ADDENDUM 301-133-500SW
Issue C, January, 1972
SW. Bell Tel. Co.

BALANCE SURVEY METHODS
SURVEY PROCEDURES

1. GENERAL

1.01.1 This Addendum defines the responsibilities in connection with the through and terminal balance testing in offices where both the Long Lines Department of American Telephone and Telegraph Company and Southwestern Bell Telephone Company have operating forces.

1.01.2 This addendum is reissued to conform with revised Section 301-133-500, Issue 2, July, 1971.

1.03.1 Substitute the following for 1.03 of the main section.

> When there is a divided installation and maintenance responsibility within a toll office, i.e., one force at the testboard under a first line supervisor and another in the service center under a different first line supervisor, each operation may be sampled separately if desired. When there is a divided responsibility in an office and the two forces responsible report to different organizations, i.e., Long Lines and the Southwestern Company, the Southwestern Company will assume all balance survey testing, analysis, and certification responsibilities.

1.03.2 The Division Transmission Supervisor, or equivalent, shall be responsible for coordinating and supervising the balance survey activity in all applicable offices within the Division.

1.03.3 When an office is scheduled for balance survey during a calendar quarter, the Division Transmission Supervisor, or equivalent, shall coordinate with the District Plant Superintendent and involved Office Supervisors, to arrange for performance of the balance survey at a mutually agreeable time interval during the calendar quarter.

1.03.4 The sampling, balance measurements, and recording of results data on Forms E-5530 and E-5588, shall normally be performed by personnel assigned to the office being surveyed. The Division Transmission Supervisor, or equivalent, shall directly supervise the survey activity, with the assistance of the responsible Office Supervisors, thereby insuring that all procedures are followed correctly, and results obtained are recorded accurately.

1.03.5 The Division Transmission Supervisor shall arrange for and supervise investigations needed to determine the cause of unsatisfactory balance conditions. He shall also coordinate and follow to completion the corrective activities indicated by the tests.

2. SAMPLE SELECTION

2.06.1 For the purpose of this plan, the instructions contained in Paragraph 3.05 of Section 304-010-100 shall be followed in using the random number tables.

3. SAMPLE MEASUREMENTS

3.02.1 ERL and SP measurement results shall be recorded and summarized on an "as found" basis during the survey. The intent of this plan is to reflect the balance condition of an office prior to completion of any corrective action. The last sentence in 3.02 of the main section, which refers to correction of results data, is for compensation of measurement methods or test arrangements.

4. ANALYSIS OF RESULTS

4.02.1 The following is a definition of the symbols used to designate the lines and columns located at the bottom of Form E-5588:

ERL≥MED./SP≥MED. - means that the measurement (ERL or SP) is equal to, or greater than the median requirements. (This is known as the high range.)

ERL<MED.≥MIN./ SP <MED.≥MIN. - means that the measurement (ERL or SP) is less than the median, and greater than, or equal to the minimum requirement. (This is known as the intermediate range.)

ERL<MIN./SP<MIN. - means that the measurement (ERL or SP) is less than the minimum requirement. (This is known as the low range.)

4.02.2 To properly stroke results in the boxes at the bottom of Form E-5588, perform the following operations for each trunk measured:

(a) Locate the line on which the ERL measurement falls by referring to the symbols on the left side of the boxes.

(b) Locate the column in which the SP measurement falls by referring to the symbols at the top of the columns designating the boxes.

(c) Place a stroke in the box at the crossing point of the ERL line and SP column.

4.02.3 As an example, refer to Fig. 2, Page 9, of the main section. Note line 14 results: ERL measurement is 24 (Col. H), which is in the intermediate range (ERL<MED. ≥ MIN.) between values shown in Columns F & G. SP measurement is 24 (Col. L) which is in the high range (SP≥ MED. or SP is greater than or equal to Col. J.). By following the instructions of 4.02.2 above, note the stroke is placed in box No. 5 for this trunk.

4.03.1 The following totals shall be obtained in order to determine crossing points on the charts:

ERL≥MED. - Add strokes in boxes 1, 2, and 3 and enter total in box 4.

ERL<MIN. - Add strokes in boxes 9, 10, and 11 and enter total in box 12.

SP≥MED. - Add strokes in boxes 1, 5, and 9 and enter total in box 13.

SP<MIN. - Add strokes in boxes 3, 7, and 11 and enter total in box 15.

4.04.1 If <u>both</u> ERL and SP measurement results <u>do not</u> produce a crossing point in the "balanced" area, perform measurements on the second group of 20 trunks.

4.06.1 When the tests of both ERL and SP results fall in the satisfactory area of the appropriate chart, Figures 3, 4 or 5 of the main section, the office may be considered balanced and it should be scheduled for re-survey within two years.

4.06.2 Whenever the tests of ERL and/or SP results fall in either the gray or unbalanced area of the appropriate Chart B, Figures 3, 4 or 5 of the main section,

further investigation is necessary. Based on the results of the investigation, the Transmission and Protection Engineer must decide whether balance conditions of the office meet minimum requirements specified in Sections 301-123-100, 301-133-100 and 853-502-100 or that corrective action (major or minor) is required. See Paragraph 2.04.1, Addendum 301-123-500SW for survey schedules following corrective balance work.

4.09 The Transmission and Protection Engineer is responsible for certifying the balance condition of each office. The Transmission and Protection Engineer shall certify an office as balanced, or not balanced, after reviewing survey results for the office.

5. REPORTS

5.01.1 Exhibit 1 provides a format to record analysis of test results obtained from data on Form E-5588. This exhibit shall be duplicated locally, and used to indicate the condition of an office after completion of the balance survey. Space is also provided for entering balance certification data by the Transmission and Protection Engineer.

5.01.2 All ERL or SP measurements below the specified minimum requirement must be investigated, and corrective action taken as part of the survey. Results of investigation, corrective action taken, and/or recommendations, shall be documented and furnished to the Transmission and Protection Engineer, in the space allotted for this purpose on Exhibit 1. A white copy of Exhibit 1 is attached to expedite the reproduction of this form on a Xerox or other reproduction machine.

5.02.1 A copy of all Forms E-5530 and E-5588 used for the survey of each office, along with a completed duplicate of Exhibit 1, shall be forwarded by the Division Transmission Supervisor, or equivalent, to the Transmission and Protection Engineer through organizational lines. These copies shall not be retained until the end of a calendar quarter, but forwarded as soon as possible after completion of the balance survey. Copies of all balance survey results must reach the Transmission and Protection Engineer no later than the 10th of the third month of each calendar quarter for review, certification, and summarization. The Transmission and Protection Engineer shall review the survey results and certify the balance condition of each office, furnishing a copy of each Division report on Form E-5688 to reach the General Plant Manager not later than the 20th of the third month of each calendar quarter.

BALANCE SURVEY ANALYSIS - SW. BELL TEL. CO.

AREA_____ DIVISION_____ DISTRICT_____

OFFICE_____ SURVEY DATE_____ PREPARED BY_____

NO. OF TRUNKS TESTED	MEASUREMENT RESULTS				301-133-500		SURVEY RESULTS (CHECK ONE ERL & SP BLOCK)					
	ERL		SP		FIGURE	CHART	BALANCED		UNDETERMINED		UNBALANCED	
	≥MED.	<MIN.	≥MED.	<MIN.	USED	USED	ERL	SP	ERL	SP	ERL	SP

CORRECTIVE ACTION:

EXHIBIT 1

FOR USE BY T. & P. ENGINEER - PROBABILITY OBTAINED: ERL .____/.____ SP.____/.____

CERTIFIED: BALANCED_____ NOT BALANCED_____ BY_____ DATE_____