COMPUTED ECHO RETURN LOSSES

DUE TO LOADING IRREGULARITIES

EXCHANGE AREA FACILITIES

IRREGULARITY PER CENT	TYPE OF FACILITY						
	H175 LC H135 HC M88 HC	H135 LC M88 LC	H88 HC	B175 LC. H88 LC B135 HC	B135 LC	H44 HC B88 HC	H44 LC B88 LC
4	29.2	31.0	32.3	33.9	35.4	36.6	38.1
5	27.7	29.6	31.0	32.5	33.8	35.0	36.2
6	26.2	28.3	29.7	31.1	32.4	33.6	34.7
7	24.9	27.0	28.4	29.9	31.2	32.3	33.6
8	23.7	25.8	27.2	28.6	30.0	31.2	32.5
9	22.6	24.7	26.0	27.4	28.8	30.0	31.2
10	21.7	23.9	25.1	26.5	27.8	28.9	30.1
15	18.3	20.2	21.4	23.0	24.3	25.4	26.5
20	15.8	17.9	19.2	20.6	22.0	23.0	24.2
25	14.1	16.1	17.3	18.7	20.0	21.2	22.5
30	12.6	14.6	15.9	17.2	18.5	19.5	20.7
40	10.5	12.1	13.5	14.7	16.0	17.0	18.0
50	9.0	10.7	11.6	12.9	14.1	15.0	16.0
60	7.7	9.4	10.4	11.6	12.8	13.6	14.6
70	6.8	8.2	9.2	10.4	11.5	12.5	13.6
80	6.1	7.4	8.3	9.4	10.4	11.4	12.4
90	5.4	6.6	7.5	8.6	9.6	10.4	11.4
100	4.9	6.0	6.9	8.0	9.0	9.8	10.4

Note 1: The designation HC indicates cable with a capacitance of 0.075 mf per mile or greater and LC indicates cable with a capacitance less than 0.075 mf per mile.

Note 2: The echo range is assumed to be from 500 to 2500 cps. Return-loss computations are based on the ratio of returned power, or echo power, to power that would be transmitted into a perfect line (no echo) from a matching source. To simplify the computations, the transmitted power is considered to be uniformly distributed over the frequency range 500 to 2500 cps. The choice of this range is based on limited study of the influence of various parts of the audio range on echo effects. Further study may show that some other range is preferable or that other-than-uniform distribution of transmitted power should be assumed, or both.

Note 3: The location of the irregularity may be taken as the middle of the irregular section. The return loss from the table may be referred to another location in the line by adding twice the effective loss intervening.