

# Radio Astronomy Supplies

## APPLICATION NOTE 4

### COAX CABLE SPECIFICATIONS

The most important factor in transporting a signal is the quality of the coaxial cable. Loss per foot in dB (Decibels) can be significant if the coax is not the correct type. When dealing with Radio Astronomy signals, emanating from great cosmic distances, it is important to retrieve the majority at the final portion of the receiver.

**NOTE:** It is recommended that 9913 be used for Radio Astronomy purposes.

The following chart will be helpful in determining the coax required for your specific purpose.

Coax Cable Signal Loss (Attenuation) in dB per 100ft*								
Loss*	<u>RG-174</u>	<u>RG-58</u>	<u>RG-8X</u>	<u>RG-213</u>	<u>RG-6</u>	<u>RG-11</u>	<u>RF-9914</u>	<u>RF-9913</u>
1MHz	1.9dB	0.4dB	0.5dB	0.2dB	0.2dB	0.2dB	0.3dB	0.2dB
10MHz	3.3dB	1.4dB	1.0dB	0.6dB	0.6dB	0.4dB	0.5dB	0.4dB
50MHz	6.6dB	3.3dB	2.5dB	1.6dB	1.4dB	1.0dB	1.1dB	0.9dB
100MHz	8.9dB	4.9dB	3.6dB	2.2dB	2.0dB	1.6dB	1.5dB	1.4dB
200MHz	11.9dB	7.3dB	5.4dB	3.3dB	2.8dB	2.3dB	2.0dB	1.8dB
400MHz	17.3 dB	11.2dB	7.9dB	4.8dB	4.3dB	3.5dB	2.9dB	2.6dB
700MHz	26.0dB	16.9dB	11.0dB	6.6dB	5.6dB	4.7dB	3.8dB	3.6dB
900MHz	27.9 dB	20.1dB	12.6dB	7.7dB	6.0dB	5.4dB	4.9dB	4.2dB
1GHz	32.0dB	21.5dB	13.5dB	8.3dB	6.1dB	5.6dB	5.3dB	4.5dB
Imped	50ohm	50ohm	50ohm	50ohm	75ohm	75ohm	50ohm	50ohm
<p>* <b>Note:</b> Coax losses shown above are for 100 feet lengths. Loss is a length multiplier, so a 200 ft length would have twice the loss shown above and a 50 ft length would have half the loss. This multiplier factor is why you should keep cable installation lengths between radios and antennas as short as practical!</p>								

(Courtesy of Craig – Radioware and Radio Bookstore – <http://radio-ware.com>)