

Narrowband Emergency Messaging System (NBEMS)

1. Introduction

NBEMS is a non-infrastructure-dependent digital messaging system that is suitable for passing short text and data spreadsheet messages between two or more amateur radio stations using audio tones. Using the FLAMP software, any type of message can be sent. It can be applied to short range, VHF & UHF radio circuits, as well as HF NVIS and HF long haul circuits. Experience has shown that it will work over analog FM voice repeater systems.

2. Software

CCAR has adopted FLDIGI, FLMSG/FLAMP, and FLWRAP as the standard software packages for NBEMS. The software is open source and is being developed by W1HKJ and a group of supporting developers. The software can be downloaded from <http://www.w1hkj.com/>.

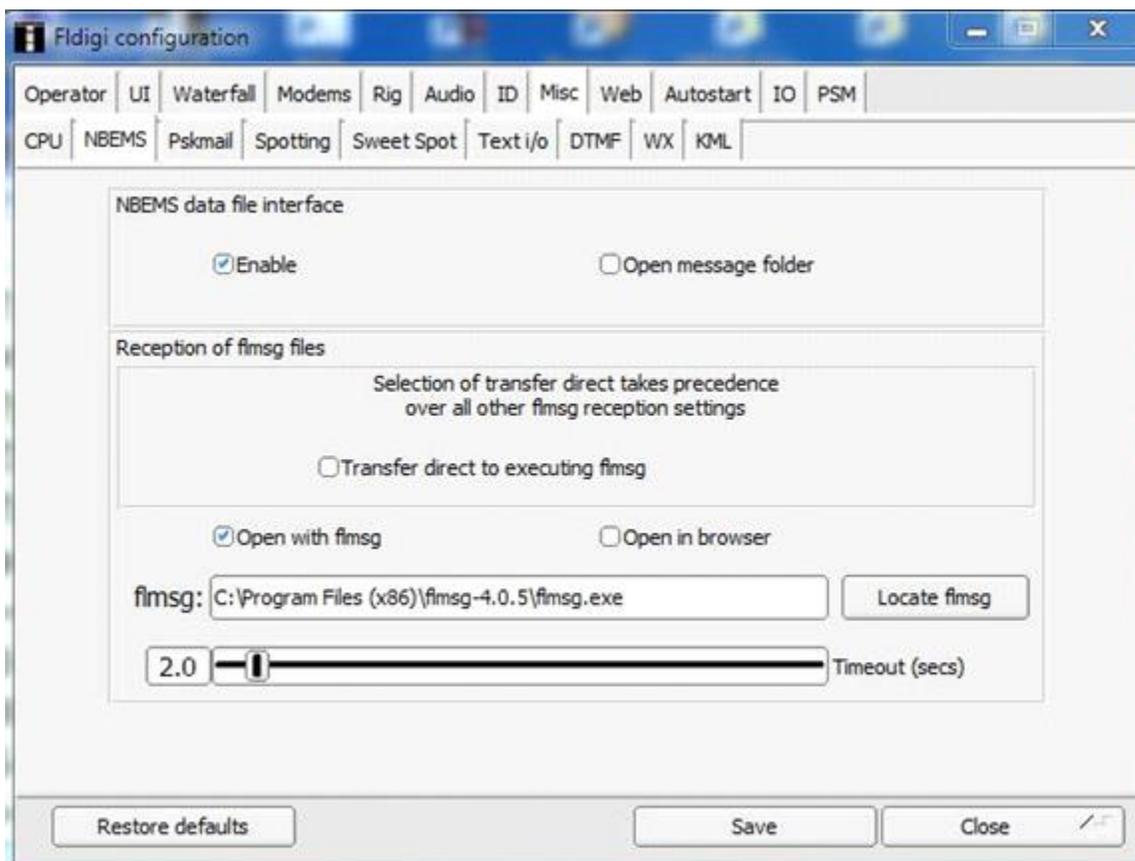
3. Configuration Settings

This section identifies standard configuration settings used by CCAR. Additional information can be found in the Help files for FLDIGI, FLMSG and FLAMP.

3.1 Basic FLDIGI Configuration Settings for Using NBEMS for CCAR Message Handling

- Fldigi > Configure > UI > Operator
 - Fill in information requested
- UI > General:
 - Check all exit prompts is suggested
 - Click "Save"
- Click "Save" at bottom right every time a change is made on every window
- Waterfall:
 - Frequency Scale: Check "Always show audio frequencies"
 - Transmit Signal: Check "Always show audio frequencies"
 - FFT Processing: On the top line, set "Upper limit" to 4000
 - Click "Save"
- Modems > PSK:
 - In the "8 psk" box near the bottom, check "Pilot tone"
 - Click "Save"
- Audio > Devices:
 - Check "Port audio"
 - Capture and Playback: Select "USB Audio CODEC" for both "Playback" and "Capture," if available. (These won't be available until a sound card is connected.)
 - Click "Save"
- Misc > NBEMS:

- NBEMS data file interface: Check “Enable”
- Reception of flmsg files:
 - Uncheck “Transfer direct to executing flmsg,” if checked
 - Check “Open with flmsg”
 - Flmsg path: fill in using “Locate flmsg” button (No other method will work to fill in this field.)
 - Click “Save”

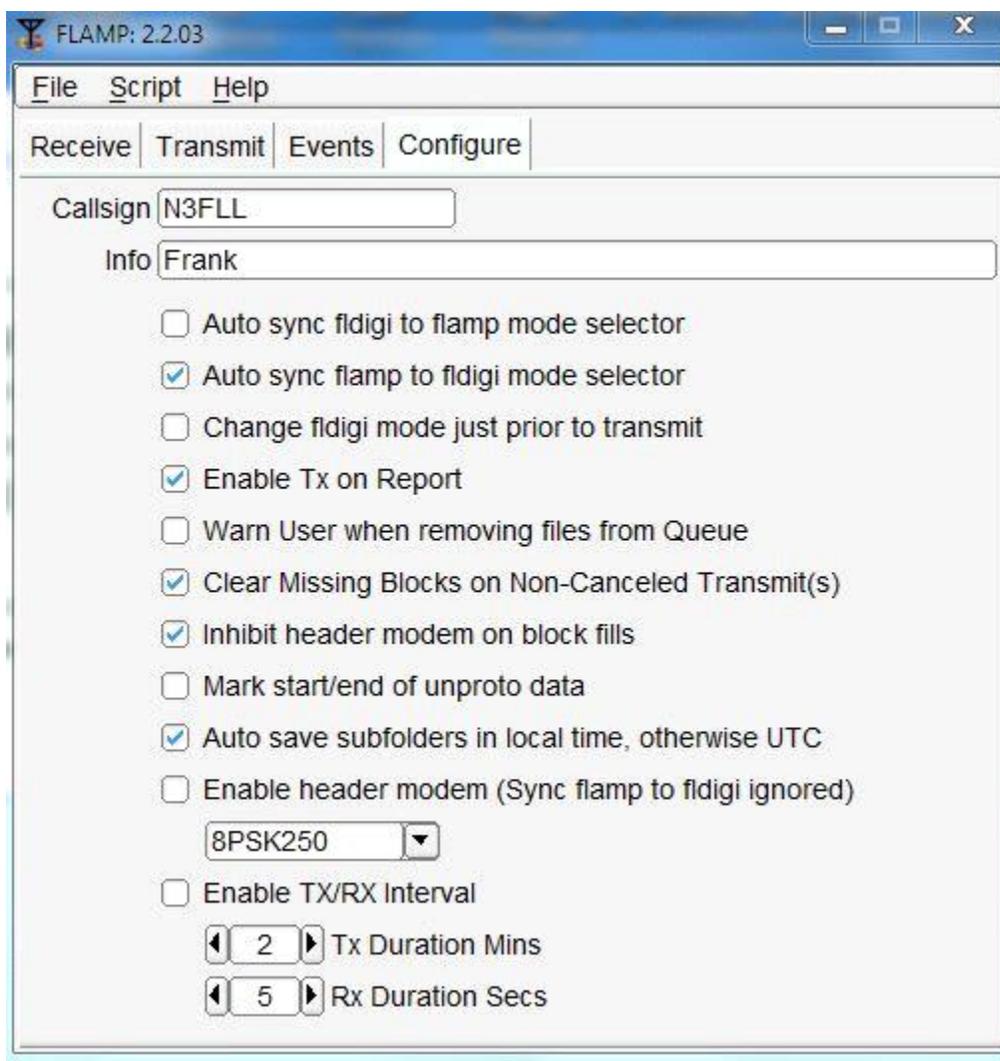


- Web > Call Lookup:
 - Data base lookup: Check callbook.info lookup (free service US callsigns only) or, if you have a QRZ account, you can fill in your user name and password.
 - Click “Save”
- Autostart:
 - Flamp: Enter info using the “Locate” button, check “Enable” and click “Test.” Flamp should open. (This is the same procedure as the flmsg path.)
 - Click “Save”

3.2 FLAMP

- “Configure” Tab:
 - Callsign: Enter your callsign

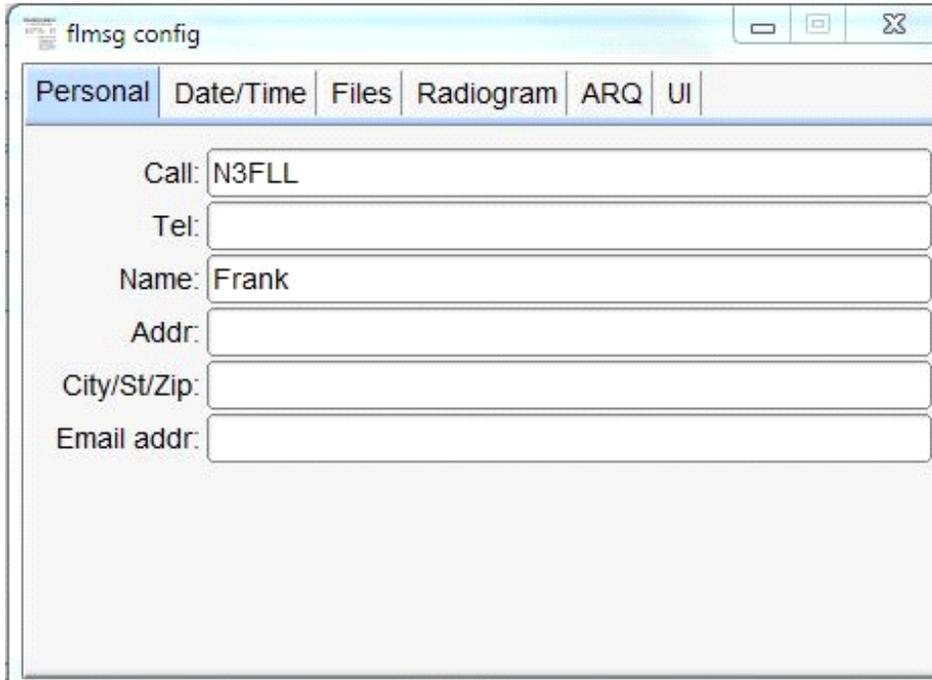
- Info: Enter info such as your name
- Check the following recommended settings
 - Auto sync flamp of fldigi mode selector
 - “Enable TX on Report”: This is an optional setting, base on user preferences. Many operators prefer to leave this option unchecked and manually transmit reports.
- Clear missing blocks on non-canceled transmit(s)
- Inhibit header modem on block fills
- Auto save subfolders in local time, otherwise UTC
- Check “Enable TX/RX Interval,” if your transmission will time-out a repeater
- Set TX Duration 2 Mins
- Set RX Duration 5 Secs



3.3 FLMSG

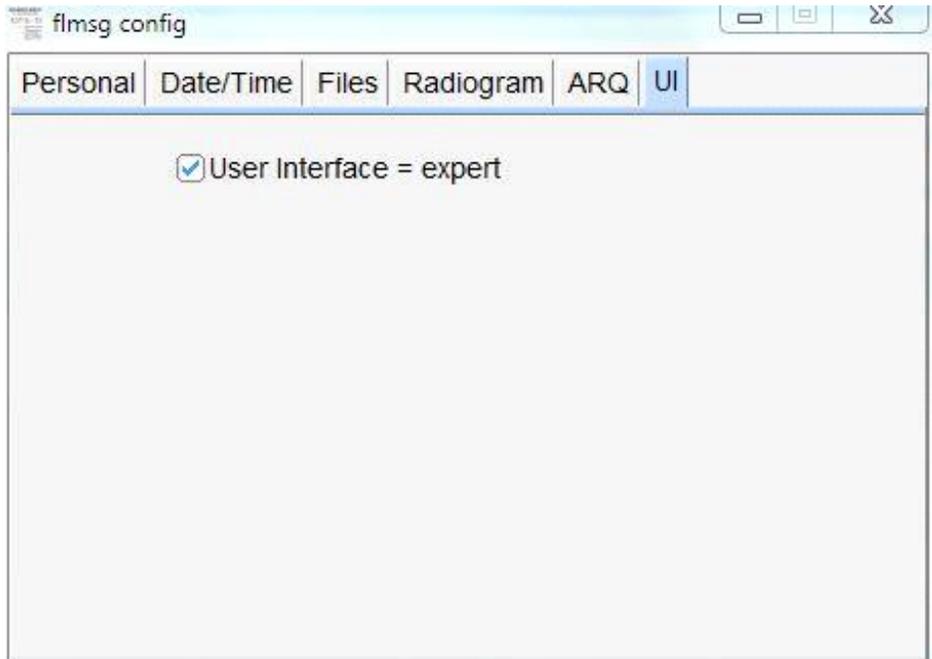
- Configuration:

- Personal: Info such as call and name
- Date/Time: Select your choice
- Files: Default settings
- Radiogram: Default settings
- ARQ: Default settings except uncheck "Change modem with autosend"
- UI: check User Interface=expert



The screenshot shows the 'flmsg config' window with the 'Personal' tab selected. The window title is 'flmsg config'. The tabs are 'Personal', 'Date/Time', 'Files', 'Radiogram', 'ARQ', and 'UI'. The 'Personal' tab contains the following fields:

Call:	N3FLL
Tel:	
Name:	Frank
Addr:	
City/St/Zip:	
Email addr:	



The screenshot shows the 'flmsg config' window with the 'UI' tab selected. The window title is 'flmsg config'. The tabs are 'Personal', 'Date/Time', 'Files', 'Radiogram', 'ARQ', and 'UI'. The 'UI' tab contains the following checkbox:

<input checked="" type="checkbox"/> User Interface = expert

4. Standard Digital Modes for CCAR

The following are the preferred NBEMS digital modes in CCAR nets. Operations should begin on the indicated default frequencies. The Net Control Station may elect to use the optional modes, depending on band conditions and/or the ability of all participating stations to copy reliably.

VHF/UHF Voice/digital nets:

- 8PSK1000F, center = 1500Hz (text and files)
- 8PSK1200F, center = 1500Hz (text and files)
- MFSK128, center = 1500Hz (images and text)

VHF/UHF All-digital nets:

- Check-ins: Thor 22, center = 1500Hz
- Messages: Mode to be chosen based on message length

HF Digital Nets:

- Check-ins: Olivia 8 Tone/500Hz, center = 1500Hz
- Messages: MFSK 32, center = 1500Hz