

# Introduction to Amateur Radio in Emergency Communications

Michael Courtenay

KB1DBL

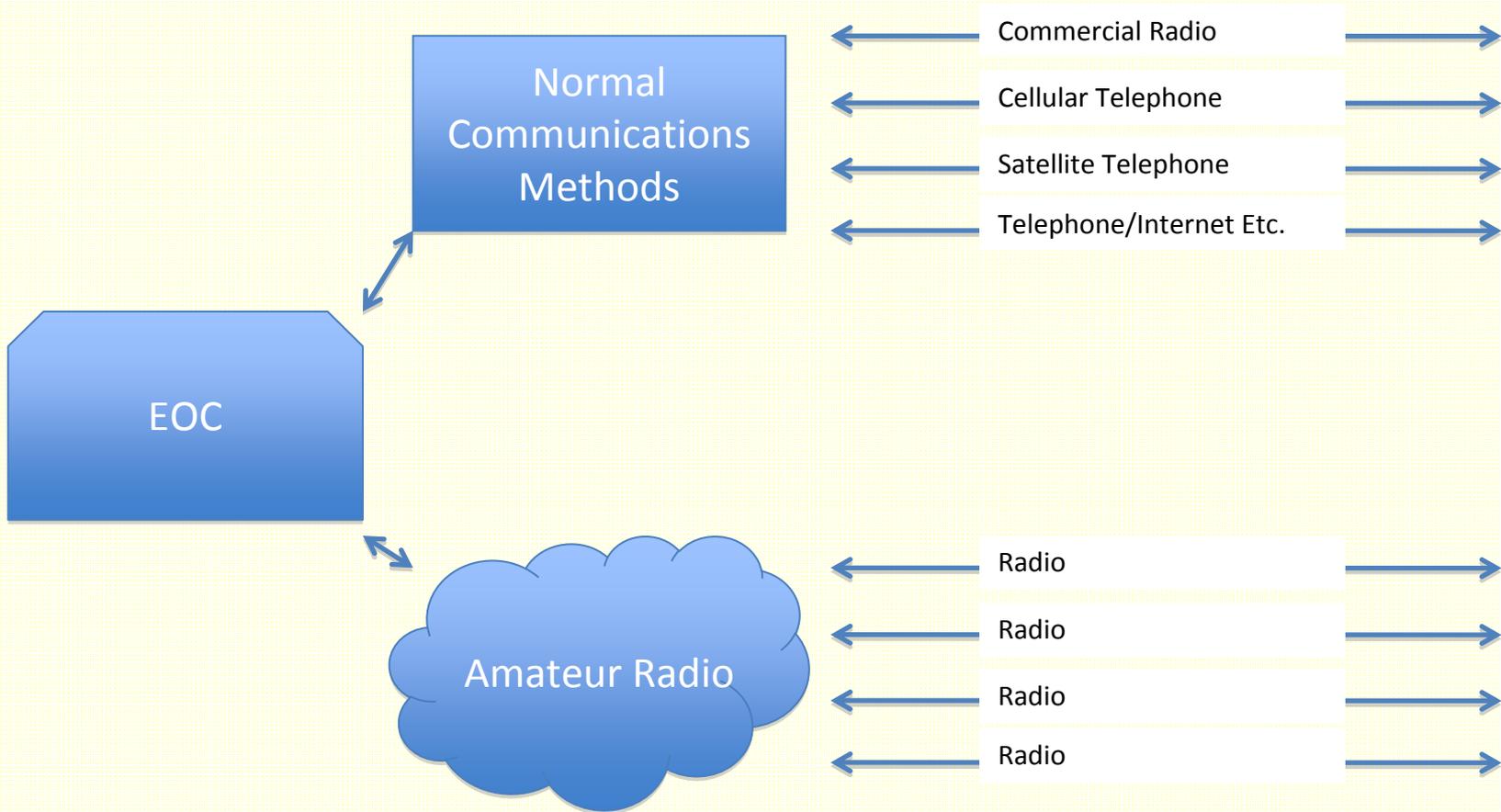
# Amateur Radio

- Has been in use since before World War I.
- A licensed service, regulated by the FCC.
- Strictly amateur: cannot be used for commercial purposes, and messages cannot be encrypted.
- Uses frequencies set aside for amateur use, and does not use frequencies licensed to other services.
- Has *exceptional* flexibility in available operating modes and frequencies.
- Requires no infrastructure: Works when nothing else does.

# In Emergency Operations

- Radio Amateur Civil Emergency Service (RACES) established in 1952.
- Organized as a standby radio service to supplement communications during emergencies.
- Volunteer amateur radio operators assist Emergency Operations personnel in passing message traffic.

# EOC Communications



# Who Do Hams Talk To?

- Other Hams
  - Hams at other locations or located with other emergency management personnel.
  - Hams can gather information from and communicate with other hams as well.
- Remote Devices and Machines
  - Hams can collect data such as weather or location from automated stations.
- Worldwide, using 14 bands from 1.8MHz to 440 MHz, and even using satellites and the internet.

# How Do They Communicate?

- Not just by Morse Code anymore.
- Voice is widely used for local, regional, and worldwide communications.
- There are many ways to pass traffic using digital communications as well.

# What Kind Of Equipment Does It Take?

- Radio
  - Cost ranges from \$100 to many thousands of dollars.
- Antenna
- Radio-Computer Interface
  - Hardware modem (TNC)
  - Sound Card Interface (Signalink)
- Computer
  - Software is usually free or very low cost.

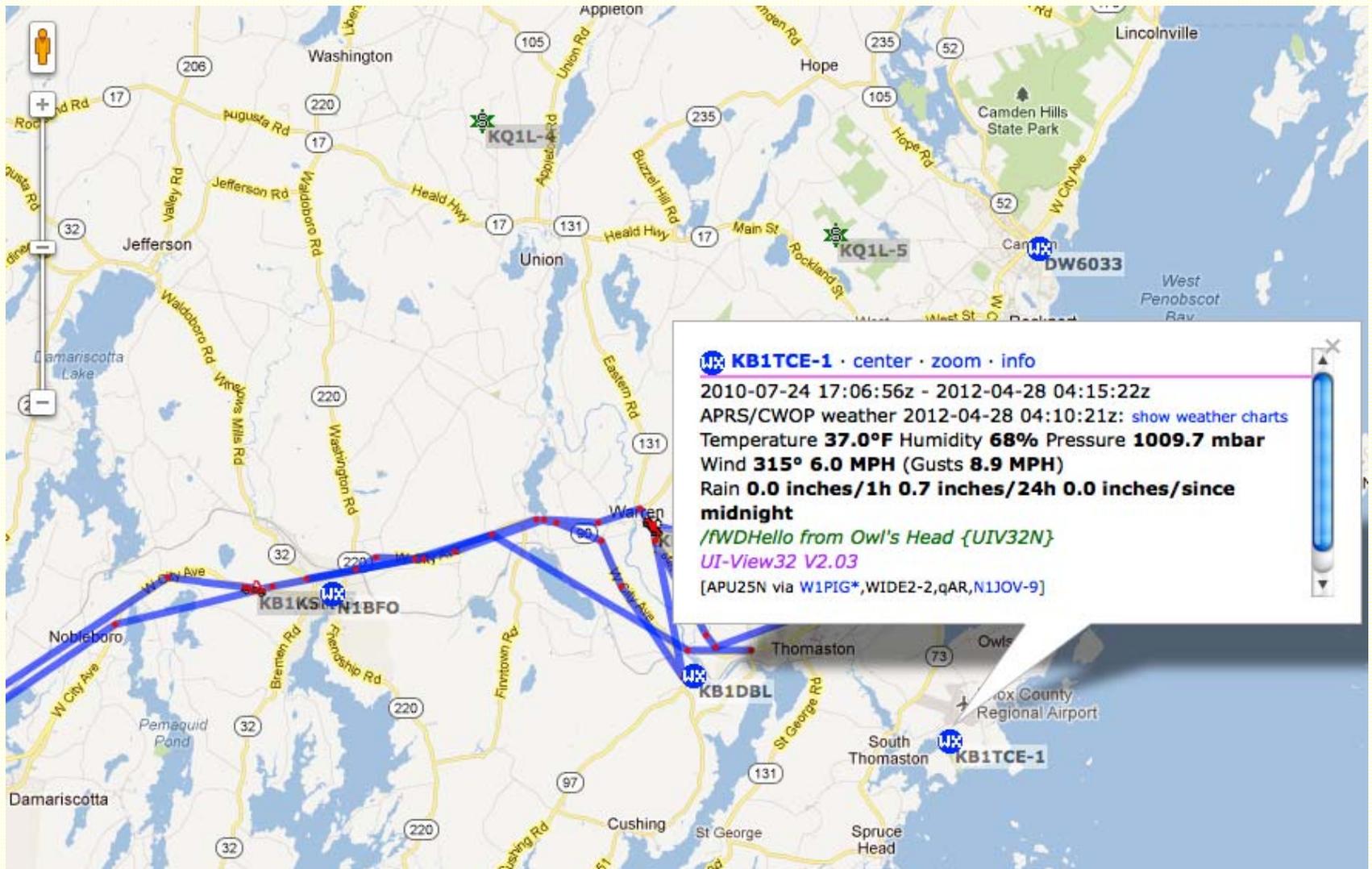
# What Are Some Useful Methods?

- Voice – Repeaters allow messages to be transmitted statewide
- APRS – Amateur Packet/Position Reporting System
- FLDigi – Digital transmission of messages
- RMS Express – Send and receive email worldwide
- SSTV/EasyPal – Send and receive pictures

# Voice



# APRS



# FLDigi

fldigi - KB1DBL

File Op Mode Configure View Help

Spot RxID TxID TUNE

Enter Xcvr Freq QSO Freq On Off Call Name In Out Notes

0.000 1000 2009

USB QTH St Pr Cnty Loc Az

Hello.  
This is a test message usin

Hello.  
This is a test message using MT63-1000.  
73  
Mike  
^r

CQ ANS QSO KN SK Me/Qth Brag T/R Tx Rx TX 1

500 1000 1500 2000 2500 3000

WF -20 70 x1 NORM 1000 QSY Store Lk Rv T/R

MT63-1K AFC SQL

FLMSG: 1.1.1

File Template Config Help filename: default.213

ICS Radiogram Generic Blank DnD

203 205 206 213 214 216

Originator Responder

To Ray Sisk Pos. Knox County EMA

Fm KB1DBL Pos.

Sub. Test Message

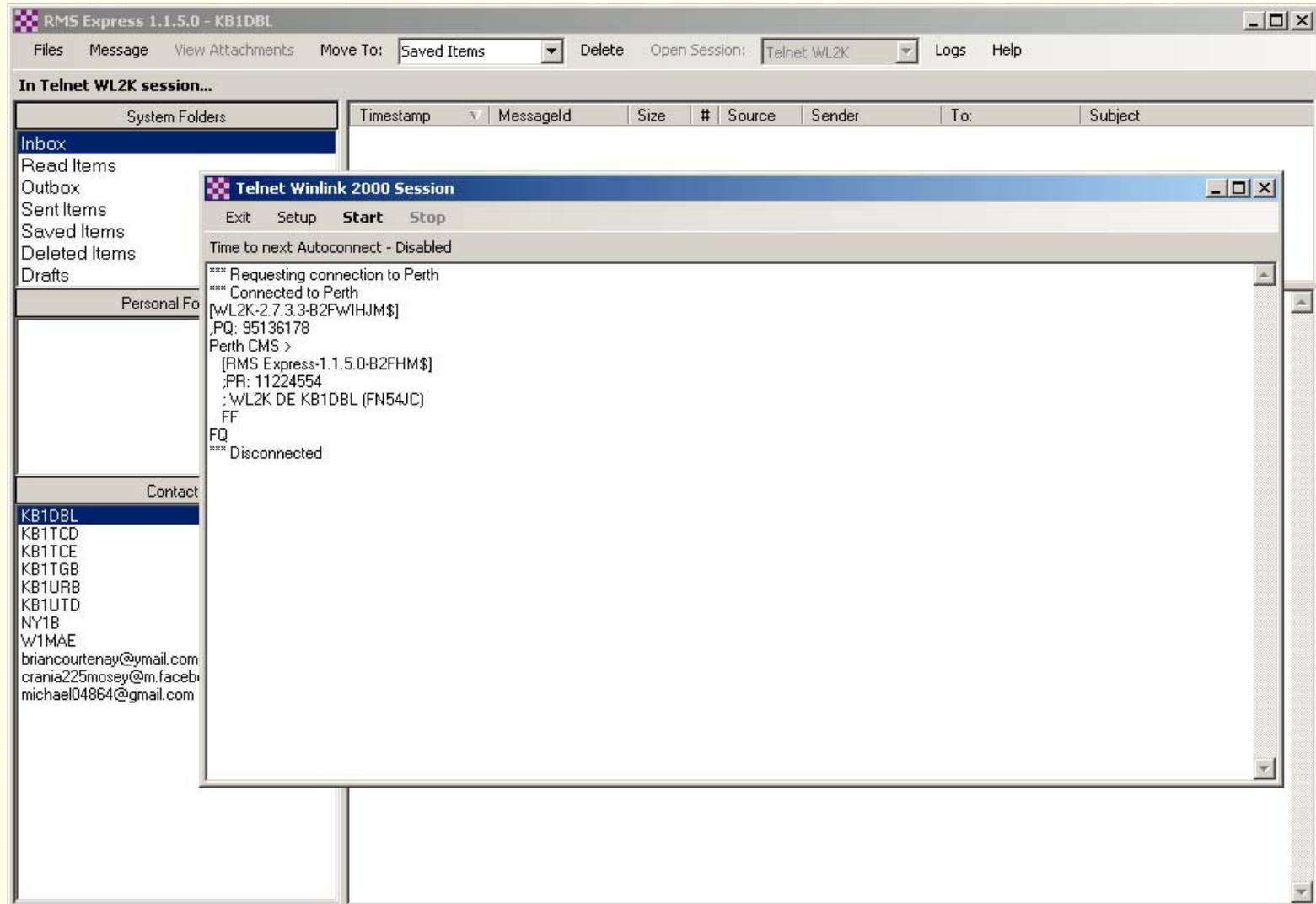
Message: Date 2012-04-28 Time 0046L

Hello:  
This is a test message using MT63-1000.  
73  
Mike

Sig. Michael Courtenay Pos.



# RMS Express



# Slow Scan TV

Easyf! KB1DBL Ver:078B/SEP/2011

Setup Action LoadPic LoadAny Copy Paste Clear WFPic WFTxt Rptr FTP Prog About

RX TX View Edit MSC

**KB1UTD** Mode B B TX RX Sync  
RX SNR dB Width 2.4 2.4 MSC  
ErrFix HI HI FAC  
QAM 16 16 Frame  
LeadIn 24 R/N IO

Total -  
OK Segs -  
Position - remaining segments

TRANSMIT	Replay RX	FIX	BSR	
TUNE	ID	Send Text	WAV	Pic/QSL
<input checked="" type="checkbox"/> R52	M	EmbedTxt	Station Log	Session

Last RX Pictures



220212558-Clip.jpg 111220210455-Clip.jpg 111220205755-Clip.jpg ...204955-Shawn 013.jpg **...0204343-102\_0043.jpg** 111002194321-17.jpg

Last TX Pictures



111220204343-102\_0043.jpg (640\*427)

Full Screen >>Tx >>Edit Delete Send To To Web >>Rptr

# For More Information

- Pen Bay Amateur Radio Club
  - <http://penbayarc.org/>
- Contact Dr. Norman Smith (NY1B) at:
  - [ny1b@toast.net](mailto:ny1b@toast.net)
  - (207) 354-6853
- American Radio Relay League
  - <http://arrl.org/>

# Thank You.

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