

*Instructions for Updating NS Boot
Code Level: H2033190 (3/31/99) on
Series 2800 When Normal
Procedures Fail*

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1 Overview

*This document should only be used if experiencing network problems in updating the H2033190 - 03/31/99 to the latest level of H2080690 - 08/06/99 according to the instruction in “Appendix C. Updating the NS Boot version H2033190 (03/31/99)” in “Using IBM Network Station Manager V2R1, September 1999 (order no. SC410690-00)”. Many of the IBM Network Stations Model 2800 have been shipped with this down level version *which have* to be reflashed to the latest level (H2080690 - 8/6/99). Many *improvements have been made to the H2080690 level which affect the* transport protocols of TFTP and NFS and to the device drivers for Tokenring and Ethernet. H2033190, which is an early development version of boot code, may experience problems in busy networks where more than 40% of the available network bandwidth has been used.*

Other improvements made from the H2033190 level to the H2080690 level include a newly designed IBM NS Boot Utility. Once the H2033190 level is updated, the menus documented in the following instructions will have been replaced and can no longer be referenced.

2 Identifying the H2033190 Boot Code Level

Reset the Network Station by either turning on the power switch in the back of the network station, or if power is already applied, by hitting the white reset button in the front. As the boot code is executing look for the message:

NS0010 Boot Monitor Version H2033190 (03/31/99)

If this message appears, then the Network Station's boot code will have to be updated.

Enter the Network Station Setup Utility by pressing the Esc during the startup sequence. The following screen should appear:

```
SCRN02                                Network Station
                                         Setup Utility
```

```
F2  = View Hardware Configuration
F3  = Set Network Parameters
F4  = Set Boot Parameters
```

```
Return=Reboot
```

Continue with "Configuring the Network Station6.

3 Configuring the Network Station

Please refer to “Appendix C. Updating the NS Boot version H2033190 (03/31/99)” in “Using IBM Network Station Manager V2R1, September 1999” (order no. SC41-0690-00) for instructions on how to configure the Network Station to update the NS Boot version via NVRAM settings or by using a DHCP server.

When specifying the transport protocol, either via NVRAM (pressing the F4 key above to Set Boot Parameters) or via DHCP (thru the use of Option 211), use TFTP not NFS. The Trivial File Transport Protocol service should be available on all the supported server platforms (AS/400, Windows NT, and RS/6000)

If the Network Station fails to download the file, please continue with “Problems with Downloading New Boot Code Version “ on page 7 .

4 Problems with Downloading New Boot Code Version

If you are experiencing problems in downloading the new boot code:

1. Repeat the operation several times.
2. Try downloading the file when the network utilization is below 40% (less activity or off-shift)

If you continue to have problems, then the block size of the TFTP transfers should be changed from the default 4096 to a smaller value. Follow the procedure below to change the block size:

1. Reset the Network Station by cycling the power switch in the back of the network station, or if power is already applied, by hitting the white reset button in the front.
2. Enter the Network Station Setup Utility by pressing the Esc during the startup sequence
3. Press the Alt-F1 keys simultaneously
4. Enter the Configuration Menu by pressing '8'
5. Enter the Change Block Size Menu by pressing '4'
6. Change the block size by pressing '2'
7. Enter a block size less than 4096 bytes (recommend 1024. *Does not have to be on a 512 byte boundary*)

If problems still persist, continue with “Validating Network Configuration “ on page 8.

5 Validating Network Configuration

If problems still persist in downloading the new boot code, verify your network configuration as follows:

1. Reset the Network Station by cycling the power switch in the back of the network station, or if power is already applied, by hitting the white reset button in the front.
2. Enter the Network Station Setup Utility by pressing the Esc during the startup sequence
3. Press the Alt-F1 keys simultaneously
4. Press '9' for Misc Menu.
5. Press '6' for Network Menu
6. Press '3' for Print Boot Configuration

The following fields *should* be displayed:

1. Local IP Address¹
2. Boot File Server IP Address¹
3. Subnet Mask^{1 or 2}
4. Frame Type²
5. Local MAC Address² (this is the Network Station's MAC address)
6. Boot Protocol¹ (should also list the DHCP server IP address² if DHCP was specified and a DHCP offer was received)
7. Transport Protocol¹

If the Boot File Server is not on the local subnet, then the following fields *should also* be displayed:

1. Gateway IP address¹
2. Gateway MAC address² (filled in my NS Boot code)

If any of the required fields are not filled in, then either the NVRAM configuration data or the DHCP server configuration file should be verified for correctness. If problems still persist, continue with "Compact Flash Firmware Update" on page 9.

¹ Filled in by user (NVRAM) or boot protocol server (BOOTP/DHCP)

² Filled in by NS Boot Code

6 Compact Flash Firmware Update

If network problems persist and all the above workarounds have failed, the boot code will have to be updating using a compact flash card.

1. Unplug system.
2. Remove cover.
3. Place jumpers on bootblock pins.
4. Insert compact flash with boot code update.
5. Plug system back in
6. Reset the Network Station by cycling the power switch in the back of the network station, or if power is already applied, by hitting the white reset button in the front.
7. LED should come on solid green. Wait for LED to flash.

If the LED flashes green, the reflash is successful.

If the LED remains solid green for more than 2 minutes, the jumper may not be installed and the reflash has not taken place.

If the LED flashes yellow, the system cannot be reflashed and an IBM service representative should be contacted. **WARNING:** Do not unplug the system until the LED flashes green, changes to yellow, or 2 minutes have passed.

If the reflash is successful (LED flashes green):

1. Unplug system.
2. Remove compact flash and jumper
3. Plug the system back in.
4. Reset the Network Station

