





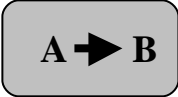
He's operating split? What does that mean?!?!

By Terry Lines, KD5RA

You're a new General and have been operating HF for about two weeks. About 7:00UTC Sunday, during the IARU World Championship, you are tuning down the 40m band about half asleep. Without realizing what you're doing you have tuned down to 7090 and hear a station calling, "CQ CONTEST, CQ CONTEST this is zed-zed-zulu-zed listening 7155 and this frequency". You pull-up QRZ.com on your web browser and enter the call sign, 00Z0. Suddenly you are wide-awake. This guy is the rarest of all DXCC entities; he's located on Zero-Zero Island; 0-degrees Latitude, 0-degrees Longitude just off the coast of equatorial Africa! His DXCC entity number is 00. You're a bright girl (or guy) and you know 7090 is well outside your General Class privileges in the USA. Even Extra Class operators have a lower limit of 7125 on 40m. So how do you reply to this rare treasure?

Actually, he just told you how to reply. He is transmitting on 7090 and he is listening on both 7090 and 7155. His radio has dual receivers, or dual-band-watch, which is fairly common on today's mid-range and above radios. So you need to transmit on 7155 and listen on 7090, but how do you accomplish that feat of magic? You operate split.

Every modern HF transceiver I know of, even the least expensive entry-level radio, will allow you to operate split. The exact setup procedure will vary from radio to radio, but generally the procedures are similar. I used a Yaesu® FT847 for a long time before buying an Icom® radio. I had used the split function on the FT847 often enough that it was second nature. The controls and procedures to operate split on the Icom were so similar to the Yaesu that I was able to set-up split mode on the Icom without referring to the manual. The keys needed are shown below.

	ICOM	YAESU
Enable Split		
Swap VFO Contents		
Transfer VFO-A Contents to VFO-B		

You may have noticed that your radio has two VFO displays but you never concerned yourself with why. When you rotate the tuning knob only one of the two VFO displays changes frequency and that's all that matters. An example for the Icom VFO display placement is shown below. When the tuning dial is rotated the upper VFO display (VFO-A) changes.

TX VFO-A 7.090.000 LSB
VFO-B 14.255.000 USB

If you enable the split function by pressing the "Split" key shown previously, the display changes. You will now transmit on VFO-B.

VFO-A 7.090.000 LSB
TX VFO-B 14.255.000 USB

The display above indicates that you will now transmit on 14.255 MHz. If you rotate the tuning knob the upper VFO display (VFO-A) is still the display which changes. But 7.090 MHz is not the frequency we want to change. So set VFO-A back to 7.090 MHz.

If you press the "Swap VFO Contents" button the display will appear as below.

VFO-A 14.255.000 LSB
TX VFO-B 7.090.000 USB

The contents of VFO-A have been swapped with those of VFO-B. The set-up shown above isn't what we want, but we are getting closer. The upper VFO display is the display effected by the radio's tuning functions. First we need to change VFO-A from 20m to 40m. On my Icom I need to press the [7 3] key to select the 7 MHz band (40m). The display would look like the following.

VFO-A 7.300.000 LSB
TX VFO-B 7.090.000 USB

Closer, but not exactly what we want. Rotate the tuning dial to set VFO-A to 7.155 MHz. Remember, the main VFO display is always the display effected by tuning functions of the radio. In this case, the upper VFO display is the main display. After tuning to 7.155 MHz the display should appear as below.

VFO-A 7.155.000 LSB
TX VFO-B 7.090.000 USB

The display above is exactly opposite of what you wanted to accomplish; you want to transmit on 7.155 and receive on 7.090. Press the "Swap VFO Contents" button again, the display will appear as below.

VFO-A 7.090.000 LSB
TX VFO-B 7.155.000 USB

You've done it!! You are now set to listen on 7.090 MHz and transmit on 7.155 MHz. You respond to 00Z0 and he comes back to you on the first call. He is in your log and the QSL card should be on it's way to you shortly. But be patient, mail from Zero-Zero Island is slow in arriving.

Please, **do not** be intimidated by the instructions above. Attempting to explain anything in writing is far more complex and time consuming than actually doing it. I tried this hypothetical case on my radio and it actually took less than 10 seconds to accomplish. Think about what we did, it really wasn't complicated: 1) press the split button to enable the radio's split function, 2) swap the VFO contents so the TX VFO was in the main VFO display, 3) set the required transmit frequency in the main VFO display, and finally, 4) swap the VFO contents for a second time. Read the section of your manual which describes setting up split operation; it shouldn't differ much from the example above and it really will not be difficult.

So why do many DX stations operate split frequencies? In the case of zed-zed-zulu-zed on 40m, he wanted to increase his exposure during the contest. In his part of the world he is not permitted to transmit above 7.100 MHz. In our area, we are not permitted to transmit phone below 7.125 MHz (Extra Class). The only way we can communicate via phone is by operating split. By transmitting on 7.090 MHz and listening on both 7.090 and 7.155 station 00Z0 can legally work stations anywhere in the world. And, stations anywhere in the world may legally work him.

On other bands, 20m for example, the reason a DX station would operate split is different. If the DX station is really rare, he is going to create a huge pile-up (thousands of stations calling him). On 20m you may hear a rare DX station on 14.210 MHz calling, "**CQ, CQ this ZD8Z up 5**". ZD8Z is transmitting on 14.210MHz, he is listening up 5KHz on 14.215. His reason for operating split is different from the 40m example. In this case he wants to be heard above the thousands of stations returning his call. If he were transmitting and listening on the same frequency, the roar of a thousand stations calling him would likely continue for several minutes and each QSO would take a very long time to complete. By operating split he has a clear frequency on which to be heard (14.210 MHz) and he only needs to pick one call sign from the chaos occurring up on 14.215. Things will move along much more quickly and everyone is going to be happier, or at least less frustrated.

73 and good DX
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