

## Section 6-9

G4A15 (D)

Which of the following can be a symptom of transmitted RF being picked up by an audio cable carrying AFSK data signals between a computer and a transceiver?

- A. The VOX circuit does not un-key the transmitter
- B. The transmitter signal is distorted
- C. Frequent connection timeouts
- D. All these choices are correct

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G4C01 (B)

Which of the following might be useful in reducing RF interference to audio frequency devices?

- A. Bypass inductor
- B. Bypass capacitor
- C. Forward-biased diode
- D. Reverse-biased diode

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G4C02 (C)

Which of the following could be a cause of interference covering a wide range of frequencies?

- A. Not using a balun or line isolator to feed balanced antennas
- B. Lack of rectification of the transmitter's signal in power conductors
- C. Arcing at a poor electrical connection
- D. Using a balun to feed an unbalanced antenna

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G4C03 (C)

What sound is heard from an audio device or telephone if there is interference from a nearby single sideband phone transmitter?

- A. A steady hum whenever the transmitter is on the air
- B. On-and-off humming or clicking
- C. Distorted speech
- D. Clearly audible speech

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G4C04 (A)

What is the effect on an audio device when there is interference from a nearby CW transmitter?

- A. On-and-off humming or clicking
- B. A CW signal at a nearly pure audio frequency
- C. A chirpy CW signal
- D. Severely distorted audio

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G4C05 (D)

What might be the problem if you receive an RF burn when touching your equipment while transmitting on an HF band, assuming the equipment is connected to a ground rod?

- A. Flat braid rather than round wire has been used for the ground wire
- B. Insulated wire has been used for the ground wire
- C. The ground rod is resonant
- D. The ground wire has high impedance on that frequency

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G4C06 (C)

What effect can be caused by a resonant ground connection?

- A. Overheating of ground straps

- B. Corrosion of the ground rod
- C. High RF voltages on the enclosures of station equipment
- D. A ground loop

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G4C08 (A)

Which of the following would reduce RF interference caused by common-mode current on an audio cable?

- A. Placing a ferrite choke around the cable
- B. Adding series capacitors to the conductors
- C. Adding shunt inductors to the conductors
- D. Adding an additional insulating jacket to the cable

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G4C09 (D)

How can a ground loop be avoided?

- A. Connect all ground conductors in series
- B. Connect the AC neutral conductor to the ground wire
- C. Avoid using lock washers and star washers when making ground connections
- D. Connect all ground conductors to a single point

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G4C10 (A)

What could be a symptom of a ground loop somewhere in your station?

- A. You receive reports of “hum” on your station’s transmitted signal
- B. The SWR reading for one or more antennas is suddenly very high
- C. An item of station equipment starts to draw excessive amounts of current
- D. You receive reports of harmonic interference from your station

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G4C11 (C)

What technique helps to minimize RF “hot spots” in an amateur station?

- A. Building all equipment in a metal enclosure
- B. Using surge suppressor power outlets
- C. Bonding all equipment enclosures together
- D. Low-pass filters on all feed lines

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G4E07 (D)

Which of the following may cause receive interference in a radio installed in a vehicle?

- A. The battery charging system
- B. The fuel delivery system
- C. The vehicle control computer
- D. All these choices are correct

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G6B10 (A)

How does a ferrite bead or core reduce common-mode RF current on the shield of a coaxial cable?

- A. By creating an impedance in the current’s path
- B. It converts common-mode current to differential mode
- C. By creating an out-of-phase current to cancel the common-mode current
- D. Ferrites expel magnetic fields

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