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# Technician Question Pool

## July 2022 to June 2026

### The MORE Project

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

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# Amateur Radio Signals

## No-Nonsense pages 61 - 64

### Modulation Modes and Signal Bandwidth

Modulation is the process of adding information to a radio wave. To send a voice signal, the radio wave is modulated with your voice wave. Different types of modulation include: Frequency Modulation (FM), Amplitude Modulation (AM), and Single Sideband (SSB) which can be Upper Sideband (USB) or Lower Sideband (LSB).



# T8A04

Which type of modulation is commonly used for VHF and UHF voice repeaters?

- A. AM
- B. SSB
- C. PSK
- D. FM or PM



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# T8A04

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# T8A02

What type of modulation is commonly used for VHF packet radio transmissions?

- A. FM or PM
- B. SSB
- C. AM
- D. PSK



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# T8A02

What type of modulation is commonly used for VHF packet radio transmissions?

- A. FM or PM
- B. SSB
- C. AM
- D. PSK



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# T8A01

Which of the following is a form of amplitude modulation?

- A. Spread spectrum
- B. Packet radio
- C. Single sideband
- D. Phase shift keying (PSK)



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# T8A01

Which of the following is a form of amplitude modulation?

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- B. Packet radio
- C. Single sideband**
- D. Phase shift keying (PSK)





# T8A03

Which type of voice mode is often used for long-distance (weak signal) contacts on the VHF and UHF bands?

- A. FM
- B. DRM
- C. SSB
- D. PM



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# T8A06

Which sideband is normally used for 10 meter HF, VHF, and UHF single-sideband communications?

- A. Upper sideband
- B. Lower sideband
- C. Suppressed sideband
- D. Inverted sideband



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# T8A07

What is a characteristic of single sideband (SSB) compared to FM?

- A. SSB signals are easier to tune in correctly
- B. SSB signals are less susceptible to interference
- C. SSB signals have narrower bandwidth
- D. All of these choices are correct



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# T8A07

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# T8A08

What is the approximate bandwidth of a typical single sideband (SSB) voice signal?

- A. 1 kHz
- B. 3 kHz
- C. 6 kHz
- D. 15 kHz



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# T8A09

What is the approximate bandwidth of a VHF repeater FM voice signal?

- A. Less than 500 Hz
- B. About 150 kHz
- C. Between 10 and 15 kHz
- D. Between 50 and 125 kHz



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# T8A10

What is the typical bandwidth of analog fast-scan TV transmissions on the 70 centimeter band?

- A. More than 10 MHz
- B. About 6 MHz
- C. About 3 MHz
- D. About 1 MHz



# T8A10

What is the typical bandwidth of analog fast-scan TV transmissions on the 70 centimeter band?

- A. More than 10 MHz
- B. About 6 MHz**
- C. About 3 MHz
- D. About 1 MHz



# T8A12

Which of the following is a disadvantage of FM compared with single sideband?

- A. Voice quality is poorer
- B. Only one signal can be received at a time
- C. FM signals are harder to tune
- D. All of these choices are correct



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# T8A10

What is the approximate bandwidth of AM fast-scan TV transmissions?

- A. More than 10 MHz
- B. About 6 MHz
- C. About 3 MHz
- D. About 1 MHz



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- C. About 3 MHz
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# T8D04

What type of transmission is indicated by the term "NTSC?"

- A. A Normal Transmission mode in Static Circuit
- B. A special mode for satellite uplink
- C. An analog fast-scan color TV signal
- D. A frame compression scheme for TV signals



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- A. A Normal Transmission mode in Static Circuit
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- D. A frame compression scheme for TV signals



# T8D09

What is CW?

- A. A type of electromagnetic propagation
- B. A digital mode used primarily on 2 meter FM
- C. A technique for coil winding
- D. Another name for a Morse code transmission



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# T8A05

Which of the following types of signal has the narrowest bandwidth?

- A. FM voice
- B. SSB voice
- C. CW
- D. Slow-scan TV



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# T8A11

What is the approximate bandwidth required to transmit a CW signal?

- A. 2.4 kHz
- B. 150 Hz
- C. 1000 Hz
- D. 15 kHz



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# T8A11

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- D. 15 kHz





# T4A12

What is an electronic keyer?

- A. A device for switching antennas from transmit to receive
- B. A device for voice activated switching from receive to transmit
- C. A device that assists in manual sending of Morse code
- D. An interlock to prevent unauthorized use of a radio



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# T4A12

What is an electronic keyer?

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- B. A device for voice activated switching from receive to transmit
- C. A device that assists in manual sending of Morse code**
- D. An interlock to prevent unauthorized use of a radio





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