

# CT ARES – Region 2

## *Data Communications TRAINING*



# ***RMS Express***

***- Your RF Email -***

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**CT ARES - Region 2**

***Revised: February 5. 2014***

# WELCOME



# TODAY'S AGENDA

in

**3 PARTS**

*“Hodie est divisa in partes tres”*

# TODAY'S AGENDA

## **PART 1**

- **How it works**
- **Loading Software**
- **Setting-up the Software & TNC**
- **Send your first RMS Express Email (Wi-Fi)**
- **Practice & Application**

# TODAY'S AGENDA

## PART 2

- Send your first 2m RF  
RMS Express Email
- Practice & Application

# TODAY'S AGENDA

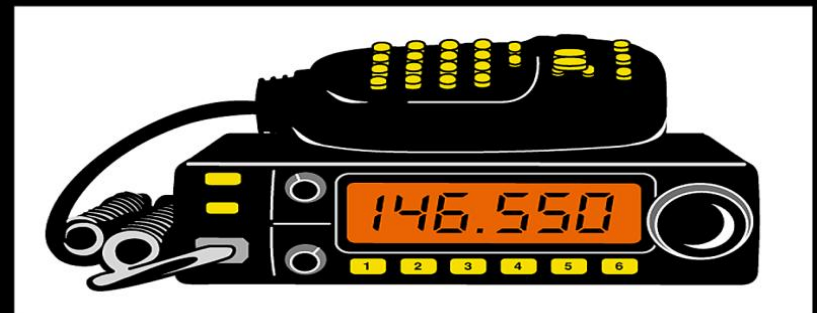
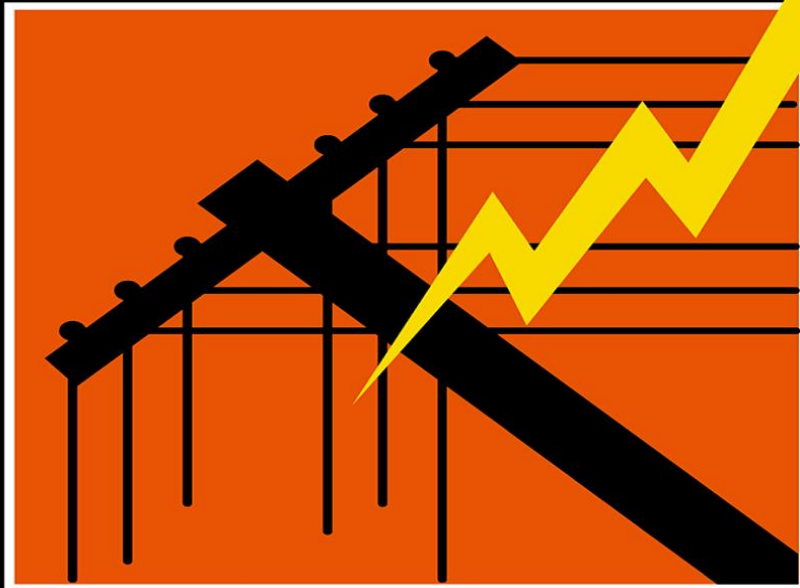
## **PART 3**

- **Peer to Peer Demo**
- **Practice & Application**

**WHEN  
ALL  
ELSE  
FAILS....**



**AMATEUR  
RADIO**



# WHEN ALL ELSE FAILS...

It's NOT an Emergency.  
(*we are past that point*)

Now, it is a

**DISASTER !**

**(Make no mistake)**



# **RMS *EXPRESS***

## **Part 1**

### **Overview & Start**

# WINLINK 2000

**WL2K** is “suite” of several programs.

We want only THREE programs  
for ARES

**OUTPOST PMM**

***RMS EXPRESS***

**WINMOR**

# WINLINK 2000

***TODAY....***

***for VHF & UHF***

***RMS EXPRESS***

**“RF EMAIL”**

**RMS EXPRESS**

**WHY “RF Email” ?**

**It's THERE when the  
local internet connection  
FAILS**



# RMS *EXPRESS*

## The 3 Primary Applications

- 1) Send/Receive Emails directly with an on-site Internet connection that may not always be available.  
(Tools menu / “Telnet WL2K”)
- 2) Send/Receive Emails via RADIO  
VHF (Tools menu / “Packet WL2K”)  
HF (Tools Menu / “Winmor WL2K”)
- 3) Send/Receive RF messages in Peer to Peer mode.
  - VHF (Tools Menu / “Packet P2P”)
  - HF (Tools Menu / “Winmor P2P”)

# RMS *EXPRESS*

## Program Requirements

- A 32 or 64 bit Windows OS (Windows XP or better).
- Mac running Windows using a VM engine or dual boot arrangement.
- Windows XP systems require **Microsoft .NET v3.5** runtime installed.
- A computer of at least **700 MHz** Pentium/Celeron class, and at least **512 Meg** of memory.
- If multiple applications are running concurrently a **faster computer** and **more RAM** may be required.

# RMS *EXPRESS*

On the **ham bands**, **RMS *Express*** can **transfer messages automatically** with **any station supporting the BBS or F6FBB protocols (i.e. FlexNet).**

Examples: Winlink-2000, Winlink, F6FBB, MSYS, and other RMS Express stations.

# VIDEO #1

**RMS Express**

**For**

**Emergency Communications**

*(Are YOU Prepared?)*

<http://www.youtube.com/watch?v=xg8XRpnjyuk>



# **RMS *EXPRESS***

**Q & A**

**on the material so far.**

**+**

**Short Break**

# **RMS *EXPRESS***

## **Equipment for RMS Express Packet Radio RF (Over-The-Air) Communications**

### **Discussion & Sources**

#### **CT ARES REGION 2 Website FORUM**

**Category: “Data / Digital Communications”**

**Topic: “Equipment for Packet Radio”**

<http://ctaresregion2.org/forum/digital-communications/156-equipment-for-packet-radio>

# **RMS *EXPRESS***

**BLACK BOX** Requirements

For “RF” (Over-The-Air) Communication

**RMS Express**

supports most

**T**erminal **N**ode **C**ontrollers (**TNC**)

**BUT...**

# RMS *EXPRESS*

There are several TNCs on the market.

However, for near “Plug and Play”,  
Ease of Use (and some other neat features),  
**CT ARES** has **standardized** on:

**K**antronics **P**acket **C**ommunicator

**KPC-3 PLUS (+)**

and the older

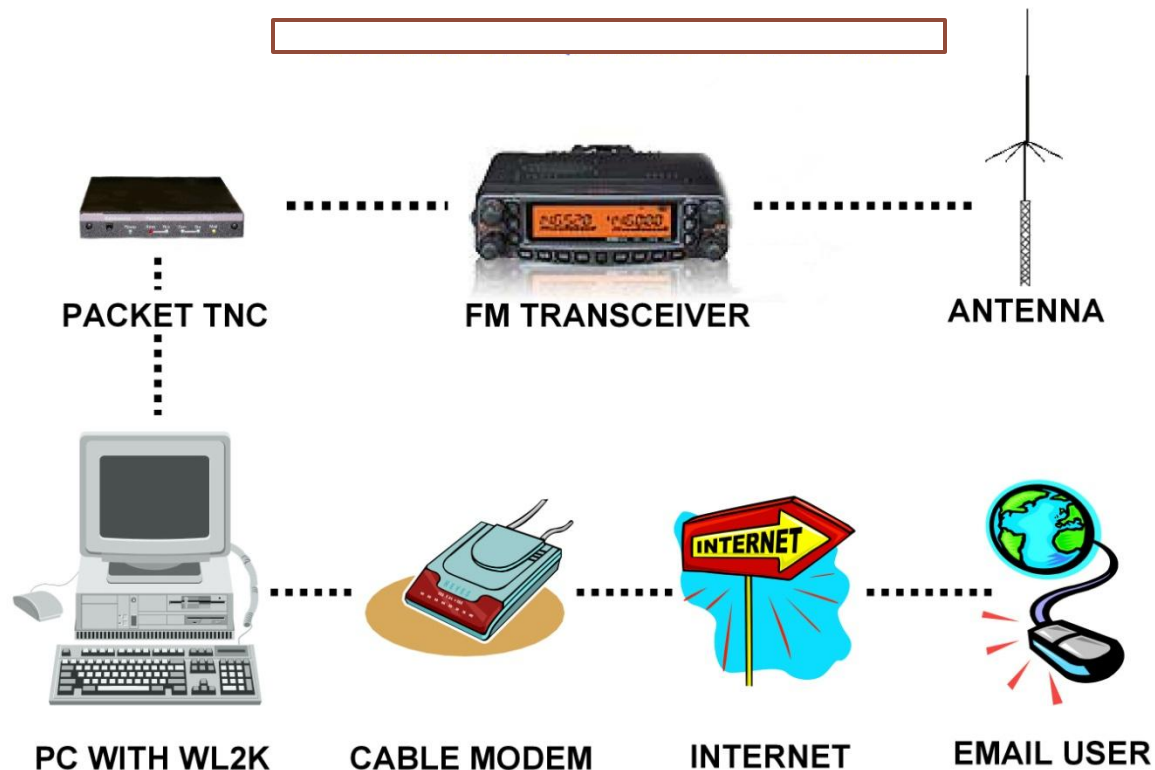
**KPC-3 (no plus).** ☺

# KANTRONICS KPC 3 PLUS TERMINAL NODE CONTROLER (TNC)



# YOUR PACKET RADIO STATION

FOR SENDING AND RECEIVING EMAIL VIA VHF RADIO



**WINLINK 2000**

**The  
WL2K  
INFRASTRUCTURE**

# **WINLINK 2000**

**Let's start at the TOP  
and  
Work our way down  
to the USER (You).**



# WINLINK 2000

**CMS**

**RMS**

***SAY WHAT ?***

# COMMON MESSAGE SERVER (CMS)

A term you will hear is **CMS**  
(**C**ommon **M**essage **S**erver).

- Redundant, mirror image CMS's are the **connection between** public e-mail addresses and Winlink e-mail addresses.
- Without the CMS system, you could not send messages between the Internet and Winlink.
- **Failure** of the CMS system is **very unlikely** because of the **redundancy** of the CMS's.

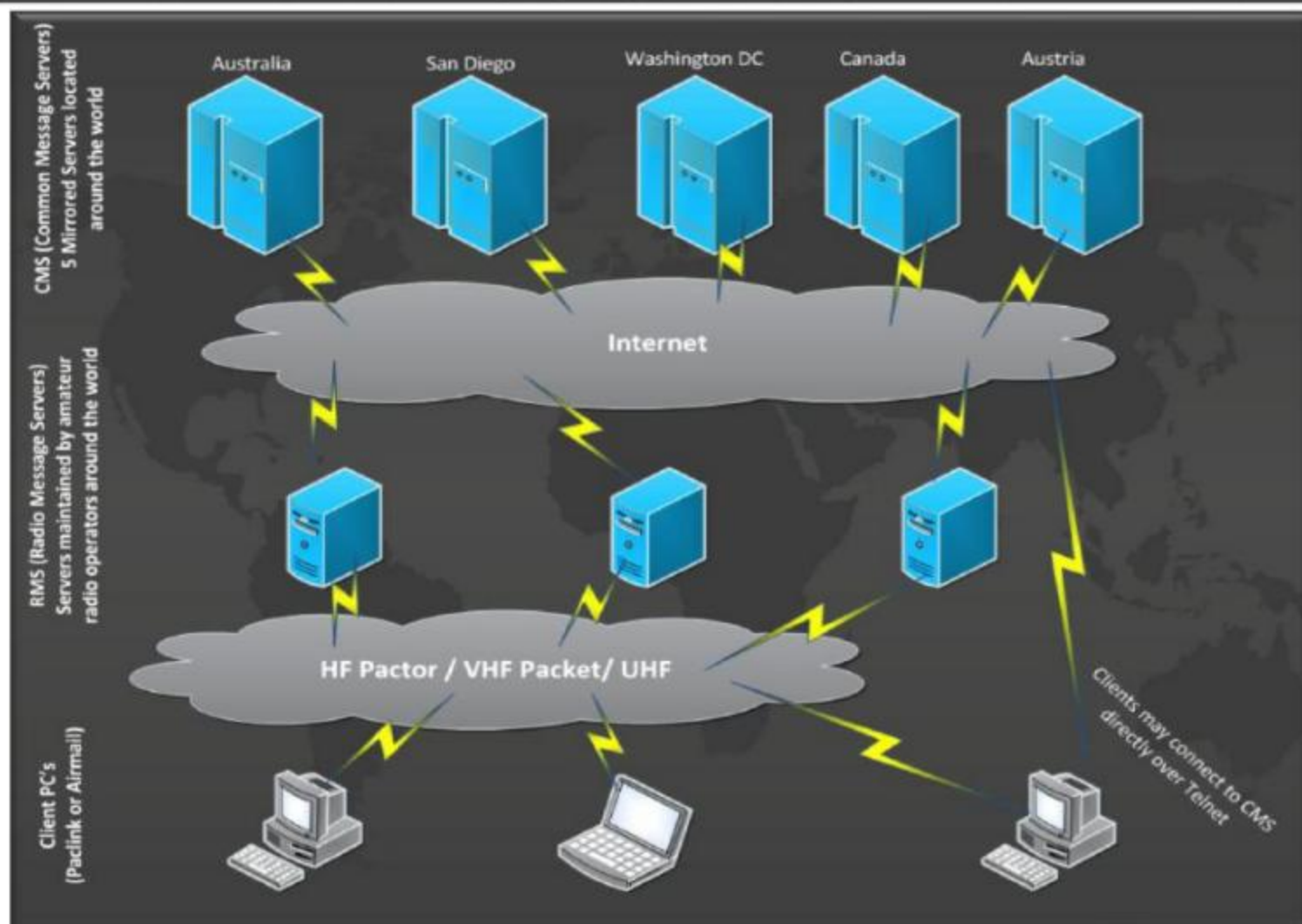
# RADIO MESSAGE SERVER (RMS)

- The Winlink 2000 system uses a variety of components to do its job. The major term you will hear is the “**RMS** (**R**adio **M**essage **S**erver) **Relay**”.
- The **RMS Relay** is a computer with special software **connected to a HF transceiver**.
- The RMS Relay is the station to which you will connect for sending and receiving **e-mail via HF**. These RMS Relay stations are **located throughout the world**.

# WINLINK 2000

**Confused? (*me, too!*)**

***A picture is worth  
a 1,000 words...***



# RMS PACKET

Another term you will hear is “**RMS Packet**”.

- A **RMS Packet NODE** is a “**VHF/UHF Packet Gateway** to a CMS.
- Some **RMS Packet stations** are co-located with a **RMS Relay**.

In this special case, the VHF RMS Packet station:

- **relays through** the RMS Relay station to a CMS
- **can “hub”** if the internet connection is lost.

COMMON PACKET SIMPLEX FREQUENCIES  
ACCESSIBLE CT RMS EXPRESS GATEWAYS  
IN REGION 2 ARE UNDERLINED.

**144** .91, .93 .95, .99

**N1BDF-10** **145** .01, .03, .05, .07, .09,  
*and*

**145** .51, .53, .55, .57, .59,  
**W1SP Gateways** **.61, .63, .65, .67, .69,**  
**.71, .73, .75, .77, .79**



**Date: Nov. 22, 2013**





# RMS EXPRESS

## RMS Packet Gateways

**N1BDF-10**                      **Shelton**                      **145.05**                      **FN31KH**                      **2**                      **?**

Call Sign	Node	Location	Frequency	Grid Square	Region	Emerg. Power
W1SP-1	TOLLCT	Tolland	145.65	FN31UV	3	Y
W1SP-2	WINDCT	Brooklyn	145.61	FN41AT	4	Y
W1SP-3	NLONCT	Ledyard	145.63	FN31XK	4	Y
W1SP-4	HARTCT	Avon	145.69	FN31OT	3	Y
<b>W1SP-5</b>	<b>MIDDCT</b>	<b>Haddam</b>	<b>145.69</b>	<b>FN31RK</b>	<b>2</b>	<b>Y</b>
W1SP-6	LITCCT	Litchfield	145.65	FN31JR	5	Y
<b>W1SP-7</b>	<b>NHAVCT</b>	<b>Oxford</b>	<b>145.63</b>	<b>FN31JK</b>	<b>5</b>	<b>Y</b>
<b>W1SP-8</b>	<b>FAIRCT</b>	<b>Bridgeport</b>	<b>145.69</b>	<b>FN31JE</b>	<b>1</b>	<b>Y</b>

# **RMS *EXPRESS***

**GREAT STUFF!**

**BUT...**

**HOW DO I USE IT?**

# RMS *EXPRESS*

**OPEN  
Session  
TX/RX**



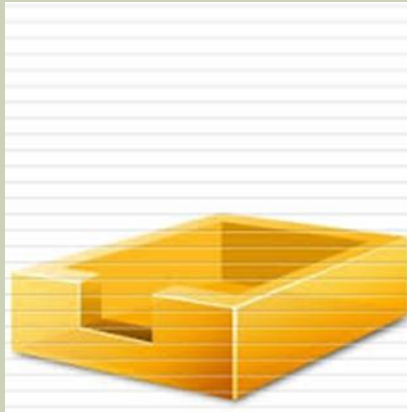
**OPEN  
Session  
TX/RX**

# RMS *EXPRESS*

**Inbox**



**Outbox**



**SENT**



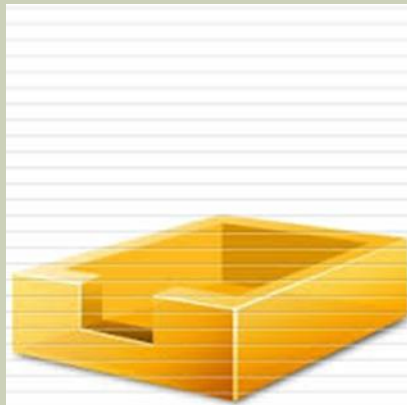
**Read**



**Drafts**



**Saved**



**DELETED**



# VIDEO #2

## Basic RMS Express

RMS Express Basic.mp4

[http://www.youtube.com/watch?v=Kb\\_cEUyYF9o](http://www.youtube.com/watch?v=Kb_cEUyYF9o)

### NOTE:

Emails FROM Regular Email Services (Gmail, etc.)

**TO the WL2K System**

**MUST BEGIN with **//WL2K****

**in the email's Subject Line.**

# **RMS *EXPRESS***

**Q & A**

**on the material so far.**

**+**

**Short Break**

# **RMS *EXPRESS***

**COPY & PASTE**

**COPY & PASTE**

**COPY & PASTE**

**What are you going to do?**

# **RMS *EXPRESS***

**What are you going to do?**

**COPY & PASTE**

**the**

**RMS Express FOLDER**

**to your computer**



# **RMS *EXPRESS***

**DISTRIBUTE**

**Thumb Drives**

**Yes... I want them back! 😊**

**(They are numbered.)**

# **RMS *EXPRESS***

What are you going to do?

**COPY & PASTE**

**the**

**RMS Express FOLDER**

to your computer

# **RMS *EXPRESS***

## **Set-UP** **“FILES”**

**(Callsign, Grid Square, Etc.)**

# RMS EXPRESS

## Find your “current QTH” Grid Square

[http://www.levinecentral.com/ham/grid\\_square.php](http://www.levinecentral.com/ham/grid_square.php)

This is important when you travel to different QTHs.

It allows the RMS Express program to:

- Locate **NEAREST RMS Gateways** to your QTH.
- Provide RMS Gateway **FREQUENCIES**
- Tells you each RMS Gateway's **DISTANCE**
- Gives you **Compass Bearings** to the RMS Gateways  
(Especially good, if using a Beam Antenna).

# MENU: "FILES"

## "RMS EXPRES SETUP"

The screenshot shows the RMS Express 1.2.24.0 software interface. The main window has a menu bar with 'Files', 'Message', and 'Attach'. The left sidebar shows 'System Folders' (Inbox, Read Items, Outbox, Sent Items, Saved Items, Deleted Items, Drafts) and 'Personal Folders' (TEST EOC FOLDER). The 'Contacts' list includes various email addresses and call signs. The 'RMS Express Properties' dialog box is open, showing the 'Call Signs' tab. The 'My Callsign' field is set to 'WA1SFH'. The 'Optional auxiliary callsigns' section has 'Aux Call 1' and 'Aux Call 2' fields. The 'My Grid Square' field is set to 'FN31KE'. The 'My Password (optional)' field is empty. The 'Winmor registration key (optional)' field is empty. The 'Display list of pending incoming messages prior to download' checkbox is unchecked. The 'Warn about connections to stations holding messages' checkbox is checked. The 'Disable Peer-To-Peer Message Transfer' checkbox is unchecked. The 'Path to propagation forecast program' field is set to 'C:\tshfbc\'. The 'Service Codes' section has a text box containing 'PUBLIC EMCOMM'. The 'Recalculate HF path quality if SFI changes more than' field is set to '10'. The 'Keep logs for' field is set to '4' weeks. The 'Keep deleted messages for' field is set to '30' days. The 'Allow diagnostic information to be sent to the Winlink Development Team' checkbox is checked. The 'Update', 'Cancel', and 'Remove call sign' buttons are at the bottom of the dialog box.

**QTH Dependent Grid Square**

**PUBLIC EMCOMM**

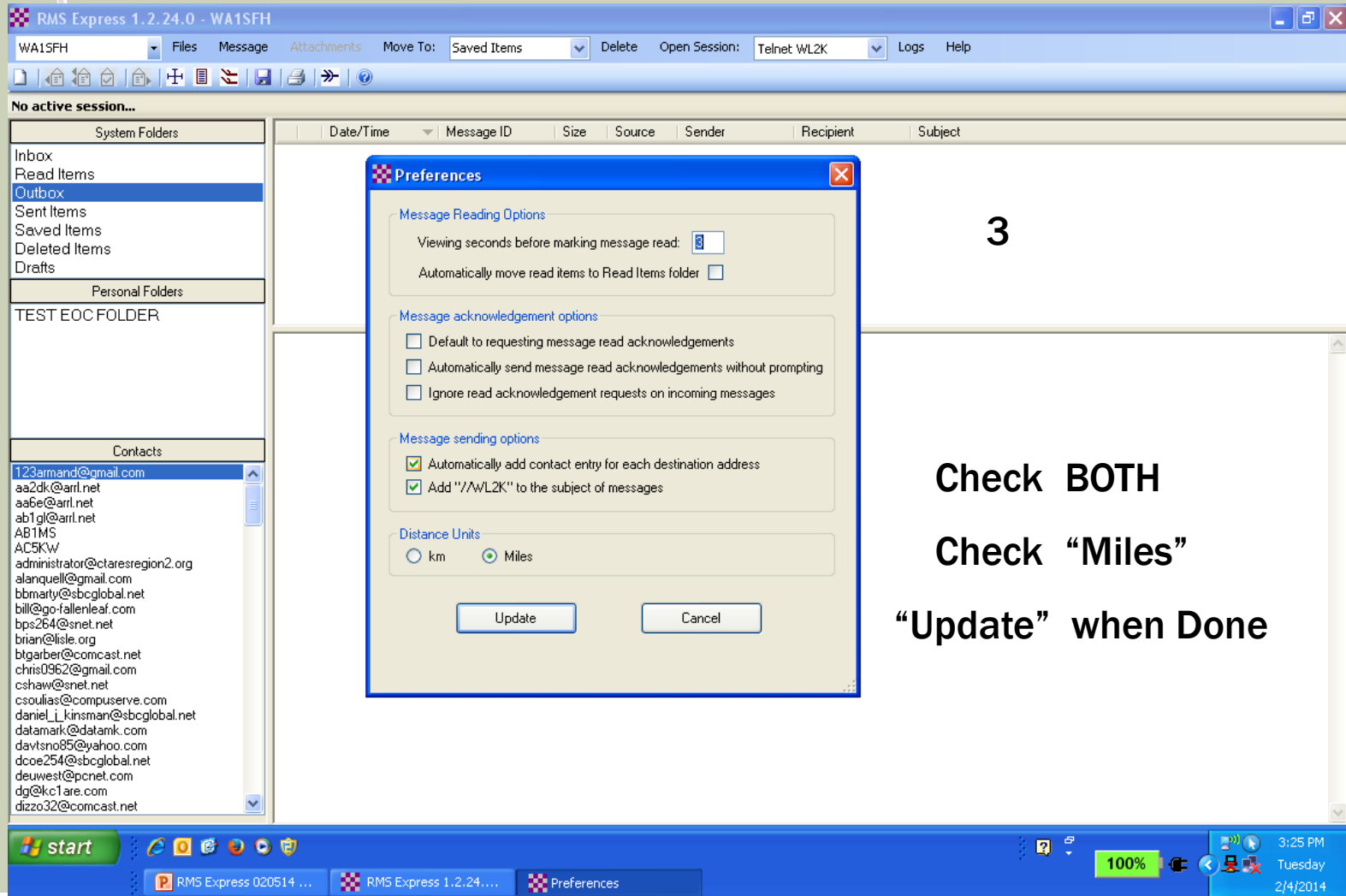
**10**

**4 30**

**"Update" when Done**

# MENU: “FILES”

# “PREFERENCES”



3

Check BOTH

Check “Miles”

“Update” when Done

# **RMS *EXPRESS***

**“PACKET – WL2K”**

**“OPEN SESSION”**

**“SETUP”**

**(TNC Connection &  
TNC Parameters, Etc.)**

# PACKET WL2K / OPEN SESSION / SETUP

RMS Express 1.2.24.0 - WA1SFH

WA1SFH Files Message Attachments Move To: Saved Items Delete Open Session: Packet WL2K Logs Help

In Packet WL2K session...

System Folders

- Inbox
- Read Items
- Outbox
- Sent Items
- Saved Items
- Deleted Items
- Drafts

Personal Folders

TEST EOC FOLDER

Contacts

- 123armand@gmail.com
- aa2dk@ar1.net
- aa6e@ar1.net
- ab1gl@ar1.net
- AB1MS
- AC5KW
- administrator@ctaresregion2.org
- alanquell@gmail.com
- bbmarty@sbcglobal.net
- bill@go-fallenleaf.com
- bps264@snet.net
- brian@lisle.org
- bitgarber@comcast.net
- chris0962@gmail.com
- cshaw@snet.net
- csoulias@compuserve.com
- daniel\_l\_kinsman@sbcglobal.net
- datamark@datamk.com
- davtsno85@yahoo.com
- dcoe254@sbcglobal.net
- deuwest@pcnet.com
- dg@kc1are.com
- dizzo32@comcast.net

**Enter TNC info**

**See Device Mgr for Port #**

**LEAVE Entries ALONE HERE**

**Auto Connect 15 min**

**Packet WL2K/P2P Setup**

TNC Connection

Packet TNC Type: Kantronics

Packet TNC Model: KPC-3+

Serial Port: COM2

Serial Port Baud: 9600

AutoConnect Time: 15 Minutes

TNC Parameters

1200 Baud 9600 Baud

TX Delay (Milliseconds): 400 300

Maximum Packet Length: 128 255

Maximum Frames: 4 7

Frack: 2 2

Persistence: 160 224

Slot time: 30 20

Maximum Retries: 5 5

Disable Xmt Level Adjust ☐ Transmit Level: 30 100

Update Cancel

start

RMS Express 020514 ... RMS Express 1.2.24.0 ... Packet Winlink 2000 S... Packet WL2K/P2P Se...

100%

3:32 PM Tuesday 2/4/2014



# **RMS *EXPRESS***

**How to Get Started & Registered**

**Connect to Internet with “TELNET WL2K”  
And**

**Send a “RMS Express Greetings” message  
to Your Home/Cell Email, and**

**CC: WA1SFH; W1GTT**

**Result: Your new email address...**

**[Callsign@winlink.org](mailto:Callsign@winlink.org)**

# **RMS *EXPRESS***

**Internet Connection**

**“Telnet WL2K”**

**Practice & Application**

# **RMS *EXPRESS***

**WARNING!**

**WARNING!**

**DANGER !**

**Will Robinson**

# **RMS *EXPRESS***

**WARNING!**

**YOUR MAX**

**File Size = 30Kb.**

# **RMS *EXPRESS***

**WARNING!**

**MS WORD & MS EXCEL**

**Have Built-in “BLOAT”.**

# **RMS *EXPRESS***

**WARNING!**

**NEVER USE**

**DOCs, XLS, Pic Files**

**as “Attachments”**

# **RMS *EXPRESS***

**For Attachments USE**

**.TXT files**

**and**

**“QForms”**

# RMS EXPRESS

## “QForms”

**QForms** supports ICS, Radiogram, and Simple format messages. This is an excellent tool for ARES communications.

**QForms** allows entry of text into an electronic form to create a message. The message is saved in an XML format.

The XML file is then sent (using any packet program) to a remote packet station that is also running **Qforms**, where it can be opened, displayed and printed.

Optionally, a text version of the message can be created, saved and sent to a remote station (again, using any packet program you like).

- Here, the text format can not be re-opened by **QForms** other than as a simple text file.

**Download QForms**

[www.activeham.com/uploads/Main/QForms1570.zip](http://www.activeham.com/uploads/Main/QForms1570.zip)



# **RMS *EXPRESS***

**Send an  
Email Message  
Direct to Internet  
Go: “Telnet WL2K”**

**RMS *EXPRESS***

**TIME  
FOR  
A  
BREAK**

**RMS *EXPRESS***

**PHASE 2**

**RF Email**

# **RMS *EXPRESS***

**If not done...**

**Set up**

**TNC's &**

**Comm Ports**

# **RMS *EXPRESS***

**2 Meters RF  
to Gateway Connection**

**Packet WL2K**

**Practice & Application**

# **RMS *EXPRESS***

**SEND**

**An “RF Email”**

**through an RMS Gateway Station**

**8 “W1SP” RMS Gateways (e.g. W1SP-5)**

**or**

**the N1BDF-10 RMS Gateway (Shelton)**

**Note:**

**If you can’t hit N1BDF-10 directly,  
go “via” W1HAD (same freq.) as a Digipeater.**

# **RMS *EXPRESS***

**Q & A**

**on the material so far.**

**+**

**Short Break**

# **RMS *EXPRESS***

## **PHASE 3**

**Peer to Peer**

**(P-2-P)**



# VIDEO #3

**RMS *Express***

Peer to RMS kpre Basic.mp4 Peer (P2P)

**Demonstration**

[http://www.youtube.com/watch?v=7p6DsJPA\\_I8](http://www.youtube.com/watch?v=7p6DsJPA_I8)

# **RMS *EXPRESS***

**Q & A**

**on**

**Peer 2 Peer.**

# **RMS *EXPRESS***

**Go**

**Peer to Peer (P2P)**

**Send an**

**“RF Email” Message**

# **RMS *EXPRESS***

## **MORE INFORMATION CT ARES Region2 website FORUM**

### **Data / Digital Communications**

<http://ctaresregion2.org/forum/digital-communications>

**Got corrections or suggestions?  
Please Email me at**

**WA1SFH@ARRL.NET**

**THANKS FOR COMING!**

