Microwave Data Systems Inc.

Firmware Upgrade Process for MDS entraNET 900 Access Point

This document outlines the recommended upgrade process for the entraNET-series radio from Versions 1.4.0 and 1.5.0 to firmware version 2.3.2 or later. This process has been developed with a number of assumptions, which will help speed the reprogramming steps.

Notes:

1) This process is a 2-step function. The installation of firmware 2.3.2 is dependent upon completion of a "Flash Remap" at the Access Point only. Remote radios do not need to be remapped. The remap process will automatically run without user intervention required. This process MUST not be interrupted, and you should ensure that the Access Point is on a stable source of power during this initial reprogramming step.

2) The "Flash Remap" firmware does not contain working radio programming. When the "Flash Remap" process is completed, the Access Point will not allow communications with your remotes until such time as the second part of the reprogramming process at the Access Point is completed.

3) The Access Point should not be connected to a high-traffic LAN segment. When the device is connected to a high-traffic segment, the potential for excess broadcast traffic to interfere with the upgrade process is elevated. MDS recommends that, if at all possible, the Access Point be isolated to a quiet network segment during this process.

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1.1 File Versions Required for Upgrade

Upon receipt of the upgrade package from MDS, verify that you have the following files:

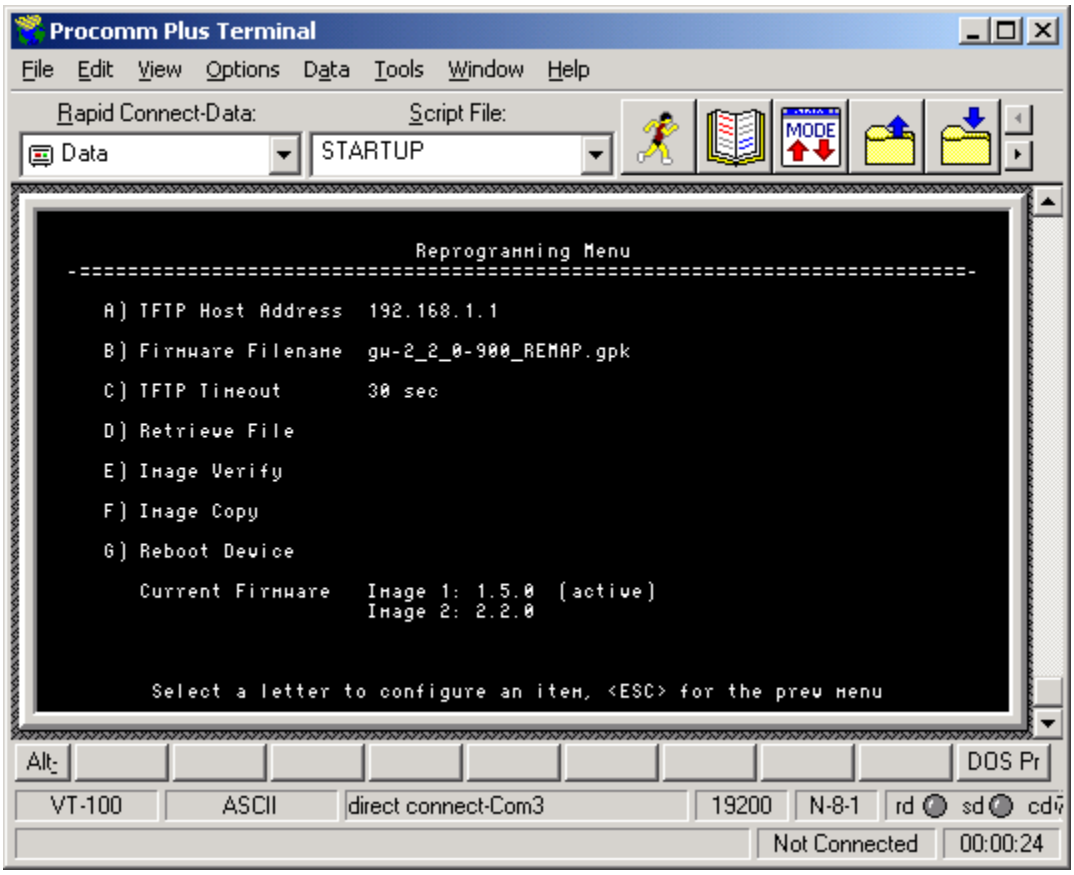
gw-2_2_0-900_REMAP.gpk – This package is the "Flash Remap" Utility.

gw-bkrto-2_3_2.gpk – This is the final installation package for the Access Point (after Remap).

Store these files in a directory that is accessible to a TFTP Server. The Access Point will retrieve these files over the Ethernet Connection, from a TFTP Server. For more information on the upgrade process please consult the User's Manual, part no. 05-4055A01. This manual is available at www.microwavedata.com

1.2 Flash Remap: Reprogramming Steps

With the Access Point connected to a quiet network segment, and able to communicate with a TFTP Server, go to the Main Menu. Select J) Maintenance / Tools, then A) Reprogramming. (Image 1):



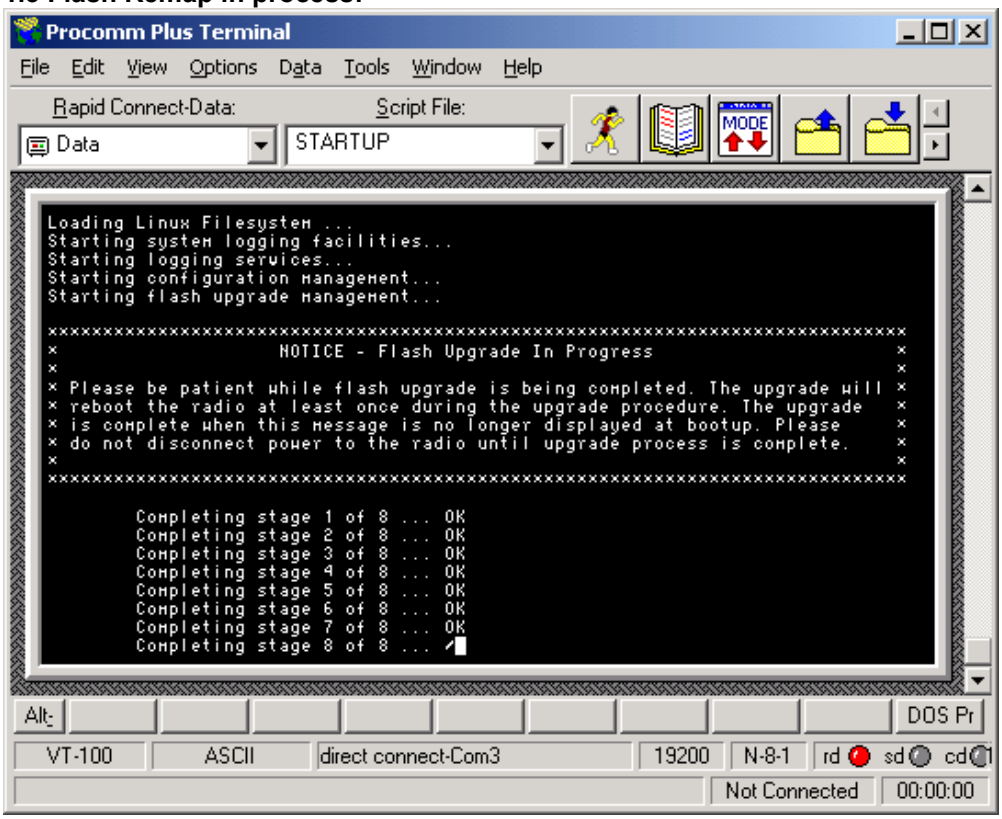
Select A to configure the IP Address of the TFTP Server where the upgrade files reside.

Select B to enter the filename you wish to reprogram. If this is the first reprogramming step, use the "Flash Remap" filename. If you have completed the "Flash Remap" – use the final installation package filename.

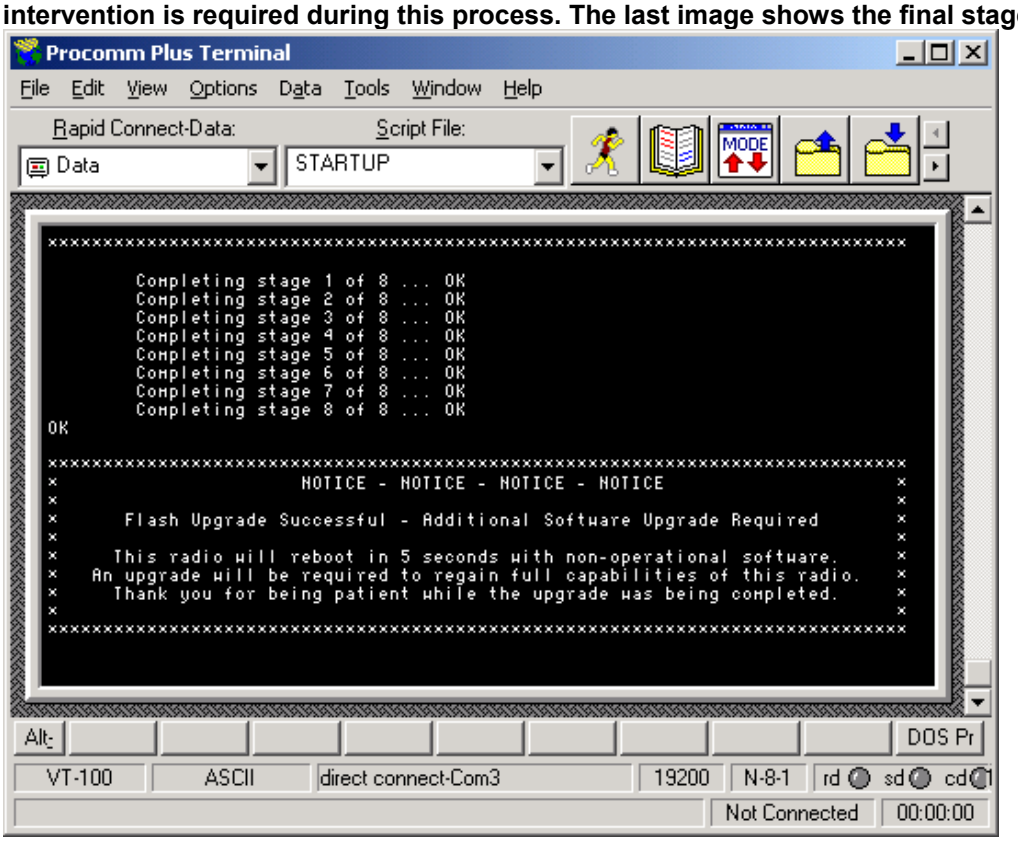
NOTE: This is case sensitive

Once the file transfer is complete, reboot to the image labeled 2.2.0. The flash remap utility is a self-contained firmware package, which requires no user intervention during its process. However, please ensure that your Access Point is connected to a stable power connection during this process. Should the Access Point lose power during this process, it may become unstable.

1.3 Flash Remap in process:



During the remapping process, you will see the following screens. This indicates that the process is running. Also note, the Access Point will reboot at least once during this process. No user intervention is required during this process. The last image shows the final stage of the remap.

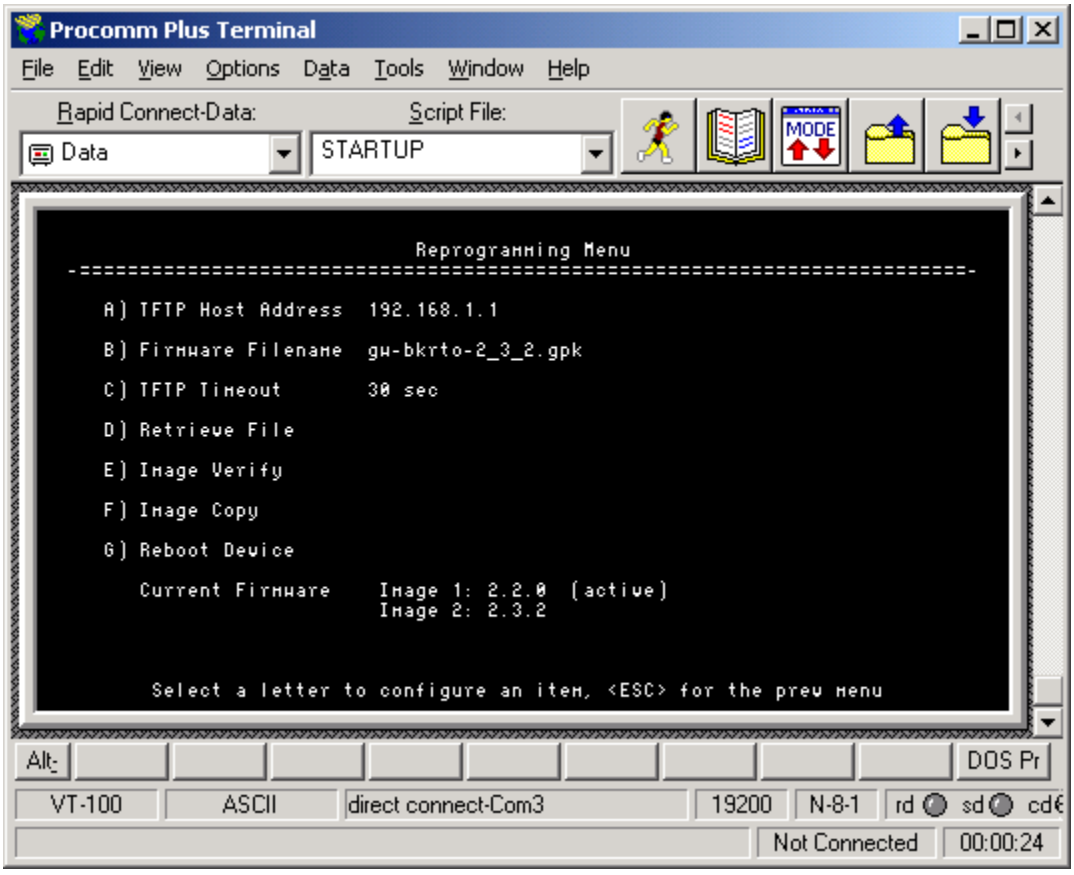


1.4 Post-Remap Installation Steps:

Upon completion of the Remapping, the Access Point will become operational. However, any Remotes in the network will NOT associate. This is by design, as the remapping utility is not intended as a final firmware installation.

Following the same steps as detailed in section 1.2, begin reprogramming your Access Point with the final firmware package labeled 2.3.2. Upon completion of the file transfer, reboot the Access Point to the new firmware image, labeled 2.3.2. Once the reboot is complete, log into the device, and return to the reprogramming menu.

Select **F) Image Copy** to transfer the installed firmware to the inactive image.



NOTE: This step is to ensure that the “Flash Remap” utility is not available for use on this Access Point. As this utility is solely intended for the remap, and not for daily operation – it should be overwritten by the final firmware package 2.3.2. The Image Copy utility will put the final firmware package on both images. This will ensure that, in case of power loss or image corruption – the inactive image will contain valid firmware.

This completes the Access Point Remapping Process!

Please review the document ***4289-eNET-RemoteReprogramming.doc*** (MDS P/N 05-4289A02 Rev A) which was included in the Firmware Distribution for details about upgrading the connected Remotes on your network.