER NO. 472110J OAKLAND CALIF
RUN NUMBER 0030 DATE 06/21/71

RPTAB CONT.
AND THE BTL PROGRAM PIDENT IS CLRT.

3. THE PURPOSE OF THIS TABLE IS TO IDENTIFY THE TRUNK GROUP ENTRY, NEXT ROUTE PATTERN ENTRY AND ROUTING PARAMETERS, INCLUDING CODE CONVERSION.

4. THIS TABLE CONTAINS THREE TYPES OF ENTRIES
SNCC - STANDARD ENTRY WITHOUT CODE CONVERSION
RM - ROUTE MULTIPLE ENTRY
SCC - STANDARD ENTRY REQUIRING CODE CONVERSION

5 COLUMN HEADINGS
RTI - ROUTING INSTRUCTION
NO ALTERNATE AVAILABLE
OF FOF %FOLLOW WITH OVERFLOW¤
MB FMB %FOLLOW WITH MASTER BUSY¤
RO FRO %FOLLOW WITH REORDER¤
TPC - THROUGH PEG COUNT %1-YES, 0-NO¤
NRPI - NEXT ROUTE PATTERN INDEX
TGI - TRUNK GROUP INDEX %FOR OTKTAB TABLE¤
OTSP - OUTGOING TRAFFIC SEPARATION
0 - NONE 4 - D
1 - A 5 - E
2 - B 6 - F
3 - C 7 - G
CCF - CODE CONVERSION FLAG
0 - NOT AVAILABLE %THIRD LINE CONTAINS ZEROS¤
1 - AVAILABLE %THIRD LINE CONTAINS DATA¤
AR - ALTERNATE ROUTE / CODE CONVERSION
%APPLICABLE ONLY WHEN CCF # 1¤
0 - CODE CONVERSION AVAILABLE FOR DIRECT ROUTES AND MANDITORY FOR ALTERNATE ROUTED TRAFFIC,
1 - CODE CONVERSION AVAILABLE FOR DIRECT ROUTED TRAFFIC ONLY.
CCI - CODE CONVERSION INDEX FOR COCOTB TABLE
CCDIG - NUMBER OF RECEIVED DIGITS REQUIRED TO COMPUTE THE CODE CONVERSION.
RMI - ROUTE MULTIPLE INDEX
%INCREMENTED BY ONE FOR EACH LINE WITHIN THE ENTRY¤
RMREG - ROUTE MULTIPLE REGISTER

TABLE DESCRIPTION

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EXHIBIT 29B

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

RPTAB CONT.

%INCREMENTED BY ONE FOR EACH RM ENTRY
NRI - NEXT ROUTE INDEX

TABLE DESCRIPTION

6. THIS TABLE CONTAINS 0100 SPARE WORDS.

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EXHIBIT 29C

Pacific Telephone
Nevada Bell

P 3112 (6-73)
(212-800-900PT)

ROUTE MULTIPLE – RPTAB

	EA-IT	EA-TC	NCA-ANN	ROA-ANN	SOA-ANN	TEST BD				
TRK GRP.	OKLD CA 03 EAI	OKLD CA 03 EAT	OKLD CA 03 NCT/I	OKLD CA 03 ROT/I	OKLD CA 03 SOT/I	TEST BD CK 9000/1				
RPI	1425	1446	1467	1548	1599	1797				
RMI					NRPI					
0	1383	1404	1539	1569	1638	2763				
1	1386	1407	1512	1584	1626	2766				
2	1389	1410	1542	1572	1641					
3	1392	1422	1515	1587	1620					
4	1395	1413	1545	1575	1635					
5	1398	1416	1521	1590	1623					
6	1401	1419	1494	1578	1647					
7			1524	1593	1629					
8			1497	1581	1644					
9			1527	1596	1632					
10			1500							
11			1530							
12			1503							
13			1533							
14			1506							
15			1536							
16			1509							
17			1488							
18			1518							
19			1491							
20										

EXHIBIT 30

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

RPTAB RPI	CONT. TYPE	DECIMAL			OCTAL
		RMI	RMREG	NRI	
1599		00	04	1638	2043146
		01		1626	0003132
		02		1641	0003151
		03		1620	0003124
		04		1635	0003143
		05		1623	0003127
		06		1647	0003157
		07		1629	0003135
		08		1644	0003154
		09		1632	2003140
		10			0000000
		11			0000000
		12			0000000
		13			0000000
		14			0000000
		15			0000000
		16			0000000
		17			0000000
		18			0000000
		19			0000000
		20			0000000

ROUTE MULTIPLE LISTING

1620	SNCC	RTI	TPC	NRPI	
		RC	N		0060000
		CCAR	CCF	OTSP	TGI
		Y	N	N	1833 0003451
		CCDIG	#	0000	0000000

1623	SNCC	RTI	TPC	NRPI	
		RO	N		0060000

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EXHIBIT 31

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

TABLE DESCRIPTION

TABLE OF OUTGOING TRUNK GROUP-ROUTE INDICES THAT SPECIFIES THE FOLLOWING INFORMATION FOR EACH

*RPI - ROUTE PATTERN TABLE ADDRESS
*TGI - TRUNK GROUP TABLE ADDRESS
*TRI - TRAFFIC REGISTER INDEX
*PCOV - PEG COUNT OVERFLOW REGISTER

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EXHIBIT 32A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

NOTES CONT.

TRUNK GROUP SYMBOL **********				RT IND ***	RPI ***	TGI ***	TRI ***	PCOV ****
OKLD	CA	03	SOI1	00	1623	1837	0372	002
OKLD	CA	03	SOI2	00	1626	1841	0373	002
OKLD	CA	03	SOI3	00	1629	1845	0374	002
OKLD	CA	03	SOI4	00	1632	1849	0375	002
OKLD	CA	03	SOT0	00	1635	1853	0376	002
OKLD	CA	03	SOT1	00	1638	1857	0377	002
OKLD	CA	03	SOT2	00	1641	1861	0378	002
OKLD	CA	03	SOT3	00	1644	1865	0379	002
OKLD	CA	03	SOT4	00	1647	1869	0380	002
OKLD	CA	03	VB10	00	1650	1873	0381	044
OKLD	CA	03	VB11	00	1653	1877	0382	045
OKLD	CA	03	VB12	00	1656	1881	0383	046
OKLD	CA	03	VB13	00	1659	1885	0384	047
OKLD	CA	03	VB14	00	1662	1889	0385	048
OKLD	CA	03	VB15	00	1665	1893	0386	049
OKLD	CA	03	VB16	00	1668	1897	0387	050
OKLD	CA	03	VB17	00	1671	1901	0388	051
OKLD	CA	03	VB18	00	1674	1905	0389	052

FIRST NRPI OF 1599 (SEE EXHIBIT 30).

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EXHIBIT 32B

Pacific Telephone
Nevada Bell

P 3109 (6-73)
(212-800-900PT)

COCOTB

FROM CCI 0000 TO CCI 0118

① CCI	② ABC	② DEF	③ LAST	④ VSK	④ CCD	⑤ RPI	CCI	ABC	DEF	LAST	VSK	CCD	RPI
0000	064		Y	3	NN2			503	645		6	N45	
0002	800	545	Y	6	130	0018		503	429		6	NN2	
0004	524			3	NNH	0021		503	643		6	N43	
	527		Y	3	NN7			503	633		6	NN7	
0008	526			3	NN6	0024		503	628		6	NN8	
	525		Y	3	NN5			503	646		6	NH6	
0012	800	847		6	130	0030		503	649	Y	6	NH9	
	800	448		6	160		0074	800	323		6	130	0180
	800	833	Y	6	140			800	621	Y	6	120	
0018	521			3	NN1	0033	0078	800	323		6	130	0186
	865			3	NN5			800	621	Y	6	120	
	769		Y	3	N*				8		6	150	0204
0024	522			3						Y	6	160	
	523		Y	3					t	Y	6	120	0219
0028	754			3					21	Y	6	130	0237
	757		Y	3	NN7		0090	016		Y	3	610	0240
0032	800	241		6	140	0072	0092	800	845	Y	6	130	0252
	800	841	Y	6	130		0094	800	848	Y	6	120	0264
0036	800	828	Y	6	150	0084	0096	800	257	Y	6	160	0273
0038	548		Y	3	NN8	0093	0098	800	543		6	130	0294
0040	642			3	NN2	0096		800	354	Y	6	150	
	644		Y	3	NN4		0102	682			3	NN2	0303
0044	800	548	Y	6	120	0114		685			3	NN5	
0046	800	638	Y	6	120	0123		686		Y	3	NN6	
0048	800	633	Y	6	150	0147	0108	825			3	NN5	0306
0050	343			3	NN3	0150		676			3	NN6	
	344			3	NN4			687			3	NN7	
	347		Y	3	NN7			689		Y	3	NN9	
0056	800	225	Y	6	130	0159	0116	755			3	NN5	0309
0058	503	644		6	N44	0165		756		Y	3	NN6	

These CCI's could be combined.
(See 7.01 F for explanation).

EXHIBIT 33

```
TEL.CO. PACIFIC TEL CO                    OFFICE OAKLAND 4M
TEL.CO. ORDER NO. E2771                          1587 FRANKLIN RM1512
WECO. ORDER NO. 47211PJ                          OAKLAND CALIF
RUN NUMBER 0030                           DATE 06/21/71

SYMBOLIC NAME  #  COCOT8

0000
          CCI # 00 CDE #  064000          0200000
          LAST- 1  VSK- 3  CC- N-N-2      3005242

0002
          CCI # 00 CDE #  800545          3101041
          LAST- 1  VSK- 6  CC- 1-3-0      3400460

0004
          CCI # 00 CDE #  524000          2030000
          LAST- 0  VSK- 3  CC- N-N-4      1005244
          CCI # 01 CDE #  527000          2036000
          LAST- 1  VSK- 3  CC- N-N-7      3005247

0008
          CCI # 00 CDE #  526000          2034000
          LAST- 0  VSK- 3  CC- N-N-6      1005246
          CCI # 01 CDE #  525000          2032000
          LAST- 1  VSK- 3  CC- N-N-5      3005245

0012
          CCI # 00 CDE #  800847          3101517
          LAST- 0  VSK- 6  CC- 1-3-0      1400460
          CCI # 01 CDE #  800448          3100700
          LAST- 0  VSK- 6  CC- 1-6-0      1400540
          CCI # 02 CDE #  800833          3101501
          LAST- 1  VSK- 6  CC- 1-4-0      3400500

0018
          CCI # 00 CDE #  521000          2022000
          LAST- 0  VSK- 3  CC- N-N-1      1005241
          CCI # 01 CDE #  865000          3302000
          LAST- 0  VSK- 3  CC- N-N-5      1005245
          CCI # 02 CDE #  769000          3002000
          LAST- 1  VSK- 3  CC- N-N-5      3005245

0024
          CCI # 00 CDE #  522000          2024000
          LAST- 0  VSK- 3  CC- N-N-2      1005242
          CCI # 01 CDE #  523000          2026000
          LAST- 1  VSK- 3  CC- N-N-3      3005243

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EXHIBIT 34

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

COCOT8 CONT.

```
          LAST- 0  VSK- 6  CC- N-4-1      1405101
          CCI # 14 CDE #  006650          0015212
          LAST- 0  VSK- 6  CC- N-5-0      1405120
          CCI # 15 CDE #  006651          0015213
          LAST- 0  VSK- 6  CC- N-5-1      1405121
          CCI # 16 CDE #  006660          0015224
          LAST- 0  VSK- 6  CC- N-6-0      1405140
          CCI # 17 CDE #  006661          0015225
          LAST- 0  VSK- 6  CC- N-6-1      1405141
          CCI # 18 CDE #  006670          0015236
          LAST- 0  VSK- 6  CC- N-7-0      1405160
          CCI # 19 CDE #  006671          0015237
          LAST- 0  VSK- 6  CC- N-7-1      1405161
          CCI # 20 CDE #  006680          0015250
          LAST- 0  VSK- 6  CC- N-8-0      1405200
          CCI # 21 CDE #  006681          0015251
          LAST- 0  VSK- 6  CC- N-8-1      1405201
          CCI # 22 CDE #  006690          0015262
          LAST- 0  VSK- 6  CC- N-9-0      1405220
          CCI # 23 CDE #  006691          0015263
          LAST- 1  VSK- 6  CC- N-9-1      3405221

2046
          CCI # 00 CDE #  009420          0022644
          LAST- 1  VSK- 6  CC- N-2-0      3405040
```

NOTES

1. THIS IS A 2048 WORD RELOCATABLE TABLE IN PROTECTED MEMORY.

2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68032 AND THE BTL PROGRAM PIDENT IS CLRT.

3. THIS TABLE CONTAINS THE CODE CONVERSION DATA. %TWO ENTRIES PER CODE CODE CONVERSION□

4. COLUMN HEADINGS
   CCI - CODE CONVERSION INDEX WITHIN AN ENTRY
   CDE - FIRST AND SECOND 3-DIGIT MATCH CODES.

TABLE DESCRIPTION

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EXHIBIT 35A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

COCOTB CONT.

LAST - LAST WORD INDICATOR
0 - NOT THE LAST WORD
1 - LAST WORD IN AN ENTRY
VSK - SPILL INFORMATION
1 - OUTPULSE ALL DIGITS RECEIVED
2 - DELETE THE FIRST 3 DIGITS RECEIVED
3 - DELETE THE FIRST 6 DIGITS RECEIVED
CC - CODE CONVERSION DIGITS
%N - NO CODE CONVERSION SPECIFIED¤

TABLE DESCRIPTION

5. THE ADDRESS TO THIS TABLE IS SPECIFIED IN TABLE CCHEAD.

6. THIS TABLE CONTAINS 0000 SPARE WORDS.

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EXHIBIT 35B

Pacific Telephone
Nevada Bell

P 3113 (6-73)
(212-800-900PT)

OTKTAB

TGI	TRUNK GROUP NAME
1135	HLLK WA XX CITO

GB	PSC	SLN	POS	SGRP	RANK
1	3	21	08	1	1A

TRM		LCT	CDLC	CLASS
206		Y	Y	02

PART		TRI
N		0221

TRN	TBC	TB	GS	GE
IT	17	6	38	39

TGI	TRUNK GROUP NAME
1139	HLNA MT PA OOTO

GB	PSC	SLN	POS	SGRP	RANK
2	1	43	09	2	2A

TRM		LCT	CDLC	CLASS
406		Y	Y	02

PART		TRI
N		0222

TRN	TBC	TB	GS	GE
IT	03	5	20	39
IT	03	5	20	39

TGI	TRUNK GROUP NAME
1144	HMPS NY HE OOTO

GB	PSC	SLN	POS	SGRP	RANK
2	0	31	00	2	2A

TRM		LCT	CDLC	CLASS
516		Y	Y	02

PART		TRI
N		0223

TRN	TBC	TB	GS	GE
TC	20	0	00	39
TC	20	0	00	39

TGI	TRUNK GROUP NAME
1149	HNKN HK ZA 4MTO

GB	PSC	SLN	POS	SGRP	RANK
4	0	29	15	4	2A

TRM		LCT	CDLC	CLASS
999		Y	Y	15

PART		TRI
N		0224

TRN	TBC	TB	GS	GE
IT	0			
IT				
IT				
IT				

If this were the last page of the OTKTAB listings, an entry would be made as shown to indicate the number of spare words left at the end of the table.

TGI	TRUNK GROUP NAME
1156	HNKN HK ZA 4MTI

GB	PSC	SLN	POS	SGRP	RANK
2	0	31	03	2	3A

TRM		LCT	CDLC	CLASS
999		Y	Y	15

PART		TRI
N		0025

TRN	TBC	TB	GS	GE
IT	13	0	00	19
IT	12	2	00	39

TGI	TRUNK GROUP NAME
1161	HNKN HK ZA 4MT2

GB	PSC	SLN	POS	SGRP	RANK
4	3	46	15	4	2A

TRM		LCT	CDLC	CLASS
999		Y	Y	15

PART		TRI
N		0026

TRN	TBC	TB	GS	GE
IT	01	4	00	39
IT	12	7	00	39
IT	12	7	00	39
IT	12	7	00	39

SPARE WORDS: 100

FROM TGI 1135 TO TGI 1161

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

OTKTAB CONT.

TGI	DECIMAL	CCTAL
1135	GB PSC SLN POS SGRP RANK	
	1 3 21 08 1 1A	1626010
	TRM LCT CDLC CLASS	
	206 Y Y 02	0634042
	P2 # N TRI # 0221	0000335
	SUB TRAN TBC TB GS GE	
	0 IT 17 6 38 39	3055163
1139	GB PSC SLN POS SGRP RANK	
	2 1 43 09 2 2A	2355520
	TRM LCT CDLC CLASS	
	406 Y Y 02	1454042
	P2 # N TRI # 0222	0000336
	SUB TRAN TBC TB GS GE	
	0 IT 03 5 20 39	2152523
	1 IT 03 5 20 39	2152523
1144	GB PSC SLN POS SGRP RANK	
	2 0 31 00 2 2A	2074120
	TRM LCT CDLC CLASS	
	516 Y Y 02	2010042
	P2 # N TRI # 0223	0000337
	SUB TRAN TBC TB GS GE	
	0 TC 20 0 00 39	1200023
	1 TC 20 0 00 39	1200023
1149	GB PSC SLN POS SGRP RANK	
	4 0 29 15 4 2A	3065720
	TRM LCT CDLC CLASS	
	999 Y Y 15	3716057
	P2 # N TRI # 0224	0000340
	SUB TRAN TBC TB GS GE	
	0 IT 00 4 00 25	2010014
	1 IT 00 4 00 25	2010014
	2 IT 00 4 00 25	2010014
	3 IT 00 4 00 25	2010014
1156	GB PSC SLN POS SGRP RANK	
	2 0 31 03 2 3A	2074530

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EXHIBIT 37A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

NOTES CONT.

TRUNK GROUP SYMBOL **********				RT IND ***	RPI ***	TGI ***	TRI ***	PCOV ****
FYVL	NC	XA	4ATO	00	0816	1110	0216	119
				01	0819			
GDJT	CO	MA	00TO	00	0822	1114	0217	120
GDRP	MC	BL	4ATO	00	0825	1118	0218	121
				01	0828			
				02	0831			
				50	0834			
GNBO	NC	EU	4ATO	00	0837	1123	0219	122
				01	0840			
GRDN	CA	02	4ATO	00	0843	1128	0220	229
HLLK	WA	XX	C1TO	00	0846	1135	0221	268
HLNA	MT	PA	00TO	00	0849	1139	0222	123
HMPS	NY	HE	00TO	00	0852	1144	0223	124
				50	0855			
HNKN	HK	ZA	4MTO	00	0858	1149	0224	010
HNKN	HK	ZA	4MT1	00	0861	1156	0225	011
HNKN	HK	ZA	4MT2	00	0864	1161	0226	030
HNLL	HA	ZA	01TO	00	0867	1168	0227	012

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EXHIBIT 37B

```
        TEL.CO. PACIFIC TEL CO                OFFICE OAKLAND 4M
        TEL.CO. ORDER NO. E2771                      1587 FRANKLIN RM1512
        WECO. ORDER NO. 47211PJ                      OAKLAND CALIF
        RUN NUMBER 0030                       DATE 06/21/71


      OTKTAB CONT.
       TGI                  DECIMAL                          OCTAL
      3254        GB PSC SLN POS SGRP RANK
                   1  2   46  10  1    2A                   1572420
                   TRM LCT CDLC CLASS
                   509  Y    Y    02                        1772042
                   P2  #  N   TRI  #   0667                 0001233
                  SUB  TRAN  TBC TB   GS   GE
                   0    TC   07   0    00   39              0340023
      3258         SPARE                                   0000000

      TRUNK GROUP INDICES THRU 3357 INCLUSIVE ARE THE SAME AS ABOVE.


      NOTES

        1. THIS IS A 3358 WORD RELOCATABLE TABLE IN
             PROTECTED MEMORY.

        2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68032
           AND THE BTL PROGRAM PIDENT IS CLRT.

        3. THIS TABLE CONTAINS INFORMATION CONCERNING EACH
           TRUNK GROUP AND EACH SUB-GROUP THERE ARE FOUR TYPES
           OF ENTRIES PER TRUNK GROUP
              - THE FIRST 3 TYPES ARE REQUIRED ONCE PER TRUNK GROUP
              - THE FOURTH TYPE IS REQUIRED ONCE PER SUB-GROUP

        4. COLUMN HEADINGS
            GB - NUMBER OF GROUP BUSY LEADS
                 0 - NO GROUP BUSY LEADS
                 1 - 2 GB LEADS %1 SUBGROUPS¤
                 2 - 3 GB LEADS %2 SUBGROUPS¤
                 4 - 5 GB LEADS %4 SUBGROUPS¤
            PSC - SCANNER NUMBER %0 TO 3¤
            SLN - SCANNER LINE NUMBER %16-47¤
            POS - POSITION OF GO GROUP BUSY LEAD %0-18¤
            SGRP - NUMBER OF SUBGROUPS %1-4¤
            RANK - RANK OF TRUNK GROUP %0A-78¤
            TRM - AREA CODE OF THE TRUNK TERMINATION

                                                  TABLE
                                                  DESCRIPTION

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EXHIBIT 38A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

OTKTAB CONT.

LCT - LOOP CONTINUITY TEST %0,1¤
CLDC - CANCEL DELAY LOOP CLOSURE %0,1¤
CLASS - MARKER CLASS CODE %0-17¤
P2 - PART 2 ,INDICATES AS FOLLOWS
0 - A ONE PART TRUNK GROUP OR THE SECOND PART OF A TWO PART TRUNK GROUP.
1 - FIRST PART OF A TWO PART TRUNK GROUP.
TRI - TRAFFIC REGISTER INDEX
SUB - SUBGROUP NUMBER
TRN - TRAIN CHOICE
IT INTERTOLL TRAIN
TC TOLL COMPLETING TRAIN
TBC - TRUNK BLOCK CONNECTOR %0-29¤
TB - TRUNK BLOCK %0-9¤
GS - GROUP START %00-38¤
GE - GROUP END %1-39¤
TGI - TRUNK GROUP INDEX

TABLE DESCRIPTION

5. THE ADDRESS TO THIS TABLE IS LOCATED IN TABLE OUTKGP.

6. THIS TABLE CONTAINS 0100 SPARE WORDS.

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EXHIBIT 38B

Pacific Telephone
Nevada Bell

P 3104 (6-73)
(212-800-900PT)

TXTAB

FROM TRI 0000 TO TRI 0099

TRI	PCOV	TGI	TRI	PCOV	TGI	TRI	PCOV	TGI	TRI	PCOV	TGI
0000	008	0000	0025	080	0115	0050	099	0229	0075	014	0358
00 01	070	0005	00 26	081	0119	0051	100	0233	00 76	021	0365
00 02	071	0009	00 27	082	0124	0052	101	0237	00 77	026	0370
00 03	230	0014	00 28	243	0129	0053	102	0241	00 78	027	0375
00 04	031	0019	00 29	083	0134	0054	103	0245	00 79	027	0382
00 05	072	0024	00 30	084	0138	0055	249	0250	00 80	269	0387
00 06	232	0028	00 31	085	0142	0056	104	0255	00 81	450	0391
00 07	233	0033	00 32	244	0147	0057	253	0259	00 82	269	0396
00 08	073	0038	00 33	245	0152	0058	253	0266	00 83	009	0400
00 09	069	0043	00 34	087	0156	0059	251	0271	00 84	016	0405
00 10	235	0047	00 35	088	0163	0060	252	0276	00 85	563	0409
00 11	228	0054	00 36	247	0167	0061	254	0283	00 86	563	0416
00 12	236	0058	00 37	089	0171	0062	255	0288	00 87	066	0423
00 13	074	0062	00 38	092	0175	0063	256	0292	00 88	066	0430
00 14	075	0066	00 39	090	0179	0064	257	0296	00 89	613	0437
00 15	076	0070	00 40	091	0184	0065	456	0301	00 90	613	0444
00 16	077	0075	00 41	221	0191	0066	105	0308	00 91	564	0449
00 17	078	0079	00 42	248	0196	0067	106	0313	00 92	564	0456
00 18	079	0083	00 43	086	0200	0068	107	0320	00 93	222	0461
00 19	237	0087	00 44	093	0204	0069	108	0325	00 94	222	0468
00 20	242	0091	00 45	094	0208	0070	109	0330	00 95	457	0472
00 21	238	0095	00 46	095	0212	0071	111	0337	00 96	457	0479
00 22	239	0100	00 47	096	0216	0072	110	0341	00 97	458	0483
00 23	240	0105	00 48	097	0220	0073	068	0346	00 98	459	0487
00 24	241	0110	00 49	098	0225	0074	112	0353	00 99	460	0491

EXHIBIT 39

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

SYMBOLIC NAME # TXTAB

OUTGOING TRUNK GROUP TO TRAFFIC

REGISTER ASSIGNMENT TABLE

TRI	DECIMAL		OCTAL
	PCOV-ODD	PCOV-EVEN	
0000	070	008	0214010
0002	230	071	0714107
0004	072	031	0220037
0006	233	232	0722350
0008	069	073	0212111
0010	228	235	0710353
0012	074	236	0224354
0014	076	075	0230113
0016	078	077	0234115
0018	237	079	0732117
0020	238	242	0734362
0022	240	239	0740357
0024	080	241	0240361
0026	082	081	0244121
0028	083	243	0246363
0030	085	084	0252124
0032	245	244	0752364
0034	088	087	0260127
0036	089	247	0262367
0038	090	092	0264134
0040	221	091	0672133
0042	086	248	0254370
0044	094	093	0274135
0046	096	095	0300137
0048	098	097	0304141
0050	100	099	0310143
0052	102	101	0314145
0054	249	103	0762147
0056	253	104	0772150
0058	251	253	0766375
0060	254	252	0774374
0062	256	255	1000377
0064	456	257	1620401
0066	106	105	0324151

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EXHIBIT 40A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
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OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

TXTAB CONT.

TRI	DECIMAL PCOV-ODD	DECIMAL PCOV-EVEN	OCTAL
0660	215	446	0656676
0662	217	216	0662330
0664	447	218	1576332
0666	449	448	1602700
0668	SPARE		3777777

TRAFFIC REGISTER INDICES THRU 1000 INCLUSIVE ARE THE SAME AS ABOVE.

NOTES

1. THIS IS A 500 WORD TABLE ABSOLUTELY LOCATED IN PROTECTED MEMORY.

2. THE DOCUMENT NUMBER FOR THIS TABLE IS 68004 AND THE BTL PROGRAM PIDENT IS TMCP.

TABLE DESCRIPTION

3. THIS TABLE CONTAINS PEG COUNT AND OVERFLOW REGISTER NUMBERS IN RELATION TO TRAFFIC REGISTER INDEXES.

4. COLUMN HEADINGS.
   TRI - TRAFFIC REGISTER INDEX
   PCOV-ODD - PEG COUNT AND OVERFLOW REGISTER NUMBER FOR THE TRI ONE GREATER THAN THE ONE INDICATED IN THE FAR LEFT COLUMN.
   PCOV-ODD - PEG COUNT AND OVERFLOW REGISTER NUMBER FOR THE TRI INDICATED IN THE LEFTMOST COLUMN.

5. THERE IS ONE ENTRY PER TRUNK GROUP.

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EXHIBIT 40B

Pacific Telephone
Nevada Bell

P 3103 (6-73)
(212-800-900PT)

OUTGOING TRUNK COMMON LANGUAGE RECORD

FROM CN TO DN

TRUNK GROUP NAME					TGI	RPI	RI	TRI	PCOV	"C" REG	NM PP CONTROLS
CNCR	CA	01	00T	0	0259	0297	00	0057	253		③
CNCR	CA	01	00T	1	0266	0300	00	0058	253		
CNCR	CA	01	68C	0	0271	0303	00	0059	251		
CNCR	CA	01	68J	0	0276	0306	00	0060	252		
COLA	CA	01	75E	0	0283	0309	00	0061	254		
CRCT	CA	11	78M	0	0288	0312	00	0062	255		
CSBY	OR	XX	CIT	0	0292	0315	00	0063	256		
DAVL	CA	11	837	0	0296	0318	00	0064	257		
DAVL	CA	12	83W	0	0301	0321	00	0065	456		
DESM	IA	DT	4AT	0	0308	0324	00	0066	105		024
						0327	01				
						0330	02				
						0330	50				
DLLS	TX	TA	4AT	0	0313	0336	00	0067	106		000, 007
						0339	50				
DLLS	TX	TA	4YT	0	0320	0342	00	0068	107		
DNVR	CO	MA	02T	0	0325	0345	00	0069	108		009
DNVR	CO	MA	4AT	0	0330	0348	00	0070	109		008, 012
						0351	01				
						0354	02				
						0357	03				
						0360	50				
DNVR	CO	MA	4YT	0	0337	0363	00	0071	111		
DNVR	CO	MA	4YT	1	0341	0366	00	0072	110		

EXHIBIT 41A

TEL.CO. PACIFIC TEL CO
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WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

NOTES CONT.

TRUNK GROUP SYMBOL **********				RT IND	RPI	TGI	TRI	PCOV
				***	***	***	***	****
				02	0330			
				50	0333			
DLLS	TX	TA	4ATO	00	0336	0313	0067	106
				50	0339			
DLLS	TX	TA	4YTO	00	0342	0320	0068	107
DNVR	CO	MA	02TO	00	0345	0325	0069	108
DNVR	CO	MA	4ATO	00	0348	0330	0070	109
				01	0351			
				02	0354			
				03	0357			
				50	0360			
DNVR	CO	MA	4YTO	00	0363	0337	0071	111
DNVR	CO	MA	4YT1	00	0366	0341	0072	110
DNVR	CO	MA	4YT2	00	0369	0346	0073	068
DTRT	MC	BA	4ATO	00	0372	0353	0074	112
				01	0375			
				50	0378			
EUCL	WI	01	4ATO	00	0381	0358	0075	014

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EXHIBIT 41B

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   TEL.CO. PACIFIC TEL CO              OFFICE OAKLAND 4M
   TEL.CO. ORDER NO. E2771                    1587 FRANKLIN RM1512
   WECO. ORDER NO. 47211PJ                    OAKLAND CALIF
   RUN NUMBER 0030                     DATE 06/21/71


SYMBOLIC NAME  #  PPDATA
    NETWORK CONTROL PRE-PROGRAMMED DATA       OCTAL
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
000   2     1    3     0    0    0            2700000
                 TGI
                  0313                        0000471
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
001   2     0    3     1    0    0            2340000
                 TGI
                  0038                        0000046
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
002   2     0    3     1    0    0            2340000
                 TGI
                  1101                        0002115
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
003   2     0    3     1    0    0            2340000
                 TGI
                  1195                        0002253
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
004   2     0    3     1    0    0            2340000
                 TGI
                  1563                        0003033
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
005   2     0    3     1    0    0            2340000
                 TGI
                  2501                        0004705
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
006   2     0    3     1    0    0            2340000
                 TGI
                  2904                        0005530
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
007   2     0    3     1    0    0            2340000
                 TGI
                  0313                        0000471
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
008   2     1    3     0    0    0            2700000
                 TGI
                  0330                        0000512
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR
009   2     0    3     1    0    0            2340000
                 TGI
                  0325                        0000505
KEY  TYPE  T/F  PCT  A/AD  ANN  HTR


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EXHIBIT 42

Pacific Telephone
Nevada Bell

P 3115 (11-73)
212-800-900PT

NETWORK CONTROL PRE-PROGRAMMED DATA
(PP DATA)

Key	Type	Pct	A/AD	TGI	RPI	T/F	HTR	ANN	3D/6D	REM	DOM	ABC	DEF
1	2	3	4	5	6	7	8	9	10	11	12	13	

EXHIBIT 43

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

NOTES

1. THIS IS A 380 20-BIT WORD TABLE ABSOLUTELY LOCATED IN PROTECTED MEMORY.

2. THE DOCUMENT NUMBER FOR THIS TABLE IS PD-68006 AND THE BTL PROGRAM PIDENT IS NETC.

3. PPDATA HAS ROOM FOR 190 40-BIT ENTRIES OF THE 5 TYPES
   - TYPE 0 - SKIP
   - TYPE 1 - REROUTE
   - TYPE 2 - CANCEL
   - TYPE 3 - CODEBLOCK

4. FOR AN UNASSIGNED ENTRY ALL FIELDS ARE ZERO.

5. FOR ASSIGNED ENTRIES THE FOLLOWING FIELD ABBREVIATIONS ARE USED

A. HTR — HARD-TO-REACH
   - 1 — SELECTIVELY CANCEL USING HTR CODE LIST
   - 0 — NORMAL CANCEL

B. PCT — PERCENTAGE CODES
   - 0 — 25%
   - 1 — 50%
   - 2 — 75%
   - 3 — 100%

C. ANN — ANNOUNCEMENT CODES
   - 0 — NO CIRCUIT
   - 1 — EMERGENCY ANN. 1
   - 2 — EMERGENCY ANN. 2

D. T/F — TRAFFIC TYPE
   - 0 — OVERFLOW %FROM□
   - 1 — OFFERED %TO□

E. A/AD — TRAFFIC TYPE
   - 0 — ALTERNATE ROUTED
   - 1 — ALTERNATE & DIRECT

F. 3D/6D — CODEBLOCK DIGITS
   - 0 — 3 DIGIT BLOCK %ABC□
   - 1 — 6 DIGIT BLOCK %DEF□

G. REM — CODEBLOCK TYPE
   - 0 — NON-REMOTE CODEBLOCK
   - 1 — REMOTE ACTIVATED CODEBLOCK

H. DOM — DOMAIN MARK

TABLE DESCRIPTION

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EXHIBIT 44A

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
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OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
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PPDATA CONT.

0	TAS3
1	UNEQUIPPED
2	TAS2
3	TAS1
4	NAC
5	AC
I. KEY	PPDATA TABLE INDEX

TABLE DESCRIPTION

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EXHIBIT 44B

DATA VERIFICATION INPUT MESSAGE

TABLE		MESSAGE
		3 DIGIT CALL
___PRY	=	DV-01-DOM:_,CDE:_____.
RPTAB	=	RV-00-RPI:_____.
OTKTAB	=	TV-00-TGI:_____.
COCOTB	=	RV-03-RPI:_____,INDX:_____.
		6 DIGIT CALL
___PRY	=	DV-01-DOM:_,CDE:_____.
GRIDA	=	DV-07-DOM:_,CDE:_____.
GRIDA2	=	DV-08-DOM:_,CDE:_____.
GRID	=	DV-09-DOM:_,CDE:_____,TYPE:____.
CGP____	=	DV-12-DOM:_,CDE:_____,TYPE:____.
RPTAB	=	RV-00-RPI:_____.
OTKTAB	=	TV-00-TGI:_____.
COCOTB	=	RV-03-RPI:_____,INDX:_____.
		SCREENING
3 DIGIT	=	DV-05-DOM:_,CDE:_____,SCL:____.
6 DIGIT	=	DV-06-DOM:_,CDE:_____,SCL:____.
		ROUTE MULTIPLE
RPTAB	=	RV-04-RPI:_____,RMI:____.
		INWATS

ORIGINATING

Same as 6 digit, change TYPE = OI.

Inwats Grid = DV-14-DOM: 5, CDE: 800_____.

TERMINATING

Same as 6 digit, change TYPE = SI.

EXHIBIT 45

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

FREE AREAS

ORIGIN OF FREE AREA	END OF FREE AREA	LENGTH OCT	LENGTH DEC	ORIGIN OF FREE AREA	END OF FREE AREA	LENGTH OCT	LENGTH DEC
3 77602	3 77603	2	2	3 07000	3 07001	2	2
34 77602	34 77603	2	2	3 77602	3 77603	2	2
34 00002	34 00003	2	2	34 00002	34 00003	2	2
3 07000	3 07001	2	2	34 00204	34 51007	50604	20868
34 00204	34 51007	50604	20868	34 77602	34 77603	2	2

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EXHIBIT 46A

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

********** DATA TABLES LISTED BY STORE FRAME LOCATION **********

DATA TABLE AND VERSION		TYPE	ORIGIN OF TABLE	END OF TABLE	LENGTH OCT	LENGTH DEC
N/A			1 00000	1 73423	73424	30484
B2MASK	1	2	1 73424	1 73425	2	2
N6SMAP	1	2	1 73426	1 73465	40	32
N/A			1 73466	1 77777	4312	2250
N/A			2 00000	2 63777	64000	26624
Q6PBGA	1	2	2 64000	2 64001	2	2
Q8MFSN	1	2	2 64002	2 64007	6	6
Q8DBMS	1	2	2 64010	2 64017	10	8
F2UT01	1	2	2 64020	2 64021	2	2
F2UT02	1	2	2 64022	2 64023	2	2
F2UT03	1	2	2 64024	2 64121	76	62
F2UT04	1	2	2 64122	2 64123	2	2
F2UT05	1	2	2 64124	2 64127	4	4
F2UT06	1	2	2 64130	2 64131	2	2
F2UT08	1	2	2 64132	2 64137	6	6
F2UT09	1	2	2 64140	2 64141	2	2
F2UT10	1	2	2 64142	2 64165	24	20
F2UT11	1	2	2 64166	2 64171	4	4
F2DAUX	1	2	2 64172	2 64173	2	2
E4ILHA	1	2	2 64174	2 64175	2	2
N/A			2 64176	2 64277	102	66
E6UMHT	1	2	2 64300	2 64303	4	4
E6ENFP	1	2	2 64304	2 64307	4	4
Q6NUMP	1	2	2 64310	2 64311	2	2
R2HPEL	1	2	2 64312	2 64313	2	2
Q8TRAN	1	2	2 64314	2 64321	6	6
P8OFID	1	2	2 64322	2 64327	6	6
C4QENB	1	2	2 64330	2 64425	76	62
C4EQPT	1	2	2 64426	2 64507	62	50
X2MSN	1	2	2 64510	2 64561	52	42
N/A			2 64562	2 64565	4	4
S2TFHM	1	2	2 64566	2 64567	2	2
N/A			2 64570	2 77777	13210	5768
N/A			3 00000	3 00007	10	8

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EXHIBIT 46B

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
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RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

********** DATA TABLES LISTED BY TIDENT, %I.E. TABLE NAME% **********

DATA TABLE AND VERSION	TYPE	ORIGIN OF TABLE	END OF TABLE	LENGTH OCT	LENGTH DEC
CGP025 1	3	34 51754	34 51763	10	8
CGP026 1	3	34 51764	34 51773	10	8
CGP027 1	3	34 51774	34 52003	10	8
CGP028 1	3	34 55724	34 55763	40	32
CGP029 1	3	34 51020	34 51023	4	4
CGP030 1	3	34 55764	34 56023	40	32
CGP031 1	3	34 52004	34 52013	10	8
CGP032 1	3	34 52014	34 52023	10	8
CGP033 1	3	34 52024	34 52033	10	8
CGP034 1	3	34 52034	34 52043	10	8
CGP035 1	3	34 52044	34 52053	10	8
CGP036 1	3	34 52054	34 52063	10	8
CGP037 1	3	34 52614	34 52633	20	16
CGP038 1	3	34 52064	34 52073	10	8
CGP039 1	3	34 52074	34 52103	10	8
CGP040 1	3	34 51024	34 51027	4	4
CGP041 1	3	34 51030	34 51033	4	4
CGP042 1	3	34 52104	34 52113	10	8
CGP043 1	3	34 52634	34 52653	20	16
CGP044 1	3	34 52654	34 52673	20	16
CGP045 1	3	34 52114	34 52123	10	8
CGP046 1	3	34 52674	34 52713	20	16
CGP047 1	3	34 52124	34 52133	10	8
CGP048 1	3	34 52134	34 52143	10	8
CGP049 1	3	34 52714	34 52733	20	16
CGP050 1	3	34 52144	34 52153	10	8
CGP051 1	3	34 52154	34 52163	10	8
CGP052 1	3	34 52164	34 52173	10	8
CGP053 1	3	34 52174	34 52203	10	8
CGP054 1	3	34 52204	34 52213	10	8
CGP055 1	3	34 52214	34 52223	10	9
CGP056 1	3	34 52224	34 52233	10	8
CGP057 1	3	34 52234	34 52243	10	8
CGP058 1	3	34 52734	34 52753	20	16
CGP059 1	3	34 52754	34 52773	20	16
CGP060 1	3	34 53274	34 53313	20	16
CGP061 1	3	34 53314	34 53333	20	16
CGP062 1	3	34 52244	34 52253	10	9
CGP063 1	3	34 52254	34 52263	10	8
CGP064 1	3	34 52264	34 52273	10	8
CGP065 1	3	34 52274	34 52303	10	8
CGP066 1	3	34 76734	34 77033	100	64
CGP067 1	3	34 52304	34 52313	10	8

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EXHIBIT 46C

```
OAKLAND 4M
          TEL.CO. PACIFIC TEL CO                    OFFICE   OAKLAND 4M
          TEL.CO. ORDER NO. E2771                            1587 FRANKLIN RM1512
          WECO. ORDER NO. 47211PJ                            OAKLAND CALIF
          RUN NUMBER  0030                          DATE     06/21/71

* EXTERNAL SYMBOLS REFERENCED IN TABLES AND ABSOLUTE ADDRESS OF EACH REFERENCE

     REFERENCES IN Q6PBGA %1¤

          Q6PBGH   %Q6PBGH   ¤  264000

     REFERENCES IN F2UT01 %1¤

          01U00    %01U00    ¤  264020

          01U01    %01U01    ¤  264021

     REFERENCES IN F2UT02 %1¤

          F2DAUX   %F2DAUX   ¤  264022

          F2DAUX   %F2DAUX   ¤  264023

     REFERENCES IN F2UT03 %1¤

          03U00    %03U00    ¤  264024

          03U01    %03U01    ¤  264025

          03U02    %03U02    ¤  264026

          03U03    %03U03    ¤  264027

          03U04    %03U04    ¤  264030

          03U05    %03U05    ¤  264031

          03U06    %03U06    ¤  264032

          03U07    %03U07    ¤  264033

          03U08    %03U08    ¤  264034

          03U09    %03U09    ¤  264035

          03U10    %03U10    ¤  264036

          03U11    %03U11    ¤  264037

          PAGE  00040                          PRINTED IN U.S.A.
```

EXHIBIT 46D

DATA TABLE	TABLE LOCATION	END OF TABLE	LENGTH OCT	LENGTH DEC
TGP 163	34 - 55214	34- 55275	62	50
FREE	34- 55276	34- 55413	116	78

EXHIBIT 47A

OAKLAND 4M

TEL.CO. PACIFIC TEL CO
TEL.CO. ORDER NO. E2771
WECO. ORDER NO. 47211PJ
RUN NUMBER 0030

OFFICE OAKLAND 4M
1587 FRANKLIN RM1512
OAKLAND CALIF
DATE 06/21/71

********** DATA TABLES LISTED BY TIDENT, %I.E. TABLE NAME¤ **********

DATA TABLE AND VERSION		TYPE	ORIGIN OF TABLE	END OF TABLE	LENGTH OCT	LENGTH DEC
SCR040	1	3	34 54254	34 54273	20	16
SCR041	1	3	34 54274	34 54313	20	16
SCR042	1	3	34 54314	34 54333	20	16
SCR043	1	3	34 54334	34 54353	20	16
SCR044	1	3	34 54354	34 54373	20	16
SCR045	1	3	34 54374	34 54413	20	16
SCR046	1	3	34 54414	34 54433	20	16
SCR047	1	3	34 54434	34 54453	20	16
SCR048	1	3	34 54454	34 54473	20	16
SCR049	1	3	34 54474	34 54513	20	16
SCR050	1	3	34 54514	34 54533	20	16
SCR051	1	3	34 54534	34 54553	20	16
SCR052	1	3	34 54554	34 54573	20	16
SCR053	1	3	34 54574	34 54613	20	16
SCR054	1	3	34 54614	34 54633	20	16
SCR055	1	3	34 54634	34 54653	20	16
SCR056	1	3	34 54654	34 54673	20	16
SCR057	1	3	34 54674	34 54713	20	16
SCR058	1	3	34 54714	34 54733	20	16
SCR059	1	3	34 54734	34 54753	20	16
SCR060	1	3	34 54754	34 54773	20	16
SCR061	1	3	34 54774	34 55013	20	16
SCR062	1	3	34 55014	34 55033	20	16
SCR063	1	3	34 55034	34 55053	20	16
SCR064	1	3	34 55054	34 55073	20	16
SCR065	1	3	34 55074	34 55113	20	16
SCR066	1	3	34 55114	34 55133	20	16
SCR067	1	3	34 55134	34 55153	20	16
SCR068	1	3	34 55154	34 55173	20	16
SCR069	1	3	34 55174	34 55213	20	16
~~SCR070~~	~~1~~	~~3~~	~~34 55214~~	~~34 55233~~	~~20~~	~~16~~
~~SCR071~~	~~1~~	~~3~~	~~34 55234~~	~~34 55253~~	~~20~~	~~16~~
~~SCR072~~	~~1~~	~~3~~	~~34 55254~~	~~34 55273~~	~~20~~	~~16~~
~~SCR073~~	~~1~~	~~3~~	~~34 55274~~	~~34 55313~~	~~20~~	~~16~~
~~SCR074~~	~~1~~	~~3~~	~~34 55314~~	~~34 55333~~	~~20~~	~~16~~
~~SCR075~~	~~1~~	~~3~~	~~34 55334~~	~~34 55353~~	~~20~~	~~16~~
~~SCR076~~	~~1~~	~~3~~	~~34 55354~~	~~34 55373~~	~~20~~	~~16~~
~~SCR077~~	~~1~~	~~3~~	~~34 55374~~	~~34 55413~~	~~20~~	~~16~~
SDRID	1	2	3 01510	3 02067	360	240
SETSOA	1	2	3 04250	3 04251	2	2
SLF00	1	3	34 56064	34 56133	50	40
SLF01	1	3	34 56134	34 56203	50	40
SLF02	1	3	34 56204	34 56253	50	40

PAGE 00019

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EXHIBIT 47B

ETS 8075-T (2-69)

ETS RECENT CHANGE ORDER FOR LSAN 03 4AT OFFICE

ORDER TYPE D, A, C	ORDER NO. 372
TYPE FORM CODES ATTACHED 01(2), 04(1)	REPLACES ORDER NO.
DUE DATE 10-15-73	COORDINATE WITH ORDER NOS. G3722.1, 583
REPLACED BY ORDER NO.	PAGE 1 OF 1

DESCRIPTION OF CHANGE

1. Disconnect 5 CLSP CO 01 4AT trunks from SLF location.
2. Add 5 CLSP CO01 4AT trunks to new SLF location.
3. Change CLSP CO 01 4AT trunk block,
   ITGI: 0024 TGI: 1101

TELETYPE CODE MESSAGE:

10-1-73: Only one FC 01 attached. Contacted J. Doe, order writer.

10-3-73: Received missing FC 01.

ETS BASIC RECORDS		BY	DATE
QUESTIONNAIRE FORM	ROUTING		
CODE COMPLETED	ASSIGNMENT	MB	9-28-73
COMPILER LIST UP DATED			
QUEST. FORM CODE FILED			

RECENT CHANGE ORDER	BY	DATE
TELETYPE CODING		
INPUT TAPE CUT		
LOADED AND TESTED		
ACTIVATED		

EXHIBIT 48A

ETS-8075-01
ISS 3

INCOMING TRUNK ASSIGNMENT RECORD

ITGI: 0024

FORM CODE (15 16)	TRUNK GROUP CODE: TOWN (22–25)	ST (26 27)	BLDG (28 29)	TRAFFIC UNIT (30–32)	SUF (33)	ITSP (34)	AO (35 36)	TPC (37)	(38 39)	SCL (40 41)
01	CLSP	C	001	4AT	0	1		1		00

TRUNK NO (50–53)	SLF TYPE (54–56)	SLF FRM (57 58)	SLF POS (59 60)	UPDATE CODE (75)	CARD NO (76–80)	ORDER NO	DUE DATE	REMARKS
3001	MF	00	23	D				
3002	"	03	18	"				
3003	"	05	39	"				
3004	"	13	58	"				
3005	↓	16	78	↓				

TEL CO ORDER NO _____ (14) PAGE ____ OF ____

EXHIBIT 48B

ETS-8075-01
ISS 3

INCOMING TRUNK ASSIGNMENT RECORD

ITGI: 0024

FORM CODE (15 16)	TRUNK GROUP CODE: TOWN (22 25)	ST (26 27)	BLDG (28 29)	TRAFFIC UNIT (30 32)	SUF (33)	ITSP (34)	AO (35 36)	TPC (37)	(38 39)	SCL (40 41)
01	CLSPC	00	14	AT	01			1		00

TRUNK NO (50 53)	SLF TYPE (54 56)	SLF FRM (57 58)	SLF POS (59 60)	UPDATE CODE (75)	CARD NO (76 80)	ORDER NO	DUE DATE	REMARKS
3001	MF1	23	05	A				
3002	↓	26	23	↓				
3003		27	66					
3004		28	75					
3005	↓	29	04	↓				

TEL CO ORDER NO _____ (14) PAGE ____ OF ____

EXHIBIT 48C

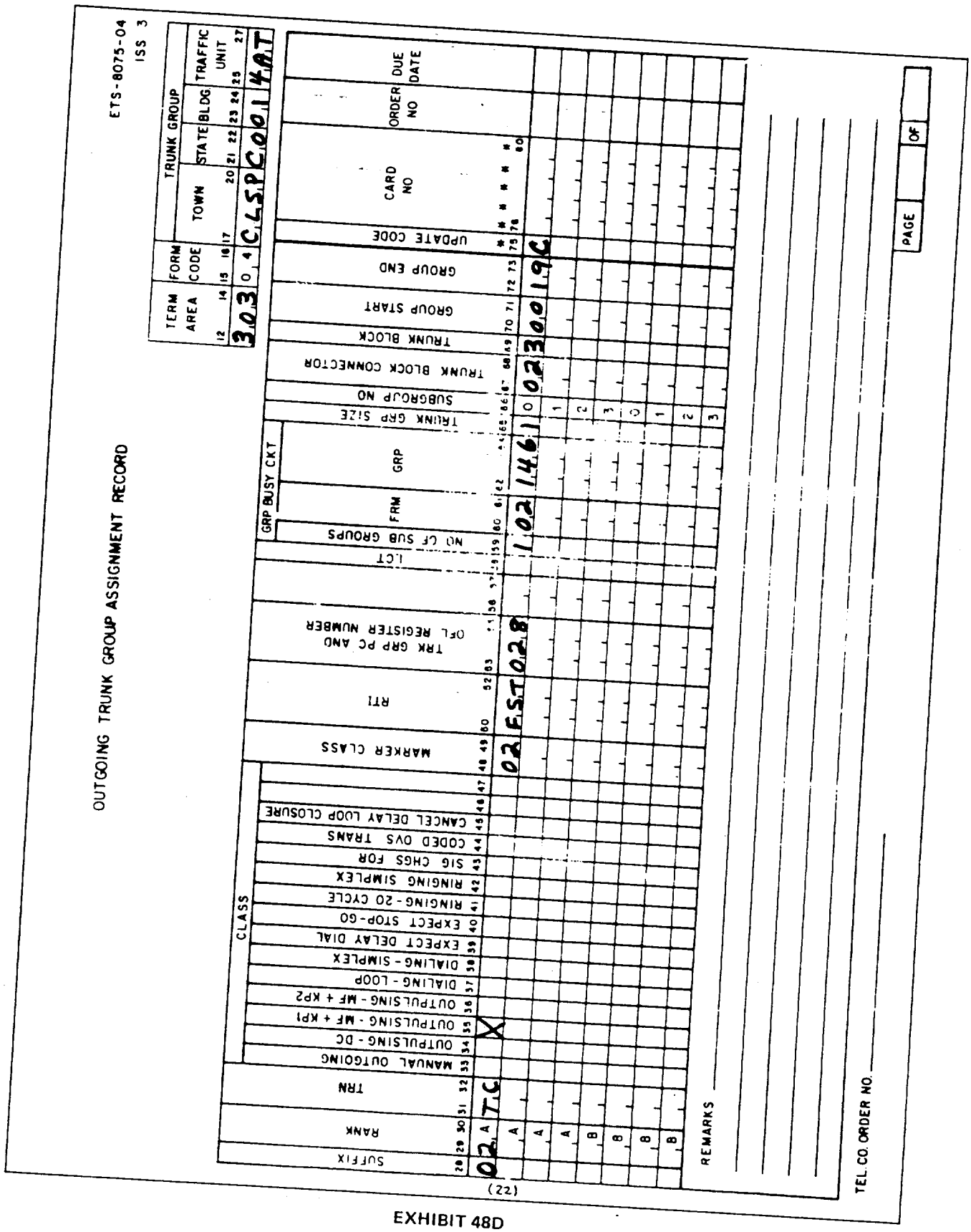
ETS-8075-04
ISS 3
OUTGOING TRUNK GROUP ASSIGNMENT RECORD
TRUNK GROUP
TERM AREA
FORM CODE
TOWN
STATE
BLDG
TRAFFIC UNIT
303
0
CLSPCO01
HAT
ORDER NO
DUE DATE
CARD NO
UPDATE CODE
GROUP END
GROUP START
TRUNK BLOCK
TRUNK BLOCK CONNECTOR
SUBGROUP NO
TRUNK GRP SIZE
GRP BUSY CKT
GRP
FRM
NO OF SUB GROUPS
ICT
OFL REGISTER NUMBER
TRK GRP PC AND
RTI
MARKER CLASS
CLASS
CANCEL DELAY LOOP CLOSURE
CODED OVS TRANS
SIG CHGS FOR
RINGING SIMPLEX
RINGING - 20 CYCLE
EXPECT STOP-GO
EXPECT DELAY DIAL
DIALING - SIMPLEX
DIALING - LOOP
OUTPULSING - MF + KP2
OUTPULSING - MF + KP1
OUTPULSING - DC
MANUAL OUTGOING
TRN
RANK
SUFFIX
02 FST028
02 ATC
REMARKS
TEL. CO. ORDER NO.
PAGE
OF
(22)

EXHIBIT 48D

RECENT CHANGE ORDER LOG

Order Number	Due Date	Date Received	Order Type (A,D,C)	Active Date	Remarks

EXHIBIT 49

_____ PRY TABLE CHANGE

BOC-09-ORD: ,ACTLNK: ,MODE: .

DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			
DC-01-DOM:	,CDE:	,TYPE:	,ACR:	,VSK:	,RPI:	.
DC-02-DOM:	,CDE:	,SCR:	.			

VY-08-.
EOC-09-ORD: ,ACRLNK: ,MODE: .
ACT-09-ORD: ,MODE: .

EXHIBIT 50

Pacific Telephone
Nevada Bell

P 3100 (6-73)
(212-800-900PT)

TRUNK GROUP

MF TGP 000
SLN 00 GRP A SLF 00

TRK	ITGI	TRK	ITGI	TRK	ITGI	TRK	ITGI
00	0003	25	0045	50	0152	75	0112
01	0003	26	0010	51	0334	76	0318
02	0216	27	0218	52	0361	77	0090
03	0003	28	0195	53	0416	78	0291
04	0112	29	0175	54	0326	79	0329
05	0147	30	0201	55	0320	80	0274
06	0003	31	0136	56	0101	81	0300
07	0003	32	0154			82	0048
08	0104	33	0023	58		83	0172
09	0125	34	0003	59	0111 ←#811 0327	84	0003
10	0300	35	0126 #381	60	0368	85	0159
11	0003	36		61	0222	86	0247
12	0007			62	0019	87	0315
13	0101	38	0299	63	0358	88	0003
14	0124	39	0108	64	0266	89	0328
15	0178	40	0117	65	0003	90	0286
16	0012	41	0003	66	0218	91	0271
17	0018	42	0116	67	0225	92	0339
18	0019	43	0167	68	0111	93	0319
19	0025	44	0159	69	0098	94	0091
20	0157	45		70	0027	95	0129
21	0158			71	0003	96	0299
22	0157			72	0303	97	0111
23	#372 0024	48	0301	73	0276	98	0003
24	0021	49	0123	74	0018	99	0003

Entry showing pending change order.

Entry showing pending add order.

Entry showing pending disconnect order.

EXHIBIT 51

MEMORY TABLE STATUS REPORT

Office _____ Approved _____ Date

Status As of _____

Approved _____ Date

Report By _____

Telephone _____ Received _____ Date

#SCR Tables _____

Received _____ Date

Table	Absolute Maximum Words	Office Maximum	Words In Use	Most Consecutive Spare	Total Spare
ITKTAB					
OTKTAB					
RPTAB					
COCOTB					
TXTAB					
Total Memory					

ITKTAB: One Word Per Trunk Group
OTKTAB: Three Words Per Trunk Group Plus One Word Per Subgroup
RPTAB: Three Words Per RPI (Per Route Index) Twenty-One Words Per Route Multiple
COCOTB: Two Words Per Code Conversion Entry (Each Line of Code Conversion On Form Code ETS 8075-05 is One Code Conversion Entry)
TXTAB: One Half Word Per Peg Count and Overflow Register Number
SCR Tables: Sixteen Words Per Table

NOTES:

EXHIBIT 52

CGP STATUS REPORT

Office _____ Report By _____

Status as of _____ Telephone _____

One CGP Treatment = One Word of Memory

CGP #	Domain	ABC Code	Total Length	In Use	Available

EXHIBIT 53