Cable Impedance, Attenuation, Phase

19 GA. AND 16 GA. H-86-32

19-Gauge Phantom

Freq.	Mid-Sect. Impedance				Mid-Coil Impedance				Attenuation		Phase Shift	
	R	X	Z	Angle	R	X	Z	Angle	α	db/mi.	β	B
200	601	286	665	25.4	601	286	665	25.4	.0371	.322	.078	.0248
300	566	202	601	19.7	566	202	601	19.7	.0395	.343	.110	.0350
500	544	126	558	13.1	544	126	558	13.1	.0412	.358	.175	.0557
1000	543	65	547	6.8	523	62	527	6.8	.0417	.362	.339	.1080
1500	554	44	555	4.6	509	40	510	4.5	.0423	.367	.510	.1624
2000	574	34	575	3.4	490	28	491	3.2	.0427	.371	.686	.2185
2200	583	31	584	3.1	482	24	482	2.9	.0429	.373	.762	.2427
2500	602	29	603	2.7	466	20	466	2.4	.0434	.377	.870	.2771
2900	635	27	636	2.4	442	15	442	1.9	.0442	.384	1.025	.3264
3000	645	26	646	2.3	434	14	435	1.8	.0444	.386	1.065	.3392
3200	668	27	669	2.3	419	11	419	1.5	.0449	.390	1.145	.3646
3500	711	27	711	2.2	394	8	394	1.2	.0458	.398	1.277	.4067

f_c = 5250 cycles

16-Gauge Phantom

Freq.	Mid-Sect. Impedance				Mid-Coil Impedance				Attenuation		Phase Shift	
	R	X	Z	Angle	R	X	Z	Angle	α	db/mi.	β	B
200	552	160	575	16.2	552	160	575	16.2	.0208	.181	.071	.0226
300	540	109	551	11.4	540	109	551	11.4	.0214	.186	.104	.0331
500	533	66	537	7.1	533	66	537	7.1	.0219	.190	.172	.0548
1000	540	34	541	3.6	520	32	521	3.5	.0220	.191	.337	.1073
1500	553	23	553	2.4	508	20	508	2.3	.0226	.196	.509	.1621
2000	573	18	573	1.8	490	14	490	1.6	.0233	.202	.685	.2182
2200	583	17	584	1.7	481	12	481	1.4	.0236	.205	.757	.2411
2500	602	15	602	1.5	465	10	465	1.2	.0242	.210	.870	.2771
2900	635	15	635	1.4	441	8	441	1.0	.0252	.219	1.025	.3264
3000	645	14	645	1.3	434	6	434	.8	.0254	.221	1.065	.3392
3200	668	15	668	1.3	418	5	418	.7	.0260	.226	1.145	.3646
3500	710	15	711	1.2	394	3	394	.5	.0271	.235	1.277	.4067

f_c = 5250 cycles

Notes: These characteristics are for circuits the loading of which consists of two 172-63 units (P1) connected in parallel at each loading point.

For side circuits use data for H-88-50. All reactances (x) are negative. Angles are in degrees and negative.
β = phase shift in radians per circuit mile
B = phase shift in cycles per circuit mile out and back = $\frac{2\beta}{2\pi}$