

**TRAFFIC SERVICE POSITION SYSTEM NO. 1/  
REMOTE TRUNK ARRANGEMENT  
BALANCE  
ADMINISTRATION AND RECORDS**

CONTENTS	PAGE
<b>1. GENERAL</b> . . . . .	1
<b>2. OFFICE BALANCING RECORDS AND FORMS</b> . . . . .	1
<b>A. General</b> . . . . .	1
<b>B. Purpose of Forms</b> . . . . .	2
<b>C. Centralization of Records and Forms</b> . . . . .	2
<b>D. Preparation and Use of Forms</b> . . .	3
<b>E-6001—INDEX SHEET</b> . . . . .	3
<b>E-6002—RECORD OF TESTS MADE TO     DETERMINE OFFICE NBOC VALUE</b> . . .	3
<b>E-6004—RECORD OF BALANCE TESTS</b> .	3
<b>3. ADDITIONAL RECORD INFORMATION</b> .	3
<b>4. MAINTENANCE OF THE OFFICE BALANCE RECORD</b> . . . . .	4
<b>5. AVAILABILITY OF FORMS</b> . . . . .	4

should be initiated, maintained, and administered as an aid to analyzing balance conditions or survey results and initiating corrective action 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. Current office records are a requisite for office certification as balanced.

**1.02** Whenever this section is reissued, the reasons for reissue will be listed in this paragraph.

**1.03** 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.

**1.04** The initial balancing effort 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.

**1. GENERAL**

**1.01** 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 the Traffic Service Position System (TSPS) No. 1/Remote Trunk Arrangement (RTA)

**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, and E-6004.

**2.02** Balance records in an office should be organized in binders labeled BALANCE

**NOTICE**

Not for use or disclosure outside the  
Bell System except under written agreement

## SECTION 660-463-010

**RECORD.** In addition to containing a complete record of balance test results, the binders 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 TSPS or RTA system.

**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—INDEX SHEET

The index sheet lists, in sequence, the procedures 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—RECORD OF TESTS MADE TO DETERMINE 1P 4WTS NBOC VALUE

This form provides a permanent record of sampling tests taken to determine the office network build-out capacitance (NBOC) 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 NBOC value.

(c) Form E-6004—RECORD OF BALANCE TESTS

This form is used when the return loss measuring set (RLMS) KS-20501 or equivalent is used. It provides a permanent record of

all balance measurements and build-out capacitor adjustments.

### **C. Centralization of Records and Forms**

**2.05** The binder arrangement of the 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—NBOC Value

SECTION IV—Incoming Toll Connecting Trunks

SECTION V—TSPS and RTA Trunks

SECTION VI—Position Circuits (Base Unit) or Base-Remote Trunk (RTA).

**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-6004 should also be completed for each access or completing path of each trunk group on initial 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—INDEX SHEET**

**2.10** Form E-6001, shown in Fig. 2, is for use in all sections of the 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 subpart identity using an alphabetical sequencing. Each page of a section subpart should be sequentially numbered and the total number of pages entered in the pages column of the index sheet.

**E-6002—RECORD OF TESTS MADE TO DETERMINE OFFICE NBOC VALUE**

**2.12** Form E-6002, shown in Fig. 3, 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

FINAL NBO CAPACITANCE—The value of NBO capacitance in the office as determined by procedures in Section 660-462-500.

INTERTOLL TRUNK (OR TEST HYBRID CIRCUIT)—This column is not used in TSPS or RTA balancing.

CONNECTING TRUNK—Name and number of the trunk connected to the Balance Test Circuit when measurement is made.

MEASURED NBO CAP. REQUIRED (in  $\mu$ F)—Measurement values on connections.

**E-6004—RECORD OF BALANCE TESTS**

**2.13** Form E-6004 is used when balance tests are made with the KS-20501 RLMS or equivalent (as described in Section 660-462-504). This form, shown in Fig. 4, is for use in Sections IV, V, and

VI of the 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 660-463-301

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

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

COLUMN B—THL setting of RLMS determined in calibration procedure described in Section 660-463-504

COLUMN C—Value of ERL measurement made with appropriate procedures from Sections 660-463-500 and 660-463-501

COLUMN D—Value of SRL measurement made with appropriate procedures from Sections 660-463-500 and 660-463-501

COLUMN E—Value of SRL-HI measurement made with appropriate procedures from Sections 660-463-500 and 660-463-501

COLUMNS F, G, H, and I—Requirements obtained from Section 660-463-301

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

COLUMN K—Date test made

COLUMN L—Information notes or remarks and NBOC value in the 900 $\Omega$  4WTS (when required).

**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

## SECTION 660-463-010

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
- (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 the testing arrangements provided in the office.

**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. Form E-6004 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.

## BALANCE RECORD BINDER

ContentsFig. Ref.

SECTION I - GENERAL INFORMATION	
INDEX (E6001) .....	2
PART A Traffic Schematic and Trunk Inventory	
PART B Miscellaneous Information	
SECTION II - TESTING ARRANGEMENTS	
INDEX (E6001) .....	2
PART A Testroom Testing Arrangement	
PART B Portable Testing Equipment	
PART C Balance Test Termination	
SECTION III - NBOC VALUES	
INDEX (E6001) .....	2
PART A Procedures	
PART B (E6002) .....	3
SECTION IV - INCOMING TOLL CONNECTING TRUNKS	
INDEX (E6001) .....	2
PART A Procedures	
PART B (E6004) .....	4
SECTION V - TSPS AND RTA TRUNKS	
INDEX (E6001) .....	2
PART A Procedures	
PART B (E6004) .....	4
SECTION VI - POSITION CIRCUIT (BASE UNIT) OR BASE-REMOTE TRUNKS (RTA)	
INDEX (E6001) .....	2
PART A Procedures	
PART B (E6004) .....	4

Fig. 1—Outline For Through and/or Terminal Balance Record Binder





