

Section 5.3

G4A06 (C)

What type of device is often used to match transmitter output impedance to an impedance not equal to 50 ohms?

- A. Balanced modulator
- B. SWR bridge
- C. Antenna coupler or antenna tuner
- D. Q multiplier

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G4B10 (A)

Which of the following can be determined with a directional wattmeter?

- A. Standing wave ratio
- B. Antenna front-to-back ratio
- C. RF interference
- D. Radio wave propagation

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G4B11 (C)

Which of the following must be connected to an antenna analyzer when it is being used for SWR measurements?

- A. Receiver
- B. Transmitter
- C. Antenna and feed line
- D. All these choices are correct

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G4B12 (B)

What problem can occur when making measurements on an antenna system with an antenna analyzer?

- A. Permanent damage to the analyzer may occur if it is operated into a high SWR
- B. Strong signals from nearby transmitters can affect the accuracy of measurements
- C. The analyzer can be damaged if measurements outside the ham bands are attempted
- D. Connecting the analyzer to an antenna can cause it to absorb harmonics

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G4B13 (C)

What is a use for an antenna analyzer other than measuring the SWR of an antenna system?

- A. Measuring the front-to-back ratio of an antenna
- B. Measuring the turns ratio of a power transformer
- C. Determining the impedance of coaxial cable
- D. Determining the gain of a directional antenna

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G6B07 (A)

Which of the following describes a type N connector?

- A. A moisture-resistant RF connector useful to 10 GHz
- B. A small bayonet connector used for data circuits
- C. A threaded connector used for hydraulic systems
- D. An audio connector used in surround-sound installations

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G6B11 (B)

What is a type SMA connector?

- A. A large bayonet connector usable at power levels more than 1 KW
- B. A small threaded connector suitable for signals up to several GHz

- C. A connector designed for serial multiple access signals
- D. A type of push-on connector intended for high-voltage applications

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G6B13 (C)

Which of these connector types is commonly used for RF connections at frequencies up to 150 MHz?

- A. Octal
- B. RJ-11
- C. PL-259
- D. DB-25

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G7C06 (B)

What should be the impedance of a low-pass filter as compared to the impedance of the transmission line into which it is inserted?

- A. Substantially higher
- B. About the same
- C. Substantially lower
- D. Twice the transmission line impedance

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G9A01 (A)

Which of the following factors determine the characteristic impedance of a parallel conductor antenna feed line?

- A. The distance between the centers of the conductors and the radius of the conductors
- B. The distance between the centers of the conductors and the length of the line
- C. The radius of the conductors and the frequency of the signal
- D. The frequency of the signal and the length of the line

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G9A02 (B)

What are the typical characteristic impedances of coaxial cables used for antenna feed lines at amateur stations?

- A. 25 and 30 ohms
- B. 50 and 75 ohms
- C. 80 and 100 ohms
- D. 500 and 750 ohms

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G9A03 (D)

What is the typical characteristic impedance of "window line" parallel transmission line?

- A. 50 ohms
- B. 75 ohms
- C. 100 ohms
- D. 450 ohms

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G9A04 (C)

What might cause reflected power at the point where a feed line connects to an antenna?

- A. Operating an antenna at its resonant frequency
- B. Using more transmitter power than the antenna can handle
- C. A difference between feed-line impedance and antenna feed-point impedance
- D. Feeding the antenna with unbalanced feed line

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G9A05 (B)

How does the attenuation of coaxial cable change as the frequency of the signal it is carrying increases?

- A. Attenuation is independent of frequency
- B. Attenuation increases
- C. Attenuation decreases
- D. Attenuation reaches a maximum at approximately 18 MHz

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G9A06 (D)

In what units is RF feed line loss usually expressed?

- A. Ohms per 1000 feet
- B. Decibels per 1000 feet
- C. Ohms per 100 feet
- D. Decibels per 100 feet

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G9A07 (D)

What must be done to prevent standing waves on an antenna feed line?

- A. The antenna feed point must be at DC ground potential
- B. The feed line must be cut to a length equal to an odd number of electrical quarter wavelengths
- C. The feed line must be cut to a length equal to an even number of physical half wavelengths
- D. The antenna feed point impedance must be matched to the characteristic impedance of the feed line

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G9A08 (B)

If the SWR on an antenna feed line is 5 to 1, and a matching network at the transmitter end of the feed line is adjusted to 1 to 1 SWR, what is the resulting SWR on the feed line?

- A. 1 to 1
- B. 5 to 1
- C. Between 1 to 1 and 5 to 1 depending on the characteristic impedance of the line
- D. Between 1 to 1 and 5 to 1 depending on the reflected power at the transmitter

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G9A09 (A)

What standing wave ratio will result when connecting a 50 ohm feed line to a non-reactive load having 200 ohm impedance?

- A. 4:1
- B. 1:4
- C. 2:1
- D. 1:2

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G9A10 (D)

What standing wave ratio will result when connecting a 50 ohm feed line to a non-reactive load having 10 ohm impedance?

- A. 2:1
- B. 50:1
- C. 1:5
- D. 5:1

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G9A11 (B)

What standing wave ratio will result when connecting a 50 ohm feed line to a non-reactive load having 50 ohm impedance?

- A. 2:1

- B. 1:1
- C. 50:50
- D. 0:0

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G9A12 (B)

What is the interaction between high standing wave ratio (SWR) and transmission line loss?

- A. There is no interaction between transmission line loss and SWR
- B. If a transmission line is lossy, high SWR will increase the loss
- C. High SWR makes it difficult to measure transmission line loss
- D. High SWR reduces the relative effect of transmission line loss

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G9A13 (A)

What is the effect of transmission line loss on SWR measured at the input to the line?

- A. The higher the transmission line loss, the more the SWR will read artificially low
- B. The higher the transmission line loss, the more the SWR will read artificially high
- C. The higher the transmission line loss, the more accurate the SWR measurement will be
- D. Transmission line loss does not affect the SWR measurement

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G9D02 (D)

What is the feed-point impedance of an end-fed half-wave antenna?

- A. Very low
- B. Approximately 50 ohms
- C. Approximately 300 ohms
- D. Very high

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