TRUNK TRANSMISSION MAINTENANCE INDEX
MECHANIZED SUMMARY PROCEDURE
DESCRIPTION OF OUTPUTS

1. GENERAL

1.01 This section describes the various outputs of the Trunk Transmission Maintenance Index (TTMI) Mechanized Summary Procedure. Each type of output resulting from the mechanized summary procedure is discussed as a separate part of this section and examples are provided in Figures 1-18 following the text. Aids in the analysis of the outputs are included on the figures as well as in the text. A general description of the TTMI Mechanized Summary Procedure may be found in Section 301-124-100.

1.02 The series of computer programs which are responsible for formulating the mechanized outputs are designed to perform the same computations and give the same results as the manual procedures covered in Sections 301-120-500, 301-121-500, 301-122-500, and 301-123-500.

1.03 Outputs are generated by the Data Processing Center (DPC) from input data submitted by the Plant Department. This data is recorded and submitted on standard input forms as directed in Section 660-403-011. The outputs are distributed by the DPC to appropriate locations in the company in accordance with mailing information provided by the company. Mailing information is presented to the DPC on input forms also described in Section 660-403-011.

1.04 The outputs are valuable to all levels of organization in giving an indication of the effectiveness of a trunk transmission maintenance program, and their analysis enables the detection of weak spots. They are also valuable for record keeping and long term trend analysis purposes.

1.05 The various outputs resulting from the TTMI Mechanized Summary Procedure include: inputs received and error listings, quarterly loss component results, quarterly noise component results, the quarterly combined index report (including balance results) for higher levels of organization, the quarterly AT&T System report, and weekly or monthly progress reports for lower levels of organization. Each of these types of outputs will be covered in the remainder of this section.

2. INPUTS RECEIVED AND ERROR LISTINGS

2.01 The TTMI Mechanized Summary Procedure includes provisions for checking the validity of all inputs received. This verification is completed before any computations are made.

2.02 The output of this program is used to inform the office submitting inputs that the data has been received and processed, and to notify it if any errors were made on the input forms or during the keypunching operation. This output provides the input number, the date on which the input data was recorded, the number of lines of data received, and any errors that were found. Errors are listed in coded form. Both input numbers and error codes are described in Section 660-403-011.

2.03 Examples of the output generated by the edit and verification program are provided in Figures 1 and 2 at the end of this section.

3. THE QUARTERLY LOSS COMPONENT RESULTS

3.01 One of the basic outputs received from the TTMI Mechanized Summary Procedure is a quarterly summary of loss measurement results. The output is distributed to the various levels of organization. That is, for each level of organization the output summarizes data for each of its subordinate levels.

3.02 Figures 3 thru 8 are examples of quarterly loss component results outputs for office, subdistrict, district, division, area, and company levels, respectively. These outputs summarize loss measurements as to the percentage of measurements

exceeding the reference values of ±0.7, ±1.7, and ±3.7 dB, the percentage of measurements made, the number of controlled trunks, the subcomponent index for the percent measured exceeding the ±0.7 and ±1.7 dB reference values, the subcomponent index for the percentage of measurements made, and the combined loss component index.

3.03 The loss component of the maintenance plan separates trunks into two groups, E-REPEATERED + NONGAIN and OTHER REPEATERED and CARRIER. This grouping is a result of the difference in stability characteristics of the two groups. For the E-REPEATERED + NONGAIN trunks the output summarizes measurements exceeding the reference values of ±0.7 dB and ±3.7 dB from the Expected Measured Loss (EML). For the OTHER-REPEATERED + CARRIER trunks the output summarizes measurements exceeding the reference values of ±0.7 dB, ±1.7 dB, and ±3.7 dB. The computer subtotals the results for each group and uses the index tables that are provided in Section 301-121-300 to obtain the subcomponent indexes and the component points for both the percent deviations greater than the reference value and the percent measurements made. The number of measurements exceeding the ±3.7 dB reference value (immediate action limit) is not used in computing the index. The component points for each group (E-REPEATERED and NONGAIN and OTHER REPEATERED and CARRIER) are then weighted in accordance with the number of controlled trunks in each group to obtain the combined loss component index. General information on the loss component is provided in Section 301-121-100, and the manual computations required to determine the loss component index are described in Section 301-121-500.

3.04 Figures 3 thru 8 at the end of this section provide additional analysis of the output. Note that on the loss component outputs a line showing maintenance objectives is printed. This line gives the maximum percent deviation and the minimum percent measurements made which will give an index of 97.0. The combined loss component index is found in the far right column on the bottom line.

3.05 The format of the loss component outputs will vary slightly for different organizational levels, but the component index is always computed by the procedure described for manual summarization in Section 301-121-500. On higher level outputs such as those in Figures 4 thru 8, results for the next lower level of organization are provided and then combined.

4. THE QUARTERLY NOISE COMPONENT RESULTS

4.01 Another of the basic outputs of the TTMI Mechanized Summary Procedure is the quarterly noise component results. This output categorizes noise measurements and computes the noise component index. The index is computed in the manner described for manual procedures in Section 301-122-500.

4.02 Figures 9 thru 14 are examples of noise component results outputs compiled for office, subdistrict, district, division, area, and company levels, respectively. The upper section of the output summarizes manual measurements for the quarter in which it is issued. These measurements are sorted into 10 mileage ranges by various dB brackets below the maintenance limit, above the maintenance limit, and above the immediate action limit. The middle section of the output includes both manual and automatic measurements. The manual measurements are accumulated for the year and the ATMS measurements are accumulated for the quarter only. Here the percent of required measurements made, the percent of measurements above the maintenance limit, and the percent of measuements above the immediate action limit are computed. Index tables provided in Section 301-122-300 are applied to the percent of required measurements made and the percent of measurement above the maintenance limit, and the noise component index is determined. The bottom section of the output lists additional information concerning trunks above the maintenance limit.

4.03 The footnotes at the bottom of the noise component outputs are used to explain that the number of ATMS trunks include all of those tested to 105 type test lines and one-half of those tested to 100 or 104 type test lines. That is, the number of ATMS trunks includes all of those which may be tested for noise automatically in both directions (ATMS 2-way) and one-half of those which may be tested automatically in one direction only (ATMS 1-way). The manual trunks include all of those which must be measured manually for noise in both directions, for any reason, and one-half of those which must be measured manually for noise in one direction only and are measured automatically in the other (ATMS 1-way).

4.04 Refer to Figures 9 thru 14 for additional analysis of the noise component results outputs.

5. THE COMBINED INDEX REPORT

5.01 An overall view of the company's Trunk Transmission Maintenance Index is provided quarterly by the combined Index Report output.

5.02 The combined index report gives the number of controlled trunks included and the computed index for each of the three components of the Trunk Transmission Maintenance Index, and then lists the combined index, computed as described in Section 301-120-500. These listings are provided for each division (where such organizations exist) and higher level. The company's Trunk Transmission Maintenance Index is in the far right column on the bottom line.

5.03 The combined index report outputs are especially valuable for long term trend analysis.

5.04 Figure 15 is an example of a combined index report.

6. THE AT&T SYSTEM REPORT

6.01 Each operating company submits quarterly data to AT&TCo for the preparation of System Summaries. Companies using the TTMI Mechanized Summary Procedure will receive a quarterly output generated specifically for this purpose. The Company provides for this output to be delivered to the Plant Operations Manager—Statistics, AT&TCo, 195 Broadway, New York, N. Y. 10007, ***by the 25th of the month*** following the end of each quarter. The output contains complete quarterly TTMI data for each operating area within the company as well as the combined company results.

6.02 Figure 16 is an example of the output used by AT&TCo for preparation of System summaries.

7. PROGRESS REPORTS

7.01 When requested in accordance with instructions provided in Section 660-403-011, progress reports are issued. These outputs consist of supplemental noise or loss results compiled at weekly or monthly intervals. They are of basically the same form as the loss and noise component results issued quarterly, except that for progress reports, subcomponent indexes are computed but not combined.

7.02 Progress reports are provided, when requested, for office and subdistrict levels for loss results and at office level only for noise results. Figure 17 is an example of a weekly loss results progress report compiled at subdistrict level. Figure 18 is a monthly noise report at Office level.

7.03 Progress reports accumulate data during the quarter and start over at the beginning of each new quarter. All results which influence the final index are shown but the combined index itself is never computed on a progress report. It is provided on the quarterly outputs issued at the end of each quarter.

7.04 Progress reports are valuable for use in monitoring the effectiveness of the office trunk transmission maintenance program during the quarter. Use of progress reports should help in obtaining better transmission performance as well as higher quarterly component indexes. The use of progress reports is entirely optional for each office. Offices with a large trunk maintenance responsibility or offices exhibiting weak transmission performance may wish to use them for purposes of maintaining a close watch on their progress.

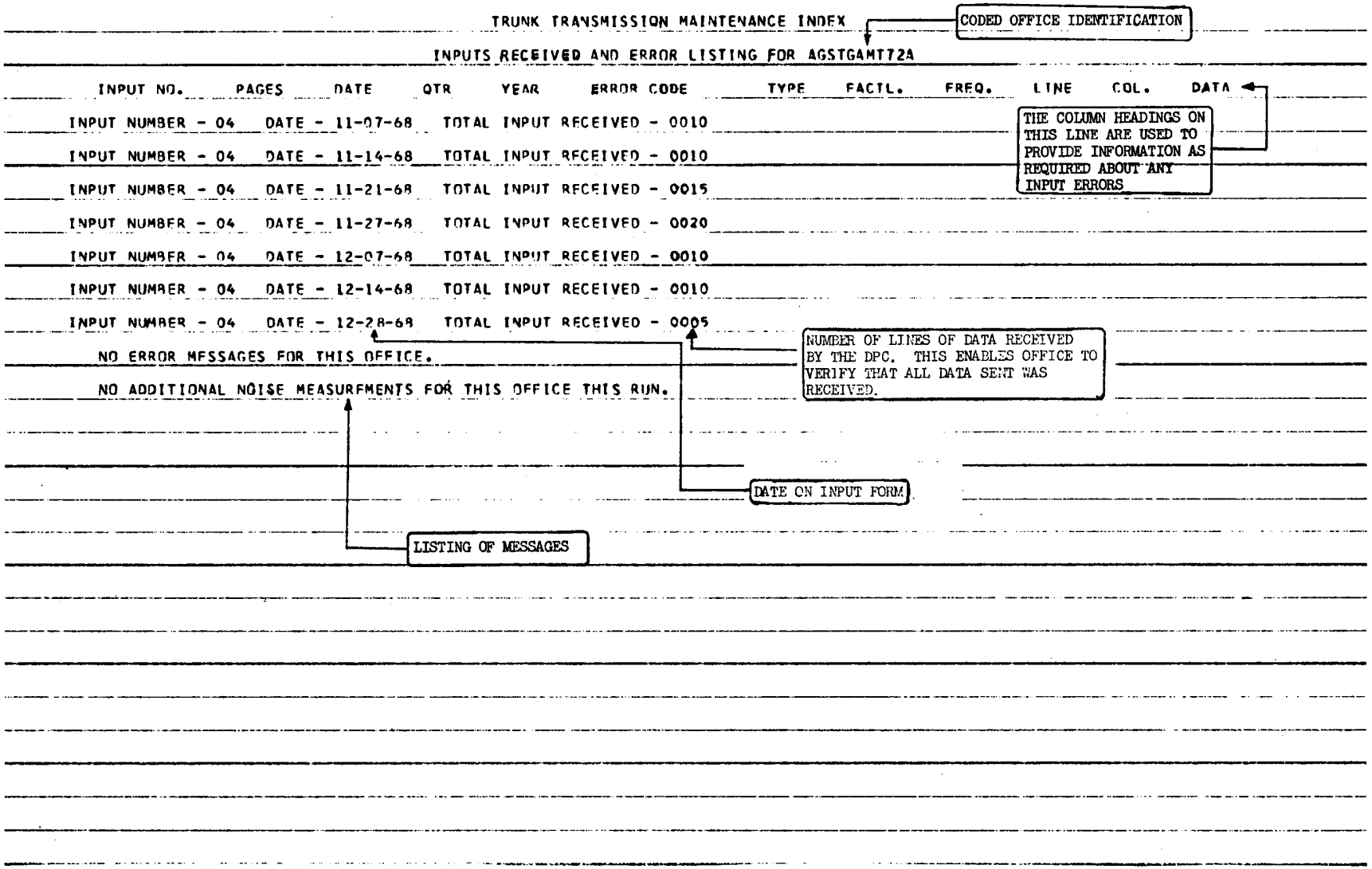

Fig. 1—Output Generated By Edit and Verification Program

TRUNK TRANSMISSION MAINTENANCE INDEX

INPUTS RECEIVED AND ERROR LISTING FOR AGSTGAMT72A

INPUT NO.	PAGES	DATE	QTR	YEAR	ERROR CODE	TYPE	FACIL.	FREQ.	LINE	COL.	DATA
04	1	12 07		68	70	1	07	40	04		
04	1	12 07		68	04	1	07	40	03		
04	1	12 07		68	70	1	07	40	03		
04	1	12 07		68	04	1	07	40	02		
04	1	12 07		68	70	1	07	40	02		
04	1	12 07		68	04	1	07	40	01		
04	1	12 07		68	70	1	07	40	01		
04	1	12 07		68	04	1	07	40	10		
04	1	12 07		68	70	1	07	40	10		
04	1	12 07		68	04	1	07	40	09		
04	1	12 07		68	70	1	07	40	09		
04	1	12 07		68	04	1	07	40	08		
04	1	12 07		68	70	1	07	40	08		
04	1	12 07		68	04	1	07	40	07		
04	1	12 07		68	70	1	07	40	07		
04	1	12 07		68	04	1	07	40	06		
04	1	12 07		68	70	1	07	40	06		
04	1	12 07		68	04	1	07	40	05		
04	1	12 07		68	70	1	07	40	05		

INPUT NUMBER - 04 DATE - 10-07-68 TOTAL INPUT RECEIVED - 0010

INPUT NUMBER - 04 DATE - 10-14-68 TOTAL INPUT RECEIVED - 0010

INPUT NUMBER - 04 DATE - 12-07-68 TOTAL INPUT RECEIVED - 0010

THIS PAGE SHOWS A LISTING OF ERROR MESSAGES FOR ONE OFFICE. BSP 660-403-C11 CONTAINS A LISTING AND EXPLANATION OF EACH ERROR CODE.

SINCE THE ERRORS WERE ALL RELATED TO THE TYPE FACILITY, NOTHING IS SHOWN IN THE COL. AND DATA COLUMNS.

Fig. 2—Output Generated By Edit and Verification Program

TRUNK TRANSMISSION MAINTENANCE INDEX

AUBURN

LOSS COMPONENT 4 Q 68

FACILITY	MEAS.FREQ.	PERCENT GREATER 0.7DB	DEVIATIONS THAN 1.7DB	3.7DB	PERCENT MEAS.	NO. OF CONT.TRKS	SUB 0.7DB	COMPONENT INDEX 1.7DB	PERCENT MEAS.	LOSS INDEX
→OBJECTIVE		11.8	-	-	97.0	-	97.0	-	97.0	97.0
E REP (NO HYB)	6 MONTHS	10.0	-	5.0	90.0	50	97.4	-	90.0	96.7
NON GAIN (NO HYB)	ANNUAL	52.0	-	4.0	83.3	30	56.0	-	79.0	58.3
→SUBTOTAL E+NONGAIN		25.8	-	4.6	87.5	80	91.0	-	86.0	90.5
→OBJECTIVE		29.8	4.4	-	97.0	-	97.0	97.0	97.0	97.0
REP (OTHER THAN E)	3 MONTHS	5.0	0.0	0.0	100.0	10	99.8	100.0	100.0	99.9
CARRIER	3 MONTHS	10.0	5.0	0.0	66.7	15	99.3	96.4	42.0	92.3
→SUBTOTAL REPT + CARR.		8.0	3.0	0.0	80.0	25	99.6	98.0	73.0	96.2
COMBINED TOTAL ←		-	-	-	-	105	-	-	-	91.9 ←

THE COMBINED TOTAL IS OBTAINED BY WEIGHTING THE SUBTOTALS IN ACCORDANCE WITH THE NUMBER OF CONTROLLED TRUNKS IN EACH SUBTOTAL.

COMBINED LOSS COMPONENT INDEX

SUBTOTALS ARE OBTAINED BY WEIGHTING EACH LINE INCLUDED IN THE SUBTOTAL IN ACCORDANCE WITH THE NUMBER OF CONTROLLED TRUNKS OF EACH.

AN OBJECTIVE LINE IS PRINTED FOR EACH SUB-COMPONENT TO SHOW THE LOWEST PERCENT MEASUREMENTS MADE AND THE MAXIMUM PERCENT DEVIATION WHICH WILL GIVE AN INDEX OF 97.0

Fig. 3—Examples of Quarterly Loss Component Results

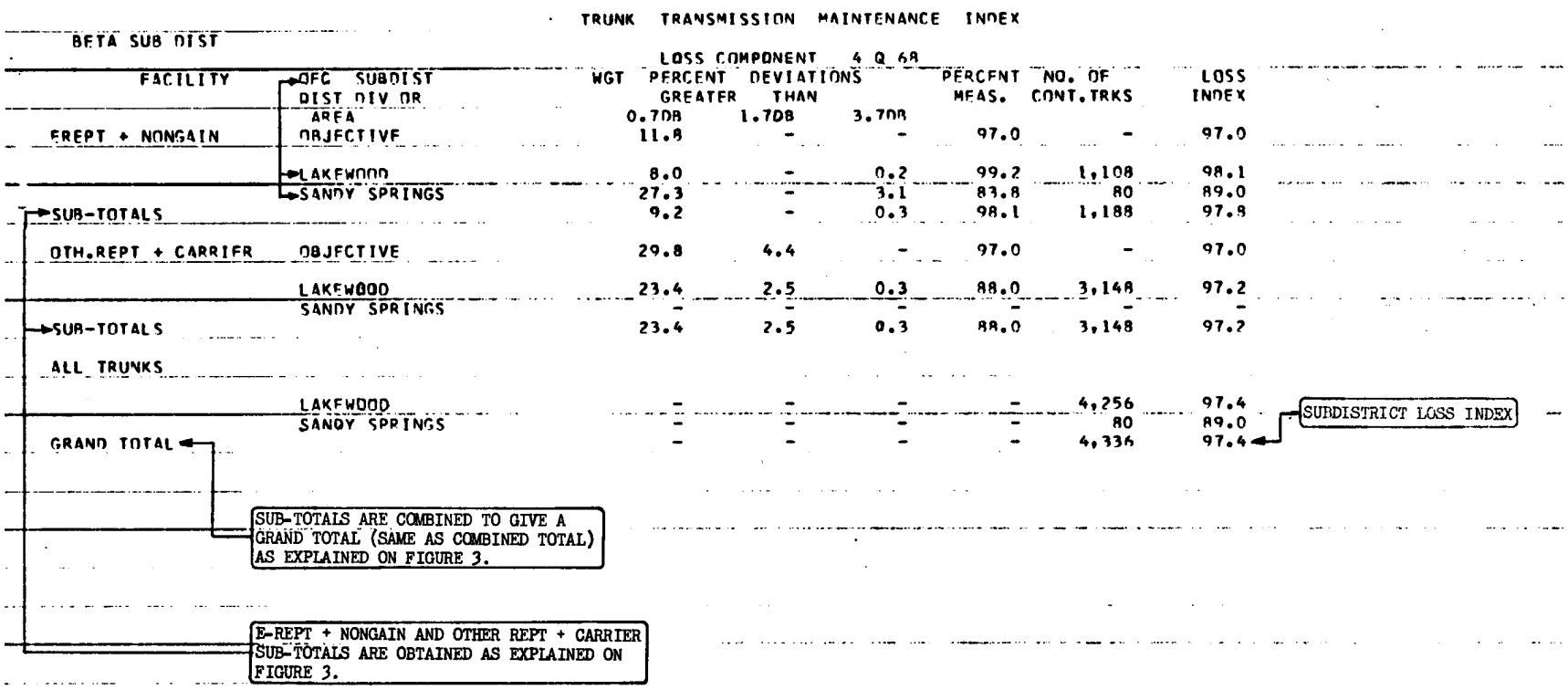

Fig. 4—Examples of Quarterly Loss Component Results

TRUNK TRANSMISSION MAINTENANCE INDEX

NORTH DIST

LOSS COMPONENT 4 Q 68

FACILITY	OFC SUBDIST DIST DIV OR AREA	WGT	PERCENT DEVIATIONS GREATER THAN 0.7DB	1.7DB	3.7DB	PERCENT MEAS.	NO. OF CONT. TRKS	LOSS INDEX
EREPT + NONGAIN	OBJECTIVE		11.8	-	-	97.0	-	97.0
	ALPHA SUBDIST		26.0	-	3.7	89.4	160	90.7
	BETA SUB DIST		9.2	-	0.3	98.1	1,188	97.8
SUB-TOTALS			11.1	-	0.7	97.0	1,348	97.2
OTH.REPT + CARRIER	OBJECTIVE		29.8	4.4	-	97.0	-	97.0
	ALPHA SUBDIST		8.0	3.0	0.0	80.0	50	96.2
	BETA SUB DIST		23.4	2.5	0.3	88.0	3,148	97.2
SUB-TOTALS			23.1	2.5	0.2	87.8	3,198	97.2
ALL TRUNKS								
	ALPHA SUBDIST		-	-	-	-	210	92.0
	BETA SUB DIST		-	-	-	-	4,336	97.4
GRAND TOTAL			-	-	-	-	4,546	97.2

DISTRICT LOSS INDEX

SEE FIGURE 3 FOR FURTHER EXPLANATION

Fig. 5—Examples of Quarterly Loss Component Results

TRUNK TRANSMISSION MAINTENANCE INDEX

ATLANTA DIV

LOSS COMPONENT 4 Q 68

FACILITY	DEC SUBDIST DIST DIV OR AREA	WGT	PERCENT GREATER 0.70S	DEVIATIONS THAN 1.70S	3.70S	PERCENT MEAS.	NO. OF CONT.TRKS	LOSS INDEX
EREPT + NONGAIN	OBJECTIVE		11.8	-	-	97.0	-	97.0
	NORTH DIST		11.1	-	0.7	97.0	1,348	97.2
	EAST DISTRICT		8.0	-	6.1	100.0	200	98.2
SUB-TOTALS			10.6	-	1.3	97.3	1,548	97.4
OTH.REPT + CARRIER	OBJECTIVE		29.8	4.4	-	97.0	-	97.0
	NORTH DIST		23.1	2.5	0.2	87.8	3,198	97.2
	EAST DISTRICT		-	-	-	-	-	-
SUB-TOTALS			23.1	2.5	0.2	87.8	3,198	97.2
ALL TRUNKS								
	NORTH DIST		-	-	-	-	4,546	97.2
	EAST DISTRICT		-	-	-	-	200	98.2
GRAND TOTAL			-	-	-	-	4,746	97.3

DIVISION LOSS INDEX

DISTRICT RESULTS ARE WEIGHTED, SUB-TOTALED AND COMBINED AS EXPLAINED ON FIGURE 3.

Fig. 6—Examples of Quarterly Loss Component Results

TRUNK TRANSMISSION MAINTENANCE INDEX

GEORGIA AREA

LOSS COMPONENT 4 Q 68

FACILITY	OFC SUBDIST DIST DIV OR AREA	WGT PERCENT GREATER THAN 0.70B	DEVIATIONS 1.70B	3.70B	PERCENT MEAS.	NO. OF CONT.TRKS	LOSS INDEX
EREPT + NONGAIN	OBJECTIVE	11.8	-	-	97.0	-	97.0
	ATLANTA DIV	10.6	-	1.3	97.3	1,548	97.4
	MACON DIVISION	31.1	-	1.5	89.6	290	87.7
SUB-TOTALS		13.8	-	1.3	96.0	1,838	96.2
OTH.REPT + CARRIER	OBJECTIVE	29.8	4.4	-	97.0	-	97.0
	ATLANTA DIV	23.1	2.5	0.2	87.8	3,198	97.2
	MACON DIVISION	10.4	4.2	2.4	95.9	125	98.0
SUB-TOTALS		22.6	2.5	0.2	88.1	3,323	97.3
ALL TRUNKS							
	ATLANTA DIV	-	-	-	-	4,746	97.3
	MACON DIVISION	-	-	-	-	415	90.8
GRAND TOTAL		-	-	-	-	5,161	96.9

AREA LOSS INDEX

DIVISION RESULTS ARE COMBINED TO OBTAIN AREA RESULTS.

SEE FIGURE 3 FOR FURTHER EXPLANATION

Fig. 7—Examples of Quarterly Loss Component Results

SOUTHERN BELL

TRUNK TRANSMISSION MAINTENANCE INDEX

LOSS COMPONENT 4 Q 68

FACILITY	OFC SUBDIST DIST DIV OR AREA	WGT PERCENT GREATER 0.7DB	DEVIATIONS THAN 1.7DB	3.7DB	PERCENT MEAS.	NO. OF CONT.TRKS	LOSS INDEX
EREPT + NONGAIN	OBJECTIVE	11.8	-	-	97.0	-	97.0
	GEORGIA AREA	13.8	-	1.3	96.0	1,838	96.2
	SOUTH CAROLINA	22.9	-	0.1	61.5	353	86.0
SUB-TOTALS		15.2	-	1.1	90.4	2,191	95.0
OTH.REPT + CARRIER	OBJECTIVE	29.8	4.4	-	97.0	-	97.0
	GEORGIA AREA	22.6	2.5	0.2	88.1	3,323	97.3
	SOUTH CAROLINA	10.9	2.8	0.3	39.1	529	88.8
SUB-TOTALS		20.9	2.5	0.2	81.3	3,852	96.2
ALL TRUNKS							
	GEORGIA AREA	-	-	-	-	5,161	96.9
	SOUTH CAROLINA	-	-	-	-	882	87.7
GRAND TOTAL		-	-	-	-	6,043	95.8

COMPANY LOSS INDEX

HERE AREAS ARE COMBINED TO GIVE COMPANY RESULTS. SEE FIGURE 3 FOR FURTHER EXPLANATION.

Fig. 8—Examples of Quarterly Loss Component Results

OFFICE AMERICUS MAIN

TRUNK TRANSMISSION MAINTENANCE INDEX
NOISE COMPONENT - 4068

MILEAGE RANGE	NUMBER OF MEAS.	MAINTENANCE LIMIT - NUMBER OF MEASUREMENTS 9 OR MORE DB BELOW	6 7 OR 8 DB BELOW	3 4 OR 5 DB BELOW	0 1 OR 2 DB BELOW	ABOVE LIMIT	IMMED. ACTION NO. ABOVE LIMIT
0 - 15	20	11	3	2	3	1	
16 - 50	0						
51 - 100	0						
101 - 200	0						
201 - 400	0						
401 - 1000	0						
1001 - 1500	0						
1501 - 2500	0						
2501 - 4000	0						
OVER 4000	0						
MANUAL TOTALS	20	11	3	2	3	1	0
% OF TOTAL		55.0	15.0	10.0	15.0	5.0	0.0

THIS SECTION OF NOISE COMPONENT OUTPUTS SUMMARIZES MANUAL MEASUREMENTS MADE DURING THIS QUARTER ONLY.

MANUAL MEASUREMENTS - PREVIOUS THIS YEAR- 200 TOTAL TO DATE- 220

CUMULATIVE FOR YEAR FOR MANUAL MEASUREMENTS

	CONTROLLED TRUNKS	NUMBER MEASURED	NO. ABOVE LIMIT	NO. IMMED ACTION	PERCENT MEASURED	PERCENT ABOVE LIMIT	PERCENT IMMED. ACTION	COMBINED INDEX
MANUAL *	60				100.0	9.5	4.5	
ATMS-WEEKLY **	-	-	-	-	-	-	-	
ATMS-SEMI-MONTHLY **	-	-	-	-	-	-	-	
ATMS-MONTHLY **	50	300	13	4	100.0	4.3	1.3	
ATMS-TOTAL (WGTD) **	50				100.0	4.3	1.3	
COMPONENT INDEX	110				100.0	95.6		96.0

THIS QUARTER ONLY FOR ATMS MEAS.

THESE COLUMNS ARE USED TO RECORD RESULTS FOR EACH ATMS FREQUENCY AT OFFICE LEVEL ONLY.

ATMS RESULTS ARE NOT COMBINED WITH MANUAL RESULTS TO GIVE PERCENT ABOVE IMMEDIATE ACTION LIMIT

THE COMPONENT INDEX LINE COMBINES ATMS AND MANUAL DATA IN ACCORDANCE WITH THE NUMBER OF CONTROLLED TRUNKS OF EACH.

ATMS RESULTS ARE WEIGHTED IN ACCORDANCE WITH THE NUMBER OF CONTROLLED TRUNKS OF EACH MEASUREMENT INTERUAL. THIS GIVES THE ATMS-TOTAL (WGTD.)

NUMBER OF TRUNKS ABOVE MAINTENANCE LIMIT

TOTAL	30
PENDING OVER ONE YEAR	40
TOTAL REFERRED TO ENGINEERING	51

THIS IS A CONTINUING SUPPLEMENTAL REPORT

* INCLUDES 1/2 ATMS - 1 WAY TRUNKS
** INCLUDES ATMS - 2 WAY + 1/2 ATMS - 1 WAY TRUNKS

THESE FOOTNOTES ARE EXPLAINED IN THE TEXT - PARAGRAPH 4.03

Fig. 9—Examples of Noise Component Results Output

TRUNK TRANSMISSION MAINTENANCE INDEX

SUBDISTRICT GAMMA SUB DIST — NOISE COMPONENT - 4Q68

MILEAGE RANGE	NUMBER OF MEAS.	MAINTENANCE LIMIT - NUMBER OF MEASUREMENTS 9 OR MORE DB BELOW	6 7 OR 8 DB BELOW	3 4 OR 5 DB BELOW	0 1 OR 2 DB BELOW	ABOVE LIMIT	IMMED. ACTION NO. ABOVE LIMIT
0 - 15	20	11	3	2	3	1	
16 - 50	20	20					
51 - 100	0						
101 - 200	0						
201 - 400	0						
401 - 1000	0						
1001 - 1500	0						
1501 - 2500	0						
2501 - 4000	0						
OVER 4000	0						
MANUAL TOTALS	40	31	3	2	3	1	0
% OF TOTAL		77.5	7.5	5.0	7.5	2.5	0.0

MANUAL MEASUREMENTS - PREVIOUS THIS YEAR- 360 TOTAL TO DATE- 400

	CONTROLLED TRUNKS	NUMBER MEASURED	NO. ABOVE LIMIT	NO. IMMED ACTION	PERCENT MEASURED	PERCENT ABOVE LIMIT	PERCENT IMMED. ACTION	COMBINED INDEX
MANUAL *	160				93.8	9.3	2.8	
ATMS-TOTAL (WGTD) **	50				100.0	4.3	1.3	
COMPONENT INDEX	210				95.0	95.0		95.0

WEIGHTED ATMS DATA FOR THIS PERIOD (AT SUB DISTRICT LEVEL AND HIGHER, ONLY ATMS (WTGD) DATA WILL BE PROVIDED).

SUBDISTRICT NOISE INDEX

NUMBER OF TRUNKS ABOVE MAINTENANCE LIMIT

TOTAL	32
PENDING OVER ONE YEAR	69
TOTAL REFERRED TO ENGINEERING	143

* INCLUDES 1/2 ATMS - 1 WAY TRUNKS

** INCLUDES ATMS - 2 WAY + 1/2 ATMS - 1 WAY TRUNKS

SEE FIGURE 9 FOR ADDITIONAL INFORMATION

Fig. 10—Examples of Noise Component Results Output

TRUNK TRANSMISSION MAINTENANCE INDEX

DISTRICT ALBANY DIST — NOISE COMPONENT - 4Q68

MILEAGE RANGE	NUMBER OF MEAS.	MAINTENANCE LIMIT - NUMBER OF MEASUREMENTS 9 OR MORE DB BELOW	6 7 OR 8 DB BELOW	3 4 OR 5 DB BELOW	0 1 OR 2 DB BELOW	ABOVE LIMIT	IMMED. ACTION NO. ABOVE LIMIT
0 - 15	20	11	3	2	3	1	
16 - 50	20	20					
51 - 100	0						
101 - 200	0						
201 - 400	0						
401 - 1000	0						
1001 - 1500	0						
1501 - 2500	0						
2501 - 4000	0						
OVER 4000	0						
MANUAL TOTALS	40	31	3	2	3	1	0
% OF TOTAL		77.5	7.5	5.0	7.5	2.5	0.0

MANUAL MEASUREMENTS - PREVIOUS THIS YEAR- 910 TOTAL TO DATE- 950

	CONTROLLED TRUNKS	NUMBER MEASURED	NO. ABOVE LIMIT	NO. IMMED ACTION	PERCENT MEASURED	PERCENT ABOVE LIMIT	PERCENT IMMED. ACTION	COMBINED INDEX
MANUAL *	172				94.3	14.4	3.8	
ATMS-TOTAL (WGTD) **	87				100.0	4.1	0.8	
COMPONENT INDEX	259				96.0	93.2		93.5

DISTRICT NOISE INDEX

NUMBER OF TRUNKS ABOVE MAINTENANCE LIMIT

TOTAL	38
PENDING OVER ONE YEAR	75
TOTAL REFERRED TO ENGINEERING	148

* INCLUDES 1/2 ATMS - 1 WAY TRUNKS
** INCLUDES ATMS - 2 WAY + 1/2 ATMS - 1 WAY TRUNKS

SEE FIGURES 9 AND 10 FOR EXPLANATION OF OUTPUT

Fig. 11—Examples of Noise Component Results Output

TRUNK TRANSMISSION MAINTENANCE INDEX

DIVISION ATLANTA DIV — NOISE COMPONENT - 4068

MILEAGE RANGE	NUMBER OF MEAS.	MAINTENANCE LIMIT - NUMBER OF MEASUREMENTS 9 OR MORE DB BELOW	6 7 OR 8 DB BELOW	3 4 OR 5 DB BELOW	0 1 OR 2 DB BELOW	ABOVE LIMIT	IMMED. ACTION NO. ABOVE LIMIT
0 - 15	20	11	3	2	3	1	
16 - 50	30	10	4	4	8	4	
51 - 100	40	16	10	4	4	6	2
101 - 200	0						
201 - 400	0						
401 - 1000	0						
1001 - 1500	0						
1501 - 2500	0						
2501 - 4000	0						
OVER 4000	0						
MANUAL TOTALS	90	37	17	10	15	11	2
% OF TOTAL		41.1	18.9	11.1	16.7	12.2	2.2

MANUAL MEASUREMENTS - PREVIOUS THIS YEAR- 1036 TOTAL TO DATE- 1126

	CONTROLLED TRUNKS	NUMBER MEASURED	NO. ABOVE LIMIT	NO. IMMED ACTION	PERCENT MEASURED	PERCENT ABOVE LIMIT	PERCENT IMMED. ACTION	COMBINED INDEX
MANUAL *	440				82.4	16.1	2.9	
ATMS-TOTAL (WGTD) **	50				100.0	3.7	0.9	
COMPONENT INDEX	490				80.0	90.6		89.5

DIVISION NOISE INDEX

NUMBER OF TRUNKS ABOVE MAINTENANCE LIMIT

TOTAL	287
PENDING OVER ONE YEAR	160
TOTAL REFERRED TO ENGINEERING	45

* INCLUDES 1/2 ATMS - 1 WAY TRUNKS
** INCLUDES ATMS - 2 WAY + 1/2 ATMS - 1 WAY TRUNKS

SEE FIGURES 9 AND 10 FOR EXPLANATION OF OUTPUT

Fig. 12—Examples of Noise Component Results Output

TRUNK TRANSMISSION MAINTENANCE INDEX

AREA GEORGIA AREA — NOISE COMPONENT - 4Q68

MILEAGE RANGE	NUMBER OF MEAS.	MAINTENANCE LIMIT - NUMBER OF MEASUREMENTS 9 OR MORE DB BELOW	6 7 OR 8 DB BELOW	3 4 OR 5 DB BELOW	0 1 OR 2 DB BELOW	ABOVE LIMIT	IMMED. ACTION NO. ABOVE LIMIT
0 - 15	80	35	14	11	15	5	
16 - 50	80	40	8	8	16	8	
51 - 100	60	24	15	6	6	9	3
101 - 200	40	12	2	3	8	15	5
201 - 400	0						
401 - 1000	20	10	3	2	4	1	
1001 - 1500	0						
1501 - 2500	20	10	3	2	4	1	
2501 - 4000	20	2	5	5	6	2	
OVER 4000	0						
MANUAL TOTALS	320	133	50	37	59	41	8
% OF TOTAL		41.6	15.6	11.6	18.4	12.8	2.5

MANUAL MEASUREMENTS - PREVIOUS THIS YEAR- 1946 TOTAL TO DATE- 2266

	CONTROLLED TRUNKS	NUMBER MEASURED	NO. ABOVE LIMIT	NO. IMMED ACTION	PERCENT MEASURED	PERCENT ABOVE LIMIT	PERCENT IMMED. ACTION	COMBINED INDEX
MANUAL *	767				80.9	15.3	3.3	
ATMS-TOTAL (WGTD) **	137				100.0	4.0	0.8	
COMPONENT INDEX	904				80.0	91.4		90.3

AREA NOISE INDEX

NUMBER OF TRUNKS ABOVE MAINTENANCE LIMIT

TOTAL	330
PENDING OVER ONE YEAR	239
TOTAL REFERRED TO ENGINEERING	196

* INCLUDES 1/2 ATMS - 1 WAY TRUNKS

** INCLUDES ATMS - 2 WAY + 1/2 ATMS - 1 WAY TRUNKS

SEE FIGURES 9 AND 10 FOR EXPLANATION OF OUTPUT FORM

Fig. 13—Examples of Noise Component Results Output

TRUNK TRANSMISSION MAINTENANCE INDEX

COMPANY SOUTHERN BELL — NOISE COMPONENT - 4068

MILEAGE RANGE	NUMBER OF MEAS.	MAINTENANCE LIMIT - NUMBER OF MEASUREMENTS 9 OR MORE DB BELOW	6 7 OR 8 DB BELOW	3 4 OR 5 DB BELOW	0 1 OR 2 DB BELOW	ABOVE LIMIT	IMMED. ACTION NO. ABOVE LIMIT
0 - 15	100	46	17	13	18	6	
16 - 50	110	50	12	12	24	12	
51 - 100	100	40	25	10	10	15	5
101 - 200	100	34	4	7	21	34	10
201 - 400	0						
401 - 1000	20	10	3	2	4	1	
1001 - 1500	0						
1501 - 2500	20	10	3	2	4	1	
2501 - 4000	20	2	5	5	6	7	
OVER 4000	0						
MANUAL TOTALS	470	192	69	51	87	71	15
% OF TOTAL		40.9	14.7	10.9	18.5	15.1	3.2

MANUAL MEASUREMENTS - PREVIOUS THIS YEAR- 2099 TOTAL TO DATE- 2569

	CONTROLLED TRUNKS	NUMBER MEASURED	NO. ABOVE LIMIT	NO. IMMED ACTION	PERCENT MEASURED	PERCENT ABOVE LIMIT	PERCENT IMMED. ACTION	COMBINED INDEX
MANUAL *	1112				69.5	15.3	3.5	
ATMS-TOTAL (WGTD) **	187				93.4	4.0	0.6	
COMPONENT INDEX	1299				57.0	91.6		88.1

COMPANY NOISE INDEX

NUMBER OF TRUNKS ABOVE MAINTENANCE LIMIT

TOTAL	342
PENDING OVER ONE YEAR	252
TOTAL REFERRED TO ENGINEERING	210

* INCLUDES 1/2 ATMS - 1 WAY TRUNKS
** INCLUDES ATMS - 2 WAY + 1/2 ATMS - 1 WAY TRUNKS

SEE FIGURES 9 AND 10 FOR EXPLANATION OF OUTPUT FORM

Fig. 14—Examples of Noise Component Results Output

TRUNK TRANSMISSION MAINTENANCE INDEX

COMBINED INDEX REPORT

4ST QUARTER 1968

DIVISION AREA OR COMPANY	LOSS COMP. INDEX	LOSS NO.CONTROL TRUNKS	NOISE COMP. INDEX	NOISE NO.CONTROL TRUNKS	BALANCE COMP. INDEX	BALANCE NO.CONTROL TRUNKS	INDEX
DIV 01	97.3	4,746	89.5	490	99.7	11,522	98.7
DIV 02	90.8	415	90.9	414	94.4	10,342	94.1
AREA 13	96.9	5,161	90.3	904	38.0	21,864	50.6
AREA 15	87.7	882	83.1	395	89.3	3,476	88.5
COMP 17	95.8	6,043	88.1	1,299	38.0	25,340	50.7

LOSS, NOISE AND BALANCE INDEXES ARE WEIGHTED IN ACCORDANCE WITH THE NUMBER OF CONTROLLED TRUNKS PERTAINING TO EACH INDEX AND TOTAL TO GIVE A COMBINED TTMI FOR EACH DIVISION OR HIGHER LEVEL.

Fig. 15—Example of Combined Index Report

COMPANY VARIABLE-DATA — TRUNK TRANSMISSION MAINTENANCE INDEX

1 — 3 — LOSS REPORT — 9 — 10

INPUT NO 07 — COMPANY NO 17 — 4ST QUARTER 1968

	TRUNKS EREP	TRUNKS CARR	% DEV.-EREP 0.7	% DEV.-EREP 3.7	% MEAS EREP	% DEV.-CARR 0.7	% DEV.-CARR 1.7	% DEV.-CARR 3.7	% MEAS CARR	EREP INDEX	CARR INDEX	LOSS INDEX	LOSS NOISE & BALANCE INDEX
5	12	18	24	27	30	34	37	40	43	47	51	55	59
AREA 13	001838	003323	13.8	01.3	096.0	22.6	02.5	00.2	088.1	096.2	097.3	096.9	050.6
AREA 15	000353	000529	22.9	00.1	061.5	10.9	02.8	00.3	039.1	086.0	088.8	087.7	088.5
COMP 00	002191	003852	15.2	01.1	090.4	20.9	02.5	00.2	081.3	095.0	096.2	095.8	050.7

1 — 3 — NOISE REPORT — 9 — 10

INPUT NO 08 — COMPANY NO 17 — 4ST QUARTER 1968

	CNTRL TRUNKS	% OVER MTCE	% TRKS MEAS	OVER MTCE	% MEAS	NOISE INDEX	BAL TRUNKS	% ERL MED	% ERL MIN	% SP MED	% SP MIN	BAL INDEX	TRKS ABOVE MTCE LIMIT TOTAL	1 YR	TO ENG
5	12	19	22	26	30	34	38	45	49	53	57	61	65	70	75
AREA 13	0000904	13.6	083.9	091.4	080.0	090.3	0021864	024.8	023.3	025.0	024.0	038.0	00330	00239	00196
AREA 15	0000395	13.5	047.9	091.4	008.0	083.1	0003476	024.6	016.0	024.7	024.0	089.3	00012	00013	00014
COMP 00	0001299	13.3	072.9	091.6	057.0	088.1	0025340	024.7	022.2	024.9	024.0	038.0	00342	00252	00210

3 — 5 — ADDITIONAL NOISE REPORT NUMBER OF MEASUREMENTS

SORT CODE 99 — COMPANY NO 17

		DB BELOW MAINTENANCE LIMIT 9OR MORE	6 7 OR 8	3 4 OR 5	0 1 OR 2	ABOVE LIMIT	IMMED. ACTION		DB BELOW MAINTENANCE LIMIT 9 OR MORE	6 7 OR 8	3 4 OR 5	0 1 OR 2	ABOVE LIMIT	IMMED. ACTION
	MILEAGE RANGE	7	13	19	25	31	37	MILEAGE RANGE	43	49	55	61	67	73
INPUT NO 10	0-15	000046	000017	000013	000018	000006	000000	16-50	000050	000012	000012	000024	000012	000000
INPUT NO 11	51-100	000040	000025	000010	000010	000015	000005	101-200	000034	000004	000007	000021	000034	000010
INPUT NO 12	201-400	000000	000000	000000	000000	000000	000000	401-1000	000010	000003	000002	000004	000001	000000
INPUT NO 13	1001-1500	000000	000000	000000	000000	000000	000000	1501-2500	000010	000003	000002	000004	000001	000000
INPUT NO 14	2501-4000	000002	000005	000005	000006	000002	000000	OVER-4000	000000	000000	000000	000000	000000	000000

THIS OUTPUT IS SENT TO A.T.& T. CO. HEADQUARTERS EACH QUARTER FOR PREPARATION OF THE SYSTEM SUMMARY

Fig. 16—Example of Output Used For Preparation of System Summaries

TRUNK TRANSMISSION MAINTENANCE INDEX
PROGRESS REPORT 01 W

REPORT FREQUENCY OIW = FIRST WEEK OF THE QUARTER

EPSILON SUBDIS

LOSS COMPONENT 4 Q 68

FACILITY	OFC SUBDIST DIST DIV OR AREA	WGT	PERCENT DEVIATIONS GREATER THAN 0.7DB	PERCENT DEVIATIONS GREATER THAN 1.7DB	PERCENT DEVIATIONS GREATER THAN 3.7DB	PERCENT MEAS.	NO. OF CONT.TRKS	SUB COMPONENT INDEX 0.7DB	SUB COMPONENT INDEX 1.7DB
EREPT + NONGAIN	OBJECTIVE		11.8	-	-	97.0	-	97.0	-
	MAIN TOLL		100.0	-	100.0	0.0	80	0.0	-
SUB TOTALS			100.0	-	100.0	0.0	80	0.0	-
OTH.REPT + CARRIER	OBJECTIVE		29.8	4.4	-	97.0	-	97.0	-
	MAIN TOLL		24.0	20.0	20.0	13.4	75	98.4	54.0
SUB TOTALS			24.0	20.0	20.0	13.4	75	98.4	54.0

PROGESS REPORT ACCUMULATES DATA DURING EACH QUARTER. THE COMBINED INDEX IS NOT COMPUTED.

SUB-COMPONENT INDEXES FOR PERCENT DEVIATIONS GREATER THAN 0.7DB AND 1.7DB

WHEN NO MEASUREMENTS ARE REPORTED, 100% DEVIATIONS AND 0% MEASUREMENTS ARE RECORDED.

Fig. 17—Example of Weekly Loss Results

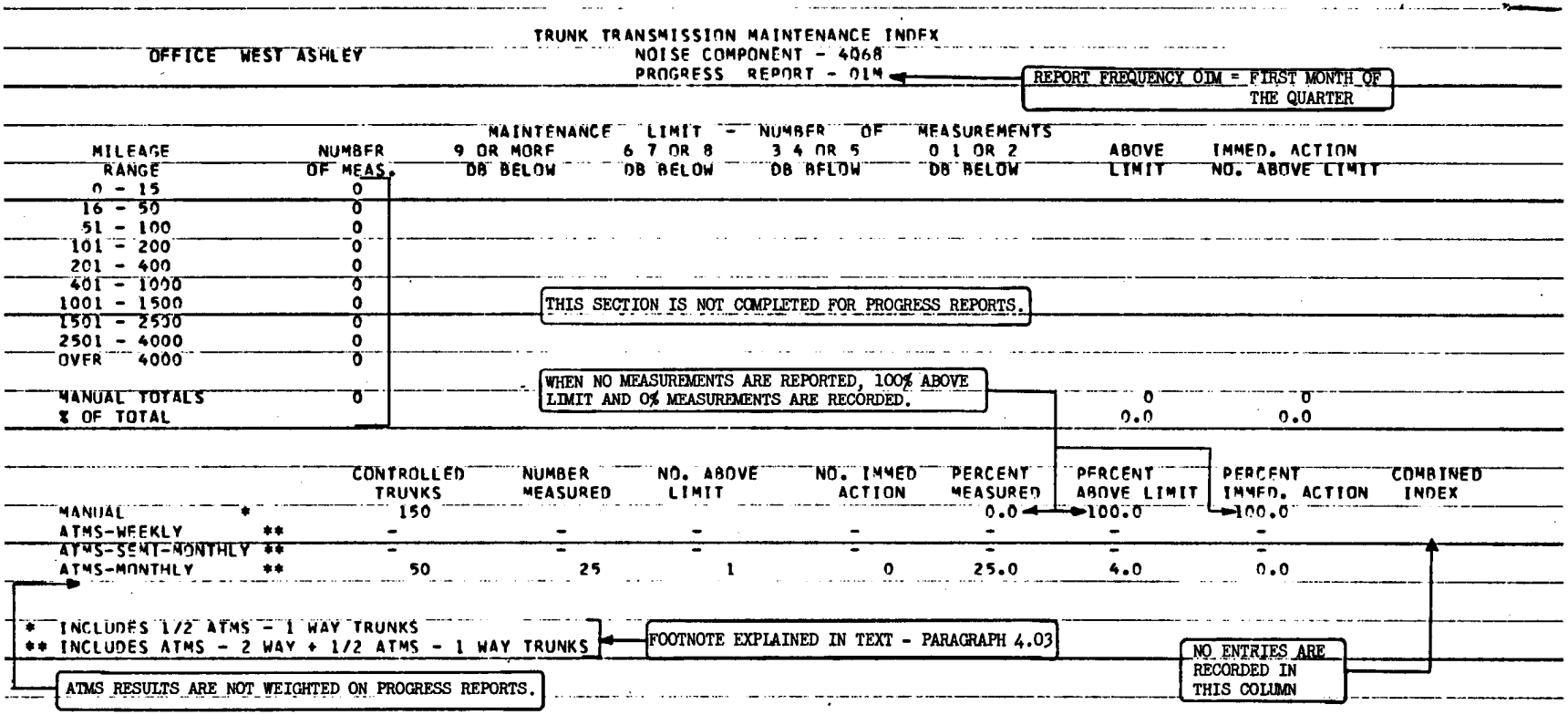

Fig. 18—Monthly Noise Report