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The ARRL Extra Class License Course

All You Need to Pass Your Extra Class Exam

LEVEL 3: Extra

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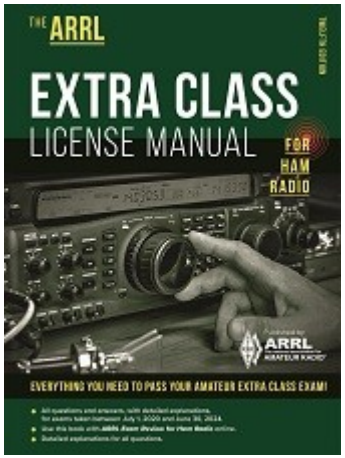

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Why are received spread spectrum signals resistant to interference?

A. Signals not using the spread spectrum algorithm are suppressed in the receiver

B. The high power used by a spread spectrum transmitter keeps its signal from being easily overpowered

C. The receiver is always equipped with a digital blanker

D. If interference is detected by the receiver it will signal the transmitter to change frequencies

E8D01 ECLM Page (8 - 15)

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(A) E8D01 ECLM Page (8 - 15)

What spread spectrum communications technique uses a high speed binary bit stream to shift the phase of an RF carrier?

A. Frequency hopping

B. Direct sequence

C. Binary phase-shift keying

D. Phase compandored spread-spectrum

E8D02 ECLM Page (8 - 16)

What spread spectrum communications technique uses a high speed binary bit stream to shift the phase of an RF carrier?

A. Frequency hopping

B. Direct sequence

C. Binary phase-shift keying

D. Phase compandored spread-spectrum

(B) E8D02 ECLM Page (8 - 16)

How does the spread spectrum technique of frequency hopping work?

A. If interference is detected by the receiver it will signal the transmitter to change frequencies

B. If interference is detected by the receiver it will signal the transmitter to wait until the frequency is clear

C. A binary bit stream is used to shift the phase of an RF carrier very rapidly in a pseudorandom sequence

D. The frequency of the transmitted signal is changed very rapidly according to a pseudorandom sequence also used by the receiving station

E8D03 ECLM Page (8 - 16)

How does the spread spectrum technique of frequency hopping work?

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(D) E8D03 ECLM Page (8 - 16)

What is the primary effect of extremely short rise or fall time on a CW signal?

A. More difficult to copy

B. The generation of RF harmonics

C. The generation of key clicks

D. Limits data speed

E8D04 ECLM Page (8 - 9)

What is the primary effect of extremely short rise or fall time on a CW signal?

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B. The generation of RF harmonics

C. The generation of key clicks

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(C) E8D04 ECLM Page (8 - 9)

What is the most common method of reducing key clicks?

A. Increase keying waveform rise and fall times

B. Low-pass filters at the transmitter output

C. Reduce keying waveform rise and fall times

D. High-pass filters at the transmitter output

E8D05 ECLM Page (8 - 9)

What is the most common method of reducing key clicks?

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C. Reduce keying waveform rise and fall times

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(A) E8D05 ECLM Page (8 - 9)

What is the advantage of including parity bits in ASCII characters?

A. Faster transmission rate

B. The signal can overpower interfering signals

C. Foreign language characters can be sent

D. Some types of errors can be detected

E8D06 ECLM Page (8 - 8)

What is the advantage of including parity bits in ASCII characters?

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(D) E8D06 ECLM Page (8 - 8)

What is a common cause of overmodulation of AFSK signals?

A. Excessive numbers of retries

B. Ground loops

C. Bit errors in the modem

D. Excessive transmit audio levels

E8D07 ECLM Page (8 - 14)

What is a common cause of overmodulation of AFSK signals?

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(D) E8D07 ECLM Page (8 - 14)

What parameter evaluates distortion of an AFSK signal caused by excessive input audio levels?

A. Signal to noise ratio

B. Baud rate

C. Repeat Request Rate (RRR)

D. Intermodulation Distortion (IMD)

E8D08 ECLM Page (8 - 14)

What parameter evaluates distortion of an AFSK signal caused by excessive input audio levels?

A. Signal to noise ratio

B. Baud rate

C. Repeat Request Rate (RRR)

D. Intermodulation Distortion (IMD)

(D) E8D08 ECLM Page (8 - 14)

What is considered an acceptable maximum IMD level for an idling PSK signal?

A. +10 dB

B. +15 dB

C. -20 dB

D. -30 dB

E8D09 ECLM Page (8 - 14)

What is considered an acceptable maximum IMD level for an idling PSK signal?

A. +10 dB

B. +15 dB

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(D) E8D09 ECLM Page (8 - 14)

What are some of the differences between the Baudot digital code and ASCII?

A. Baudot uses 4 data bits per character, ASCII uses 7 or 8; Baudot uses 1 character as a letters/figures shift code, ASCII has no letters/figures code

B. Baudot uses 5 data bits per character, ASCII uses 7 or 8; Baudot uses 2 characters as letters/figures shift codes, ASCII has no letters/figures shift code

C. Baudot uses 6 data bits per character, ASCII uses 7 or 8; Baudot has no letters/figures shift code, ASCII uses 2 letters/figures shift codes

D. Baudot uses 7 data bits per character, ASCII uses 8; Baudot has no letters/figures shift code, ASCII uses 2 letters/figures shift codes

E8D10 ECLM Page (8 - 7)

What are some of the differences between the Baudot digital code and ASCII?

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D. Baudot uses 7 data bits per character, ASCII uses 8; Baudot has no letters/figures shift code, ASCII uses 2 letters/figures shift codes

(B) E8D10 ECLM Page (8 - 7)

What is one advantage of using ASCII code for data communications?

A. It includes built-in error correction features

B. It contains fewer information bits per character than any other code

C. It is possible to transmit both upper and lower case text

D. It uses one character as a shift code to send numeric and special characters

E8D11 ECLM Page (8 - 7)

What is one advantage of using ASCII code for data communications?

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(C) E8D11 ECLM Page (8 - 7)