



60-Meter Operations – New Privileges and Recommended Practices

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In November 2011, the Federal Communications Commission issued a Report and Order that substantially expanded Amateur Radio privileges on the 60-meter band. The new privileges will take effect on March 5, 2012.

Amateurs are permitted to operate on five frequency channels, each having an effective bandwidth of 2.8 kHz. See Table 1 below.

Table 1

Channel 1: 5330.5 kHz

Channel 2: 5346.5 kHz

Channel 3: 5357.0 kHz

Channel 4: 5371.5 kHz

Channel 5: 5403.5 kHz

These frequencies are available for use by stations having a control operator holding a General, Advanced or Amateur Extra class license. It is important to note that the frequencies shown above are *suppressed carrier frequencies* – the frequencies that appear in your transceiver’s tuning display when your transceiver is in the USB mode.

Amateurs may transmit with an effective radiated power of 100 W or less, relative to a half-wave dipole. If you’re using a commercial directional antenna, FCC Rules require you to keep a copy of the manufacturer’s gain specifications in your station records. If you built the directional antenna yourself, you must calculate the gain and keep the results in your station records.

When using a directional antenna, you must take your antenna gain into account when setting your RF output power. For example, if your antenna offers 3 dB gain, your maximum legal output power on 60 meters should be no more than 50 W (50 W plus 3 dB gain equals 100 W Effective Radiated Power).

In addition to increasing the power amateurs can use on 60 meters, the Report and Order also expanded the number of legal operating modes:

Upper Sideband (USB)

CW

Digital

Each mode comes with its own requirements for legal operation on 60 meters.

Upper Sideband Operation

Upper Sideband operation on 60 meters is simple. Just tune your transceiver to one of the channel frequencies shown in Table 1 and operate, being careful that you do not overmodulate and create “splatter” that would fall outside the 2.8 kHz channel bandwidths. If your transceiver allows you to adjust your maximum SSB transmit bandwidth, setting it to 2.4 kHz should keep you well within the legal limit.

CW Operation

CW operation must take place at the *center* of your chosen channel. This means that your transmitting frequency must be 1.5 kHz *above* the suppressed carrier frequency as specified in the Report and Order (see Table 1).

The channel center frequencies are ...

Channel 1: 5332.0 kHz

Channel 2: 5348.0 kHz

Channel 3: 5358.5 kHz

Channel 4: 5373.0 kHz

Channel 5: 5405.0 kHz

Consult your transceiver manual. Some transceivers transmit CW at the exact frequencies shown on their displays, but others offset the actual transmission frequency by a certain amount (for example, 600 Hz). If your manual is not clear on this point, contact the manufacturer. If you have access to a frequency counter, this is an excellent tool for ensuring that your CW signal is on the channel center frequency.

Digital Operation

The FCC Report and Order permits the use of digital modes that comply with emission designator 60H0J2B, which includes PSK31 as well as any RTTY signal with a bandwidth of less than 60 Hz.

The Report and Order also allows the use of modes that comply with emission designator 2K80J2D, which includes any digital mode with a bandwidth of 2.8 kHz or less whose technical characteristics have been documented publicly, per Part 97.309(4) of the FCC Rules. Such modes would include PACTOR I, II or III, 300-baud packet, MFSK16, MT63, Contestia, Olivia, DominoEX and others.

On 60 meters hams are restricted to only one signal per channel and automatic operation is not permitted. In addition, the FCC continues to require that all digital transmissions be centered on the channel-center frequencies, which the Report and Order defines as being 1.5 kHz above the suppressed carrier frequency of a transceiver operated in the Upper Sideband (USB) mode. This is typically the frequency shown on the frequency display.

To repeat, the channel center frequencies are ...

Channel 1: 5332.0 kHz

Channel 2: 5348.0 kHz

Channel 3: 5358.5 kHz

Channel 4: 5373.0 kHz

Channel 5: 5405.0 kHz

Operating on the channel center frequencies is not difficult since most amateurs now use digital software that includes some form of “waterfall display” that can be calibrated by audio frequencies.

For example, to operate PSK31 place your transceiver in the USB mode and tune to one of the suppressed carrier channel frequencies shown in Table 1. With your PSK31 software display configured to indicate audio frequencies, click your mouse cursor at the 1500 Hz mark (see below). With your radio in the USB mode, this marker indicates the center of the channel and it is the frequency on which you should be transmitting. See Figure 1.

For wider modes, the signal envelope must be centered at the 1500 Hz mark in the waterfall display. See Figure 2.

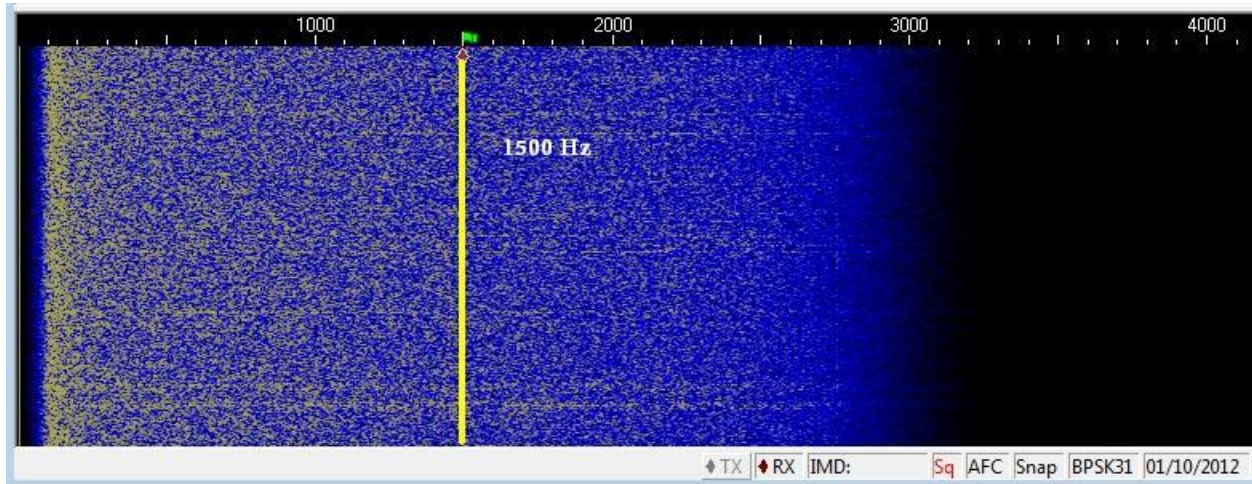


Figure 1 – A PSK31 signal at the 1500 Hz position on a software waterfall display. This indicates the center of the channel.

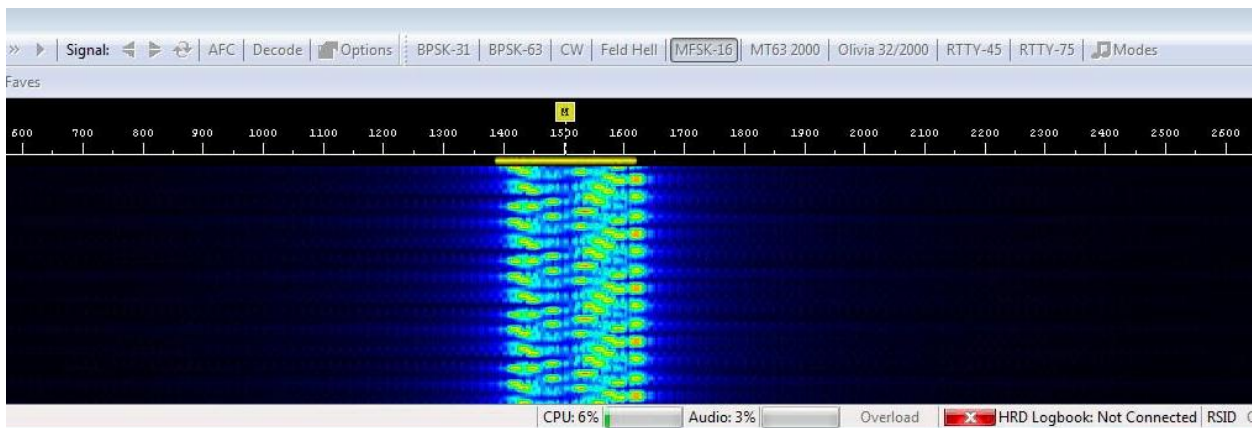


Figure 2 – An MFSK16 signal at the 1500 Hz position on the waterfall display

Tips for Avoiding Interference

Because amateurs are only secondary users on 60 meters, we are required to yield to other services. In other words, if you suddenly hear a non-amateur transmission on the channel, you must cease operation on that channel immediately. Always listen before transmitting. If you hear another signal on the channel, whether it is a signal from an Amateur Radio or government/private station, *don't transmit*.

As amateurs exercise their new 60 meter privileges, a more detailed and specific channel occupancy plan may become clear. In the meantime, follow these tips to share the channels as efficiently as possible.

- Keep your transmissions as short as possible with frequent breaks to listen for other signals.
- Although split-channel operation (transmitting on one channel and listening on another), is permitted under the rules, this is considered poor operating practice on 60 meters because it effectively ties up two channels at once and increases potential interference. If you must operate split channel, monitor your transmit channel for other signals.
- To locate a clear channel, USB operators should begin at Channel 5 and move down (if necessary) to Channels 4, 3, 2 and 1 until a clear channel is found. CW and digital operators should reverse this pattern, beginning at Channel 1 and moving upward until a clear channel is found.
- If you hear a digital signal and you're not sure if it is an Amateur Radio signal, don't transmit; move to another channel instead. If it is an amateur digital signal that is not centered in the channel, resist the temptation to contact him on his transmitting frequency to tell him he is out of compliance. By transmitting on his frequency you'll be out of compliance as well!

Most primary users on 60 meters operate USB or wide-shift digital signals, so they are relatively easy to recognize. To help you identify the sounds of popular amateur digital modes, see the *Get on the Air with HF Digital* web page at **www.arrl.org/hf-digital**.

- Take care when using narrow receive filters, such as when operating CW. To be in compliance you need to be able to hear other stations that may begin operating on the channel.
- Over the years, Channel 5 has become a *de facto* international DX channel. With that in mind, avoid domestic QSOs on this channel when possible.