IBM 8260 Nways Multiprotocol Switching Hub

Installation Instructions

for

ATM Control Point

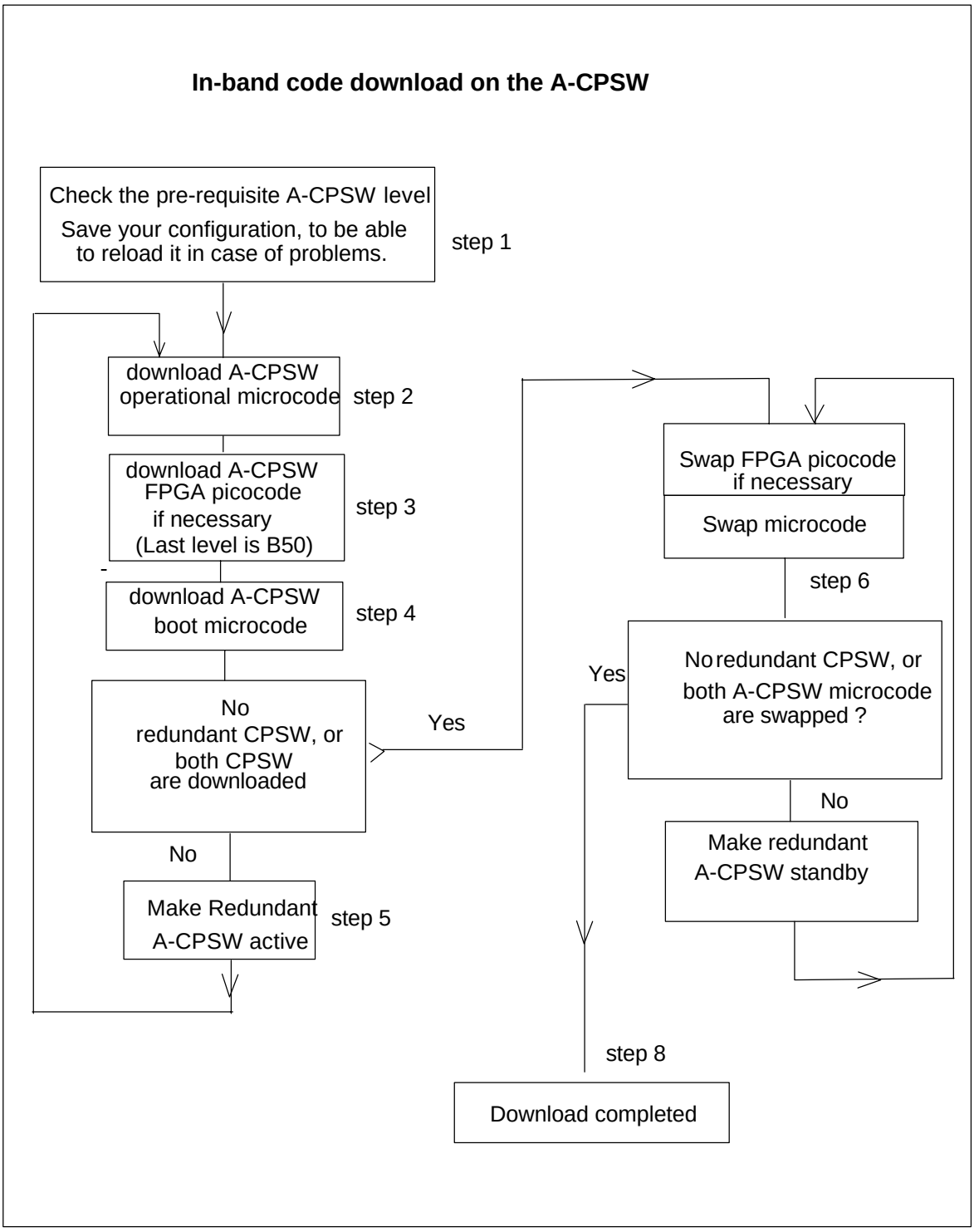
FC 5000+MES 5001 or FC 5100

OPERATIONAL MICROCODE VERSION V.2.5.4

BOOT MICROCODE VERSION V.2.5.4

TABLE of CONTENTS

1 Upgrade synopsis



1.1 Prerequisites

1. IF YOU NEVER APPLIED THE FIELD B/M 51H5213 EC NUMBER E95664, here under are the minimum required levels for the ATM components:

Component	Feature	Operational FPGA version	Flash EEPROM version	Boot EEPROM Version
A-CPSW	5000 5100	9	v.2.1.0	v.2.1.0
A4-FB100(MIC)	5004	6	n/a	n/a
A4-FB100(SC)	5104	6	n/a	n/a
A2-MB155	5002	7	n/a	n/a
A3-MB155	5003	1	n/a	n/a
A12-TP25	5012	1	n/a	n/a
A-CMU1	5102	B3E3/B3F3	n/a	n/a
A-CMU2	5202	B3E3/B3F3	n/a	n/a
A04MB-BRG	5204	B3E3/B3F3	n/a	n/a
A-MSS	5300	B3E3/B3F3	n/a	n/a
A2-WAN	5302	B3E3/B3F3	n/a	n/a

IF SOME ARE AT A LOWER LEVEL YOU MUST UPGRADE THEM TO THESE LEVELS FIRST.

☑ 8260 A-CPSW FC 5000 CAN ONLY BE AT THE ABOVE LEVELS, IF AND ONLY IF THE MES 5001 FIELD BM PART NUMBER 51H3882 EC 28188 HAS BEEN PREVIOUSLY APPLIED.

☑ FIELD B/M 51H4282 EC E28134 WILL ALLOW TO UPGRADE ATM MEDIA MODULES (A4-FB100 MIC,A4-FB100 SC,A2-MB155) TO THE LATEST FPGA 8/81 LEVEL.

☑ PACKAGES FOR MEDIA MODULES ARE AVAILABLE ON INTERNET AT URL
http://www.raleigh.ibm.com/826/826fix.html

2. IF YOU ALREADY APPLIED THE FIELD B/M 51H5213 EC NUMBER E95664, here under are the minimum required levels for the ATM components:

Component	Feature	Operational FPGA version	Flash EEPROM version	Boot EEPROM Version
A-CPSW	5000 5100	B40	v.2.4.3	v.2.4.3
A4-FB100(MIC)	5004	B40	n/a	n/a
A4-FB100(SC)	5104	B40	n/a	n/a
A2-MB155	5002	B40	n/a	n/a
A3-MB155	5003	C21	n/a	n/a
A12-TP25	5012	C20	n/a	n/a
A-CMU1	5102	B40	n/a	n/a
A-CMU2	5202	B40	n/a	n/a
A04MB-BRG	5204	B40	n/a	n/a
A-MSS	5300	B40	n/a	n/a
A2-WAN	5302	B40	n/a	n/a

1.1 .1 Machines Affected

This installation instruction, Part Number N.A., applies to the following 8260 A-CPSW levels:

Component	Feature Code	Flash EEPROM Version	BOOT EEPROM Version
A-CPSW	5000 + MES 5001 5100	v.2.4.3 v.2.5.0 v.2.5.1 v.2.5.2	v.2.4.3 v.2.5.0 v.2.5.1 v.2.5.2

For a A-CPSW module, enter the SHOW DEVICE command at the A-CPSW console to verify the boot EEPROM version and flash EEPROM version. Enter the ***SHOW MODULE nVERBOSE*** command to verify the Part Number, EC level and the operational FPGA version of the ATM module in slot ***n.***

1.2 Copying Operational/Boot and FPGA A-CPSW Codes on your workstation

1.2 .1 Code download from the Web

The necessary code files to upgrade (or restore) a CPSW are available on the Internet. They consist of the boot and operational microcodes, the FPGA and MIB codes, and also of 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 CPSW can be performed.

After the files have been downloaded, on an AIX Workstation make sure that the files can be read by all users :

Log in as "root" Set the path to the microcode *files directory*

Enter: chmod a+r BOOTV254.BIN

Enter: chmod a+r OPEV254.BIN

Enter: chmod a+r FPGAB50.BIN

1.3 In-Band download method

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

- **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.

- **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.

- **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

- ***FPGA picocode*** *cannot be downloaded using this method,* ***only*** *boot and operational.*
- *Download can only be performed on* ***active CPSW.***

Once you have the code on your A-disk or hard disk, and you have connected your PC on the RS232 port, using an RS232 emulated terminal, you have to type the following commands on the command line:

MAINTAIN

DOWNLOAD OUT-OF-BAND BOOT (or OPERATIONAL)

You then have to choose the Xmodem protocol and select the path where your code is located.

Note: This method is not recommended since it takes more time than the In-Band method.

2 Upgrading the 8260

- ***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 :*

1. If you have only one A-CPSW (no redundant) follow the steps 1 to 4 then the steps 6 to 8.
2. If you have two A-CPSWs modules (one redundant A-CPSW) follow the steps 1 to 5 for main A-CPSW and the steps 2 to 4 then 6 for redundant A-CPSW .Then follow the steps 6, 7 and 8 on main A-CPSW (see upgrade synopsis).

2.1 Step 1 : Saving Configuration before the upgrade

It is recommended to perform the following steps with **NO OPERATIONAL TRAFFIC** flowing in your ATM campus network. Typically, this would be scheduled as part of a maintenance period. You should save all your configuration parameters before.
Before you begin the upgrade procedure we recommend to upload the configuration of each 8260 in your network :

1 Setup the TFTP parameters by entering the following commands:

- *SET TFTP SERVER_IP_ADDRESS <ip address of the TFTP server>*
- *SET TFTP FILE_TYPE CONFIGURATION*
- *SET TFTP FILE_NAME*
- *Provide the full path of the file when prompted*

2 Start the upload inband procedure by entering: UPLOAD

2.2 Step 2 : Download Inband the 8260 A-CPSW operational microcode

Upgrade the new active A-CPSW operational microcode as follows:

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 OPERATIONAL*
- *SET TFTP FILE_NAME*

• Type the full path name of the operational microcode file when prompted (its actual name is indicated in the Readme file).

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
When prompted, type "Y" to confirm.

4 Wait for successful termination of the download operation. The message *Download successful* is displayed.
This may also be checked by displaying the TFTP last transfer result through the command: *"SHOW TFTP"*.

The command *"SHOW DEVICE"* displays the downloaded operational code level as backup. It should display : **v. 2.5.4**.

2.3 Step 3 : Download Inband the 8260 A-CPSW FPGA picocode

This operation should be done only if your CPSW FPGA level is not uptodate, the latest level is B50.

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=9 or 11 depending of active A-CPSW 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
When prompted, type "Y" to confirm.

4 Wait for successful termination of the download operation (it may take up to 10 minutes). The message *Download successful* is displayed.
This may also be checked by displaying the TFTP last transfer result with the command: *"SHOW TFTP".*

The command *SHOW MODULE <n> VERBOSE* (n=9 or 11 depending on A-CPSW active position) displays the FPGA level in backup.
It should appear as B50.

2.4 Step 4 : Download Inband the 8260 A-CPSW boot microcode

Upgrade the new active A-CPSW boot microcode as follows:

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

2 Perform the command:

- *SET DEVICE MIGRATION NOT_ALLOWED*

3 Upgrade the A-CPSW boot microcode (Boot EEPROM) as follows:

- Configure the TFTP parameters by entering the following commands:
  - *SET TFTP SERVER_IP_ADDRESS <ip address of the TFTP server>*
  - *SET TFTP FILE_TYPE BOOT*
  - *SET TFTP FILE_NAME*
  - *Type the full path name of the boot microcode file when prompted (its actual name is indicated in the Readme file).*
- Make sure you can reach the TFTP server by entering:
  PING <ip address of the TFTP server>
  (Stop PING by entering: Ctrl+C)
- Start the download inband procedure by entering:
  DOWNLOAD INBAND
  When prompted, type *"Y"* to confirm.
- Wait for successful termination of the download operation. The message Download successful is displayed.
  This may also be checked by displaying the TFTP last transfer result with the command: *"SHOW TFTP"*.

The command *"SHOW DEVICE"* displays the new BOOT code version which will become active after an A-CPSW reset.
It should display: **v.2.5.4.**

If you have only one A-CPSW module go to step 6.

If you were upgrading your backup A-CPSW module go to step 6.

2.5 Step 5 : Make the backup A-CPSW active

If you have a redundant A-CPSW make the backup one active by entering on the active A-CPSW:

- *SET DEVICE ROLE SECONDARY*
- *SAVE ALL*
- *RESET ATM_SUBSYSTEM*
- *Log in as the **Administrator** on the A-CPSW console*
  *The hub will reset and the backup A-CPSW will become active. **GO TO STEP 2.***

2.6 Step 6 : Activate the new A-CPSW microcodes and the new FPGA picocode

DO NOT PERFORM ANY SWAP BEFORE HAVING DOWNLOADED :

1 OPERATIONAL CODE

2 FPGA CODE (If necessary)

3 BOOT CODE

4 Activate the new version of A-CPSW FPGA. picocode by entering the command:

- *SAVE ALL*
- *SWAP FPGA_PICOCODE 9 (or 11).The telnet session, if any, is broken.*
- *Login as **Administrator** on the A-CPSW console.*

5 Activate the new version of A-CPSW microcode by entering the command:

- *SWAP MICROCODE* and confirm with *Y. Your remote TELNET session is broken and you have to connect locally an ASCII terminal to the A-CPSW console port to get the connectivity again.*
- *Login as **Administrator** on the A-CPSW ASCII console.*

6 If you do not have redundant A-CPSW, go to step 7.
If you had already swapped new FPGA picocode and microcode on both A-CPSW modules go to step 7. **Check the new levels of codes .**
The following table lists the microcode and FPGA versions that must be displayed at completion of the upgrade. Use the following commands

- *SHOW DEVICE*

- *SHOW MODULE <n> VERBOSE*

Component	FPGA version	Flash EEPROM version	Boot EEPROM Version
A-CPSW	B50	v.2.5.4	v.2.5.4

Now make this A-CPSW be secondary again as it was before the beginning of the migration:

- *SET DEVICE ROLE SECONDARY*
- *SAVE ALL*
- *RESET ATM_SUBSYSTEM*
- *The hub will reset and the backup A-CPSW will become active.*
- *Perform the step 6 again on the other A-CPSW.*

2.7 Step 7 : Check the new levels of codes :

1 Login as ADMINISTRATOR on the active A-CPSW console

2 The following table lists the microcode and FPGA versions that must be displayed at completion of the upgrade. Use the following commands

- *SHOW DEVICE*
- *SHOW MODULE n VERBOSE*

Component	FPGA version	Flash EEPROM version	Boot EEPROM Version
A-CPSW	B50	v.2.5.4	v.2.5.4

2.8 PUBLICATION UPDATE

Insert the companion Release Note (RN60V254.PDF) in your publications binder.

END OF DOCUMENT