DIAL TONE SPEED MEASURING EQUIPMENT
DESCRIPTION AND ASSIGNMENT PROCEDURES
NETWORK SERVICES METHODS

CONTENTS PAGE

CONTENTS PAGE

1. GENERAL

1.01 This section describes dial tone speed (DTS) measuring equipment used in electromechanical offices, eg, No. 5 Crossbar, No. 1 Crossbar, and Step-by-Step offices. Procedures are included for the proper assignment of test lines to this equipment. The three-basic types of DTS equipment described are the Modified Dial Tone Speed Machine, the Synchronous Timer Machine and the Electronic Dial Tone Speed Register (EDTSR). In addition, the All Finders Busy Usage (AFBU) method for deriving equivalent dial tone delay is described. This section does not address other DTS measuring devices obtained from various suppliers. However, test lines for these other devices should be assigned using the same principles that are described in this section.

1.02 When this section is reissued, the reason(s) 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.

2. INTRODUCTION

2.01 The primary purpose of DTS testing is to measure, by means of a simulated call origination, the grade of dial tone service that the office is providing to its assigned customers. The interval being measured is that period from receiver off-hook to the receipt of dial tone. The objective number of DTS tests per hour is 900.

3. MECHANICAL TYPES OF DIAL TONE SPEED MACHINES

A. Modified Dial Tone Speed Machine

Description

3.01 The Modified and Synchronous Timer dial tone speed machines and the EDTSR are recommended DTS measuring devices used for all dial offices (excluding Electronic Switching Systems).

3.02 The modified DTS machine (SD-96403-01) is a vacuum tube machine that has been modified as shown in Fig. 12 of SD-96403-01. Figure 13 of SD-96043-01 must be included for step-by-step installations arranged for common control or TOUCH-TONE service. This unit consists of:

(a) A vacuum tube timing device which can be calibrated to approximately 3 seconds.

(b) One or two 206-type selector switches each having 5 test arcs of 20 terminals which are cabled to a terminal block for cross-connection to selected vacant customer line equipment. This permits a maximum of 100 or 200 test lines. The initial access switch is designated the **A** switch and its arcs are numbered A2 through A6. Similarly, the second switch is designated the **B** switch, and its arcs are designated B2 through B6.

(c) A 206-type selector designated **C**. This selector controls the operation of selectors A and B.

(d) A maximum of five pairs of registers per access switch, one register T (test) of each pair to record test calls, and the D (delay) register to record the number of dial tone delays.

(e) Five or ten hand-operated switches, each switch being associated with a particular access switch arc and having the same designation, ie, **A2**, **A3**, etc. Each of these hand-operated switches has six positions that are numbered one through six. Each of the first five settings (one through five) may have one T (test) register and one D (delay) register associated with it. With the hand-operated switches, test calls from one or more arcs may be recorded on a single pair of registers. Thus, when a loading division extends over more than one arc of a single access switch, the results may be recorded on one pair of registers by setting the rotary selector switches for these arcs to the position corresponding to the designated pair of T and D registers. When the hand-operated switch is set in the sixth position, the test lines in the associated arc are skipped.

(f) Two switches (each with an OFF and ON position) are:

(1) **ST**—Start

(2) **TST**—Test when this key is operated the DTS operates in the normal manner, except that it blocks, indefinitely, if dial tone is not received. After 20 to 30 seconds, a minor alarm is sounded and the DT lamp on the panel lights. This procedure is used to direct attention to trouble conditions, eg, an open terminal or defective line relay.

Note: Care should be taken to ensure that the test key is in the OFF position during all periods when DTS measurements are being taken.

Assignment of Test Lines

3.03 The terminals of the modified and the synchronous timer DTS machines are classified either as assigned or unassigned. Assigned terminals are those connected to test line equipment and those terminals are the only ones on which test calls or delays should be recorded. An unassigned terminal may be either a ***skip*** or a ***dwell***. The machine will stop for 4 seconds on a dwell terminal, but no test or delay registration will be scored. Skip terminals are bypassed without disrupting the 4-second progression, providing the following restrictions in assignments are observed:

(a) Any single terminal of a working arc, except the first or last, may be skipped without restriction. The first terminal may be a working terminal or a dwell; the last terminal may also be a working terminal or a dwell, but is subject to restriction in items (b) and (c).

(b) If two or more adjacent terminals are skipped, the next terminal in the sequence must be a dwell.

(c) In step-by-step offices equipped for TOUCH-TONE service or common equipment, a single unassigned terminal shall be cross-connected to a dwell punching not to a skip. Two or more successive unassigned terminals will follow the rules according to items (a) and (b).

(d) Every unassigned terminal of a working arc must be designated either a skip or a dwell. An open terminal appears as a working line to the DTS circuit and a false dial tone delay would be scored each time the selector reached that terminal. Connection to the ***VT*** lead causes the selector to dwell on the terminal, and connection to the ***VT2*** lead causes the selector to skip that terminal. Dwells should only be used as required to minimize nonproductive DTS tests.

3.04 The machine has the ability to skip an entire arc without reducing the number of tests.

3.05 A typical assignment list is shown in Table A. The following conditions and symbols have been used to illustrate the skip and dwell features for unassigned terminals. The VT signifies a dwell terminal and the VT2 signifies a skip terminal.

(a) The following number of tests and dwells will be made in one cycle based on assignments (Table A):

	TESTS	DWELLS	TESTS PLUS DWELLS
A2	19	0	19
A3	11	0	11
A4	8	1	9
A5	14	0	14
A6	0	0	0
Total	52	1	53

(b) Computation of tests for an observed hour:

53 (tests plus dwells) × 4 (seconds) = 212 seconds on one cycle.

3600 (seconds) ÷ 212 (seconds per cycle) = 16.98 cycles.

16.98 (cycles) × 52 (tests) = 883 tests.

3.06 Computations should be available for each machine and updated at any time that changes or additions are made. The actual performance should be verified each day by comparison to the computed number of tests. The number of tests per individual arc are computed by multiplying the number of assigned terminals for the arc by the expected number of cycles.

3.07 The maximum number of tests for a modified or synchronous timer DTS set is 900 per hour. The number of expected tests will deviate from the maximum depending upon the number of dwell terminals assigned. When dwell terminals are assigned, the expected number of tests cannot be less than 818 per hour. If the expected number of tests is less than 818 per hour, a detailed explanation should be placed on file locally for auditing purposes.

B. Synchronous Timer Dial Tone Speed Machine

Description

3.08 There may be occasions when more than one DTS machine is required to measure certain large offices. In these cases, care should be taken to do the following:

- Avoid splitting a given class of service between machines

- Give preference to assigning the classes of service with the fewer required attachments to the second machine
- Try to assign the attachments to result in obtaining, as closely as practical, the same number of test registrations on each machine
- Use a minimum number of dwells to minimize nonproductive DTS tests.

3.09 The synchronous timer DTS machine consists of the following:

(a) A synchronous timer which maintains a precise 4-second interval between all test calls, and also provides accurate timing of the 3-second dial tone delay test.

(b) One or two 206-type selector access switches, each having 5 test arcs of 20 terminals which are cabled to a terminal block for cross-connection to selected spare subscriber line equipments. This permits a maximum of 100 or 200 test lines. The initial access switch is designated the A switch, and its arcs are numbered A2 through A6, inclusive. Similarly, the second switch is designated the B switch, and its arcs are numbered B2 through B6, inclusive.

(c) A maximum of five pairs of registers per access switch; one register of each pair to record test calls and the other to record the number of dial tone delays.

(d) Five or ten toggle switches; each switch being associated with a particular arc, and having same designation, ie, A2, A3, etc.

(1) Associated with each toggle switch is one test and one delay register. These toggle switches have three positions. When operated in the ***UP*** position, the arc will be tested and the test and delay registers will score. In the ***NEUTRAL*** position, the arc is tested but does not score the test and delay registers. The ***DOWN*** position causes the arc to be skipped.

(2) The association of two or more arcs with the same pair of test and delay registers requires making appropriate cross-connections at the punchings on the unit at the time the assignments are made.

(e) Two switches (each with an OFF and ON position) are:

(1) **ST**—Start

(2) **TST**—Causes circuit to wait for dial tone; when dial tone is not received after 20 to 30 seconds, a minor alarm is sounded and the dial tone alarm lamp will light.

3.10 The assignment of test lines procedures for the synchronous timer DTS machine are the same as those described in paragraphs 3.03 through 3.07.

4. ELECTRONIC DIAL TONE SPEED REGISTER

4.01 The Electronic Dial Tone Speed Register (EDTSR) unit provides an electronically controlled means of measuring DTS. The EDTSR is compatible with all types of electromechanical central offices with line circuits which require loop start or ground start and with coin line circuits.

A. Circuit Description

4.02 The EDTSR (Fig. 1) is of modular design and will accommodate up to 128 unassigned subscriber line equipments on from 1 to 16 line access cards. Each access card contains eight line switches and is divided into two subgroups of four. Each subgroup can be associated with only one class of service (or loading division). There are a total of eight classes of service. A central office may or may not utilize all eight of them. The capability of assigning a subgroup of four line switches to a class of service permits efficient utilization of the EDTSRs line access cards. It also facilitates distribution of a particular class of service over the complete cycle.

4.03 Each subscriber line equipment requires two leads (tip and ring pair) for connection to the EDTSR. The use of a paired lead ensures maintaining the balance of the line. This reduces noise to other lines and also minimizes noise pickup which might interfere with the detection of actual dial tone.

4.04 The line sequencer scans the line access circuit for line switches assigned to line equipment and causes the line access circuit to initiate tests in a predefined order.

4.05 The EDTSR has a preset calling rate of 225, 450, 600, and 900 calls per hour programmed into it via cross-connections on the master clock circuit rack. This preset rate will originate a test call at

either 16, 8, 6, or 4 seconds, respectively. These rates were developed to minimize equipment wear and the amount of common control capacity used, while maintaining the statistical accuracy of the sample results. However, the objective number of DTS tests per hour is 900.

4.06 The EDTSR has nine pairs of outputs. One pair is dedicated to Total Calls Overall and Delayed Calls Overall. Each of the remaining output pairs may be associated with one of the eight classes of service.

4.07 The EDTSR can be activated manually at the EDTSR line sequencer circuit pack or automatically from the Traffic Usage Recorder (TUR) Timer, Program Timer (with required connections), or an electronic data gathering system such as the Engineering and Administrative Data Acquisition System (EADAS).

B. Dial Tone Detection

4.08 During the first 800 milliseconds (ms) of each test call, the EDTSR makes three line integrity tests. When the test call has successfully passed the three integrity checks, the test proceeds as follows:

(a) ***Tone Present:*** With no failure detected during the first 800 ms, the EDTSR assumes that any tone subsequently sensed by the dial tone detector is valid dial tone. Once a tone is detected, a 100-ms time out is started. When completed, the EDTSR will release the line equipment, (so as to minimize the holding time [loading] of the central office equipment). The dial tone detector stores in its memory the fact that dial tone was present and at the end of 3 seconds, the EDTSR interrogates it to determine this fact. At this point, the test call outputs associated with this line (total and class of service) will be pulsed.

(b) ***Tone Not Present:*** If dial tone is not detected within 3 seconds, the TEST CALL and DELAYED CALL outputs associated with this line (total and class of service) will be pulsed. The above pulses may be used to operate hardware registers and/or software equivalents.

4.09 ***Line Sequention:*** The line sequencer scans the line access cards to locate the next assigned line switch in the sequence. The line switch sequence is arranged in a predefined order (see order outlined in Table B). The sequencer will automatically skip unassigned line switches (inputs) that have been strapped on the line access board. The sequencer will also skip positions which do not have access cards installed or from which the cards have been pulled out. After testing all of the number '0' line switches on each access card available, the sequencer then tests all of the number '1' line switches, and then '2', '3', '4', etc, until all of the assigned switches and cards have been tested. The sequencer then starts over again at line switch number '0' on access card number '00'. There must always be a line equipment assigned to line switch number '0', access card number '00'. At 800 ms after the beginning of the line scanning, the next assigned line equipment is seized. A test call is made and upon its completion, the order of events is repeated (scan-seize-test-complete, etc).

4.10 ***Connections:*** The designation card (Fig. 2) shows which subscriber line equipment is connected to what line access card and line number on that card. If a line number on an access card is not assigned a line circuit, this should be noted in the appropriate column on the card. The class of service for each subgroup should also be entered on the card. When ground start is required, it should show on the card which subgroups require such a connection.

C. Assignment of Test Lines

4.11 The EDTSR may be equipped with from 1 through 16 line access cards numbered 00 through 15. Each access card contains eight line switches numbered zero through seven, and is divided into two subgroups of four. Each line switch can be associated with one subscriber line equipment, or a multiple of a subscriber line equipment. Each subgroup of four line switches can be associated with only one class of service. There are a total of eight classes of service and one or all of them can be used for an entity as required.

4.12 A line equipment must always be assigned to line access card 00 line switch 0. The line sequencer starts scanning at this point and scanning cannot begin if this line switch position is unassigned.

4.13 Where ground start is required, it should be indicated on the form used for line assignment.

4.14 Unassigned line switches on installed access cards require strapping per SD-3B504-01,

cross connect note 401, to indicate they are not to be tested. Unassigned line switches should be indicated on the form used for line assignment. (See Fig. 3 for an example of an assignment form.)

5. TEST LINE REQUIREMENTS

5.01 The following applies to each type of DTS measuring device and indicates the minimum number of test line assignments for each class of service:

(a) Step-by-Step:

One line group—One line equipment assigned to three DTS terminals

Two line groups—One line equipment assigned to two DTS test terminals per line group

Three line groups—One line equipment assigned to one DTS test terminal per line group

(b) Crossbar:

Small offices—Two DTS test terminals per line link frame (less than 11 line link frames)

Large offices—One DTS test terminal per line link frame (11 line link frames or more).

A. No. 5 Crossbar Offices With 100 Percent Dial Pulse or 100 Percent TOUCH-TONE Service

5.02 Locations of test lines on frames should be chosen to minimize distortion of DTS results due to preference by the common equipment to certain line locations. Therefore, care should be taken to assign test lines in a manner to represent, as equally as possible, the various vertical groups, vertical files, and horizontal groups.

5.03 A proportionate number of these line equipments must be selected from the A, B, and C line load control vertical groups. This is done to properly measure the service at all times, including those unusual periods when line load control or local overload announcement is in effect.

5.04 For No. 5 crossbar offices having some paired and some nonpaired line link frames, there may be occasions when engineering or administrative requirements necessitate assignment of test lines to separate arcs on the DTS machine.

5.05 In No. 5 crossbar with a separate group of originating registers for dial tone first, it will be necessary to assign a proportionate number of dial tone first vertical groups to a separate arc on the DTS machine.

B. No. 5 Crossbar Offices With Dial Pulse and Dial Pulse-TOUCH-TONE Service Vertical Groups or Segregated Line Link Frames

5.06 In addition to considerations outlined in paragraphs 5.02 through 5.05, it is necessary to assign a proportionate number of dial pulse (DP) and DP-TOUCH-TONE service vertical groups to separate arcs on the sychronous timer DTS machine or separate classes of service on the EDSTR. This allows the traffic engineer to obtain DTS data on each type of equipment provided. These assignments need to be selected carefully to provide a representative service condition, ie, if 10 percent of the vertical groups are equipped for combined DP-TOUCH-TONE service, then 10 percent of the test terminals should be selected from these vertical groups. Likewise, a proportionate number of essential lines should be represented. The entity DTS results are weighted by means of the originating register peg counts.

5.07 The network administrator should review the DTS assignments frequently to ensure that DP and DP-TOUCH-TONE service vertical groups are being measured proportionately.

5.08 If DP and TOUCH-TONE service are segregated by line link frame, then a proportionate number of test lines must be assigned to each group (ie, DP or TOUCH-TONE service) of the line link frames.

5.09 A separate record of DP and DP-TOUCH-TONE service DTS results should be maintained for local engineering and administrative purposes.

5.10 Lines with rate treatments which require a reversal of polarity must not be assigned for DTS testing.

C. No. 5 Crossbar Offices With Local Overload Announcement

5.11 It is necessary to preserve a normal distribution of DTS test lines and still obtain a realis-

tic measure of DTS performance when the Local Overload Announcement (LOA) feature is activated. Since the DTS equipment will recognize a connection to an announcement trunk as dial tone, it is necessary to restrict assignment of test lines to ***excluded*** vertical groups. Therefore, it is recommended that a minimum of three vertical groups be excluded from access to the LOA trunks. These verticals include vertical group 02, a selected odd-numbered vertical group, and a selected even-numbered vertical group. The latter two vertical groups are needed to give a representative sample of B and C line load control vertical groups. These three vertical groups must provide test line terminations having access to both TOUCH-TONE service and DP originating registers.

5.12 The ratio of TOUCH-TONE service to DP test lines should closely approximate the office ratio of TOUCH-TONE service vertical groups to DP vertical groups. It is necessary to assign test lines representatively throughout horizontal groups zero through nine. These requirements assume that the TOUCH-TONE service vertical group pattern varies throughout the office. For example, the Alpha office has fifteen 490 size line link frames (LLFs) with the following provisions:

- The LLF 00 through 08 has vertical groups 01, 02, and 05 arranged for TOUCH-TONE service.
- The LLF 09 through 14 has vertical groups 01, 03, and 04 arranged for TOUCH-TONE service.
- The LLF 00 through 14 has vertical group 02, 03, and 04 excluded from LOA.

5.13 Following are the Alpha office assignments for TOUCH-TONE service by LLF, vertical group (VG), and horizontal group (HG):

LLF	VG	HG
08	02	0
10	03	8
11	03	9
12	04	1
13	04	2
14	04	3

5.14 Following are the rotary service assignments for the Alpha office:

LLF	VG	HG
00	03	0
01	03	1
02	03	2
03	03	3
04	03	4
05	04	5
06	04	6
07	04	7
09	02	5

5.15 The assignment of DTS test lines requires careful attention to ensure representative sampling under the various conditions imposed. Therefore, it is suggested that the facilities and network administration groups coordinate their assignment effort when LOA is provided.

D. No. 1 Crossbar Offices With 100 Percent Dial Pulse or 100 Percent TOUCH-TONE Service

5.16 When assigning DTS test lines in No. 1 crossbar offices, the location of the lines should be chosen to minimize distortion of DTS results due to preference by the common equipment to certain line locations. The network administrator should assign test lines in a way that represents as equally as possible, the various columns, vertical files, and horizontal groups. When synchronous timer DTS equipment is used, coin lines should be assigned to arcs three and six of access switch A.

5.17 For No. 1 crossbar offices equipped with dial tone first coin lines, assign a proportionate number of dial tone first and nondial tone first coin lines to the same arc (modified or synchronous timer DTS machine) or to one class of service with a EDTSR machine. It is not necessary to separate these services for service observing purposes.

5.18 A proportionate number of line equipments must be selected from the A, B, and C line load control horizontal groups. This assures proper measurement of the service at all times, including those unusual periods when line load control is in effect.

E. No. 1 Crossbar Offices With Dial Pulse and Dial Pulse-TOUCH-TONE Service Horizontal Groups

5.19 In addition to the considerations outlined in paragraphs 5.16 and 5.17, it is necessary to assign a proportionate number of DP and DP-TOUCH-TONE service line equipment from the two types of horizontal groups, to separate arcs (modified or synchronous DTS machine) or separate classes-of-service (EDTSR machine). For example, in a 40-link frame office with two horizontal groups arranged for TOUCH-TONE calling, eight line equipments located in the TOUCH-TONE service horizontal groups and 32 in the DP horizontal groups would be assigned to separate arcs (modified or synchronous timer machine) or class of service (EDTSR).

5.20 A separate record of DP and DP-TOUCH-TONE service DTS results is normally required for engineering and administration purposes.

F. Step-by-Step Offices With Dial Pulse and Dial Pulse-TOUCH-TONE Service Line Finder Groups

5.21 It is recommended that test lines be assigned to rotary positions on the line finder banks which will give an average hunting time. To achieve this, assign approximately one-third of the test lines for each loading division to terminal one, one-third to terminal five, and one-third to terminal zero in upper and lower banks of the line finder groups.

5.22 Where line finders are arranged for line load control, test lines should be assigned proportionately between terminals arranged for essential and nonessential lines. This will help ensure accurate measurement of service at all times, including those unusual periods when line load control is in effect.

5.23 For step-by-step offices having different size line finder groups within the same class of service, there may be occasions when engineering or administrative requirements necessitate assignment of test lines to separate arcs on the DTS machine (modified or synchronous timer machine).

5.24 It is necessary to assign a proportionate number of DP and DP-TOUCH-TONE service line equipments from the two types of line finder groups to separate arcs (modified or synchronous timer machine) or separate classes of service (EDSTR). In offices equipped with tone converters on a noncommon control basis, line finder groups equipped with converters should not be treated as separate classes of service. This is regardless of the method of providing TOUCH-TONE service (ie, common control or tone converters).

5.25 A separate record of DP and DP-TOUCH-TONE service DTS results are normally required for local engineering and administrative purposes.

5.26 The offices equipped with common equipment must assign coin lines to arc two of access switch A or B (modified or synchronous timer machine).

G. Step-by-Step Offices With 100 Percent Dial Pulse Service

5.27 In addition to considerations listed in paragraphs 5.21 through 5.25, when an office provides 100 percent dial pulse service, coin lines are assigned to arcs from three through six of access switch A.

6. ALL FINDERS BUSY USAGE METHOD

6.01 Some small step-by-step offices use the All Finders Busy Usage (AFBU) method for deriving an equivalent DTS measurement. This method can be used in noncommon control step-by-step offices.

6.02 The AFBU method is based on the principle that when all line finders in a line finder group are busy, any further bids for dial tone will very likely result in delays exceeding 3 seconds. The AFB register lead (OF lead of the Group and Alarm Relay Circuit SD-32194-01) provides a busy indication when all line finders of a group are busy. This AFB register is scanned by a scanning device, eg, the Small Office Data System (SONDS) or an EADAS Traffic Data Converter (ETDC), to produce AFBU delays. Dial tone delay is determined by dividing the busy delays by the theoretical tests (scans). Actual scan counts should be used where available. For example: the AFBU register for a line finder group scores 18 delays as collected at a 3.6 second scan rate. Using the following list of scan rates locate 3.6. This scan rate equates to 1000 scans per hour.

Secs/Hr	÷	Scan Rate	=	Scans/Hr
3600		1.8		2000
3600		3.6		1000
3600		10.0		360
3600		100.0		36

For this example the dial tone delay is 18 ÷ 1000 or 1.8 percent.

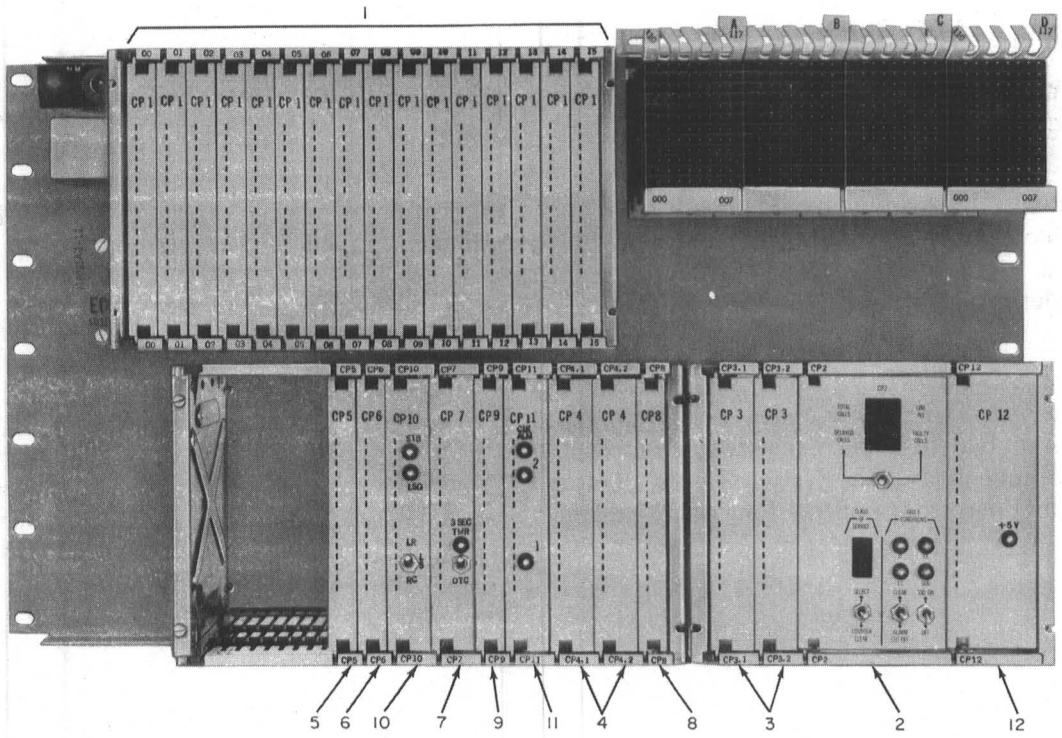
6.03 To determine loading division results, the line finder group delays are averaged and divided by the number of scans. (Scans will be the same for all line finder groups in the measuring unit.)

6.04 When using SONDS, a monthly report (Fig. 4) is produced which provides a measure of the total office equivalent Time Consistent Busy Hour (TCBH) dial tone delay. (See Section 226-020-151 for SONDS TCBH percentage of dial tone delay calculations.)

6.05 For validation purposes if the actual scans per hour figure varies by ±3 percent from the theoretical, the data should not be used for results reporting.

6.06 In offices equipped with an ETDC, the validation required is an ETDC cycle count of 36. When using the ETDC multiscan usage card, the 1.8 second scan rate is recommended for all EADAS applications. The theoretical scan count should be used for dial tone delay computation.

6.07 The DTS data are analyzed for 5 days per week. While the 5 days are generally weekdays, SONDS and the ETDC provide the user with the ability to specify Saturday, Sunday, or both days in place of weekdays. This provision allows the proper measurement of service loads in offices located in resort areas or similar locations where weekend traffic is heavier than weekday traffic.



1. CP1 — Line Access Board
2. CP2 — Display Circuit Board (Maintenance Panel)
3. CP3 — Output Relay Board
4. CP4 — Cutoff Relay Circuit Board
5. CP5 — Class of Service Output, Idle Line Concentrator, and Loop Current Concentrator Board
6. CP6 — Program Bit Concentrator Board
7. CP7 — DIAL Tone Detector Timer Circuit
8. CP8 — Faulty Line Register and Faulty Call Counter Board
9. CP9 — Test Call and Delay Counter Board
10. CP10 — Line Sequencer Circuit Board
11. CP11 — Master Clock Circuit Board
12. CP12 — DC to DC converter Board

Fig. 1—Electronic Dial Tone Speed Register Unit (4.02)

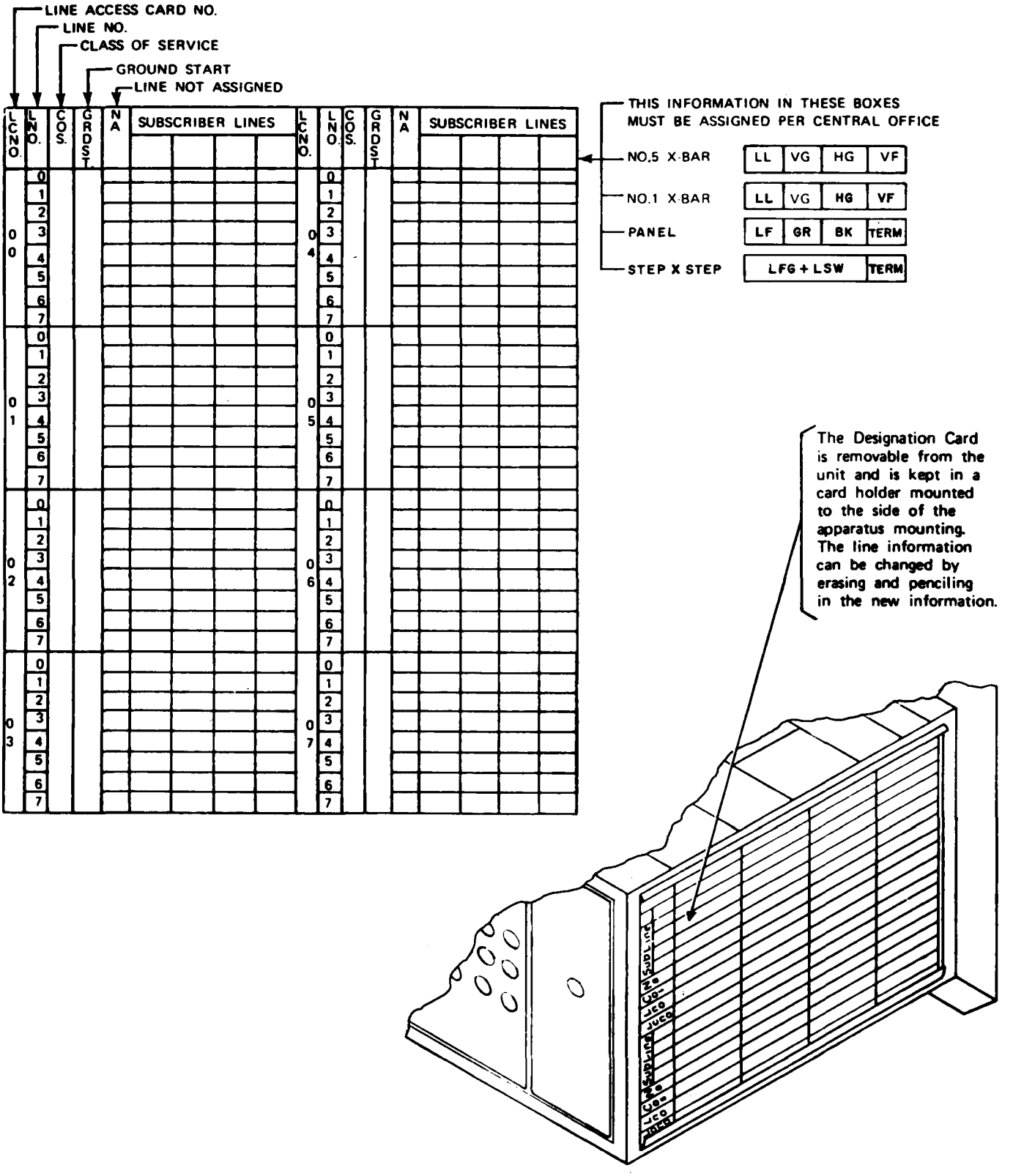


Fig. 2—Designation Card (Sheet 1 of 2) (4.10)

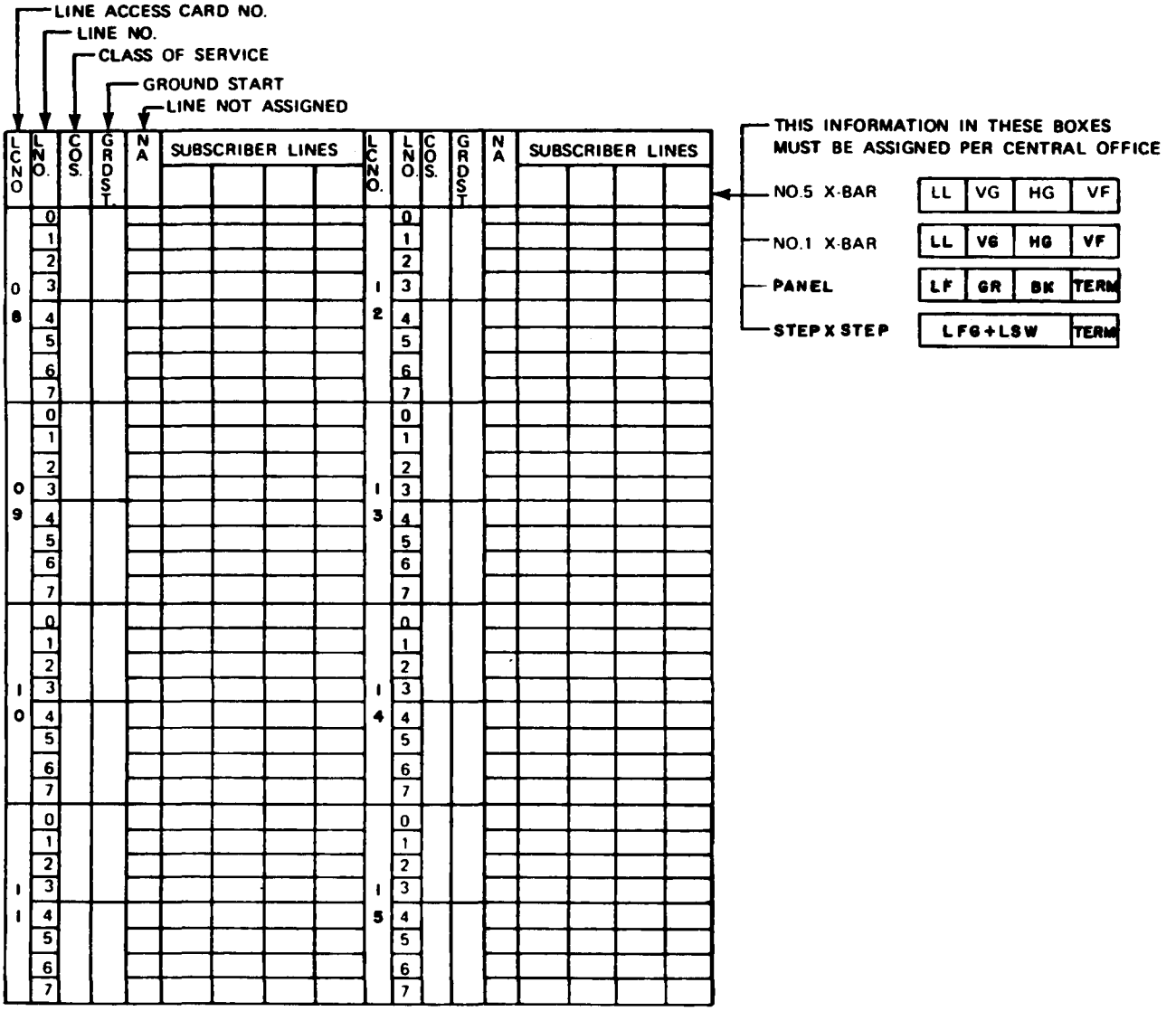


Fig. 2—Designation Card (Sheet 2 of 2) (4.10)

DIAL TONE SPEED ASSIGNMENTS
ELECTRONIC DIAL TONE SPEED REGISTER CIRCUIT

ENTITY_____

TYPE CENTRAL OFC._____

PROJECT NO._____

TEST CALL RATE

☐ 900@ 4 SEC ☐ 450@ 8 SEC

☐ 600@ 6 SEC ☐ 225@ 16 SEC

LINE ASSIGNMENTS

LINE ACCESS CARD NO	LINE SW NO	CLASS OF SERV	OUT PUT TERM PAIR	GRD ST	UNASSND	LINE EQPT LOC: LLF LLF LG LFG	LINE EQPT LOC: VG COL BK TERM	LINE EQPT LOC: HG SW TERM	LINE EQPT LOC: VF V
00 OR 08	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
01 OR 09	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
02 OR 10	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
03 OR 11	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								

LINE ACCESS CARD NO	LINE SW NO	CLASS OF SERV	OUT PUT TERM PAIR	GRD ST	UNASSND (NOTE)	LINE EQPT LOC: LLF LLF LG LFG	LINE EQPT LOC: VG COL BK TERM	LINE EQPT LOC: HG SW TERM	LINE EQPT LOC: VF V
04 OR 12	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
05 OR 13	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
06 OR 14	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
07 OR 15	0								
	1								
	2								
	3								
	4								
	5								
	6								
	7								

REGISTER ASSIGNMENTS

CLASS OF SERV	TOTAL																	
OUTPUT TERM. PAIR	00 T	00 D	01 T	01 D	02 T	02 D	03 T	03 D	04 T	04 D	05 T	05 D	06 T	06 D	07 T	07 D	08 T	08 D
REGISTER NUMBER OR SOFTWARE EQUIV.																		

NOTE: STRAP ALL UNASSIGNED LINE SWITCHES PER SD 3B504-01 CROSS CONNECT NOTE 401.

Fig. 3—Example of Form for Recording Dial Tone Speed Assignments (4.14)

TABLE A

DIAL TONE SPEED MEASURING EQUIPMENT ASSIGNMENT STEP-BY-STEP ENTITY ROTARY SERVICE (NOTES)

ACCESS SWITCH A					
TEST TERMINAL	A2	A3	A4	A5	A6
1	1-15	20-00	160-11	36-15	
2	2-20	VT2	VT2	37-20	
3	3-31	21-11	161-20	38-31	
4	4-45	VT2	VT2	39-45	
5	5-50	22-25	162-101	40-50	
6	6-61	VT2	VT2	41-61	
7	7-75	23-30	163-115	42-70	
8	8-80	VT2	VT2	43-115	
9	9-91	24-41	VT2	VT2	
10	10-100	VT2	VT2	44-121	
11	11-115	25-55	VT2	VT2	
12	12-121	VT2	VT2	45-135	
13	13-135	26-60	VT	VT2	
14	14-140	VT2	160-30	46-140	
15	15-151	27-71	VT2	VT2	
16	16-165	VT2	161-41	47-151	
17	17-170	28-95	VT2	VT2	
18	18-181	VT2	162-125	48-165	
19	VT2	29-90	VT2	VT2	
20	19-195	35-101	163-120	49-170	
CLASS OF SERVICE	FR (14 SIZE)	FR (14 SIZE)	CN	FR (15 SIZE)	—
Register T	375	375	377	379	—
Assignment D	376	376	378	380	—
Hand Switch	A2-1	A3-1	A4-2	A5-3	A6-6

SUMMARY:	TERMINALS ASSIGNED				ESSENTIAL		
CLASS OF SERVICE:	1	5	0	TOTAL	CLASS	NUMBER	PERCENT
FR (14)	10	10	10	30	A	5	10
FR (15)	4	5	5	14	B	23	44
CN	3	2	3	8	C	24	46
Total	17	17	18	52		52	100

Notes: (1) Terminals numbered 10 and 110 are not assignable.

(2) Line Load Control Assignment

10% Class A, 45% Class B, and 45% Class C.

(3) Order Assignment

50% upper order terminals, 50% lower order terminals.

(4) In step-by-step offices equipped for TOUCH-TONE service or common control, coin lines must be assigned to arc 2 of selector "A" or "B".

TABLE B

LINE CIRCUIT SEQUENCING ORDER