

# Using Winlink 2000

# Using Winlink 2000

- Winlink Overview
- Airmail Installation
- Airmail Configuration for Telnet (over internet)
- Airmail Configuration for Packet (over V/UHF radio)
- Telpac Demonstration

# Using Winlink 2000

## What is Winlink?

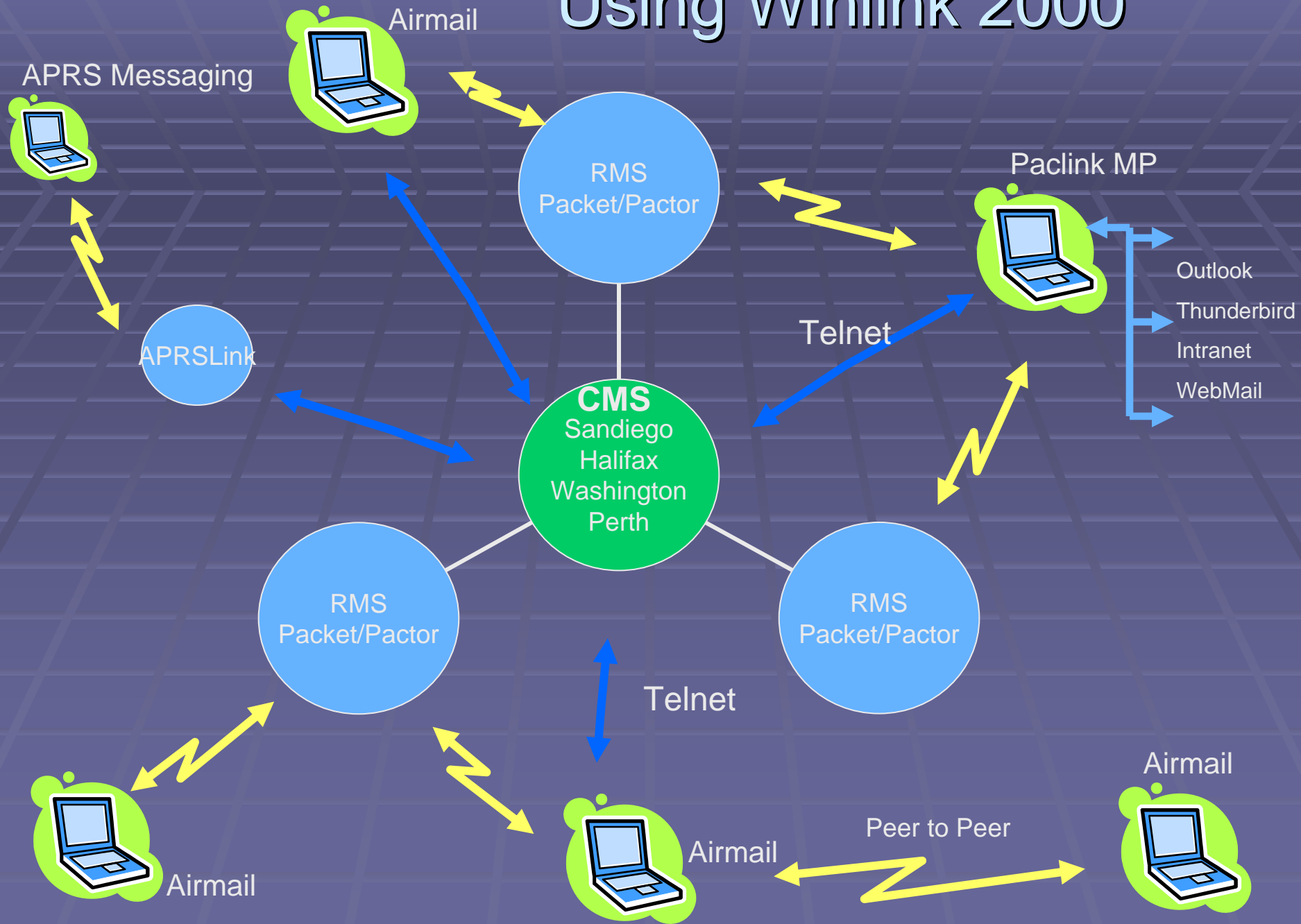
- A Worldwide radio messaging system that takes advantage of the Internet where possible
- Utilizes standard RFC2821 e-mail protocols allowing flexibility with the most commonly used communications tool
- Ability to send file attachments
- System is a 'star' based network containing 4 mirror imaged, fully redundant Common Message Servers (CMS)
- Radio Message Servers (RMS) connect like the end of spokes on a wheel

# Using Winlink 2000

## Why use Winlink?

- Email messaging is common to most everyone (universal)
  - Minimal training since message composition is just like Email
  - Winlink's Suite of FREE applications provide flexible connection options
  - Messages are easily archived with date/time stamp
  - Compression of messages is more efficient for limited bandwidth
- 
- Let's see how it all fits together.....

# Using Winlink 2000



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## Applications:

- Airmail Client
  - Telnet ( internet connection )
  - Packet (VHF/UHF Radio connection )
  - Pactor (HF Radio connection )
- RMS Packet (Telpac) Gateway
  - Packet to Telnet bridge
- RMS Pactor
  - Pactor to Telnet bridge
- RMS Relay (still in development)
  - Holds messages if Internet is down
  - Bridges Packet to Pactor if needed

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## Applications:

- Paclink MP
  - POP/SMTP Server on LAN
    - Outlook, Thunderbird, WebMail
  - Tactical e-mail addressing
  - Telnet, Packet, Pactor connectivity
  - Channelized, can set path priority
  - AGWPE
- Outpost
- APRSLink

# Using Winlink 2000

## History:

- Winlink Development Team started this system in the early 80's
- Victor Poor wrote an Amtr to Packet link - DOS application, Aplink
- Navy MARS users used a smaller client version of Aplink called PAMS
- Aplink gained recognition in the Gulf War in 1990 (CBS Documentary)
- Winlink Classic when Windows was available (text only)
- Netlink interfaced radio digital messaging to the Inernet
- Winlink/Netlink evolved into Airmail (written by Jim Corenman KE6RK)
- 1998 Winlink 2000 planning started and was working by Feb 1999
- Provides critical wx reports and forecasts to mariners and isolated users
- Built with complete redundancy to be used for Emergency Comms
- 150,000 messages monthly
- Over 5100 users via RF

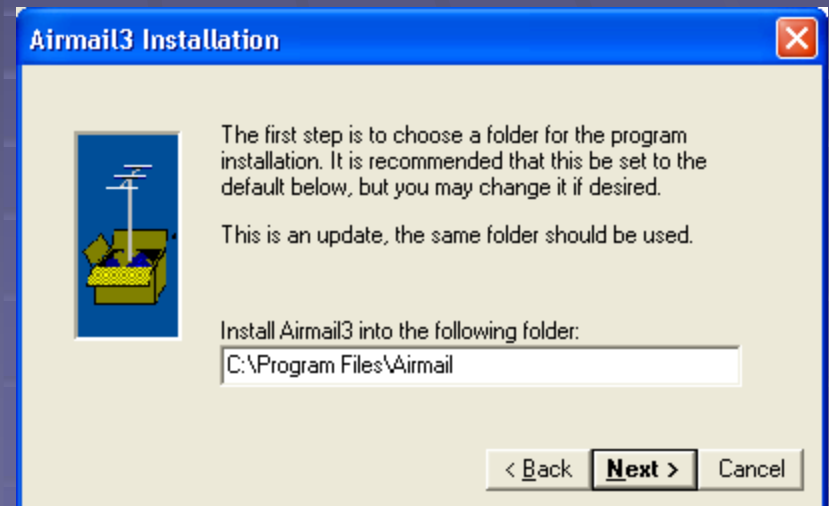
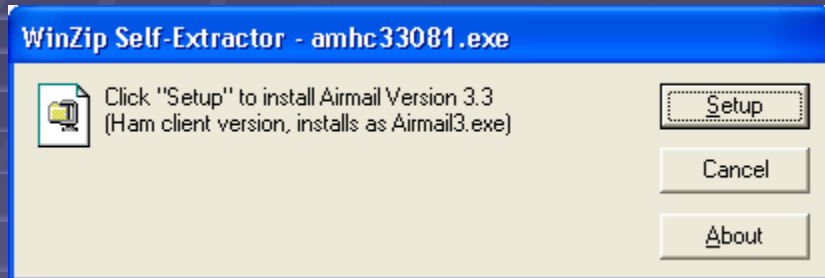


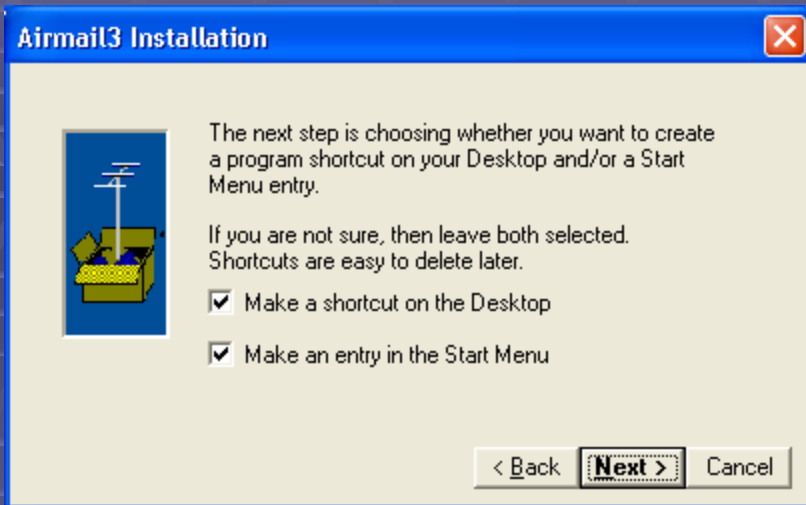
## Airmail

# Using Winlink 2000

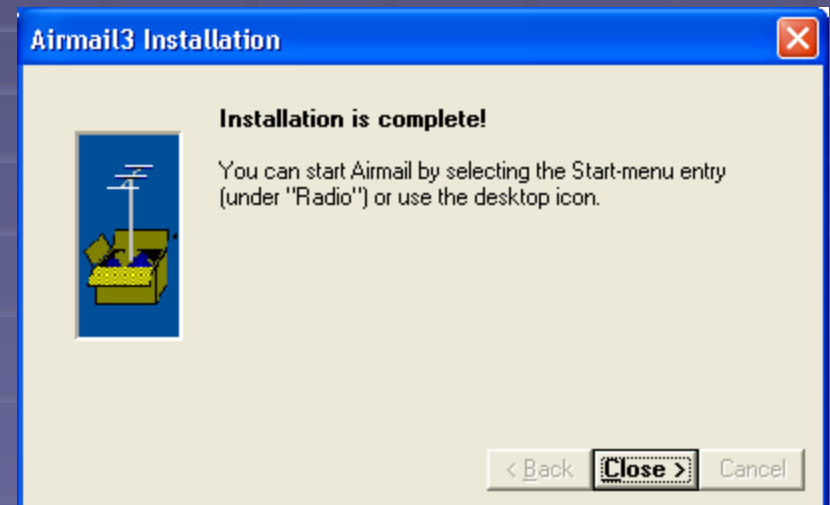
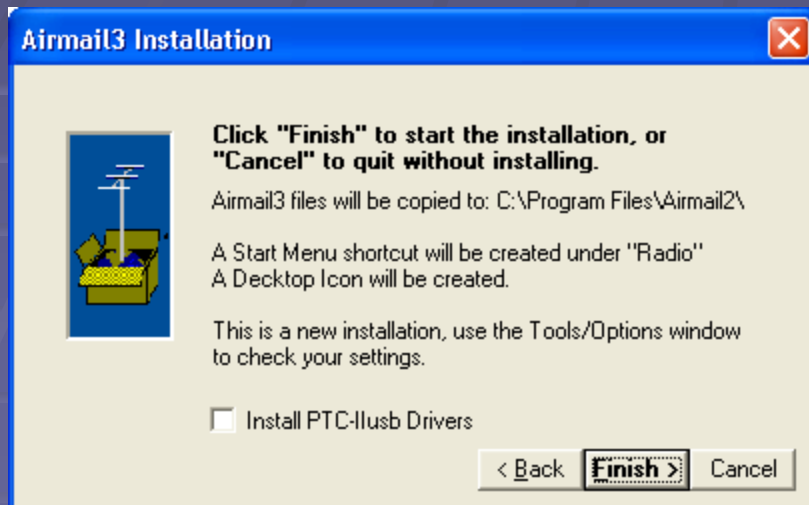
Download from <http://www.siriuscyber.net/ham/>

Run Setup:

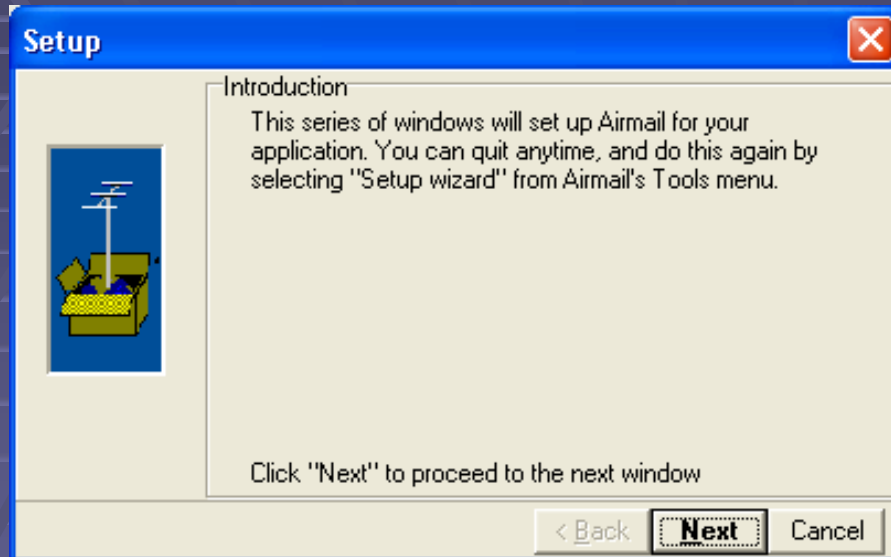




Accept all defaults:

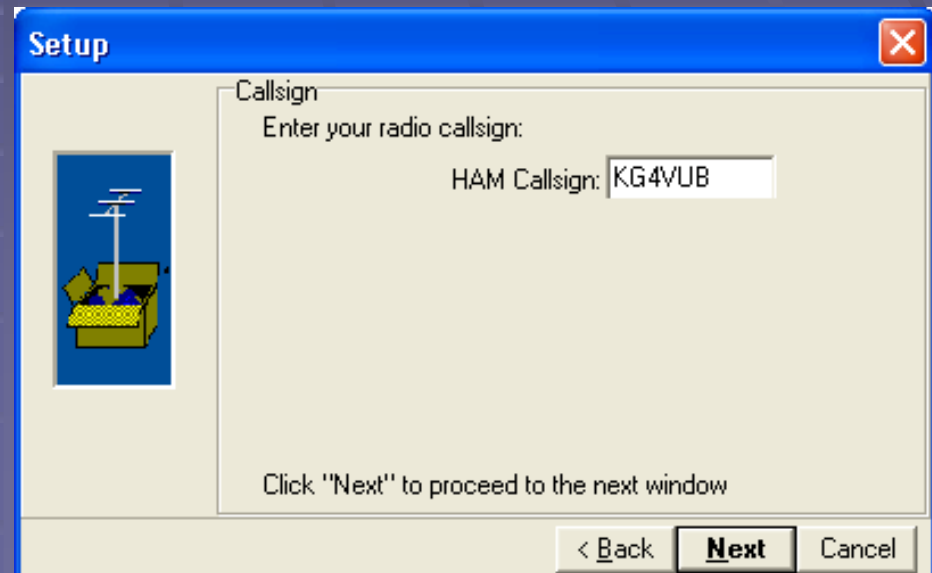


## Runtime Setup Wizard



First time you start the program, Setup Wizard runs

Enter your Callsign:



## Runtime Setup Wizard

**Setup** [X]



**Location**

Enter your approximate Lat/Lon position. Airmail uses this to sort the available stations by distance, and for the propagation window.

Lat:  Lon:

Optionally, Airmail can send the location to the station, to be included with the station log. (This is for diagnostics and is not a publically--available position-report). .

Send Lat/Lon to station ☒


Click "Next" to proceed to the next window

< Back **Next** Cancel

Location info is optional

Select defaults if not setting up for HF

**Setup** [X]



**Modem**

☒ PTC-IIusb  
☐ PTC-IIpro  
☐ PTC-IIex  
☐ PTC-IIe  
☐ PTC-II

☐ Other modem types:

COM Port:  Search

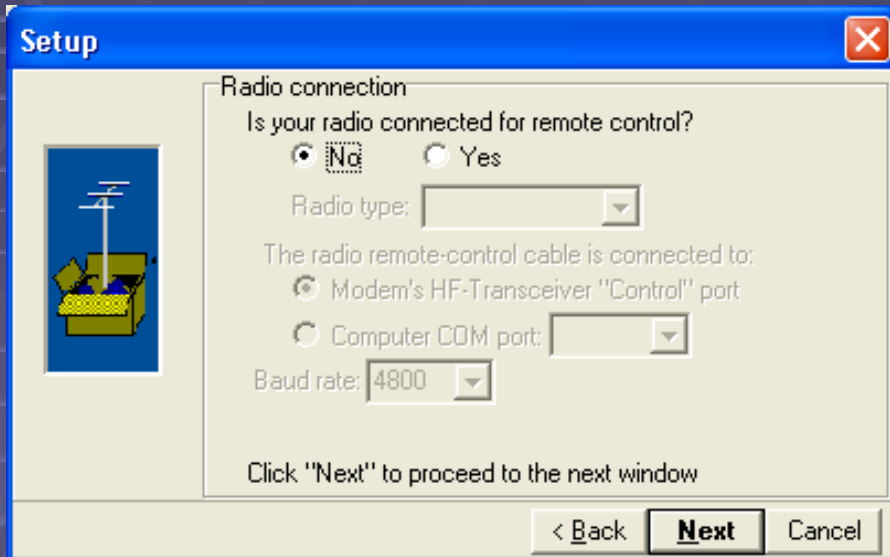
Baud rate:   
(selected port not found)

Click "Next" to proceed to the next window

< Back **Next** Cancel

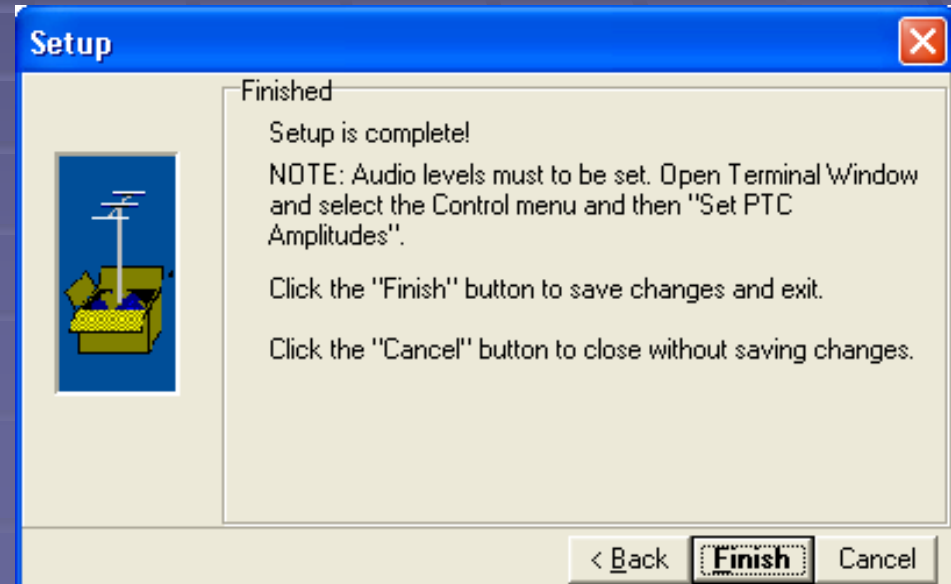
# Using Winlink 2000

## Runtime Setup Wizard



Select No for radio remote control (unless you're using it)

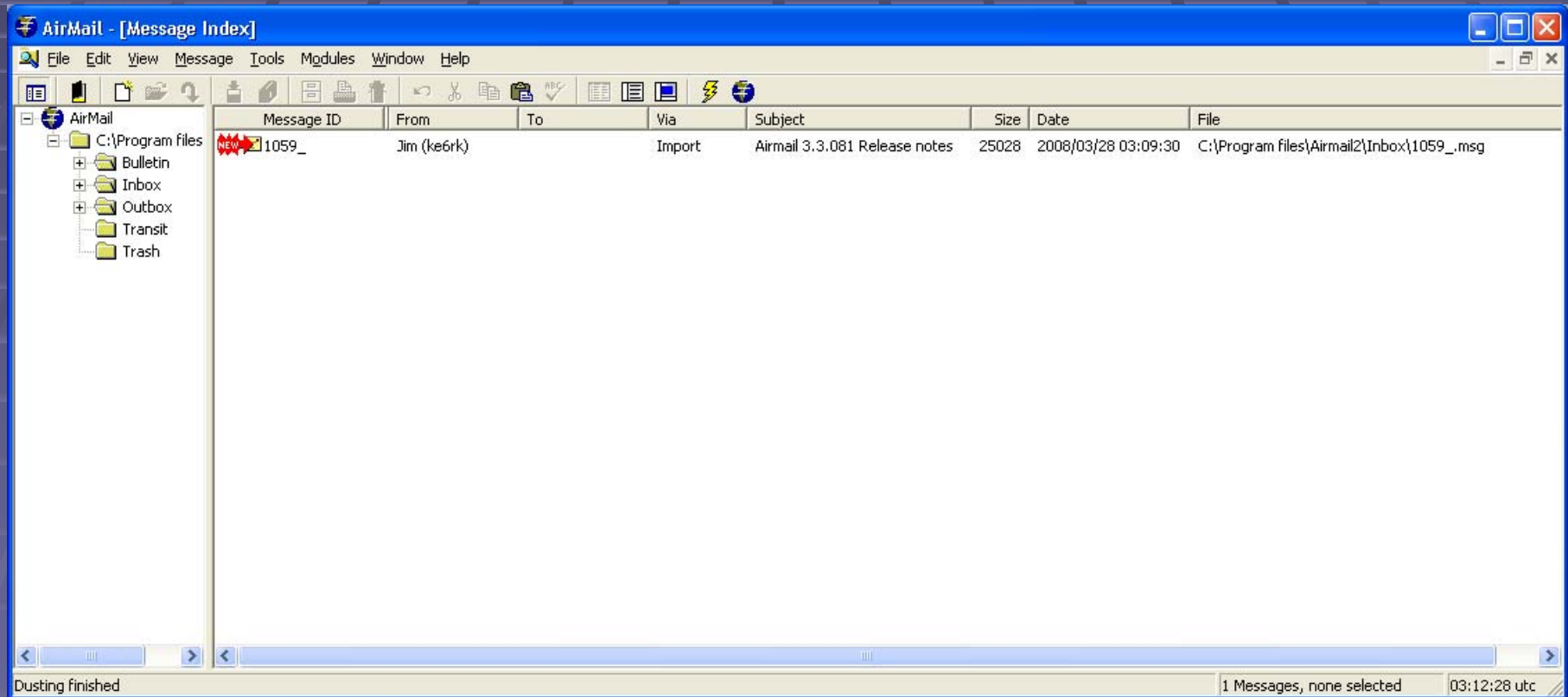
Click on Finish, basic setup is done



## Airmail

# Using Winlink 2000

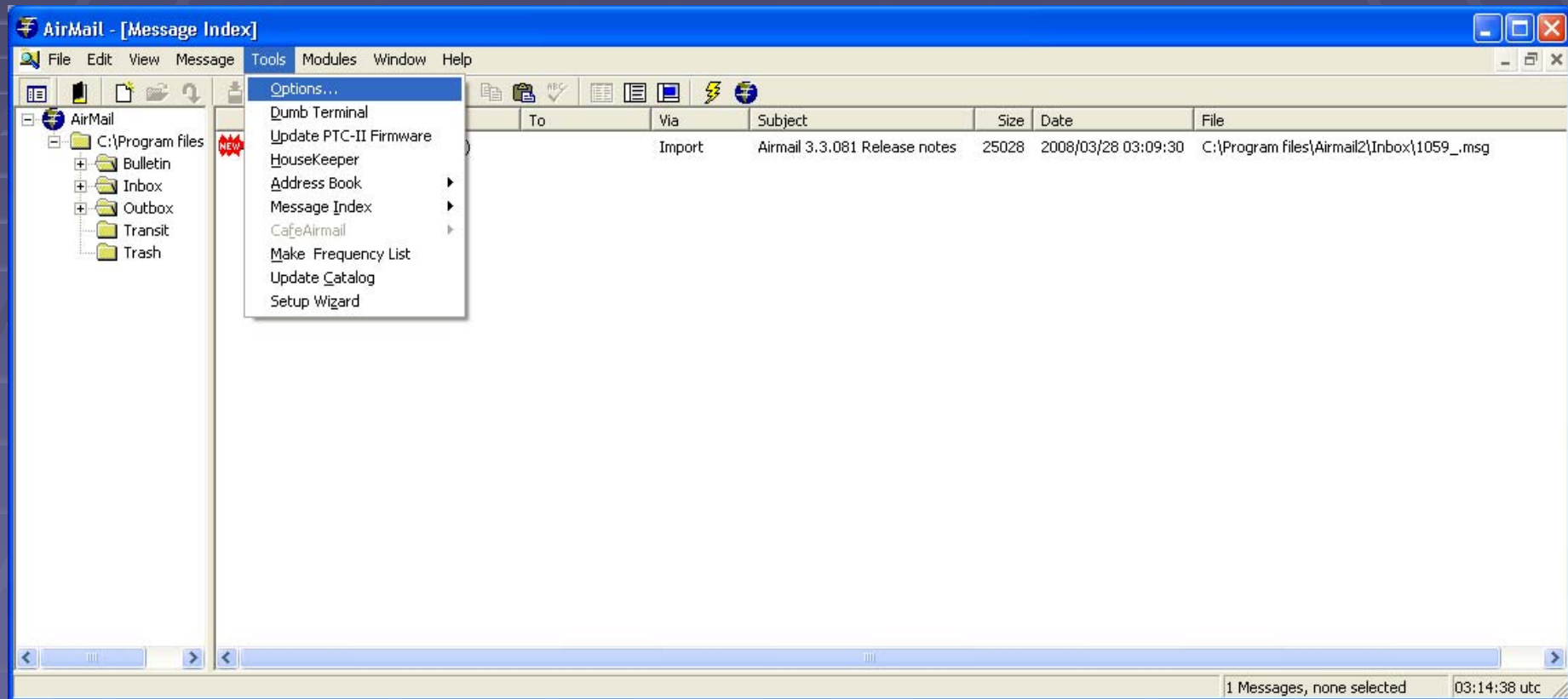
You are first greeted with the Inbox



## Airmail

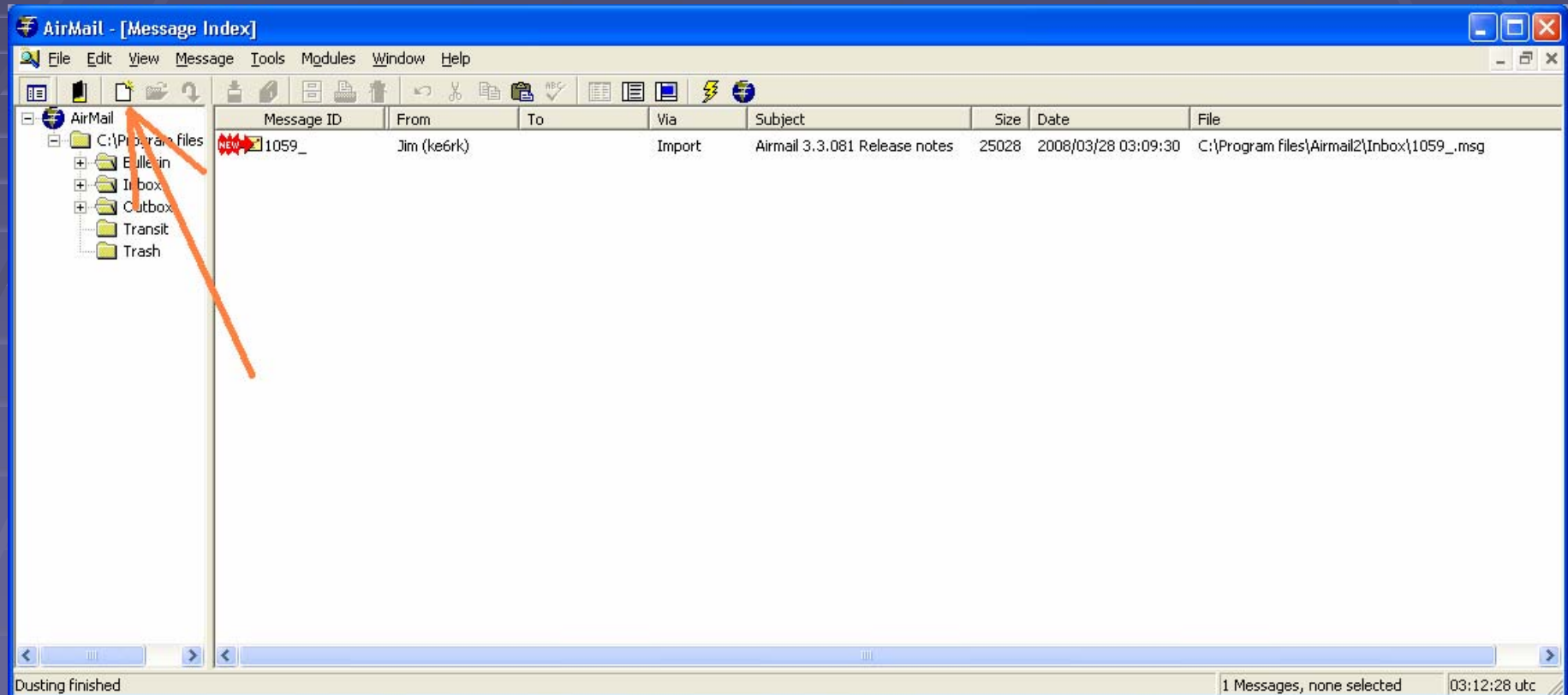
# Using Winlink 2000

Additional Options can be selected through the Tools Menu



## Compose Message

To Compose your message,  
click on File > New, or click on  
the new message icon

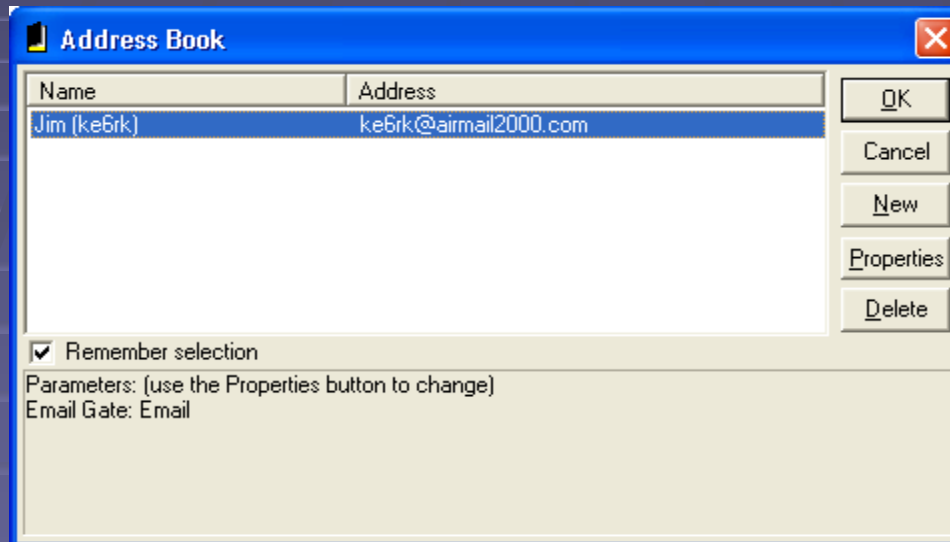




# Using Winlink 2000

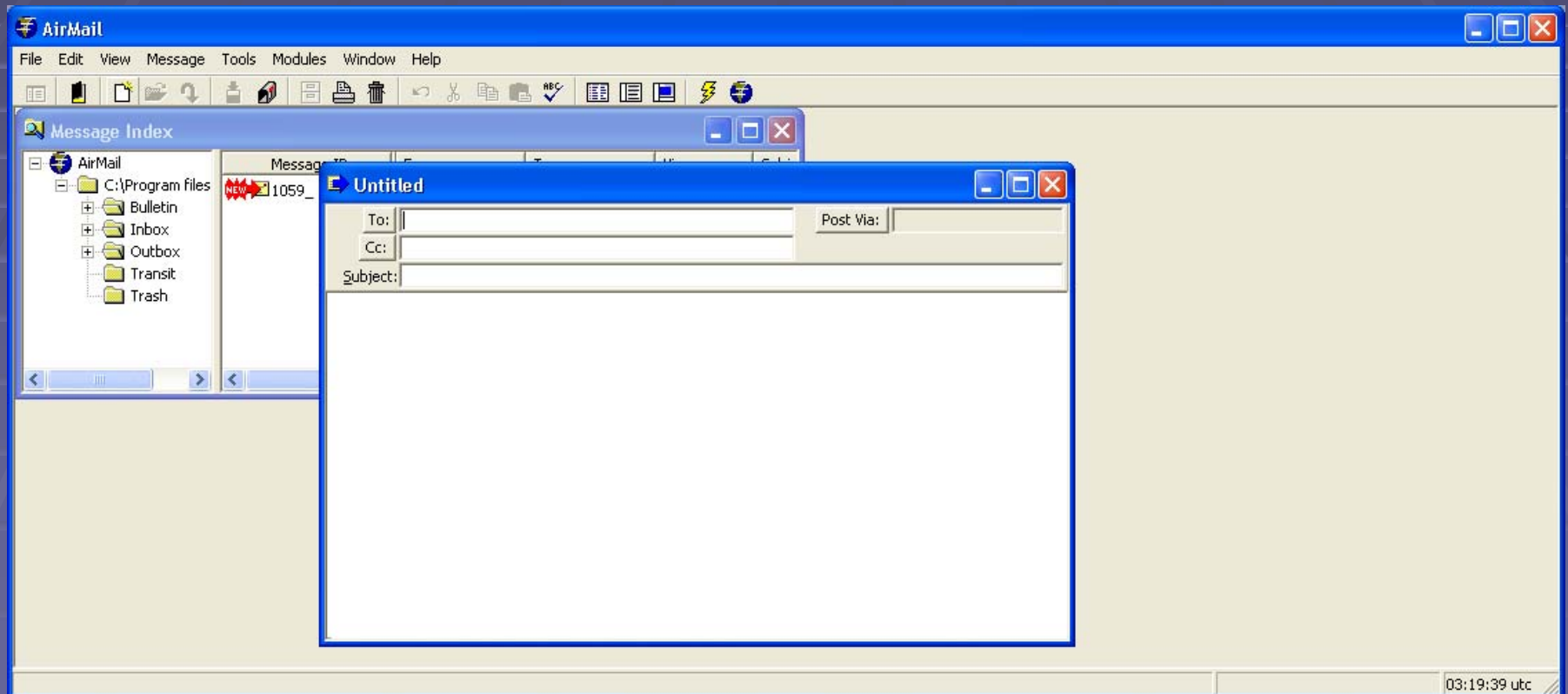
## Compose Message

Address Book pops up, you can cancel to go straight to your message window or enter new addresses



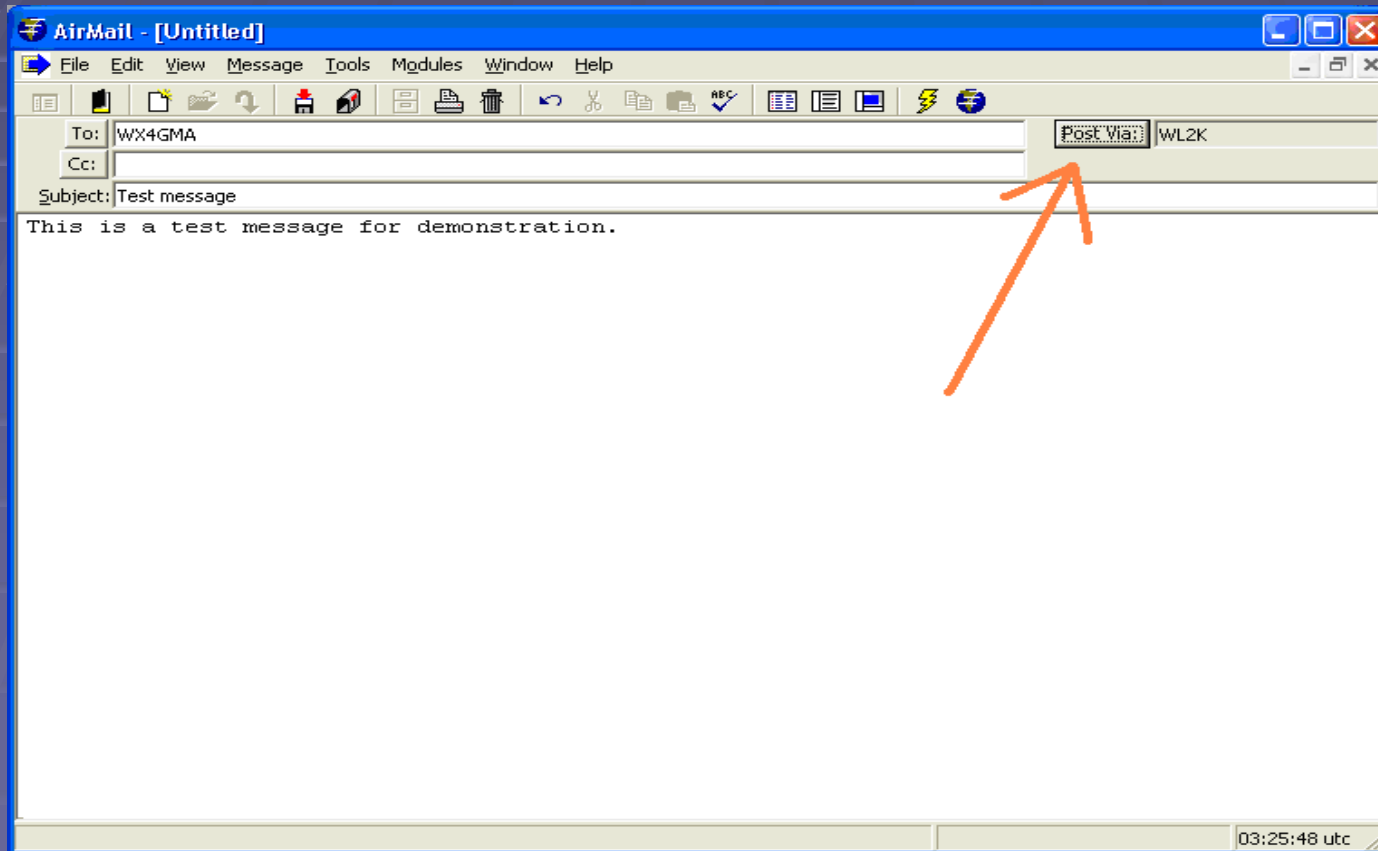
## Compose Message

Enter your destination addresses. If going to Winlink account, only put the callsign. Separate multiple addresses with a comma. Enter your subject and type your message.

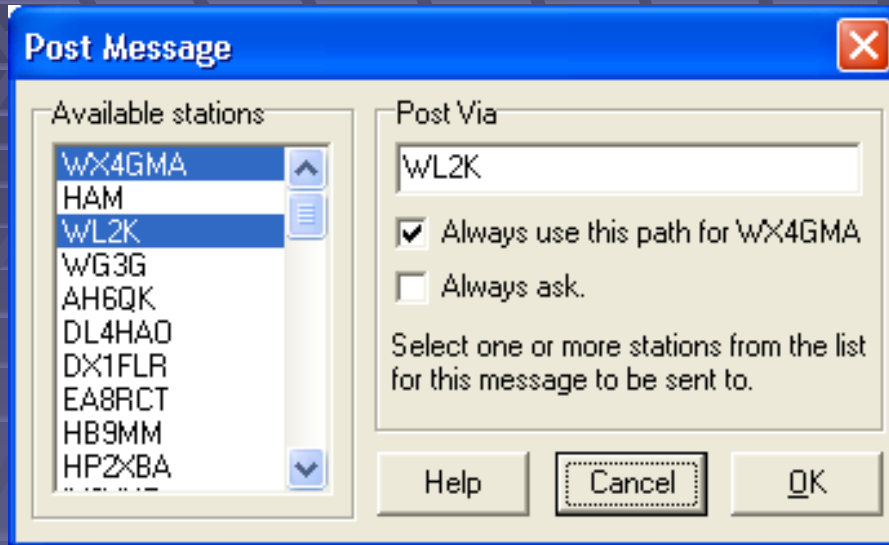


## Compose Message

Post Via is for routing. If routing message through internet, use WL2K. If sending message peer to peer, enter callsign of station you will connect to. ( more peer to peer on later slide )



## Post Routing



In its simplest form the Message-Routing list is used for posting messages created within Airmail. There are typically two entries: One that says what to do with email created by the user, and another that says what to do otherwise (i.e. not email, for example a message to another ham callsign).

For Winlink users these entries will be:

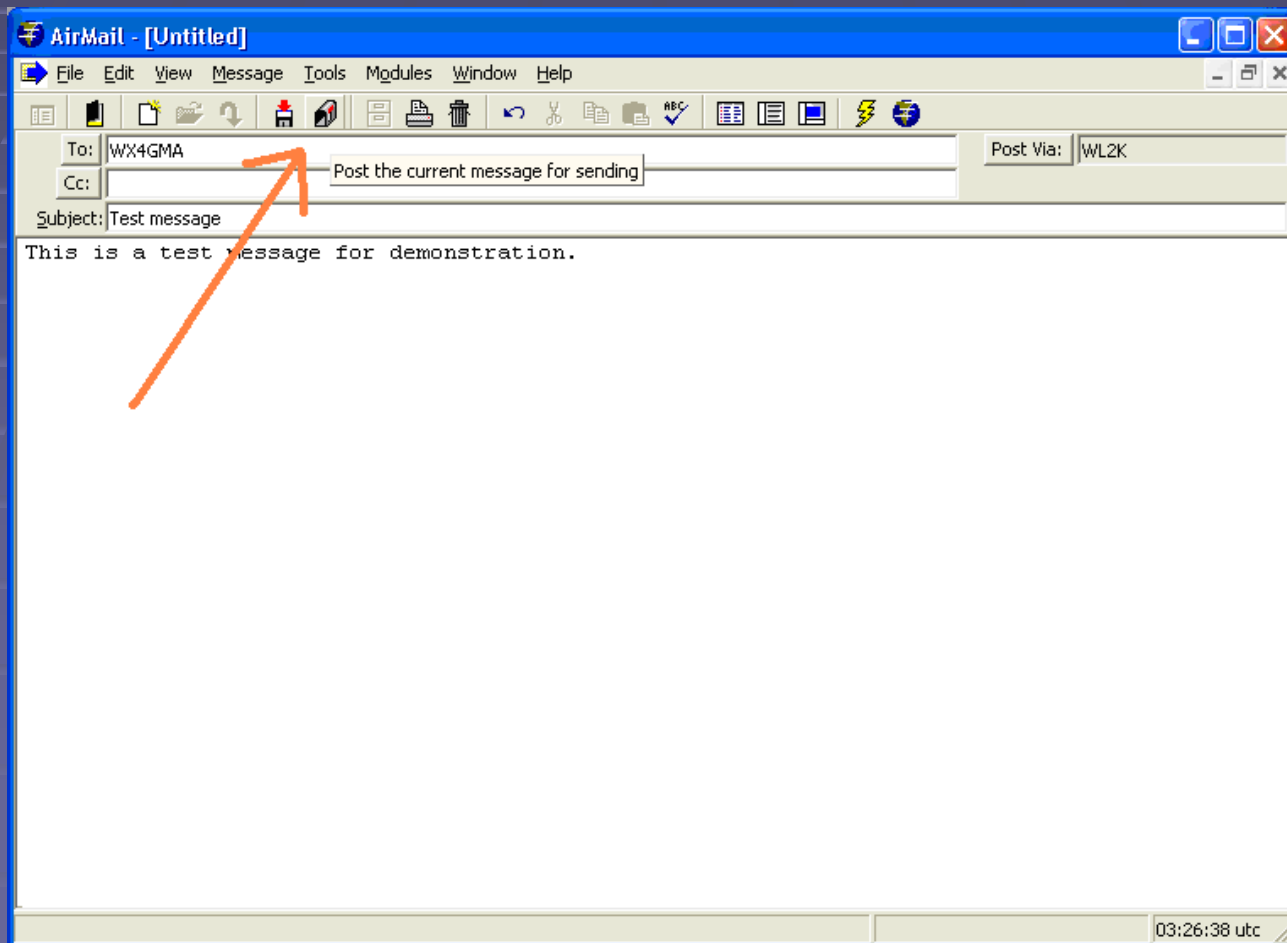
```
user -- email -- WL2K
user -- default -- WL2K
```

This means messages created by the user and which are addressed to an email address will be posted "via" WL2K, and anything else is also posted "via" WL2K. Note that the "default" entry is last, this is important- otherwise the "default" would match everything, and the "email" entry would never be used. Note that "WL2K" is a special system name, and matches any ham-station that identifies itself as "WL2K" in the system-id codes, via HF, packet or telnet.

Airmail

# Using Winlink 2000

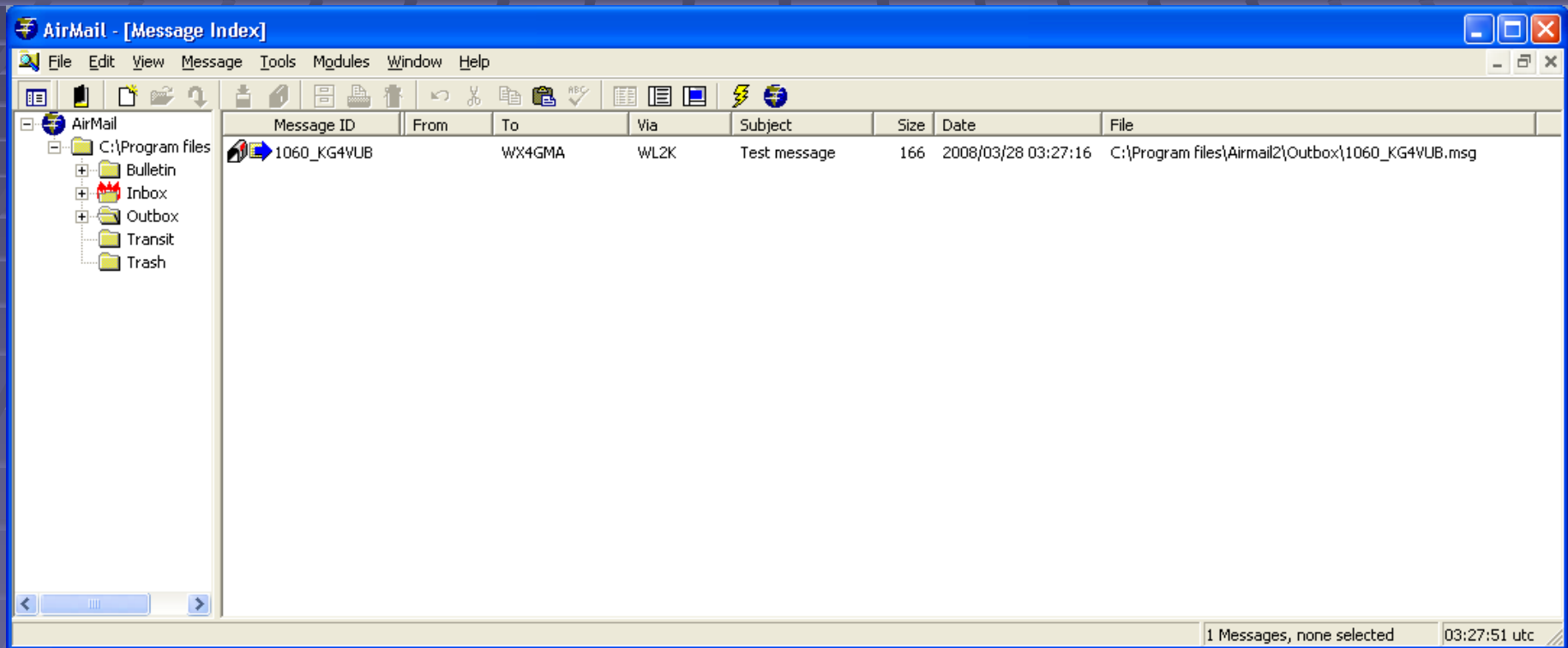
Click on Mailbox Icon to  
post for sending



Airmail

# Using Winlink 2000

Message is posted in Outbox (notice Icon)

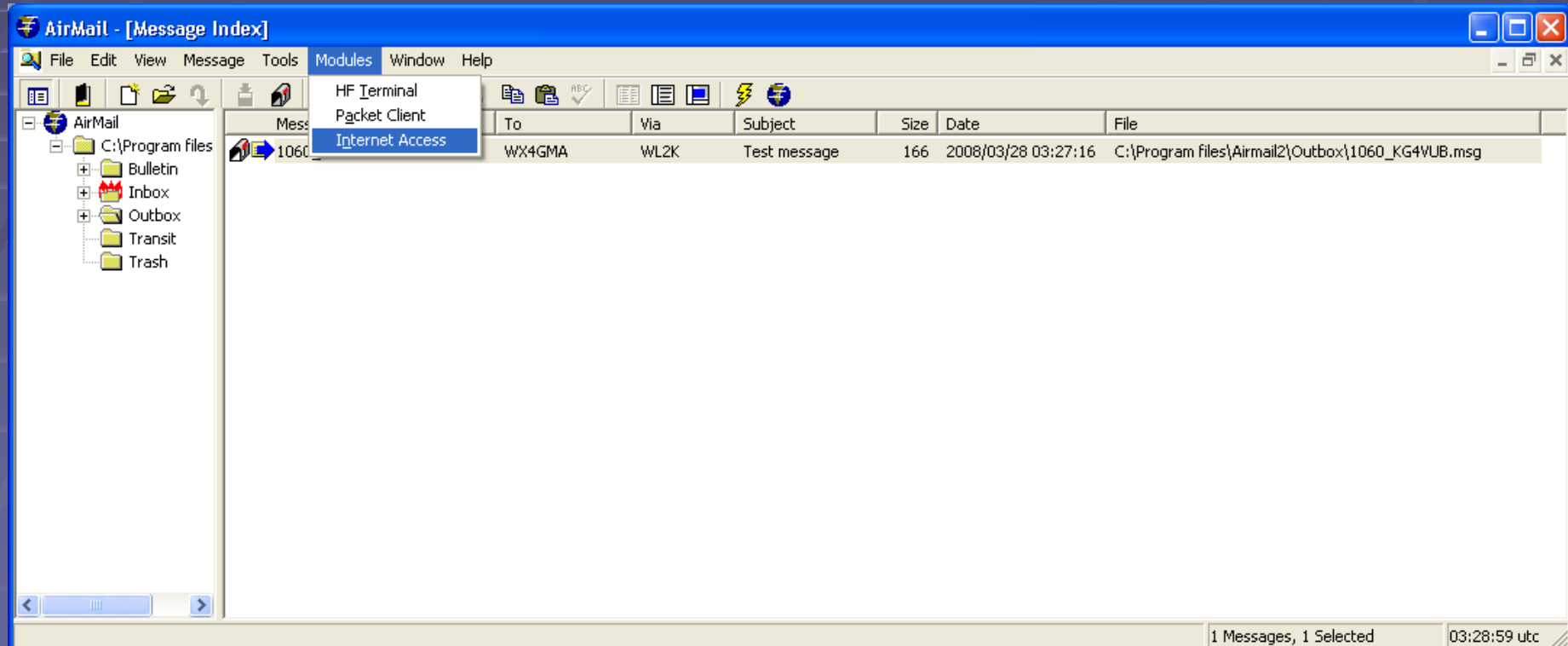


Airmail

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Sending Via Telnet ( Internet )

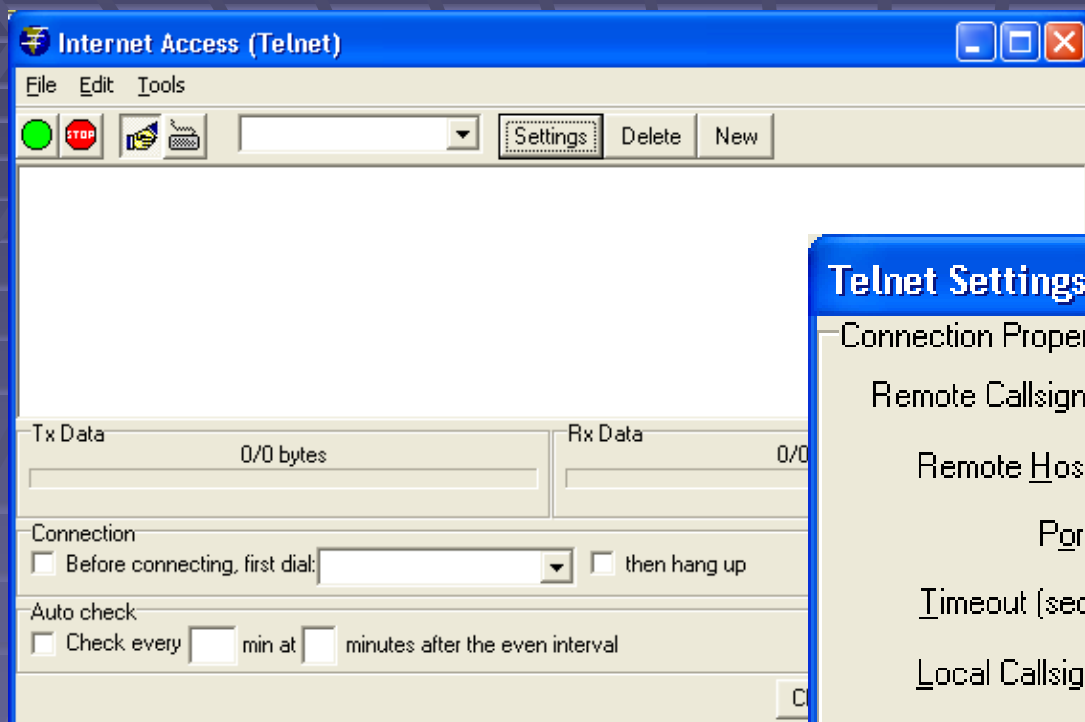
Click Modules, Internet Access



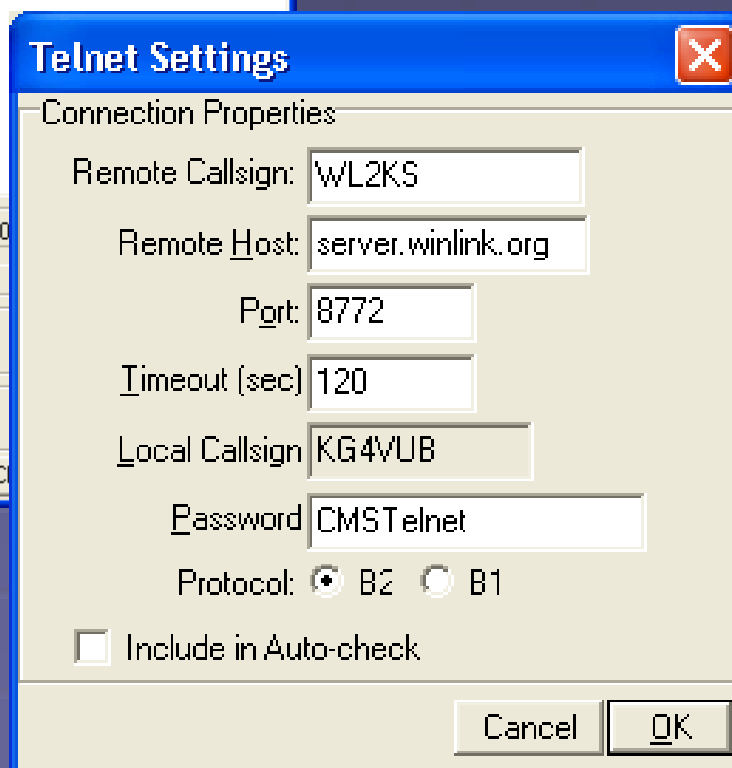
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Sending Via Telnet

Click on Settings



Use these settings for Telnet route ( your callsign should be displayed )





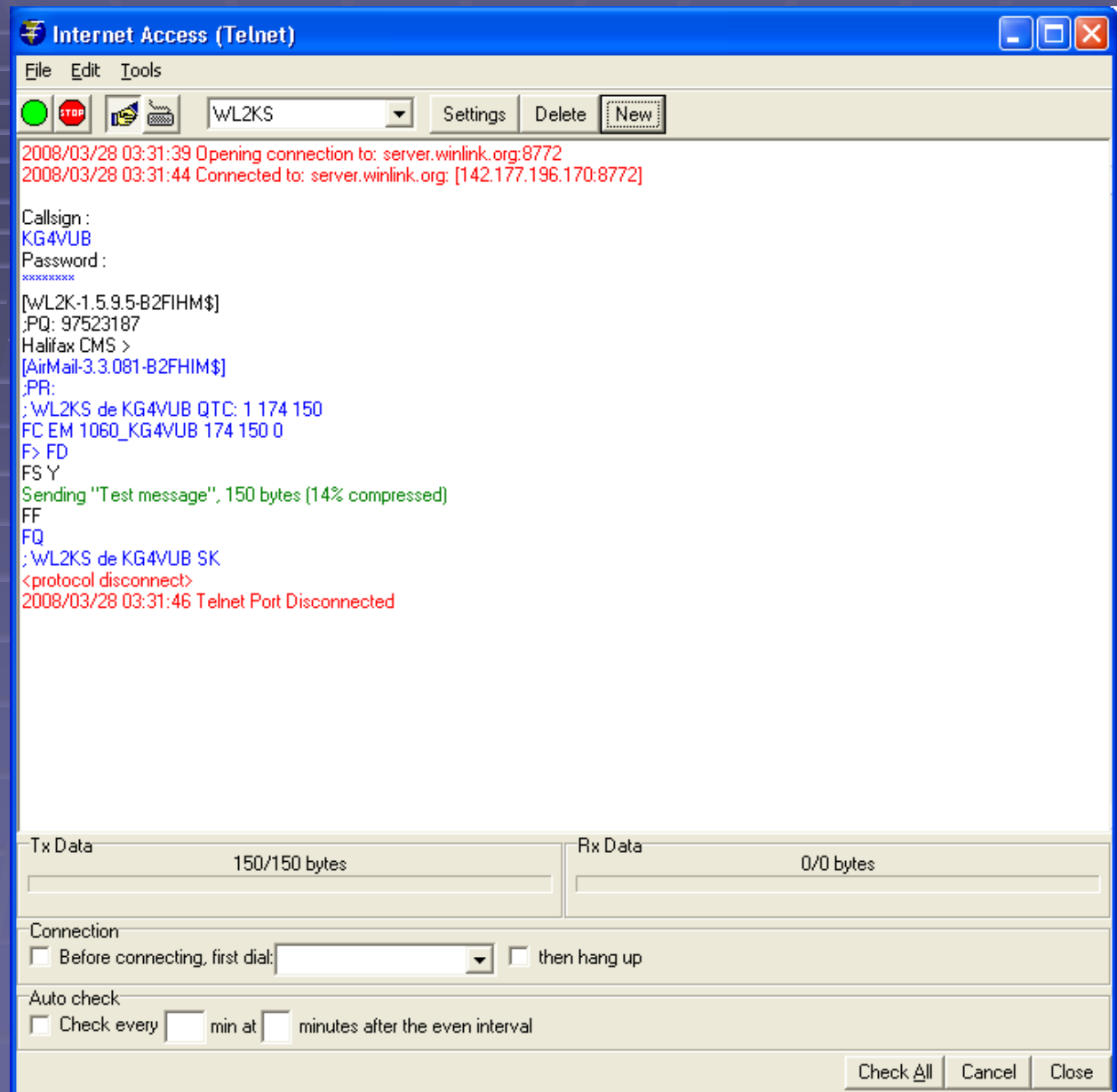
Airmail

# Using Winlink 2000

## Telnet Status

Watch the status of the connection to see how things are.

Look for errors and debug info if there is a problem.

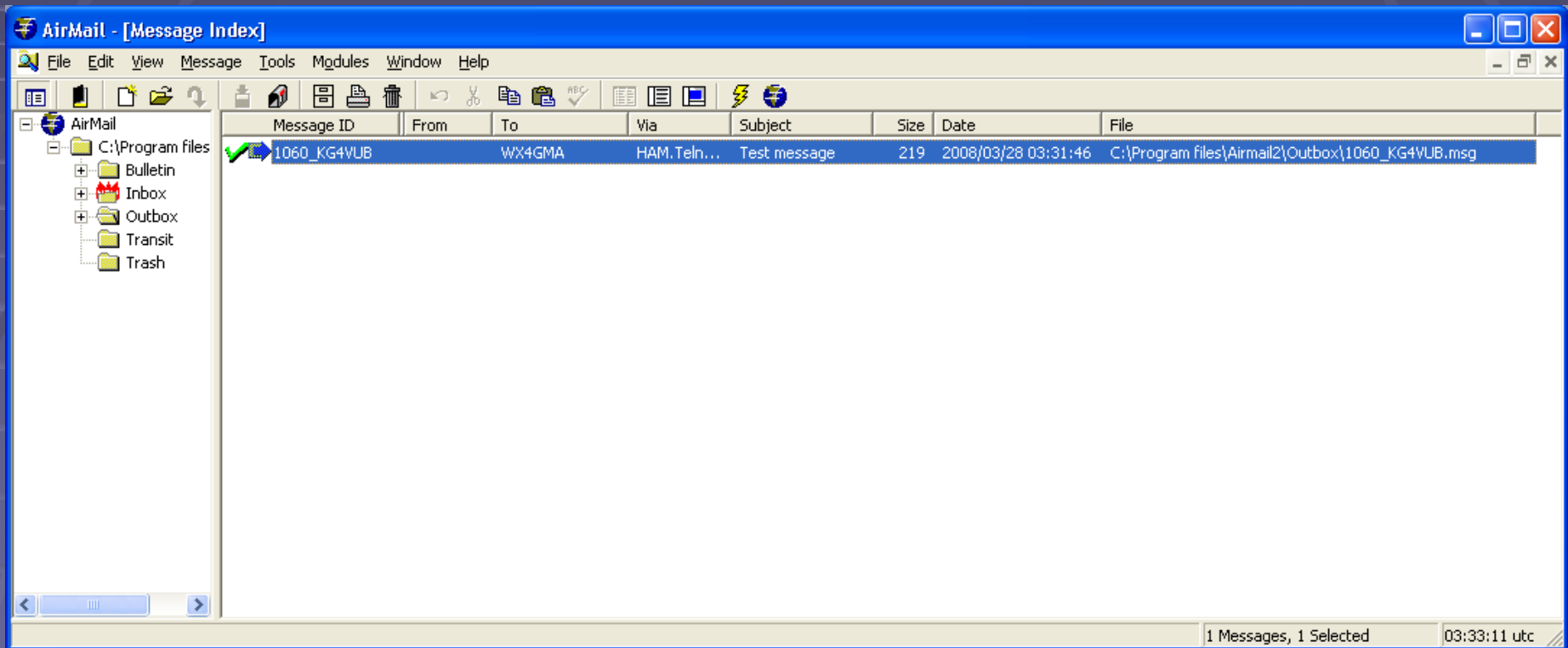


Airmail

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Message Sent

Once message is sent, the icon changes to green checkmark.



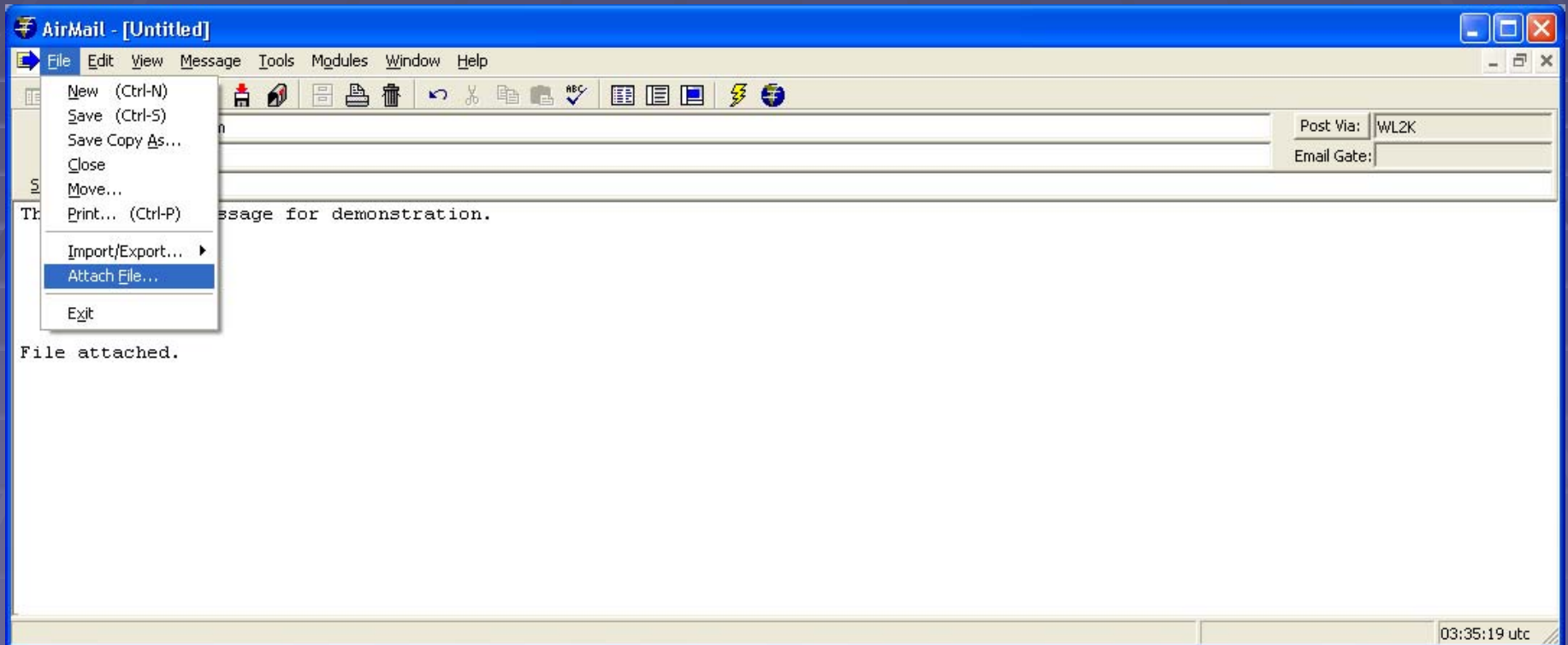
## Airmail

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Attach File to message

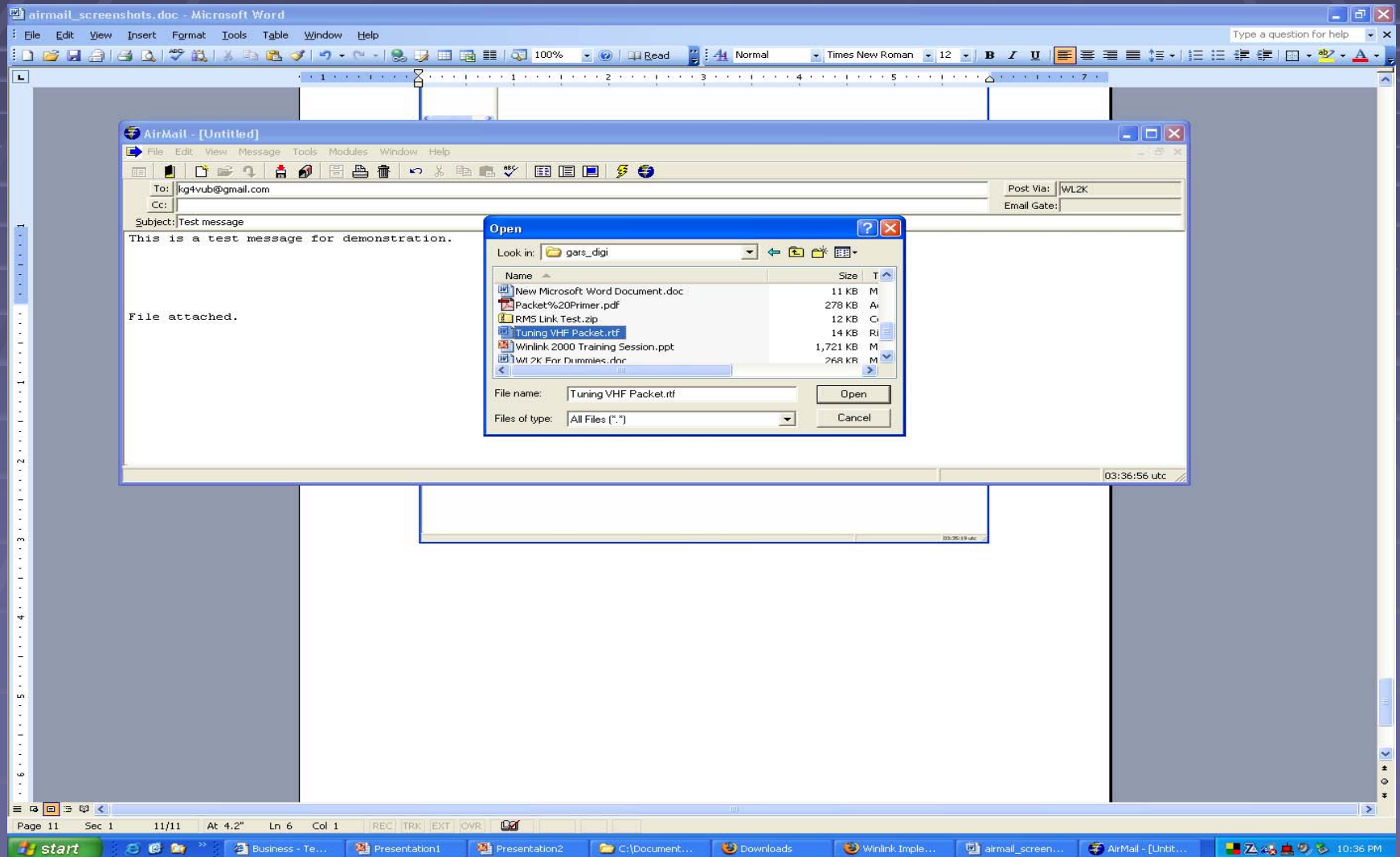
You can send small attachments  
( < 100kB )

Click on File > Attach File...



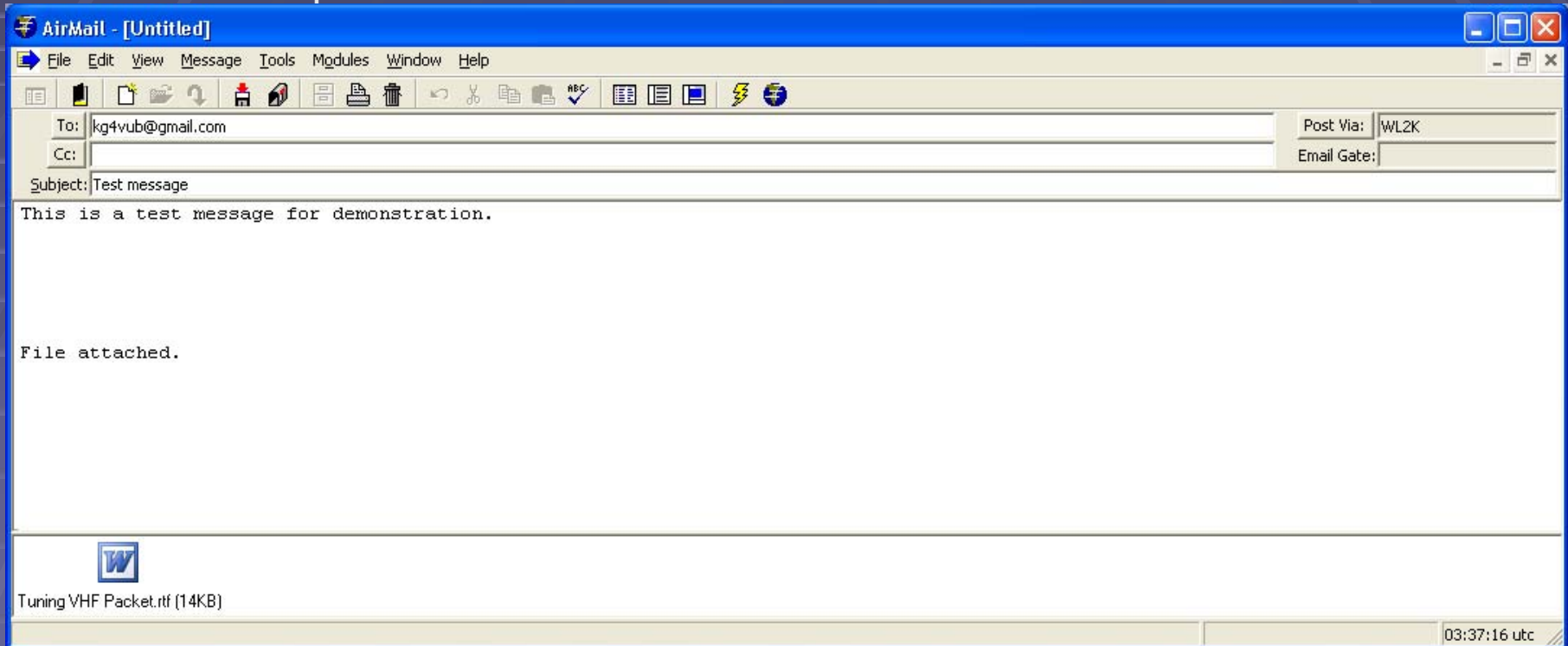
Attach File to message

Browse to the file you want. ( .exe and .zipfiles will not go through the system )



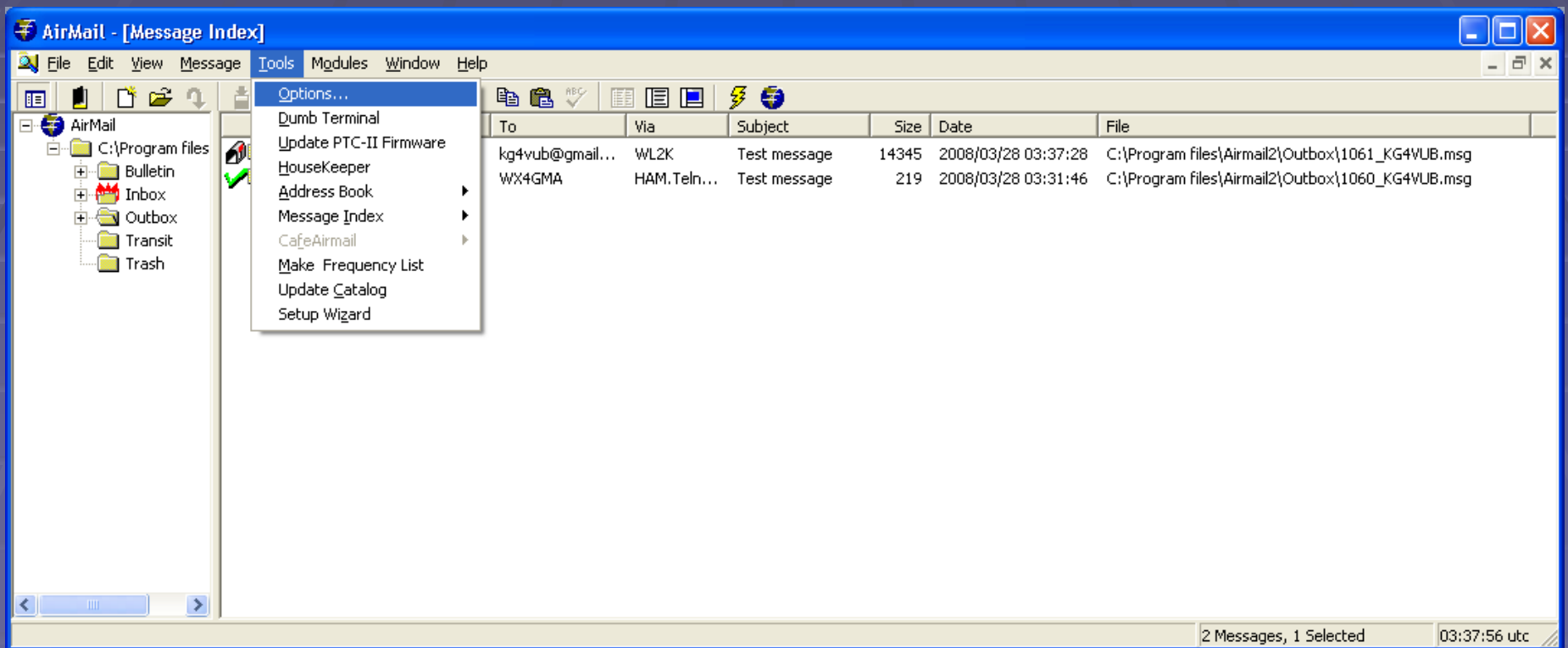
## Attach File to message

File attached, ready to send. Remember to check your Post Via, then click on Mailbox Icon to post.



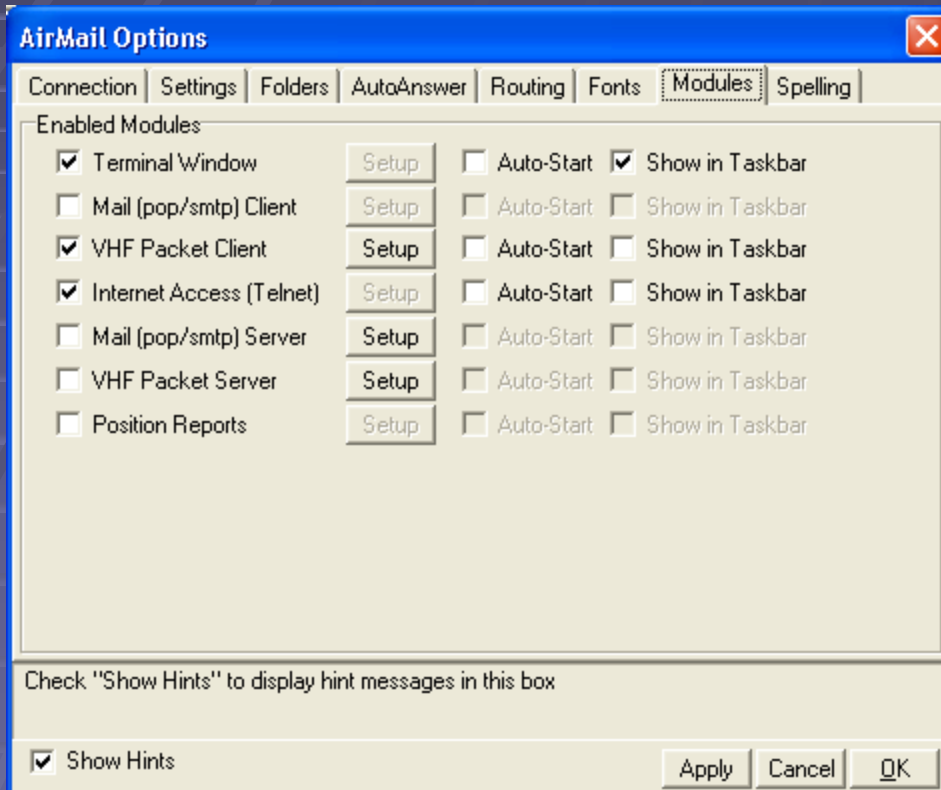
## Packet Client Setup

To set up Airmail for RF Packet, click on Tools > Options...

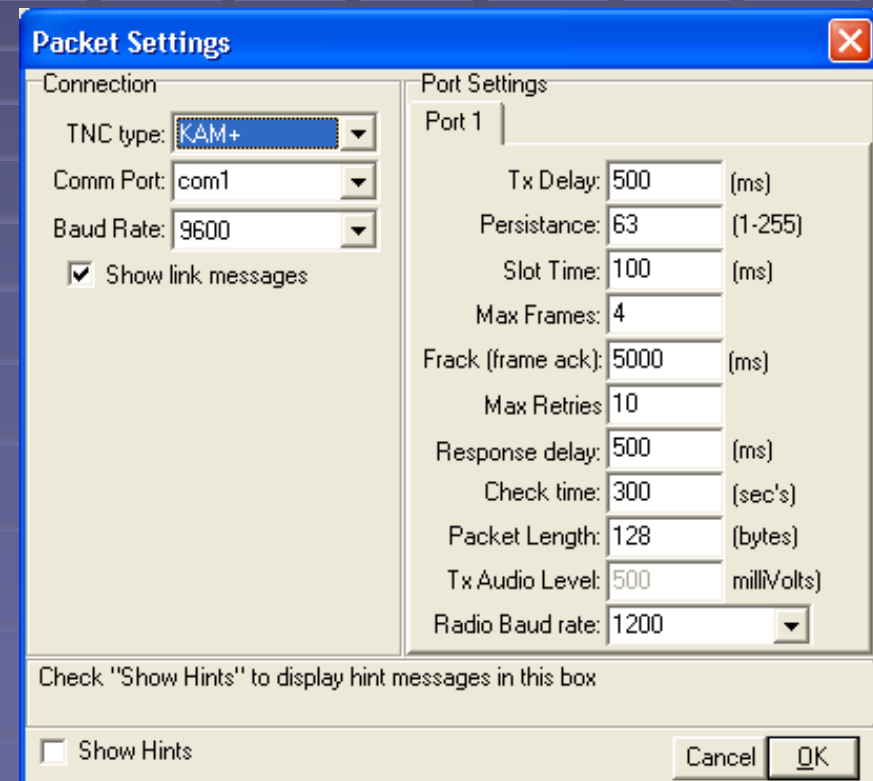


## Packet Client Setup

Then click on Modules tab, select VHF Packet checkbox, then click Setup.



Here's where you select your TNC and COM port settings.

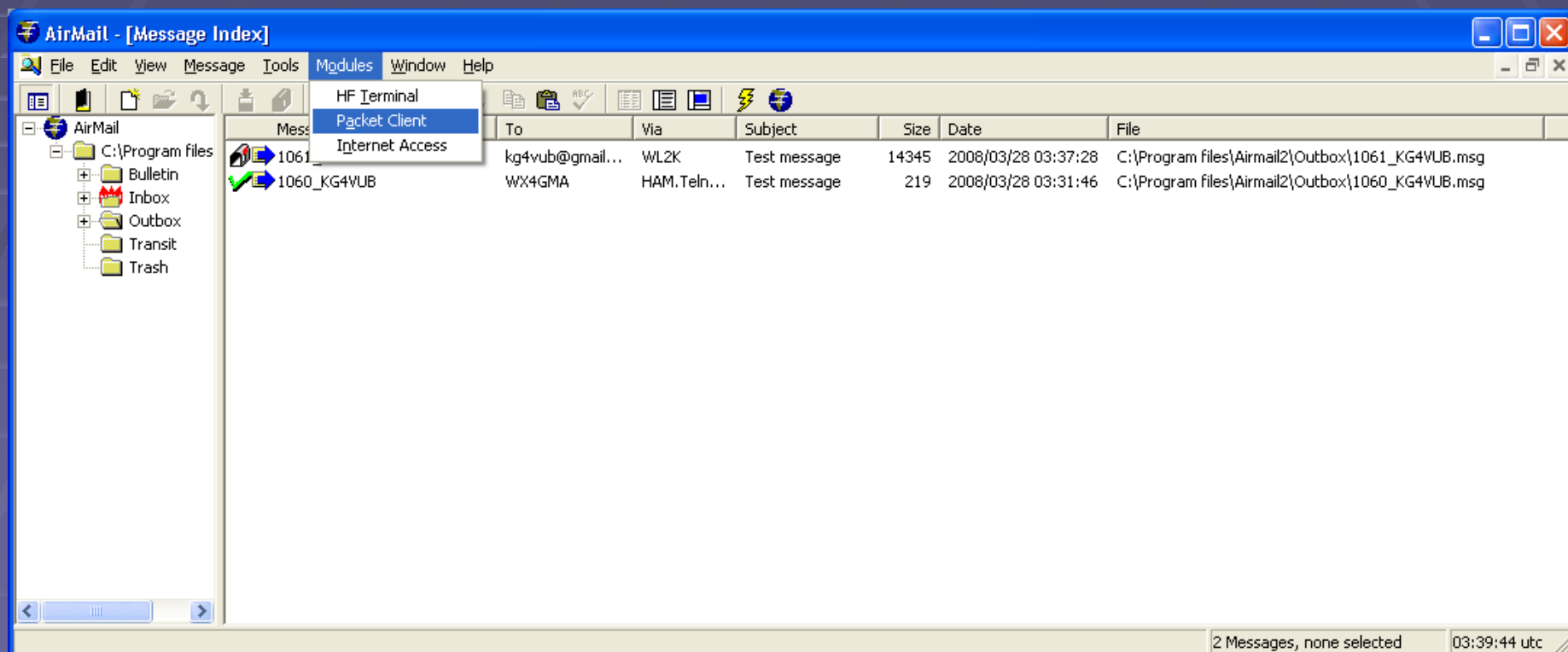


Airmail

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Send Via Packet

To send via RF Packet, click Modules > Packet Client.





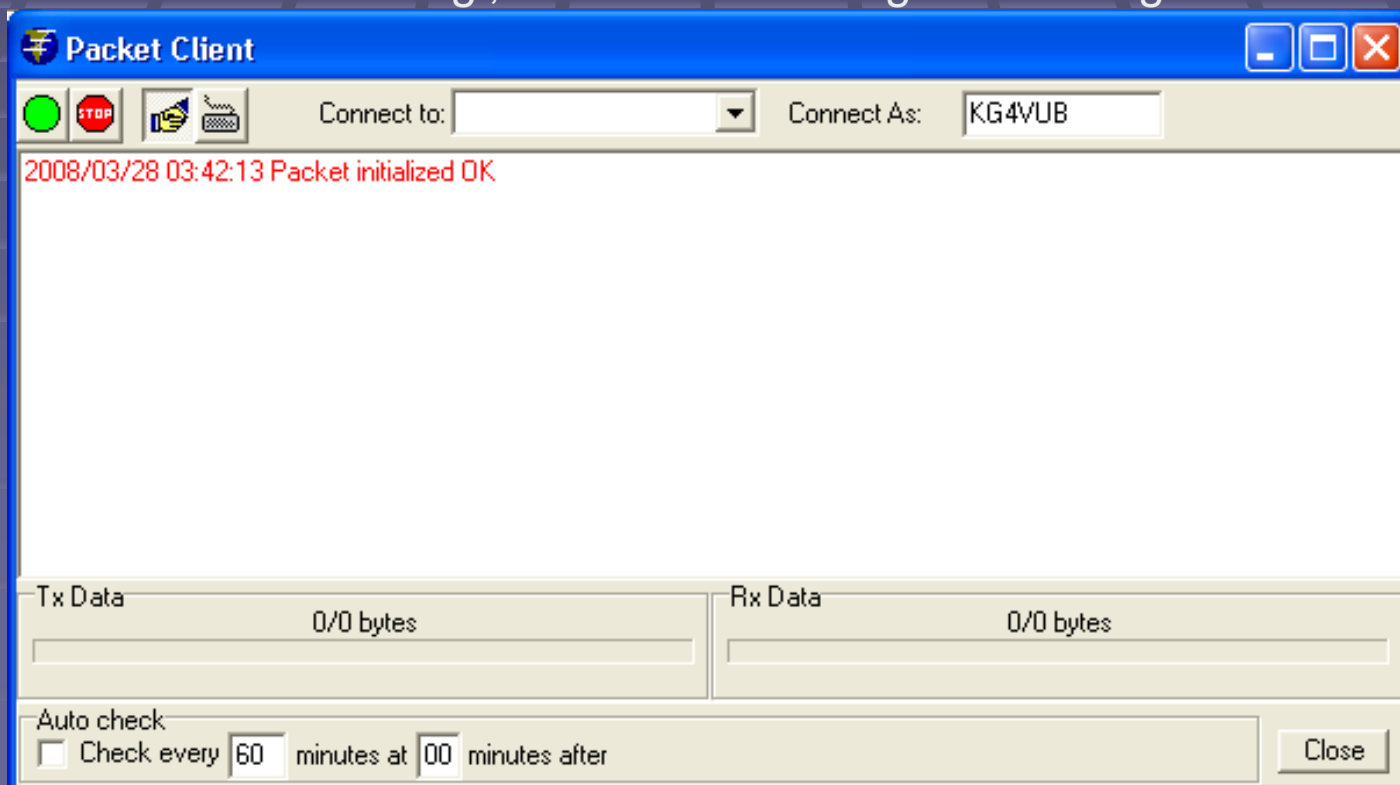
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Send Via Packet      Looks like the Telnet window.

Enter the RMS/Telpac node callsign where you wish to connect in the Connect to: box.... A digi can be added in the path by leaving a single space between the RMS callsign and the digi callsign.

Ex. Connect to: | KG4VUB-10 N3DAB-7 |

Aliases cannot be used for digi, must be the callsign for the digi.



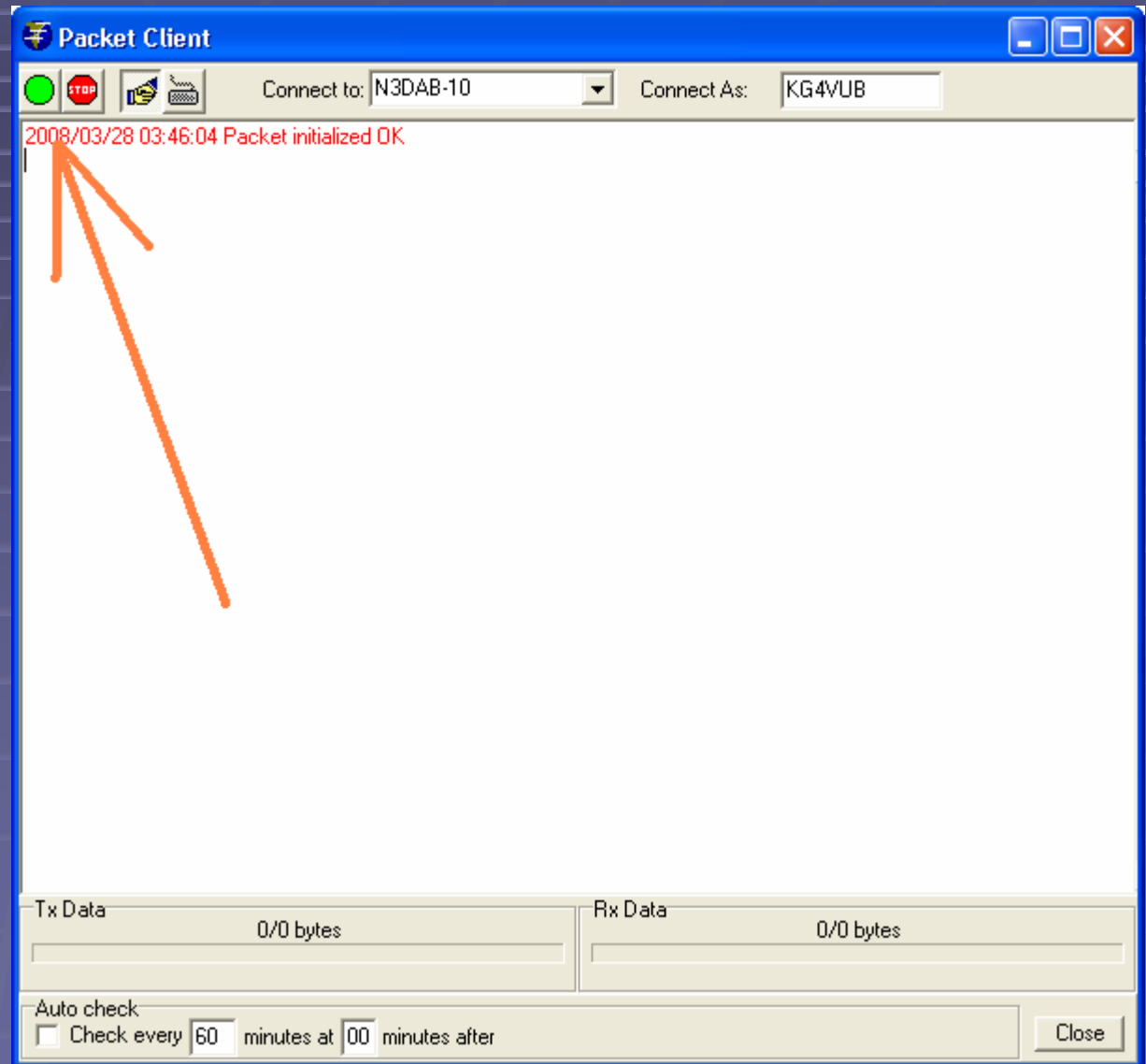
Airmail

# Using Winlink 2000

## Send Via Packet

Make sure “Packet initialized OK” is displayed to ensure communication with the TNC is good.

Click on the green button to initialize the RF connection.



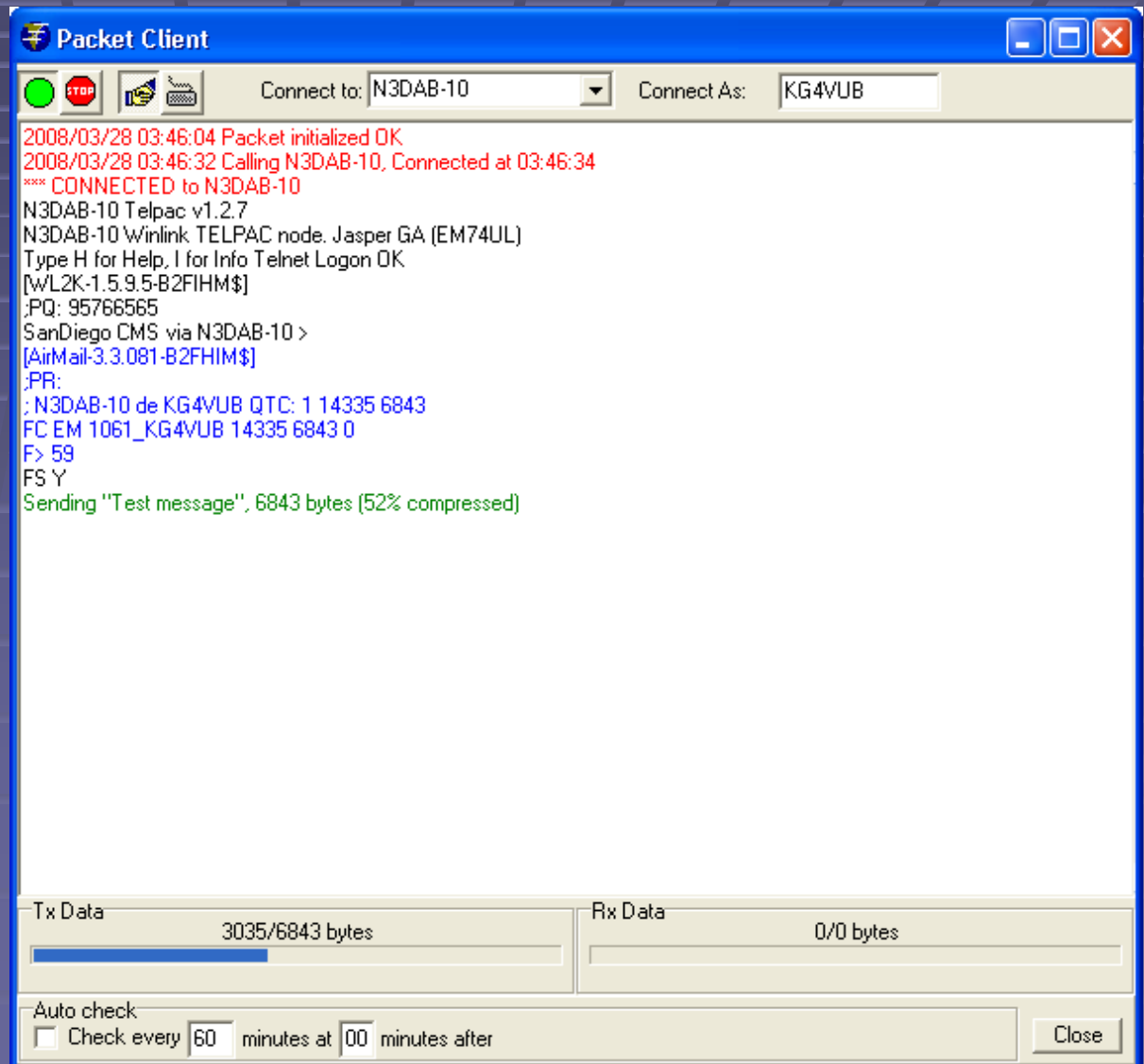
Airmail

# Using Winlink 2000

## Packet Connect Status

Watch the status text and make sure there are no errors.

The status bar near the bottom indicates progress of message transfer.



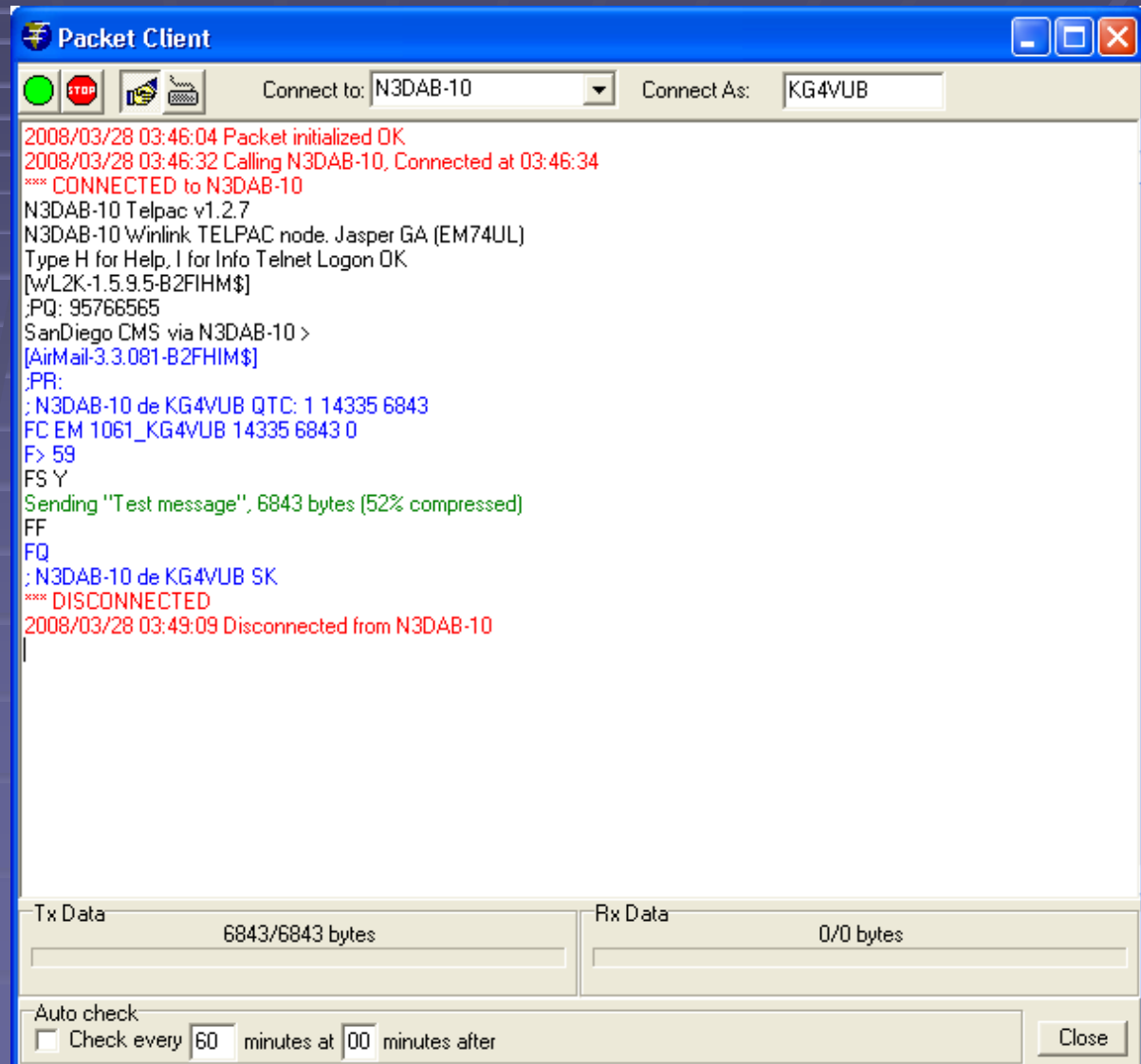
Airmail

# Using Winlink 2000

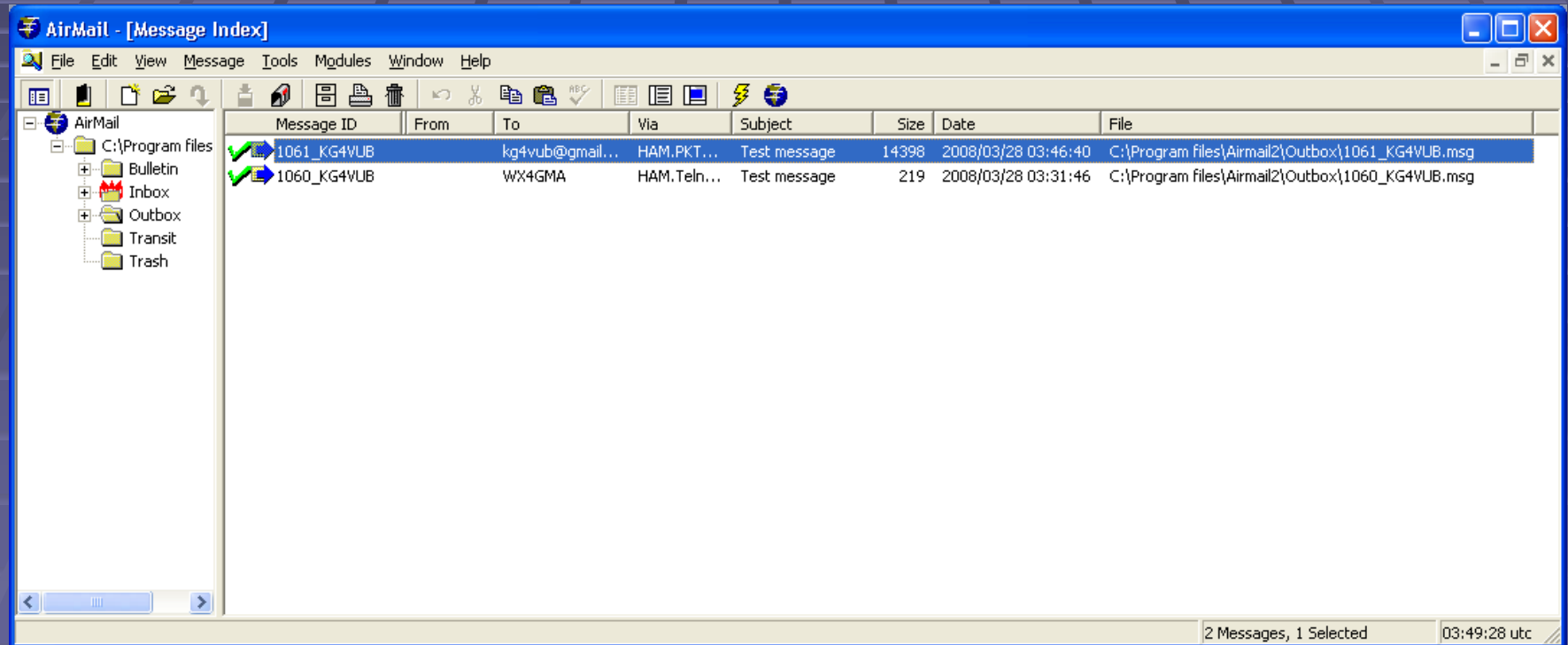
## Packet Connect Status

On successful delivery,  
you will see the F6FBB  
commands FF FQ.

Make sure the link  
disconnects.



Messages sent ( notice the Icon changes to green checkmark )



# Using Winlink 2000

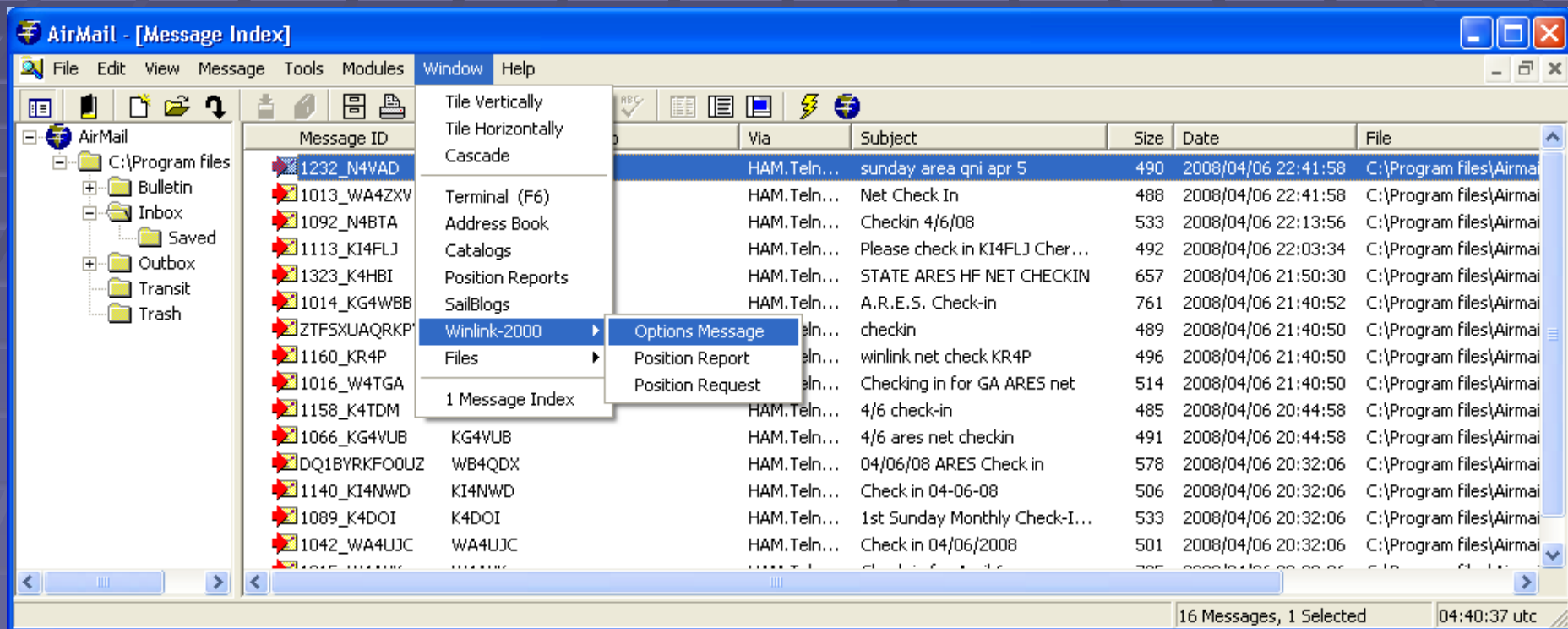
## Peer to Peer Connections

- The receiving station should make sure that its “Tools...Options....AutoAnswer” box is checked for “Accept Incoming Connects”.
- Both stations should be using the Handshake mode.
- The message should be Posted to the Receiving station.

## Options Message

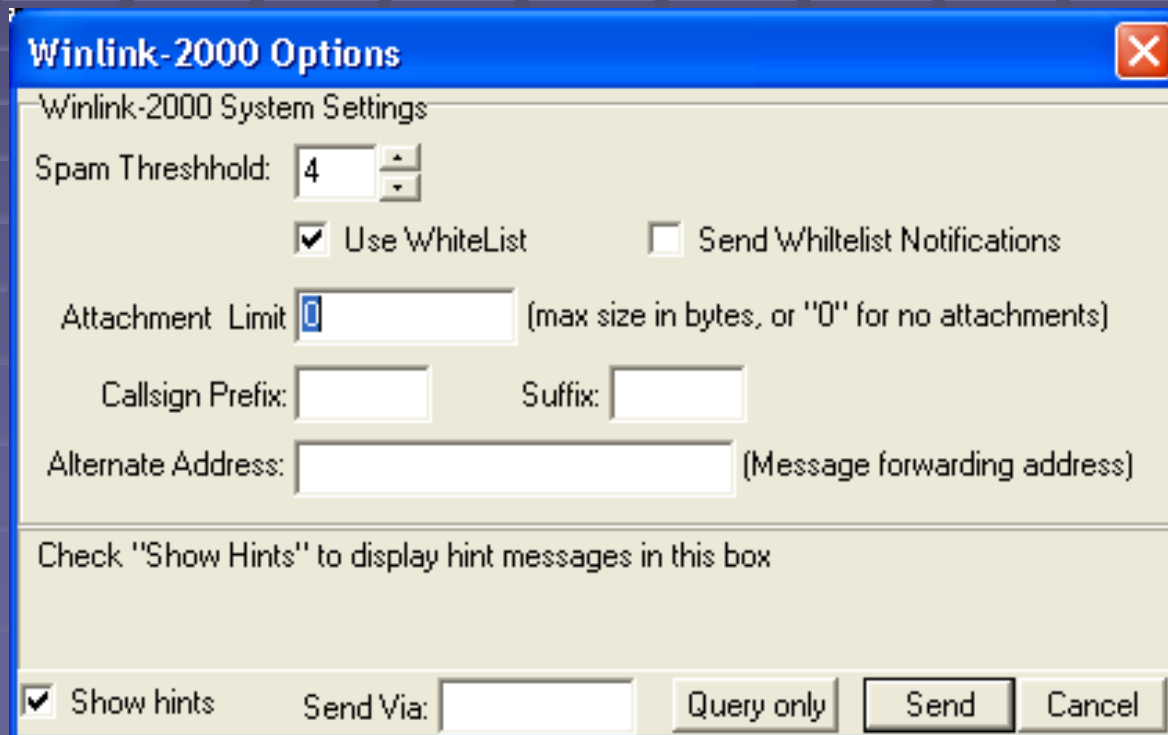
To change system settings, such as max file attachment size and Whitelist

Click on Window > Winlink-2000 > Options Message



## Options Message

Here, turn Whitelist On or Off, Attachment limit for RF, and you can also tell the system to forward your <callsign>@winlink.org email messages to another 'Alternate' address.



The image shows a screenshot of the 'Winlink-2000 Options' dialog box. The title bar is blue with the text 'Winlink-2000 Options' and a red close button. The main area has a light beige background. At the top, it says 'Winlink-2000 System Settings'. Below this, there are several settings: 'Spam Threshold' with a spinner box set to '4'; a checked checkbox for 'Use WhiteList' and an unchecked checkbox for 'Send Whitelist Notifications'; 'Attachment Limit' with a text box containing '0' and a note '(max size in bytes, or "0" for no attachments)'; 'Callsign Prefix' and 'Suffix' with empty text boxes; and 'Alternate Address' with an empty text box and a note '(Message forwarding address)'. At the bottom, there is a section with the text 'Check "Show Hints" to display hint messages in this box'. Below this, there is a checked checkbox for 'Show hints', a 'Send Via:' label followed by an empty text box, and three buttons: 'Query only', 'Send', and 'Cancel'.

**Winlink-2000 Options**

Winlink-2000 System Settings

Spam Threshold: 4

☒ Use WhiteList ☐ Send Whitelist Notifications

Attachment Limit: 0 (max size in bytes, or "0" for no attachments)

Callsign Prefix: Suffix:

Alternate Address: (Message forwarding address)

Check "Show Hints" to display hint messages in this box

☒ Show hints Send Via: Query only Send Cancel

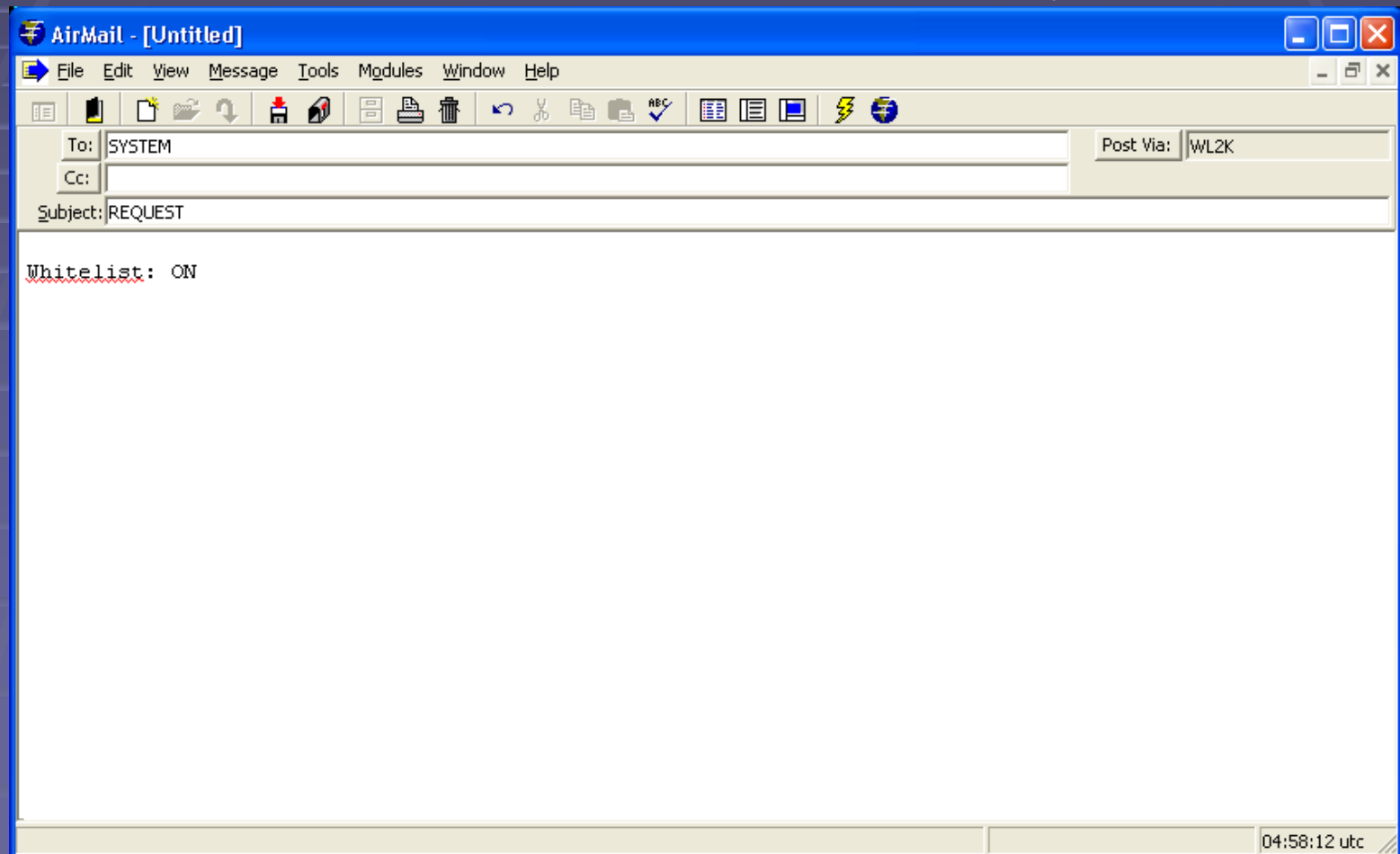


# Using Winlink 2000

Options Messages can be sent as a message.

You can turn Whitelist On or Off. If turned On, you can specify email addresses and domains to allow incoming messages.

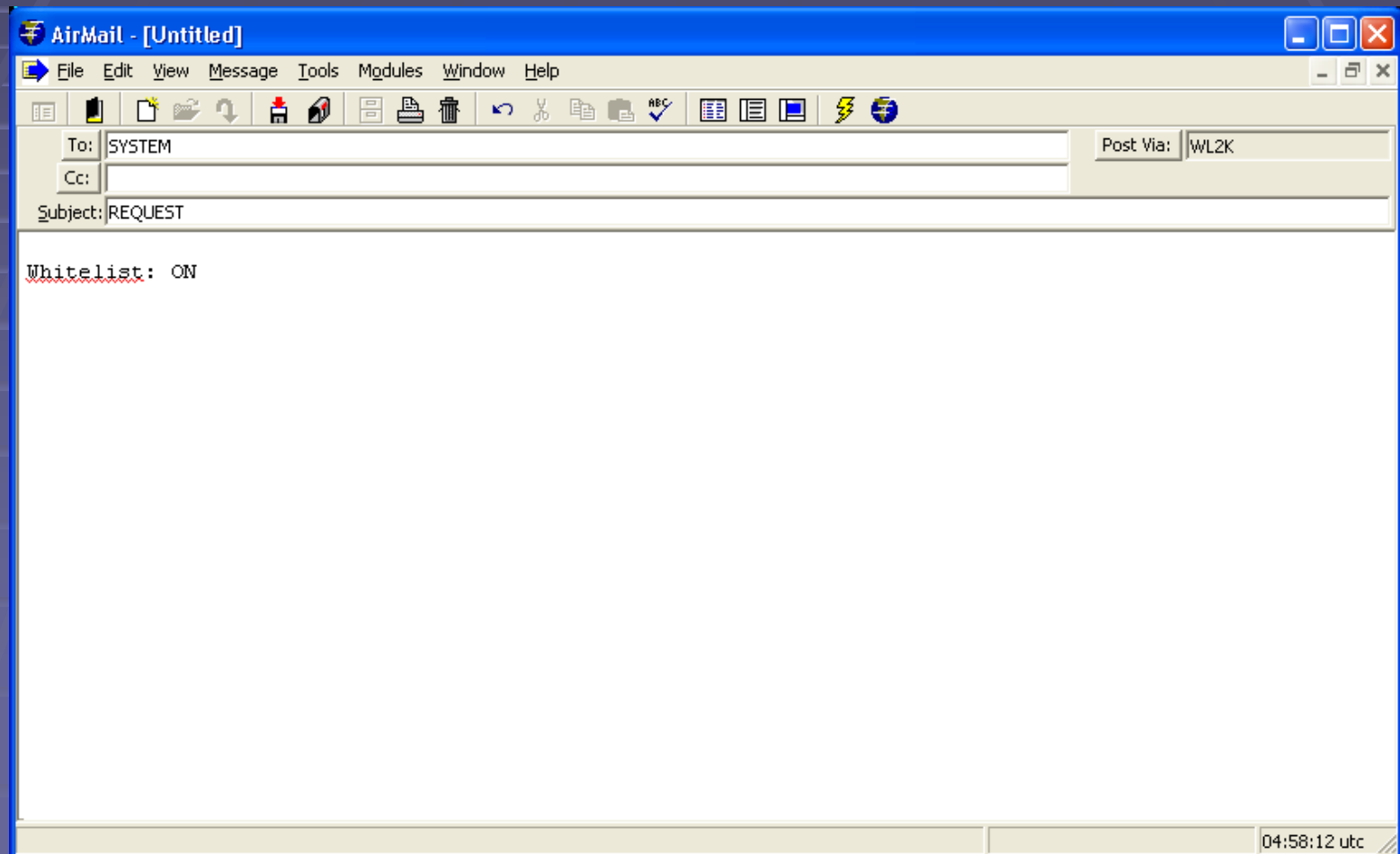
Attachment size and other options can also be done this way.



# Using Winlink 2000

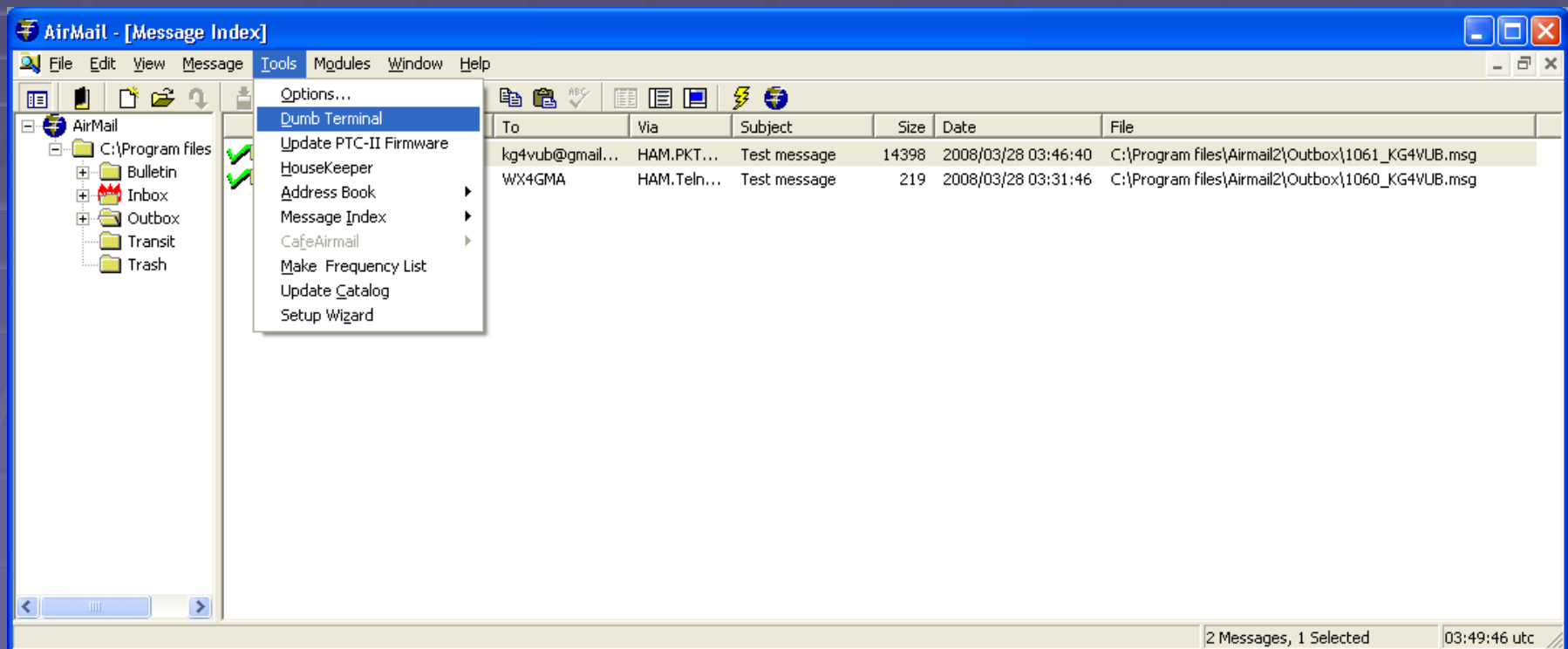
After entering your Options, post the message for sending and connect to the WL2K system.

To check your options, you can send a INQUIRY message and receive the info the next time you connect.



## Dumb Terminal

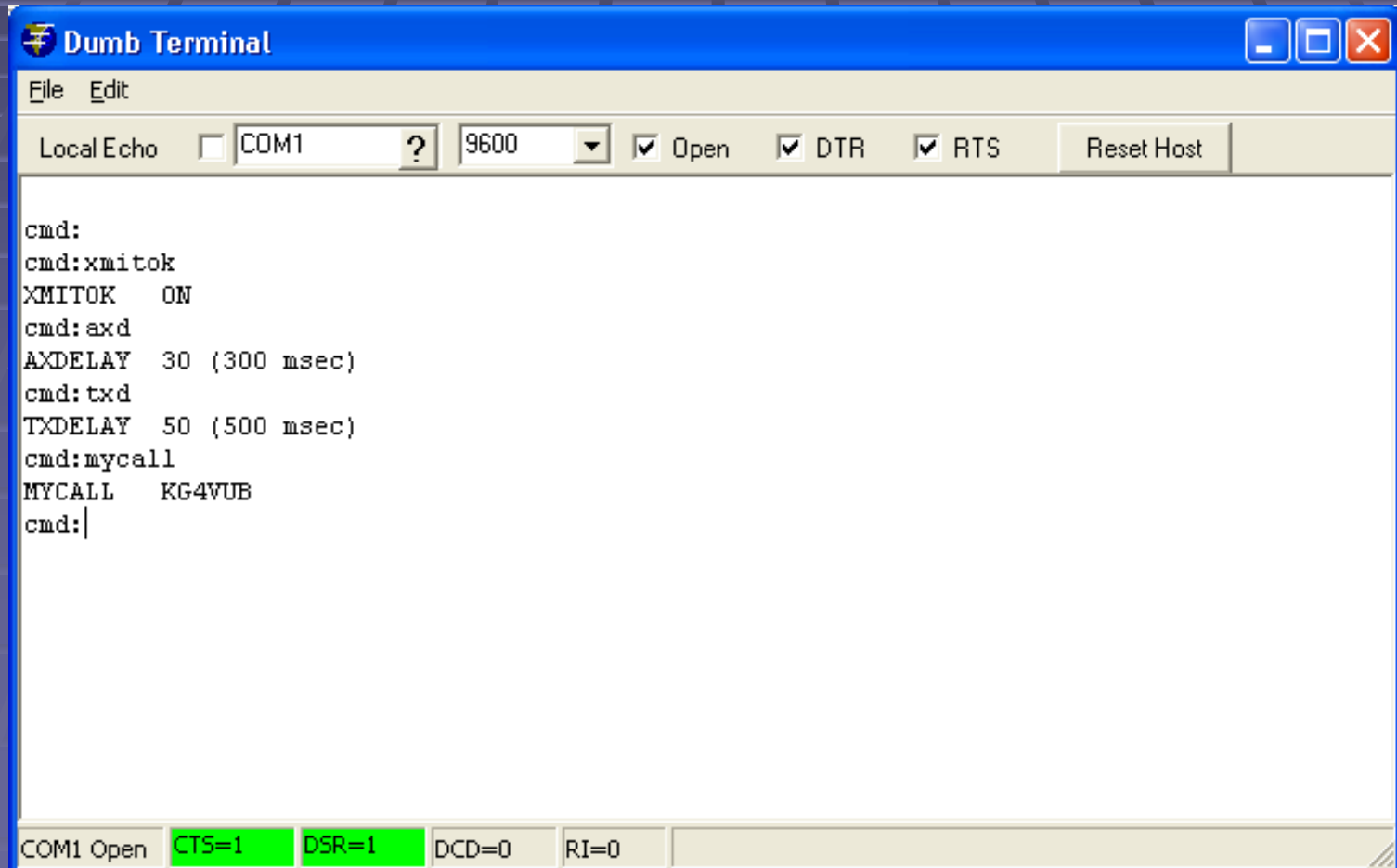
Dumb Terminal mode can be used to change TNC settings. Make sure the Packet Client Module is closed before running Dumb Terminal.



# Using Winlink 2000

## Dumb Terminal

Set the COM port and speed, then click in the main body of window. You might need to uncheck Local Echo if you start seeing double.



**Catalogs** - Airmail and Winlink support catalog file downloads. Click on Window Catalogs and browse around. Select one and next time you connect, the request will be sent. Connect again and you should receive your info.

The screenshot shows the Airmail - [Cat Tree] window. The 'Window' menu is open, and 'Catalogs' is selected. The main pane displays a list of bulletin codes and descriptions. The 'Once' checkbox is checked for the selected bulletin.

Code	Description	Size	Date
Death.Valley	DEATH VALLEY - NPS Report	3132	2005/08/0...
FPK11.PAFA	AK	133250	2000/12/3...
FPCA62.TJSJ	PR	16081	2000/12/3...
FPHW60.PHFO	HI	15457	2000/12/3...
FPUS61.KAKQ	VA	5542	2001/06/2...
FPUS61.KBOX	CT, MA, RI	1238	2000/12/3...
FPUS61.KBTX	VT	6235	2000/12/3...
FPUS61.KCLE	OH	12310	2001/06/2...
FPUS61.KCTP	PA	12204	2000/12/3...
FPUS61.KGYX	ME, NH	11832	2000/12/3...
FPUS61.KLWX	MD, WV	7334	2001/06/2...
FPUS61.KPHI	DE, NJ	1234	2000/12/3...
FPUS61.KRLX	KY	8323	2001/06/2...
FPUS62.KCAE	SC	22812	2000/12/3...
FPUS62.KFFC	GA	10246	2000/12/3...
FPUS62.KMFL	FL	54797	2000/12/3...
FPUS62.KRAH	NC	6480	2000/12/3...
FPUS63.KBIS	ND	16496	2000/12/3...
FPUS63.KDTX	MI	19006	2000/12/3...
FPUS63.KFSD	SD	9066	2000/12/3...
FPUS63.KLOT	IN, IA	10366	2001/06/2...
FPUS63.KLSX	IL, MO	12414	2001/06/2...
FPUS63.KMKX	WI	9482	2000/12/3...
FPUS63.KMPX	MN	12384	2000/12/3...
FPUS63.KOAX	NE	13464	2000/12/3...
FPUS63.KTOP	KS	13194	2001/06/2...

Request the selected bulletin:

☒ Once ☐ Request every  hours at  UTC

Global List Date: 2006/12/04 01:46

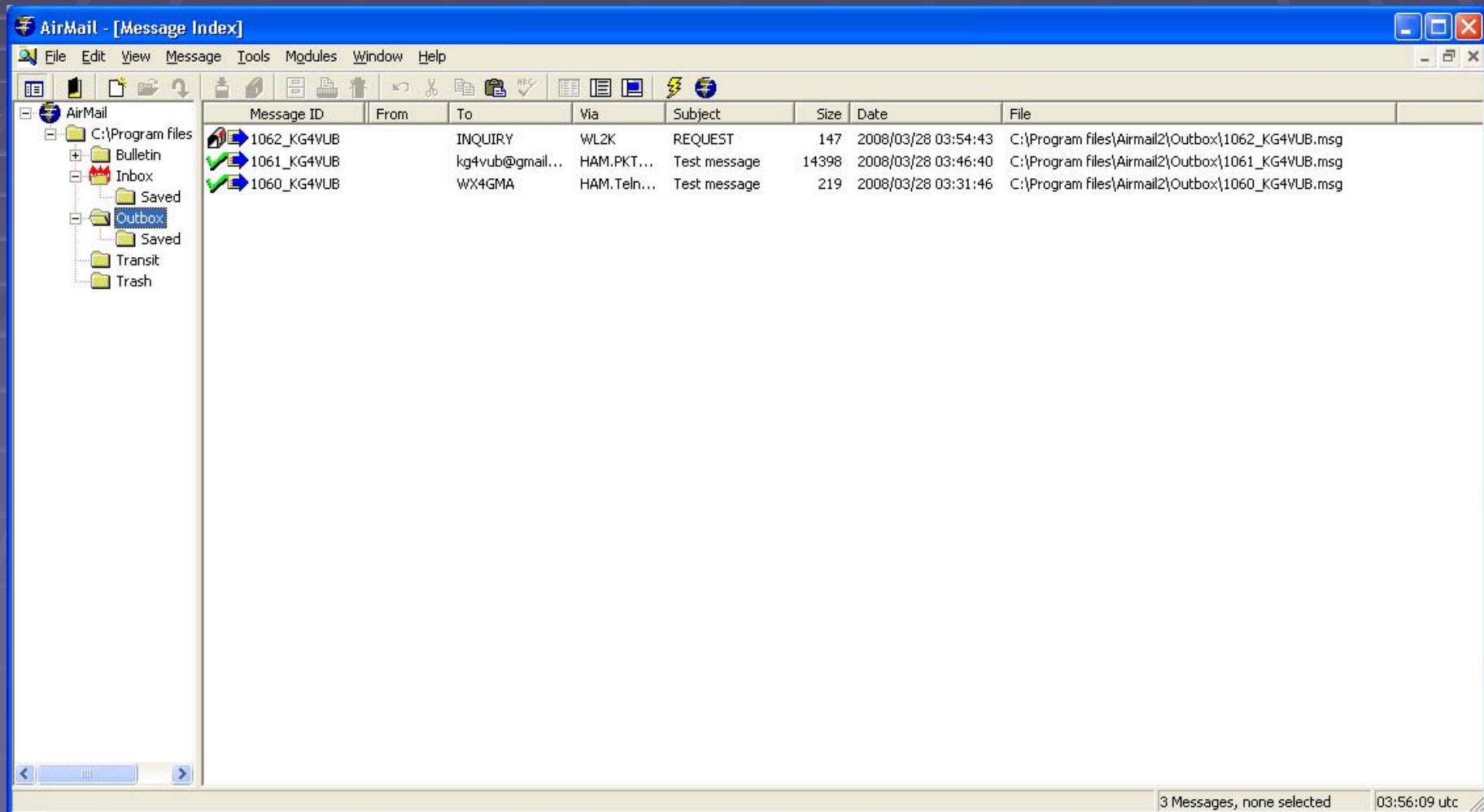
3 Messages, none selected 03:55:34 utc

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Catalogs

Notice Icon changed for posting, request is ready to be sent.

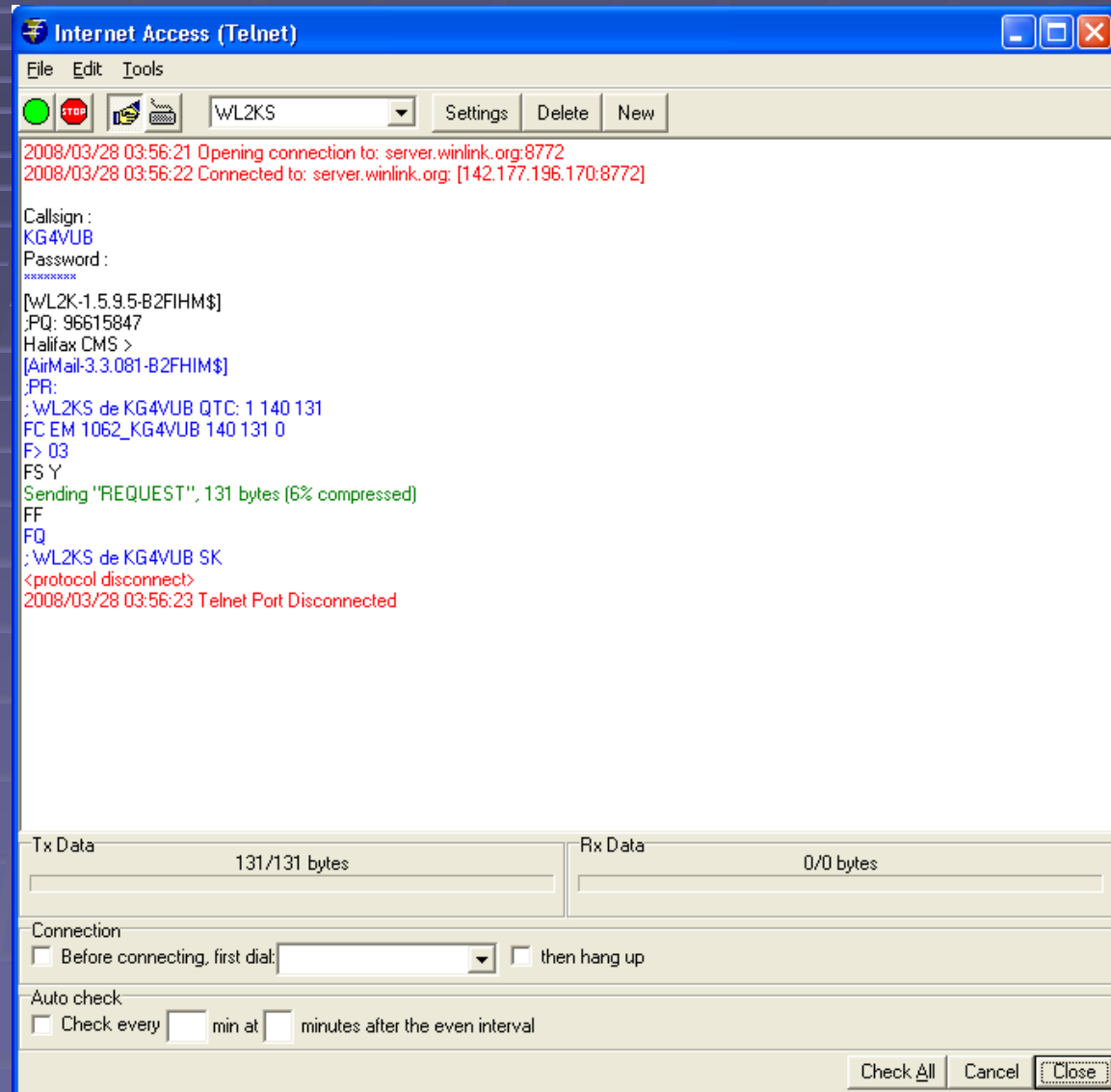


Airmail

# Using Winlink 2000

Catalogs

Again, watch the status of the connection and download.



# Using Winlink 2000

---- Q8510 How do I access the Winlink system, using Keyboard Access?

A8510 Connect to a Telpac or RMS Packet Gateway Station.

LM List all messages for me.

RM Read all messages for me.

KM Kill (delete) all messages for me.

R xx Read content of message number xx.

K xx Kill message number xx.

SP Send a message (see A8520)

H Help File

Bye Disconnect



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- New e-mail addresses are automatically added to your Whitelist when the CMS receives the message from you, independent of which user program you are using.
- Whitelist settings

To: System

Subject: Whitelist

LIST will return a list of all Whitelist and Blacklist entries for the user.

ACCEPT: jblow@somewhere.com will allow messages from jblow@somewhere.com to be accepted. You may send multiple lines, each containing one e-mail address.

Reject: jblow@somewhere.com will reject any messages from jblow@somewhere.com. You may send multiple lines, each containing one e-mail address.

Delete: jblow@somewhere.com will remove jblow@somewhere.com from the user's Whitelist. You may send multiple lines, each containing one e-mail address.

ACCEPT: arrl.net will allow all messages from xxxxxx@arrl.net to be accepted

REJECT: Verizon.com will reject all messages from xxxxxx@verizon.com

IMPORTANT NOTE: Domain Entries without the "@" will be treated as "domain names" only. For example if "Accept: sailmail.com" were entered, then ANY message from that "domain name" (sailmail.com) would be accepted.

- Q630 How does the Winlink system deal with Spam?

A630 Messages incoming to WL2K users are filtered, using high level methods, by the Central Message Server (CMS). Winlink 2000 uses the information from SPAMCOP. It also requires a reverse DNS lookup. Each server IP address must return a PTR-record that matches the HELO or ELHO command received from that server and it must have an A-record that matches the host name shown in the HELO or ELHO command. If such a record exists, then it has entry to the Whitelist system.

In addition, individual WL2K users have the ability to use a "Whitelist". "Whitelist" is the default method for new users. Your choice may be changed at any time. If you decide to not use your Whitelist, you will get a lot of Spam. It is recommended that all users turn their Whitelist "ON".

As of September 2007 WL2K is no longer using a Spam Filter with a "Threshold". Ignore references to a Spam Threshold in the AirMail software.

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## Running Airmail under Windows Vista

There's certainly been a lot of discussion about Windows Vista. If your new computer came with Vista then that's great, it works fine. But if you have the option of using Windows-XP then that would be our recommendation. Win-XP is robust and reliable, if yours is not then something has been compromised and you need to fix it or start over-- upgrading won't help.

Airmail runs fine under Windows Vista, but there are a couple of issues related to new Vista security features-- the "release notes" message keeps re-appearing on each restart, as does a "pop-up" box that the configuration has been updated. The simplest fix is to delete the release notes ("amupdate.msg" from Airmail's Import folder, under Program Files) and the "system.sailmail.txt" text-file in the Airmail folder. Also Right-click Airmail's desktop icon and select "properties", click on "compatibility" tab and then check the "Run in compatibility mode" box and select "Windows-XP", this will enable Airmail's COM-port identification.

Alternately you can run Airmail as an administrator, that will allow Airmail full access to its own files. (By default Vista "demotes" administrators to normal users). Right-click Airmail's desktop icon and select "properties", click on "compatibility" tab and then check two boxes: run in compatibility mode for Windows-XP, and run as administrator. This will allow Airmail to have full access to its own folders and delete the release-notes and configuration files.

The third option is to turn off UAC (see below). This has the same effect as running Airmail as an administrator, but also extends admin privileges to all other programs (including malicious code if you are not careful about computer security).

The culprit with all this is a new security feature in Win-Vista called "UAC" (User Account Control). (Remember, if you can do anything useful with your computer then it is not sufficiently secure). UAC is a watchdog service that warns you if you (or a program) are trying to do something that requires administrator privileges, e.g. delete protected files or run a program not specifically designed for Vista. And, if a program attempts to write into protected areas (e.g. the "program files" folder), then access is diverted to a virtual folder created for that user. The result, for Airmail, is a mild case of schizophrenia, and release-notes that just keep reappearing because the file (in Airmail's Program Files/Import folder) can't be deleted.

Running Airmail in administrative mode (by checking the "run as administrator" box, above) allows Airmail to fully access its own files and resolves that problem. Also, turning off UAC will accomplish the same thing. To turn off UAC go to Windows Control panel, open "User Accounts" and find "User Account Control".

# Using Winlink 2000

## Running Airmail under Windows Vista -Continued

There is one wrinkle with changing the run-as-administrator setting and/or turning off UAC after Airmail has been run: Your messages and settings may disappear. This is because Vista was previously diverting Airmail's files to a "virtual" folder, and with UAC off (or run-as-administrator selected) it will stop doing this. The fix is to move your messages back to the "proper" folder: Close Airmail, open Windows Explorer (under "Accessories" in the Windows start menu), find "Computer", then C-drive, Users, your user-name, AppData, Local, VirtualStore, then "Program Files" and finally "Airmail". In that folder you will find all of your message-folders and settings files-- move the whole lot to the Airmail folder that is under Program Files. If the UAC/admin settings change again then Vista will start diverting Airmail's files again-- but you now know where to go and fetch them back.

Note: Windows does not like to show the contents of system folders: Open Windows-Explorer's "Tools" menu, "Folder Options". Click the "View" tab, and check "Show hidden files and folders", NO check for "Hide file extensions for known file types", NO check for "Hide protected operating system files" (and click "Yes" to the confirmation). This will show all files, and also show file-extensions.

Running Airmail as administrator will show a warning box each time it is run, and turning off UAC will show a warning with each reboot, those are unavoidable. And of course if you turn off UAC be doubly-careful to keep your anti-virus software up-to-date.

Help file: Vista does not include the program to display the traditional help files, "Winhlp32.exe". This may be available for download, alternately it can be copied from Windows-XP C:\Windows folder. To do this you will first need to set the permissions for the C:\Windows folder to allow Administrators full access, and to do this you will need to first take ownership (right-click the Windows folder, select properties, then Security tab, Advanced button, Owner tab, Edit button). Then copy the complete (277KB) Winhlp32.exe from Win-XP over the 9KB "stub" Winhlp32.exe on Win-Vista.

The upcoming Airmail 3.4 update will fix all this, moving message-folders into Win-Vista's "ProgramData" user-space and gathering up any virtual-folders that were created. The help file will also be converted to HTML format. The goal is for Airmail to run smoothly under Vista's highest security settings but this will take some effort.

--Jim (revised Mar 5 2008)

Airmail

# Using Winlink 2000

Tune in later for details on RMS Packet installation and use.

Upcoming presentations on Paclink MP installation and configuration and use.

# Using Winlink 2000

Winlink 2K for Dummies

<http://www.winlink.org/node/23>

[http://groups.yahoo.com/group/LOADING\\_WL2K\\_USER\\_PROGRAMS/](http://groups.yahoo.com/group/LOADING_WL2K_USER_PROGRAMS/)

A Winlink Help Page

[http://www.activeham.com/winlink/wiki/index.php?title=Main\\_Page](http://www.activeham.com/winlink/wiki/index.php?title=Main_Page)

Airmail download

<http://www.siriuscyber.net/ham/>

Airmail Support

<http://groups.yahoo.com/group/airmail2000/>

Running Airmail on Vista

<http://saildocs.com/vista>

Rules of Engagement for Winlink 2000

<http://www.winlink.org/node/16>

# Using Winlink 2000

CMS Status

<http://www.winlink.org/CMSStatus>

Telpac/RMS Status

<http://www.winlink.org/RMSpacketStatus>

Telpac/RMS Position Maps

<http://www.winlink.org/RMSPacketPositions>

RMS Packet (Telpac replacement still in Beta)

<http://groups.yahoo.com/group/RMSBeta/>

Paclink MP

<http://groups.yahoo.com/group/PaclinkMP>

# Using Winlink 2000

Winlink 2000 Roadmap

<http://www.winlink.org/node/19>

Winlink use in EmComm

<http://groups.yahoo.com/group/wl2kemcomm/>

F6FBB protocol

<http://www.f6fbb.org/protocole.html>

F6FBB B2

<http://www.winlink.org/B2F>

Linux version of Telpac

<http://www.prgm.org/projekte/telpac-node/>