

NARROW BAND EMERGENCY MESSAGING SYSTEM (NBEMS)

Why Do We Need Digital EMCOMM Capability?

The needs of the groups we serve is changing. They still need voice communications but there's an increasing need for data communications. When Infrastructure fades away, how do you send a long list of shelter needs, 100 medicines, the Incident Frequency Plan or other complex documents by voice?

We need to be able to provide a digital alternative.

What is NBEMS?

It is a software system that allows you to send a document from almost any station no special equipment is needed to pass critical traffic in just a few minutes.

The NBEM System Consists of several programs:

FLDIGI – Fast Light Digital modem application

FLARQ – ARQ File Transfer

FLMSG – ICS forms, Radiogram, text, CSV

FLAMP – Amateur Multicast Protocol

You can download them from <http://www.w1hkj.com/> runs on Windows, Linux, and Mac. Released under GNU Public License, so it is completely FREE.

NBEMS philosophy

Keep it cheap. Keep it simple. Use Open Source software. Don't depend upon infrastructure. Make it fun to use between drills and disasters. Any computer, any radio

How it works

FLDIGI uses your computer's or an external sound card to generate and decode digital signals. **FLMSG** talks to **FLDIGI** to send and receive messages. All work is done by your computer, you don't need an external Terminal Node Controller (TNC). Audio from your computer speakers goes into your radio's mike input for transmission. Audio from your radio goes into your computer's mike or line-in for decoding. Don't need an extremely powerful new computer, older machines work just fine.

Interfacing with computer

Many ways to interface with computer. Signalink USB is good for newer radios. Acoustic Interface is the easiest way to interface radio to computer - hold radio mike up to computer speakers, hold radio speaker up to computer mike, you don't really need hardwired interface. Be sure to disable all DSP "enhancement" programs on the mic. You do PTT manually. Works especially well with VHF/UHF FM. Can be a real gamesaver during emergencies. Allows you to easily send data using any radio. Hams can participate who do not have a soundcard interface.

Operating Mode

MT63 – Most Versatile Mode. MT63-2000L is a great choice for FM EMCOMM, it is sufficiently robust to deal with background noise, even in a noisy EOC or field site. Fast – less than 2 min to send 2kb text file. Data redundancy in time and in frequency. Very resistant to noise – can lose up to 25% of signal and still copy.

Be sure to use L version...long interleave, it provides better error correction.

Message Handling

FLMSG – send/receive keyboard to keyboard messages, send formatted messages - ICS forms like ICS-213, ARRL Radiograms, Blank text. Easy workflow for CSV spreadsheets. No need for use of text editor like Notepad. Starts transmission automatically. Eases importing and checksum

verification of incoming message. Can have incoming messages automatically opened.

Resources

<http://www.arrl.org/NBEMS> – basic and advanced NBEMS information

<http://qsl.net/k4wrc/PBC-BASIC-NBEMS.html> -Florida Emergency Messaging Associates with NBEMS basic instructions

<http://www.obriensweb.com/fldigiemcomm.html> – Understanding FLDIGI for EMCOMM use

<https://www.youtube.com/> - YouTube – Search NBEMS to provide a number of informational videos