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VIP 110-24 Spread Spectrum Radio Instructions for Software Upgrade for Boot Loader and Operational Firmware

INTRODUCTION

This application note provides instructions for upgrading the boot loader and operational firmware in Eion's VIP 110-24 radio.

REQUIREMENTS

A PC running Windows (95/98/ME/NT/2000) with an Ethernet port and the program ECON installed or a PC with a serial port capable of 115200 bps is required to download the new software to the VIP 110-24. If using Window XP please contact Eion customer support.

INSTRUCTIONS

The operational firmware for the *VIP 110-24* is stored in Flash PROM and can be easily updated. The Flash PROM can hold multiple versions of the firmware simultaneously.

The firmware files can be loaded via either the serial port or the Ethernet port using ECON or FTP (available in 2.50.11 and later). ECON is generally considered the primary method because it is both easier and faster than through the serial console. We will cover all methods in this procedure.

If the upgrade to the boot loader and/or firmware is to be run on a "live" network, it is recommended that the procedure be run on farthest radio first. Once the upgrade on that radio is completed and verified, then run the procedure on the next farthest radio. Continue this procedure until the root radio has been upgraded.

NOTE: If the procedure is run on a "live" network, it is highly recommended that you use ECON. Although it is possible to use the serial method via a serial download capable telnet client such as Hyperterminal, the file transfer is very slow and often unstable, causing potential problems during the upgrade procedure. Please consult the factory for instructions to download the software using telnet.

This procedure assumes that both the boot loader and operational firmware will be upgraded at the same time. To load the files using ECON, use steps 1-14. To load the files using the serial port, use steps 15-33.



Loading Boot and Operational Code using ECON:

In following this procedure, replace <boot loader file> and <operational firmware file> with the appropriate file name. Do not include the file extension. The boot loader file starts with "bvip", the operational firmware file starts with "vip".

1. If you have not done so, install the latest version of the utility program "econ" in the PC. This procedure requires version 1.06 or greater. This utility program is distributed with the radios and can also be downloaded from our website <http://www.eionwireless.com/support/upgrades.html>.
2. Make sure the new boot loader file (e.g. bvip1-15-01.bin) is located in the same directory as the program ECON.
3. Start the *econ* utility by opening a DOS window, going to the directory where ECON is located, and typing "econ". Verify that the econ version is 1.06 or greater (see step 1). Econ will send a "discovery" message and display all the radios that can be seen. Verify that all radios in the network are listed. Select one of the radios to start the installation process.
4. Issue the command:
>dir
Verify the radio bootrom version. If the bootrom has already been upgraded to this version, this procedure is not required.
5. Issue the command:
>download <boot loader file> tmp/boot
As the download proceeds, econ displays a line showing the current percentage complete.
6. Once the download is complete, issue the command:
>unlock wr2411
The radio will say that the commands are unlocked.
7. Issue the command:
>newboot tmp/boot
The radio will respond that the new bootfile has been written.
8. Issue the command:
>delete tmp/boot
This will delete the temporary folder created during the download process.
9. Issue the command:
>lock
This will lock the debug commands.
10. Issue the command:
>dir
and verify that the radio is using the new boot version
11. Make sure the operational firmware file (e.g. VIP02-60-02.bin) is in the same directory as the ECON program. Start ECON as in step #3 above. Verify that there is at least 800 KB of available space. If not, you must delete any old



versions of software that are no longer being used by issuing the command:

>delete tstNN_NN

where tstNN_NN is the file to be deleted

12. Issue the command:

>download <operational firmware file>

As the download proceeds, ECON displays a line showing the current percentage complete.

13. Issue the command:

>sdp <operational firmware file>

This will set this version as the default program after a power cycle or reboot.

14. Check the upgrade procedure for this version if the radio is part of an active network. Other procedures or a specific order of rebooting the network radios may be specified in the upgrade procedure. Otherwise, issue the command:

>reboot

Upgrading software from 2-50-11 with bootloader 1-15-01:

15. Make sure the new firmware and web_en are placed in the root directory.

Begin a ftp session with the radio your wishing to upgrade.

C:\>ftp 192.168.1.100

Username: public

Password: supervisor

ftp> cd flash

ftp> put vip02-60-02.bz

ftp> put web_en.gz

16. Issue the command:

>sdp <operational firmware file>

This will set this version as the default program after a power cycle or reboot.

17. Check the upgrade procedure for this version if the radio is part of an active network. Other procedures or a specific order of rebooting the network radios may be specified in the upgrade procedure. Otherwise, issue the command:

>reboot

Loading Boot and Operational Code using the serial port:

18. Copy the boot loader file (e.g. bvip1-15-01.dwn) into either the Hyperterminal or otherwise known directory.

19. Set up a Hyperterminal session at 9600-8-N-1-no flow control. Plug the PC into the radio using the RS-232 cable and verify a serial connection to the radio.



20. Issue the command:
>dir
Verify the radio bootrom version. If the bootrom has already been upgraded to the current version, this procedure is not required.
 21. Issue the command:
>reboot
and when the radio displays the countdown, push the "ESC" key. The radio should go to the "boot " mode indicated by the prompt "boot >".
 22. Issue the command:
>console baud=115200
This will set the radio to operate at 115.2 kbps.
 23. Reset Hyperterminal to run at 115200 bps and verify that there is communication with the radio.
 24. Issue the command:
>download tmp/boot method=inline
This radio will respond that is it ready to accept a file.
 25. In Hyperterminal, select "Transfer- Send Text File..." and choose "All files" under "Files of Type". Locate the boot loader file (e.g. bvip1-15-01.dwn) and click the "open" button. The radio will indicate that the file is loading.
 26. When the "boot >" prompt returns, issue the command
>unlock wr2411
The radio will say that the commands are unlocked.
 27. Issue the command:
>newboot tmp/boot
 28. Reset Hyperterminal to run at 9600 bps and verify that there is communication with the radio.
 29. Issue the command:
>dir
and verify that the radio is using the new boot version
 30. Make sure the operational code file (e.g. VIP02-50-11.dwn) is in either the Hyperterminal or an otherwise known directory.
 31. Issue the command:
>console baud=115200
This will set the radio to operate at 115.2 kbps.
 32. Reset Hyperterminal to run at 115200 bps and verify that there is communication with the radio.
 33. Issue the command:
>download <operational firmware file> method=inline
This radio will respond that is it ready to accept a file.
 34. In Hyperterminal, select "Transfer- Send Text File..." and choose "All files" under "Files of Type". Locate the operational code file (e.g. vip02-50-03.dwn) and click the "open" button. The radio will indicate that the file is loading.
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35. When the prompt returns, issue the command:

>sdp <operational firmware file>

This will set this version of operational code as the default program after a power cycle or reboot.

36. Check the upgrade procedure for this version if the radio is part of an active network. Other procedures or a specific order of rebooting the network radios may be specified in the upgrade procedure. Otherwise, issue the command:

>reboot

Reset Hyperterminal to run at 9600 bps and verify that there is communication with the radio.

If there are any questions in regard to this application note, contact your local sales distributor or Eion Wireless.