

JT9 – A New Weak Signal Mode for HF

A QSO with a ham in the middle of Russia, both of us have our transmitters set for 5 watts output. Immediately followed by another with a ham in California, he's sending out 3 watts using a mag loop antenna. And this is with only so-so band conditions. The "secret"? We're all using JT9... a great new weak-signal mode.

JT9 is a new Joe Taylor, K1JT* digital mode that is becoming more and more popular. If you're familiar with JT-65HF, JT9 will seem like an old friend. Hardware needed? Good news, if your rig is set up for digital modes (PSK-31 for example) you're all set for JT9.

If you're new to the various software packages created by Joe Taylor, K1JT, they are all based the idea of having a QSO using low power. Very low power indeed as with JT9 all you need is 5 watts to work the world.

As JT9 is still somewhat new to the amateur radio community (it was released in October 2012) it took some time to become popular but today signals are easy to find and regardless of band conditions and my less-than-ideal antenna, I can scare up many QSOs just about any time of the day or night.

Just like JT-65HF, a QSO typically takes 5 or 6 minutes and is not a rag chew mode. A typical JT9 QSO (with my notes in parentheses) would go as follows.... It is just the same as JT-65HF.

CQ KJ4YAC EL98 (note that the Maidenhead Grid Locator is included in the CQ)

KJ4YAC DE W7IR DM43 (he answers my CQ and includes his grid locator)

W7IR DE KJ4YAC R-21 (the R-21 indicated the signal strength that I received)

KJ4YAC DE W7IR, R-17 (I send his signal report to him)

W7IR DE KJ4YAC RRR (I have received your report)

KJ4YAC DE W7IR 73

W7IR DE KJ4YAC 73

To download the (free) software, Google "WSJT" and go to their homepage. Click on WSJT-X and print out the user's guide. It's an excellent user's guide, print it out and spend a few minutes reading it. For the purposes of this write-up, skip the part about JT-65HF, JT-65HF software is bundled in the software you just downloaded but that's a subject for another time.

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Here's how to find and download the software and the user's guide.

1. Google "WSJT
2. One of the results is "WSJT Home Page", click on that.
3. On the left side of the page is a list of the various software available. Click on "WSJT-X"
4. In the Downloads section, click on "WSJT-X User's Guide – English".
5. Follow the instructions to save this to your computer. Print out the User's Guide.
6. Read the User's Guide, you don't have to memorize it, just get yourself familiar with the contents.
7. Now you are ready to download the software and configure it for your own setup – callsign, Maidenhead Grid, etc. In the same Downloads section, click on "Windows V1.1" and follow the instructions that appear on your screen.
8. When installation is complete, go to your User's Guide and *carefully* follow the configuration instructions.
9. When you've finished configuring your installation, note the sample QSO found in the user's guide. (The sample QSO exercise is included in the software you installed earlier.) If you are not familiar with JT-65HF, take the time to do this sample QSO.
10. If you are familiar with JT-65HF, you can probably skip the practice session and poke around the user interface and figure out how JT9 works on your own.

Installation and configuration for your own station is straightforward but it's best to do it when you can concentrate on what you're doing.

A nice part of the software package you've just installed is a tutorial that lets you have a "pretend" QSO with another station. If you're new to JT modes, this is very handy and you'll get up to speed quickly.

You'll find JT9 signals around 14.078, 21.078, 18.103 and 10.140 MHz and you'll quickly start seeing decoded QSOs on your screen. When you see a CQ, double-click on it and you're off and running. Soon, you'll want to try your own CQ and you'll be pleased at how easy it is and how quickly you'll get an answer.

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Notes

JT-65HF is included in the installation you just completed, I'd recommend you ignore this for now.

Two very active frequencies for JT9 are 14.078 MHz and 7.078 MHz, depending, of course, on the time of day, band conditions, etc. Try these frequencies first as you are almost guaranteed to find signals. I have, though, had QSOs on other bands.

Here's a list of JT9 frequencies in MHz; again 14078 and 7078 are the most active:

3578

5359

7078

10140

14078

18104

21078

24919

28078

On the waterfall window, signals will look like narrow lines and you'll hear various tones from the signals.

There is a limited CAT control built in JT9. Not having CAT control on my rig I can't comment on this.

When you start seeing signals being decoded, just observe them for a while. When you get comfortable with what you're seeing, try answering a CQ. Later on you can try calling CQ yourself.

Enjoy !!!

73,

Owen, KJ4YAC

*Joe Taylor, K1JT, was awarded Noble Prize in physics, 1993