

**IBM 8260**  
**NWAYS Multiprotocol**  
**Switching Hub**

**Installation Instructions**

**for**

**ATM WAN2 Module FPGA C32**

**and**

**WAN I/O Card Codes Upgrade**

PN: N/A	EC: N/A	Sep 11, 1998		<i>Page 1</i>
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## TABLE of CONTENTS

1 UPGRADE .....	3
1.1 Prerequisites .....	3
1.2 Copying Operational/Boot And FPGA A-CPSW Codes On Your Workstation .....	3
1.2 .1 Code Download From Web .....	3
1.3 In-Band Download Method .....	4
1.4 Out Of Band Download Method .....	5
2 UPGRADING WAN2 MODULE AND WAN I/O CARD. ....	6
2.1 Download Inband The WAN2 FPGA Picocode. ....	6
2.2 Download Inband The WAN I/O Card Code. ....	8

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## 1 UPGRADE

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### 1.1 Prerequisites

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The minimum FPGA level required for A-CPSW is B52.

### 1.2 Copying Operational/Boot And FPGA A-CPSW Codes On Your Workstation

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#### 1.2 .1 Code Download From the Web

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The code upgrade files posted on the Web are available to upgrade WAN2 module and WAN I/O cards. They consist of the FPGA picocode and WAN I/O card codes, so that text files in plain text or PDF (Acrobat reader) format.

These files must be placed in a directory reachable through TFTP, like /tmp for a Unix/AIX station, so that In-Band download toward the A-CPSW can be performed.

After package file has been downloaded and unzipped, on an AIX Workstation make sure that the files can be read by all users :

1. Log in as "root"
2. Set the path to the microcode files directory
3. Enter: *CHMOD a+r fpgac32.zip (FPGA C32 picocode)*
4. Enter: *CHMOD a+r e1v26.zip (E1/T1 v.2.6 code)*
5. Enter: *CHMOD a+r e3v52.zip (E3 v.5.2 code)*
6. Enter: *CHMOD a+r ds3v51.zip (DS3 v.5.1 code)*
7. Enter: *CHMOD a+r oc3v41.zip (OC3 v.4.1 code)*
8. Enter: *CHMOD a+r stm1v41.zip (STM1 v.4.1 code)*

**WARNING:**

WAN2 FPGA picocode file is in **BINARY** format, and WAN I/O card code files are in **ASCII** format.

## **1.3 In-Band Download Method**

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You need to perform an inband download operation, using either:

### **1. Classical IP mode.**

Make sure that your ATM network is configured for IP Over ATM (RFC 1577). To configure your ATM network for IP over ATM:

- 1) Connect an ARP server to the ATM network. The ARP server will be used to map IP addresses to ATM addresses.
- 2) For each A-CPSW module verify that the following parameters are configured:
  - ATM address of the ARP server
  - IP address and IP mask of the A-CPSW
  - IP address of the default gateway
- 3) Verify the IP connectivity to the ARP server by entering a PING command for each A-CPSW module.
- 4) Verify the IP connectivity to the TFTP server by entering a PING command for each A-CPSW module.

### **2. Ethernet or Token Ring LAN-Emulation mode.**

Make sure your network is configured in Ethernet or Token Ring LAN-Emulation. To configure your network in Ethernet or Token Ring LAN-Emulation :

- 1) You must have an Ethernet or Token Ring LAN-Emulation Server configured and ready. You can use the local LES of the 8260.
- 2) You must configure the Ethernet or Token Ring LAN-Emulation Client on your 8260.
- 3) You must have a TFTP Server somewhere in the IP network (either on the Emulated LAN, either behind an IP Gateway), and the microcode files installed on that TFTP Server.
- 4) Check that you can PING the TFTP server from the 8260 LEC.

### **3. Serial Line IP support (SLIP) mode.**

Make sure your workstation can act as a TFTP server.

- 1) Set up a A-CPSW Configuration Console in SLIP Mode:
- 2) Then configuring the SLIP interface on the TFTP workstation will allow you to perform Inband Download between your workstation and the A-CPSW.
- 3) The SLIP connection will be broken after a reset of the A-CPSW and connection will be operational in normal mode.

## **1.4 Out Of Band Download Method**

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- FPGA picocode cannot be downloaded using this method, only boot and operational of A-CPSW Module.

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## **2 UPGRADING WAN2 MODULE AND WAN I/O CARD.**

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**IMPORTANT:**

The following steps are showing an example of Inband Download.  
You may log in to the A-CPSW console either **locally** using an ASCII terminal connected to the A-CPSW console port, or **remotely** using a TELNET session. *PLEASE, READ WHAT FOLLOWS CAREFULLY*

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### **2.1 Download Inband The WAN2 FPGA Picocode.**

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This operation should be done only if your WAN2 FPGA picocode is not uptodate, the latest level is C32.

**1. Configure the TFTP parameters by entering the following commands:**

- *SET TFTP SERVER\_IP\_ADDRESS <ip address of the TFTP server>*
- *SET TFTP FILE\_TYPE FPGA*
- *SET TFTP FILE\_NAME*

Type the full path name of the FPGA file when prompted

- *SET TFTP TARGET\_MODULE <n>* (n=1 to 8, or 12 to 17 depending of WAN2 module position).
- *SAVE TFTP*

**2. Make sure you can reach the TFTP server by entering:**

- *PING <ip adress of the TFTP server>*
- Stop PING by entering: Ctrl+C

**3. Start the download inband procedure by entering:**

- *DOWNLOAD INBAND* and confirm with "Y"

**4. Wait for successful termination of the download operation (it may take up to 10 minutes). The message *Download successful* is displayed.**

PN: N/A	EC: N/A	Sep 11, 1998		Page 6
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**5. This may also be checked by displaying the TFTP last transfer result with the command:**

- *SHOW TFTP*

The command *SHOW MODULE <n> VERBOSE* (n=1 to 8, or 12 to 17 depending on WAN2 module position) displays the FPGA level in backup. It should appear as C32.

**6. Activate the new version of WAN2 FPGA picocode by entering the command:**

- *SAVE ALL*
- *SWAP FPGA\_PICOCODE <n>* (n=1 to 8, or 12 to 17 depending on WAN2 module position)

## **2.2 Download Inband The WAN I/O Card Code.**

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This operation should be done only if your WAN I/O card code is not uptodate, the latest level are:

- v.2.6 for E1/T1 I/O card
- v.5.2 for E3 I/O card
- v.5.1 for DS3 I/O card
- v.4.1 for OC3 I/O card
- v.4 1 for STM1 I/O card

**1. Log in as the Administrator on the A-CPSW console**

**2. Configure the TFTP parameters by entering the following commands:**

- *SET TFTP SERVER\_IP\_ADDRESS <ip addr of the TFTPserver>.*
- *SET TFTP FILE\_TYPE PORT*
- *SET TFTP FILE\_NAME* Type the full path name of the WAN I/O card code file when prompted (its actual name is indicated in the Readme file).
- *SET TFTP TARGET\_PORT <n>* (n=1 or 5, depending of WAN I/O card position).

**3. Make sure you can reach the TFTP server by entering:**

- *PING <ip address of the TFTP server>*
- Stop PING by entering: Ctrl+C

**4. Start the download inband procedure by entering:**

- *DOWNLOAD INBAND* and confirm with "Y"

**5. Wait for successful termination of the download operation. The message *Download successful* is displayed.**

**6. This may also be checked by displaying the TFTP last transfer result with the command:**

- *SHOW TFTP*

PN: N/A	EC: N/A	Sep 11, 1998		Page 8
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The command *SHOW PORT <slot.port> VERBOSE* displays the new WAN I/O card code version which will become active after an WAN2 module reset.

**UPGRADE COMPLETE**

You have successfully completed the upgrade.

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