Chapter 2 Procedures & Practice
2.1 HF Operating Techniques

2-1, 2-2

Good Practices

- Almost all good practices from VHF/UHF operating can be applied to HF operations
- Some may already have experience from operation on 10 meters or CW on 80, 40 and 15 meters
- One practices across all band is the use phonetics. The NATO phonetics (Alfa, Bravo, Charlie and so on) are recommended and most commonly used **[G2D07]**

HF Operating Techniques

2-2

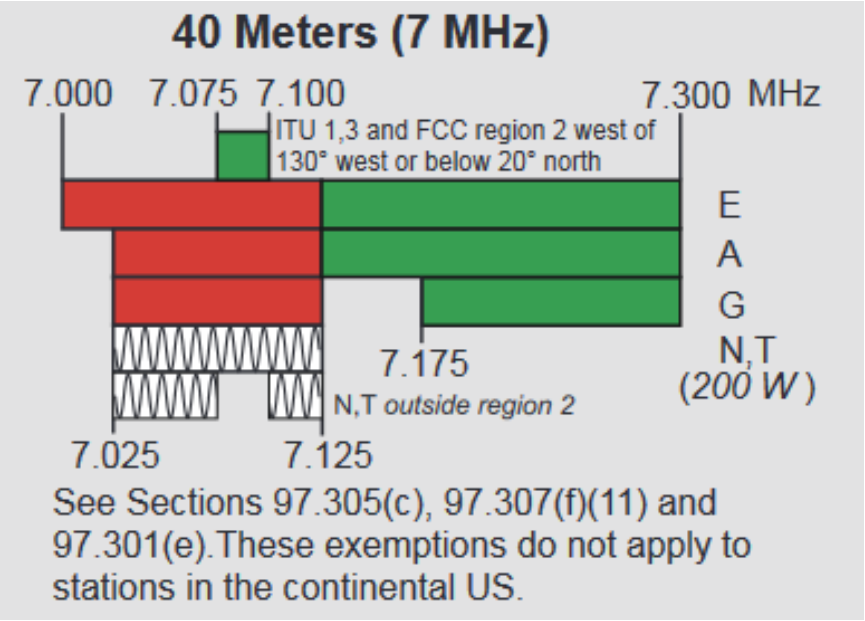
Selecting a Frequency

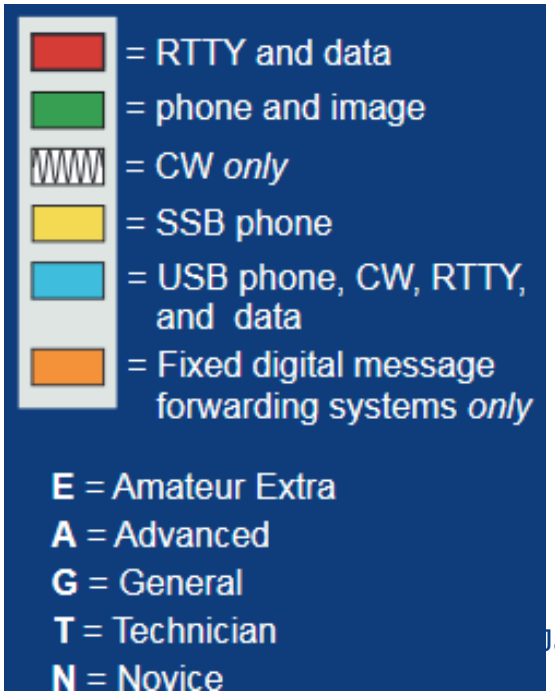
- Choosing a frequency to use is the most important step. arrl.org/graphical-frequency-allocations
- If you want to call CQ, start by selecting an appropriate band and frequency. **[G2B07]** Within the appropriate frequency limits, tune around looking for a clear frequency. **[G2B04, G2B05]**

HF Operating Techniques

Band Plans

- The FCC regulations dividing the amateur bands help stations using compatible modes stay together. Arrl.org/band-plan (ARRL also has an app for that)





HF Operating Techniques

2-2, 2-4

- Recommended Signal Separation

CW	**150 – 500Hz**
SSB	**2.5 – 3 kHz**
RTTY	**250 – 500 Hz**
PSK31	**150 – 500 Hz**

- After finding an apparently clear frequency, check for any other station that might be using it. If you're engaged in a QSO and a station calls to request the use of a frequency for a scheduled activity, try to accommodate their need and move your contact to another frequency. **[G2B06, G2C04, G2B01]** Listen to the frequency. It's that easy **[G1B08]**

HF Operating Techniques

2-4

Split or Dual Operation

- It's not uncommon for stations to work split operation. This means the transceiver is set for one frequency to receive and a different one frequency to transmit. By transmitting on one frequency and callers transmitting on another, callers can hear the station and keep in sync for more effective communication.
- Many transceivers can listen to two frequencies at the same time. This allows you to listen to the DX station and the pileup at the same time. As a result, you can quickly find the transmit frequency. **[G4A12]**

HF Operating Techniques

2-4, 2-5

- HF operation is not channelized. (except for 60 meter band five channels.)
- HF equipment is designed for continuous tuning . The control adjustment is called a VFO for variable frequency oscillation. This is the large knob on the transceiver.
- Random contacts are the norm on HF so “CQ” calling is common.

Making Contacts

2-5,2-6

- To call CQ on phone you call CQ CQ CQ this is [your call repeated a few times phonetically] Then pause and listen for a response to your CQ. If no one answers repeat you CQ as required. **[G2D05]**
- CQ DX (DX meaning "distant stations" - usually outside the Calling station's country) **[G2A11]**
- CQ for stations operating in a contest or from a special event.
- Joining an ongoing QSO or breaking in it is recommended to say your call sign during a break between transmissions by the other stations. **[G2A08]**

Making Contacts

2-6

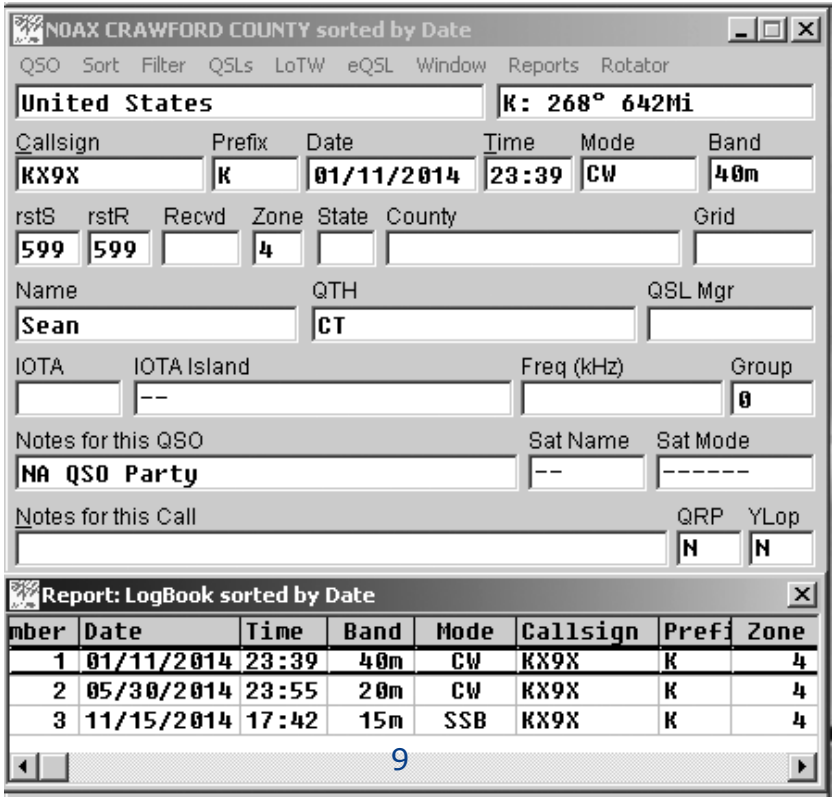
- Fast paced contests are common in HF. The rule for identifying your station still apply. Because the contacts in contests are very short the identification rules are satisfied if you give your call sign once at the beginning of the contact. **[G2D09]**
- Some band plans may reference a DX window a few khz wide. These were originally devised to give amateurs from countries with restricted privileges a bit of space to make DX contacts outside their own country or region. For example, the DX window or 50.1 to 50.125 is where you listen for and make contacts with stations outside the contiguous 48 states. **[G2B08]**

HF Operating Techniques

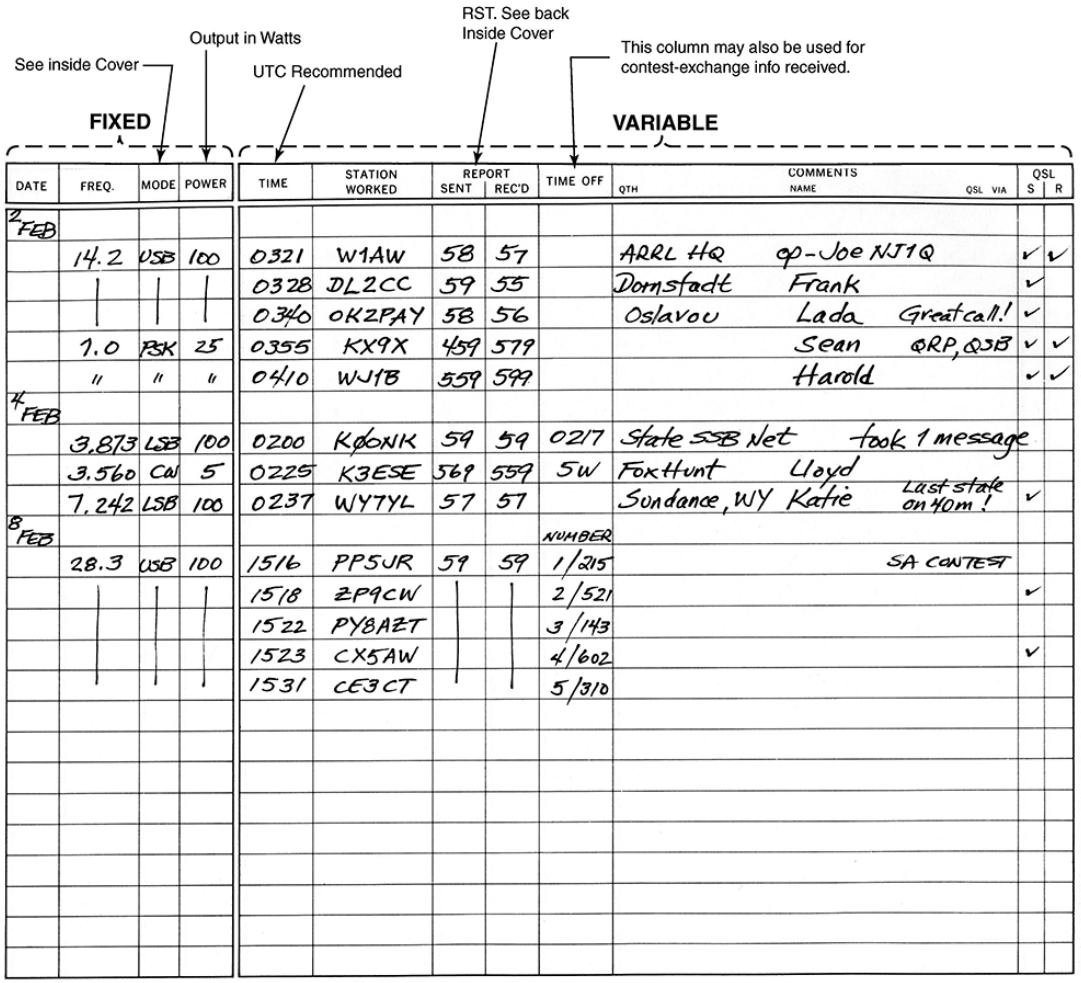
2-6, 2-7

- Housekeeping and Operating Support

- Part of keeping an orderly and efficient station is maintaining a log, a record of your station's activities. **[G2D08]**



HF Operating Techniques



DATE	FREQ.	MODE	POWER	TIME	STATION WORKED	REPORT SENT	REPORT REC'D	TIME OFF	COMMENTS QTH	COMMENTS NAME	COMMENTS QSL VIA	QSL S	QSL R
2 FEB													
	14.2	USB	100	0321	W1AW	58	57		ARRL HQ	op-Joe NJ1Q		✓	✓
				0328	DL2CC	59	55		Dornstadt	Frank		✓	
				0340	OK2PAY	58	56		Oslavou	Lada	Great call!	✓	
	1.0	PSK	25	0355	KX9X	459	579			Sean	QRP, QSB	✓	✓
	〃	〃	〃	0410	WJ1B	559	599			Harold		✓	✓
4 FEB													
	3.873	LSB	100	0200	KØONK	59	59	0217	State SSB Net		took 1 message		
	3.560	CW	5	0225	K3ESE	569	559	5W	FoxHunt	Lloyd			
	7.242	LSB	100	0237	WY7YL	57	57		Sundance, WY	Katie	Last state on 40m!	✓	
8 FEB								NUMBER					
	28.3	USB	100	1516	PP5JR	59	59	1/215			SA CONTEST		
				1518	ZP9CW			2/521				✓	
				1522	PY8AZT			3/143					
				1523	CX5AW			4/602				✓	
				1531	CE3CT			5/310					

HF Operating Techniques

2-6, 2-7

Making Contacts

- A log establishes the identity of the control operator at any date and time. This is helpful in providing information that maybe requested by the FCC. **[G2D08]**
- In addition, if you operate on 60 meters with any antenna other than a dipole, the FCC requires you to keep a log of the antenna gain calculations or the manufacturers data. **[G1C04]**

HF Operating Techniques

2-7

- **Nets and Schedules**

There are many on-air activities scheduled in advance as well as regularly schedule nets. If you are planning a net on a special event, it is good practice to consult on-line resources to avoid conflicts ahead of time. **[G2B10]**

These are also a good resource if you wish to take part in any of these nets.

Managing Interference

2-8

Managing Interference

- Types of Interference
- Avoiding Interference
- Reacting to Interference **[G2B03]**

Types of Interference

- Harmful Interference: Interference that seriously degrades, obstructs or repeatedly interrupts a radio communication service operating in accordance with the Radio Regulations.
- Malicious, deliberate or willful interference: It's specifically forbidden by the FCC rules.

Managing Interference

2-8

Avoiding Interference

- Learn the characteristics of each band with respect to propagation and noise.

Reacting to Interference

- No one has a claim to any frequency. It's better to merely change frequency to avoid an interfering signal.
- Keep a cool head!

Modes

2-9,2-10,2-11

- CW
- AM and SSB Phone
- Digital Voice
- Digital Modes
- Image Modes

Generally, who should respond to a station in the contiguous 48 states calling “CQ DX”?

A. Any caller is welcome to respond

B. Only stations in Germany

C. Any stations outside the lower 48 states

D. Only contest stations

G2A11

What does the expression “CQ DX” usually indicate?

A. Any caller is welcome to respond

B. Only stations in Germany

C. Any stations outside the lower 48 states

D. Only contest stations

G2A11

What is the recommended way to break into a phone contact?

A. Say “QRZ” several times, followed by your call sign

B. Say your call sign once

C. Say “Breaker Breaker”

D. Say “CQ” followed by the call sign of either station

G2A08

What is the recommended way to break into a phone contact?

A. Say “QRZ” several times, followed by your call sign

B. Say your call sign once

C. Say “Breaker Breaker”

D. Say “CQ” followed by the call sign of either station

G2A08

When selecting a CW transmitting frequency, what minimum separation should be used to minimize interference to stations on adjacent frequencies?

A. 5 to 50 Hz

B. 150 to 500 Hz

C. 1 to 3 kHz

D. 3 to 6 kHz

G2B04

When selecting a CW transmitting frequency, what minimum separation should be used to minimize interference to stations on adjacent frequencies?

A. 5 to 50 Hz

B. 150 to 500 Hz

C. 1 to 3 kHz

D. 3 to 6 kHz

G2B04

When selecting an SSB transmitting frequency, what minimum separation should be used to minimize interference to stations on adjacent frequencies?

A. 5 Hz to 50 Hz

B. 150 Hz to 500 Hz

C. 2 kHz to 3 kHz

D. Approximately 6 kHz

G2B05

When selecting an SSB transmitting frequency, what minimum separation should be used to minimize interference to stations on adjacent frequencies?

A. 5 Hz to 50 Hz

B. 150 Hz to 500 Hz

C. 2 kHz to 3 kHz

D. Approximately 6 kHz

G2B05

Which of the following complies with commonly accepted amateur practice when choosing a frequency on which to initiate a call?

A. Listen on the frequency for at least two minutes to be sure it is clear

B. Identify your station by transmitting your call sign at least 3 times

C. Follow the voluntary band plan

D. All these choices are correct

G2B07

Which of the following complies with commonly accepted amateur practice when choosing a frequency on which to initiate a call?

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C. Follow the voluntary band plan

D. All these choices are correct

G2B07

How can you avoid harmful interference on an apparently clear frequency before calling CQ on CW or phone?

A. Send “QRL?” on CW, followed by your call sign; or, if using phone, ask if the frequency is in use, followed by your call sign

B. Listen for 2 minutes before calling CQ

C. Send the letter “V” in Morse code several times and listen for a response, or say “test” several times and listen for a response

D. Send “QSY” on CW or if using phone, announce “the frequency is in use,” then give your call sign and listen for a response.

G2B06

How can you avoid harmful interference on an apparently clear frequency before calling CQ on CW or phone?

A. Send "QRL?" on CW, followed by your call sign; or, if using phone, ask if the frequency is in use, followed by your call sign

B. Listen for 2 minutes before calling CQ

C. Send the letter "V" in Morse code several times and listen for a response, or say "test" several times and listen for a response

D. Send "QSY" on CW or if using phone, announce "the frequency is in use," then give your call sign and listen for a response. G2B06

What does the Q signal “QRL?” mean?

A. “Will you keep the frequency clear?”

B. “Are you operating full break-in” or “Can you operate full break-in?”

C. “Are you listening only for a specific station?”

D. “Are you busy?”, or “Is this frequency in use?”

G2C04

What does the Q signal “QRL?” mean?

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B. “Are you operating full break-in” or “Can you operate full break-in?”

C. “Are you listening only for a specific station?”

D. “Are you busy?”, or “Is this frequency in use?”

G2C04

Which of the following is true concerning access to frequencies?

A. Nets always have priority

B. QSOs in progress always have priority

C. Except during FCC declared emergencies, no one has priority access to frequencies

D. Contest operations must always yield to non-contest use of frequencies

G2B01

Which of the following is true concerning access to frequencies?

A. Nets always have priority

B. QSOs in progress always have priority

C. Except during FCC declared emergencies, no one has priority access to frequencies

D. Contest operations must always yield to non-contest use of frequencies

G2B01

When is it permissible to communicate with amateur stations in countries outside the areas administered by the Federal Communications Commission?

A. Only when the foreign country has a formal third-party agreement filed with the FCC

B. When the contact is with amateurs in any country except those whose administrations have notified the ITU that they object to such communications

C. Only when the contact is with amateurs licensed by a country which is a member of the United Nations, or by a territory possessed by such a country

D. Only when the contact is with amateurs licensed by a country which is a member of the International Amateur Radio Union, or by a territory possessed by such a country

G1B08

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G1B08

What is the voluntary band plan restriction for U.S. stations transmitting within the 48 contiguous states in the 50.1 to 50.125 MHz band segment?

A. Only contacts with stations not within the 48 contiguous states
B. Only contacts with other stations within the 48 contiguous states
C. Only digital contacts
D. Only SSTV contacts

G2B08

What is the voluntary band plan restriction for U.S. stations transmitting within the 48 contiguous states in the 50.1 to 50.125 MHz band segment?

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B. Only contacts with other stations within the 48 contiguous states

C. Only digital contacts

D. Only SSTV contacts

G2B08

Why do many amateurs keep a station log?

A. The ITU requires a log of all international contacts

B. The ITU requires a log of all international third-party traffic

C. The log provides evidence of operation needed to renew license without retest

D. To help with a reply if the FCC requests information

G2D08

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B. The ITU requires a log of all international third party traffic

C. The log provides evidence of operation needed to renew license without retest

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G2D08

Which of the following is required when participating in a contest on HF frequencies?

A. Submit a log to the contest sponsor.

B. Send a QSL card to the stations worked. Or QSL via Logbook of the World.

C. Identify your station per normal FCC regulations.

D. All of these choices are correct

G2D09

Which of the following is required when participating in a contest on HF frequencies?

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B. Send a QSL card to the stations worked. Or QSL via Logbook of the World.

C. Identify your station per normal FCC regulations.

D. All of these choices are correct

G2D09

Which of the following are examples of the NATO Phonetic Alphabet?

A. Able, Baker, Charlie, Dog

B. Adam, Boy, Charles, David

C. America, Boston, Canada, Denmark

D. Alpha, Bravo, Charlie, Delta

G2D07

Which of the following are examples of the NATO Phonetic Alphabet?

A. Able, Baker, Charlie, Dog

B. Adam, Boy, Charles, David

C. America, Boston, Canada, Denmark

D. **Alpha, Bravo, Charlie, Delta**

G2D07

How does a noise blanker work?

A. By temporarily increasing received bandwidth

B. By redirecting noise pulses into a filter capacitor

C. By reducing receiver gain during a noise pulse

D. By clipping noise peaks

G4A03

How does a noise blanker work?

A. By temporarily increasing received bandwidth

B. By redirecting noise pulses into a filter capacitor

C. By reducing receiver gain during a noise pulse

D. By clipping noise peaks

G4A03

Which of the following is a common use for the dual-VFO feature on a transceiver?

A. To allow transmitting on two frequencies at once
B. To permit full duplex operation — that is, transmitting and receiving at the same time
C. To transmit on one frequency and listen on another
D. To improve frequency accuracy by allowing variable output (VFO) operation

G4A12

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G4A12

Which of the following is required by the FCC rules when operating in the 60-meter band?

A. If you are using an antenna other than a dipole, you must keep a record of the gain of your antenna

B. You must keep a record of the date, time, frequency, power level, and stations worked

C. You must keep a record of all third-party traffic

D. You must keep a record of the manufacturer of your equipment and the antenna used

G1C04

Which of the following is required by the FCC rules when operating in the 60-meter band?

A. If you are using an antenna other than a dipole, you must keep a record of the gain of your antenna

B. You must keep a record of the date, time, frequency, power level, and stations worked

C. You must keep a record of all third-party traffic

D. You must keep a record of the manufacturer of your equipment and the antenna used

G1C04

Which of the following indicates that you are looking for an HF contact with any station?

A. Sign your call sign once, followed by the words “listening for a call” -- if no answer, change frequency and repeat

B. Say “QTC” followed by “this is” and your call sign -- if no answer, change frequency and repeat

C. Repeat “CQ” a few times, followed by “this is,” then your call sign a few times, then pause to listen, repeat as necessary

D. Transmit an unmodulated carried for approximately 10 seconds, followed by “this is” and your call sign, and pause to listen -- repeat as necessary

G2D05

Which of the following indicates that you are looking for an HF contact with any station?

A. Sign your call sign once, followed by the words “listening for a call” -- if no answer, change frequency and repeat

B. Say “QTC” followed by “this is” and your call sign -- if no answer, change frequency and repeat

C. Repeat “CQ” a few times, followed by “this is,” then your call sign a few times, then pause to listen, repeat as necessary

D. Transmit an unmodulated carried for approximately 10 seconds, followed by “this is” and your call sign, and pause to listen -- repeat as necessary

G2D05

Modes

2-9

- CW
  - Morse code, called “CW” for continuous wave, is found in the lower ranges of each HF band because FCC rules prohibit phone and data signals there.
- AM & SSB Phone
  - On the HF bands, single sideband (SSB) is by far the most common voice mode or phone signal. SSB AM uses less spectrum space (3 kHz).**[G2A05 , G2A06, G2A07]**

Modes

2-9, 2-10

- Use upper sideband SSB on frequencies above 9MHz (20 through 10-meter band) .
- Use lower sideband LSB elsewhere except on 60 meters. **[G2A01, to G2A04, G2A09]**
- Note: FM, in general, is not used on HF because the higher noise levels and wide bandwidth of the mode do not result in good signal-to-noise performance.

- Digital Voice
  - A new voice signal where the operators voice is converted to a digital signal. The signal is less affected by fading and noise. The most poplar of these are FreeDV (freedv.org) and a protocol developed by G4GUO.

Modes

2-10

- Digital Modes
  - RTTY (pronounced “ritty”)
  - PSK31
  - JT65
  - JT9
  - FT8/FT4/JS8 Call
  - PACTOR
  - WINMOR
- Chapter 6 explores digital modes, protocols, and operating practices in detail.. (see Table 2.2 page 2-11)
- Image Modes
- Mode Comparison Table 2.2

HF Receiving

2-11

- On VHF, FM receivers have three basic controls:
  - Frequency (or channel)
  - Squelch
  - Volume
  - SSB/CW receivers have many more adjustments
- Selectivity, the ability to discriminate between closely-spaced signals, is more important on HF than sensitivity, the ability to detect a signal.
- Preamplifiers are rarely used on Freq below 15 meters **[G2C10]**
- Yaesu FTDX-9000D

HF Receiving

2-11, 2-12

- There is much more atmospheric noise on HF. This is cause by storms or natural atmospheric processes or man-made sources. This is referred to as QRN**[G2C10]**
- Signal Reporting
  - RST (Readability, Strength, Tone)is the most common system for signal reporting
  - In CW a C added to the end of an RST indicates an unstable signal or chip at the beginning of each dot or dash **[G2C07]**
- Yaesu FTDX-9000D

HF Transmitting

2-13, 2-14

- Phone
- On HF phone, there are several ways to put our transceiver into transmit (called "keying" the transmitter) when we want to talk. **[G2A10]**
- Arrl.org/general-class-license-manual.
- CW **[G2C01, G4A10]**
- qrparci.org
- CW and Digital Mode Prosigns and Abbreviations
- Just as with text messaging, to short-cut words & phrases, telegraphers developed an extensive set of abbreviations & procedural signs called prosigns.

HF Transmitting

2-12 thru 2-14

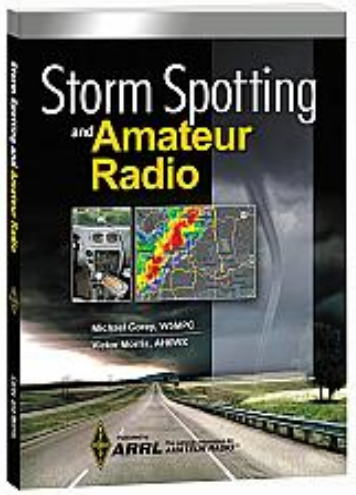
- **Q&As: [G2C01; G2C08; G2CO5; G2C02; G2C06; G2C03; G2C09; G2C11]**

- **YAESU FT 857**

2.2 Emergency Operation

2-16 thru 2-18

- Community. Many decide to become hams to service our community.
- ARES Amateur Radio Emergency Service.
- www.arrl.org/field-organization
- RACES Radio Amateur Civil Emergency Service.



2.2 Emergency Operation

2-16 thru 2-18

- Normal communication disrupted? Hams, who are familiar with emergency rules & procedures may be in short supply. Be patient.
- **[G1B04; G2B09]**
- Table 2.4 lists FCC rules pertaining to emergency communications. P. 2-16,2-17
- Distress Calls
- Q&As **[G2B02; G2B11]**

What is good amateur practice if propagation changes during a contact creating interference from other stations on the frequency?

A. Advise the interfering stations that you are on the frequency and that you have priority

B. Decrease power and continue to transmit

C. Attempt to resolve the interference problem with the other stations in a mutually acceptable manner

D. Switch to the opposite sideband

G2B03

What is good amateur practice if propagation changes during a contact and you notice interference from other stations on the frequency?

A. Advise the interfering stations that you are on the frequency and that you have priority

B. Decrease power and continue to transmit

C. Attempt to resolve the interference problem with the other stations in a mutually acceptable manner

D. Switch to the opposite sideband

G2B03

Which mode of voice communication is most commonly used on the HF amateur bands?

A. Frequency modulation

B. Double sideband

C. Single sideband

D. Single phase modulation

G2A05

Which mode of voice communication is most commonly used on the HF amateur bands?

A. Frequency modulation

B. Double sideband

C. *Single* sideband

D. Single phase modulation

G2A05

Which of the following is an advantage of using single sideband as compared to other analog voice modes on the HF amateur bands?

A. Very high-fidelity voice modulation

B. Less subject to interference from atmospheric static crashes

C. Ease of tuning on receive and immunity to impulse noise

D. Less bandwidth used and greater power efficiency

G2A06

Which of the following is an advantage when using single sideband as compared to other analog voice modes on the HF amateur bands?

A. Very high fidelity voice modulation

B. Less subject to interference from atmospheric static crashes

C. Ease of tuning on receive and immunity to impulse noise

D. Less bandwidth used and greater power efficiency

G2A06

Which of the following statements is true of single sideband (SSB)?

A. Only one sideband and the carrier are transmitted; the other sideband is suppressed

B. Only one sideband is transmitted; the other sideband and carrier are suppressed

C. SSB is the only voice mode authorized on the 20-, 15-, and 10-meter amateur bands

D. SSB is the only voice mode authorized on the 160-, 75-, and 40-meter amateur bands

G2A07

Which of the following statements is true of single sideband (SSB)?

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B. Only one sideband is transmitted; the other sideband and carrier are suppressed

C. SSB is the only voice mode authorized on the 20-, 15-, and 10-meter amateur bands

D. SSB is the only voice mode authorized on the 160-, 75-, and 40-meter amateur bands

G2A07

Which sideband is most commonly used for voice communications on frequencies of 14 MHz or higher?

A. Upper sideband

B. Lower sideband

C. Vestigial sideband

D. Double sideband

G2A01

Which sideband is most commonly used for voice communications on frequencies of 14 MHz or higher?

A. Upper sideband

B. Lower sideband

C. Vestigial sideband

D. Double sideband

G2A01

Which mode is most commonly used for voice communications on the 17-meter and 12-meter bands?

A. Upper sideband

B. Lower sideband

C. Vestigial sideband

D. Double sideband

G2A04

Which mode is most commonly used for voice communications on the 17-meter and 12-meter bands?

A. Upper sideband

B. Lower sideband

C. Vestigial sideband

D. Double sideband

G2A04

Why do most amateur stations use lower sideband on the 160-, 75-, and 40-meter bands?

A. Lower sideband is more efficient than upper sideband at these frequencies

B. Lower sideband is the only sideband legal on these frequency bands

C. Because it is fully compatible with an AM detector

D. It is commonly accepted amateur practice

G2A09

Why do most amateur stations use lower sideband on the 160-, 75-, and 40-meter bands?

A. Lower sideband is more efficient than upper sideband at these frequencies

B. Lower sideband is the only sideband legal on these frequency bands

C. Because it is fully compatible with an AM detector

D. It is commonly accepted amateur practice

G2A09

When sending CW, what does a “C” mean when added to the RST report?

A. Chirpy or unstable signal

B. Report was read from an S meter rather than estimated

C. 100 percent copy

D. Key clicks

G2C07

When sending CW, what does a “C” mean when added to the RST report?

A. Chirpy or unstable signal

B. Report was read from an S meter rather than estimated

C. 100 percent copy

D. Key clicks

G2C07

What does the Q signal “QRN” mean?

A. Send more slowly

B. I am troubled by static

C. Zero beat my signal

D. Stop sending

G2C10

What does the Q signal “QRN” mean?

A. Send more slowly

B. I am troubled by static

C. Zero beat my signal

D. Stop sending

G2C10

Which of the following statements is true of voice VOX operation versus PTT operation?

A. The received signal is more natural sounding

B. It allows “hands free” operation

C. It occupies less bandwidth

D. It provides more power output

G2A10

Which of the following statements is true of voice VOX operation versus PTT operation?

A. The received signal is more natural sounding

B. It allows “hands free” operation

C. It occupies less bandwidth

D. It provides more power output

G2A10

Which of the following describes full break-in CW operation (QSK)?

A. Breaking stations send the Morse code prosign “BK”

B. Automatic keyers, instead of hand keys, are used to send Morse code

C. An operator must activate a manual send/receive switch before and after every transmission

D. Transmitting stations can receive between code characters and elements

G2C01

Which of the following describes full break-in CW operation (QSK)?

A. Breaking stations send the Morse code prosign “BK”

B. Automatic keyers, instead of hand keys, are used to send Morse code

C. An operator must activate a manual send/receive switch before and after every transmission

D. Transmitting stations can receive between code characters and elements

G2C01

What is the purpose of an electronic keyer?

A. Automatic transmit/receive switching

B. Automatic generation of strings of dots and dashes for CW operation

C. VOX operation

D. Computer interface for PSK and RTTY operation

G4A10

What is the purpose of an electronic keyer?

A. Automatic transmit/receive switching

B. Automatic generation of strings of dots and dashes for CW operation

C. To allow time for switching the antenna from the receiver to the transmitter

D. Computer interface for PSK and RTTY operation

G4A10

Which of the following describes full break-in CW operation (QSK)?

A. Breaking stations send the Morse code prosign BK

B. Automatic keyers, instead of hand keys, are used to send Morse code

C. An operator must activate a manual send/receive switch before and after every transmission

D. Transmitting stations can receive between code characters and elements

G2C01

Which of the following describes full break-in CW operation (QSK)?

A. Breaking stations send the Morse code prosign BK

B. Automatic keyers, instead of hand keys, are used to send Morse code

C. An operator must activate a manual send/receive switch before and after every transmission

D. Transmitting stations can receive between code characters and elements

G2C01

What should you do if a CW station sends “QRS”?

A. Send slower

B. Change frequency

C. Increase your power

D. Repeat everything twice

G2C02

What should you do if a CW station sends “QRS”?

A. Send slower

B. Change frequency

C. Increase your power

D. Repeat everything twice

G2C02

What does it mean when a CW operator sends "KN" at the end of a transmission?

A. No US stations should call

B. Operating full break-in

C. Listening only for a specific station or stations

D. Closing station now

G2C03

What does it mean when a CW operator sends "KN" at the end of a transmission?

A. No US stations should call

B. Operating full break-in

C. Listening only for a specific station or stations

D. Closing station now

G2C03

What is the best speed to use when answering a CQ in Morse code?

A. The fastest speed at which you are comfortable copying, but no slower than the CQ

B. The fastest speed at which you are comfortable copying, but no faster than the CQ

C. At the standard calling speed of 10 wpm

D. At the standard calling speed of 5 wpm

G2C05

What is the best speed to use when answering a CQ in Morse code?

A. The fastest speed at which you are comfortable copying, but no slower than the CQ

B. The fastest speed at which you are comfortable copying, but no faster than the CQ

C. At the standard calling speed of 10 wpm

D. At the standard calling speed of 5 wpm

G2C05

What does the term “zero beat” mean in CW operation?

A. Matching the speed of the transmitting station

B. Operating split to avoid interference on frequency

C. Sending without error

D. Matching your transmit frequency to the frequency of a received signal

G2C06

What does the term “zero beat” mean in CW operation?

A. Matching the speed of the transmitting station

B. Operating split to avoid interference on frequency

C. Sending without error

D. Matching your transmit frequency to the frequency of a received signal

G2C06

What prosign is sent to indicate the end of a formal message when using CW?

A. SK

B. BK

C. AR

D. KN

G2C08

What prosign is sent to indicate the end of a formal message when using CW?

A. SK

B. BK

C. AR

D. KN

G2C08

What does the Q signal “QSL” mean?

A. Send slower

B. We have already confirmed the contact

C. I have received and understood

D. We have worked before

G2C09

What does the Q signal “QSL” mean?

A. Send slower

B. We have already confirmed the contact

C. I have received and understood

D. We have worked before

G2C09

What does the Q signal “QRV” mean?

A. You are sending too fast

B. There is interference on the frequency

C. I am quitting for the day

D. I am ready to receive

G2C11

What does the Q signal “QRV” mean?

A. You are sending too fast

B. There is interference on the frequency

C. I am quitting for the day

D. I am ready to receive

G2C11

Who may be the control operator of an amateur station transmitting in RACES to assist relief operations during a disaster?

A. Only a person holding an FCC issued amateur operator license

B. Only a RACES net control operator

C. A person holding an FCC issued amateur operator license or an appropriate government official

D. Any control operator when normal communication systems are operational

G2B09

Who may be the control operator of an amateur station transmitting in RACES to assist relief operations during a disaster?

A. Only a person holding an FCC issued amateur operator license

B. Only a RACES net control operator

C. A person holding an FCC issued amateur operator license or an appropriate government official

D. Any control operator when normal communication systems are operational

G2B09

What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?

A. Inform your local emergency coordinator

B. Acknowledge the station in distress and determine what assistance may be needed

C. Immediately decrease power to avoid interfering with the station in distress

D. Immediately cease all transmissions

G2B02

What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?

A. Inform your local emergency coordinator

B. Acknowledge the station in distress and determine what assistance may be needed

C. Immediately decrease power to avoid interfering with the station in distress

D. Immediately cease all transmissions

G2B02

What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?

A. Inform your local emergency coordinator

B. Acknowledge the station in distress and determine what assistance may be needed

C. Immediately decrease power to avoid interfering with the station in distress

D. Immediately cease all transmissions

G2B02

What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?

A. Inform your local emergency coordinator

B. Acknowledge the station in distress and determine what assistance may be needed

C. Immediately decrease power to avoid interfering with the station in distress

D. Immediately cease all transmissions

G2B02

Which of the following is good amateur practice for net management?

A. Always use multiple sets of phonetics during check-in

B. Have a backup frequency in case of interference or poor conditions

C. Transmit the full net roster at the beginning of every session

D. All these choices are correct

G2B10

Which of the following is good amateur practice for net management?

A. Always use multiple sets of phonetics during check-in

B. Have a backup frequency in case of interference or poor conditions

C. Transmit the full net roster at the beginning of every session

D. All these choices are correct

G2B10

That’s the end…of just Chapter 2

- **Much more to Learn!**
- **Have and enjoy the journey!**