NO. 5 CROSSBAR OFFICES
THROUGH AND TERMINAL BALANCE
ADMINISTRATION AND RECORDS

CONTENTS PAGE

1. GENERAL

1.01 Through and terminal balance in an office may be affected by changes in office cabling, resulting from equipment rearrangements or additions, as well as by changes in the assignment of equipment or facilities. Comprehensive records of the balance measurements in class 4 and higher-ranking toll switching offices should be initiated, maintained, and administered as an aid to analyzing balance conditions or survey results and initiating corrective actions concerning the balance within an office. This section specifies the forms for recording balance measurements and provides a suggested method for organization. These office records should be kept up to date as new balancing tests are made for any activities which affect balance.

1.02 The records should provide entries for all phases of the balancing processes. They should be in a form that is readily updated whenever existing trunks are rearranged or when new trunks are added. Consolidation of the records into a manageable package will simplify their administration.

1.03 The initial balancing efforts for a given office should include establishment of the office balance record. In those cases where office balance has already been completed and records established, the records should contain all information required in this section. In some cases it may be advantageous to reorganize these records to the suggested format (see Fig. 1 through 18).

2. OFFICE BALANCING RECORDS AND FORMS

A. General

2.01 The following paragraphs describe a standard arrangement of records for balance and the

use of forms E-6001, E-6002, E-6003, E-6004, E-6005, and E-6006.

2.02 Balance records in an office should be organized in a binder(s) labeled THROUGH and/or TERMINAL BALANCE RECORD. In addition to containing a complete record of balance test results, the binder(s) should include complete administrative instructions for performing balancing work with cross-referencing to all applicable sections of the practices covering the various tests required. A sample binder arrangement is contained in this section and will prove useful as a guide to establishing and maintaining a complete self-contained single record of all balancing information pertaining to a No. 5 crossbar office.

2.03 The required balance measurements, performed as part of circuit order work and recorded on Form E-2545A as specified in Section 660-450-010, should be transcribed onto the record forms used.

B. Purpose of Forms

2.04 The preparation and use of the record forms are intended for the purposes indicated in the following paragraphs:

(a) Form E-6001—THROUGH AND TERMINAL BALANCE OFFICE RECORD—INDEX

The index sheet lists, in sequence, the procedure used and any related testing information required for balancing work. A separate index is required for each section of the Through and/or Terminal Balance Record binder.

(b) Form E-6002—MEASUREMENTS OF NETWORK BUILDING-OUT CAPACITANCE

This form provides a permanent record of sampling tests taken to determine the office NBO value. It identifies all paths tested and includes a record of the actual capacitance value measured for each path. This information is retained for future reference and is used when considering major office rearrangements and/or changes. This form is required when initially balancing an office and copies of it should be forwarded to the transmission engineer, per local instruction, for review in the selection of the office NBO.

(c) Form E-6003—RECORD OF THROUGH BALANCE TESTS—INTERTOLL TRUNKS

This form is used when general-use portable test equipment is used rather than the KS-20501 return loss measuring set (RLMS) or equivalent. It provides a permanent record of all through balance measurements and build-out capacitor adjustments.

(d) Form E-6004—RECORD OF THROUGH BALANCE TESTS—INTERTOLL TRUNKS

This form is used when the KS-20501 RLMS or equivalent is used rather than the general-use portable test equipment. It provides a permanent record of all through balance measurements and build-out capacitor adjustments.

(e) Form E-6005—RECORD OF TERMINAL BALANCE TESTS ON TOLL CONNECTING TRUNKS

This form is used when general-use portable test equipment is used rather than the KS-20501 RLMS or equivalent. It provides a permanent record of all terminal balance measurements and build-out capacitor adjustments.

(f) Form E-6006—RECORD OF TERMINAL BALANCE TESTS ON TOLL CONNECTING TRUNKS

This form is used when the KS-20501 RLMS or equivalent is used rather than the general-use portable test equipment. It provides a permanent record of all terminal balance measurements and build-out capacitor adjustments.

C. Centralization of Record and Forms

2.05 The binder arrangement of the Through and/or Terminal Balance Record forms will ensure that all office balance record forms described above are kept in a central file. This binder should be divided into six sections to be identified as follows:

SECTION I—General Information

SECTION II—Testing Arrangements

SECTION III—Office NBO

SECTION IV—Primary Intertoll Trunks

SECTION V—Secondary Intertoll Trunks

SECTION VI—Toll Connecting Trunks.

2.06 Figure 1 shows in detail a binder outline and illustrates the application of the forms, procedures, and miscellaneous information in the various sections of the binder.

2.07 Each section covers a certain aspect of the balancing work and should be complete in itself, having its own index and page numbering sequence.

2.08 A Form E-6001 index sheet at the beginning of each section should list a description of all items included and assign a subpart letter (A, B, C, etc) and page number, as appropriate.

2.09 Pages taken from appropriate methods sections showing the balance test procedures may be inserted in each section subpart appearing in the index sheet. A Form E-6002 is prepared when an office is initially balanced. An entry on a Form E-6003, E-6004, E-6005, or E-6006 should also be completed for each access or completing path of each trunk group on inital balance. Entries on those forms will be added to or changed as a result of new balance measurements that are made as part of circuit order work tests or surveys. These pages and forms become a part of the binder section and are given a page number following the procedure for the particular test involved.

D. Preparation and Use of Forms

E-6001—THROUGH AND TERMINAL BALANCE OFFICE RECORD—INDEX

2.10 Form E-6001, shown in Fig. 2, 4, 8, 10, 13, and 16 is for use in all sections of the Through and/or Terminal Balance Record binder. A separate form should be prepared for each section of the binder.

2.11 Each index sheet should list in a logical sequence in the "Description" column the various informative items and procedure steps for the balancing work items covered in the section. Each entry in the "Description" column should be assigned a section part identity using an alphabetical sequencing. Each page of a section part should be sequentially numbered and the total number of pages entered in the pages column of the index sheet.

E-6002—MEASUREMENTS OF NETWORK BUILDING-OUT CAPACITANCE

2.12 Form E-6002, shown in Fig. 9, is for use in Section III of the Through and/or Terminal Balance Record binder. The form is prepared and completed as follows:

OFFICE—Office name.

INTERTOLL TRUNK (OR TEST HYBRID CIRCUIT)—Name and number of IT trunk or balance test circuit used in test. Number of 4WTS assigned to IT trunk or balance test circuit.

FINAL NBO CAPACITANCE—The value of NBO capacitance in the office as determined by procedures in Section 660-472-500.

CONNECTING TRUNK—Name and number of trunk connected to IT trunk or balance test circuit when measurement is made.

MEASURED NBO CAP. REQUIRED (IN μF)—Measurement values on connections incoming from IT, machine switched or via switchboard. Measurement values on connections outgoing to IT, machine switched or via switchboard.

E-6003—RECORD OF THROUGH BALANCE TESTS—INTERTOLL TRUNKS

2.13 Form E-6003 is used when balance tests are made with general-use portable test equipment (as described in Section 660-472-504). This form, shown in Fig. 11 and 14, is for use in Sections IV and V, respectively, of the Through and/or Terminal Balance Record binder. The form is prepared and completed as follows:

OFFICE—Office name.

TRUNK GROUP—Common language identification less trunk number.

TEST NUMBER—Information obtained from Section 660-472-300.

PATH TESTED—Check in appropriate block to indicate trunk path tested for all trunks listed in Column A.

Note: Trunks having more than one path should be entered on a separate Form E-6003 for each path tested. For instance, a 2-way IT trunk is listed on one form when the incoming path is tested and on another form when the outgoing path is tested.

COLUMN A—Trunk number portion of common language identification number.

COLUMN B—Value of trans-hybrid loss (THL) calibration figure as determined in procedures described in Section 660-472-504.

COLUMN C—Value of measurement obtained in performance of applicable procedure of Section 660-472-501.

COLUMN D—Value of B minus C.

COLUMNS E AND F—Requirements obtained from Section 660-472-300.

COLUMN G—Actual measurement of SP made with applicable procedure of Section 660-472-501.

COLUMN H—1-kHz THL as determined in calibration procedure of Section 660-472-504.

COLUMN I—Value of G minus H.

COLUMNS J AND K—Requirements obtained from Section 660-472-300.

COLUMN L—Value of DBO capacitance strapped into trunk (when required).

COLUMN M—Date test made.

COLUMN N—Information notes or remarks.

E-6004—RECORD OF THROUGH BALANCE TESTS—INTERTOLL TRUNKS

2.14 Form E-6004 is used when balance tests are made with the KS-20501 RLMS or equivalent (as described in Section 660-472-504). This form, shown in Fig. 12 and 15, is for use in Sections IV and V of the Through and/or Terminal Balance Record binder. The form is prepared and completed as follows:

OFFICE—Office name.

TRUNK GROUP—Common language identification less trunk number.

TEST NUMBER—Information obtained from Section 660-472-300.

PATH TESTED—Check in appropriate block to indicate trunk path tested for all trunks listed in Column A.

Note: Trunks having more than one path should be entered on a separate Form E-6004 for each path tested. For instance, a 2-way IT trunk is listed on one form when the incoming path is tested and on another form when the outgoing path is tested.

COLUMN A—Trunk number portion of the common language identification number.

COLUMN B—Value of THL calibration figure as determined in procedures described in Section 660-472-504.

COLUMN C—Value of ERL measurement made with appropriate procedure from Section 660-472-501.

COLUMN D—Value of SRL measurement made with appropriate procedure from Section 660-472-501.

COLUMN E—Value of SRL HI measurement made with appropriate procedure from Section 660-472-501.

COLUMNS F, G, H, and I—Requirements obtained from Section 660-472-300.

COLUMN J—Value of DBO capacitance strapped into trunk (when required).

COLUMN K—Date test made.

COLUMN L—Information notes or remarks.

E-6005—RECORD OF TERMINAL BALANCE TESTS ON TOLL CONNECTING TRUNKS

2.15 Form E-6005 is used when tests are made with general-use portable test equipment (as described in Section 660-472-504). This form, shown in Fig. 17, is for use in Section VI of the Through and/or Terminal Balance Record binder. The form is prepared and completed as follows:

OFFICE—Office name.

TRUNK GROUP—Common language identification less trunk number.

TEST NUMBER—Information obtained from Section 660-472-301.

PATH TESTED—Check in appropriate block to indicate trunk path tested for all trunks listed in Column A.

Note: Trunks having more than one path should be entered on a separate Form E-6005 for each path tested. For instance, a 2-way trunk is listed on one form when the incoming path is tested and on another form when the outgoing path is tested.

COLUMN A—Trunk number portion of common language identification number.

COLUMN B—EML from TCLR card.

COLUMNS C AND D—AML in direction indicated.

COLUMN E—Value of THL calibration figure as determined in procedures described in Section 660-472-504.

COLUMN F—Actual measurement obtained in applicable procedure of Section 660-472-502.

COLUMN G—Value of E minus F.

COLUMNS H AND I—Requirements obtained from Section 660-472-301.

COLUMN J—Value of SP measurement made with applicable procedure in Section 660-472-502.

COLUMN K—Value of THL calibration figure as determined in procedures described in Section 660-472-504.

COLUMN L—Value of J minus K.

COLUMNS M AND N—Requirement obtained from Section 660-472-301.

COLUMN O—Date test made.

COLUMN P—Value of DBO capacitance strapped into trunk (when required).

COLUMN Q—Information notes and remarks.

E-6006—RECORD OF TERMINAL BALANCE TESTS ON TOLL CONNECTING TRUNKS

2.16 Form E-6006 is used when tests are made with the KS-20501 RLMS or equivalent (as described in Section 660-472-504). This form, shown in Fig. 18, is for use in Section VI of the Through and/or Terminal Balance Record binder. The form is prepared and completed as follows:

OFFICE—Office name.

TRUNK GROUP—Common language identification less trunk number.

TEST NUMBER—Information obtained from Section 660-472-301.

PATH TESTED—Check in appropriate block to indicate trunk path tested for all trunks listed in Column A.

Note: Trunks having more than one path should be entered on a separate Form E-6006 for each path tested. For instance, a 2-way trunks is listed on one form when the incoming path is tested and on another form when the outgoing path is tested.

COLUMN A—Trunk number portion of common language identification number.

COLUMN B—EML from TCLR card.

COLUMNS C AND D—AML in directions indicated.

COLUMN E—Value of ERL measurement made with appropriate procedure from Section 660-472-502.

COLUMN F—Value of SRL measurement made with appropriate procedure from Section 660-472-502.

COLUMN G—Value of SRL HI measurement made with appropriate procedure from Section 660-472-502.

COLUMNS H, I, J, AND K—Requirements obtained from Section 660-472-301.

COLUMN L—Value of DBO capacitance strapped in the trunk (when required).

COLUMN M—Date test made.

COLUMN N—Information notes and remarks.

3. ADDITIONAL RECORD INFORMATION

3.01 The progressive steps of doing balancing work must follow a logical sequence and must produce a permanent record complete enough to be usable for any subsequent testing. In the following paragraphs, some considerations are given as an aid in the preparation of balancing records and in planning and doing balancing work.

3.02 Information that could be included in Section I of the balance record binder is as follows:

(a) A schematic of the traffic flow pattern showing all the various switching paths through the office (see Fig. 3);

(b) An inventory by SD number of trunks listing all intertoll, toll connecting, and miscellaneous trunks as related to the traffic flow schematic described in (a) above and including information such as quantity, bay locations, drawing numbers, provision of building-out capacitors, etc;

(c) Any special information applicable to the office involved (such as correspondence concerning office balance).

3.03 Information that could be included in Section II of the balance record binder is as follows:

(a) Information concerning the permanent testing arrangements provided in the office such as balancing test circuits, test codes, switchboard and testboard terminations, etc (see Fig. 5);

(b) Information concerning the portable test equipment available at the office such as noise generators, measuring sets, etc (see Fig. 6);

(c) Information concerning balance test termination codes provided in the office (see Fig. 7).

3.04 In the initial construction of the balance record binders all information should be arranged for future use with logical spacing for trunk group growth and rearrangements, etc. The record should include all exceptions and office peculiarities pertinent to balancing conditions as entries in the general information of Section I or in the "Notes" and "Remarks" spaces provided on the individual forms. As an aid in testing and test analysis, pages from the methods sections, sketches, and notes on test setups employed may be included as part of the record. It should be noted that, if pages from practices are included, care must be taken to ensure that any updates in the practices are reflected in the record. In addition, the overall arrangement should be such that comparison between trunk groups and individual trunks and the measurement information can be readily obtained.

4. MAINTENANCE OF THE OFFICE BALANCE RECORD

4.01 Maintenance of the balancing records concurrently with balancing work as it is performed should be a primary consideration. Circuit order work test results for new trunks, or retest results obtained when trunking is rearranged, should be promptly entered in the record from the E-2545A (per Section 660-450-010). "Date Test Made" entries will consequently reflect the current balancing conditions.

5. AVAILABILITY OF FORMS

5.01 Forms E-6001 and E-6002 may be obtained from the Western Electric Company in pads of 25, one pad per package. Order in multiples of 25 forms. Forms E-6003, E-6004, E-6005, and E-6006 may be obtained from the same source in pads of 50, two pads per package. Order in multiples of 100 forms. The ordering information is as follows:

(Quantity) Form E-600X.

THROUGH AND TERMINAL BALANCE RECORD BINDER

CONTENTS

Fig. 1—Outline for Through and/or Terminal Balance Record Binder(s)

E-6001

THROUGH AND TERMINAL BALANCE
OFFICE RECORD -- INDEX

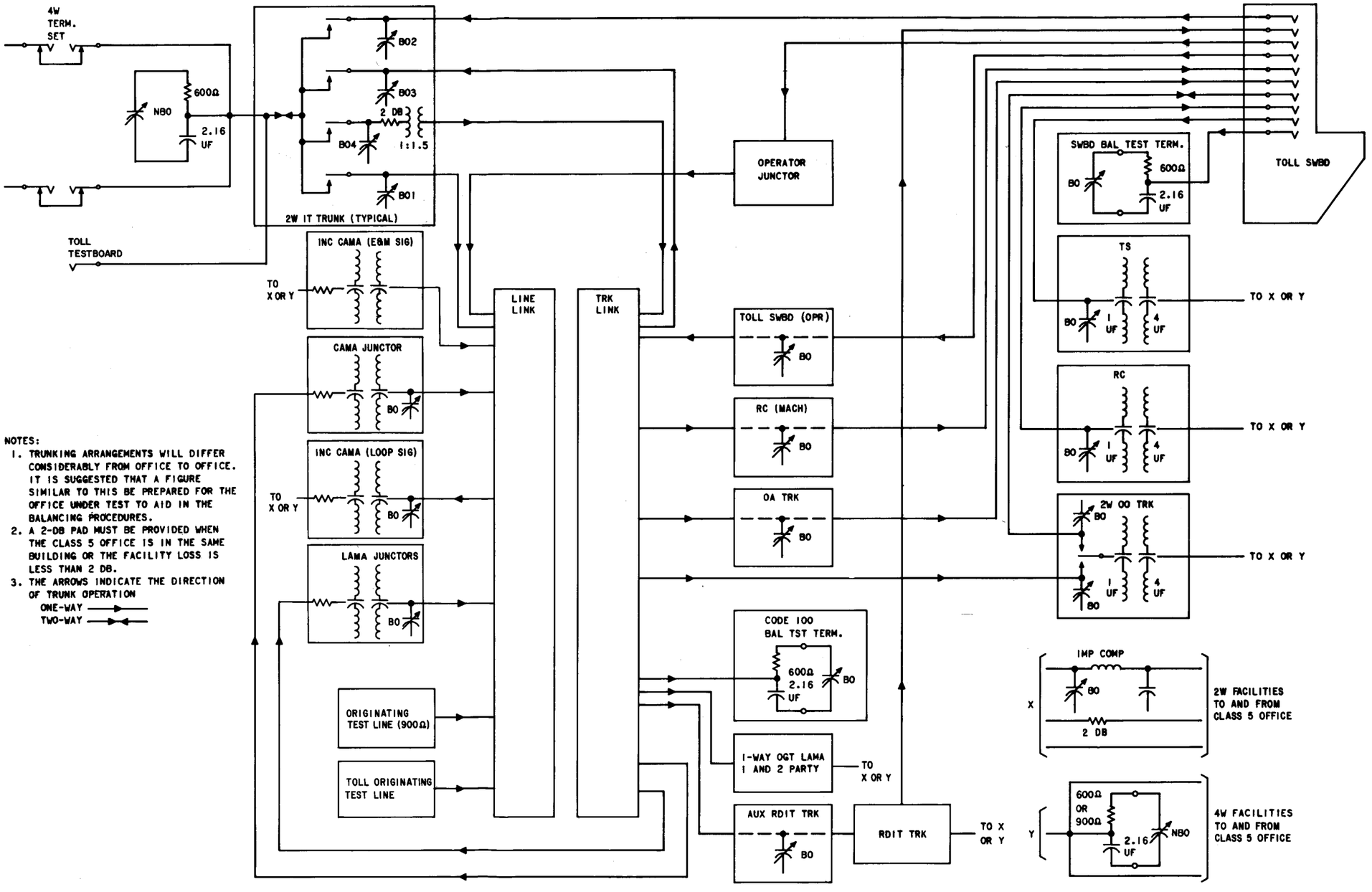
Chicago
Office

Section # I General Information (Title)

Section Part #	Pages	Description
A		Traffic schematic and trunk inventory
B		Equipment options and/or modifications
C		Miscellaneous information

Note: Parts A and B of this section depend on office equipment and layout. The information will consist of drawings, engineering sketches, memoranda, etc. Part C is optional and may include any other information pertinent to balance work in whatever manner desired.

Fig. 2—Index Form E-6001—Example for Section I of Through and/or Terminal Balance Record Binder(s)



NOTES:
1. TRUNKING ARRANGEMENTS WILL DIFFER CONSIDERABLY FROM OFFICE TO OFFICE. IT IS SUGGESTED THAT A FIGURE SIMILAR TO THIS BE PREPARED FOR THE OFFICE UNDER TEST TO AID IN THE BALANCING PROCEDURES.
2. A 2-DB PAD MUST BE PROVIDED WHEN THE CLASS 5 OFFICE IS IN THE SAME BUILDING OR THE FACILITY LOSS IS LESS THAN 2 DB.
3. THE ARROWS INDICATE THE DIRECTION OF TRUNK OPERATION
   ONE-WAY ——→
   TWO-WAY ←——→

Fig. 3—Trunking Schematic for Typical No. 5 Crossbar Toll Switching Office

E-6001

THROUGH AND TERMINAL BALANCE
OFFICE RECORD -- INDEX

Chicago
Office

Section # II Testing Arrangements (Title)

Section Part #	Pages	Description
A		Testroom testing arrangements
B		Portable testing equipment used
C		Balancing test terminations

Note: Parts A, B, and C are determined by local conditions and available test equipment.

Fig. 4—Index Form E-6001—Example for Section II of Through and/or Terminal Balance Record Binder(s)

Through and Terminal Balance Record

Office: Chicago

TESTROOM TESTING ARRANGEMENTS

Detail:

I. One 17B testboard located in bay 206.01

Contains:

1. Test and OS appearances of all intertoll circuits
2. Switchboard appearance of office balance test trunk designated SPARE DROP #1
3. 600- and 900-ohm terminations and 600-ohm built-out test terminator
4. 2E singing point test panel
5. Signaling test panel (SD-56080-01)

II. One 18B testboard located in bay 206.1

Contains:

1. Test and OS appearances of all ringdown and OO trunks to tributaries
2. Primary jack appearances for cable and open-wire circuits
3. Jack and key appearance of toll test trunk SD-56214-01 in panel designated TST

III. Secondary patch board located in bay 206.2

Contains:

1. E&M jack appearances of OO trunks to tributaries and of intertoll trunks using CX signaling
2. E&M jack appearance of office balance test trunk designated SPARE DROP #1 (jack #94)
3. T&R jack appearances of all intertoll and OO trunks

Fig. 5—Example for Section II, Part A, of Through and/or Terminal Balance Record Binder(s)

Through and Terminal Balance Record

Office: Chicago

PORTABLE TESTING EQUIPMENT

Detail:

1. 7A capacitor box
2. Hewlett-Packard model 200CD oscillator
3. 3A noise measuring set
4. 201B noise generator
5. 2AB auxiliary transmission test set
6. 207G filter
7. 2D singing point test set
8. 1011G handset with 310-type plug attached
9. 2B signaling test set
10. 1A signaling test set
11. KS-20501 return loss measuring set

Fig. 6—Example for Section II, Part B, of Through and/or Terminal Balance Record Binder(s)

Through and Terminal Balance Record

Office: Chicago

BALANCING TEST TERMINATION

Detail:

I. Two code 100 trunks:

1. Trunk #1 is located in bay 113.13.24. The BO capacitor has been built out to 0.014.
2. Trunk #2 is located in bay 113.16.25. The BO capacitor has been built out to 0.015.

II. The 900-ohm local termination is located in bay 111.09.09. This trunk did not contain a BO capacitor. A BO capacitor was mounted to mounting plates below the trunk (stenciled B03) and bridged across the tip and ring of the trunk. This trunk has been built out to 0.021. Telephone number 263-0454, located on line link location 10-03-60, has been assigned.

III. 600-ohm switchboard balance termination with buildout. Located in the lower left corner of panel 1 on the 17B testboard and designated BAL 600 BO. This termination has been built out to 0.016.

IV. 600- and 900-ohm testboard balance terminations without buildout. Located in the lower left-hand corner of panel 1 on the 17B testboard and designated BAL 600 and BAL 900.

V. Intertoll test trunk:

1. Located in bay 113.01.27. B01 is built out to 0.005 and B02 is built out to 0.002.
2. This trunk is connected to 4-wire terminating set No. 33 located in bay 204.5.
3. The 4-wire jack appearance is in bay 206.03.

Fig. 7—Example for Section II, Part C, of Through and/or Terminal Balance Record Binder(s)

E-6001

THROUGH AND TERMINAL BALANCE
OFFICE RECORD -- INDEX

Chicago
Office

Section # III Office NBO (Title)

Section Part #	Pages	Description
A		Procedures for NBO selection
B		Record of tests to determine office NBO value
		-- E-6002

Note: Part A is governed by the method of balancing required in the office. Contents of Part A are obtained from Section 660-472-500.

Fig. 8—Index Form E-6001—Example for Section III of Through and/or Terminal Balance Record Binder(s)

E-6002

Sheet ____ of ____

MEASUREMENTS OF NETWORK BUILDING-OUT CAPACITANCE

Office: CHICAGO

Final NBO Capacitance: (See Section 660-472-500) μF

INTERTOLL TRUNK (OR TEST HYBRID CIRCUIT)		CONNECTING TRUNK	MEASURED NBO CAP. REQUIRED (IN μF)				TESTER NAME
			FROM INTERTOLL		TO INTERTOLL		
NAME AND NO.	4-WIRE TERM SET		Through Machine	Through Switchboard	Through Machine	Through Switchboard	
IT TRK 386	42	OJ (Determined				0.025	KW
(Properly built-out BAL TST circuit)		to be trunk with longest switchboard drop)					
(Same as above)		IT TRK (Determined	Class 3 office (Section 660-472-500)			0.024	KW
		to be trunk with longest direct access from operator)					
(Same as above)		IT TRK (Determined			0.024		KW
		to be trunk with longest path to line link frame)					
(Same as above)		(Sample of trunk groups IT to TC, machine-switched)	0.030				KW
			0.026				KW
			0.032				KW
(Same as above)		(Sample of trunk groups TC to IT, machine-switched)			0.030	Class 4 office (Section 660-472-500)	
					0.028		
					0.030		
(Same as above)		(Sample of trunk groups IT to TC, via switchboard)		0.032			KW
				0.028			KW
				0.025			KW
(Same as above)		(Sample of trunk groups TC to IT, via switchboard)				0.035	KW
						0.030	KW
						0.026	KW

Fig. 9—Form E-6002—Example for Section III, Part A, of Through and/or Terminal Balance Record Binder(s)

E-6001

THROUGH AND TERMINAL BALANCE
OFFICE RECORD -- INDEX

Chicago
Office

Section # IV Primary Intertoll Trunks (Title)

Section Part #	Pages	Description
A		Procedures
B		Intertoll trunks incoming
C		Intertoll trunks outgoing
D		Intertoll trunks with switchboard appearances

Note: Contents of Part A are obtained from Section 660-472-501. References to the applicable procedure in Part A should be made on all record forms (E-6003 and E-6004). An optional arrangement with Part A divided and the applicable procedures inserted into Parts B, C, and D may be desired in the case of larger offices.

Fig. 10—Index Form E-6001—Example for Section IV of Through Balance Record Binder(s)

RECORD OF THROUGH BALANCE TESTS – INTERTOLL TRUNKS

E-6003

OFFICE CHICAGO
TRUNK GROUP (See Note 1)
TEST NO (REF 660-47_-300) (See Note 2)

PATH TESTED
MACHINE ☐ INCOMING ☐ OUTGOING } (See Note 3)
SWITCHBOARD ☐
LOCAL OFC. TERMINATION ☐

TRUNK NO	ECHO RETURN LOSS (ERL)					SINGING POINT (SP)					DBO CAP VALUE	DATE TESTED	REMARKS	TESTER NAME
	TRANS HYBRID LOSS	MEAS. SET READING	FINAL ERL B-C	REQUIREMENT MED	REQUIREMENT MIN	MEAS. SP	3kHz TRANS-HYB. LOSS	FINAL SP G-H	REQUIREMENT MED	REQUIREMENT MIN				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	
DLS 1	67	25	42	27	21	44	23	21	20	14	.080	9/18/72	When form is used in Part B of index listing for Section IV (IT incoming).	
DLS 2	67	28	39	27	21	44	23	21	20	14	.080	9/18/72		
DLS 3	67	33	34	27	21	43	23	20	20	14	.080	9/18/72		
STL 1	67	38	35	27	21	45	23	22	20	14	.020	9/18/72	When form is used in Part C of index listing for Section IV (IT outgoing).	
STL 2	67	31	36	27	21	45	23	22	20	14	.020	9/18/72		
STL 3	67	26	41	27	21	44	23	21	20	14	.020	9/18/72		
KCY 1	67	46	21	27	21	33	23	10	20	14	.080	9/18/72	When form is used in Part D of index listing for Section IV (IT switchboard).	
KCY 2	67	46	21	27	21	33	23	10	20	14	.080	9/18/72		
KCY 3	67	46	21	27	21	33	23	10	20	14	.080	9/18/72		

Notes: 1. See Section 005-200-100.
2. Fill in test number.
3. Check applicable box.

Fig. 11—Form E-6003—Example for Section IV, Part B, C, or D, of Through Balance Record Binder(s)

RECORD OF THROUGH BALANCE TESTS – INTERTOLL TRUNKS

E-6004

OFFICE CHICAGO
TRUNK GROUP (See Note 1)
TEST NO (REF 660-47_-300) (See Note 2)

PATH TESTED
MACHINE ☐ INCOMING ☐ OUTGOING
SWITCHBOARD ☐
LOCAL OFC TERMINATION ☐
(See Note 3)

TRUNK NO	RLMS THL SETTING	RLMS READING ERL	RLMS READING SRL	RLMS READING SRL-HI	REQUIREMENTS ERL MED	REQUIREMENTS ERL MIN	REQUIREMENTS SRL/SRL-HI MED	REQUIREMENTS SRL/SRL-HI MIN	DBO CAP VALUE	DATE TESTED	REMARKS	TESTER NAME
A	B	C	D	E	F	G	H	I	J	K	L	M
DhS 1	22	46	21	21	27	21	20	14	.020	9/18/72	When form is used in Part B of index listing for Section IV (IT incoming).	
DhS 2	22	39	21	21	27	21	20	14	.020	9/18/72		
DhS 3	22	34	20	20	27	21	20	14	.020	9/18/72		
STh 1	22	32	22	22	27	21	20	14	.020	9/18/72	When form is used in Part C of index listing for Section IV (IT outgoing).	
STh 2	22	31	22	22	27	21	20	14	.020	9/18/72		
STh 3	22	26	21	21	27	21	20	14	.020	9/18/72		
KCy 1	22	21	10	10	27	21	20	14	.020	9/18/72	When form is used in Part D of index listing for Section IV (IT switchboard).	
KCy 2	22	21	10	10	27	21	20	14	.020	9/18/72		
KCy 3	22	21	10	10	27	21	20	14	.020	9/18/72		

Notes: 1. See Section 005-200-100.
2. Fill in test number.
3. Check applicable box.

Fig. 12—Form E-6004—Example for Section IV, Part B, C, or D, of Through Balance Record Binder(s)

E-6001

THROUGH AND TERMINAL BALANCE
OFFICE RECORD -- INDEX

Chicago
Office

Section # V Secondary Intertoll Trunks (Title)

Section Part #	Pages	Description
A		Procedures
B		Operator assistance trunks (121, 131, WH, TX, etc)
C		Operator junctor trunks

Note: Contents of Part A are obtained from Section 660-472-501. References to the applicable procedure in Part A should be made on all record forms (E-6003 or E-6004). An optional arrangement with Part A divided and the procedures inserted into Parts B, C, and D may be desired in the case of larger offices.

Fig. 13—Index Form E-6001—Example for Section V of Through Balance Record Binder(s)

RECORD OF THROUGH BALANCE TESTS – INTERTOLL TRUNKS

E-6003

OFFICE CHICAGO
TRUNK GROUP (See Note 1)
TEST NO (REF 660-47_-300) (See Note 2)

PATH TESTED
MACHINE ☐ INCOMING ☐ OUTGOING
SWITCHBOARD ☐
LOCAL OFC. TERMINATION ☐
(See Note 3)

TRUNK NO	ECHO RETURN LOSS (ERL)					SINGING POINT (SP)					DBO CAP VALUE	DATE TESTED	REMARKS	TESTER NAME
	TRANS HYBRID LOSS	MEAS. SET READING	FINAL ERL B-C	REQUIREMENT MED	REQUIREMENT MIN	MEAS. SP	1KHz TRANS-HYB. LOSS	FINAL SP G-H	REQUIREMENT MED	REQUIREMENT MIN				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	
TRK 1	67	28	39	27	21	43	23	20	20	14	.020	9/18/72	When form is used in Part B of index listing for Section V (OA trunks).	
TRK 2	67	31	36	27	21	43	23	20	20	14	.020	9/18/72		
TRK 3	67	36	31	27	21	42	23	19	20	14	.020	9/18/72		
TRK 1	67	35	32	27	21	43	23	20	20	14	.030	9/18/72	When form is used in Part C of index listing for Section V (OJ trunks).	
TRK 2	67	34	33	27	21	43	23	20	20	14	.030	9/18/72		
TRK 3	67	29	38	27	21	45	23	22	20	17	.030	9/18/72		

Notes: 1. See Section 005-200-100.
2. Fill in test number.
3. Check applicable box.

Fig. 14—Form E-6003—Example for Section V, Part B, C, or D, of Through Balance Record Binder(s)

RECORD OF THROUGH BALANCE TESTS – INTERTOLL TRUNKS

E-6004

OFFICE CHICAGO
TRUNK GROUP (See Note 1)
TEST NO (REF 660-47_-300) (See Note 2)

PATH TESTED

MACHINE	☐	INCOMING
	☐	OUTGOING
SWITCHBOARD	☐	
LOCAL OFC		
TERMINATION	☐	

(See Note 3)

TRUNK NO	RLMS THL SETTING	RLMS READING			REQUIREMENTS				DBO CAP VALUE	DATE TESTED	REMARKS	TESTER NAME
					ERL		SRL/SRL-HI					
		ERL	SRL	SRL-HI	MED	MIN	MED	MIN				
A	B	C	D	E	F	G	H	I	J	K	L	M
TRK 1	22	39	20	21	27	21	20	14	.020	9/18/72	When form is used in Part B of index listing for Section V (OA trunks).	
TRK 2	22	36	20	21	27	21	20	14	.020	9/18/72		
TRK 3	22	31	19	21	27	21	20	14	.020	9/18/72		
TRK 1	22	35	20	20	27	21	20	14	.030	9/18/72	When form is used in Part C of index listing for Section V (OJ trunks).	
TRK 2	22	34	20	20	27	21	20	14	.030	9/18/72		
TRK 3	22	29	22	22	27	21	20	17	.030	9/18/72		

Notes: 1. See Section 005-200-100.
2. Fill in test number.
3. Check applicable box.

Fig. 15—Form E-6004—Example for Section V, Part B, C, or D, of Through Balance Record Binder(s)

E-6001

THROUGH AND TERMINAL BALANCE
OFFICE RECORD -- INDEX

Chicago
Office

Section # VI Toll Connecting Trunks (Title)

Section Part #	Pages	Description
A		Procedures
B		2-wire toll connecting
C		4-wire toll connecting
D		Toll connecting to other offices
E		Toll connecting to subscriber equipment

Note: Contents of Part A are obtained from Section 660-472-502. References to the applicable procedure in Part A should be made on all record forms (E-6005 or E-6006). An optional arrangement with Part A divided and the procedures inserted into Parts B, C, D, and E may be desired in the case of larger offices.

Fig. 16—Index Form E-6001—Example for Section VI of Terminal Balance Record Binder(s)

RECORD OF TERMINAL BALANCE TESTS ON TOLL CONNECTING TRUNKS

E-6005

OFFICE CHICAGO
TRUNK GROUP (See Note 1)
TEST NO (REF 660-47_-301) (See Note 2)

PATH TESTED (AT CLASS 4 OR HIGHER OFFICE)
MACHINE ☐ INCOMING ☐ OUTGOING
SWITCHBOARD ☐ INCOMING ☐ OUTGOING
(See Note 3)
TEST OF 4W TERM ON 4 WIRE TOLL CONNECTING TRUNKS ☐

TRUNK NO	EML	AML		ECHO RETURN LOSS (ERL)					SINGING POINT (SP)					DBO CAP VALUE (IF USED)	DATE TESTED	REMARKS	TESTER NAME
		MEAS. A-Z	MEAS. Z-A	TRANS HYB LOSS	MEAS. SET READING	FINAL ERL E-F	REQUIREMENTS MED	REQUIREMENTS MIN	MEAS SP	1kHz TRANS HYB LOSS	FINAL SP J-K	REQUIREMENTS MED	REQUIREMENTS MIN				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
TRK 1	3.0	3.2	3.0	80	62	18	18	13	21	8	13	10	6	.025	9/18/72	When form is used in Part B of index listing for Section VI (2-wire TC).	
TRK 2	3.0	3.2	3.0	80	61	19	18	13	22	8	14	10	6	.025	9/18/72		
TRK 3	3.0	3.2	3.0	80	62	18	18	13	22	8	14	10	6	.025	9/18/72		
TRK 1	3.0	3.0	3.2	80	61	19	22	16	22	8	14	15	11	.015	9/18/72	When form is used in Part C of index listing for Section VI (4-wire TC).	
TRK 2	3.0	3.0	3.2	80	62	18	22	16	21	8	13	15	11	.015	9/18/72		
TRK 3	3.0	3.0	3.2	80	61	19	22	16	22	8	14	15	11	.015	9/18/72		
TRK 1	3.0	3.2	3.0	80	62	18	22	16	21	8	13	15	11	.020	9/18/72	When form is used in Part D of index listing for Section VI (local tandem completing).	
TRK 2	3.0	3.2	3.0	80	62	18	22	16	21	8	13	15	11	.020	9/18/72		
TRK 3	3.0	3.2	3.0	80	62	18	22	16	21	8	13	15	11	.020	9/18/72		
TRK 1	7.0	6.5	7.0	80	69	11	15	9	20	8	12	10	6	.020	9/18/72	When form is used in Part E of index listing for Section VI (special services).	
TRK 2	7.0	6.5	7.0	80	70	10	15	9	20	8	12	10	6	.020	9/18/72		
TRK 3	7.0	6.5	7.0	80	70	10	15	9	20	8	12	10	6	.020	9/18/72		

Notes: 1. See Section 005-200-100.
2. Fill in test number.
3. Check applicable box.

Fig. 17—Form E-6005—Example for Section VI, Part B, C, D, or E, of Terminal Balance Record Binder(s)

RECORD OF TERMINAL BALANCE TESTS ON TOLL CONNECTING TRUNKS

E-6006

OFFICE CHICAGO
TRUNK GROUP (See Note 1)
TEST NO (REF 660-47_-301) (See Note 2)
RLMS THL SETTING ____dB

PATH TESTED AT CLASS 4 OR HIGHER OFFICE
MACHINE ☐ INCOMING ☐ OUTGOING
SWITCHBOARD ☐ INCOMING ☐ OUTGOING
4W TERM ☐
(See Note 3)

TRUNK NO	EML	AML MEAS. A-Z	AML MEAS. Z-A	RLMS READING ERL	RLMS READING SRL	RLMS READING SRL HI	REQUIREMENTS ERL MED	REQUIREMENTS ERL MIN	REQUIREMENTS SRL/SRL-HI MED	REQUIREMENTS SRL/SRL-HI MIN	DBO CAP VALUE IF USED	DATE TESTED	REMARKS	TESTER NAME
A	B	C	D	E	F	G	H	I	J	K	L	M	N	
TRK 1	3.0	3.2	3.0	18	13	13	18	13	10	6	.025	9/18/72	When form is used in Part B of index listing for Section VI (2-wire TC).	KMW
TRK 2	3.0	3.2	3.0	19	14	14	18	13	10	6	.025	9/18/72		KMW
TRK 3	3.0	3.2	3.0	18	14	14	18	13	10	6	.025	9/18/72		KMW
TRK 1	3.0	3.0	3.2	19	14	14	22	16	15	11	.015	9/18/72	When form is used in Part C of index listing for Section VI (4-wire TC).	KMW
TRK 2	3.0	3.0	3.2	18	13	14	22	16	15	11	.015	9/18/72		KMW
TRK 3	3.0	3.0	3.2	19	14	14	22	16	15	11	.015	9/18/72		KMW
TRK 1	3.0	3.2	3.0	18	13	13	22	16	15	11	.020	9/18/72	When form is used in Part D of index listing for Section VI (local tandem completing).	KMW
TRK 2	3.0	3.2	3.0	18	13	13	22	16	15	11	.020	9/18/72		KMW
TRK 3	3.0	3.2	3.0	18	13	13	22	16	15	11	.020	9/18/72		KMW
TRK 1	7.0	6.5	7.0	11	12	13	15	9	10	6	.020	9/18/72	When form is used in Part E of index listing for Section VI (special services).	KMW
TRK 2	7.0	6.5	7.0	10	12	13	15	9	10	6	.020	9/18/72		KMW
TRK 3	7.0	6.5	7.0	10	12	13	15	9	10	6	.020	9/18/72		KMW

Notes: 1. See Section 005-200-100.
2. Fill in test number.
3. Check applicable box.

Fig. 18—Form E-6006—Example for Section VI, Part B, C, D, or E, of Terminal Balance Record Binder(s)