July 18, 2006

<u>Fast Start Instructions for the</u>
<u>Thunder Eagle® Alert Eagle® 400 System</u>

1) <u>Set up the AE400</u>
   a) Unpack the AE400, antenna, and power supply.
   b) Plug the power supply into the AE400 and into 120 VAC and make sure the AE400 led's light up. Make sure the AE400 is on a computer UPS/generator circuit to provide emergency power during power failures.
   c) Plug in the antenna.
   d) Press the LIVE button on the WE105.
   e) Adjust the WE105 volume knob for comfort.
   f) Press the WE105 SCAN button and make sure you are receiving a strong signal from the NWS with no static. If the signal is weak, relocate the antenna until you receive a strong signal. The reception of a strong signal is critical to reliable operation. The best list of NWS transmitters can be found at www.weather.gov/nwr. It the best channel for your location was not found by the scan routine, use the MANUAL button on the WE105 and select the best channel.
   g) On the AE400, place the monitor switch in the up (on) position. Adjust the AE400 audio level volume knob for comfort.
   h) Make sure the FSK Lock led is flashing on/off roughly in sync to the received NWR audio. This led provides critical information on the health of the system. If the led is flashing on/off in sync with the audio, the AE400 decoder is receiving audio properly. If the FSK led is off, the NWR transmitter has lost its audio source (usually the telephone line to the NWS Office). If this led is on solidly (actually flashing very fast) the NWR transmitter is off the air.
   i) Return the monitor switch to the down position.

2) <u>Set up the Printer</u>
   a. Unpack the printer. The ribbon and paper have been preloaded.

b. Connect the power cable on the underside of the printer. Note the pinout. DO NOT FORCE THE CONNECTOR INTO THE SOCKET. ALIGN THE PINS AND GENTLY PRESS THE POWER CONNECTOR INTO THE PRINTER! The power cable has two portions. Assemble the connectors securely and plug the printer into 120 VAC and turn on the printer. The printer leds should light.

c. Connect the printer serial cable on the underside of the printer. Note that the DB25 connector is wide side down. Securely screw the connector to the printer.

d. Plug the printer serial cable into the AE400.

e. Press the + button on the AE400 and the last alert should print out.

f. If the printer does not print anything, remove the top of the AE400 (6 screws) and right rear of the AE400 reverse the printer port jumpers. There are two rows of jumpers, each with 3 pins. One row has jumpers between pins 1-2 and the other between pins 2-3. Reversing the jumpers switches the transmit and receive lines and acts like a null modem adapter. Press the + button on the AE400 and the message should print out.

g. Note: The printer can also be connected to the printer port of a SignPrinter® interface if the printer is needed in a remote location to the AE400. There are jumpers inside the SignPrinter® interface if needed.

3) Set up one LED signboard

a. Unpack an LED signboard and plug it in to AC power. It should power-up and show the version of software and then begin to display default messages.

b. Make sure the sign ID is 01.

c. Plug the RJ-11 modular connector into signboard and the other RJ-11 modular connector into the SignPort connection on the rear of the AE400.

d. Press the Last Alert button on the AE400 and the last alert message should appear on the led signboard. If the message does not appear on the led signboard, remove the top of the AE400 (6 screws) and right rear of the AE400 reverse the LED sign port jumpers. There are two rows of jumpers, each with 3 pins. One row has jumpers between pins 1-2 and the other between pins 2-3. Reversing the jumpers switches the transmit and receive lines and acts like a null modem adapter. Press the Last Alert button on the AE400 and the message should appear on the led signboard.

4) Configure the AE400 menu options

a. The AE400 and WE105 menu options are constantly being upgraded with improvements in firmware. Updated firmware may be loaded in the field with the purchase of a programmer from Thunder Eagle®.

b. Open a new Hyperterminal session (start/programs/accessories/communication/hyperterminal) on your PC with a serial port. Choose the serial port option for the connection. The parameters are 9600 baud, 8 data bits, 1 stop bit, no parity, no flow control. In the ascii settings in Hyperterminal, make sure the add carriage

    return/line feed to incoming lines is checked. If it is not checked, each menu item will overwrite over the previous menu item and the menu will not be useable. Save the Hyperterminal session and it is often useful to add a desktop icon for the session. (Right click on the session after navigating from the start menu as above and choose the send to desktop option.)

c. Connect a straight though serial cable (DB9) between the PC comm port and the printer port of the AE400.

d. Hold in the menu button on the AE400 for about 10 seconds. The match and no match leds should turn on and menu should appear on the hyperterminal screen. NOTE: On power up, the AE400 reads the FIPS database. The data led is on during this boot up time period. DO NOT access the menu until the boot up period has terminated as is shown by the data led being off. If the menu does not appear on the pc screen, change the printer port jumpers as described above.

e. A current AE400 should appear as follows:

    Alert Eagle(R) 400 SetUp Menu

  C- Current settings.
  1 - Set hrs/min/sec of relay closure on SAME alert match.
  2 - Set hrs/min for AE400 clock.
  3 - Set year/month/day/day of week for AE400 clock.
  4 - SAME/EAS diagnostics on comm port (Enable/Disable).
  5 - Printer Port - Set for printer or paging.
  6 - wav file - Set LED port to wav file sync.
  7 - Set LED port for Visiplex paging terminal.
  8 - LED sign with alert colors.
  9 - Refine the alert message.
  D - Restore default settings.
  E - To End.

f. Press C on your computer and the current settings should appear in Hyperterminal. You may need to scroll up to see them.

g. Option 1 sets the time period for relay closure on a same match. The normally open relay contact closures go to the green connector on the rear of the AE400 (pins 2-3). Pin 1 of the green connector is 12 VDC and pin 4 of the green connector is ground. These 4 pins are configured to supply power and switch connectivity to the optional strobe light.

h. Option 2 sets the day and date on the AE400 lcd time stamp for the alert messages. In option 2, press N to insert a new time and day.

i. Option 3 similarly sets the year/month/day/day of week for the AE400 clock. The clock is battery backed up with a BR 1225 3.0 volt lithium battery. If the clock resets, you can replace this battery in the field.

j. Option 4 is the SAME/EAS diagnostics. Normally this option should be DISabled and it will print out each SAME/EAS burst, as opposed to the refined alert message.

k. Option 5 is sets the printer port for paging or printing. This should normally be set for printing. The paging option is when the printing port is used with Air Messenger serial for sending emails and pages (as opposed to using FipsSender and taking the alert data from the led signport and using Air Messenger ascii).

l. Option 6 is to turn on and attached wav audio files to outbound emails. If this option is turned on, and an audio cable is connected to the RCA muted audio on the AE400 and to the mike input on your pc, and the wav file option is turned on in FipsSender, the alert audio message should be attached to the outbound emails. This audio message can be up to 1 meg in size. Determine if this is a useful option for your situation.

m. Option 7 is to set the led signport for on site paging with the Visiplex paging terminal. See http://www.visiplex.com/products/vs3100.htm for more information about this interface.

n. Option 8 is for color coded alert messages (tests in green, watches in yellow, and warnings in red) and should normally be enabled.

o. Option 9 is for the 'refined' message where the AE400 computes the duration event time and makes the output message more readable. This option is normally enabled.

p. Option D restores the default settings.

q. Option E ends the menu session.

r. It is always a good idea to power down and power up the AE400 after making any setting changes.

5) Loading and verifying the FIPS event and location settings in the AE400

a. To verify the FIPS settings in your AE400, connect Hyperterminal to the pc as above. Power down the AE400. Hold in the + button on the AE400 during power up and the current FIPS settings should appear in Hyperterminal.

b. If you need to change the FIPS settings, create a new data file with FipsFileMaker and save the file to a location you can find.

c. Load the new data file into the AE400 by powering down the AE400, then while holding in the AE400 Reset button, power up the AE400. Use the FipsFileLoader to upload the new data file into the AE400.

d. **Note…If the serial port ever appears unavailable, press control-alt-delete (at the same time to bring up the Task Manager) and close all programs that may be holding open the serial port.

e. At the end of the upload, you may want to verify that new file was successfully uploaded into the AE400.

6) Test the AE400

a. **Note…You may want to add the Fips code for Fairfax County, VA 051059 into your match file so you can use the audio test files from www.thuneagle.com/support/audio files to test the AE400. The AE400 will hold many hundred match counties!

b. It is a great idea to test the AE400. Download the test FIPS audio files from the Thunder Eagle web site to your PC. Connect the supplied audio cable (RCA to phono jack) between the audio IN RCA connector on the rear of the AE400 and the audio out speaker jack on your PC.

c. Open the sound recorder on your PC (start/program files/accessories/entertainment/sound recorder) and from sound recorder, open a test wav file. Play the test wave file into the AE400 and make sure the AE400 reacts correctly. You may want to place the AE400 monitor switch in the up position to listen to the same alerts on the AE400 speaker.

d. You may also want to place the All Alert button on the AE400 in the up position, as this will provide a 'match' for all same alerts. This is a useful setting for situations where the main NWR channel goes off the air and you switch to a back up channel and do not want to reprogram in the FIPS codes for the back up channel (which hopefully will be a temporary change.)

e. Note the FSK lock led during the test. The FSK led should be ON solidly during each SAME burst (each SAME burst repeats the same message 3 times) and the End of Message SAME burst is also repeated three times.

f. If all is going well, a few seconds after the end of the last SAME burst, either the match or no match light should appear on the AE400. Then the data light should begin to flash as the SAME message is matched (event and location) against the database. At the end of the translation sequence, the translated message should be output onto the printer and the led signboard.

g. If this does not occur, try reloading the database file and retry the test. It is imperative that the AE400 performs flawlessly for the test.

h. If any county FIPS codes are detected, but are not translated, the FIPS code will appear in the alert output stream. This will indicate the need to add that county translation to the AE400 database.

i. The last alert should also be automatically digitally recorded into the AE400. Press the play button to play back the last alert. The recording is 4 minutes in length. Press and hold in the play button for about 5 seconds and the AE400 will go into a record mode. It will record and 4 minutes of audio and then will play it back. To stop the sequence, power down and then power up the AE400. The play/rec led will flash while recording or playing back audio.

6) <u>WE105 Menu Settings</u>

   a. The WE105 setup menu is below.

Weather Eagle(R) 105 SetUp Menu

       Firmware Version: 1.010 04/16/06
  Choose a menu.

  C- Current settings.

1 - Channel on powerup (Scan/or Last Selected).
2 - RSSI/Tone diagnostics on RS232 port (Enable/Disable).
3 - Remote Unmute Logic In(Enable/Disable).
4 - Rescan for strongest signal every 60 seconds (Enable/Disable).
5 - Relay closure on 1050 alert (Enable/Disable).
6 - Live audio on 1050 alert (Enable/Disable)
7 - Beep on 1050 alert(Enable/Disable).
8 - Set hrs/min/sec of live audio on 1050 Hz alert or live timeout.
9 - Set hrs/min/sec of relay closure on 1050 Hz alert.
A - Close relay on Live and Play.
D - Restore default settings.
E - End menu setup routine.
F - Live_Timeout Reset. (Enable/Disable).
G - Beep channel number. (Enable/Disable).

b. To access the menu, bring up Hyperterminal as set out above. Plug the serial cable into the WE105 and hold in the manual/program button during power up of the unit. All of the channel leds are on when the WE105 is in the menu mode.

c. Option C brings up the current settings. You may need to scroll up in Hyperterminal to see them.

d. Option 1 is normally set for last channel on power up. This way the channel you have chosen for the SAME codes will appear on the next power up session, and will remain until changed by you. The scan feature is for WE105 users using the 1050 Hz wide area alert tone who are likely to go between different NWR transmitters. The scan feature measures the received RF signal strength of each of the 7 NWR channels on each scan routine and then chooses the channel with the strongest signal strength.

e. Option 2 is the RSSI (received signal strength indication) and 1050 alert tone diagnostic. This option sends the computer analysis of the RSSI and 1050 Hz (when inserted with a signal generator into the antenna connection) out the WE105 comm port to Hyperterminal. This option is normally DISabled.

f. Option 3 is the remote logic in (active high) mute. When this option is enabled and +5 VDC is input into pin 8 of the WE105 DB15, the WE105 will mute. When connected to a repeater COS, this feature will make the WE105 secondary priority over other communication on the repeater. This option is normally DISabled.

g. Option 4 is to rescan the 7 NWR channels once a minute for the strongest channel. This option is for mobile operations and is normally DISabled.

h. Option 5 is the WE105 relay closure on 1050 Hz alert. This option is normally DISabled, as the relay is normally closed on live (see later option) when there is a SAME match, not when there is only a 1050 Hz tone detected.

i. Option 6 is live audio on 1050 Hz alert. This option provides a good way of monitoring new alerts as the 1050 Hz alert is issued for most alerts, but

the SAME will only match for event and location. NOTE: if you are connecting the AE400 into a public address system, you may want to DISable this feature as when the NWR channel goes off the air, the WE105 will unmute to tell you the NWR channel is off the air, and this may be disruptive.

j.   Option 7 is beep on 1050 Hz alert tone. This option is set based on user preference.

k.   Option 8 sets the time period of the live and 1050 Hz alert time out. This timer acts as a back up if the EOM (end of message) signal from the NWS is not decoded and remutes the WE105 for this time period after going live. The default time is 1 min and 30 secs. If option F is Enabled, this timer will turn off live after the set time period. This permits a remote user to turn on live and have it automatically timeout after a preset time period.

l.   Option 9 sets the WE105 relay closure time after a 1050 Hz alert is detected.

m. Option A closes the WE105 relay on live and play (and opens on reset). Since the AE400 turns on the WE105 during a SAME match, this option can make interfacing to other devices easier, based on the WE105 being in live or reset mode. You will probably want to DISable relay closure on 1050 Hz alert (option 5) to make sure the relay only closes for SAME matches and not for 1050 Hz alerts.

n.   Option D restores default settings.

o.   Option E ends the menu setup.

p.   Option F enables/disables the live automatic timeout option.

q.   Option G enables/disables the beep for channel number. This feature was added to enable the WE105 to send an indication of the channel it is on to remote users when the WE105 is being remotely controlled. It will beep on each channel in manual and at the selected channel for each scan cycle.

7)   Control the signboard through the SignPrinter® interface.

a.   The next step is to send the alert message across the LAN to the Signprinter®.

b.   Plug the power supply into the SignPrinter® and make sure it powers up as shown by the power led.

c.   Working with your IT staff, assign static IP addresses to the SignPrinter®. You may need the iServer software. See software download instructions from www.thuneagle.com below. HINT: The IP address must be assigned on the same subnet. For example, to assign 192.168.1.10 your pc needs to have an IP address of 192.168.1 XXX (x=any number 2-250).

d.   Plug one end of the RJ-11 modular connector wire into the sign and the other end into the Signboard connector in the SignPrinter®. Press the Reset button on the SignPrinter. The date and time should appear on the led signboard.

e.   If the date and time does not appear on the signboard, the transmit and receive lines probably need to be reversed. Unplug the SignPrinter® and, using a Philips head screwdriver, take the two screws out of the bottom of the case and pull the case top off. At the rear of the board, labeled LED

Sign, there are two sets of jumpers. One should be from the center pin to the right and the other from the center pin to the left. Reverse the jumpers and replace the cover and screws. Powerup the unit and press the Reset button and the date and time should appear on the led signboard.

f. Connect an ethernet cable between the SignPrinter® and your LAN. If an IP address has been programmed into the SignPrinter®, try to ping the SignPrinter® from your PC. (start/run/type in cmd/ at the command prompt, type ping xxx.xxx.xxx.xxx (which is the ip address of the SignPrinter®) and press return. Troubleshoot as necessary. If you cannot ping the Signprinter®, it will not work!

g. Download and install the latest version of the FipsSender software to send a message across the LAN to the SignPrinter®

h. The download can be obtained from www.thuneagle.com/login

i. Id: teclient   pw:te241

j. Go to Alert Eagle and Air Messenger download. Read and agree to the license. Download and save the FipsSender onto your pc in a location that you can remember. You may also want to download the other software on the site.

8) Configure the FipsSender software

a. Unzip and install the FipsSender software. Use the default install settings.

b. If the install was successful, a FipsSender icon should appear on your desktop.

c. Open the FipsSender. The main page tab should appear, and the id should be blank and the PW should have stars and a red background.

d. Set the FipsSender password by using the ID: Admin1 and clearing the stars in the password area (select and backspace) and then clicking continue. A message box should appear. It may have one character. Delete that character and type in your password and click OK. Then close FipsSender and then reopen FipsSender.

e. Type in Admin1 as the id and your password and click continue. The password field should turn green.

f. Add your SignPrinter IP addresses to the FipsSender by clicking on the create recipients tab. Click on the clear recipient list and clear group list buttons. The recipient and group list boxes should clear.

g. Under the Description of Recipent box, select and clear (backspace) the text 'Type Description Here' and type in a short description of your sign's location (like EOC).

h. Under the Recipient IP Address box, select and clear (backspace) the text 'Type IP Address Here' and type in the IP address of the FipsSender.

i. Click the Add Recipient button and the IP address should appear in the recipient list box.

j. Type as many descriptions and IP addresses as required.

k. Click the Save Recipients button. You may need to navigate to the c:/program files/thundereagle/fipssender folder. Click on terecipients1 and click save. The recipient's IP addresses are now saved on your computer.

l. You can create as many ad hoc groups of recipients as required.

m. Create a new group by typing a new group name into the box under the New Group Name box. First delete (select and backspace) the text Type Group Name Here. Then type in your group name. Then click the create group name. The group name should appear in the group list box.

n. Add recipients to each group by first clicking on the group name and then clicking on the recipient IP to be added to the group and then click the Add Recipient To Group button. Repeat for each recipient you want to add to a group.

o. Click on the Save Groups button and save the groups in the tegroups1 file in c:\program files\thundereagle\fipssender folder.

p. For the groups you want to send AE400 automatic message to, create a single group and save it to teautomatic1 (as above).

q. Now that the recipients and groups have been created, test the manual and automatic sending of messages to the SignPrinter.

r. To create a test message, click on the create msg tab. A good test message is to select a color (color menu and select) and a color code should appear in the text box like <CC>.

s. Then type text like testing 1234. Add a space at the end of the test as the message will loop and if you do not add a space at the end of the line, the message will loop without a space and will not read well.

t. You can add graphics and special effects as needed. You can save the message by pressing the save button.

u. When you have completed the message, press the continue button and the control msg tab should appear.

v. You will note that the action requested box is yellow, and will remain yellow until all of the control instructions have been added to the message. Your message should appear in the outgoing message text box.

w. The control message tab has two main functions. A page letter menu (A-z) and a control pull down menu.

x. For a test, use the left pull down menu and select page Z. Under the choose an action menu, select insert new page. Two things should happen. The control codes should be added to your text message in the above text box and the action requested box should turn green. The control codes should be <ID01><PZ> in front of the first message line to indicate that the message is to be send to sign with ID01 and page Z on that sign. Messages to page Z turn on the strobe light on the SignPrinter. On the next line should be the code <ID01><RPZ> meaning to run page Z on the sign with ID 01.

y. Click the continue button and the Send Ethernet tab should appear. Click the clear recipient list and clear group list buttons and then click the load recipient (terecipient1) and load group (tegroup1) buttons. You may need to navigate to c:\program files\thundereagle\fipssender folder.

z. Select the first Signprinter from the recipients list and click the add outgoing recipient button. The Signprinter IP address should appear in the outgoing recipients box.

aa. Note that the IP connection status box should be either white or red (closed). If the FipsSender is able to connect to the SignPrinter, when you press the Send Data button, this box will turn green. If the FipsSender is attempting to connect, but is unsuccessful, it will turn yellow and then red. The message will be attempted to be sent twice. If the message is unsuccessfully sent, an error message box will appear showing the IP address and whether the problem was the inability to connect, or that the sign did not acknowledge the message, or both. The error box is set to default to give a possible error if the acknowledgement was not perfect. Also note that each transaction is logged to a text file. PLEASE CLEAR THIS TEXT LOG FILE ABOUT ONCE PER YEAR. c:\progam files\thundereagle\fipssender\te and teautolog1 and temanlog1. If the file gets larger than 18Meg (huge) the FipsSender may have trouble sending messages to the network.

bb. Go back to create message and experiment with creating and sending messages as necessary.

cc. NOTE: in the control message tab, there are a few special functions such as reset the sign (which will reset the sign clock to 1998). Make sure the time on your PC is correct. Then set the sign clock by choosing set sign clock and then press continue and send the time to the sign. The current time should appear on the sign. You can set all the signs at the same time by creating a group with all of the signs.

9) Set up the AE400 automatic send alert message

a. Go to the settings tab. Under comm port settings choose the comm port to open when the FipsSender opens. Make sure the open comm port on launch box is checked. Click the save setting button. You may want to close FipsSender and reopen FipsSender to make sure the comm port opens. If successful, the comport status box should be green on opening FipsSender. If the box is red, go to control-alt-delete to bring up the Windows task manager and close all programs that may held the comm port open. Close and open FipsSender until you get a green box saying that comport is open.

b. Go to the send automatic tab.

c. Connect the black cable with the RJ11 to the AE400 led signboard port and the db9 to the serial port (now open) on your pc.

d. Make sure that your alert message IP address group appears in the box labeled Incoming Data Will Be Sent to the Following. If needed, click the clear group and load group buttons. You want to load the teautomatic1 file in c:\program files\thundereagle\fipssender directory.

e. Press the last alert button on the AE400 and (with about a 5 second delay) the alert message should appear in the incoming data buffer.

f. The message should then appear in the message being processed taxt box.

g. The IP connection status box should turn green (as above) and the message should be sent. The FipsSender will attempt to send the

message twice to each sign, and will provide an error log if the message is not completely acknowledged by the sign.

h. It this test works, then test the entire system by playing a test wav audio file into the AE400 (see above) and making sure the entire system works.

i. Feel free to call 1-888-553-2928 or email support@thuneagle.com Thunder Eagle if you have any questions.

j. As you can see, the system has diagnostics as each a stage in the process.

k. If you contact us with questions, it is requested that you first try the action twice and be at the AE400 in order to describe what the unit is doing.

l. ***Make sure you remove the test audio cable to avoid preventing real alert message from being decoded. The FSK lock light should be flashing on and off if everything is operational. (see above).

m. ***Make sure the unit decodes the weekly test which is usually transmitted each Wednesday between 11am and noon in good weather.!!