SWITCHING SYSTEMS MANAGEMENT
NO. 1 ELECTRONIC SWITCHING SYSTEM
DATA ADMINISTRATION
DAILY MEASUREMENTS

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1. GENERAL

1.01 The network administrator is responsible for gathering and processing daily traffic data. This section describes the methods used to schedule, collect, print, and interpret traffic data associated with the daily schedules. It includes administrative forms and procedures to assist with this task.

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

1.03 The title for each figure includes a number(s) in parentheses which identifies the paragraph(s) in which the figure is referenced.

1.04 For additional information on traffic counts, traffic counters and methods to store, schedule and print out data, refer to Dial Facilities Management Practices (DFMPs), Division H, Section 6i(1), Data Administration—General.

1.05 For information on network administration teletypewriter (TTY) operation, refer to DFMP, Division H, Section 6d(4), Operational Features—Teletypewriter.

1.06 For details on daily count assignments to the H and C schedules, refer to DFMP, Division H, Section 6i(2), Data Administration—Hourly.

1.07 Blank forms, that may be used as masters for reproduction purposes, have been attached to the back of this section. They are as follows:

- Toll Division and/or Completed Toll
- General Purpose (GP) Reservation
- General Purpose (GP) Activation
- Chart Class of Service (CCCS) Record
- Subscriber Line Busy (SLB) Assignment
- Office or Foreign Area Preroute (OFAP) Assignment

2. PURPOSE AND DESCRIPTION

2.01 The daily schedule total day (2:30 am to 2:30 am) measurements may be divided into three groups to briefly describe their purpose.

(1) Monitor the switching network:

- Network traffic usage
- Blocked dial tone counts
- Network links made busy.

(2) Monitor customer lines:

- Count of busy line conditions.

(3) Monitor customer calls:

- Originating call counts
- Class-of-Service counts
- Area code points dialed counts
- Use of special feature counts.

2.02 Daily printouts include the following:

- Office counts
- Coin zone initial charge counts
- Chart column class-of-service counts
- Subscriber line busy counts
- Office or foreign area preroute counts
- Division of revenue counts.

2.03 There are two daily schedules TC24 and TDR01. The later is provided for expanded division of revenue studies with CTX-8 and higher generic programs. These are 24-hour counts automatically scheduled to collect from 2:30 am to 2:30 am.

2.04 Generic programs 6 through 8 have enlarged the daily schedules. Refer to Fig. 1 for a block diagram of these changes.

2.05 The traffic measurement program consists of several routines, which are periodically executed according to the traffic map. The map consists of a block of 35 call store words which is provided in every office. The routines are scheduled via a message from either the network administration or maintenance TTY. This message will set memory bits in the traffic map which identifies the exact period or periods that data will be collected or printed. The TC24A is printed when the daily printout is requested. TC24B, C, and Z must be activated to be included in the TC24 printout.

2.06 ***It is important to select an appropriate time to schedule printouts to avoid an overlap with other printouts.*** If printouts are permitted to overlap, the data will be multilated. Use ESS 1402 Form to schedule the printing and to check for overlaps. Refer to Fig. 2 for a sample of daily printout scheduling.

2.07 TC24A may be printed on demand using a specific request. An immediate printout of the daily schedule is requested by typing the following message:

TC-WORK-SET, 02, 12.

2.08 TDR01 total day items are printed automatically at 2:30 am daily. Toll division/completed toll and the separation matrix must be activated to be included in the TDR01 printout.

3. OFFICE COUNTS—TC24A

DESCRIPTION

3.01 Office counts on the TC24A are automatically printed when the daily printout is requested.

3.02 For an explanation of the TC24A output message format, refer to Fig. 3.

3.03 For a definition of each office count and a listing of the associated measurement code and office count number, refer to Fig. 4.

ASSIGNMENT TO H OR C SCHEDULE

3.04 Nearly all the items appearing on the TC24A may also be assigned to the H or C and DA15 schedules. However, the network administrator must be aware of the following conditions.

(1) The 24-hour totals of some of the TC24A items become invalid when they are assigned to the H or C schedule. This is because the same registers are used for both daily and hourly schedules and are set to zero after each collect on the H schedule. Refer to 3.07 of this section

for methods to reconstruct the counts assigned to the H or C schedule.

(2) The 24-hour totals for transmitter timeouts on the daily plant measurements become invalid when they are asssigned to the H or C schedule. This problem was resolved in CTX-7 and later generics by providing a new set of office counts. However, for this reason, it is recommended that transmitter timeouts are not assigned to the H or C schedule for CTX-6 and earlier generic programs.

3.05 The measurement code and office count numbers are shown in Fig. 4 for convenience in assigning any of these counts to the hourly schedules.

3.06 For recommendations and restrictions when assigning counts to the H or C schedule, refer to Fig. 5

RECONSTRUCTION OF COUNTS ASSIGNED TO H OR C SCHEDULE

3.07 Most of the TC24A counts assigned to the H or C schedule will result in an invalid total day count. They can be reconstructed from a summation of the readings of the H or C schedules as follows.

(1) Schedule a print routine for every collect routine scheduled for a H or C with TC24A assignments. (This will print a record of all the data gathered before the collect routine sets the registers to zero.)

(2) Schedule the D (TC24A) to print at 2:30 am. (This will print a record of the data gathered from the last C or H collect to 2:30 am.)

(3) Add all the C or H printouts to the D printout. (This will provide a total of all the data and thus reconstruct the total day measurement.)

BLOCKED DIAL TONE QUEUE AND BLOCKED DIAL TONE DELAY COUNTS

3.08 Blocked dial tone queue (BDTQ) and blocked dial tone delay (BDTD) counts are of particular interest to the network administrator because they may indicate network blocking problems. For a description of each count and an explanation of their operation, refer to Fig. 6.

3.09 Concentrators may sometimes be identified as causing network blockage by evaluating the weekly concentrator usage. Concentrators with usage considerably above the engineering tables may be responsible for the network blockage. For a description of concentrator, switch, and quarter-switch usage evaluation, refer to DFMP, Division H, Section 6i(3), Data Administration—Weekly.

3.10 High concentrator usage may also indicate A-links made busy or falsely busy and thus unavailable for subscriber traffic. To identify concentrators with busy A-link conditions, the W schedule may be run at a very idle period. Example: 3 to 4 am Sunday. The printout for this hour should contain very low or zero usage data. Any concentrator with suspected nontraffic usage (increments of 36 CCS) may be referred to network maintenance for a maintenance busy or false busy A-link investigation.

3.11 Some concentrators may be underloaded but a switch or quarter-switch within the concentrator is overloaded causing dial tone blocks. This may be caused by too many of the same type of class of service lines assigned in a given switch. If service problems are suspected, a line equipment transfer should be written to correct it.

3.12 If blocking is identified in a concentrator, switch, or quarter-switch, corrective measures should be taken to restore sufficient CCS capacity. Listed below are some recommendations.

- Request the return of any made busy A-links to service.
- Request the clearing of concentrator false busy A-link troubles.
- Initiate line equipment transfers of heavy usage lines in overloaded concentrators.
- Initiate line equipment transfers to correct overloaded concentrator switches due to class-of-service assignments.

4. TOLL DIVISION OR COMPLETED TOLL MEASUREMENTS —TC24B (CTX-7 and Lower Generic Programs)

DESCRIPTION

4.01 This count gives the network administrator the ability to collect data required for division of revenue studies. This count may utilize one to eight registers to obtain the number of originating toll calls on trunk groups carrying both local and toll traffic, or the number of toll calls completed over a toll trunk group. Refer to Fig. 7 for an explanation of the TC24B output message format.

4.02 The toll division/completed toll assignment form should be used for all toll division/completed toll assignments. It should also be used for toll division/completed and/or separation matrix, activation and deactivation. Refer to Fig. 8 for typical form entries for an ESS CTX-8 generic program.

4.03 ***Completed Toll:*** Scores whenever a toll call (detail billed) on a given toll trunk group results in a talking path.

4.04 ***Toll Division Count:*** Scores whenever a toll call (detail billed) is made over a given trunk group carrying both toll and nontoll traffic.

4.05 The eight registers are identified as TC24B. They are printed out with the daily TC24A printout when the toll division completed toll count is activiated. The total day data will be from 2:30 am of each day. These counts cannot be printed as a part of the H or C schedules.

ASSIGNMENT PROCEDURES

4.06 The assignment of a trunk group to a toll count register is done from the traffic TTY using the following message:

TC-UTDP-aaa,bb.

The "aaa" corresponds to a 3-digit trunk group number (TGN) as shown on the ESS Translation Form 1202; the "bb" is the register (list) number 00 to 07.

4.07 To delete a trunk group from the toll count use the following message:

TC-UTDP-ooo,aa.

The "aa" corresponds to register (list) number 00 to 07 to be deleted from the count.

ACTIVATION PROCEDURES

4.08 After the register assignments have been completed and the traffic TTY messages have been accepted by the system, the toll counts are activated or deactivated by the following messages:

(a) Toll Division:

Activate: TC-TOLL-0,1.

Deactivate: TC-TOLL-0,0.

(b) Completed Toll:

Activate: TC-TOLL-1,1.

Deactivate: TC-TOLL-1,0.

5. GENERAL PURPOSE REGISTERS—TC24C

5.01 ***General Purpose (GP) Register Assignment:*** There are four counts associated with the GP registers:

- CZIC - Coin zone initial charge (CTX-5 and lower generic programs) (peg count)
- CCCS - Chart column class of service (peg count)
- SLB - Subscriber line busy (overflow)
- OFAP - Office or foreign area preroute (peg count).

CZIC and CCCS registers are preassigned to a certain block of GP registers and cannot be changed. SLB and OFAP may be assigned as desired to the remaining registers via the maintenance TTY. However, if the CZIC and CCCS counts are not in the active mode, their GP registers may also be used for SLB and/or OFAP assignments.

5.02 There are 50 GP registers provided in call store for special studies in offices with CTX-5 and lower generic programs. The number of general purpose registers may be increased by any increment to a total of 150 with CTX-6 and higher generics. The quantity is determined by the parameter set

card TMSPC. These data are printed out with the daily, TC24A printout and are identified on the printout as the TC24C. Refer to Fig. 9 for an explanation of the TC24C output message format.

5.03 Any portion of the GP registers may be associated with either the H or C schedule by assignment on the ESS 1400 Form. The GP register number is assigned as measurement code 15 as described in the Translation Guide, Division 3, Section 4a. When the GP registers are assigned to the H or C schedule, the associated data printed out on the TC24C will be invalid since the accumulating registers are set to zero when H or C collect routines are initiated by the traffic map. Consideration may be given to assigning a group of GP registers to the H or C schedule for administrative purposes such as subscriber line busy which is more meaningful on an hourly basis.

5.04 Two suggested administrative forms are provided for GP registers.

(1) ***GP Register Reservation:*** This form provides a means to budget the GP traffic counts for more efficient assignment. Reservations should be made in such a manner as to minimize card writing. Refer to Fig. 10 for typical form entries. Prepare the form as follows:

- Obtain the number of equipped GP registers from the most recently installed parameter data assembler list (PDA). Mark the remainder "not equipped". Show parameter run number and installation date.
- Record the preassigned CCCS counts. Refer to Form 1304 and identify the highest chart column. This is the highest GP register assignment.
- Record the preassigned CZIC counts. Refer to Fig. 11 for the numbering of GP registers.
- From the remaining registers assign a group of registers to SLB and OFAP. The group size should be large enough to meet measurement requirements.

(2) ***GP Register Activation:*** This form provides a record of the GP traffic count activations. Refer to Fig. 12 for typical form entries.

CZIC—COIN ZONE INITIAL CHARGE (CTX-5 and Lower Generic Programs)

5.05 This is a count of calls routed to each of eight possible coin zone charge conditions on a coin zone trunk group for initial charge only. It may be obtained for each of a maximum of four coin zone groups. Up to the first 32 GP registers may be used for this peg count (eight charge conditions on four coin zone trunk groups). Refer to Fig. 11 for an assignment order.

5.06 The GP registers for CZIC counts are automatically assigned by the generic program whenever this count is activated by the appropriate teletypewriter message.

5.07 All GP registers will print on the daily schedule TC24C whenever the CZIC count is activated, but those not used will print zeros.

5.08 This count may also be taken on the hourly schedule if the proper GP registers have been assigned to the hourly schedule.

5.09 If the CZIC count is required daily, all GP registers associated with charge conditions must be removed from the H or C schedule because TC24C counts assigned on Form 1400 becomes invalid for the total day count.

5.10 See Fig. 10 and 12 for typical entries of reservation and activation of CZIC counts.

CCCS—CHART COLUMN CLASS OF SERVICE

5.11 This is a count of the number of calls originated by lines according to chart column classes of service. This count is useful for the following purposes.

- Evaluating originating call mix by class (chart column).
- Determining when the originating call mix by class (chart column) shifts drastically.

5.12 Chart columns 0001 through 0049 are automatically assigned to GP registers 01 through 49, respectively. With CTX-6 and later generic programs, the GP registers can be provided to register number 149 (from a minimum of 50 up to a maximum of 150 registers). Chart columns 0050 through 0149 are automatically assigned to

the GP registers 50 through 149. Refer to the following chart for chart column assignments to GP registers.

GENERAL PURPOSE REGISTER NUMBER	(FORM 1304) CHART COLUMN
00	Not Assigned
01	0001
02	0002
03	0003
04	0004
05	0005
06	0006
07	0007
08	0008
09	0009
through	through
49	0049
(CTX-6 and later generics)	
50	0050
51	0051
through	through
149	0149

5.13 All GP registers will print on the daily schedule whenever the CCCS count is activated but those not used will print zeros. This count may also be taken on the hourly schedule if the proper GP registers have been assigned to the hourly schedule. (Refer to preceding chart.) This count is normally not taken concurrently with other GP counts.

5.14 The CCCS assignment record will aid in the interpretation of the TC24C or H-block printout. Prepare the record as follows: Class-of-service entries are obtained from Form 1304 and H schedule entries from Form 1400. Refer to Fig. 13 for typical entries.

5.15 If the CCCS measurement is to be a daily total, all GP registers associated with the desired chart columns must be removed from the H or C schedule to prevent an invalid total day CCCS count.

5.16 The traffic teletypewriter message for CCCS is:

Activate; TC-GENP-1,1.

Deactivate; TC-GENP-1,0.

5.17 Record the activation or deactivation on the GP activation form. Refer to Fig. 13 for typical entries.

SLB—SUBSCRIBER LINE BUSY

5.18 This is a count of the number of times a specified line is found busy on a terminating call.

5.19 ***This measurement should only be made on individual lines and the last line of those arranged for series completion.*** In the latter case, the SLB count would be assigned to the last line of the hunt series.

5.20 ***Lines that have either call forwarding and/or call waiting feature should not be assigned to an SLB count.*** An activation or deactivation of the general purpose SLB counts may destroy the recent change information on the line, ie, a waiting call or a forwarded call may be lost.

5.21 The measurement is usually collected on an hourly schedule. To accomplish this, GP registers must be assigned to counters on an hourly schedule and the lines on which a count is desired assigned to the proper GP registers via the maintenance TTY. The measurement may also be made on the daily schedule (TC24C) if the SLB count is activated.

5.22 If the SLB count is required on an hourly basis, select any GP register assigned to H or C schedule and submit to the maintenance force.

- The GP register number as shown on Form 1400 and the directory number for which the count is to be made are entered on the SLB assignment form. Refer to Fig. 14 for typical entries.

- Standard recent change messages, transmitted via the maintenance TTY will activate the hourly SLB count.

- If GP registers are not already assigned on H or C list (Form 1400), a reserved register must be converted to a GP register via a recent change message from the maintenance TTY.

5.23 If the SLB count is required on a daily basis, select any GP register ***not*** assigned on either H or C schedule and submit to the maintenance force.

- The GP register number and the directory number for which the count is to be made are entered on the subscriber line busy assignment form. Refer to Fig. 14 for typical entries.

- A standard recent change message when used on the maintenance TTY accompanied by the appropriate GP activate message will result in a daily printout of SLB counts.

5.24 The TTY messages for SLB are:

- Network Administration TTY:

  Activate: TC-GENP-2,1.

  Deactivate: TC-GENP-2,0.

5.25 Record the activation or deactivation on the GP activation record. Refer to Fig. 12 for typical entries. ***This count may not be taken concurrently with other GP counts except OFAP.***

OFAP—OFFICE OR FOREIGN AREA PREROUTE

5.26 This is a peg count of the number of calls to an area code, or a central office code. Preroute peg counts are generally used for point-to-point peg count studies on tandem routes.

5.27 This count may be obtained on all codes for which translation entries exist on ESS Forms 1300 or 1301.

5.28 OFAP counts are normally made on the continuous (c) hourly schedule, but may also be taken on the daily (TC24C) if the proper assignment procedures are followed, and the SLB count is activated.

5.29 The OFAP peg count scores whenever a code (3-digit, 6-digit, 0, 411, 11X, etc) to which a GP register is assigned has been dialed and sufficient digits have been received to properly route the call (ie, partial dials are not included).

5.30 OFAP assignment is similar to SLB, except that the TTY message specifies the office or area code on which a preroute peg count is desired insteady of a directory number. ***The activation message TC-GENP-2,1 must be sent from either the network administration or maintenance TTY to obtain SLB/OFAP counts on this schedule.***

5.31 SLB or OFAP may be obtained concurrently but on different GP registers. They are normally obtained on the hourly schedule, but the following conditions must be met. Each directory number or code to be measured must be assigned to a GP register number, and the appropriate GP registers must have been assigned to a counter on the hourly schedule via the maintenance TTY, recent change, and for CTX-5 and lower generic programs the program store cards must have been updated.

5.32 A GP register number (from Form 1400, H or C schedule) together with the code for which the preroute peg count is to be made should be forwarded to the maintenance force.

- Use the OFAP assignment form. Refer to Fig. 15 for typical entries.

- A standard recent change message when applied from the maintenance TTY will activate the given OFAP and will be part of the H or C schedule printout until cancelled.

5.33 Where no GP registers are provided on the H or C list (Form 1400) a reserved register (measurement code 09) must be converted to a GP register via recent change message from maintenance

TTY. ***This count may not be taken concurrently with other GP counts except SLB.***

5.34 The TTY messages for OFAP are described under SLB.

ACTIVATION OF TRAFFIC COUNTS

5.35 For daily collection, the activation of the CZIC and CCCS traffic counts are effective immediately upon acknowledgement of the TC-GENP message from the maintenance TTY.

5.36 For hourly collection of the CZIC and CCCS traffic counts on the H or C schedule, appropriate messages will be required from the maintenance TTY to activate the GP register on the H or C schedule. These messages will not be effective in CTX-5 and lower generic programs until a recent change update.

5.37 For daily collection, the SLB and OFAP traffic counts are effective upon acknowledgement of the TC-GENP message from the traffic TTY. It is necessary to assign the GP register number to the customer line or central office code (NNX) from the maintenance TTY. The assignment is effective upon acknowledgement of the maintenance message.

5.38 For hourly collection of the SLB and OFAP traffic counts on the H or C schedules appropriate messages will be required from the maintenance TTY to activate the GP register on the H or C schedule. The messages will not be effective in CTX-5 and lower generic programs until a recent change update. CTX-6 provides recent change hunting of all H and C hourly items to immediately activate the measurements.

5.39 Figure 16 lists the messages used to obtain GP measurements for (CTX-5 and lower).

5.40 Figure 17 lists the messages used to obtain GP measurements for (CTX-6 and higher).

6. COIN ZONE INITIAL CHARGE—TC24Z (CTX-6 and CTX-7 Generic Programs)

6.01 A separate block of call store is available for accumulating counts of coin zone attempts by initial charge condition (maximum 32). TC24Z is printed daily when this count is activated. If hourly readings are required, these counts may be assigned to the H or C schedule. However, the TC24Z will be invalid.

6.02 The traffic TTY messages for CZIC are:

Activate: TC-GENP-0,1.

Deactivate: TC-GENP-0,0.

6.03 CZIC register assignment order (Fig. 11) will aid in the interpretation of the TC24Z output message.

6.04 Refer to Fig. 18 for an example of the TC24Z output message format explanation.

7. DIVISION OF REVENUE PEG COUNTS—TDR01 (CTX-8, Issue 2 and Higher Generic Programs)

GENERAL

7.01 Division of revenue traffic data is the basis by which interstate toll revenues are shared by Long Lines and the associated companies.

7.02 All interstate revenues are pooled and each Bell System Company is reimbursed for its expenses in handling interstate traffic. The method used is described below.

(a) Interstate settlements are made each month between a Bell System Company and all non-Bell System Telephone Companies with which the Bell System Company interfaces.

(b) The remaining revenues are shared in proportion to each company's interstate plant investment. The fraction of the total plant investment assignable to interstate is based on the percentage of interstate minutes used by that plant and varies from month to month.

7.03 The network administrator is responsible for scheduling and collecting certain office counts related to division of revenue requirements. The division of revenue function is performed in the following manner.

(a) Each month, on a routine basis, each network administrator is required to collect division of revenue peg counts on a sample basis.

(b) This data is manipulated and scaled up to total-month peg counts and summed over all switching machines in the entire division of revenue area.

(c) Each month this data is inputted to a Long Lines computer program which computes each company's share of the Bell System's total interstate toll revenue for that month.

7.04 Division of revenue traffic data must be collected and manipulated to separate interstate and intrastate calls. To accomplish this, traffic data is collected for the following categories:

- Originating traffic
- Intracentrex traffic
- Common control switching arrangement (CCSA) traffic
- Toll traffic on selected trunk groups
- Direct distance dialing (DDD) message network traffic.

7.05 The traffic measurements required for the division of revenue functions are provided on the TDR01 printout. This is a daily printout that is automatically printed every day at 2:30 am. The collection period is from 2:30 am to 2:30 am.

7.06 Ten items appear on the TDR01 printout. Eight of these items appear automatically. The remaining two items have conditions to be met before they are printed. A description of the ten items is as follows:

(1) Originating calls peg count

(2) Total intracentrex call attempts

(3) Interstate CCSA originating

(4) Interstate CCSA outgoing

(5) Interstate CCSA through-switched

(6) Intrastate CCSA originating

(7) Intrastate CCSA outgoing

(8) Intrastate CCSA through-switched.

(9) Eight toll division/completed toll peg counts constitute the ninth item on the division of revenue studies.

(10) The separations matrix consisting of 130 counts. The purpose of the separations matrix is to place all DDD-network calls in the system into various classes as required for the division of revenue functions.

7.07 Refer to Fig. 19 for the TDR01 output message format explanation.

7.08 These measurements can be accumulated and printed on the network administration TTY or transmitted to Engineering Administration Data Acquisition System (EADAS) in a daily division of revenue traffic schedule (DRTS).

AUTOMATIC TOTAL DAY ITEMS

7.09 The eight items described in the following paragraphs are printed automatically on the TDR01 printout daily at 2:30 am.

7.10 ***Originating Calls Peg Count:*** Counts total number of office originating calls for which one or more digits have been dialed (duplicate of TC24A).

7.11 ***Total Intragroup Centrex Calls Peg Count:*** Counts the following types of calls:

- Centrex station-to-station call attempts
- Centrex station-to-attendant (dial 0) call attempts
- Centrex manual station originations.

7.12 ***Total Originating Interstate CCSA Calls Peg Count:*** This count is made upon receipt of the first digit or upon recognition of the CCSA access code and includes both on-network and off-network call attempts from the following:

- All network access line originations
- All centrex station dial 8 attempts
- All centrex attendant dial 8 attempts.

7.13 ***Total Outgoing Interstate CCSA Calls Peg Count:*** This count is made after successful completion of outpulsing and includes both on-network and off-network calls from the following:

- All network access line originations
- All centrex station dial 8 attempts
- All centrex attendant dial 8 attempts.

7.14 ***Total Through-Switched Interstate CCSA Calls Peg Count:*** This count is made after successful completion of outpulsing and includes both on-network and off-network calls from the following:

- CCSA incoming trunks
- Centrex tie trunks which dial 8.

7.15 ***Total Originating Intrastate CCSA Calls Peg Count:*** Same definition as total originating interstate CCSA calls peg count.

7.16 ***Total Outgoing Intrastate CCSA Calls Peg Count:*** Same definition as total outgoing interstate CCSA calls peg count.

7.17 ***Total Through-Switched Intrastate CCSA Calls Peg Count:*** Same definition as total through-switched interstate CCSA calls peg count.

TOLL DIVISION/COMPLETED TOLL

7.18 This count gives the network administrator the ability to collect data for division of revenue studies on originating toll calls.

7.19 This count may utilize one to eight registers to obtain the number of originating toll calls on trunk groups carrying both local and toll traffic, or the number of toll calls completed over a toll trunk group.

7.20 Toll division/completed toll peg counts, on the TC24B daily traffic schedule, along with the TTY input messages TC-toll and TC-UTDP will cease with the CTX-8, Issue 2 generic program.

7.21 The one to eight counts will be included on the TDR01 printout after the trunk groups to be measured are entered and the counts activated.

7.22 Two messages are valid with the CTX-8, Issue 2 generic program as follows:

- TDR-TOLL-ab. (activation or deactivation)
- TDR-UTDP-aaa bb. (trunk group enter message)

7.23 Refer to Fig. 20 for input message format details.

SEPARATION MATRIX

7.24 This feature gives the network administrator the ability to collect data for division of revenue studies on DDD network calls.

7.25 This feature provides the capability for counting the number of message network calls originating from eight different incoming separations (INSEPs) categories, each directed toward 16 destination separations (DESEPs) categories, thus providing up to 128 separations categories in an 8-by-16 matrix.

7.26 The separation matrix, by use of the INSEP and DESEP classifications, can categorize DDD for ESS offices that provide toll switching.

7.27 The program code required for the collection and printing of the separation matrix is included in the division of revenue peg count (DRPC) feature.

7.28 For this item to appear on the TDR01, the following events must take place:

- Matrix must exist as determined by the (BG SRCM) parameter word.
- INSEP and DESEP translations must be in memory.
- TTY input message (TDR-SEP-ALW) is in effect

7.29 Refer to Fig. 15 for input message formats.

7.30 Procedures for assigning INSEPs and DESEPs will be provided in the Translation Guide, TG-1A.

7.31 This matrix is 8 columns by 16 rows. Each column represents an INSEP category. Each row represents a DESEP category.

7.32 Every DDD or potential DDD 2-way or incoming trunk group is assigned an INSEP from one to seven. All lines in the office are automatically assumed by the call processing programs to be included in INSEP category zero.

7.33 Every DDD nonintraoffice destination code (typically 3- or 6-digit routing codes) is assigned a DESEP from 1 to 15. All intraoffice destination codes are automatically assumed by the call processing programs to be included in DESEP category zero.

7.34 Separations matrix collection takes place when the TDR-SEP-ALW TTY input message has been received or is in effect and the TDR-SEP-INH TTY input message has not subsequently been received.

7.35 On every eighth call in the system the INSEP and DESEP are determined and a peg count is made in the appropriate entry of the matrix. When the separations matrix is printed on the DRTS, all the matrix elements are scaled up by eight so direct comparisons with other peg counts can be made.

7.36 Refer to Fig. 19 for the separation message format as printed on the TDR01.

7.37 DDD network calls counted in the matrix are as follows:

(a) All POTS line or trunk initiated calls

(b) All centrex extension, tie trunk, or attendant dial 9

(c) All centrex extension, tie trunk, or attendant wide area telephone access (WATS) access

(d) All centrex extension, tie trunk, or attendant flexible route selection access which either goes WATS or overflows to the DDD network.

7.38 Calls which will not be counted in the separations matrix include all non-DDD network calls, unsuccessful call attempts, and miscellaneous services, for example:

(a) All purely centrex calls

(b) All centrex special features such as dialed dictation, paging, tandem tie-line calling, etc

(c) All CCSA originated calls, even those which go off network (thus, onto the public network) via this office's translations

(d) Activations of services such as call forwarding activation

(e) On calls to directory numbers which in turn are call forwarded, the count in the separations matrix is based on the call to the original called directory number; the count is in no way influenced by the call forwarding.

8. ADMINISTRATIVE TASK SUMMARY

8.01 Determine the daily counts available and establish GP register reservations.

- Block diagram of daily printouts (Fig. 1)—The GP register quantity is stated on the call store set card
- GP register reservation (Fig. 10)

8.02 Determine data requirements for:

- Office count administration
- Division of revenue studies
- Customer call monitoring—SLB, OFAP, CCCS, CZIC.

8.03 Assign traffic counts and record on appropriate forms.

- Office Counts
  - (1) Assignment of TC24A counts to the H or C schedule (Fig. 5)
  - (2) Record on ESS 1400 Form.
- Division of Revenue

(1) Toll assignment record (Fig. 8).

- Customer Calling

(1) Subscriber line busy assignment record (Fig. 14)

(2) Office or foreign area preroute assignment record (Fig. 15)

(3) Chart class of service assignment record (Fig. 13)—The chart column assignment is automatic; the class of service entries are from the ESS 1304 Form.

(4) Coin Zone Initial Charge—Assignment is automatic (Fig. 11)

(5) Record the H or C register number assignments reserved for GP registers (Fig. 10).

8.04 Activate traffic counts and record on appropriate forms.

- Office Counts

(1) Traffic measurement schedule (Fig. 2).

- Division of Revenue

(1) Toll activation messages (Fig. 20)

(2) Toll register activation record (Fig. 8).

- Customer Calling—SLB, OFAP, CCCS, CZ1C

(1) GP register activation messages (Fig. 16 and 17)

(2) GP register activation record (Fig. 12).

8.05 Identify the data on the TTY printout. (The order in which the data was assigned will identify the printout location in the output message format.)

- Office Counts

(1) TC24A output message format (Fig. 3)

(2) Office count—assignment order and definition (Fig. 4).

- Division of Revenue

(1) TC24B output message format (Fig. 7)

(2) TDR01 output message format (Fig. 19)

(3) Toll—assignment order (Fig. 8).

- Customer Calling

(1) TC24C output message format (Fig. 9)

(2) CZ1C—assignment order (Fig. 11)

(3) CCCS—assignment order (Fig. 13)

(4) SLB—assignment order (Fig. 14)

(5) OFAP—assignment order (Fig. 15).

8.06 Process the data to meet known data requirements and to utilize the processed data.

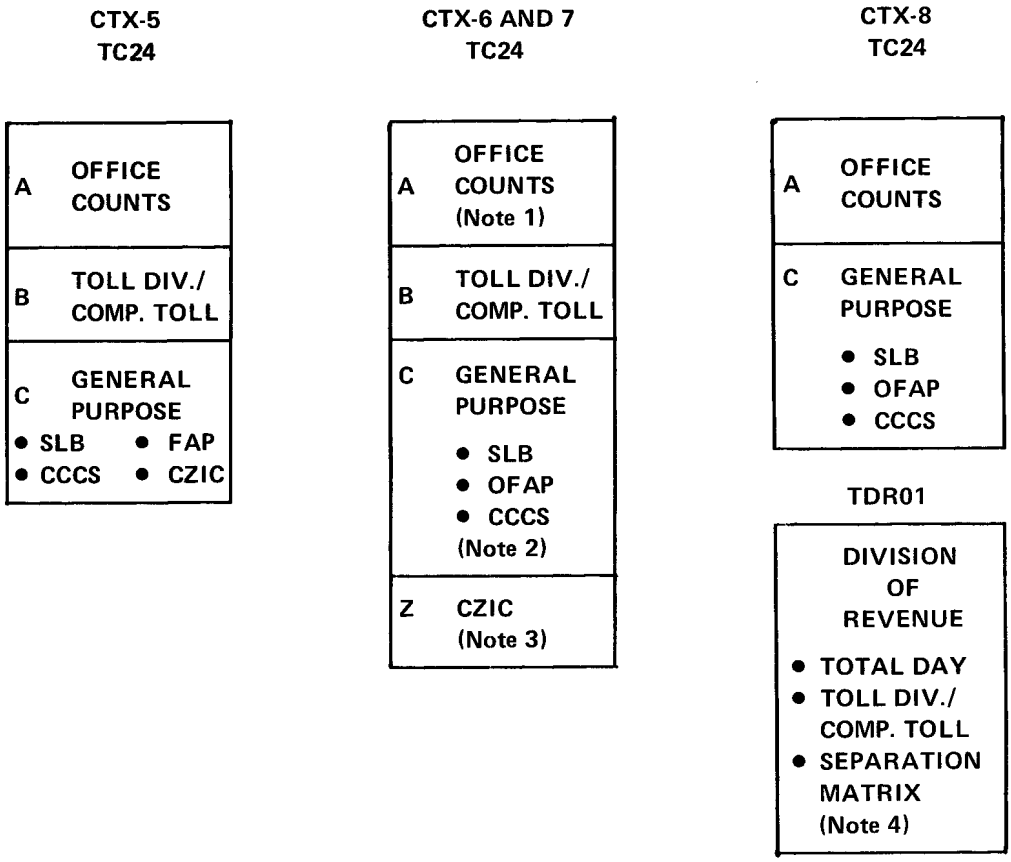
- Forward the data to other departments in the format requested

- Use selected data for local administration requirements.

9. ABBREVIATIONS AND ACRONYMS

ABBREVIATION	TITLE
AMA	Automatic Message Accounting
BDTD	Blocked Dial Tone Delay
BDTQ	Blocked Dial Tone Queue
CCCS	Chart Class of Service
CCSA	Common Control Switching Arrangement
CDR	Customer Digit Receiver
CZIC	Coin Zone Initial Charge
DDD	Direct Distant Dialing
DESEP	Destination Separation
DFMP	Dial Facilities Management Practice

DRPC	Division of Revenue Peg Count
DRTS	Division of Revenue Traffic Schedule
EADAS	Engineering and Administration Data Acquisition System
GP	General Purpose
INSEP	Incoming Separation
MF	Multifrequency
MTCE	Maintenance
NNX	Central Office Code
OFAP	Office or Foreign Area Preroute
PCI	Panel Call Indicator
PDA	Parameter Data Assembler
POTS	Plain Old Telephone Service
RP	Revertive Pulse
SLB	Subscriber Line Busy
TGN	Trunk Group Number
TTY	Teletypewriter
WATS	Wide Area Telephone Service



Note 1: TC24A increased from 25 to 27 counts with CTX-7.

Note 2: TC24C can be expanded from 50 to 150 registers with CTX-6.

Note 3: CZ1C is printed on the TC24Z instead of on the TC24C starting with CTX-6.

Note 4: TDR01 is provided with CTX-8 and contains three parts.

- 8 counts — Total day (automatically printed 2:30 am)
- 8 counts — Toll division/completed toll (old TC24B)
- 128 counts — Separation matrix

Fig. 1—Block Diagram of Daily Printouts (2.04, 8.01)

ESS 1402 (05) TG-1A

TRAFFIC MEASUREMENT SCHEDULE

NO. 1/1A ESS 2-WIRE

(CTX-7, G1 AND LATER GENERIC PROGRAMS)

ESS UNIT DISTRICT CGO DATE 1-9-76

START DATE TIME	SCHEDULE	(ROUTINE) TC-TIME-	DAYS							HOURS OF THE DAY																								QTR HOUR				REMARKS
			SUN.	MON	TUES.	WED	THURS	FRI	SAT	MIDNIGHT	1:00 A.M	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	NOON	1:00 P.M	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	HOUR	1ST QTR	2ND QTR	3RD QTR	
START ALIT #		00																																			
STOP AUTO. TRUNK PROG. #		01																																			
COLLECT	H(1)	02																																			
COLLECT	H(2)	03																																			
COLLECT	H(3)	04																																			
COLLECT	C	05																																			
		06																																			
CONNECTED TRKS GRD *	H	07																																			
CONNECTED TRKS GRD *	C	08																																			
RECYCLE	W	09																																			
START COLLECT	W	10																																			
STOP COLLECT	W	11																																			
PRINT	D	12	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
PRINT *	H(1)	13																																			
PRINT *	H(2)	14																																			
PRINT *	H(3)	15																																			
PRINT *	C	16																																			
PRINT *	W	17																																			
START AUTO TRUNK PROG #		18																																			
TAPE PERFORATE *	H(1)	19																																			
TAPE PERFORATE *	H(2)	20																																			
TAPE PERFORATE *	H(3)	21																																			
TAPE PERFORATE *	C	22																																			

* DO NOT SCHEDULE FOR SAME QUARTER HOUR

PLANT DEPT ROUTINE

MESSAGE TO OBTAIN MATRIX PRINTOUT: TC-WORK-SET.03 13

Fig. 2—Traffic Measurement Schedule—Typical Entries

(2.06, 8.04)

OUTPUT MESSAGE FORMAT

TC24A aaaaaa
bbbbbb

•
•

zzzzzz
aaaaaa
bbbbbb

EXPLANATION OF MESSAGE

Output message TC24A appearing on the network administration TTY is the 24-hour cumulative total (2:30 am to 2:30 am) of specific traffic counts.

EXPLANATION OF VARIABLE FIELD

aaaaaa	=	Office identification
bbbbbb	=	Links maintenance busy
cccccc	=	Originating toll usage
dddddd	=	Originating calls peg count
eeeeee	=	Outgoing calls overflow
ffffff	=	Originating and terminating usage
gggggg	=	Available recent change auxiliary memory
hhhhhh	=	Available recent change primary memory
iiiiii	=	Permanent signal peg count
jjjjjj	=	Three-way calling peg count
kkkkkk	=	Speed calling (1 digit)
llllll	=	Speed calling (2 digit)
mmmmmm	=	Originating toll attempts
nnnnnn	=	Disconnect hits
oooooo	=	Blocked dial tone queue peg count
pppppp	=	MF transmitter time-outs
qqqqqq	=	DP transmitter time-outs
rrrrrr	=	RV transmitter time-outs
ssssss	=	PCI transmitter time-outs
tttttt	-	Intercept temporary disconnect
uuuuuu	=	Intercept changed number
vvvvvv	=	Intercept unassigned number
wwwwww	=	Blank number
xxxxxx	=	Dial tone blockage
yyyyyy	=	Trouble intercept
zzzzzz	=	Dial conference attempts
aaaaaa	=	Speed calling list change attempts — POTS (CTX-7 or later generics)
bbbbbb	=	Speed calling list change attempts — CENTREX (CTX-7 or later generics)

Fig. 3—TC24A Output Message Format Explanation (3.02, 8.05)

LINE IDENT.	MEAS. CODE	OFFICE COUNT NUMBER	ITEM MEASURED	TYPE	DESCRIPTION
1	005	063	Links Maintenance Busy		Measures total usage of A, B, and C links that are made busy for maintenance purposes in the line link network or trunk link network. *One count is made each hour* (on the clock-hour) and placed in a holding register replacing the previous count. This count is used to provide surveillance of links made busy for maintenance.
2	005	065	Originating Toll (AMA)	Usage	Counts the total automatic message accounting (AMA) register usage due to nonmessage rate interoffice calls. (Counts usage of all calls requiring detail billing — excluding MMU-detail billing.)
3	005	014	Originating Calls	Peg Count	Counts total number of office originated calls for which one or more digits have been dialed.
4	005	033	Outgoing Calls	Overflow	Scores on all office originated outgoing calls that fail due to network blockage.
5	005	116	Originating and Terminating Calls	Usage (Scaled)	Measures total concentrator A link usage generated by line originated or terminated calls. Multiply usage on TC24A printout by 4 to obtain actual usage.
6	—	—	Recent Change Memory — Auxiliary	Count	Number of spare words available in the auxiliary recent change area of call store as of 2:00 am (updated once each day at 2:00 am).
7	—	—	Recent Change Memory — Primary	Count	Number of spare words available in the primary recent change area of call store as of 2:00 am (updated once each day at 2:00 am).
8	005	072	Permanent Signals	Peg Count	Scores whenever a customer digit receiver times out and no digits have been dialed. (Calls timing out during second dial tone are not included.)
9	005	073	Three-way Calling	Peg Count	Counts attempts to add another party to an existing connection.

Fig. 4—TC24A Office Count Number and Definition (Sheet 1 of 3) (3.03, 3.05, 8.05)

LINE IDENT.	MEAS. CODE	OFFICE COUNT NUMBER	ITEM MEASURED	TYPE	DESCRIPTION
10	005	074	Speed Calling (1 Digit)	Peg Count	Counts all originating attempts by customers making use of their 1-digit speed call feature.
11	005	075	Speed Calling (2 Digit)	Peg Count	Counts all originating attempts by customers making use of their 2-digit speed calls feature.
12	005	076	Originating Toll Attempts	Peg Count	Counts the total number of times an AMA register (call store) is seized for nonmessage rate interoffice calls, (ie, the number of calls requiring detail billing).
13	005	077	Disconnect Hits	Peg Count	Counts the number of switch hook hits for which disconnect timing was incomplete. It does not include actual disconnects or single flashes.
14	005	078	Blocked Dial Tone Queue	Peg Count	Counts the number of times a line service request is placed in blocked dial tone queue. Refer to Fig. 6 for details (CTX6, Issue 2 and later).
15	005	165 079	Multifrequency (MF) Transmitter Time Out	Peg Count	Scores each time a transmitter of a given type times out or is preempted while waiting for a start dial signal from the distant end or in the case of overlap outpulsing if interdigital or overall timing is exceeded. (Office counts 165, 168, 171 and 174 are available with CTX-7 and later generics.)
16	005	168 080	Dial Pulse (DP) Transmitter Time Out	Peg Count	
17	005	171 081	Revertive Pulse (RP) Transmitter Time Out	Peg Count	
18	005	174 082	Panel Call Indicator (PCI) Transmitter Time Out	Peg Count	
19	005	083	Intercept — Temporary Disconnect	Peg Count	Counts number of calls to directory numbers with route index 0083.
20	005	084	Intercept — Changed Number	Peg Count	Counts number of calls to directory numbers with route index 0084.
21	005	085	Intercept — Unassigned Number	Peg Count	Counts number of calls to directory numbers with route index 0085.

Fig. 4—TC24A Office Count Number and Definition (Sheet 2 of 3) (3.03, 3.05, 8.05)

LINE IDENT.	MEAS. CODE	OFFICE COUNT NUMBER	ITEM MEASURED	TYPE	DESCRIPTION
22	005	086	Intercept Blank Number	Peg Count	Counts number of calls to route index 0086.
23	005	087	Dial Tone Blockage	Peg Count	Counts dial tone delays due to network blockage. Refer to Fig. 6 for details.
24	005	088	Trouble Intercept	Peg Count	Counts the number of calls to route index 0088.
25	005	089	Dial Conference Attempts	Peg Count	Counts the number of times a special conference code is dialed.
26	005	238*	Speed Calling POTS	Peg Count	Counts the POTS speed calling list change attempts (CTX-7 and later).
27	005	241*	Speed Calling —CENTREX	Peg Count	Counts the CENTREX speed calling list change attempts (CTX-7 and later).

Fig. 4—TC24A Office Count Number and Definition (Sheet 3 of 3) (3.03, 3.05, 8.05)

ASSIGNMENT TO H OR C SCHEDULE RECOMMENDED	RESTRICTION CODE FOR ASSIGNMENT	LINE IDENTIFICATION OF TC24A PRINTOUT	
YES	A	1.	Links maintenance busy
NO	A	2.	Originating toll usage
YES	B	3.	Originating calls peg count
YES	C	4.	Outgoing calls overflow
YES	C	5.	Originating and terminating usage
—	—	6.	Available recent change auxiliary memory
—	—	7.	Available recent change primary memory
YES	A	8.	Permanent signal peg count
YES	A	9.	Three-way calling peg count
YES	A	10.	Speed calling (1 digit)
YES	A	11.	Speed calling (2 digit)
YES	A	12.	Originating toll attempts
YES	A	13.	Disconnect hits
YES	A	14.	Blocked dial tone queue peg count
—	D	15.	MF transmitter time-outs
—	D	16.	DP transmitter time-outs
—	D	17.	RV transmitter time-outs
—	D	18.	PCI transmitter time-outs
NO	A	19.	Intercept temporary disconnect
NO	A	20.	Intercept changed number
NO	A	21.	Intercept unassigned number
NO	A	22.	Intercept blank number
NO	A	23.	Dial tone blockage
NO	A	29.	Trouble intercept
YES	A	25.	Dial conference attempts
NO	A	26.	Speed calling list change attempts — POTS (CTX-7 or later generics)
NO	A	27.	Speed calling list change attempts — CENTREX (CTX-7 or later generics)

A. Assigning these counts to the H or C schedule will destroy the validity of the TC24A count. For reconstruction of this data, refer to Part 3 of this section.

B. This count may be assigned to the H or C schedule without destroying the validity of the total day count.

C. These counts may be assigned to the H and C schedule without destroying the validity of the total day count if the H or C schedule to which they are assigned if scheduled to *collect* at 2:30 am.

D. *Do not assign these counts to the H or C* schedule as it will destroy the validity of the plant measurements for CTX-6 and earlier generic programs. These counts may be assigned without destroying the validity in CTX-7 and later generic programs by using the new office counts 165, 168, 171, and 174.

Fig. 5—Assignment of TC24A Counts to the H or C Schedule—Recommendations and Restrictions (3.06, 8.03)

1. Blocked dial tone queue (BDTQ) peg count is described as follows:

   Counts the number of calls that are placed in the queue for the first time. This count is available with CTX-6, Issue 2 and later generic programs.

2. Blocked dial tone delay (BDTD) peg count is described as follows:

   Counts the number of times, after an initial time of 5 seconds, a line fails to receive dial tone due to network (LLN, TLN, or junctor) blockage. It continues to increment the counter every 4 seconds thereafter. BDTD is often due to poor concentrator switch balance.

3. The incrementing of the counters is as follows:

SEQUENCE	CONDITION	ACTION	COUNTERS INCREMENTED	
			BDTD	BDTQ
1	Line "Off Hook" Initiated	Recognized		
2	Network Path Hunt Made for CDR	Failed		
3	Placed in BDTQ	1 Second Duration		X
4	Network Path Hunt Made for CDR	Failed		
5	Placed in BDTQ	2 Seconds Duration		X
6	Network Path Hunt Made for CDR	Failed		
7	Placed in BDTQ	2 Seconds Duration		X
8	BDTD Counter Incremented	Peg Count Scored	X (5 sec.)	
9	Network Path Hunt Made for CDR	Failed		
10	Placed in BDTQ	2 Seconds Duration		X
11	Network Path Hunt Made for CDR	Failed		
12	Placed in BDTQ	2 Seconds Duration		X
13	BDTD Counter Incremented	Peg Count Scored	X (4 sec.)	
14	Reenter Sequence at Item 9 Above	Continue		

Note 1: This process may be interrupted at any time when a network path is found or the customer hangs up.

Fig. 6—Blocked Dial Tone Queue Counts and Delay Counter Operation (Sheet 1 of 2) (3.08)

Note 2: Blockage in A links (due to poor load balance) will represent relatively longer holding time increments than blockage in the other links. Since this condition involves a considerable amount of machine work time when this condition is encountered and continues to persist, a careful surveillance of this count is very important.

Note 3: BDTQ length is a parameter item and represents simultaneous call capacity for five times each LLN plus one. If queue is full, the line bit is reset to idle and a new attempt will result.

Fig. 6—Blocked Dial Tone Queue Counts and Delay Counter Operation (Sheet 2 of 2) (3.08)

OUTPUT MESSAGE FORMAT (CTX-5 AND EARLIER GENERIC PROGRAMS)

```
TC24B
xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx oooo oooo
```

OUTPUT MESSAGE FORMAT (CTX-6 AND CTX-7 GENERIC PROGRAMS)

```
TC24B
xxxx
 •
 •
 •
 •
 •
 •
xxxx
```

EXPLANATION OF MESSAGE

Output message TC24B will appear on the traffic TTY following the output message TC24A if the TC24B has been activated. The eight counts following the heading TC24B are requested by input message TC—TOLL—a,b.on the trunks specified by the input message TC—UTDP—aaa,bb.

EXPLANATION OF VARIABLE FIELD

xxxx	=	Count of completed toll calls or
	=	Number of toll calls carried on trunk groups capable of carrying both local and toll calls
oooo	=	Not used

Note: The TC24B counts will cease with CTX-8, Issue 2 generic program. The counts will then appear on output message format TDR01.

Fig. 7—TC24B Output Message Format Explanation (4.01, 8.05)

TOLL DIVISION AND/OR COMPLETED TOLL
NO. 1 ESS

UNIT _____

(ASSIGNED VIA N.A. – TTY)

ASSIGNMENT

CTX-7 (TC-UTDP-aaa, bb.) CTX-8 (TDR-UTDP-aaa, bb.)

ASSIGNMENT DATE	TRUNK GROUP NAME	TGN aaa	LIST LOC. bb	DELETE DATE
6-21-76	B - XBT	048	00	6-25-76
6-21-76	UNI - XBT	049	01	6-25-76
			02	
			03	
			04	
			05	
			06	
			07	

(DELETE MESSAGE TC – UTDP – 000, bb)

ACTIVATION

ACTIVATION DATE	DEACTIVATION DATE	INPUT MESSAGE	REMARKS
6-21-76		TDR - TOLL - 01	TOLL DIV.
	6-25-76	TDR - TOLL - 00	TOLL DIV.
6-21-76		TDR - SEP - ALW	SEP. MTX
	6-25-76	TDR - SEP - INH	SEP. MTX

Fig. 8—Toll Division and/or Completed Toll—Typical Entries (4.02, 8.03, 8.04, 8.05)

OUTPUT MESSAGE FORMAT (CTX-5 AND EARLIER GENERIC PROGRAMS)

```
TC24C
xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx
  •                                                       •
  •                                                       •
  •                                                       •
xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx  xxxx
```

OUTPUT MESSAGE FORMAT (CTX-6 = 8 COUNTS/LINE AND CTX-7 = 10 COUNTS/LINE)

```
TC24C
xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx
  •                                                       •
  •                                                       •
  •                                                       •
xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx
```

EXPLANATION OF MESSAGE

Output message TC24C will appear on the traffic TTY following output message TC24A or TC24B, if, according to input message TC-GENP, the routines have been activated. Fifty counts will print for CTX-5 and lower generic programs. A maximum of 150 counts will print for CTX-6 and later generic programs.

EXPLANATION OF VARIABLE FIELD

xxxx or xxxxxx = will count the following:

(a) Coin zone calls by initial charge condition. The coin zone counts are printed in TC24Z for CTX-6 and later generics programs.

(b) The number of originating calls according to chart column class of service.

(c) The number of times a particular line is found busy.

The counts will be either category a, b, or c or the combination of a or b and c.

Fig. 9—TC24C Output Message Format Explanation (5.02, 8.05)

H6I4-2 (5-76)

GENERAL PURPOSE (GP) RESERVATION
NO. 1 ESS

UNIT District CG-0

PDA ISSUE NO. 016
INSTALL DATE 6-11-76

GP REG	COUNT	SCH.	REG. NO.
000	CZIC		
001	CCCS	H	357
002			358
003			359
004			
005			
006			
007			
008			
009			
010			
011			
012			
013			
014			
015			
016			
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026			
027			
028			
029			
030			
031			
032			
033			
034			
035			
036			
037			
038			
039			
040	SLB	C	300
041		S	301
042			302
043			
044			
045			
046			
047			
048			
049			

GP REG	COUNT	SCH.	REG. NO.
050	OFAP	H	310
051			311
052			312
053			313
054			314
055			315
056			
057			
058			
059			
060			
061			
062			
063			
064			
065			
066			
067			
068			
069			
070			
071			
072			
073			
074			
075			
076			
077			
078			
079			
080			
081			
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085			
086			
087			
088			
089			
090			
091			
092			
093			
094			
095			
096			
097			
098			
099			

GP REG	COUNT	SCH.	REG. NO.
100	Not EQUIPPED		
101			
102			
103			
104			
105			
106			
107			
108			
109			
110			
111			
112			
113			
114			
115			
116			
117			
118			
119			
120			
121			
122			
123			
124			
125			
126			
127			
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131			
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146			
147			
148			
149			

Fig. 10—General Purpose Reservation—Typical Entries (5.04, 5.10, 8.01, 8.03)

The CZIC conditions are automatically assigned.

The following relation exists between general purpose registers and translation Form 1302 and 1303:

TC 24Z (CTX-6) OR GP REG. NO. (CTX-5)	(FORM 1302) CZ CHARGE CONDITION	(FORM 1302) CZ OPR ROUTE INDEX	(FORM 1303) ROUTE INDEX
00	0	0 or 4	0124
01	1		
02	2		
03	3		
04	4		
05	5		
06	6		
07	7		
08	0	1 or 5	0125
09	1		
10	2		
11	3		
12	4		
13	5		
14	6		
15	7		
16	0	2 or 6	0126
17	1		
18	2		
19	3		
20	4		
21	5		
22	6		
23	7		
24	0	3 or 7	0127
25	1		
26	2		
27	3		
28	4		
29	5		
30	6		
31	7		

Fig. 11—Coin Zone Initial Charge Assignment Order (5.04, 6.03, 8.03, 8.05)

GENERAL PURPOSE (GP) ACTIVATION
NO. 1 ESS

UNIT District CG-0

(ACTIVATED VIA N.A. – TTY)

TC – GENP – ab. (a = count b = 1 – ACTIVATE OR 0 – DEACTIVATE)

DATE		COUNT (a)				GENERAL PURPOSE REGISTER NUMBERS
ACTIVATED (b = 1)	DEACTIVATED (b = 0)	CZIC 0	CCCS 1	SLB 2	OFAP 2	
6-7-76	6-11-76		✓			001-017
6-14-76	6-18-76				✓	050-055
6-21-76	6-25-76			✓		040-044
6-28-76	7-2-76	✓				000-031

Fig. 12—General Purpose Activation—Typical Entries (5.10, 5.25, 8.04)

H6I4-4 (5-76)

CHART COLUMN CLASS OF SERVICE (CCCS)
NO. 1 ESS
UNIT District CG-0

NO. = CHART COLUMN NUMBER AND GENERAL PURPOSE REGISTER NUMBER

NO.	CLASS OF SERVICE	SCH_ REG
000		
001	1 PTY Flat	357
002	1 PTY Meas	358
003	Toll Div	359
004		
005	Hotel-Motel	
006	Coin	
007	WATS Band 1	
008	2	
009	3	
010	4	
011	5	
012	6	
013	3 Row DTWX	
014	CENTREX ATT.	
015	↓ UN REST.	
016	CCSA INTER	
017	↓ INTRA	
018		
019		
020		
021		
022		
023		
024		
025		
026		
027		
028		
029		
030		
031		
032		
033		
034		
035		
036		
037		
038		
039		
040		
041		
042		
043		
044		
045		
046		
047		
048		
049		

NO.	CLASS OF SERVICE	SCH_ REG
050		
051		
052		
053		
054		
055		
056		
057		
058		
059		
060		
061		
062		
063		
064		
065		
066		
067		
068		
069		
070		
071		
072		
073		
074		
075		
076		
077		
078		
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080		
081		
082		
083		
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085		
086		
087		
088		
089		
090		
091		
092		
093		
094		
095		
096		
097		
098		
099		

NO.	CLASS OF SERVICE	SCH_ REG
100		
101		
102		
103		
104		
105		
106		
107		
108		
109		
110		
111		
112		
113		
114		
115		
116		
117		
118		
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Fig. 13—Chart Column Class of Service Record—Typical Entries (5.14, 5.17, 8.03, 8.05)

SUBSCRIBER LINE BUSY
(SLB) ASSIGNMENT
NO. 1 ESS

STUDY PERIOD
START 6-14-76
STOP 6-18-76

UNIT District CG-0

(ASSIGNED VIA MTCE – TTY)

TELEPHONE NUMBER	G.P. REG.	SCH C REG.	REMARKS
3-7142	40	300	Hourly
3-8106	41	301	Hourly
2-1036	42	302	Hourly
2-7124	43	—	Daily
3-9128	44	-	Daily

Judy Jones
PREPARED BY

B02-5533
TEL. NO.

6-7-76
ISSUE DATE

Fig. 14—Subscriber Line Busy Assignment—Typical Entries (5.22, 8.03, 8.05)

OFFICE FOREIGN AREA PREROUTE
(OFAP) ASSIGNMENT
NO. 1 ESS

STUDY PERIOD
START 6-1-76
STOP 6-30-76

UNIT District CG-0

(ASSIGNED VIA MTCE – TTY)

RATE CENTER	CODES				G. P. REG.	SCH H REG.	REMARKS
02	411	492			50	310	
00	411	755			51	311	
02	211	492			52	312	
00	211	755			53	313	
02	0-OPER	492			54	314	
00	0-OPER	755			55	315	

Mary Smith
PREPARED BY

B02-5531
TEL. NO.

5-24-76
ISSUE DATE

Fig. 15—Office or Foreign Area Preroute Assignment—Typical Entries (5.32, 7.29, 8.03, 8.05)

OBTAINING GENERAL PURPOSE MEASUREMENTS

MEASUREMENTS AVAILABLE WITH GP REGISTERS	FREQUENCY OF COUNT	TELETYPEWRITER MESSAGES			
		MTCE ASSIGNMENT MESSAGE (NOTE 1)		ACTIVATE MESSAGE (TFFC. OR MTCE TTY)	PRINTOUT (TFFC. TTY)
Coin Zone Initial Charge (CZIC)	Daily	—		TC-GENP-0, 1.	TC24C
	Hourly	RC-TRFREG	—	TC-GENP-0, 1.	(TC24C and H-Schedule) (Note 2)
Chart Column Class of Service (CCCS)	Daily	—	—	TC-GENP-1, 1.	TC24C
	Hourly	RC-TRFREG	—	TC-GENP-1, 1.	(TC24C and H-Schedule) (Note 2)
Subscriber Line Busy (SLB)	Daily	—	RC-OBLIST	TC-GENP-2, 1.	TC24C
	Hourly	RC-TRFREG	RC-OBLIST		H-Schedule
Office and Foreign Area Preroute (OFAP)	Daily	—	RC-DIGTRN	TC-GENP-2, 1.	TC24C
	Hourly	RC-TRFREG	RC-DIGTRN		H-Schedule
Combination of GP Measurements CZIC or CCS and SLB and/or OFAP	Daily	—	—	TC-GENP-0, 1. or TC-GENP-1, 1.	TC24C
	Hourly	RC-TRFREG (Note 3)	RC-OBLIST RC-DIGTRN	—	H-Schedule

Note 1: These messages are not effective until a card-writing procedure has been performed.

Note 2: The TC24C printout will contain meaningless data.

Note 3: Only GP registers not used by CZIC or CCS count may be assigned to SLB and/or OFAP.

Fig. 16—Obtaining General Purpose Measurements (CTX-5 and Lower Generic Programs) (5.39, 8.04)

OBTAINING GENERAL PURPOSE MEASUREMENTS

MEASUREMENTS AVAILABLE WITH GP REGISTERS	FREQUENCY OF COUNT	TELETYPEWRITER MESSAGES			
		MTCE ASSIGNMENT MESSAGE (NOTE 1)		ACTIVATE MESSAGE (TFFC. OR MTCE TTY)	PRINTOUT (TFFC. TTY)
Coin Zone Initial Charge (CZIC)	Daily	—	—	TC-GENP-0, 1.	TC24Z
	Hourly	RC-TRFHC	—	TC-GENP-0, 1.	(TC24Z and H-Schedule) (Note 1)
Chart Column Class of Service (CCCS)	Daily	—	—	TC-GENP-1, 1.	TC24C
	Hourly	RC-TRFHC	—	TC-GENP-1, 1.	(TC24C and H-Schedule) (Note 1)
Subscriber Line Busy (SLB)	Daily	—	RC-TRFSLB	TC-GENP-2, 1.	TC24C
	Hourly	RC-TRFHC	RC-TRFSLB		H-Schedule
Office and Foreign Area Preroute (OFAP)	Daily	—	RC-DIGTRN	TC-GENP-2, 1.	TC24C
	Hourly	RC-TRFHC	RC-DIGTRN		H-Schedule
Combination of GP Measurements — CCS and SLB and/or OFAP	Daily	—	—	TC-GENP-0, 1. or TC-GENP-1,1.	TC24C
	Hourly	RC-TRFHC: (Note 2)	RC-TRFSLB RC-DIGTRN	—	H-Schedule

Note 1: The TC24C printout will contain meaningless data.

Note 2: Only GP registers not used by CCCS count may be assigned to SLB and/or OFAP.

Fig. 17—Obtaining General Purpose Measurements (CTX-6 and Higher Generic Programs) (5.40, 8.04)

OUTPUT MESSAGE FORMAT

TC24Z

```
xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx
xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx  xxxxxx
  •                       •                       •
  •                       •                       •
  •                       •                       •
```

EXPLANATION OF MESSAGE

Output message TC24Z will appear on the traffic TTY following output message TC24A if according to input message TC-GENP, the routine to count coin attempts by initial charge condition has been activated. Up to a maximum of 32 counts will follow the heading TC24Z.

EXPLANATION OF VARIABLE FIELD

xxxxxx = coin zone calls by initial charge condition.

Note: In CTX-6 generic programs, ten counts are printed per line. In CTX-7 generic programs, eight counts are printed per line.

Fig. 18—TC24Z Output Message Format Explanation (6.04)

OUTPUT MESSAGE FORMAT

```
TDR01  DIV OF REV  aaaaaa  bb/bb/bbbb

cccccc   dddddd   eeeeee   ffffff   gggggg   hhhhhh   jjjjjj   kkkkkk
mmmmmm   mmmmmm   mmmmmm   mmmmmm   mmmmmm   mmmmmm   mmmmmm   mmmmmm

nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn
nnnnnn                                                          •
  •                                                             •
  •                                                             •
  •
nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn   nnnnnn
oooooo   pppppp
FINISH
  rr/rr    ss:ss
```

EXPLANATION OF VARIABLE FIELD

aaaaaa	=	Office identifying number
bb/bb/bbbb	=	Date of printout (month/day/year)
cccccc	=	Originating calls peg count
dddddd	=	Total intragroup centrex calls peg count
eeeeee	=	Total originating (interstate) CCSA calls peg count
ffffff	=	Total outgoing (interstate) CCSA calls peg count
gggggg	=	Total through-switched (interstate) CCSA calls peg count
hhhhhh	=	Total originating (intrastate) CCSA calls peg count
jjjjjj	=	Total outgoing (intrastate) CCSA calls peg count
kkkkkk	=	Total through-switched (intrastate) CCSA calls peg count.
mmmmmm	=	Count of completed toll calls or
	=	Number of toll calls carried on trunk groups capable of carrying both local and toll calls (old TC24B)
nnnnnn	=	128 item (eight column by sixteen row) separations peg count matrix. Counts are for the previous 24-hour period (2:30 am to 2:30 am)
oooooo	=	Total number of incoming separation of revenue (INSEP) category errors encountered in translations in previous 24 hours
pppppp	=	Total number of destination separation of revenue (DESEP) category errors encountered in translations in previous 24 hours
rr/rr	=	Present data (month/day)
ss:ss	=	Present time (hours/minutes)

Fig. 19—TDR01 Output Message Format (CTX-8 and Higher Generic Programs) (Sheet 1 of 2) (7.07, 7.36, 8.05)

EXPLANATION OF MESSAGE

Output message TDR01 will appear on the traffic TTY at 2:30 am daily unless the EADAS feature is active. Items cccccc through kkkkkk will always be printed. The remaining lines will appear only under the following conditions:

mmmmmm will appear only if input message TDR-TOLL-ab. has activated one of two routines that count either:

(a) The number of toll calls carried on trunk groups capable of carrying both local and toll calls.

(b) Completed toll calls (talking path established) on certain toll trunk groups.

Either of these routines is limited to making counts on no more than eight trunk groups as specified by input message TDR-UTDP-aaa, bb. The eight counts mmmmmm are therefore either the number of toll calls carried on trunk groups capable of carrying both local and toll calls, or the number of completed toll calls (as requested by input message TDR-TOLL-a,b.) on the trunks specified by the input message TDR-UTDP-aaa,bb.

Items nnnnnn through pppppp will appear only if:

(a) The division of revenue peg count modular package is loaded in the office and is functioning.

(b) Collection of the peg counts has been active (as requested by input message TDR-SEP-ALW.) at least once during the previous 24-hour period (2:30 am to 2:30 am).

Fig. 19—TDR01 Output Message Format (CTX-8 and Higher Generic Programs) (Sheet 2 of 2) (7.07, 7.36, 8.05)

INPUT MESSAGE FORMAT

TDR-TOLL-ab.

EXPLANATION OF MESSAGE

This message is used to request the system to activate or deactivate either of two traffic counts: the toll divisional trunk group, or completed toll/trunk group.

The system activates or deactivates traffic count a. Only one of these counts can be active at a given time; therefore, if a count is attempted while the other count is still active, the system will respond with an NG acknowledgement.

ab = 00 — Deactivate the toll divisional count.
= 01 — Activate the toll divisional count.
= 10 — Deactivate the completed toll count.
= 11 — Activate the completed toll count.

SYSTEM RESPONSES

OK — If the system accepts the request.

NG — If there is a count already active.

INPUT MESSAGES FORMAT

TDR-UTDP-aaa bb.

EXPLANATION OF MESSAGE

This message is used to request the system to enter a trunk group number in a list from which a daily traffic measurement is made, either for toll division or completed toll calls.

The system records trunk group number (TGN) aaa in the daily traffic measurement list at position bb.

aaa = TGN to be entered in list.

bb = Number (00 to 07) used to specify the position in an 8-word list for the TGN to be added to the list.

SYSTEM RESPONSES

OK or NG — If bb is greater than 07.

Fig. 20—Input Message Formats for Division of Revenue (CTX-8 and Higher Generic Programs) (Sheet 1 of 2) (7.23, 8.04)

INPUT MESSAGE FORMAT

TDR-SEP-aaa.

EXPLANATION OF MESSAGE

This message is used to activate or inhibit collection of data in the separations peg count matrix. Data collection will begin immediately upon activation if the division of revenue peg counts modular package is loaded in the office and will continue until a request is received to inhibit collection.

aaa = ALW — Activate collection of data
= INH — Inhibit collection of data

SYSTEM RESPONSES

OK — If the message changes the status of peg count accumulation.

IP — If the request attempted to place peg count accumulation in the state in which it already was, ie, request was INH when status was already INH.

NG — If aaa was neither INH or ALW or if there is no separations matrix, ie, contents of parameter word BGSRCM = 0 then set card DRPC = 0.

NP — If the division of revenue modular package is not in the office.

Fig. 20—Input Message Formats for Division of Revenue (CTX-8 and Higher Generic Programs) (Sheet 2 of 2) (7.23, 8.04)

TOLL DIVISION AND/OR COMPLETED TOLL
NO. 1 ESS

UNIT _____

(ASSIGNED VIA N.A. – TTY)

ASSIGNMENT

CTX-7 (TC-UTDP-aaa, bb.) CTX-8 (TDR-UTDP-aaa, bb.)

ASSIGNMENT DATE	TRUNK GROUP NAME	TGN aaa	LIST LOC. bb	DELETE DATE
			00	
			01	
			02	
			03	
			04	
			05	
			06	
			07	

(DELETE MESSAGE TC — UTDP — 000, bb)

ACTIVATION

ACTIVATION DATE	DEACTIVATION DATE	INPUT MESSAGE	REMARKS

GENERAL PURPOSE (GP) ACTIVATION
NO. 1 ESS

UNIT _____

(ACTIVATED VIA N.A. – TTY)

TC – GENP – ab. (a = count b = 1 – ACTIVATE OR 0 – DEACTIVATE)

DATE		COUNT (a)				GENERAL PURPOSE REGISTER NUMBERS
ACTIVATED (b = 1)	DEACTIVATED (b = 0)	CZIC 0	CCCS 1	SLB 2	OFAP 2	

SUBSCRIBER LINE BUSY
(SLB) ASSIGNMENT
NO. 1 ESS

STUDY PERIOD
START_____
STOP_____

UNIT_____

(ASSIGNED VIA MTCE – TTY)

TELEPHONE NUMBER	G.P. REG.	SCH____ REG.	REMARKS

PREPARED BY _____ TEL. NO. _____ ISSUE DATE _____

OFFICE FOREIGN AREA PREROUTE
(OFAP) ASSIGNMENT
NO. 1 ESS

STUDY PERIOD
START _____
STOP _____

UNIT _____

(ASSIGNED VIA MTCE – TTY)

RATE CENTER	CODES				G. P. REG.	SCH _____ REG.	REMARKS

PREPARED BY

TEL. NO.

ISSUE DATE

H6I4-2 (5-76)

GENERAL PURPOSE (GP) RESERVATION
NO. 1 ESS

UNIT_____

PDA ISSUE NO._____
INSTALL DATE_____

GP REG	COUNT	SCH.	REG. NO.
000			
001			
002			
003			
004			
005			
006			
007			
008			
009			
010			
011			
012			
013			
014			
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016			
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035			
036			
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042			
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044			
045			
046			
047			
048			
049			

GP REG	COUNT	SCH.	REG. NO.
050			
051			
052			
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GP REG	COUNT	SCH.	REG. NO.
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H614-4 (5-76)

CHART COLUMN CLASS OF SERVICE (CCCS)
NO. 1 ESS

UNIT _____

NO. = CHART COLUMN NUMBER AND GENERAL PURPOSE REGISTER NUMBER

NO.	CLASS OF SERVICE	SCH_ REG
000		
001		
002		
003		
004		
005		
006		
007		
008		
009		
010		
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045		
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047		
048		
049		

NO.	CLASS OF SERVICE	SCH_ REG
050		
051		
052		
053		
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064		
065		
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NO.	CLASS OF SERVICE	SCH_ REG
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