Weather Message

EMWIN Data Retransmission

WxReTran – via Radio Modem
WxBBSrvr – via Internet

Users Guide V2.5
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    Note: Some computers may detect your satellite receiver as a serial
    mouse. This generally occurs when the satellite receiver is turned on
    when booting the computer. If this occurs, your mouse will begin to
    move on it's own. To correct this problem, turn off the satellite receiver.
    Download the comdisable tool from Microsoft at this web address

1. **Software Overview**
    Weather Message - WxReTran is an EMWIN data retransmission program. It is used to retransmit EMWIN data on a VHF or UHF frequency using a radio modem.

    WxReTran features 10 priority message queues, message discarding, message duplication and message scheduling. In addition, it can be used to compress single or multiple messages.

    A standard RS-232 connection to an external radio modem is used to transmit the EMWIN data at 1200, 2400 or 9600 baud. Radio modems, suitable for EMWIN retransmission can be purchased at Tigertronics http://tigertronics.com or Zephyrus Electronics http://big-z.com . See Appendix B for specifications.

    An appropriate radio transmitter and FCC license are required to broadcast the EMWIN data. NOAA currently has frequencies available for EMWIN retransmission. They are 163.300, 163.325, 163.350, 168.7125, and 168.8125 MHz. Contact your local Warning Coordination Meteorologist (WCM) for information on applying for a frequency.

    Transmitters certified for use on the NOAA frequencies can be purchased from Skywarn Systems, Inc. For information and pricing, send email to Ray Bartik – ray.bartik@skywarnsystems.com.

    Weather Message – WxBBSrvr is an EMWIN data retransmission program for the internet. It is used to serve EMWIN data to a private or public network.

    Weather Message – WxRadar can be used to retrieve weather radar images for inclusion in your retransmission.

2. **Software Installation – General Notes**
    Weather Message retransmission software can be purchased on CD or downloaded from the internet. Navigate to your CD-Rom drive and click on WxReTrancd to start the installation process.

    If you download the software from the internet, you will need the full installation. This install program is named WxReTrancd.exe. It contains all of the files necessary for a full installation.

Updates to the software can also be downloaded from the internet. The program updates only contain changes to the retransmission programs. It cannot be used for a full installation. The name of this file is WxReTranpt.exe.

The retransmission programs can be uninstalled using the standard Windows Add/Remove Programs facility. The uninstaller will not delete files created while running Weather Message. After uninstalling the software, you can safely remove the WxMesg directory.

Note: It is not necessary to uninstall a previous version of the retransmission software before installing an updated software version. Uninstalling the software will delete its operating setup information.

3.   **Software Installation – WxReTran**
To install WxReTran start the installation program WxReTrancd.exe. When asked for the installation directory, you should change it to c:\WxMesg. Note: If you have Weather Message installed on your computer, you should install WxReTran in the same directory as Weather Message.

The following files are installed in the WxMesg directory.

FillFile.txt	Contains the filler message that is used when WxReTran does not have a weather message to send.
RtMorse.txt	Morse code translation file.
RtList??.txt	Priority list configuration files for WxReTran.
RtSched.txt	Scheduler configuration for WxReTran.
WxSatus.txt	A list of byte blaster servers for use by other byte blaster servers.
WxSrvus.txt	A list of byte blaster servers.
WxByte.exe	The WxByte executable file.
WxIngest.exe	The WxIngest executable file.
WxPurge.exe	Support program for WxReTran.
WxReg.dll	Support program for WxReTran.
WxReTran.exe	The WxReTran executable file.

The following files may appear in the WxMesg directory.

IBLog.txt	Contains messages generated by the ingest programs WxIngest and WxByte.
IBLog.old	Contains the previous log file.

IBFiles.txt	Contains the received file list.
IBFiles.old	Contains the previous received file list.
RtLog.txt	Contains messages generated by WxReTran. This log contains statistics about program operation, and errors during program operation.
RtLog.old	Contains the previous log file.
Logfile.txt	Contains messages generated by the ingest programs.

The following directories are created in the WxMesg directory.

WxData	A directory to hold the processed messages.
WxData\RxTemp	A temporary storage directory for incoming files.
WxData\RxTrack	A directory to store message tracking files.
WxData\RxFiles	A directory that stores messages that have been received. This is referred to as your ingest directory.
WxData\RtXmit	A directory to store files waiting to be transmitted.
WxData\RtSent	A directory to store files that are being sent or have been sent.
WxData\RtPri??	There are 11 RtPri directories. Directory 1 through 10 are the priority queue directories. Directory 11 contains files that are waiting to be block compressed.

After you have installed this software, it will appear in your Start Programs menu under the title "Weather Message".

4. **Software Installation – WxBBSrvr**
   To install WxBBSrvr start the installation program WxReTrancd.exe. When asked for the installation directory, you should change it to c:\WxMesg. Note: If you have Weather Message installed on your computer, you should install WxBBSrvr in the same directory as Weather Message.

   The following files are installed in the WxMesg directory.
   WxBBSrvr.exe   The WxByte executable file.

   After you have installed this software, it will appear in your Start programs menu under the title "Weather Message".

5. **Software Installation – WxRadar**
To install WxRadar start the installation program WxReTrancd.exe. When asked for the installation directory, you should change it to c:\WxMesg. Note: If you have Weather Message installed on your computer, you should install WxRadar in the same directory as Weather Message.

The following files are installed in the WxMesg directory.
    WxRadar.exe   The WxRadar executable file.
    WxSites.dat   Contains the current radar sites.
    RadLog.txt   Contains messages generated by WxRadar.
    RadLog.old   Contains the previous log file.
    RadUnavl.gif   Radar unavailable image file.

After you have installed this software, it will appear in your Start programs menu under the title "Weather Message".

6. **Setting up WxReTran**
After installing WxReTran, you are now ready to setup the software to process alarms. The first step is to start WxReTran. This is done by clicking on Start, Programs, Weather Message, then WxReTran. The following screen will be displayed.
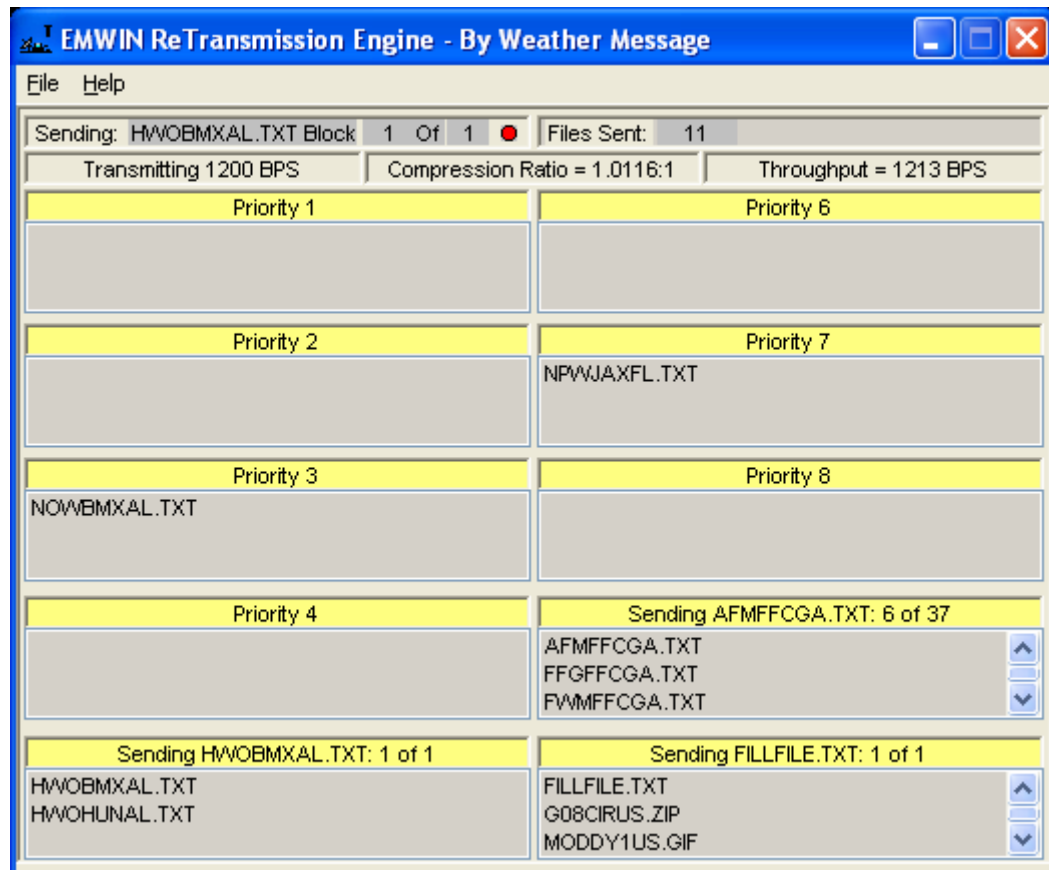
This is the main operating window for WxRetran. The *File* option menu allows you to access the *Setup* window, *Send Morse* code identification, *View* the log file, *Show Ingest* engines running in the background, see the *Queue Status,* and *Export* and *Import* the program registry values

System Tab

To begin the setup process, click on File then Setup. The following screen will appear.
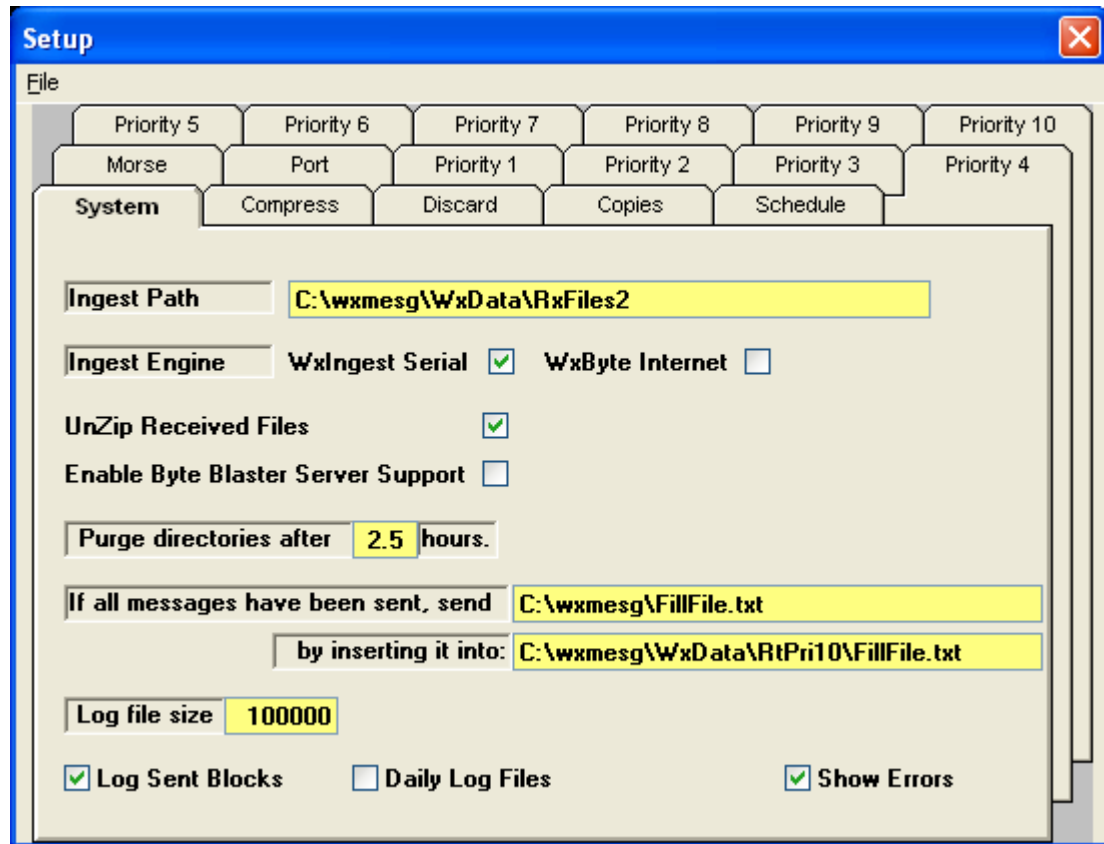
The setup screens are preloaded with system defaults. You will have to select the type of ingest engine that will be used to receive the EMWIN data.

Ingest Path – The directory that will contain the received files to be processed by WxRetran.

Ingest Engine – Select WxIngest Serial for the serial port engine or WxByte for the Internet engine.

UnZip Received Files – Check this box if you want compressed files to be unzipped before they are processed by WxRetran.

Enable Byte Blaster Server Support – Check this box if you want WxReTran to send data to WxBBSrvr (byte blaster server) for processing. (This allows for an Internet backup of your retransmission data.)

Purge directories after – Enter the amount of time, in hours, that the system should purge the directories used by the retransmission program. Note: Messages that have been queued, but not sent, will be purged after this amount of time.

If all message have been sent, send – Enter the name of the file to be sent when WxReTran does not have any weather messages to sent. The system defaults to "FillFile.txt". The file is located in the WxMesg directory and can be edited to contain your local information.
Insert into – Enter the priority directory name and file name that this file should be copied. The filler file is normally copied to the \WxMesg\WxData\RtPri10 directory. Remember to put the file name on the destination path.

Log File Size – Enter the log file size in bytes.

Log Sent Blocks – Check this box to log all of the weather messages sent and the times that the morse identification is sent.

Daily Log File – Check this box to store log files for each day in the ..\WxMesg\WxLogs directory. The logs for each day are copied to this directory. The log file name is appended with the day number. These logs will be overwritten with the next month's logs. After enabling this option, you must restart all Weather Message programs. **Note:** Enabling this option disables the log file size option.

Show Errors – Check this box to have the program pop-up error conditions as they occur. Regardless of this setting, the program will write all errors to the log file.

Morse Tab

Click on the Morse tab to setup your morse code callsign (identification).
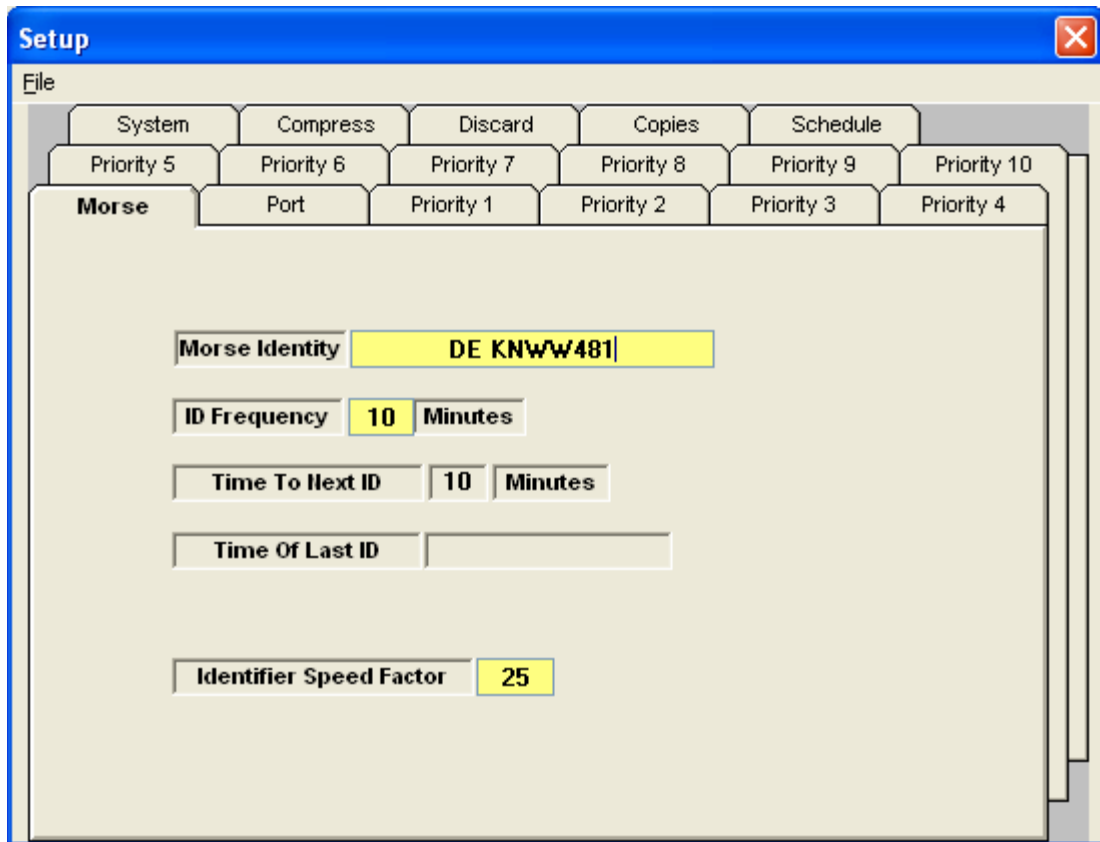
Morse Identify – Enter your FCC issued callsign. If you don't require identification, leave this field blank.

ID Frequency – Enter the length of time you are required to send your callsign. This normally is 15 minutes for a business band frequency or 30 minutes for public safety. If you are in-doubt, check with your local two-radio dealer.

Identifier Speed – This field is the morse code speed factor. The default of 25 results in 20 word-per-minute morse code. You can increase or decrease this factor to change the speed.

Port Tab

Click on the Port tab to setup the comm port that is attached to your radio modem.
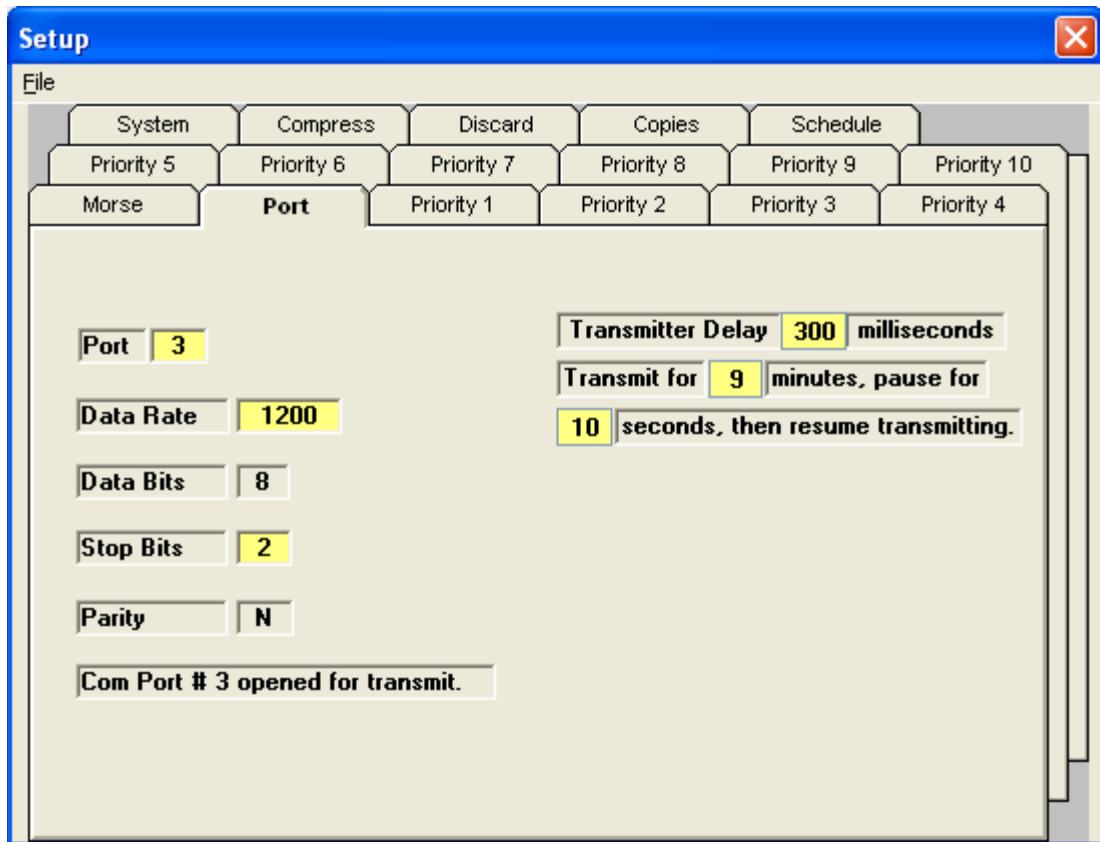
Port – Click on the port field to change the comm port.

Data Rate – Click on the data rate field to change the data rate.

The Data Bits, Stop Bits and Parity cannot be changed with the setup program. If you need a different configuration, send an email to help@wxmesg.com

Transmitter Delay – Enter the time, in milliseconds, required to key up your transmitter.

Transmit For – These fields are used when you don't have a continuous duty transmitter. You can specify the number of minutes to transmit and the number of seconds to pause the transmitter. If you have a continuous duty transmitter, sent the "Transmit For" field to 0 (zero). See Appendix B for information on continuous duty.
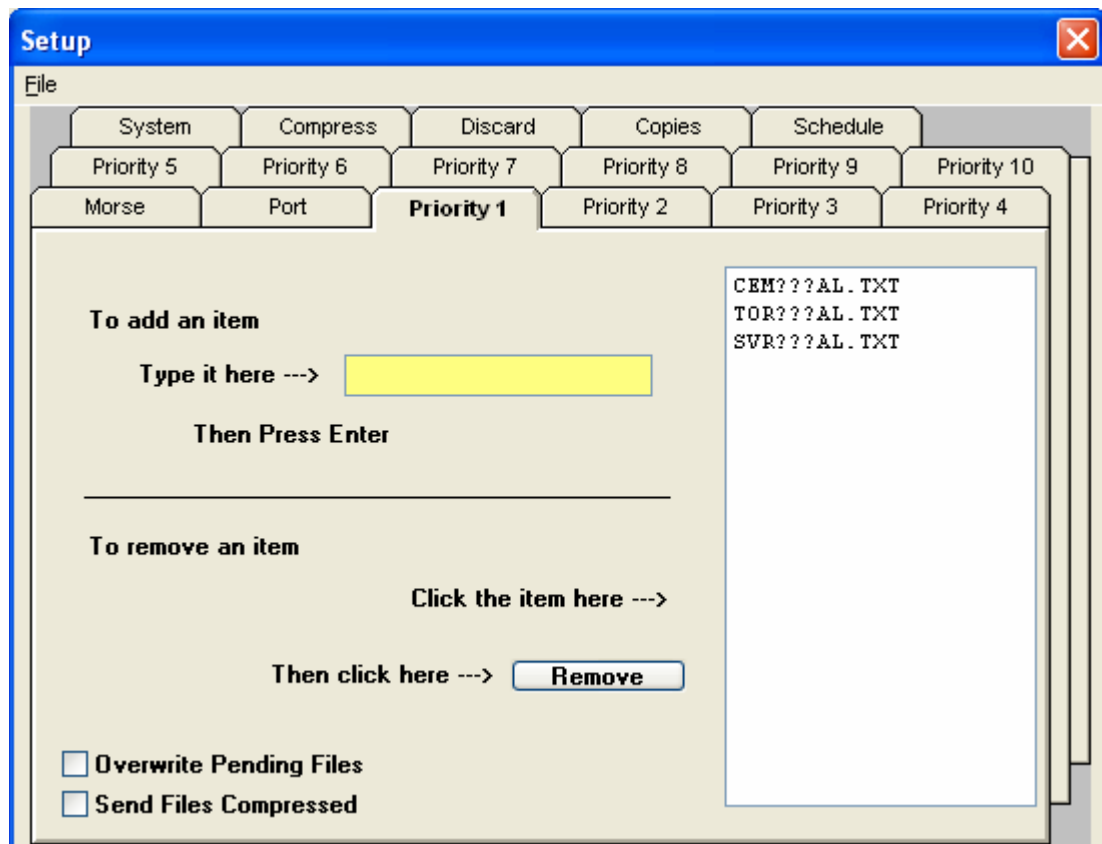
Priority Tab

You are now ready to begin setting up weather messages to be processed. A brief discussion of priority queues is necessary. WxReTran allows you to use 10 different priority queues. You will need

to determine the priority of the weather message that you intend to retransmit.

For example, Tornado Warnings, Severe Thunderstorm Warning, Flood Warnings, etc. are normally assigned to Priority 1. Watch products can be assigned to Priority 2. You can use the remaining priority queues for other weather products. Graphic files can be assigned to the lowest Priority 10.

All of the priority queue screens are the same. The following is the definition of Priority 1, which applies to all priority queues.

To add items to this priority queue, enter the weather message file name in the **Type it here box** and press enter. The file name will appear in the list box. You can use the wild card character **?** to match any single character in the received file name. The wild card character * can be used to match multiple characters in the received file name. The program requires that you enter at least two alpha characters.

For example, to send all messages from Alabama Priority 3, add ??????al.txt to the list on Priority tab 3. To send all state weather roundups for Alabama priority 2, add swr???al.txt to the list on Priority

tab 2. To send tornado warnings for Alabama Priority 1, add tor???al.txt to the list on Priority tab 1.

Graphic products can be included by adding ????????.jpg and ????????.gif to Priority tab following your text products.

To remove a file from the list, click on the item and the click on the **Remove** button. The file will be remove from the list and will no longer be processed.

The **Overwrite Pending Files** option, if checked, tells the program to overwrite a pending file with a newer file, of the same name. This option can be used with a priority queue that will process graphics files. If a graphics file is waiting to be sent and a newer file arrives, the older file will be overwritten by the newer file. Note: This option should not be used with weather text files. It can cause messages with the same name to be overwritten, even though the message may contain different weather text.

The **Send Files Compressed** option allows you to specify if you want the files received in this queue to be compressed before they are sent. Note: Compression of single files does not usually result in a lot of savings for some file formats. The Compress tab can be used to compress a group of files, which normally results in more savings.

Compress Tab

The Compress tab can be used to specify a group of files that should be compressed as a group before being transmitted.
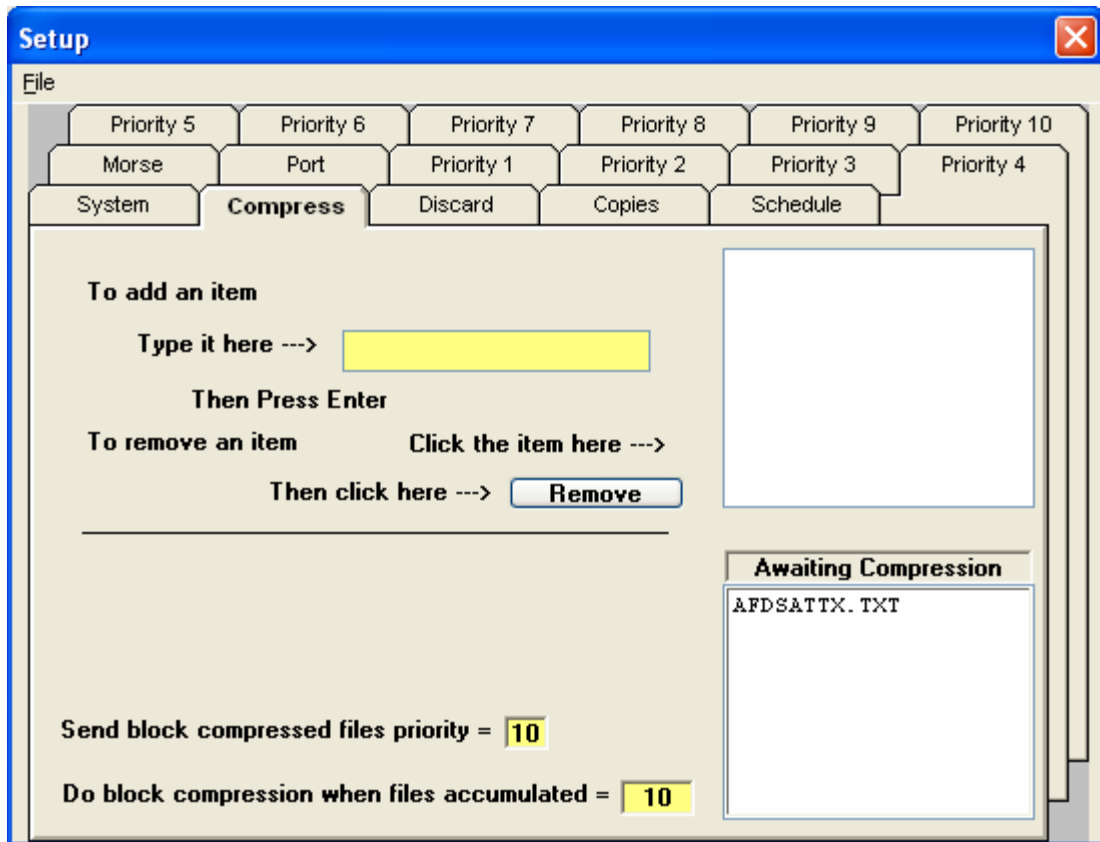
To add items to the compress queue, enter the weather message file name in the **Type it here box** and press enter. The file name will appear in the list box. You can use the wild card character **?** to match any character in the received file name. The program requires that you enter at least two alpha characters.

The **Send block compressed files priority** field is used to enter the priority queue that will be used to send the files after they are compressed.

The **Do block compression when files accumulated =** is used to enter the number of files that should be received before compressing the files for transmission.

Discard Tab

The Discard tab is used to enter the file names of messages that you do not want sent.
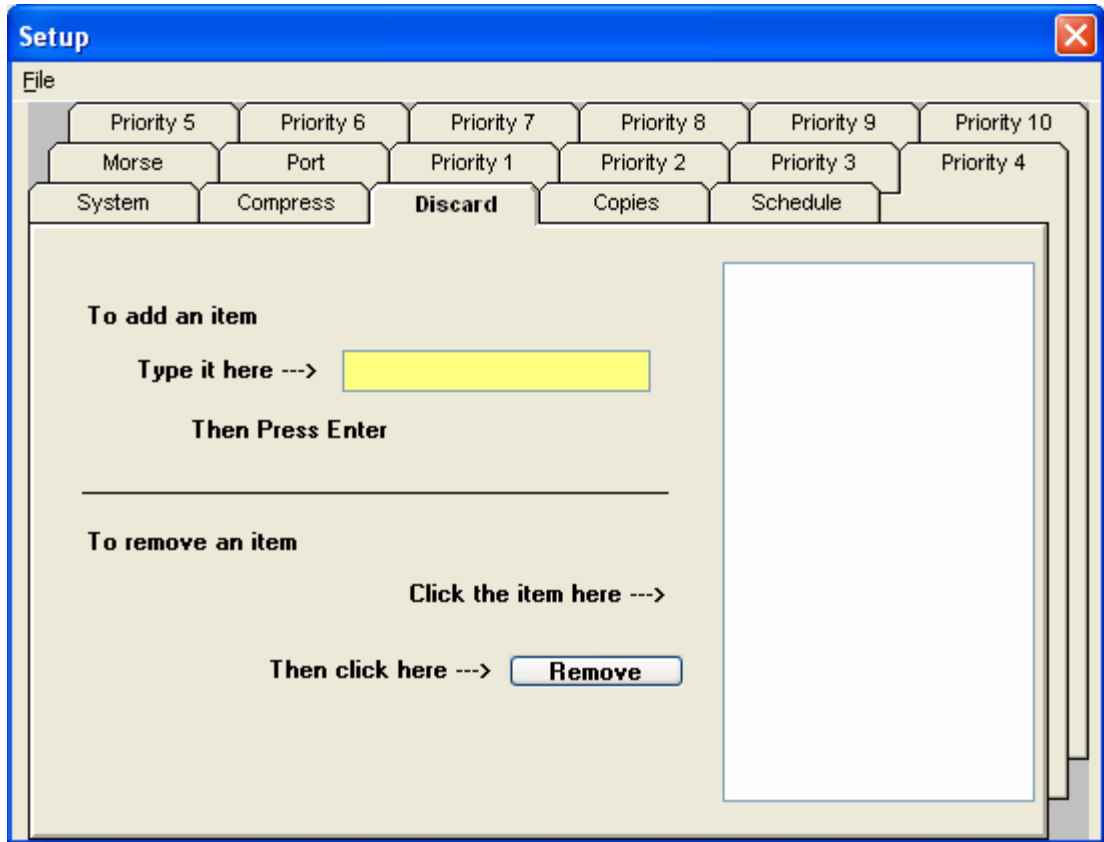
By default, WxReTran will discard all files that do not match any of the priority or compression queues. You however, can use this tab to catch specific files before they are processed by the priority or compression queues.

Copies Tab

The Copies tab is used to setup message files that are to be transmitted more than once.
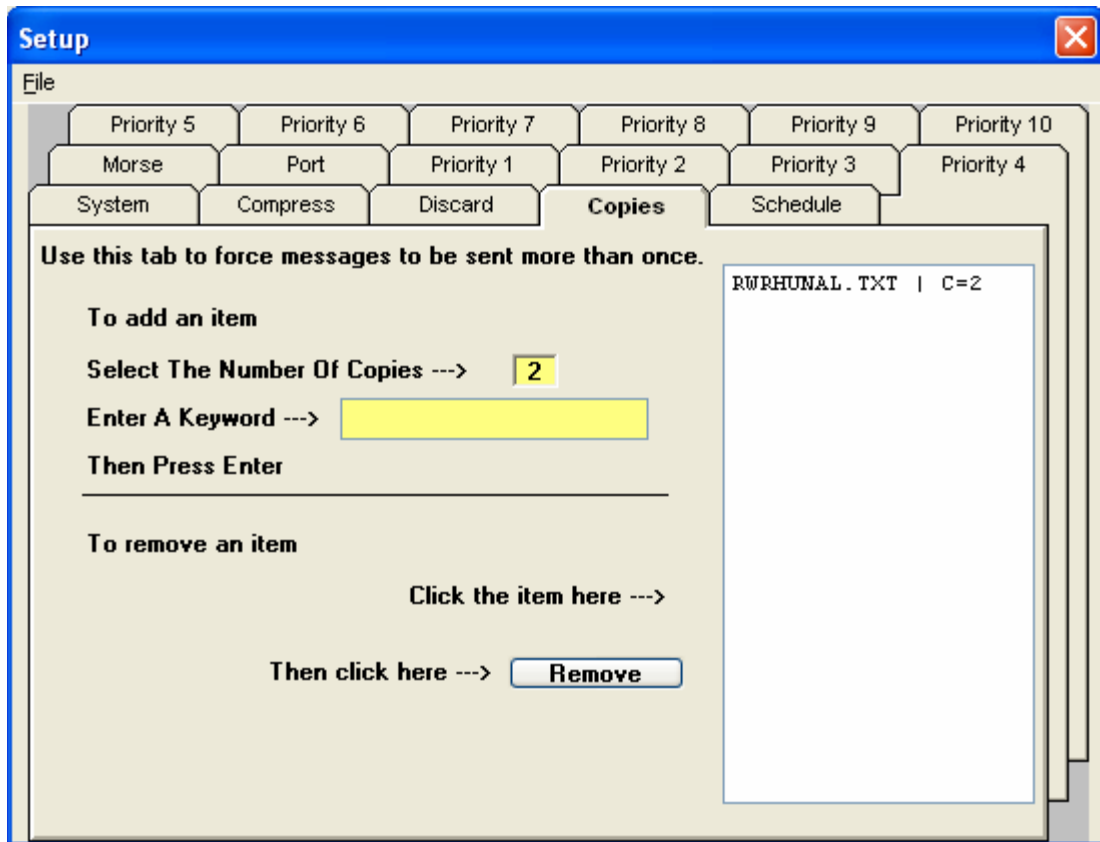
If you want to send a weather message more than once, enter the number of copies in the **Select The Number of Copies** field. Enter the file name in the **Enter a Keyword** field and press enter. When the entered file name is received, it will be duplicated the number of times you specify. You can duplicate a file up to 9 times.

Schedule Tab

The Schedule tab is used to automatically insert an external message file into a priority queue.
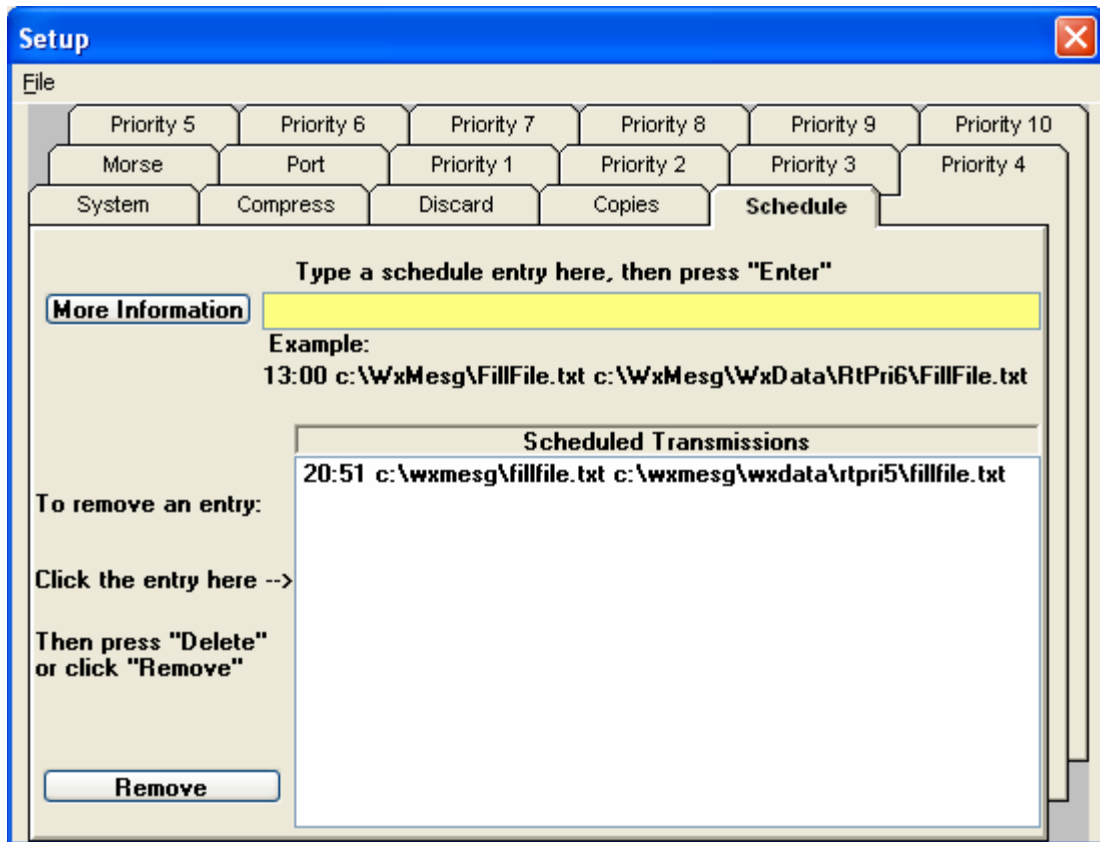
Using the example provided on the screen, enter the time that the message should be sent, in military time format. Followed by a space, then the source path and file name, followed by a space and the priority queue path and file name. After entering the schedule, press enter to place it in the scheduled transmissions list.

To delete multiple items from the list, select all of the items to be deleted and press the delete key.

7. **WxReTran Operation**

After initial setup, WxReTran will operate continuously sending received weather messages. In the event that no messages are available, the filler file, FillFile.txt, will be sent.

If your transmitting speed is slower than 9600 baud, you should use caution when selecting files for retransmission. At 1200 baud, you can only send a fraction of the files that are being transmitted by NOAA. The system log file, RtLog.txt, or Queue Status screen can be reviewed to determine if you are overloading your system.

Every six hours, the system writes statistics about program operation. These statistics will let you know how many files have been sent, the number of filler files that have been sent and the maximum number of

files that had to wait in each queue. These statistics are reset at midnight.

The log file may also contain other messages. An entry will be made in the log file each time a message is overwritten. In addition, any files that have not been transmitted before the user specified purge-time, will be recorded.

You should review the log file periodically to see if your system is overload. When the log file reaches 100,000 bytes, it is copied to RtLog.old and a new log file is created.

Messages that are received for processing are listed in their respective priority queue on the screen. If you want to remove a file from the current queue, select the file and press the delete key. **Note:** You cannot remove a message that is currently being transmitted.

Note: If WxReTran is stopped with the window minimized, the next time it is started, it will start minimized.

8. **Including Local Data**
   Local data can be inserted into the retransmitted data stream. To insert your own products, copy the file to one of the priority directories. They are named C:\WxMesg\RtPri1 through C:\WxMesg\RtPri10.

   If is recommended that you follow the NOAA file naming convention. A product file name should be in 8.3 format. That is 8 characters before the period and 3 characters afterwards. The extension for weather text files should be TXT. For graphic products, use the appropriate extension.

   WxRadar can be used to include radar images. You can also use WxLocal to include local weather conditions. (For information on WxLocal, see the Weather Message website.)

9. **Byte Blaster Server – Internet Retransmission**
   WxBBSrvr is used to retransmit EMWIN data over the Internet or a private network. If you have the bandwidth to spare, you can act as a Byte Blaster server for other EMWIN users.

   In order for WxBBSrvr to receive data from the ingest engines, you must go into the setup screen on one of the ingest engines and check the

Enable Byte Blaster Server Support.   If you decide to not use the Byte Blaster server, you should uncheck this box.

WxBBSrvr uses TCP/IP port 999, 1000, 1001 and UDP port 9510 to communicate with the NOAA host master, Byte Blaster clients and the local ingest programs. If you have a firewall, port 1000 and 1001 must be open for WxBBSrvr to work.

Note: If you want to use WxBBSrvr to retransmit data on a private network, send an email to help@wxmesg.com for information to enable this operation. The default configuration requires access to the NOAA host master for proper operation.

Note: WxBBSrvr can receive data from the retransmission software WxReTran. This can be useful if you want to provide a backup for your local retransmission system. If you want to use this option, enable "Byte Blaster Support" in the retransmission software. Using this option will make your server a private EMWIN server.

WxBBSrvr runs from the system tray. The main server window shows the servers activity.
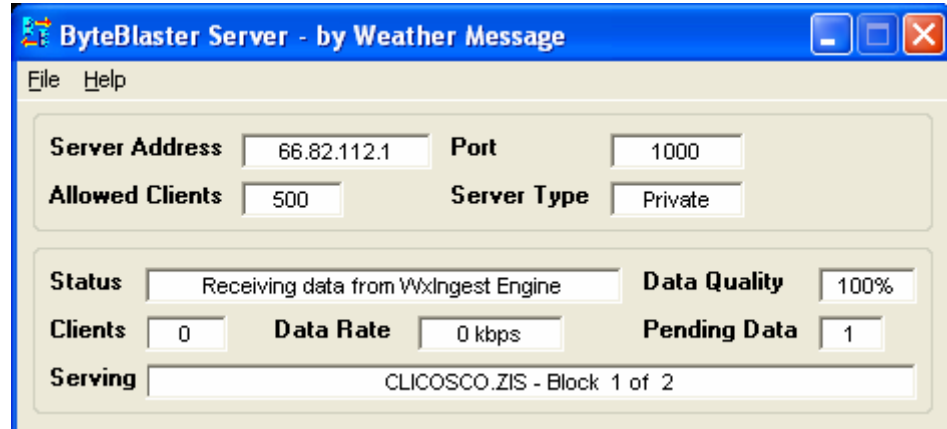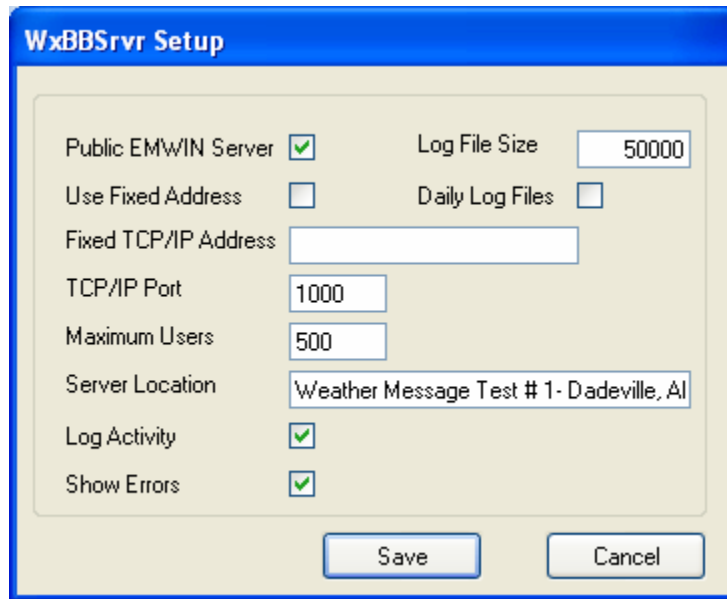

The *File* menu option allows you to *Setup* the program, *View* the log file, and *Exit* the program.

Note: If WxBBSrvr is stopped with the window minimized, the next time it is started, it will start minimized.

Setup
The setup screen allows you to setup information about your server.

Public EMWIN Server - If checked, indicates that any EMWIN user can access your server. Your server's address will be published to all byte blaster clients for public use. Uncheck this box if your server is for private use. In this case, your address will not be published for public use.

Note: If the program receives data from the retransmission software, it will automatically switch to a private server.

The program will automatically determine its TCP/IP address. In some cases, this address may not be correct because of a firewall or other settings. To specify an IP address for this server, check the **Use Fixed URL** box and enter your IP address in the **Enter Fixed URL** box.

TCP/IP Port – Enter the TCP/IP port for your server. The default EMWIN port is 1000.

Maximum Users - Enter the number of users/clients that can connect to your server. This number can range from 1 to 500. Take your available Internet bandwidth into consideration when you set the number of users.

Server Location - Enter the location for your server. For example, "Weather Message Server 1 – Dadeville, AL".

Log Activity – Check this box to have the program log connects and disconnects to the log file.

Show Errors – Check this box to have the program pop-up error conditions as they occur. Regardless of this setting, the program will write all errors to the log file.

Log File Size – Enter the size in bytes for your log file.

Daily Log File – Check this box to store log files for each day in the ..\WxMesg\WxLogs directory. The logs for each day are copied to this directory. The log file name is appended with the day number. These logs will be overwritten with the next month's logs. After enabling this option, you must restart all Weather Message programs. **Note:** Enabling this option disables the log file size option.

Server Status

You can view the server's status by clicking on the Help menu option and select Server Status. Here is a picture of the status screen.
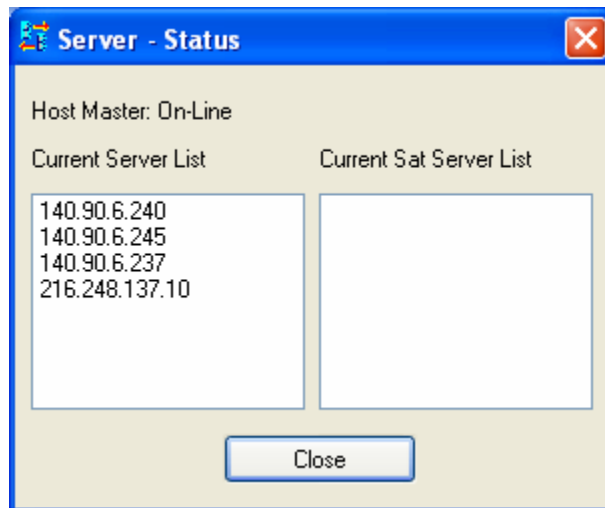
Program Operation

WxBBSrvr waits for byte blaster client connections. After a client connects to the server, the client is required to identify itself at the time the connection is established and once every 12 minutes. If a client does not identify itself within the allotted amount of time, the byte blaster client is disconnected.   Once the connection is established, the server begins to send the byte blaster client data.

The server maintains a 64K buffer for each connection. If a client's buffer reaches this maximum, the server will disconnect the client. A full client buffer indicates that the client is not capable of receiving data fast enough. This could be due to Internet congestion or other problems related to the Internet.

Should the server receive more connections than are allowed, the server will send the byte blaster client a list of the current byte blaster servers and disconnect. This will allow the disconnected byte blaster client to locate an available byte blaster server.

The server is in constant communication with the NWS host master. The host master maintains a list of private and public byte blaster servers. Every 15 seconds, the byte blaster server reports the number of connections and status of the server to the host master.

The host master sends a list of public servers to each byte blaster server. This server list is passed along to each byte blaster client connected. This action allows all of the byte blaster clients to have a current list of available byte blaster servers.

Every six minutes, the server requests its IP address from the host master. This serves as a keep-alive packet for the connection to the host master. It also serves to update the host master should a server's IP address change dynamically.

A connection to the host master is required for proper operation. Provisions have been made to run the server on a private network where an outside connection to the host master is not available. Contact Weather Message for setup details.

The server receives data from WxByte (internet), WxIngest (serial port), or WxReTran (retransmission). The ingest programs broadcast their received data packets on the TCP/IP loop back. WxBBSrvr listens for this data on UDP port 9510. Data received from WxByte or WxReTran is considered to be 100 percent good. WxIngest sends an error percentage to the byte blaster server. If the receive quality drops below 95 percent, the server will not longer send data to the byte blaster clients.

Note: If you use WxByte to supply data to WxBBSrvr, WxByte will only connect to servers listed in the WxSatus.txt file. This file is not automatically updated by the byte blaster system. Although provisions
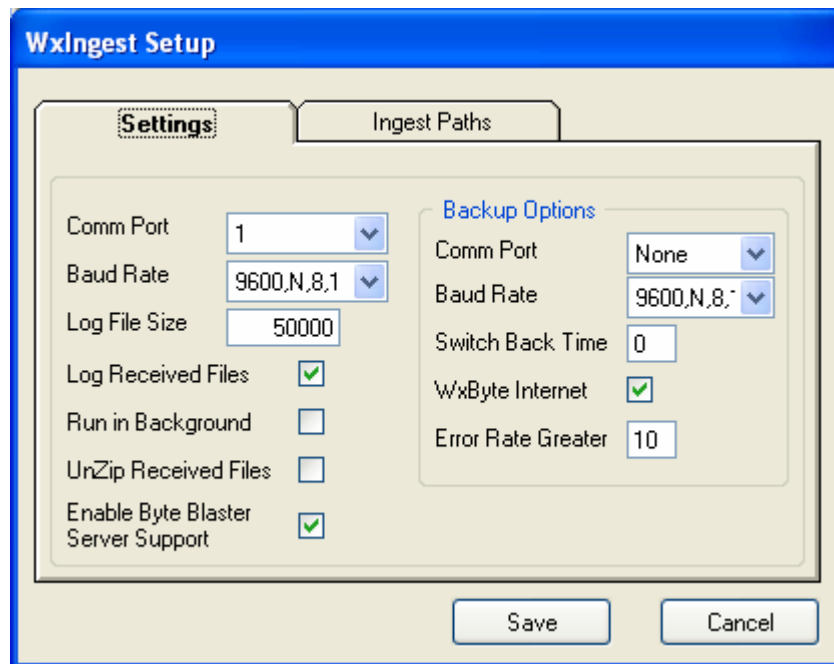
were made to keep this server list updated, they were never implemented in the NWS host master software.   At the present time, this file contains a list of known servers at EMWIN headquarters.

10.   **Direct Ingest Setup – Serial Port**
WxIngest is used by WxReTran for direct data feeds from satellite or radio modem. The ingest program can be started automatically by the WxReTran Server or manually.

Settings

Once WxIngest is started, you will need to setup some of the program defaults, click on the *File* menu button, then *Setup*. You will see this screen.

The *Settings* tab is used to define the communication port parameters and backup options. You will need to enter the com port parameters and backup options.

WxIngest supports a backup satellite system, retransmission receiver and/or backup by Internet, using WxByte. If you have a second satellite system or retransmission receiver, enter the *Comm Port* and *Baud Rate* under the backup options. Also, if you want to use WxByte (internet ingest) as a backup, check that option. The *Switch Back Time* is used to

specify the number of minutes that the program should check back to see if the main port is functioning, when using a second serial port.

The *Error Rate Greater* field sets the error rate percentage for switch over to backup. This field can be set from 5 to 95 percent. Should the error rate, of the received data, exceed the set amount, the program will switch over to the backup port or WxByte.

If the main port stops sending data for 15 seconds, the program will switch to the backup port, if one is specified. If the backup port does not send data for 15 seconds, it will switch to WxByte, if that option is selected. If the backup port is not specified, it will switch from the main port directly to WxByte, if that option is selected.

Based on the *Switch Back Time* specified, it will change back over to the main port. The process will start all over again. If no data is received in 15 seconds, it will switch to the backup port and/or WxByte. **Note**: Once WxByte is started, it will not be stopped until the program begins to receive valid data from one of the serial ports.

When the program switches from serial ingest to WxByte, it will create a notification message in each ingest directory. The product identifier for this message is ADMWXM. If you want to be alerted when the program switches between ingest sources, alarm the product ADMWXM, with no state or county selected. The notification message contains the current ingest method and computer name.

The *Log File Size* field allows you to specify this size of your ingest log file, IBLog.txt. The default is 50,000 bytes.

The *Log Received Files* option causes the program to record the name of each weather file received. The names are recorded in IBFiles.txt.

The *Run in Background* check box allows you to specify whether you want the ingest programs to run in the background. When this box is checked, the ingest programs will not show in the system tray. **Note:** Changing this option does not take effect until the next time the ingest programs are started.
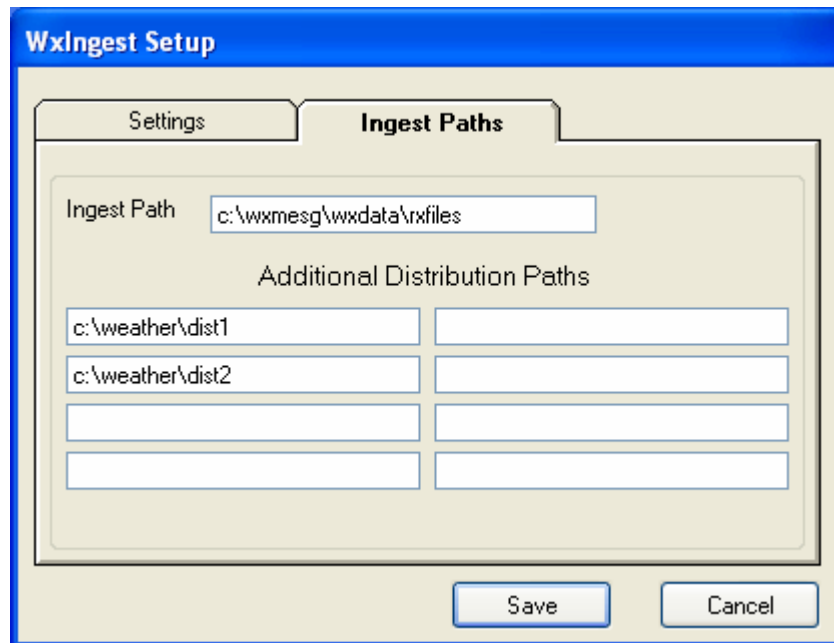
If you have enabled the *Run in Background* option, you can see the ingest screen by going to Weather Message Server, click on the *File* menu option and select *Show Ingest.*

The *UnZip Received Files* option, when checked, will cause the program to unzip any compressed files. This option is normally left unchecked as the Weather Message programs automatically unzip compressed files. In some applications it may be desirable to unzip the files before they are copied to the ingest directory(s).

If you are running the Byte Blaster server, WxBBSrvr, you will need to check the *Enable Byte Blaster Server Support* box. This will cause the ingest program to create data records for processing by the Byte Blaster server. **Note:** This program communicates with WxBBSrvr using UDP port 9510 on the local loop back address.

Ingest Paths

The *Ingest Paths* tab can be used to override the default Weather Message Server ingest path and define additional ingest (distribution) paths. The Ingest Paths screen appears as follows.

The *Ingest Path* is defined in the Weather Message Server setup screen and would not normally be entered here. Note: The *Ingest Path* can be changed if you want to deposit the received messages in a directory other than the one established for Weather Message Server.
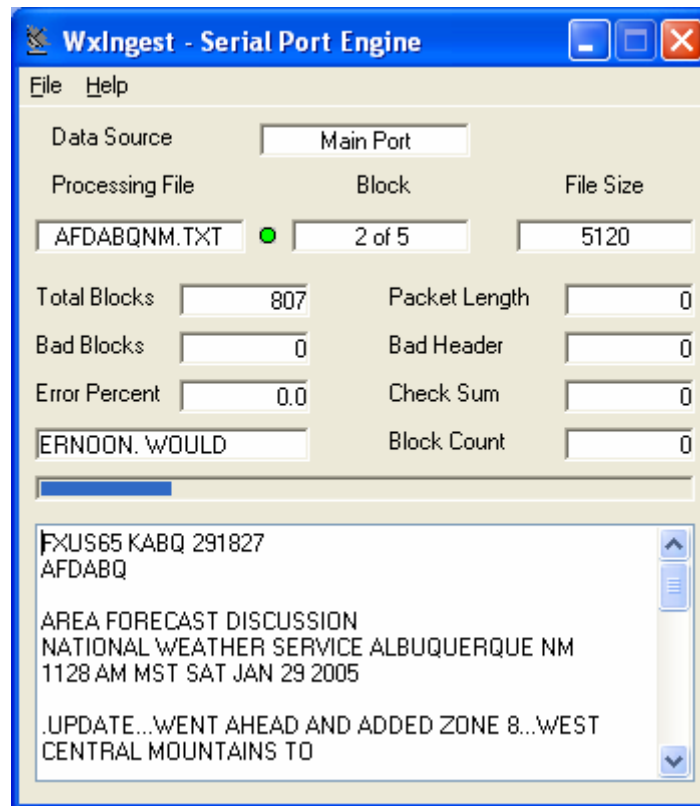
The *Additional Distribution Paths* can be used to place a copy of the received weather text in different directories for processing by other programs. For example if you use Weather Message to receive your

weather text, you can put a copy of the received messages in a directory for processing by RealEMWIN or the Weather Message Retransmission program.

Note: Changing the *Ingest* and *Additional Distribution Paths* on this screen will automatically change them for WxByte.

Operation

The WxIngest processing screen appears as follows.

The *File* menu option allows you to *Setup* the program, *Reset* the error statistics, *View* the log file, *View Files Received Log* and *Exit* the program. A *Port* option will be present when you have a backup port specified. This option can be used to switch WxIngest to the backup port.

The main screen shows the status of incoming messages. The Data Source field indicates which source is being used to receive the EMWIN data. Should the program stop receiving data, it will display "Data Alert" to the right of the Data Source field in a red box.

The Processing File, Block and File Size fields show information on the received file. A green or red led appears to the right of the Processing File field. This led will normally appear green. If any of the blocks received for this message are defective, the led will change to red.

The total blocks field shows the total number of blocks received since for a one-hour period, the bad blocks field shows how many of the total blocks received were defective. The bad blocks field is a total of the packet length, bad header and check sum fields. The block count field counts the number of messages that any blocks missing.

The error percent field shows the error percentage of the blocks received verses bad blocks. You want this field as low as possible. The background color of this field will change based on the quality of the received data. If the background is white, the received data has 10% or fewer errors. If the background is yellow, the received data has between 10% and 20% errors. If the background is red the received data has an error rate greater than 20%.

If the received message is text, you will see the first 1024 characters of the message in the text box. This shows the text for the block just received, it does not show the complete message.

The ingest program will attempt to repair defective messages, if a duplicate message is received. **Note**: It is recommended that you run the ingest program on a computer that will not be used for normal user programs. The processing of serial data can be interrupted by other software programs, which can result in lost weather messages.

Note: If WxIngest is stopped with the window minimized, the next time it is started, it will start minimized.

Note: While the program is using WxByte as a backup data source, the fields on the screen will not be updated. They will resume showing data when the main serial port begins to receive data.

Note: The program supports a second log file. The second format uses a fixed field size for easy analysis. This log file is never purged and remains until the user deletes the log files. To enable this logging option, create the directory "NwsLogs" in the c:\program files\WxMesg directory.

Note: **Some computers may detect your satellite receiver as a serial mouse. This generally occurs when the satellite receiver is turned on when booting the computer. If this occurs, your mouse will begin to move on it's own. To correct this problem, turn off the satellite receiver. Download the comdisable tool from Microsoft at this web address Settings**

WxIngest is used by Weather Message for direct data feeds from satellite or radio modem. The ingest program can be started automatically by the Weather Message Server or manually. Once started, you will need to setup some of the program defaults, click on the *File* menu button, then *Setup*. You will see this screen.

The *Settings* tab is used to define the communication port parameters and backup options. You will need to enter the com port parameters and backup options.

WxIngest supports a backup satellite system, retransmission receiver and/or backup by Internet, using WxByte. If you have a second satellite system or retransmission receiver, enter the *Comm Port* and *Baud Rate* under the backup options. Also, if you want to use WxByte (internet ingest) as a backup, check that option. The *Switch Back Time* is used to specify the number of minutes that the program should check back to see if the main port is functioning, when using a second serial port.

The *Error Rate Greater* field sets the error rate percentage for switch over to backup. This field can be set from 5 to 95 percent. Should the error rate, of the received data, exceed the set amount, the program will switch over to the backup port or WxByte.

If the main port stops sending data for 15 seconds, the program will switch to the backup port, if one is specified. If the backup port does not send data for 15 seconds, it will switch to WxByte, if that option is selected. If the backup port is not specified, it will switch from the main port directly to WxByte, if that option is selected.

Based on the *Switch Back Time* specified, it will change back over to the main port. The process will start all over again. If no data is received in 15 seconds, it will switch to the backup port and/or WxByte. **Note**: Once WxByte is started, it will not be stopped until the program begins to receive valid data from one of the serial ports.

When the program switches from serial ingest to WxByte, it will create a notification message in each ingest directory. The product identifier for this message is ADMWXM. If you want to be alerted when the program switches between ingest sources, alarm the product ADMWXM, with no state or county selected. The notification message contains the current ingest method and computer name.

The *Log File Size* field allows you to specify this size of your ingest log file, IBLog.txt. The default is 50,000 bytes.

The *Log Received Files* option causes the program to record the name of each weather file received. The names are recorded in IBFiles.txt.

The *Run in Background* check box allows you to specify whether you want the ingest programs to run in the background. When this box is checked, the ingest programs will not show in the system tray. **Note:** Changing this option does not take effect until the next time the ingest programs are started.

If you have enabled the *Run in Background* option, you can see the ingest screen by going to Weather Message Server, click on the *File* menu option and select *Show Ingest*.
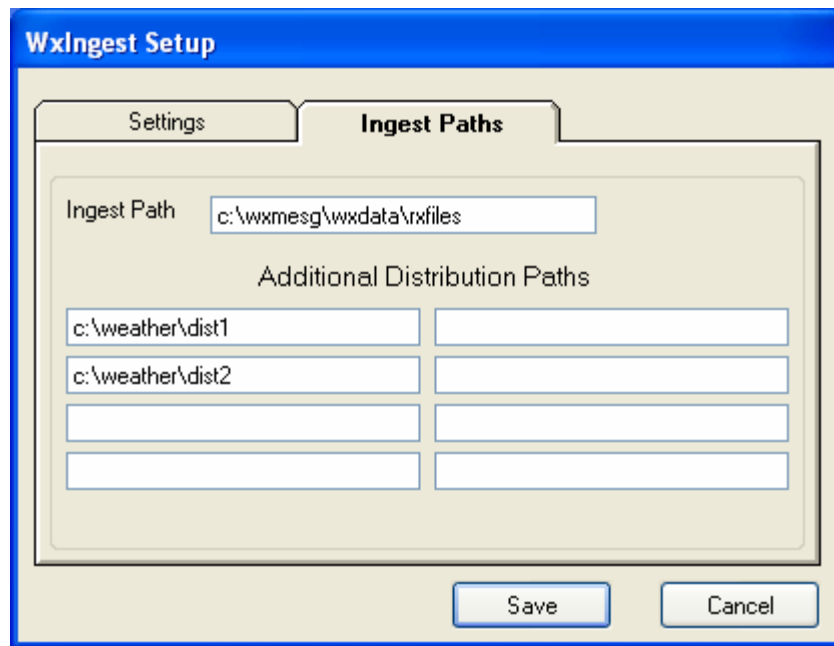
The *UnZip Received Files* option, when checked, will cause the program to unzip any compressed files. This option is normally left unchecked as the Weather Message programs automatically unzip compressed files.

In some applications it may be desirable to unzip the files before they are copied to the ingest directory(s).

If you are running the Byte Blaster server, WxBBSrvr, you will need to check the *Enable Byte Blaster Server Support* box. This will cause the ingest program to create data records for processing by the Byte Blaster server. **Note:** This program communicates with WxBBSrvr using UDP port 9510 on the local loop back address.

Ingest Paths

The *Ingest Paths* tab can be used to override the default Weather Message Server ingest path and define additional ingest (distribution) paths. The Ingest Paths screen appears as follows.

The *Ingest Path* is defined in the Weather Message Server setup screen and would not normally be entered here. Note: The *Ingest Path* can be changed if you want to deposit the received messages in a directory other than the one established for Weather Message Server.

The *Additional Distribution Paths* can be used to place a copy of the received weather text in different directories for processing by other programs. For example if you use Weather Message to receive your weather text, you can put a copy of the received messages in a directory for processing by RealEMWIN or the Weather Message Retransmission program.

Note: Changing the *Ingest* and *Additional Distribution Paths* on this screen will automatically change them for WxByte.

Operation

The WxIngest processing screen appears as follows.

The *File* menu option allows you to *Setup* the program, *Reset* the error statistics, *View* the log file, *View Files Received Log* and *Exit* the program. A *Port* option will be present when you have a backup port specified. This option can be used to switch WxIngest to the backup port.

The main screen shows the status of incoming messages. The Data Source field indicates which source is being used to receive the EMWIN data. Should the program stop receiving data, it will display "Data Alert" to the right of the Data Source field in a red box.

The Processing File, Block and File Size fields show information on the received file. A green or red led appears to the right of the Processing

File field. This led will normally appear green. If any of the blocks received for this message are defective, the led will change to red.

The total blocks field shows the total number of blocks received since for a one-hour period, the bad blocks field shows how many of the total blocks received were defective. The bad blocks field is a total of the packet length, bad header and check sum fields. The block count field counts the number of messages that any blocks missing.

The error percent field shows the error percentage of the blocks received verses bad blocks. You want this field as low as possible. The background color of this field will change based on the quality of the received data. If the background is white, the received data has 10% or fewer errors. If the background is yellow, the received data has between 10% and 20% errors. If the background is red, the received data has an error rate greater than 20%.

If the received message is text, you will see the first 1024 characters of the message in the text box. This shows the text for the block just received, it does not show the complete message.

The ingest program will attempt to repair defective messages, if a duplicate message is received. **Note**: It is recommended that you run the ingest program on a computer that will not be used for normal user programs. The processing of serial data can be interrupted by other software programs, which can result in lost weather products.

Note: If WxIngest is stopped with the window minimized, the next time it is started, it will start minimized.

Note: While the program is using WxByte as a backup data source, the fields on the screen will not be updated. They will resume showing data when the main serial port begins to receive data.

Note: The program supports a second log file. The second format uses a fixed field size for easy analysis. This log file is never purged and remains until the user deletes the log files. To enable this logging option, create the directory "NwsLogs" in the c:\program files\WxMesg directory.

Note: Some computers may detect your satellite receiver as a serial mouse. This generally occurs when the satellite receiver is turned on when booting the computer. If this occurs, your mouse will begin to

move on it's own. To correct this problem, turn off the satellite receiver.
Download the comdisable tool from Microsoft at this web address
http://support.microsoft.com/default.aspx?scid=kb;en-us;819036

11.   Direct Ingest Setup – Internet

WxByte is used by WxReTran for Internet reception of the EMWIN data
stream. The ingest program can be started automatically by the
Weather Message Server or manually.

It uses information from Internet weather servers to maintain a list of
servers available. It attempts to connect to the first available server.
Should a server stop functioning, WxByte will attempt to contact the next
available server. Every 10 minutes, WxByte receives an updated list of
servers.

WxByte uses TCP/IP port 1000 to communication with the servers. If
you have a firewall, port 1000 must be open for WxByte to work.
Recently the National Weather Service started testing servers on ports
21 and 22. These ports may also be required in the future.

The WxByte processing screen appears as follows.
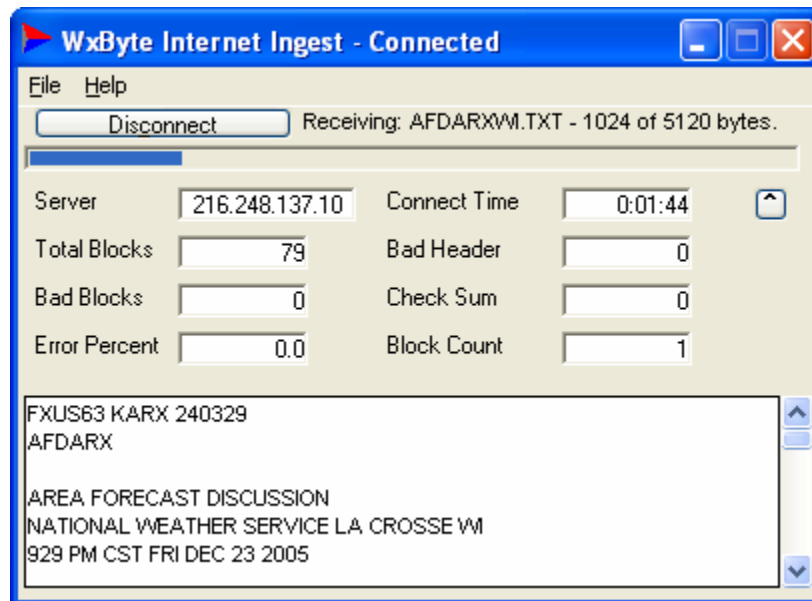
The *File* menu option allows you to *Setup* the program, *Show Details*,
View the log file, *View Files Received Log* and *Exit* the program. To see
the current server IP address and/or the list of servers, select *WxByte
Status* from the *Help* menu.

The Server field shows the TCP/IP address of the server that is providing you with EMWIN data. The Connect Time is the amount of time that you have been connected to this server.

The total blocks field shows the total number of blocks received for a one-hour period, the bad blocks field shows how many of the total blocks received were defective. The bad blocks field is a total of the bad header and check sum fields. The block count field counts the number of messages that had any blocks missing. The error percent field shows the error percentage of the blocks received verses bad blocks.

The status information, included the decoded message display can be removed by clicking on the up button or resizing the screen. To show the status information and decoded message drag down on the bottom of the window.

Note: If WxByte is stopped with the window minimized, the next time it is started, it will start minimized.

Settings

The Setup menu allows you to specify several options.
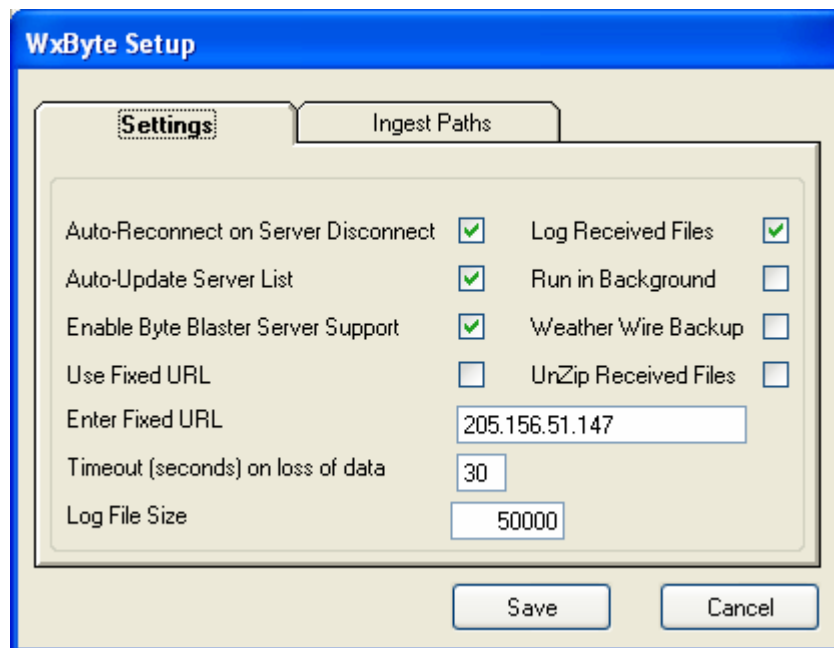
The *Auto-Reconnect on Server Disconnect* should be checked if you want WxByte to try to connect to another server if it becomes disconnected. The *Auto-Update Server List* should be checked if you

want WxByte to automatically maintain a list of available servers. If WxByte does not maintain this list, you will need to manually update the WxSvrus.txt file to include the servers that you want it to try to establish a connection.

If you are running the Byte Blaster server, WxBBSrvr, you will need to check the *Enable Byte Blaster Server Support* box. This will cause the ingest program to create data records for processing by the Byte Blaster server. **Note:** This program communicates with WxBBSrvr using UDP port 9510 on the local loop back address.

A fixed TCP/IP address can be used. Enter the fixed TCP/IP address in the *Enter Fixed URL* field. Click on *Use Fixed URL*, to only connect to that specific server.

The *Timeout* seconds on loss of data is set by default to 15 seconds. You can change this within the range of 15 to 600 seconds.

The *Log File Size* field allows you to specify this size of your ingest log file, IBLog.txt. The default is 50,000 bytes.

The *Log Received Files* option causes the program to record the name of each weather file received. The names are recorded in IBFiles.txt.

The *Run in Background* check box allows you to specify whether you want the ingest programs to run in the background. When this box is checked, the ingest programs will not show in the system tray. **Note:** Changing this option does not take effect until the next time the ingest programs are started.

If you have enabled the *Run in Background* option, you can see the ingest screen by going to Weather Message Server, click on the *File* menu option and select *Show Ingest*.

The Weather Wire check box allows you to use Weather Wire as a backup for EMWIN. Checking this box will cause the program to automatically start WxWW2000 when EMWIN data is not available. This requires registration for Weather Wire; see the [Weather Wire](#) section for details.
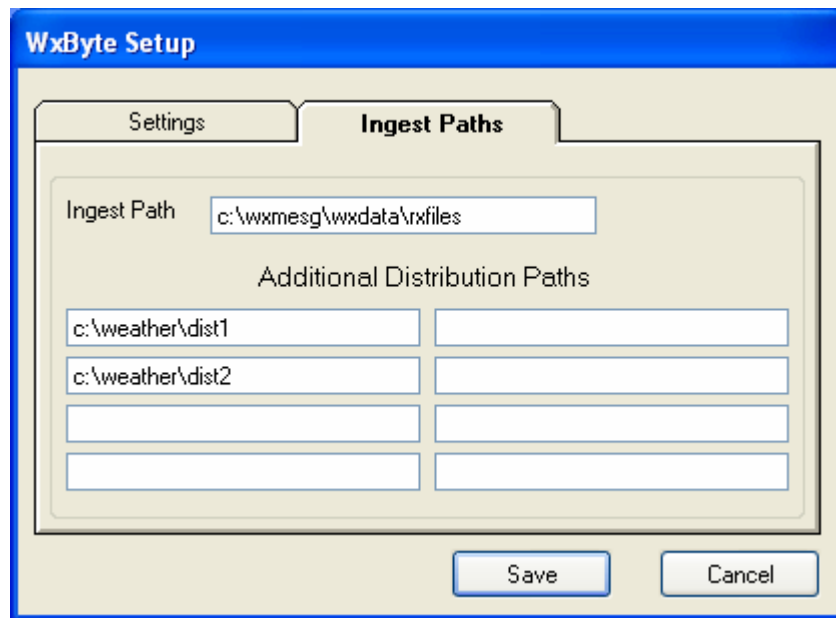
When the program switches from WxByte to WxWW2000, it will create a notification message in each ingest directory. The product identifier for this message is ADMWXM. If you want to be alerted when the program

switches between ingest sources, alarm the product ADMWXM, with no state or county selected. The notification message contains the current ingest method and computer name.

The *UnZip Received Files* option, when checked, will cause the program to unzip any compressed files. This option is normally left unchecked as the Weather Message programs automatically unzip compressed files. In some applications it may be desirable to unzip the files before they are copied to the ingest directory(s).

Ingest Paths

The *Ingest Paths* tab can be used to override the default Weather Message Server ingest path and define additional ingest (distribution) paths. The Ingest Paths screen appears as follows.

The *Ingest Path* is defined in the Weather Message Server setup screen and would not normally be entered here. Note: The *Ingest Path* can be changed if you want to deposit the received messages in a directory other than the one established for Weather Message Server.

The *Additional Distribution Paths* can be used to place a copy of the received weather text in different directories for processing by other programs. For example if you use Weather Message to receive your weather text, you can put a copy of the received messages in a directory for processing by RealEMWIN or the Weather Message Retransmission program.

Note: Changing the *Ingest* and *Additional Distribution Paths* on this screen will automatically change them for WxIngest.

Note: The byteblaster protocol, used by the Internet weather servers, requires an email address to be sent for verification. Make sure that you enter an email address on the Weather Message Server Email setup screen. Otherwise, when the weather server you are connected to reaches 90% capacity your connection will be disconnected.

Note: The program supports a second log file. The second format uses a fixed field size for easy analysis. This log file is never purged and remains until the user deletes the log files. To enable this logging option, create the directory "NwsLogs" in the c:\program files\WxMesg directory.

12. WxRadar

WxRadar is a support program that can be used to automatically retrieve radar images. It can be used to retrieve a specific radar site for viewing on the screen, or schedule single or multiple radar sites for ingesting by Weather Message or other programs. WxRadar requires Internet access to retrieve the radar images.

If you plan to use WxRadar to retrieve images on a schedule, it is recommended that it be placed in the startup box on Windows. This will insure that the program is automatically started each time the computer is booted.

The main screen appears below.
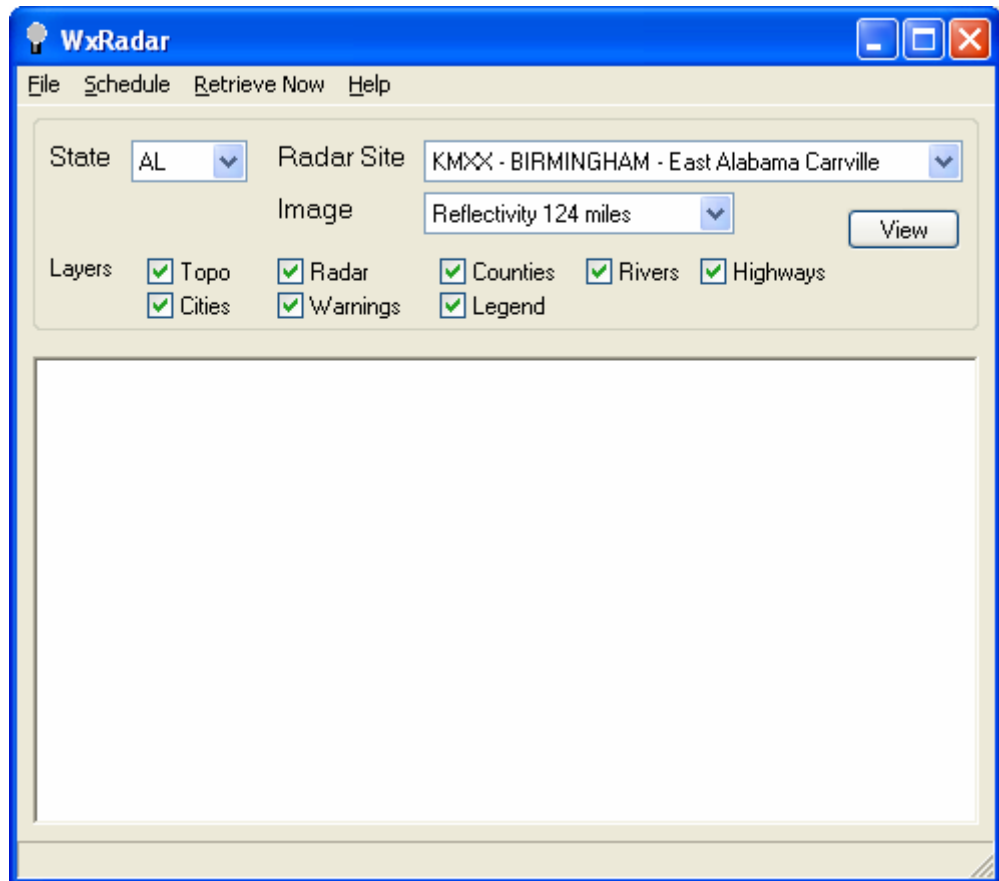
In the standalone mode, you can view a selected radar site image. Select the state, radar site, the image type, layers to be displayed and click *View*. The program will retrieve the selected site.
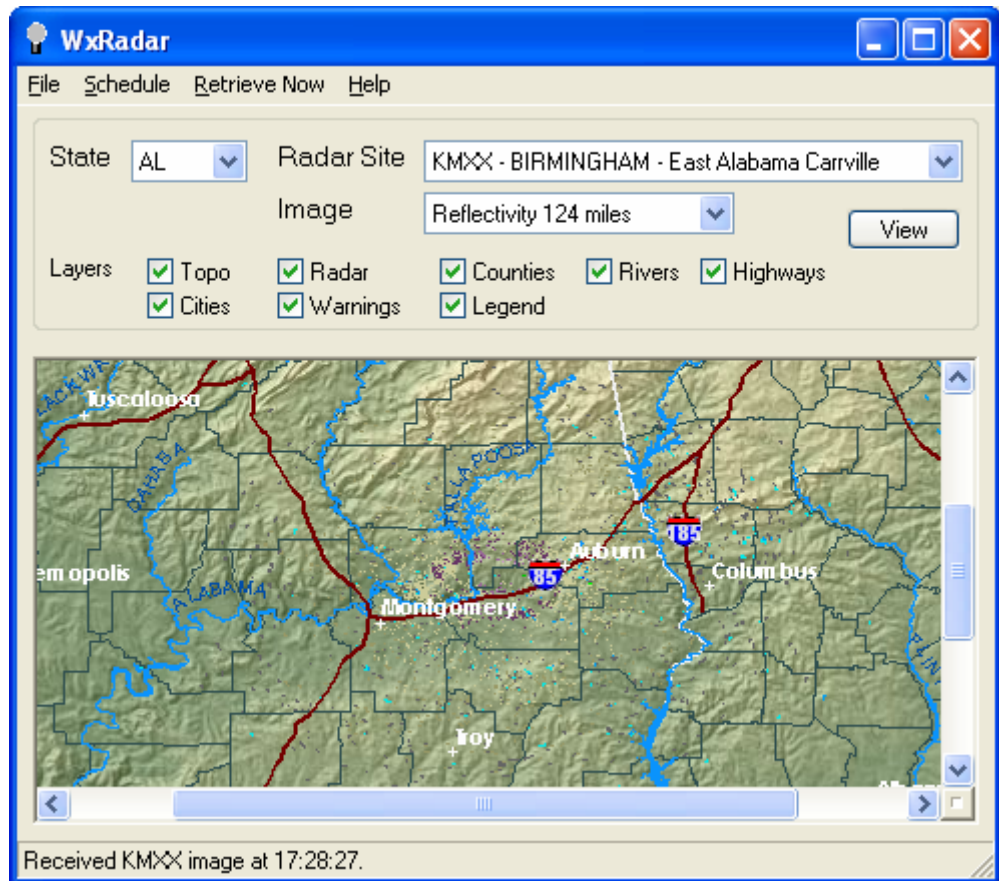
To view a different site or image, select that site or image and click on *View*.

The image can be resized to fit the display window or zoomed for closer inspection. To activate these features, right click on the image and select one of the displayed options.

The display image can also be printed. Click on the *File* menu option and select *Print*. The image will be printed to your default printer.

Note: If WxRadar is stopped with the window minimized, the next time it is started, it will start minimized.

Note: If the program cannot download the requested radar image, a "Radar Unavailable" image will be displayed. The "Radar Unavailable" image can be customized by changing the "RadUnavl.gif" file.

**Automatically Retrieving Images for Ingest**

WxRadar can also be setup to retrieve images based on a schedule. Images that are received will be copied to directories for other programs

to process. You can use it in conjunction with Weather Message to ftp
images to a website or WxReTran for EMWIN retransmission.

Images processed by Weather Message Server can be made available
to the Weather Message Client Image Viewer. The Image Viewer can
then be used to animate the received radar images.

Settings

Before establishing the schedule, you will need to setup the ingest
directories. Click on *File*, then *Setup*. You will see the following screen.
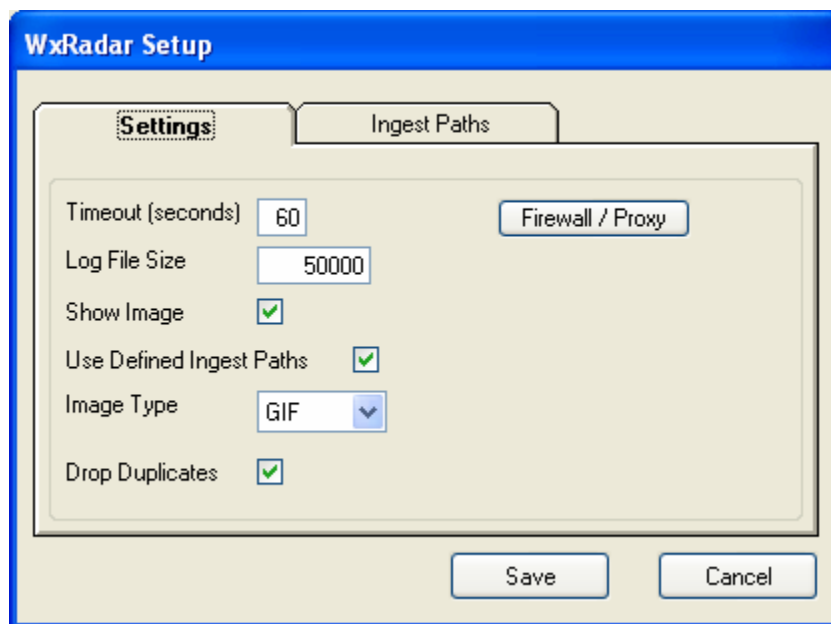
The *Timeout* field allows you to specific the maximum amount of time
the program will wait on the NOAA servers to respond.

The *Log File Size* field allows you to specify this size of your log file,
RadLog.txt. The default is 50,000 bytes.

When the program retrieves images from the defined schedule, it does
not display these images in the preview window. The *Show Image*
check box, when checked, causes the program to show each image as it
is received.

The *Use Defined Ingest Paths* check box, when checked, will cause the
program to use the ingest paths defined in the ingest programs, WxByte

and WxIngest. If you want to define your own ingest paths for WxRadar, remove this check.
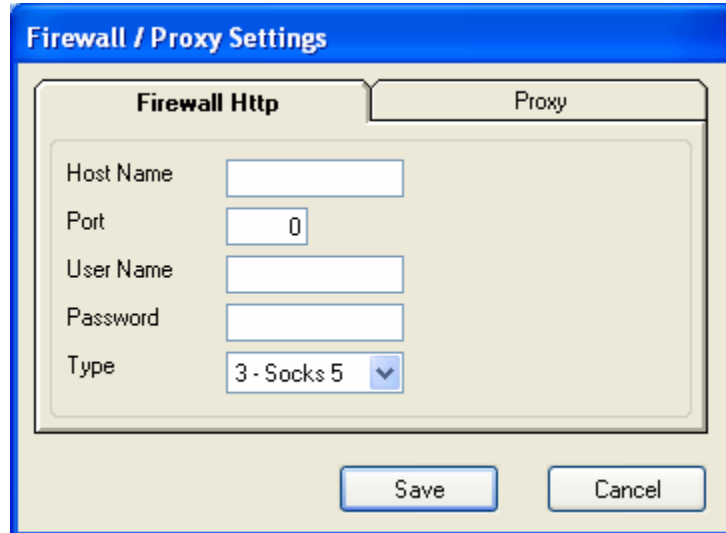
The *Firewall / Proxy* button allows you to setup firewall / proxy requirements for WxRadar. See the Firewall / Proxy section for additional information.

The *Image Type* list allows you to select an image format for the received image. Radar images are received by default in GIF format. You can select GIF, JPG, PNG, BMP, and TIF formats.

The *Drop Duplicates* checkbox, when checked, will create a CRC32 checksum on each received image. If the next image received is a duplicate, the program will not process the image.

Firewall / Proxy Settings

The Firewall / Proxy screen allows you to setup access through a firewall and/or proxy. The setup screen supports firewall settings for the http protocol. It also supports proxy access for the http protocol. The setup screen follows:
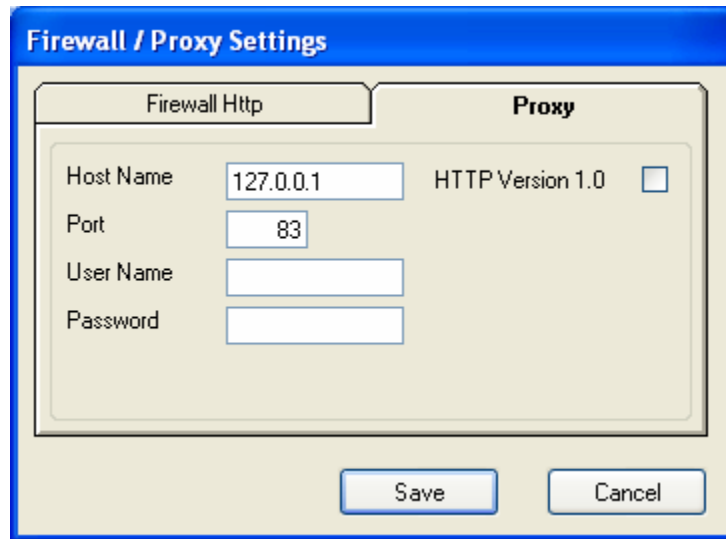
For a HTTP firewall, enter the domain name or TCP/IP address of the firewall in the *Host Name* field.

Enter the *Port* number for the firewall.

If required, enter a *User Name* and *Password*. This should be a user name and password setup in the firewall.

Select the Type of firewall. Valid entries are 1-Tunnel, 2-Socks version 4, or 3-Socks version 5.

Firewall / Proxy Settings

Firewall Http	**Proxy**

Host Name   127.0.0.1   HTTP Version 1.0 ☐

Port   83

User Name

Password

[Save]   [Cancel]

For a Proxy access, enter the domain name or TCP/IP address of the proxy in the *Host Name* field.

Enter the *Port* number for the firewall.

If required, enter a *User Name* and *Password*. This should be a user name and password setup for the proxy.

If *HTTP version 1.0* is required for the proxy server, check this box.

Ingest Paths

WxRadar Setup

| Settings | **Ingest Paths** |

Ingest Path   c:\wxmesg\wxdata\rxfiles

Additional Distribution Paths

[   ]   [   ]
[   ]   [   ]
[   ]   [   ]
[   ]   [   ]

[Save]   [Cancel]
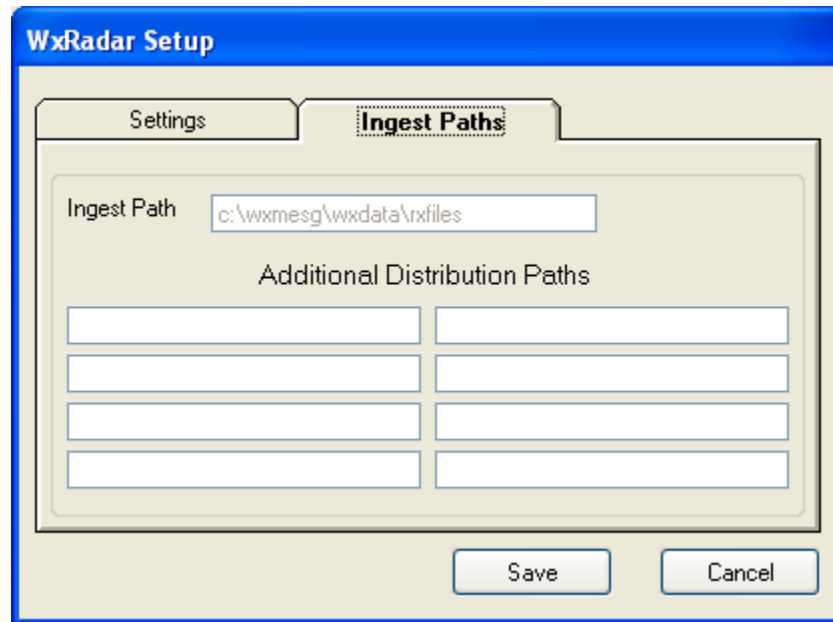
Enter the ingest directories that you want the received files copied to when they are received.

Note: If the *Use Defined Ingest Paths* setting is checked, you will not be able to change the paths listed.

Setting up the Schedule

For the main program screen, select *Schedule*. The screen will change to the scheduling mode. You will see the following screen.
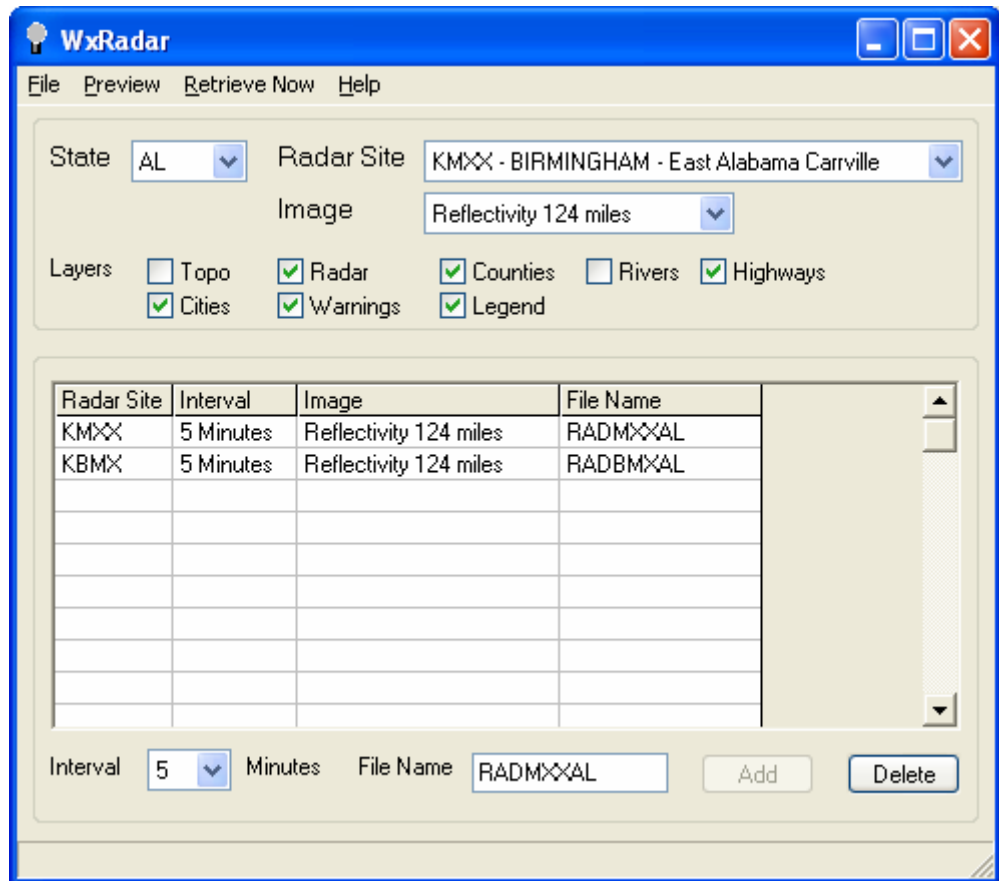
Select the *State*, *Radar Site, Image, Layers, File Name* for ingest and *Interval* to retrieve. Click on the *Add* button to schedule that radar site. To remove a site, click on the site in the list and press the *Delete* button.

Note: If you do not enter a file name, WxRadar will create the radar file name in the format, "RAD" plus the last three letters of the radar site plus the 2 digit state abbreviation plus ".gif". For example, the file name for KMXX would be RADMXXAL.gif.

The scheduled radar images will be retrieved based on the interval period specified. Valid intervals are 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 25, 30, 35, 40, 45, 50, 55 and 60 minutes.

The programs operation is logged to the file RadLog.txt. To view this log file, click on *File* and *View Log*. The log file will contain an entry for each time it attempts to retrieve a radar image. It will also contain any error conditions.

Note: The selected images will be retrieved according to the schedule established. If you want to retrieve all images immediately, click on the *Retrieve Now* menu button.

13. **Future Direction**
This software will be enhanced only by user recommendations. If you would like for it to do something different, please let me know.

14. **Program Assistance**
You can contact the program author by email at this address danny@wxmesg.com. If you use mail, sent correspondence to Danny Lloyd, 203 Old Shepard Road, Dadeville, Alabama 36853.

Notes:

Appendix A

Upgrading from a Previous Version

If you are upgrading a version of retransmission software provided from Maryland Radio Center, Xenocode, or Emwin Pro, the following information will be helpful.

Upgrade from 16-bit version.

To upgrade from the 16-bit version, install WxReTran according to this manual. After installation, copy the following files to their corresponding WxReTran file.

C:\weather\mrcfiles.txt	c:\WxMesg\FillFile.txt
C:\weather\hipri.txt	c:\WxMesg\RtList1.txt
C:\weather\normal.txt	c:\WxMesg\RtList5.txt
C:\weather\compress.txt	c:\WxMesg\RtList9.txt
C:\weather\delete.txt	c:\WxMesg\RtList11.txt
C:\weather\txsked.txt	c:\WxMesg\RtSched.txt

Check all of the setup screens and enter information for your retransmission site. Note: The 16-bit version processed all priority lists before checking the discard list. WxReTran processes the discard list first, because of this, you may need to change the file names that appear in the discard list. Note: If you have ????????.TXT in your discard list, no text weather files will be transmitted.

If you use the scheduler, you will need to change the paths associated with the source file and destination priority directory. Failure to do so will cause your schedule to be ignored.

Note: The path "c:\WxMesg\" refers to the directory that you installed WxReTran. If you installed the program in a different directory, use your installation path.

Upgrade from 32-bit version.

To upgrade from the 32-bit version, install WxReTran according to this manual. After installation, copy the following files to their corresponding WxReTran file.

C:\weather\fillfile.txt	c:\WxMesg\FillFile.txt
C:\weather\prilst0.txt	c:\WxMesg\RtList0.txt
C:\weather\prilst1.txt	c:\WxMesg\RtList1.txt
C:\weather\prilst2.txt	c:\WxMesg\RtList2.txt

```
C:\weather\prilst3.txt          c:\WxMesg\RtList3.txt
C:\weather\prilst4.txt          c:\WxMesg\RtList4.txt
C:\weather\prilst5.txt          c:\WxMesg\RtList5.txt
C:\weather\prilst6.txt          c:\WxMesg\RtList6.txt
C:\weather\prilst7.txt          c:\WxMesg\RtList7.txt
C:\weather\prilst8.txt          c:\WxMesg\RtList8.txt
C:\weather\prilst9.txt          c:\WxMesg\RtList9.txt
C:\weather\prilst10.txt         c:\WxMesg\RtList10.txt
C:\weather\prilst11.txt         c:\WxMesg\RtList11.txt
C:\weather\prilst12.txt         c:\WxMesg\RtList12.txt
C:\weather\schedule.txt         c:\WxMesg\RtSched.txt
```

Check all of the setup screens and enter information for your retransmission site.

If you use the scheduler, you will need to change the paths associated with the source file and destination priority directory. Failure to do so will cause your schedule to be ignored.

Note: The path "c:\WxMesg\" refers to the directory that you installed WxReTran. If you installed the program in a different directory, use your installation path.

Appendix B

Interface Specifications

WxReTran communicates with your external modulator/modem to send the EMWIN data. The following RS232 connections should be made, depending on your interface.

RS232 Pin	Description
2	Transmit data – Outgoing EMWIN data
4	Request to Send (RTS) – Push to Talk (PTT)
7	Ground
20	Data Terminal Ready – Power for modulator

WxRetran will set the DTR line high when the program starts. The DTR line can be used to supply power to the modulator. The RTS line goes high when the program wants to transmit data. The program will wait a user definable amount of time after switching the PTT on before transmitting data. This will insure that the transmitter has adequate time to come up.

Morse code, used for radio identification, is generated by turning the PTT on and off. If your modulator/modem does not support identification by this method, external circuitry will be required.

The modulator will need to be connected to your transmitted. See the modulator instructions for installation specifics.

Note: If you plan to transmit EMWIN data at all times, you will need a continuous duty transmitter. A continuous duty transmitter is rated for this type of service. Ordinary transmitters do not have adequate cooling for continuous service. Consult your local two-way radio dealer for information.

Appendix C

Example Configurations

The following tables contain example configurations provided by two EMWIN retransmission operators.

Lee County Alabama

Priority Queue 1		Priority Queue 6	
cem???al.txt		sps???ar.txt	svs???la.txt
tor???al.txt		sps???fl.txt	svs???ms.txt
svr???al.txt		sps???ga.txt	svs???tn.txt
		sps???la.txt	hls?????.txt
		sps???ms.txt	haat??us.txt
		sps???tn.txt	hadt??us.txt
		svs???ar.txt	haft??us.txt
		svs???fl.txt	hapt??us.txt
		svs???ga.txt	hawt??us.txt
Priority Queue 2		**Priority Queue 7**	
ffw???al.txt		pns???ar.txt	npw???ar.txt
flw???al.txt		pns???fl.txt	npw???fl.txt
wsw???al.txt		pns???ga.txt	npw???ga.txt
npw???al.txt		pns???la.txt	npw???la.txt
cem?????.txt		pns???ms.txt	npw???ms.txt
		pns???tn.txt	npw???tn.txt
Priority Queue 3		**Priority Queue 8**	
ffa???al.txt	sel?????.txt	lsr???ar.txt	zfp???ar.txt
ffs???al.txt	saw?????.txt	lsr???fl.txt	zfp???fl.txt
sps???al.txt	sev?????.txt	lsr???ga.txt	zfp???ga.txt
svs???al.txt	wwa?????.txt	lsr???la.txt	zfp???la.txt
sls???al.txt	sel?.txt	lsr???ms.txt	zfp???ms.txt
fls???al.txt	saw?.txt	lsr???tn.txt	zfp???tn.txt
now???al.txt	sev?.txt		
pns???al.txt	wwa?.txt		
lsr???al.txt			
Priority Queue 4		**Priority Queue 9**	
tor???ar.txt	ffw???ar.txt	??????ga.txt	
tor???fl.txt	ffw???fl.txt	???alrga.txt	
tor???ga.txt	ffw???ga.txt	???wnsus.txt	
tor???la.txt	ffw???la.txt	???mkcus.txt	
tor???ms.txt	ffw???ms.txt	???spcus.txt	
tor???tn.txt	ffw???tn.txt	???necus.txt	
svr???ar.txt	flw???ar.txt	???wbcus.txt	
svr???fl.txt	flw???fl.txt		
svr???ga.txt	flw???ga.txt		
svr???la.txt	flw???la.txt		
svr???ms.txt	flw???ms.txt		
svr???tn.txt			
Priority Queue 5		**Priority Queue 10**	

sls???ar.txt	ffa???fl.txt	g08cirus.jpg
sls???fl.txt	ffa???ga.txt	imgwwaus.gif
sls???ga.txt	ffa???la.txt	radrefus.gif
sls???la.txt	ffa???ms.txt	trkatlus.gif
sls???ms.txt	ffa???tn.txt	moddy1us.gif
sls???tn.txt	??????al.txt	moddy2us.gif
ffa???ar.txt		

Dallas / Fort Worth Texas

Priority Queue 1		Priority Queue 6
ema?????.txt	ffs???tx.txt	swr???nm.txt
sel?????.txt	flw???tx.txt	sws???nm.txt
nowftwtx.txt	fls???tx.txt	afd???nm.txt
sls?????.txt	wsw???tx.txt	swr???ok.txt
saw?????.txt	npw???tx.txt	sws???ok.txt
wwa?????.txt	sps???tx.txt	afd???ok.txt
swomkcus.txt	cem???tx.txt	swr???la.txt
tor???tx.txt	mws???tx.txt	sws???la.txt
svr???tx.txt	sevmkcus.txt	afd???la.txt
svs???tx.txt	awg?????.txt	
ffw???tx.txt	pwo???tx.txt	
ffa???tx.txt	nowfwdtx.txt	

Priority Queue 2		Priority Queue 7
tor???ok.txt	flw???nm.txt	faadfwus.txt
tor???la.txt	fls???la.txt	uvi???us.txt
tor???nm.txt	fls???ok.txt	dy????us.txt
svr???ok.txt	fls???nm.txt	six???us.txt
svr???la.txt	wsw???ok.txt	swx3??us.txt
svr???nm.txt	wsw???la.txt	swxd??us.txt
svs???la.txt	wsw???nm.txt	fee?????.txt
svs???ok.txt	npw???ok.txt	
svs???nm.txt	npw???la.txt	
ffw???la.txt	npw???nm.txt	
ffw???ok.txt	sps???la.txt	
ffw???nm.txt	sps???ok.txt	
ffa???la.txt	sps???nm.txt	
ffa???ok.txt	cem???la.txt	
ffa???nm.txt	cem???ok.txt	
ffs???la.txt	cem???nm.txt	
ffs???ok.txt	pwo???ok.txt	
ffs???nm.txt	pwo???nm.txt	
flw???ok.txt	lsrftwtx.txt	
flw???la.txt		

Priority Queue 3	Priority Queue 8	
smw???la.txt	moddy1us.gif	modqp2us.gif
smw???tx.txt	moddy2us.gif	modqp3us.gif
smw???ms.txt	moddy3us.gif	modqp5us.gif
swo?????.txt	modhalus.gif	modwndus.gif
	modtorus.gif	modtmpus.gif
	modpdpus.gif	cliftwtx.txt
	modqp1us.gif	rtpftwtx.txt

Priority Queue 4	Priority Queue 9
hwoftwtx.txt	radallus.gif
	swr???ar.txt
	afd???ar.txt

Priority Queue 5	Priority Queue 10

??????tx.txt	afd???tx.txt	g08cirus.jpg
ha????us.txt	swr???tx.txt	imgwwaus.gif
cwfhgxus.txt	sws???tx.txt	radrefus.gif
nshhgxus.txt	ffgftwtx.txt	trkatlus.gif
nshcrpus.txt	fwfftwtx.txt	moddy1us.gif
imgwwaus.gif		moddy2us.gif

Appendix D - What is Weather Wire

The National Oceanic and Atmospheric Administration Weather Wire Service, NWWS, is a satellite broadcast system that delivers critical National Weather Service information. DynCorp Systems & Solutions operates NWWS. This service is available using their proprietary C-band service or Internet connection. This system routinely delivers 99 percent of all messages within six seconds.

Established in October 2000, the system collects data from 141 U.S. Weather Centers and special centers around the country, and broadcasts a continuous stream of alphanumeric information. Users may receive as much of the information as they want, for a low, fixed annual fee. Current customers include radio, television, and cable stations; universities; state and federal emergency management services; and many other government agencies.

For more information on NWWS see DynCorp's website at
http://www.weatherwire.net or NOAA's website at
http://www.nws.noaa.gov/nwws/.