Repeater Section Return Loss and Singing Point

TOLL CABLE - ECHO

Facility	1000-Cycle 96% Struct. Return Loss	22A Equip. Loss (One End)	Reptr. Sect. Pair Loss	Repeater Section Return Loss	
				22A	V1
19 ga. H-172-S	30.7	.6	13.6	30.7	30.0
16 ga. "	28.4	.6	8.1	25.8	24.7
19 ga. H-106-P	30.2	.9	11.0	29.8	28.4
16 ga. "	27.8	.9	6.3	23.9	22.2
19 ga. H-88-S	35.2	.9	15.8	34.7	34.5
16 ga. "	32.7	.9	8.8	28.6	27.2
19 ga. B-88-S	32.1	.7	13.8	31.9	31.2
16 ga. "	29.8	.7	8.1	26.5	25.3
19 ga. H-63-P	33.5	1.1	14.2	33.6	32.5
16 ga. "	31.1	1.1	8.1	27.7	25.7
19 ga. H-50-P	35.6	1.1	13.2	34.3	33.4
16 ga. "	33.1	1.1	7.2	26.7	24.7
19 ga. B-50-P	31.8	1.1	11.5	31.3	29.8
16 ga. "	29.4	1.1	6.8	25.4	23.4
19 ga. H-44-S	37.7	.7	16.5	36.0	36.8
16 ga. "	35.9	.7	12.5	33.3	32.9
19 ga. H-25-P	38.2	.9	13.7	35.3	35.3
16 ga. "	35.5	.9	10.4	31.4	30.3

Notes: For the 22A-type repeater the repeater section value consists of the power summation of the following components:

1. Structural Return Loss + 2 x Equipment Loss
2. Equipment Return Loss (40 db)
3. Section End Return Loss = 11 + 2 x Repeater Section Pair Loss + 2 x Equipment Loss.

The V1 repeater value is the power summation of:

1. Structural Return Loss.
2. Section End Return Loss = 11 + 2 x Reptr. Sect. Pair Loss.

The repeater section pair (or phantom) loss is at 1000 cycles and for the following cable lengths: 35 mi. for 19-ga. H-44-25; 45 mi. for H-88-50; 50 mi. for other types of facility.

Notes: The repeater section return losses of this section are for normal length sections of cable installed in 750 ft. reel lengths without deviation test splicing, and free of intermediate irregularities. They are suitable for general use in absence of known data for the particular section involved or of conditions departing substantially from those assumed. The method of derivation is indicated for use in other cases. Among the variables involved are:

1. Equipment Losses: Those shown are applicable generally though values from circuit layout cards may be used where revised return losses need to be evaluated.

2. Repeater Section Length: No revision is necessary for short sections due to the increased structural return loss. The greater influence of the section-end return loss, however, will reduce appreciably the repeater section value for sections of 10 to 15 miles less than normal length.

3. Reel Lengths: Assuming no deviation test splicing reels longer than 750 ft. will have structural return losses lower by about 0.5 db for 1000 ft. reels, 1.5 db for 1500 ft. reels and 2.5 db for 3000 ft. reels.

4. Section-End Return Loss: The indicated value of 11 db represents a conservative figure to allow for a range of terminating conditions (i.e. loading end-section and type of repeater) and echo frequencies.