

RF Basics 11 - Why is Cable Important?

- *Why cable type and length matters.*

Not all coaxial cable is created equal because loss across the length of a coax run is dependent on both the frequency being transmitted and the type of cable. A significant number of RF problems we come across are created by running the wrong cable for too great a distance. For example:

Over 100ft at 400Mhz the following losses are experienced

RG-58 - 11.2db

RG-8X - 7.9db

PWS 9046 - 3.95db

Ecoflex - 3.54db

Let's look at the cost of using a 100 ft pre-terminated cable

RG-58 = ~\$100. At 11.2 dB loss an antenna or amplifier would be required to compensate at \$200+

RG-8X = ~\$100. At 7.9 dB loss an antenna or amplifier would be required to compensate at \$200+

Ecoflex = \$235. At 3.54 dB loss no compensation is required.

PWS 9046 = \$239 (bulk \$150). At 3.95 dB loss no compensation is required.

