

# Ventura County Area 2 ACS/ARES<sup>®</sup> Fldigi Setup and Operating Instructions

# Definitions

**NBEMS** - NBEMS (Narrow Band Emergency Messaging System, pronounced "N-beams") is an Open Source digital messaging system using fldigi or any other software.

**fldigi** - **F**ast Light **DIG**Ital modem program is software allows amateur radio operators to reliably send and receive data using nearly any computer (Windows, Mac, and Linux) and any analog transceiver. The fldigi software can be downloaded **by clicking here. View a pdf of the user's manual here.** 

**flmsg** - (Fast Light Message) is a simple forms management editor for the amateur radio supported standard message formats.

**flwrap** - (Fast Light WRAP) allows an operator to transmit a text message, image, or binary file to either single or multiple stations and allow each receiving station to verify that the transmission was received without error. Read more about flwrap: http://www.w1hkj.com/Flwrap/

The ARRL website offers two excellent tutorials about NBEMS: http://www.arrl.org/nbems

**Note:** The intent of this document is to be a guide for configuring the NBEMS software for an ACS/ARES Area 2 Emergency Operation Center. For anyone interested in learning more about the NBEMS digital mode, many resources are available on the Internet by simply searching for "NBEMS" and "fldigi."

Fldigi is copyright © 2006 through 2013 Dave Freese, W1HKJ | 2007, 2008, 2009 Stelios Bounanos, M0GLD 2007, 2008, 2009 Leigh Klotz Jr., WA5ZNU | 2007, 2008, 2009 Joe Veldhuis, N8FQ | 2008, 2009 Stephane Fillod, F8CFE 2009 John Douyere, VK2ETA | 2013 Remi Chateauneu, F4ECW | 2013 Robert Stiles, KK5VD

# Ventura County Area 2 ACS/ARES® fldigi Setup and Operation Instructions

# Open the software application by clicking on the three following icons on the laptop desktop:

FLWRAP – this sub-routine is used in messaging

**FLMESSAGE (FLMSG)** – this subroutine provides the forms that are used for both inbound and outbound messaging

FLDIGI - This is the operating software

(FLDIGI has several sub-routines, the FLWRAP and FLMSG subroutines must be opened while FLDIGI is in use or full functionality will not be available.)

#### **Flwrap Window**



### **FLMSG Window**

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File	Tools			
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		Edit Mess	age	
		View Mess	sage	

#### fldigi ver4.0.9.8 -× Eile Op Mode Configure View Logbook RxID TXID TUNE Help Off 2024 In Frq 14071.548 On Out 140()()(🏷 Call Ор Az 🗢 🔁 📑 💽 Qth c USB -St Pr L -^ -(v CQ 3.0 🛛 🏷 Clear CQ M ANS N QSO 🕨 KN I SK I Me/Qth Brac Tx 🕨 Rx II tx H WF 4 -20 1 4 70 1 x1 4 1 1 NORM 4 4 1548 1 1 QSY Store [ Lk T/R **4 4 -3.0 → → ♦ ↑** AFC MT63-2KL s/n -30 dB f/o -250.0 Hz SQL

#### fldigi Main Window

# Configuration of fldigi

### **OpMode Tab**

The **"Op Mode"** drop-down screen offers eighteen operational modes to select from, i.e. RTTY and CW.

Ventura County ACS uses "MT 63-2000L."



## **Configure Tab**

Select **"Operator"** from the "Configure" drop-down menu. The Fldigi configuration dialog box, shown below right, opens.

fldigi ver4.0.9.8 -									
Eile	Op <u>M</u> ode	Configure	<u>V</u> iew	<u>L</u> ogbook	Help				
	4 /	UI	•	Colors & For	its q				
	14	Operating	•	船 Operator					
		Rig con	trol	User Interfa	ce 1/2 [				
USB		📲 Sound C	Card	Waterfall					

### Click on the "Operator" tab.

In the **"Station Callsign: "** box, enter your EOC's packet call. (For instance, East County Sheriff's Station's call is KJ6ZQW-6. Los Robles Main Campus is KJ6ZQW-8.)

In the "Station QTH:" box, enter the city of your EOC.

(On some other versions of Fldigi, there may be more fields, but only Station Callsign and Station QTH need to be filled out.)

At the bottom of the window, click "Save."

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Sta	tion /	Operator												
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		Ope	rator Name	•										
			Antenna											

#### Click the "Waterfall" tab, then "Display" tab.

Under **"Frequency scale,"** check "Always show audio frequencies."

Under **"Transmit signal,"** check "Monitor transmitted signal."

At the bottom of the window, click "Save."

Fldig	i configuration						×
Operator	UI Waterfall Modem	s Rig Audio ID	Misc Web Autostart IC	PSM			
Display	FFT Processing						
	Colors and cursors						
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	Frequency scale						
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	Transmit signal		Sign	al level			
	Monitor transmitted s	ignal	0.20			J	
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R	estore defaults		Save		Clo	se	<u> </u>

Fldigi configuration			×
Operator UI Waterfall Modems Rig Audio ID Misc Web Autostart IO PSM			
ffrig RigCAT Hamlib XML-RPC Hardware PTT GPIO			
OPTT tone on right audio channel			
h/w ptt device-pin			
OUse separate serial port PTT OPort is second SCU-17 device			
Device: OUse RTS	ORTS	= +V	
	ODTR	= +V	

Click the "Audio" tab, then the "Devices" tab.

Click the "Rig" tab, then the "Hardware PTT" tab.

In the Device drop-down menu, click "COM 1."

At the bottom of the window, click "Save."

### Click "PortAudio."

In the **"Capture"** drop-down window, select CODEC or appropriate soundcard if installed. If not installed, use the internal microphone available in the drop-down window.

In the **"Playback"** drop-down window, select CODEC or appropriate soundcard if installed. If not installed, use the internal speaker available in the drop-down window.

At the bottom of the window, click "Save."

Fldigi	configuration							- 🗆	×
Operator	UI Waterfall	Modems R	ig Audio	ID Misc	Web	Autostart	IO PSM		
Devices	Settings Right o	thannel 🛛 Wa	v						
	⊖oss					De	vice:		_
	✓PortAudio	P	Capture:					\$  \$	
	□PulseAudio		Se	rver string:					
	□File I/O only	(							
Re	store defaults					Sa	ve	Close	<-

Click the "Misc" tab, then the "NBEMS" tab.

Under "NBEMS data file interface," click "Enable" AND "Open message folder."

Under "Reception of flmsg files," click **"Transfer direct** to executing flmsg" AND **"Open with flmsg."** 

Click **"Locate flmsg."** A window will open showing your computer's program files. What you are looking for is a path to the flmsg.exe file, like the one shown on the right in the **flmsg:** field.

All of the remaining tabs under the Configuration Tab (UI, Modems, ID, Misc. and Web) can use their default settings and do not need custom configuration.

At the bottom of the window, click "Save" then "Close."

Fldigi configuration			- 0	×
Operator UI Waterfall Moder	ns Rig Audio ID Misc Web	Autostart IO PSM		
CPU NBEMS Pskmail Spotting	Sweet Spot Text i/o DTMF	WX KML		
NBEMS data file interfac	e			
€Enable	€ot	oen message folder		
Reception of flmsg files				
	Selection of transfer direct tak over all other flmsg recepti	es precedence ion settings		
e	Transfer direct to executing flmsg			
⊘Open with	flmsg Op	oen in browser		
flmsg: C:\Program F	iles (x86)\flmsg-4.0.1\flmsg.exe		Locate flmsg	
2.0		Time	out (secs)	
Restore defaults	(	Save	Close	<u> </u>

For the MT63-2KL operation mode, use 1500 as your center frequency by using the mouse to center the middle line on 1500.



Use these forward or back arrows to fine-tune the frequency to 1500.



# **Operating Instructions**

Fldigi messages can be sent either manually or by using a form. Regardless, ALWAYS ANNOUNCE YOU ARE TRANSMITTING A DIGITAL SIGNAL BEFORE TRANSMITTING!

## **Manual Messaging**

The top section of the FLDIGI screen is for inbound messages. The section below is where you type your outbound messages.



To transmit a manual message – on the purple bar 2/3 of the way down the screen click the TX H button.

Any band and frequency can be used for operation. Area 2 uses simplex 2 meter for FLDIGI, which is ACS channel 12. The frequency is 146.445 with no offset and no PL tone.

If you're not using a Codec, hold the radio microphone near the PC's internal speaker. Hold the radio mic's PTT button down, and THEN click the fldigi TX I button to send your message. The PC will send the message signal through the speaker.

To receive a message if you're not using a Codec, make sure the PC is close to the radio's speaker. When the message is transmitted, the PC's internal microphone will "hear" the signal and display the inbound message in the FLDIGI window.

Using Message	Forms to	Send	Messages
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The message form used by ACS is "ICS213"; this form is selected from the "forms" drop down screen in the FLMSG dialog box.

FLN	/ISG: 4.0.1	-	<
File	Form <u>T</u> empla	late Config AutoSend ARQ	
ICS-2	Drag-n-Drop	file: new.213	
Origin	Blank CAP	er	
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то	Custom  Ham Forms	Pos.	j
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Messa	ICS MARS Plaintext Radiogram Red Cross Transfer Weather	ICS203 ICS205 ICS205A ICS206 ICS214 ICS214 ICS216 ICS309	
App'e	d	Pos.	5
	mp MT63-2Ki	íL ]▼★	5

If your FLMSG dialog box looks like this...

FLI	MSG: 4.0.1			×
File	Tools			
		New Messa	age	
		Edit Messa	age	
		View Mess	age	

To send a message, complete the "Originator" form as shown below. Then click the "Auto Send Tab" and select "save." The message will send automatically. If you're not using a Codec, have your radio mic ready and key the mic as soon as you click "save."

🚰 FLMSG: 4.0.1 — 🗆	×
File Form Template Config AutoSend ARQ	)
ICS-213 report file: new.213	
Originator Responder	
Inc: Leave this blank unless directed by FEMA	٦
To Recipient and/or EOC Pos. Opr	T
Fm Sender and/or EOC Pos. Opr	
Sub. type message subject here	
Message: Date 2017-10-02 🔟 Time 1424L	)
Type the message here. Be as concise as possible.	8
Type your first name and call sign here.	
Click these two buttons	
for the current date	1
and time to insert	
automatically.	
· · · · · · · · · · · · · · · · · · ·	J
App'd Type your ACS number here Pos. Opr	
Comp MT63-2KL 373 bytes / 29 secs	_

... click on "Tools", then "Expert Dialog" to open the window above.

FLN	/ISG: 4.0.1		9 <u>—</u>	×
File	$\underline{T}ools$			
	Update	templates		
	Expert	Dialog	sage	
		Edit Mes	sage	
		View Me	ssage	

To respond to a message, complete the "Responder" form as shown below. Then click the "Auto Send Tab" and select "save." The message will send automatically. If you're not using a Codec, have your radio mic ready and key the mic as soon as you click "save."

FLI	MSG: 4.0.	.1					—		×
File	F <u>o</u> rm	Template	Config	AutoSend	I AR	Q		<u>H</u> e	lp
ICS-213 report file: new.213									
Origin	nator	Responder							
Reply The Type	inten • your	ded recipi first nam	Di ent ente ne and co	ate <mark>2017-1</mark> ers a rep all sign	0-02 oly to here	Click t for the and ti auton	Time 1431L ssage receive these two e current o ime to inse natically.	button: late int	S
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Comp MT63-2KL 566 bytes / 39 secs									