

Feedline

Feedline connects radios to antennas. There are many different types of feedline, but coaxial cable is used more often than any other feedline for amateur radio antenna systems because it is easy to use and requires few special installation considerations. (T9B03) A common use of coaxial cable is carrying RF signals between a radio and antenna. (T7C12) Note, however, that the loss increases as the frequency of a signal passing through coaxial cable is increased. (T9B05)

When choosing a feedline, it is important to match the impedance of the feedline to the output impedance of the transmitter and the input impedance of the antenna. Impedance is a measure of the opposition to AC current Flow in a circuit. (T5C12) Ohms are the units of impedance. (T5C13)

Most amateur radio transmitters are designed to have an output impedance of 50 ohms. Because that is the case, the impedance of the most commonly used coaxial cable in typical amateur radio installations is 50 ohms. (T9B02) RG-58 and RG-8 are two types of coaxial cable often used in amateur radio stations. Both have an impedance of 50 ohms, but there are important differences between the two. One electrical difference between the smaller RG-58 and larger RG-8 coaxial cables is that RG-8 cable has less loss at a given frequency. (T9B10) The type of coax that has the lowest loss at VHF and UHF is air-insulated hard line. (T9B11)

Moisture contamination is the most common cause for failure of coaxial cables. (T7C09) One way that moisture enters a cable is via cracks in the cable's outer jacket. The reason that the outer jacket of coaxial cable should be resistant to ultraviolet light is that ultraviolet light can damage the jacket and allow water to enter the cable.(T7C10) A disadvantage of "air core" coaxial cable when compared to foam or solid dielectric types is that it requires special techniques to prevent water absorption. (T7C11)

PL-259 connectors are the most common type of connectors used on coaxial cables in amateur radio stations. One thing that is true of PL-259 type coax connectors is that they are commonly used at HF frequencies. (T9B07). One problem with PL-259 connectors is that they are not the most suitable connector when operating at higher frequencies. Instead, a Type N connector is most suitable for frequencies above 400 MHz. (T9B06)

No matter what type of connector you use, coax connectors exposed to the weather should be sealed against water intrusion to prevent an increase in feedline loss. (T9B08) Also make sure to tighten connectors well. Also make sure that your antenna connections are tight and the connectors are soldered properly. A loose connection in an antenna or a feedline might cause erratic changes in SWR readings. (T9B09)

QUESTION POOL (14)

T9B03	T7C12	T9B05	T5C12	T5C13	T9B02
T9B10	T9B11	T7C10	T7C11	T9B07	T9B06
T9B08	T9B09				