

JS8 using IC-7300

To get started, have a look at these two pages:

- <http://js8call.com/js8call-getting-started/>
- <https://groups.io/g/js8call> (you'll need a groups.io account to download the program)

IC-7300 Setup

The first step is to set up the IC-7300 and connect it to the computer.

- If the pages above didn't help, you can also have a look at Y03HJV's excellent [guide](#), ignoring the Winlink parts.
- Adjust the USB-D Filter width:
 - Press and hold the **FIL1** button at the top of the screen (above frequency).
 - Press the **BW** button and turn the VFO knob until it says "3.6k"
 - Then turn the TWIN PBT knob (top left) to adjust the boundaries to 600 and 2600 (the picture shows 650 and 3400). This step can be tweaked anytime on the fly to filter out unwanted signals at the edge of the band. This is useful if say you've got strong RTTY signals activating your [AGC](#), thus reducing the strength of the signals you're interested in.
 - Then press the **MENU** button and select the screen you usually like to see (SCOPE, METER, etc)



JS8CALL Setup

Under File → Settings...

- Radio → CAT Control:
 - Rig: Icom IC-7300
 - Serial Port: Depends on each computer
 - Baud Rate: 9600
 - Data Bits: Default
 - Stop Bits: Default
 - Handshake: Default
- Radio → Rig Options
 - PTT Method: RTS
 - Port: Same as on the Cat Control page
 - Mode: None
 - Split Operation: None
 - Tx Delay: 0.2 s
- Audio

- Soundcard Input and Output: (USB Audio CODEC)

Computer Timing

JS8Call transmits in blocks of 15 seconds. For two stations to be able to communicate, the start of these blocks has to be synchronized to within about 2 seconds of the horizontal lines on each station's scope. That's why it's really important for everyone to keep their computer clock as accurate as possible (to within 2 seconds of each other). (see <http://js8call.com/faq/>)

Here's an example of a block that is within the horizontal lines, so it's well synchronized (with my station anyways):



There are three ways to adjust your clock:

1. You can use an **internet** service to adjust your computer's clock such as [Network Time](#). Here are the *Network Time* settings I changed so that it keeps my clock within 200 ms:
2. If you're "offline", you can use the **WWV time signals**¹⁾ on 2.5 MHz, 5 MHz, 10 MHz, 15 MHz, or 20 MHz.
3. You can use the **Time Drift tool in JS8CALL**, which adjusts the program's clock without changing the operating system's. Make sure that this has a check mark: View → Show Time Drift Controls, then at the bottom of the screen you'll see the Time Drift tool. Use the up and down arrows to adjust your time drift (more on this below):



Here's how to use the Time Drift Tool:

- Make sure that you can see the Time Delta column in your Band Activity Window. If not, make sure that this is checked: View → Show Band Activity Columns... → Time Delta
- If everyone's computers were perfectly synchronized, all these Time Delta entries would be 0 ms. Realistically, there's always be a bit of variance, but you should try to ensure that your clock is synchronized with most other operators.
- For example, suppose that most operators are around +500 ms, then you'd want to adjust your Time Drift to -500 ms to cancel out the Time Delta (and vice versa). Note the sign (+/-) of the Time Drift is opposite that of the Time Delta For example, here I had to put a Time Drift of -100 on mine to match the other operators:
- The last thing to keep in mind is that this time drift might need to be adjusted periodically depending on how well your computer keeps time.



Troubleshooting

CPU Overload

Sometimes the QSO in JS8Call don't decode properly: The waterfall shows the data blocks being received, but nothing is decoded, or parts of it are with the rest showing as ... instead.



At first, I thought that the YAAC (the APRS program I was running at the same time) was causing the issue because when I close it, JS8Call would start behaving again. But it turns out that it was simply a lack of CPU power. I'm running JS8Call on a cheap mini computer and was reaching 100% CPU when running JS8Call, YAAC, and Firefox at the same time. Turns out that running any two of these programs is fine, but not all three.

To check on your CPU usage, press **CTRL**+**ALT**+**DEL** on your keyboard, then select Task Manager.

Note

The first draft of this page was copied over from [VE7HZF's site](#) with permission. Please feel free to expand on it.

¹⁾

 [Wikipedia: WWV \(Radio Station\)](#)