Technician Question Pool July 2022 to June 2026

The MORE Project

http://n2re.org/m-o-r-e-project



Station Equipment No-Nonsense pages 90 - 92

Basic Repair and Testing: soldering; using basic test instruments; connecting a voltmeter, ammeter, or ohmmeter

The most common test instrument in an amateur radio shack is the multimeter. Multimeters are called this because they combine the multiple functions of a voltmeter, ohmmeter and ammeter into a single device.



FCC Tech 7/22 to 6/26 Basic Repair and Testing

Which of the following measurements are made using a multimeter?

A. Signal strength and noise
B. Impedance and reactance
C. Voltage and resistance
D. All these choices are correct



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q1 of 12

Which of the following measurements are made using a multimeter?

A. Signal strength and noise
B. Impedance and reactance
C. Voltage and resistance
D. All these choices are correct



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A1 of 12

Which instrument would you use to measure electric potential?

A. An ammeterB. A voltmeterC. A wavemeterD. An ohmmeter



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q2 of 12

Which instrument would you use to measure electric potential?

A. An ammeter
B. A voltmeter
C. A wavemeter
D. An ohmmeter



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How is a voltmeter connected to a component to measure applied voltage?

A. In seriesB. In parallelC. In quadratureD. In phase



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q3 of 12

How is a voltmeter connected to a component to measure applied voltage?

A. In series
B. In parallel
C. In quadrature
D. In phase



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Which of the following can damage a multimeter?

A. Attempting to measure resistance using the voltage setting

- B. Failing to connect one of the probes to ground
- C. Attempting to measure voltage when using the resistance setting
- D. Not allowing it to warm up properly



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q4 of 12

Which of the following can damage a multimeter?

A. Attempting to measure resistance using the voltage setting

B. Failing to connect one of the probes to ground

C. Attempting to measure voltage when using the resistance setting

D. Not allowing it to warm up properly



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T0A12

Which of the following precautions should be taken when measuring high voltages with a voltmeter?

- A. Ensure that the voltmeter has very low impedance
- B. Ensure that the voltmeter and leads are rated for use at the voltages to be measured
- C. Ensure that the circuit is grounded through the voltmeter
- D. Ensure that the voltmeter is set to the correct frequency



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T0A12

Which of the following precautions should be taken when measuring high voltages with a voltmeter?

- A. Ensure that the voltmeter has very low impedance
- B. Ensure that the voltmeter and leads are rated for use at the voltages to be measured
- C. Ensure that the circuit is grounded through the voltmeter
- D. Ensure that the voltmeter is set to the correct frequency



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How is an ohmmeter connected to a component to measure its resistance?

A. In parallel
B. In series
C. In cascade
D. All of these choices are correct



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q6 of 12

How is an ohmmeter connected to a component to measure its resistance?

A. In parallel
B. In series
C. In cascade
D. All of these choices are correct



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A6 of 12

Which of the following precautions should be taken when measuring in-circuit resistance with an ohmmeter?

A. Ensure that the applied voltages are correct
B. Ensure that the circuit is not powered
C. Ensure that the circuit is grounded
D. Ensure that the circuit is operating at the correct frequency



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q7 of 12

Which of the following precautions should be taken when measuring in-circuit resistance with an ohmmeter?

A. Ensure that the applied voltages are correct
B. Ensure that the circuit is not powered
C. Ensure that the circuit is grounded
D. Ensure that the circuit is operating at the correct frequency



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A7 of 12

What reading indicates that an ohmmeter is connected across a large, discharged capacitor?

A. Increasing resistance with time
B. Decreasing resistance with time
C. Steady full-scale reading
D. Alternating between open and short circuit



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q8 of 12

What reading indicates that an ohmmeter is connected across a large, discharged capacitor?

A. Increasing resistance with time

- B. Decreasing resistance with time
- C. Steady full-scale reading
- D. Alternating between open and short circuit



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A8 of 12

Which instrument is used to measure electric current?

A. An ohmmeterB. An electrometerC. A voltmeterD. An ammeter



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q9 of 12

Which instrument is used to measure electric current?

A. An ohmmeterB. An electrometerC. A voltmeterD. An ammeter



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A9 of 12

When configured to measure current, how is a multimeter connected to a component?

A. In seriesB. In parallelC. In quadratureD. In phase



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q10 of 12

When configured to measure current, how is a multimeter connected to a component?

A. In series

B. In parallelC. In quadratureD. In phase



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A10 of 12

Which of the following types of solder should not be used for radio and electronic applications?

A. Acid-core solder
B. Lead-tin solder
C. Rosin-core solder
D. Tin-copper solder



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q11 of 12

Which of the following types of solder should not be used for radio and electronic applications?

A. Acid-core solder

- B. Lead-tin solder
- C. Rosin-core solder
- D. Tin-copper solder



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 A11 of 12

What is the characteristic appearance of a cold tinlead solder joint?

A. Dark black spots
B. A bright or shiny surface
C. A rough or lumpy surface
D. Excessive solder



FCC Tech 7/22 to 6/26 Basic Repair and Testing SE3 Q12 of 12

What is the characteristic appearance of a cold tinlead solder joint?

A. Dark black spots
B. A bright or shiny surface
C. A rough or lumpy surface
D. Excessive solder



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A non-profit initiative by the IEEE and ARDC to increase the numbers of youth (12-18) and non-males in Amateur Radio. Participants earn FCC licenses and receive free 2-way radios.

For MORE information: n2re.org/m-o-r-e-project Dr. Rebecca Mercuri, Grant Administrator, rtmercuri@ieee.org

