

Enter values only in white cells

Stationw259DE

Line loss calculator

Frequency

99.7

loss at 88

0.226

loss at 108

0.252

ERP (in kW)

0.180

Antenna Gain (power factor)

0.603

Line loss db

1.206

length in 100 ft

Line loss 2 db

0.000

length in 100 ft

Additional Losses

0.100

Combiner loss

0.687

Total loss

1.993

New TPO required

0.472

System eff

63.20%

Ant input power

0.299

enter line length in hundreds

5

loss/100ft

enter line loss/100ft here

0.24121

0

loss/100ft

0.364

Resultant loss

0.24121

Typical line loss numbers

1 5/8 Hardline .19

3" Hardline .088

4" Hardline .067

Include 0.1 additional loss for each rf switch

Typical line loss numbers

1 5/8 " heliax 0.203

3 " heliax 0.141

4" heliax 0.114

FM System Comparison (Heliax® vs. Rigid Coaxial Line)

	Andrew Air HELIAX® Cables				Rigid Coaxial Line
	1-1/4" HJ6-50	1-5/8" HJ7-50A	2-1/4" HJ12-50B	3" HJ8-50B	3-1/8" MACX350A
Attenuation, 88 MHz, dB/100 ft	0.258	0.190	0.158	0.132	0.092
Attenuation, 108 MHz, dB/100 ft	0.286	0.211	0.176	0.148	0.105
Average Power, 100 MHz (1:1 VSWR)	11.6 kW	16.5 kW	23.1 kW	42.4 kW	49.8 kW
Average Power, 100 MHz (1.5:1 VSWR)	9.3 kW	13.4 kW	18.8 kW	34.7 kW	40.8 kW
Installation Considerations	Simple	Simple	Simple	Simple	Complex

Rigid Line For High Power FM Systems

	Rigid Coaxial Line					
	3-1/8" MACX350A	4-1/16" MACX450	6-1/8" MACX650	6-1/8" MACX675B	7-3/16" MACX775	8-3/16" MACX875B
Attenuation, 88 MHz, dB/100 ft	0.092	0.069	0.047	0.041	0.0349	0.032
Attenuation, 108 MHz, dB/100 ft	0.105	0.076	0.053	0.045	0.0392	0.037
Average Power, 100 MHz (1:1 VSWR)	49.8 kW	78.8 kW	167 kW	146 kW	212 kW	250 kW
Average Power, 100 MHz (1.5:1 VSWR)	40.8 kW	65.7 kW	141 kW	123 kW	179 kW	212 kW
Installation Considerations	Complex	Complex	Complex	Complex	Complex	Complex

5.76