

Digital messaging made easy - NBEMS (Narrow-Band Emergency Message System)

You don't *have* to have a special interface to use this method of digital communication - just make it so your computer can hear (through its microphone) your radio for receiving. When you are ready to send a message, hold the radio's mic near the computer's speakers, press the PTT on the radio, and then the transmit button in the software.

Begin by downloading the NBEMS suite of applications. Load the latest versions of the *fldigi*, *flwrap*, and *flmsg* applications, available from the following website: <https://sourceforge.net/projects/fldigi/files/?source=navbar>

Install fldigi

When you run the fldigi setup, the fldigi configuration wizard guides you through initial configuration of fldigi. Provide your input on the following *fldigi configuration wizard* pages:

1. Operator information
 - a. Enter your information in each of the fields.
 - b. Click the **Next** button.
2. Audio devices
 - a. Check **PortAudio**.
 - b. In the **Capture:** and **Playback:** drop downs, select the computer's microphone and speakers, respectively.
 - c. Click the **Next** button.

Note 1: If you are using an audio interface device like the SignalLink, in the **Capture:** and **Playback:** drop downs select the USB Audio CODEC choices for the soundcard in the interface device.

Note 2: This data can also be entered from the main *fldigi* window, by clicking **Configure** on the fldigi menu bar and selecting **Sound Card** from the drop down menu.

3. Transceiver control
 - a. This guide does not cover the optional transceiver control. Click the **Finish** button.

Select the MT63-2000L mode

1. On the fldigi menu bar, click **Op Mode** and select **MT-63**. In the next drop down menu, select **MT63-2000L**.
2. On the *fldigi* menu bar click **Configure** and select **Modems**.
3. Select the *MT-63* subtab.
4. Uncheck the **Allow manual tuning** box.
5. Click the **Save** button, then click the **Close** button.

Identify the laptop's microphone and speaker devices

If you performed the procedure in *Install fldigi* above, skip this section and go to the next section.

1. On the *fldigi* menu bar click **Configure** and select **Sound Card**.
2. Check **Port audio**, then in the **Capture** and **Playback** drop down menus select the computer's microphone and speakers, respectively.
3. Click the **Save** button, then click the **Close** button.

Enable opening flmsg automatically

1. On the *fldigi* menu bar click **Configure** and select **Misc**.
2. Click the **NBEMS** subtab. In the top section (*NBEMS data file interface*) check **Enable**.

3. In the bottom section (*Reception of flmsg files*) check **Open with flmsg**, then click the **Locate flmsg** button.
4. Navigate to the folder containing the flmsg executable:
On Windows —The flmsg.exe executable is found here by default:
`C:/Program Files (x86)/flmsg{version number}`
On OS X/Mac —
 - a. Navigate to the flmsg{version number} application.
 - b. Press and hold the **Control** key and select **flmsg {version number}**.
 - c. From the menu, select *Show package contents*.
 - d. Navigate to /Contents/MacOS/flmsg.
 - e. Populate the **Flmsg:** field with the flmsg executable.
5. **On Windows** — Select the executable, then click the **Open** button.
On OS X/Mac — Drag the flmsg application to the **Flmsg:** field.
6. The **Flmsg:** field is populated with the path to the flmsg executable.
7. Click the **Save** button, then click the **Close** button.

Operational notes

- At the bottom of the main fldigi window, in the lower right corner, is a squelch control. Click the **SQL** button to make it operational. In the vertical rectangular box to the far right of the waterfall, adjust the squelch level by dragging the enclosed small white box vertically.
- The diamond icon to the left of the **AFC** and **SQL** buttons is the indicator of the audio level reaching flgi. Watch the diamond during receive and adjust the audio (by the volume of your radio or by a receive volume control on your interface) so that the diamond is green and occasionally yellow at audio peaks. When the diamond is red, the audio is overdriven. When the diamond is black, fldigi is not detecting any audio.
- The tan window for viewing received text does not automatically jump to the bottom while text is being received. After using the scroll controls to view text off the screen in this window, scroll manually back to the bottom to see what is currently being received. fldigi users commonly think they are not receiving when they are instead simply looking at the wrong part of the tan receive window.
- MT63-2000L has relatively high latency due to the forward error correction it uses, so do not panic if you don't see text immediately after the transmission starts. It may take several seconds before the squelch indicator jumps up and decoded text appears in the window.
- To call CQ, click the **CQ >|** button in the macro bar or press **F1**.
- To send text, type your message in the blue area, (**press PTT on Mic**) then click the **TX >|** button (the rightmost macro button) or press **F12**. After sending release PTT.

There is an article about making a simple sound card interface here: <http://kd7lrj.blogspot.com>

This is just the tip of the iceberg - there's lots more information about NBEMS and fldigi online. I believe that the forms processing (with flmsg) will be very useful.