Technician Question Pool July 2022 to June 2026

The MORE Project

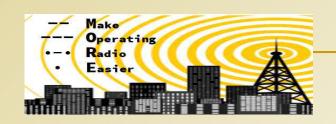
http://n2re.org/m-o-r-e-project



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).



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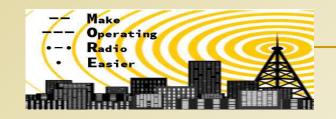
What type of modulation is commonly used for VHF packet radio transmissions?

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



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

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



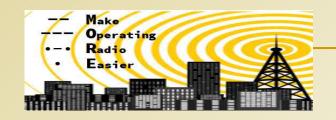
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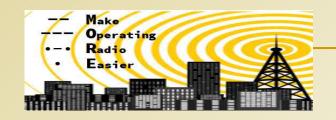
Which sideband is normally used for 10 meter HF, VHF, and UHF single-sideband communications?

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



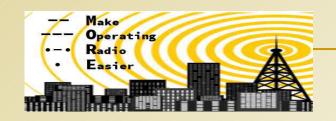
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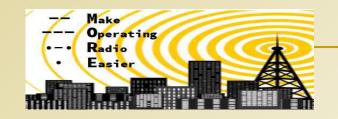
What is a characteristic of single sideband (SSB) compared to FM?

- 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



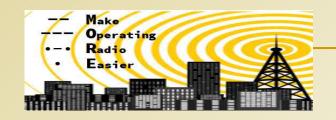
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What is the approximate bandwidth of a typical single sideband (SSB) voice signal?

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



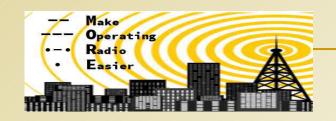
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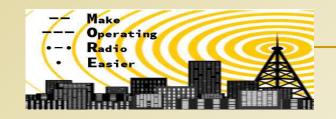
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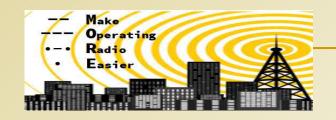
What is the approximate bandwidth of a VHF repeater FM voice signal?

- 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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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



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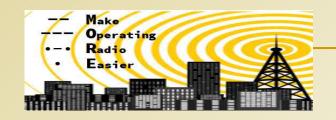
Which of the following is a disadvantage of FM compared with single sideband?

- A. Voice quality is poorer
- B. Only one signal can be received at a time
- C. FM signals are harder to tune
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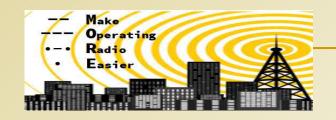
What is the approximate bandwidth of AM fast-scan TV transmissions?

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- D. About 1 MHz



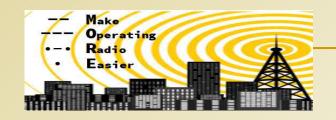
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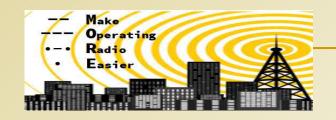
What type of transmission is indicated by the term "NTSC?"

- 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



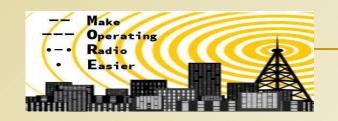
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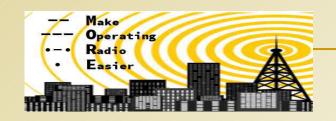
What is CW?

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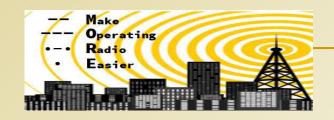
Which of the following types of signal has the narrowest bandwidth?

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



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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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T4A12

What is an electronic keyer?

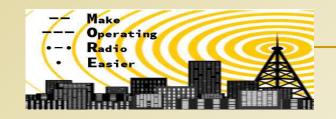
- A. A device for switching antennas from transmit to receive
- B. A device for voice activated switching from receive to transmit
- C. A device that assists in manual sending of Morse code
- D. An interlock to prevent unauthorized use of a radio



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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

