

## TRUNK TRANSMISSION MAINTENANCE INDEX LOSS COMPONENT INDEX TABLES

### 1. GENERAL

**1.01** This section provides tables for use in rating performance in controlling loss variations in trunks. These index tables are the System standards of performance for this component. It is reissued to correct errors as indicated by arrows.

**1.02** The index tables apply to all trunks which have gain devices and/or make use of outside plant facilities. For rating purposes, the trunks are divided into two groups:

- (1) trunks using carrier channels or equipped with other than E-type repeaters ←
- (2) trunks equipped with E-type repeaters or with outside plant and no gain devices

**1.03** Performance on Group 1 trunks is determined in the following manner:

SUBCOMPONENT	WEIGHTING — %	INDEX TABLE
1. Percent Deviations from EML Exceeding $\pm 0.7$ db	45	I
2. Percent Deviations from EML Exceeding $\pm 1.7$ db	45	II
3. Percent Required Measurements Completed	10	IV

**1.04** Performance on Group 2 trunks is determined in the following manner:

SUBCOMPONENT	WEIGHTING — %	INDEX TABLE
1. Percent Deviations from EML Exceeding $\pm 0.7$ db	90	III
2. Percent Required Measurements Completed	10	IV

**1.05** The accuracy of the index depends on whether the measurements taken in any period are a representative sample of the actual

performance of the trunks measured. Fig. 1 provides curves which permit an estimate of the statistical accuracy of a sample of measurements of trunks with E repeaters or with no gain devices. Fig. 2 provides similar curves for trunks with other repeaters or with carrier.

**1.06** Accuracy is indicated in each case on the basis of 90% confidence limits, ie, there is a 90% assurance that the real answer is within a certain number of points of the sample result. Sampling accuracy concerns only the performance components as indicated in Tables I, II, and III. The curves are therefore arranged on this basis.

**1.07** As an example, assume a sample of 1,000 measurements on E-repeated trunks which produce a performance component, from Table III of 86.0. Entering Fig. 1, the upper curve labeled "86" indicates the real value may have been as much as 0.5 index point higher. The lower curve labeled "86" indicates the real answer may also have been as much as 0.7 index point lower. Thus the confidence interval is +0.5 to -0.7, and the confidence limits are 85.3-86.5, for this example. ←

**1.08** Fig. 2 is used in the same way as Fig. 1, but one difference should be recognized. The performance component for trunks with carrier or other repeaters is based on two sub-components. There may be several combinations of the sub-components that produce the same performance component, but the confidence limits vary slightly. Therefore, the curves show the average confidence limits for a given performance component.

**1.09** Figs. 1 and 2 are designed to be used by reporting offices only, because the confidence limits are determined by the number of measurements. Since summaries at higher organizational levels are weighted on the basis of controlled trunks, these curves cannot be applied.

TABLE I  
INDEX TABLE

PERCENT DEVIATIONS FROM EML EXCEEDING $\pm 0.7$ db					
CARRIER AND OTHER REPEATERS					
PERCENT STEP	SUBCOMP. INDEX	COMP. POINTS	PERCENT STEP	SUBCOMP. INDEX	COMP. POINTS
0- 3.0	100.0	45.0	41.2-41.4	90.4	40.7
3.1- 6.0	99.8	44.9	41.5-41.7	90.2	40.6
6.1- 9.0	99.6	44.8	41.8-42.0	90.0	40.5
9.1-12.0	99.4	44.7	42.1-42.5	89.5	40.3
12.1-15.0	99.2	44.6	42.6-43.0	89.0	40.1
15.1-18.0	99.0	44.6	43.1-43.5	88.5	39.9
18.1-21.0	98.8	44.5	43.6-44.0	88.0	39.6
21.1-23.0	98.6	44.4	44.1-44.5	87.5	39.4
23.1-25.0	98.4	44.3	44.6-45.0	87.0	39.2
25.1-26.5	98.2	44.2	45.1-45.5	86.5	39.0
26.6-28.0	98.0	44.1	45.6-46.0	86.0	38.7
28.1-28.4	97.8	44.0	46.1-46.5	85.5	38.5
28.5-28.8	97.6	43.9	46.6-47.0	85.0	38.3
28.9-29.2	97.4	43.8	47.1-47.5	84.5	38.1
29.3-29.6	97.2	43.7	47.6-48.0	84.0	37.8
29.7-30.0	97.0	43.7	48.1-48.5	83.5	37.6
30.1-30.4	96.8	43.6	48.6-49.0	83.0	37.5
30.5-30.8	96.6	43.5	49.1-49.5	82.5	37.3
30.9-31.2	96.4	43.4	49.6-50.0	82.0	36.9
31.3-31.6	96.2	43.3	50.1-50.5	81.5	36.7
31.7-32.0	96.0	43.2	50.6-51.0	81.0	36.5
32.1-32.4	95.8	43.1	51.1-51.5	80.5	36.3
32.5-32.8	95.6	43.0	51.6-52.0	80.0	36.0
32.9-33.2	95.4	42.9	52.1-53.5	78.0	35.1
33.3-33.6	95.2	42.8	53.6-55.0	76.0	34.2
33.7-34.0	95.0	42.8	55.1-56.5	74.0	33.3
34.1-34.4	94.8	42.7	56.6-58.0	72.0	32.4
34.5-34.8	94.6	42.6	58.1-59.5	70.0	31.5
34.9-35.2	94.4	42.5	59.6-61.0	68.0	30.6
35.3-35.6	94.2	42.4	61.1-63.0	66.0	29.7
35.7-36.0	94.0	42.3	63.1-65.0	64.0	28.8
36.1-36.3	93.8	42.2	65.1-67.0	62.0	27.9
36.4-36.6	93.6	42.1	67.1-69.0	60.0	27.0
36.7-36.9	93.4	42.0	69.1-70.0	58.0	26.1
37.0-37.2	93.2	41.9	70.1-71.0	56.0	25.2
37.3-37.5	93.0	41.9	71.1-72.0	54.0	24.3
37.6-37.8	92.8	41.8	72.1-73.0	52.0	23.4
37.9-38.1	92.6	41.7	73.1-74.0	50.0	22.5
38.2-38.4	92.4	41.6	74.1-77.0	45.0	20.3
38.5-38.7	92.2	41.5	77.1-80.0	40.0	18.0
38.8-39.0	92.0	41.4	80.1-82.0	35.0	15.8
39.1-39.3	91.8	41.3	82.1-84.0	30.0	13.5
39.4-39.6	91.6	41.2	84.1-86.0	25.0	11.3
39.7-39.9	91.4	41.1	86.1-88.0	20.0	9.0
40.0-40.2	91.2	41.0	88.1-91.0	15.0	6.8
40.3-40.5	91.0	41.0	91.1-94.0	10.0	4.5
40.6-40.8	90.8	40.9	94.1-97.0	5.0	2.3
40.9-41.1	90.6	40.8	Over 97.0	0	0

TABLE II  
INDEX TABLE

PERCENT MEASUREMENTS EXCEEDING $\pm 1.7\text{db}$ VARIATION					
CARRIER AND OTHER REPEATERS					
PERCENT STEP	SUBCOMP. INDEX	COMP. POINTS	PERCENT STEP	SUBCOMP. INDEX	COMP. POINTS
0- 0.3	100.0	45.0	11.0-11.1	90.4	40.7
.4- 0.5	99.8	44.9	11.2-11.3	90.2	40.6
.6- 0.7	99.6	44.8	11.4-11.5	90.0	40.5
.8- 0.9	99.4	44.7	11.6-11.7	89.5	40.3
1.0- 1.2	99.2	44.6	11.8-11.9	89.0	40.1
1.3- 1.5	99.0	44.6	12.0-12.1	88.5	39.9
1.6- 1.8	98.8	44.5	12.2-12.3	88.0	39.6
1.9- 2.1	98.6	44.4	12.4-12.5	87.5	39.4
2.2- 2.4	98.4	44.3	12.6-12.7	87.0	39.2
2.5- 2.7	98.2	44.2	12.8-12.9	86.5	39.0
2.8- 3.0	98.0	44.1	13.0-13.1	86.0	38.7
3.1- 3.3	97.8	44.0	13.2-13.3	85.5	38.5
3.4- 3.6	97.6	43.9	13.4-13.5	85.0	38.3
3.7- 3.9	97.4	43.8	13.6-13.7	84.5	38.1
4.0- 4.2	97.2	43.7	13.8-13.9	84.0	37.8
4.3- 4.5	97.0	43.7	14.0-14.1	83.5	37.6
4.6- 4.7	96.8	43.6	14.2-14.3	83.0	37.5
4.8- 4.9	96.6	43.5	14.4-14.5	82.5	37.3
5.0- 5.1	96.4	43.4	14.6-14.7	82.0	36.9
5.2- 5.3	96.2	43.3	14.8-14.9	81.5	36.7
5.4- 5.5	96.0	43.2	15.0-15.1	81.0	36.5
5.6- 5.7	95.8	43.1	15.2-15.3	80.5	36.3
5.8- 5.9	95.6	43.0	15.4-15.5	80.0	36.0
6.0- 6.1	95.4	42.9	15.6-15.8	78.0	35.1
6.2- 6.3	95.2	42.8	15.9-16.1	76.0	34.2
6.4- 6.5	95.0	42.8	16.2-16.4	74.0	33.3
6.6- 6.7	94.8	42.7	16.5-16.7	72.0	32.4
6.8- 6.9	94.6	42.6	16.8-17.0	70.0	31.5
7.0- 7.1	94.4	42.5	17.1-17.4	68.0	30.6
7.2- 7.3	94.2	42.4	17.5-17.7	66.0	29.7
7.4- 7.5	94.0	42.3	17.8-18.0	64.0	28.8
7.6- 7.7	93.8	42.2	18.1-18.3	62.0	27.9
7.8- 7.9	93.6	42.1	18.4-18.6	60.0	27.0
8.0- 8.1	93.4	42.0	18.7-19.0	58.0	26.1
8.2- 8.3	93.2	41.9	19.1-19.5	56.0	25.2
8.4- 8.5	93.0	41.9	19.6-20.0	54.0	24.3
8.6- 8.7	92.8	41.8	20.1-20.5	52.0	23.4
8.8- 8.9	92.6	41.7	20.6-21.0	50.0	22.5
9.0- 9.1	92.4	41.6	21.1-22.0	45.5	20.3
9.2- 9.3	92.2	41.5	22.1-23.0	40.0	18.0
9.4- 9.5	92.0	41.4	23.1-24.0	35.0	15.8
9.6- 9.7	91.8	41.3	24.1-25.0	30.0	13.5
9.8- 9.9	91.6	41.2	25.1-26.0	25.0	11.3
10.0-10.1	91.4	41.1	26.1-27.0	20.0	9.0
10.2-10.3	91.2	41.0	27.1-29.0	15.0	6.8
10.4-10.5	91.0	41.0	29.1-32.0	10.0	4.5
10.6-10.7	90.8	40.9	32.1-35.0	5.0	2.3
10.8-10.9	90.6	40.8	Over 35.0	0	0

TABLE III  
INDEX TABLE

PERCENT DEVIATIONS FROM EML EXCEEDING $\pm 0.7\text{db}$					
E REPEATERED AND NON-GAIN TRUNKS					
PERCENT STEP	SUBCOMP. INDEX	COMP. POINTS	PERCENT STEP	SUBCOMP. INDEX	COMP. POINTS
0- 0.5	100.0	90.0	26.7-26.9	90.4	81.4
.6- 1.3	99.8	89.8	27.0-27.2	90.2	81.2
1.4- 2.1	99.6	89.6	27.3-27.5	90.0	81.0
2.2- 2.9	99.4	89.5	27.6-28.3	89.5	80.5
3.0- 3.7	99.2	89.3	28.4-29.2	89.0	80.1
3.8- 4.5	99.0	89.1	29.3-30.1	88.5	79.7
4.6- 5.3	98.8	88.9	30.2-31.0	88.0	79.2
5.4- 6.1	98.6	88.7	31.1-31.6	87.5	78.7
6.2- 6.9	98.4	88.6	31.7-32.2	87.0	78.3
7.0- 7.7	98.2	88.4	32.3-32.8	86.5	77.8
7.8- 8.5	98.0	88.2	32.9-33.4	86.0	77.4
8.6- 9.2	97.8	88.0	33.5-34.0	85.5	76.9
9.3- 9.9	97.6	87.9	34.1-34.5	85.0	76.5
10.0-10.6	97.4	87.7	34.6-35.0	84.5	76.1
10.7-11.3	97.2	87.5	35.1-35.5	84.0	75.6
11.4-12.0	97.0	87.3	35.6-36.0	83.5	75.2
12.1-12.5	96.8	87.1	36.1-36.5	83.0	74.7
12.6-13.0	96.6	86.9	36.6-37.0	82.5	74.3
13.1-13.5	96.4	86.8	37.1-37.5	82.0	73.8
13.6-14.0	96.2	86.6	37.6-38.0	81.5	73.4
14.1-14.5	96.0	86.4	38.1-38.5	81.0	72.9
14.6-15.0	95.8	86.2	38.6-39.0	80.5	72.5
15.1-15.5	95.6	86.0	39.1-39.5	80.0	72.0
15.6-16.0	95.4	85.9	39.6-40.7	78.0	70.2
16.1-16.5	95.2	85.7	40.8-41.9	76.0	68.4
16.6-17.0	95.0	85.5	42.0-43.1	74.0	66.6
17.1-17.5	94.8	85.3	43.2-44.3	72.0	64.8
17.6-18.0	94.6	85.1	44.4-45.5	70.0	63.0
18.1-18.5	94.4	85.0	45.6-46.5	68.0	61.2
18.6-19.0	94.2	84.8	46.6-47.5	66.0	59.4
19.1-19.5	94.0	84.6	47.6-48.5	64.0	57.6
19.6-20.0	93.8	84.4	48.6-49.5	62.0	55.8
20.1-20.5	93.6	84.2	49.6-50.5	60.0	54.0
20.6-21.0	93.4	84.1	50.6-51.6	58.0	52.2
21.1-21.5	93.2	83.9	51.7-52.7	56.0	50.4
21.6-22.0	93.0	83.7	52.8-53.8	54.0	48.6
22.1-22.4	92.8	83.5	53.9-54.9	52.0	46.8
22.5-22.8	92.6	83.3	55.0-56.0	50.0	45.0
22.9-23.2	92.4	83.2	56.1-58.0	45.0	40.5
23.3-23.6	92.2	83.0	58.1-60.0	40.0	36.0
23.7-24.0	92.0	82.8	60.1-63.0	35.0	31.5
24.1-24.4	91.8	82.6	63.1-66.0	30.0	27.0
24.5-24.8	91.6	82.4	66.1-69.0	25.0	22.5
24.9-25.2	91.4	82.3	69.1-73.0	20.0	18.0
25.3-25.6	91.2	82.1	73.1-78.0	15.0	13.5
25.7-26.0	91.0	81.9	78.1-85.0	10.0	9.0
26.1-26.3	90.8	81.7	85.1-95.0	5.0	4.5
26.4-26.6	90.6	81.5	Over 95.0	0	0

TABLE IV  
INDEX TABLE

PERCENT REQUIRED MEASUREMENTS COMPLETED					
PERCENT STEP	SUBCOMP. INDEX	COMP POINTS	PERCENT STEP	SUBCOMP. INDEX	COMP POINTS
99.6-100.0	100	10.0	69.6- 70.5	49	4.9
98.6- 99.5	99	9.9	68.6- 69.5	47	4.7
97.6- 98.5	98	9.8	67.6- 68.5	44	4.4
96.6- 97.5	97	9.7	66.6- 67.5	42	4.2
95.6- 96.5	96	9.6	65.6- 66.5	39	3.9
94.6- 95.5	95	9.5	64.6- 65.5	37	3.7
93.6- 94.5	94	9.4	63.6- 64.5	35	3.5
92.6- 93.5	93	9.3	62.6- 63.5	32	3.2
91.6- 92.5	92	9.2	61.6- 62.5	30	3.0
90.6- 91.5	91	9.1	60.6- 61.5	28	2.8
89.6- 90.5	90	9.0	59.6- 60.5	26	2.6
88.6- 89.5	88	8.8	58.6- 59.5	24	2.4
87.6- 88.5	87	8.7	57.6- 58.5	22	2.2
86.6- 87.5	86	8.6	56.6- 57.5	20	2.0
85.6- 86.5	84	8.4	55.6- 56.5	19	1.9
84.6- 85.5	82	8.2	54.6- 55.5	17	1.7
83.6- 84.5	80	8.0	53.6- 54.5	15	1.5
82.6- 83.5	79	7.9	52.6- 53.5	14	1.4
81.6- 82.5	77	7.7	51.6- 52.5	13	1.3
80.6- 81.5	75	7.5	50.6- 51.5	11	1.1
79.6- 80.5	73	7.3	49.6- 50.5	10	1.0
78.6- 79.5	71	7.1	48.6- 49.5	9	0.9
77.6- 78.5	69	6.9	47.6- 48.5	8	0.8
76.6- 77.5	66	6.6	46.6- 47.5	7	0.7
75.6- 76.5	64	6.4	45.6- 46.5	6	0.6
74.6- 75.5	62	6.2	44.6- 45.5	5	0.5
73.6- 74.5	59	5.9	43.6- 44.5	4	0.4
72.6- 73.5	57	5.7	42.6- 43.5	3	0.3
71.6- 72.5	54	5.4	41.6- 42.5	2	0.2
70.6- 71.5	52	5.2	40.6- 41.5	1	0.1
			Below 40.5	0	0

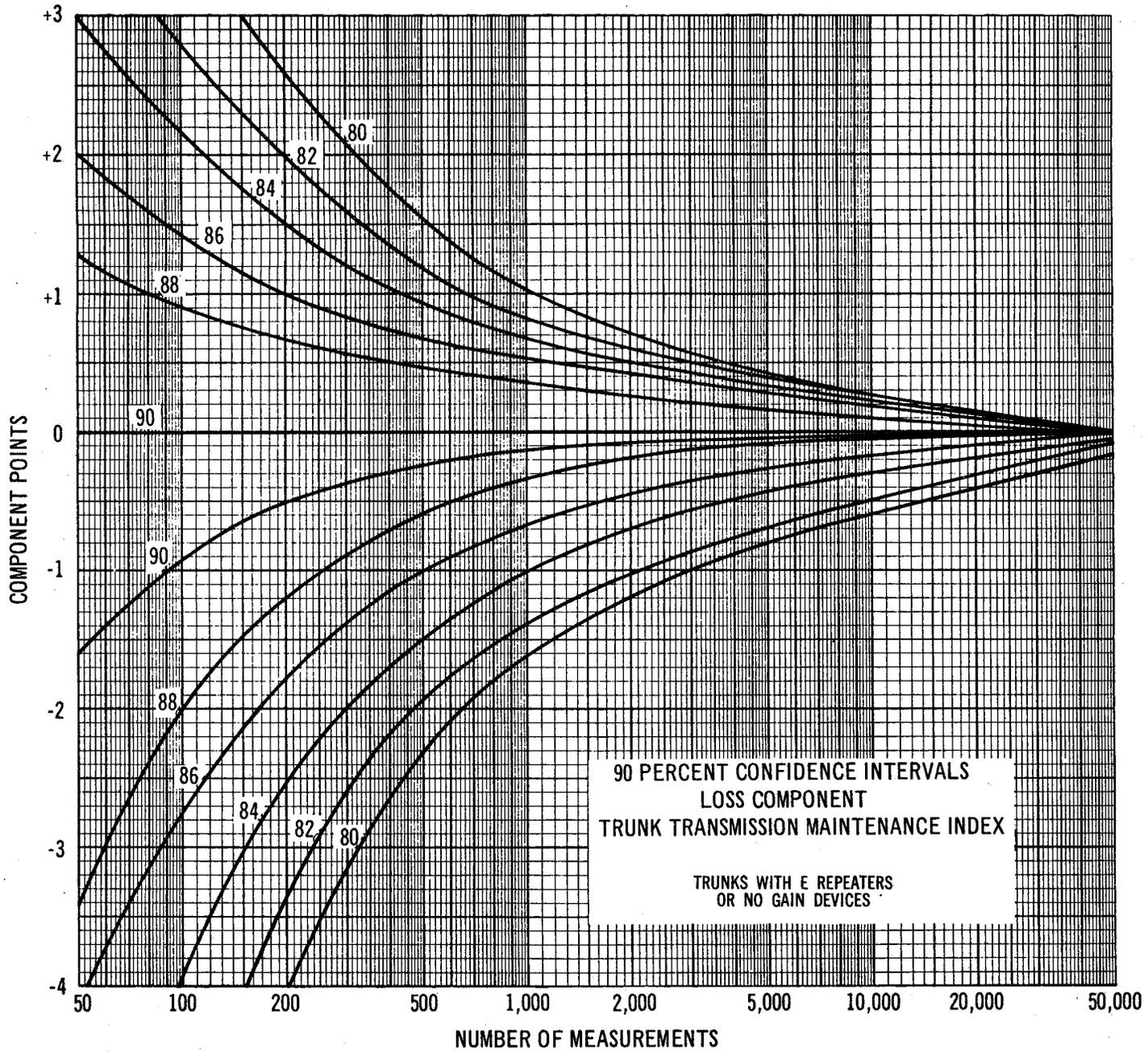


Fig. 1

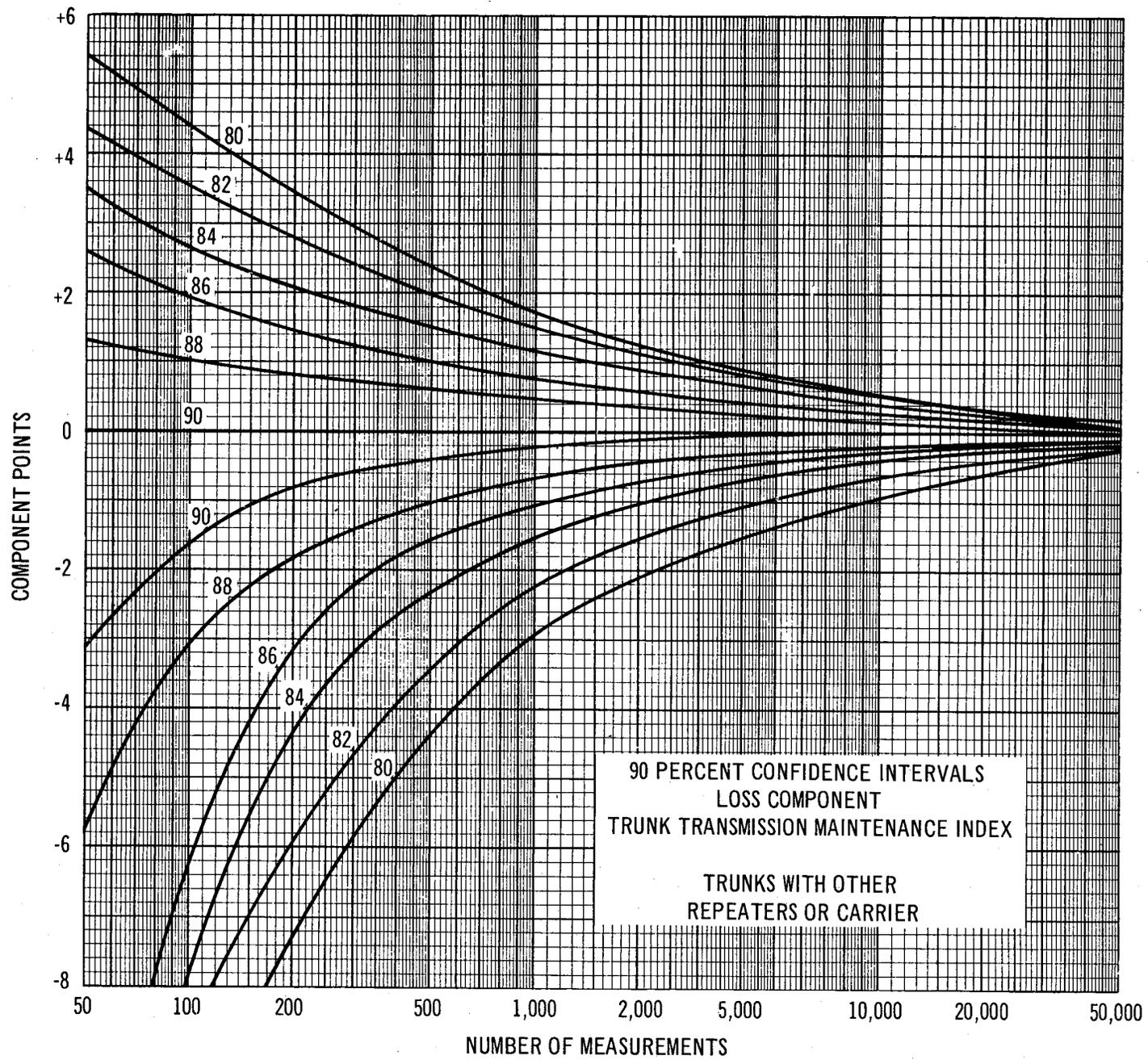


Fig. 2