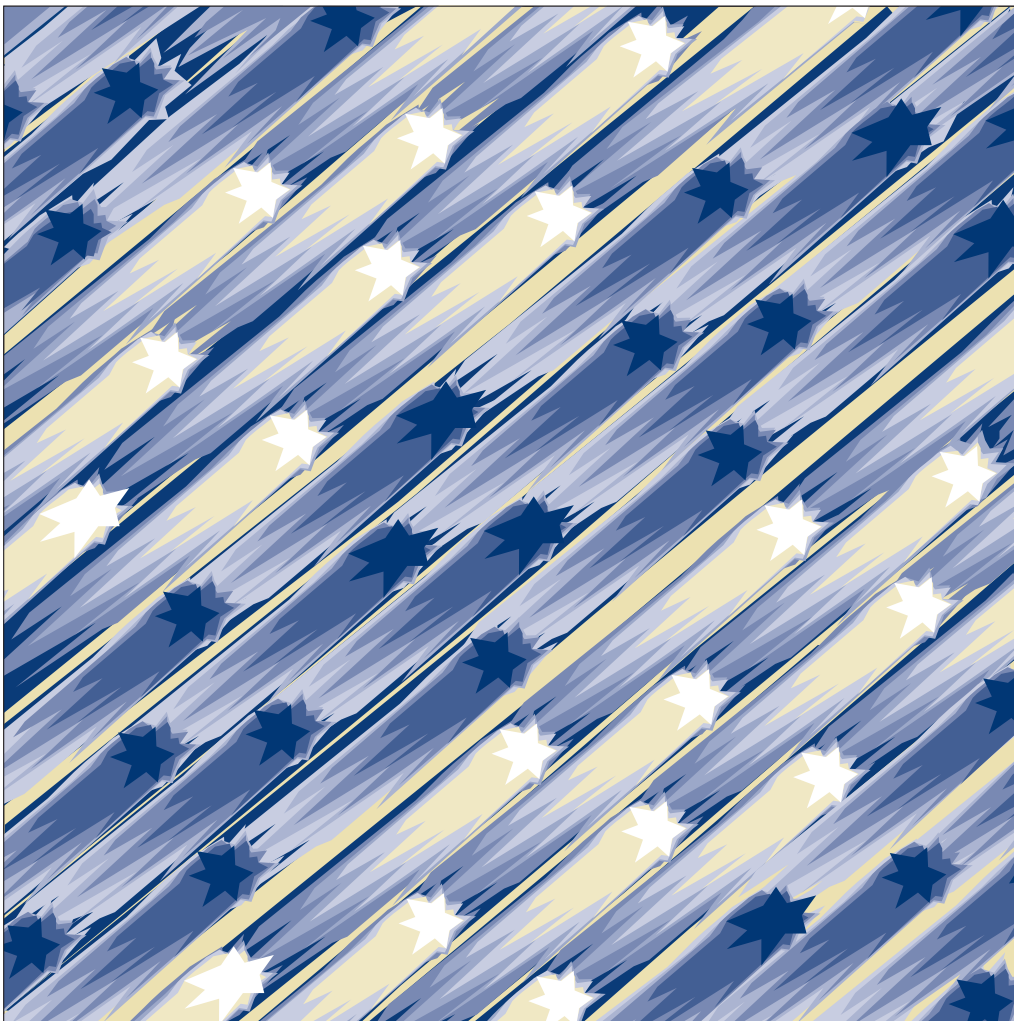8265 Nways ATM Switch

IBM

Problem Determination and Service Guide

8265 Nways ATM Switch

Problem Determination and Service Guide

IBM

┌─ **Note!** ───┐

Before using this information and the product it supports, be sure to read the general information under "Notices"
on page xi.

└──┘

First Edition (September 1998)

The information contained in this manual is subject to change from time to time. Any such changes will be reported in subsequent
revisions.

Order publications through your IBM representative or the IBM branch office serving your locality. Publications are not stocked at the
address given below.

A form for readers' comments appears at the back of this publication. If the form has been removed, address your comments to:

IBM France
Centre d'Etudes et Recherches
Service 0798 - BP 79
06610 La Gaude
France

- FAX: 33 4 93 24 77 97
- IBM Internal Use: LGERCF at IBMFR
- Internet: lgercf@fr.ibm.com

When you send information to IBM, you grant IBM a non-exclusive right to use or distribute the information in any way it believes
appropriate without incurring any obligation to you.

Contents

Figures

Tables

ix

Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the IBM Director of Licensing, IBM Corporation, 500 Columbus Avenue, Thornwood, New York 10594, U.S.A.

Product Page/Warranties

The following paragraph does not apply to the United Kingdom or to any country where such provisions are inconsistent with local law.

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore this statement may not apply to you.

European Union (EU) Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM can not accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

Year 2000 Statement

This product is Year 2000 ready. When used in accordance with its associated documentation, is capable of correctly processing, providing, and/or receiving date data within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with the product properly exchange accurate date data with it.

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Japanese Voluntary Control Council For Interference (VCCI) Statement

This equipment is in the 1st Class category (information equipment to be used in commercial and/or industrial areas) and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment aimed at preventing radio interference in commercial and industrial areas.

Consequently, when used in a residential area or in an adjacent area thereto, radio interference may be caused to radios and TV receivers, and so on.

Read the instructions for correct handling.

Power Line Harmonics (JEIDA) Statement

The guidelines of power line harmonics required by JEIDA are satisfied.

Korean Communications Statement

Please note that this device has been approved for business purpose with regard to electromagnetic interference. If you find this is not suitable for your use, you may exchange it for a non-business one.

New Zealand Radiocommunications (Radio) Regulations

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Taiwanese Class A Warning Statement

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user will be required to take adequate measures.

警告使用者:
這是甲類的資訊產品,在
居住的環境中使用時,可
能會造成射頻干擾,在這
種情況下,使用者會被要
求採取某些適當的對策．

Trademarks and Service Marks

The following terms, denoted by an asterisk (*), used in this publication, are trademarks or service marks of IBM Corporation in the United States or other countries:

APPN	IBM	OS/2	PS/2
RETAIN	XGA		

The following terms, denoted by a double asterisk (**), used in this publication, are trademarks of other companies:

Hayes	Hayes Microcomputer Products, Inc.
Intel	Intel Corporation
Pentium	Intel Corporation

General Product and Safety Information

This product meet IBM safety standards.

Safety Notice for United Kingdom

The network adapter interfaces housed within the IBM 8265 Nways ATM Switches are approved separately, each one having its own independent approval number. These interface adapters, supplied by IBM, do not use or contain excessive voltages. An excessive voltage is one that exceeds 42.4 V peak ac or 60 Vdc. They interface with the IBM 8265 Nways ATM Switch using Safety Extra Low Voltages (SELV) only. In order to maintain the separate (independent) approval of the IBM adapters, it is essential that other optional cards, not supplied by IBM, do not use mains voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by IBM.

Service Inspection Safety Procedures

Introduction

A safety inspection procedure for the 8265 should be performed:

- When it is inspected for an IBM agreement
- When IBM service is requested and no service has recently been performed by IBM
- When an alterations and attachments review is performed
- When changes have been made to the equipment that might affect its safety.

If the inspection indicates unacceptable safety conditions, the conditions must be corrected before IBM services the machine.

Note: The correction of any unsafe condition is the responsibility of the owner of the equipment.

The 8265 areas and functions checked through these procedures are:

1. External covers
2. Safety labels
3. Safety covers and shields
4. Grounding (earthing)
5. Input power voltage
6. Power control switch
7. Power OFF

Steps 1 through 6 must be performed after **power OFF** as follows:

1 External Covers

Check that:

- They are all present on the 8265.
- They are locked.
- They can be fully opened.
- Appropriate service clearance and access are provided around the 8265 with external covers opened.

Leave all external covers opened to allow further safety inspection steps.

2 **Safety Labels**

Check that:

- All the safety labels are at the places indicated by letters in "Safety Label Locations" on page xxi.
- Each label is of the model corresponding to the letter as shown on "Safety Label Identification" on page xxii.

3 **Safety Covers and Shields**

Check that all the safety covers are present and secured with screws.

4 **Grounding (Earthing)**

a **Grounding of the 8265 to the Premises Grounding System**

> **Note**
>
> In this manual, "ground" means that the equipment must be connected to the earth.

Check that:

- Electrical continuity is assured between the 8265, frame grounds, and to the premises grounding system, through the 8265 power cords.

b **ac/dc Power Cable Ground Wire**

- Check the mainline ac/dc power cable for damaged or burned pins and broken insulation.
- Measure the resistance of the disconnected mainline ac power cable from ground pin on one end to the ground pin on the other end.

The measurement should be 0.1 ohms or less.
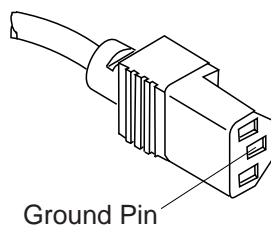
Ground Pin

Figure   0-1. Ground Pin on Mainline ac Power Cable

- Measure the resistance of the disconnected mainline dc power cable from the ground pin on one end to the cable ground (green and yellow) on the other end.

  The measurement should be 0.1 ohms or less.
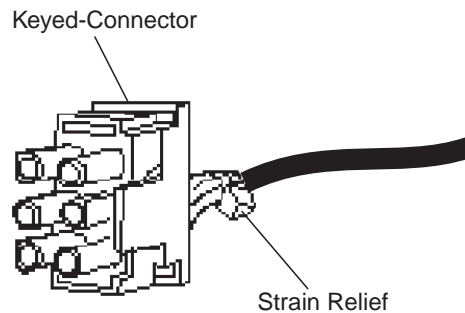
Figure 0-2. Ground Pin on Mainline dc Power Cable

C Internal Grounding on the 8265

On the 8265

- Check that electrical continuity is assured within the chassis, between the chassis and the installed power supplies via screws and internal connectors.

On the Rack (When the 8265 Is Installed In a Rack)

- Check that electrical continuity is assured between the 8265 frame (chassis) and the rack where the 8265 is installed.

  There are two ways to ensure proper grounding of the rack:
  1) Grounding is ensured by the screws which secure the 8265 chassis on the rack.
  2) Grounding is assured by wire **1** connected from the 8265 chassis to the rack.

  Note: The ground wire **1** is not provided by IBM.
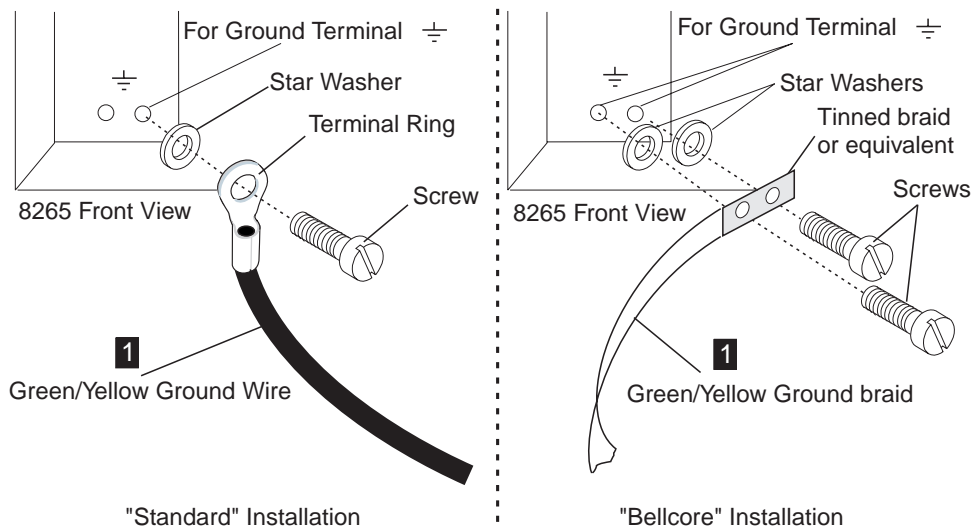
This operation must be performed before any network connection.

Note: All the previous measurements should indicate 0.1 ohms or less.

d **Building Grounding**

Check that there is less than 1 V ac between the metal housings of plugs, connectors, receptacles, and so on, and any grounded point in the building. This can be any grounded metal structure, such as the stanchions of a raised floor (if they are electrically connected to building ground), a metal water pipe, building steel, and so on.

Notes:

1) When probing a painted metal part, ensure that the meter probe tip penetrates the paint.

2) Also check plugs of incoming cables.

5 Input Power Voltage

Check the:

dc Input Voltage

For dc input, the customer's voltage must be within -40.0 V to -58.0 V. There is **no adjustment** for the optional dc input.

ac Input Voltage

For ac input, the customer's voltage must be within 100 V to 120 V or 200 V to 240 V.

6 Power Control Switch

a. Ask the customer to connect the power cords to the customer's mains supply.

b. Turn the power ON/STANDBY switch to ON on all the power supplies installed, then using the following table, check the status of each element.

Element	Status
Controller Module	• The green LEDs **power supply** (1 to 4 according to the number of power supply installed) are ON. • The green LEDs **Fan** are ON. • The yellow LED **Temp** is OFF.

7 Power OFF

a. Switch all the power supply switches to POWER OFF (**O**) and check that:

1) The 8265 is powered OFF.

Note

In the 8265, the primary power (ac) or filter sections (dc) stay energized.

For total disconnection, remove all the power plugs from supply outlets or shutdown the installation.

---

2) All the fans are stopped.

3) All LEDs on all modules installed are OFF.

Safety Label Locations
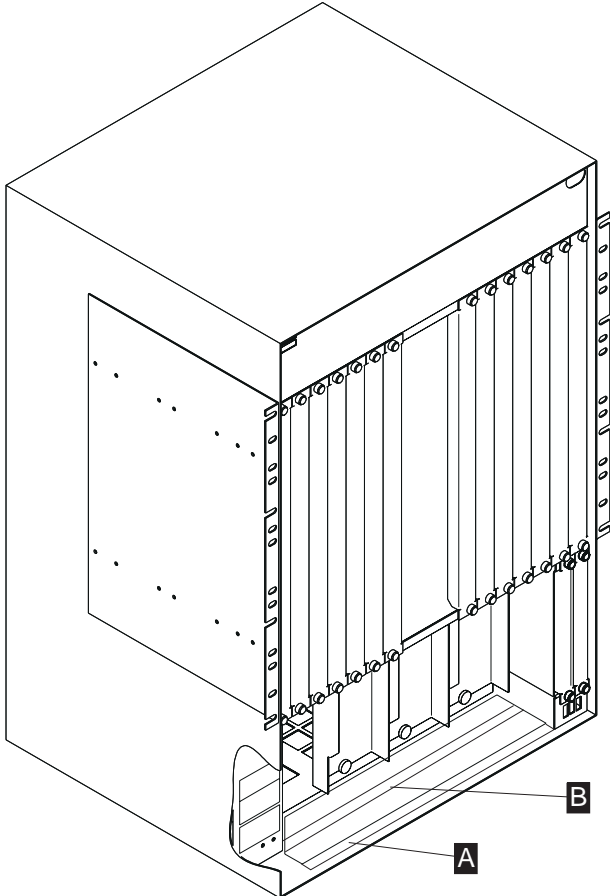
Figure   0-3. Safety Label Location on 8265
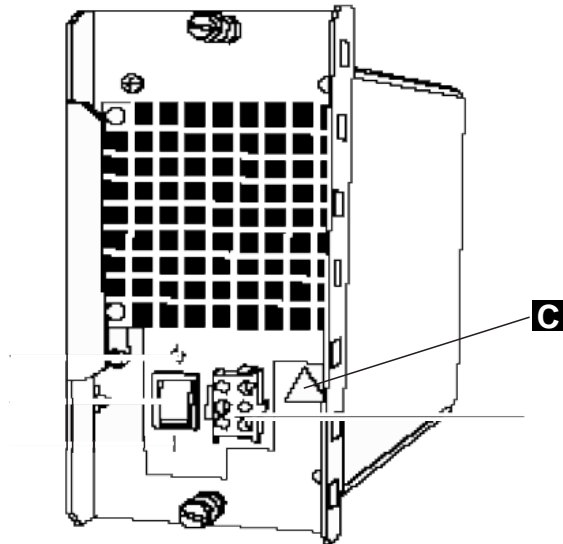
Figure   0-4. Safety Label Location on dc Power Supply

Safety Label Identification

LABEL A

⚠ **CAUTION**   TO AVOID HAZARDOUS ENERGY TRANSFER
KEEP HANDS AND TOOLS OUT OF THE MACHINE

SA33 0251

LABEL B

⚠ WARNING   FOR MAINTENANCE OTHER THAN THE INSTALLATION OR REMOVAL OF THE POWER SUPPLY FAN AND MODULES DESCRIBED IN THE MANUAL THE FOLLOWING APPLIES
THIS UNIT MAY HAVE ONE OR MORE POWER SUPPLY CORDS DISCONNECT ALL POWER SUPPLY CORDS BEFORE SERVICING TO AVOID ELECTRICAL SHOCK.

⚠ ATTENTION   QUANT AU MAINTIEN AUTRE QUE L'INSTALLATION OU L'ENLEVEMENT DU BLOC D'ALIMENTATION LE VENTILATEUR ET LES MODULE DANS LE MANUEL. NOTEZ CE QUI SUIT
CET APPAREIL PEUT COMPORTER UN OU PLUSIEURS CORDONS D'ALIMENTATION AFIN DE PREVENIR LES CHOCS ELECTRIQUES DEBRANCHER TOUS LES CORDONS
A L'ALIMENTATION AVANT LA MAINTENANCE.

⚠ VORSICHT   ZUR WARTUNG AUSSER DER IM GERATEHANDBUCH BESCHRIEBENEN INSTALLATIONODER ENFTERNUNG DESNETZIELS DES VENTILATORS UND DER MODULEN GILT FOLGENDES
DIESES GERAT HAT EINE ODER MEHR NETZVERBINDUGEN VOR WARTUNG DES GERATES ALLE NETZSECKER ZIEHEN UN ELEKTROSCHOCK ZU VERMEIDEN.

LABEL C

⚠

CAUTION
ATTENTION
ACHTUNG

SA33-0251

About This Manual

Who Should Use This Manual

The person using this manual should be:

- Trained to service the 8265.

- Familiar with the configuration and operation of the 8265.

The intended audience for this manual is Product-Trained Customer Engineers (PT-CE). The Product-Support Customer Engineer (PST-CE) is also expected to refer to the manual when required to perform the same tasks as the PT CE.

Purpose of This Manual

This document gives the service representative the information needed to:

- Analyze the problem or symptoms reported by the 8265.

- Restore the normal 8265 operation.

- Exchange all the FRUs of 8265.

- Run diagnostics on the 8265.

How This Manual Is Organized

This manual is organized as follows:

Safety information is at the beginning of this book.

Chapter 1   Gives the start page which points on the service or troubleshooting procedures.

Chapter 2   Gives MAPS for starting various service and troubleshooting procedures.

Chapter 3   Gives various procedures for 8265 maintenance.

Chapter 4   Gives the MAPs to be used for 8265 FRU replacement.

Chapter 5   Gives the CE leaving procedure.

Appendix A   Gives FRUs and some parts number for 8265.

Appendix X   Gives:

- Bibliography
- Abbreviations

Chapter 1. Start Problem Determination

Introduction

Start here to repair the 8265.

Note

In this manual, CPSW is the generic name for CPSW (Feature Code 6501) and CPSW2 (Feature Code 6502) unless otherwise specified.

CPSW   CPSW2
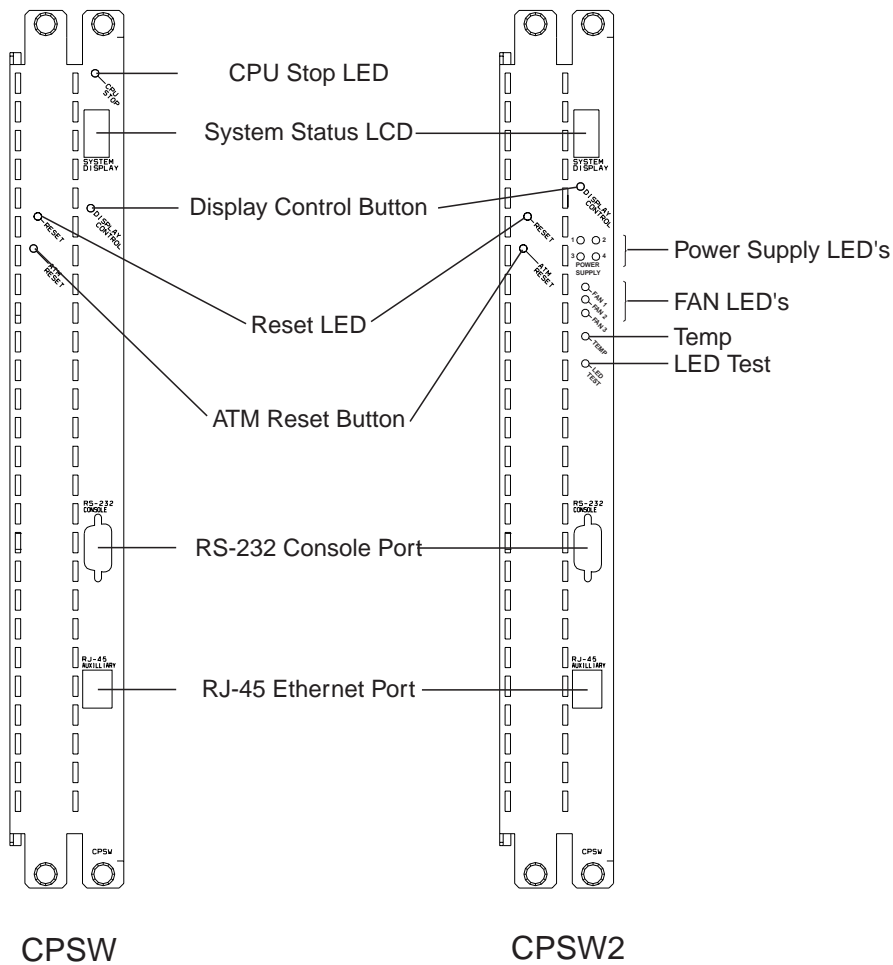
Figure   1-1. How to identify CPSW and CPSW2

Continue on the following page.

1-1

Going from top to bottom in the following table, select the first entry point which fits your situation.

.

If You Have	Then Go To
A visual symptom	"Visual Symptoms" on page 1-3.
Other symptoms	"Other Symptoms" on page 1-4
Installation problems	"Module Installation" on page 1-5
Maintenance actions	"Maintenance Actions and Procedures" on page 1-4
Need for information	"Miscellaneous Information" on page 1-5

Visual Symptoms

.

If You Have	Then Go To
Module's wrong slot LED is ON	Move the module to another slot (slots 9, 10, and 11 are reserved for CPSW modules only)
The 8265 seems inactive	"MAP 0100: CPSW2 and Controller Module" on page 2-2
All LEDs steady ON	"MAP 0100: CPSW2 and Controller Module" on page 2-2
LEDs blinking on modules in slots 18 and 19	"MAP 0100: CPSW2 and Controller Module" on page 2-2
The CPSW/CPSW2 module LEDs (red or yellow) ON	"MAP 0440: CPSW/CPSW2 LEDs" on page 2-52
All LEDs on a module OFF, and the module is not "working"	"MAP 0450: Module Installation Problem" on page 2-54
The Module Status LED not lite	"MAP 0450: Module Installation Problem" on page 2-54
MNTN followed by text messages scrolling on the display	"MAP 0210: CPSW/CPSW2 in Maintenance Mode" on page 2-23
A four digit message shown on the CPSW hex display	"MAP 0410: Arrow and Four Digits on Hexadecimal Display" on page 2-48
STBY not displayed on the backup CPSW, if any	"MAP 0400: Backup CPSW with No Standby LED ON" on page 2-47
The port error LED sometimes or permanently lights, transient problem appears on a given port	"MAP 0470: Problem During Activity on Media Modules" on page 2-64
Port error always ON	"MAP 0470: Problem During Activity on Media Modules" on page 2-64
Fans not running	"MAP 0200: Fans" on page 2-22
Heat smell, noise, or smoke	"MAP 0100: CPSW2 and Controller Module" on page 2-2

Other Symptoms

.

If You Have	Then Go To
Module resets in loop without reason	"MAP 0460: Reset Problem on Media Module" on page 2-59
Port error counters not empty	"MAP 0470: Problem During Activity on Media Modules" on page 2-64
Equipment connected to the 8265 shows a lot of data retransmission	"MAP 0470: Problem During Activity on Media Modules" on page 2-64
You cannot connect the ASCII console to CPSW, or there are bad/no characters on display	*8265 Nways ATM Switch User'Guide*, SA33-0456

Maintenance Actions and Procedures

Items	Then Go To
How to use the Main commands and when	"Summary of Important Commands and When to Use Them" on page 3-19
The console login password is lost or not working	"Resetting and Changing the Password" on page 3-24
What to do in maintenance mode	"Maintenance Mode" on page 3-23
CPSW download or upload process problem	"Upgrading the 8265 by Code Download" on page 3-12
How can I be sure of module levels?	"Compatibility Problems between Hardware and Microcode Module Levels" on page 2-68
How can I be sure of CPSW code level?	"How to See the Code Level of CPSW Module" on page 3-26
How to check physically a CPSW	"Checking of the CPSW Module" on page 3-28
How to check the power requirement for a module?	"How to See the Power Requirement for a Module" on page 3-27
How to run online wrap test?	"Online Diagnostics" on page 3-7
How to check a link with an IP device or a 8265 ATM switch?	"How to Verify a Link" on page 3-10
How to start trace and dump?	"Collecting Traces and Dumps" on page 3-1
How to reset a password?	"Resetting and Changing the Password" on page 3-24
FRU Exchange procedures	Chapter 4, "FRU Exchange" on page 4-1
Repair is complete: what should I check before leaving?	Chapter 5, "CE Leaving Procedure" on page 5-1

Module Installation

If You Have	Then Go To
New module installation: what should I do before installing?	Refer to *8265 Nways ATM Switch Installation Guide*, SA33-0441
Module cannot be inserted entirely in a 8265 slot	Move the module to another slot **and** see next entry below
Module connector, pins, or chassis backplane is damaged	Inspect the 8265 chassis and replace it if necessary

Miscellaneous Information

Items	Go To
CPSW and CPSW2 differences	"CPSW and CPSW2 Differences" on page 3-31
Compatibility problems between hardware and microcode module levels	"Compatibility Problems between Hardware and Microcode Module Levels" on page 2-68

Chapter 2.   MAPS

MAP 0100:   CPSW2 and Controller Module

Symptom Explanation
8265 seems inactive One or several LEDs located on the CPSW2 or on the controller module are OFF All LEDs are ON

CPU Stop LED

System Status LCD

Display Control Button

Reset LED

ATM Reset Button

RS-232 Console Port

RJ-45 Ethernet Port

Power Supply LEDs Status

Fan LEDs Status

Temperature status LED

LED Test

Power Supply LEDs Status

Fan LEDs Status

Temperature Status LED

Current Active Controller

LED Test

Hub Reset Button

CPSW2
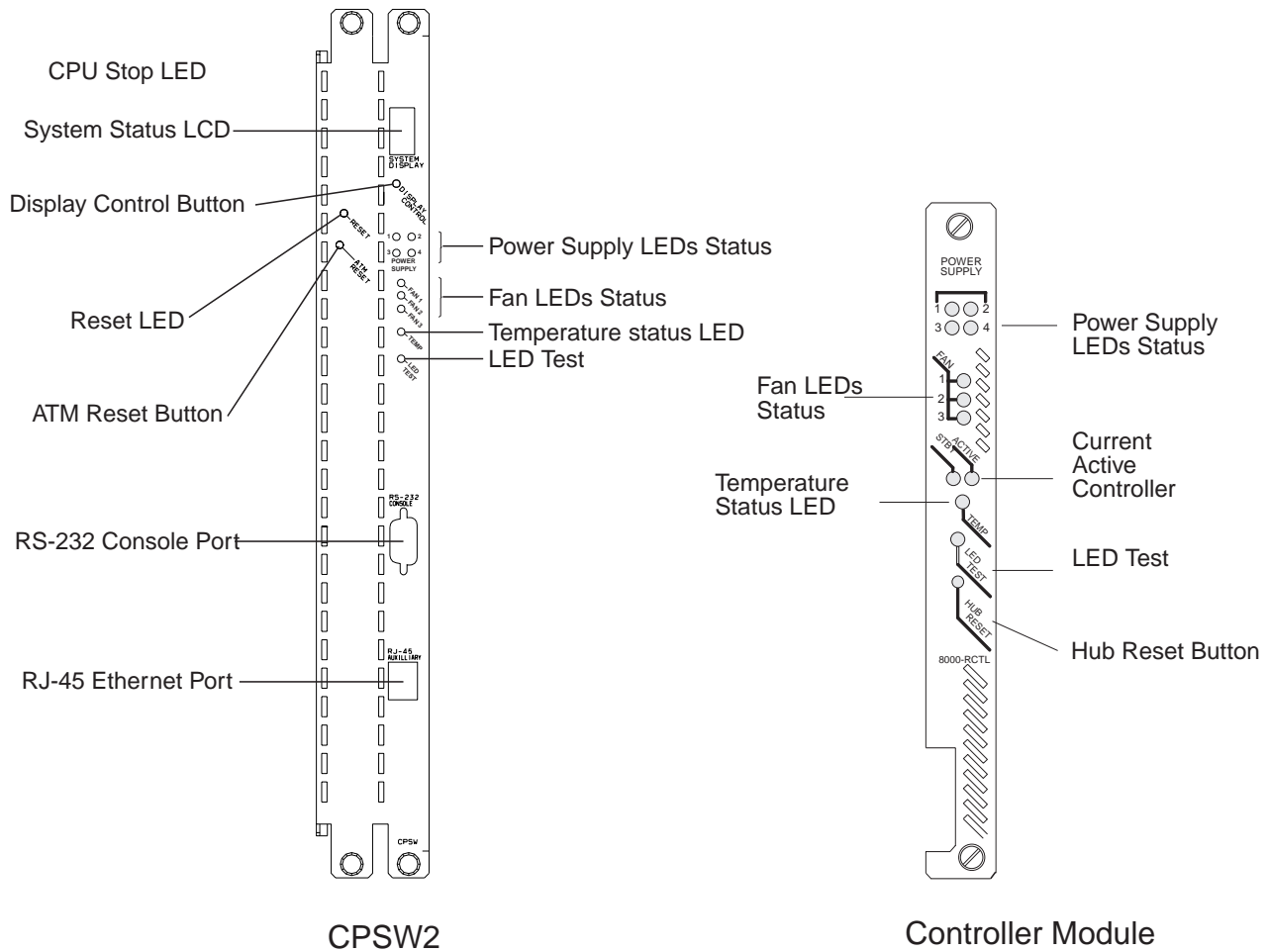
Controller Module

Figure   2-1. Controller Module and CPSW2

001

Do you have a CPSW2 installed in your 8265? (see Figure 2-1)
Yes   No

> **002**
>
> – Go to "MAP 0160: Controller Module LEDs" on page 2-14.

003

– Select your machine configuration using the following table and go to the appropriate procedure.

Number of Controller Module Installed	Number of CPSW2 Installed	Go To
1	0	"MAP 0160: Controller Module LEDs" on page 2-14
2	0	"MAP 0160: Controller Module LEDs" on page 2-14
0	1	"MAP 0120: CPSW2 LEDs" on page 2-6
0	2	"MAP 0120: CPSW2 LEDs" on page 2-6
1	1	"MAP 0110: 8265 Power and Fan Control" on page 2-4
1	2	"MAP 0110: 8265 Power and Fan Control" on page 2-4
2	1	"MAP 0110: 8265 Power and Fan Control" on page 2-4
2	2	"MAP 0110: 8265 Power and Fan Control" on page 2-4

MAP 0110: 8265 Power and Fan Control

Symptom Explanation
In your 8265 there are CPSW2 and controller module installed

8265 Power and Fan Control

When you have controller module and CPSW2 installed in the same 8265, the power and fan control can be done either by the controller module or by the CPSW2.

This MAP intends to help you to determine which module performs the power and fan control.

001

– Verify all power supply LEDs on all controller modules and CPSW2 installed in your 8265.

Is there a controller module or a CPSW2 with at least one power supply LED ON?
Yes   No

002

There are no power supply LEDs ON on the controller module and CPSW2 installed on your 8265.

– Go to Step 006.

003

Is the power supply LEDs ON on a controller module?
Yes   No

004

– Go to "MAP 0120: CPSW2 LEDs" on page 2-6.

005

– Go to "MAP 0160: Controller Module LEDs" on page 2-14.

006

– Switch OFF all the power supplies of the 8265.

– Remove the installed CPSW2 from the 8265 chassis.

– Check the setting of the switch located in the bottom left of the CPSW2.

  • The switch is down (OFF) the power control is assured by the CPSW2.
  • The switch is up (ON) the power control is assured by the controller module installed on the 8265.

Is the switch to the down position on the CPSW2?
Yes   No

007

(Step **007** continues)

007 (continued)

The power and fan control are performed by the controller module.

– Go to "MAP 0160: Controller Module LEDs" on page 2-14.

008

The power and fan control are performed by the CPSW2.

– Go to "MAP 0120: CPSW2 LEDs" on page 2-6.

MAP 0120: CPSW2 LEDs

Symptom Explanation
8265 seems inactive
One or several LEDs located on the CPSW2 are OFF
All LEDs are ON

Important

- **Shutdown of an active CPSW2 will stop the hub operation.**
- **One or two CPSW2 can be installed.**
- **One or two CPSW2 can be installed with one or two controller module.**
- **Power supplies can be in "fault tolerant mode".**
- **The CPSW2 are hot swappable.**

001

– Check all LEDs located on either one or both of the CPSW2 located in slot 9 and 11.

Are all LEDs OFF?
Yes   No

> ### 002
>
> **Are any of the active CPSW2 LEDs flashing?**
> **Yes   No**
>
> > ### 003
> >
> > – Go to "MAP 0150:   CPSW2" on page 2-12.
>
> ### 004
>
> **Are one of the four power supplies or the three fan LEDs on the active CPSW2 flashing?**
> **Yes   No**
>
> > ### 005
> >
> > – Go to "MAP 0140:   CPSW2/Fans" on page 2-10.
>
> ### 006
>
> **Is one of the four power supply LEDs on the active CPSW2 flashing?**
> **Yes   No**
>
> > ### 007
> >
> > – Go to "MAP 0200: Fans" on page 2-22.
>
> ### 008
>
> – Go to "MAP 0130:   CPSW2/Power" on page 2-8.

009

– Reseat the CPSW2 that has no LED ON.

Are any LEDs lit?
Yes   No

> **010**
>
> – Go to Step 002 on page 2-6.

011

– Go to "MAP 0130:   CPSW2/Power" on page 2-8.

MAP 0130:   CPSW2/Power

Symptom Explanation	Conditions That Could Cause This Symptom
There are no LED ON on the CPSW2.	• Power supply problem • Fan problem • CPSW2

Notes

- The power supply status LEDs correspond to the slot numbers in the 8265 (from left to right).
- You can directly verify the power status information on the A-CPSW console using the **show hub** command.

001

– Check that the power switch of each power supply installed in slot 1–4 is set to ON.

Are all switches set to ON?
Yes   No

> **002**
>
> – Switch all installed power supplies to ON, and go to "MAP 0120: CPSW2 LEDs" on page 2-6.

003

– Check that the fans on the front of a power supply are running.

Are there one or more fans stopped?
Yes   No

> **004**
>
> – Use the **show hub** command to check the power status on the A-CPSW console.
>
> **Is the power status "faulty"?**
> **Yes   No**
>
> > **005**
> >
> > – Use the **show module 9/11 verbose** command. to check the status of the CPSW2 in slot 9 and 11.
> >
> > **If there a problem reported with the CPSW2?**
> > **Yes   No**
> >
> > > **006**
> > >
> > > – Contact your support for further problem determination.
> >
> > **007**
> >
> > (Step **007** continues)

007 (continued)

  – Replace the CPSW2. See Chapter 4, "FRU Exchange" on page 4-1

008

– Replace the power supply. See Chapter 4, "FRU Exchange" on page 4-1

009

– Verify the power cord and the power outlet.

– Manually try to rotate the fan. If it is blocked, try to free it.

Is the still fan blocked?
Yes   No

  010

  Replace the power supply. See Chapter 4, "FRU Exchange" on page 4-1.

011

Replace the fan. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0140:   CPSW2/Fans

Symptom Explanation	Conditions That Could Cause This Symptom
No power supply LED or no fan LED is flashing on the active CPSW2.	• CPSW2 problem • Temperature problem

---
Note

- You can directly verify the temperature and fan status information on the A-CPSW console using the **show hub** command.

001

– Check all fan status LEDs on the active controller module or CPSW2.

Are all the fan LEDs ON?
Yes   No

> **002**
>
> – Go to"MAP 0120: CPSW2 LEDs" on page 2-6.

003

– Check the temp LED on the active CPSW2.

Is the temp LED ON or flashing?
Yes   No

> **004**
>
> – Go to "MAP 0120: CPSW2 LEDs" on page 2-6.

005

Is the temp LED constantly ON?
Yes   No

> **006**
>
> – Go to Step 009 on page 2-11.

007

The temp LED is constantly ON, when the active CPSW2 is in download mode. Wait for the download operation to complete.
(Step **007** continues)

007 (continued)

Did the download to CPSW2 operation end successfully?
Yes   No

> | **008**
>
> – Ensure that the correct code is downloaded to CPSW2
>
> – Recover from failure by installing a second CPSW2 and bring it to active state. Then download code to the failed module (that is now in standby mode).
>
> – Go to Step 009 on page 2-13.

009

The temp LED flashes when there is a problem with the cooling subsystem of the 8265. The temperature in the 8265 is higher than the allowable limit.

– Verify that nothing is blocking the airflow. If airflow is blocked, an overheat condition can occur.

– Lower the room temperature.

– Ensure that the space behind the 8265 for (proper airflow:) is at least 8 cm (3 inches).

– Installing dummy face plates in free slots will prevent the 8265 from overheating.

MAP 0150:   CPSW2

Symptom Explanation	Conditions That Could Cause This Symptom
There is No LED flashing on the active CPSW2	• LED-test mode • Defective LED

Notes

- Old 295Ws (8260) and new 415W power supplies are supported.

- Depending on your power requirements, one to four power supplies can be installed in a 8265 chassis. Slot one is the leftmost. At least one power supply must be installed and running.

- Each power supply slot number matches the appropriate power supply LED located on a controller module (in the slots 18 or 19).

- Before starting power troubleshooting, ensure that all LEDs are OK with LED test. (Press the active controller module LED test push button.)

001

– **Determine how many power supplies are installed in slots 1 to 4. Depending on the number of installed power supplies, you must have the same number of LEDs ON or flashing on the active controller module.** .

Are the power status LEDs of the active controller module, (with have a power supply installed in its corresponding slot number), constantly ON?
Yes   No

    002

    – Go to "MAP 0120: CPSW2 LEDs" on page 2-6.

003

– Ensure that you are not in Test Mode. Otherwise, exit LED test mode   by pressing the LED test button on the CPSW2 or wait 40 seconds for the test to complete.

Have you exited the LED test mode?
Yes   No

    004

    – Exit from the LED test mode.

005

Power status LEDs are ON for installed and running power supplies.

Power status LEDs are OFF, if there is no power supply installed in the appropriate slot or the LED failed. (Step **005** continues)

005 (continued)

Are any of the active CPSW2 fan status LEDs constantly ON or OFF?
Yes   No

| | 006 |

– Go to "MAP 0120: CPSW2 LEDs" on page 2-6.

| 007 |

Fan status LEDs are ON for running fans.

Fan status LEDs are OFF, if the fan LED is faulty.

Is the temperature status LED OFF?
Yes   No

| | 008 |

– Go to "MAP 0150:   CPSW2" on page 2-12.

| 009 |

The 8265 temperature is within the normal range or the temperature status LED is faulty. To check the proper operation of LEDs use the LED test.

Are both standby and active LEDs on the CPSW2 constantly ON?
Yes   No

| | 010 |

The 8265 temperature is within the normal range or the temperature status LED is faulty.

– To verify proper operation of LEDs use LED test. Return to the MAP that sent you here.

| 011 |

– The code download to the CPSW2 failed for any reason. Start the download again. Both LEDs will be ON until code download is successful.

– Recover from failure by installing a second CPSW2 and set it to active state. Then download code to the failed module (that is now in standby mode).

MAP 0160: Controller Module LEDs

Symptom Explanation
8265 seems inactive
One or several LEDs located on the controller module are OFF
All LEDs are ON

--- Important ---

- **Shutdown of an active controller module will stop the hub operation**.
- **One or two power redundant controller modules can be installed.**
- **Power supplies can be in "fault tolerant mode".**
- **The controller modules are hot swappable. Before removing or installing a module, refer to Chapter 4, "FRU Exchange" on page 4-1.**

001

– Check all LEDs located on module modules located in slot 18 and 19.

Are all LEDs OFF?
Yes   No

> **002**
>
> **Are any of the active controller module LEDs flashing?**
> **Yes   No**
>
> > **003**
> >
> > – Go to "MAP 0190: Controller Module" on page 2-20.
>
> **004**
>
> **Are one of the four power supplies or the three fan LEDs on the active controller module flashing?**
> **Yes   No**
>
> > **005**
> >
> > – Go to "MAP 0180: Controller Module/Fans" on page 2-18.
>
> **006**
>
> **Is one of the four power supply LEDs on the active controller module flashing?**
> **Yes   No**
>
> > **007**
> >
> > – Go to "MAP 0200: Fans" on page 2-22.
>
> **008**
>
> (Step **008** continues)

008 (continued)

– Go to "MAP 0170: Controller Module/Power" on page 2-16.

009

– Reseat the controller module that has no LED ON.

Are any LEDs lit?
Yes   No

    010

    – Go to Step 002 on page 2-14.

011

– Go to "MAP 0170: Controller Module/Power" on page 2-16.

MAP 0170: Controller Module/Power

Symptom Explanation	Conditions That Could Cause This Symptom
There are no LED ON on the controller module.	• Power supply problem • Fan problem • controller module

---
Notes

- The power supply status LEDs correspond to the slot numbers in the 8265 (from left to right).
- You can directly verify the power status information on the A-CPSW console using the **show hub** command.

```
001
```

– Check that the power switch of each power supply installed in slot 1–4 is set to ON.

Are all switches set to ON?
Yes   No

```
    002
```

    – Switch all installed power supplies to ON, and go to "MAP 0160: Controller Module LEDs" on page 2-14.

```
003
```

– Check that the fans on the front of a power supply are running.

Are there one or more fans stopped?
Yes   No

```
    004
```

    – Use the **show hub** command to check the power status on the A-CPSW console.

    Is the power status "faulty"?
    Yes   No

```
        005
```

        – Use the **show module 19/18 verbose** command. to check the status of the controller module modules in slot 18 and 19.

        If there a problem reported with the controller module?
        Yes   No

```
            006
```

            – Contact your support for further problem determination.

```
        007
```

– Replace the controller module. See Chapter 4, "FRU Exchange" on page 4-1

008

– Replace the power supply. See Chapter 4, "FRU Exchange" on page 4-1

009

– Verify the power cord and the power outlet.

– Manually try to rotate the fan. If it is blocked, try to free it.

Is the still fan blocked?
Yes   No

> **010**
>
> Replace the power supply. See Chapter 4, "FRU Exchange" on page 4-1.

011

Replace the fan. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0180: Controller Module/Fans

Symptom Explanation	Conditions That Could Cause This Symptom
No power supply LED or no fan LED is flashing on the active controller module.	• controller module problem • Temperature problem

---

Note

• You can directly verify the temperature and fan status information on the A-CPSW console using the **show hub** command.

001

– Check all fan Status LEDs on the active controller module.

Are all the fan LEDs ON?
Yes   No

> **002**
>
> – Go to"MAP 0160: Controller Module LEDs" on page 2-14.

003

– Check the temp LED on the active controller module.

Is the temp LED ON or flashing?
Yes   No

> **004**
>
> – Go to "MAP 0160: Controller Module LEDs" on page 2-14.

005

Is the temp LED constantly ON?
Yes   No

> **006**
>
> – Go to Step 009 on page 2-19.

007

The temp LED is constantly ON, when the controller module is in download mode. Wait for the download operation to complete.
(Step **007** continues)

007 (continued)

Did the download to controller module operation end successfully?
Yes   No

      | ┌──────┐
      | │ **008** │
      | └──────┘

        – Ensure that the correct code is downloaded to controller module.

        – Recover from failure by installing a second controller module and bring it to active state. Then download code to the failed module (that is now in standby mode).

        – Go to Step 009 on page 2-21.

┌──────┐
│ **009** │
└──────┘

The temp LED flashes when there is a problem with the cooling subsystem of the 8265. The temperature in the 8265 is higher than the allowable limit.

– Verify that nothing is blocking the airflow. If airflow is blocked, an overheat condition can occur.

– Lower the room temperature.

– Ensure that the space behind the 8265 for (proper airflow:) is at least 8 cm (3 inches).

– Installing dummy face plates in free slots will prevent the 8265 from overheating.

MAP 0190: Controller Module

Symptom Explanation	Conditions That Could Cause This Symptom
There is no LED flashing on the active controller module	• LED-test mode • Defective LED

Notes

- Old 295Ws (8260) and new 415W power supplies are supported.

- Depending on your power requirements, one to four power supplies can be installed in a 8265 chassis. Slot one is the leftmost. At least one power supply must be installed and running.

- Each power supply slot number matches the appropriate power supply LED located on a controller module (in the slots 18 or 19).

- Before starting power troubleshooting, ensure that all LEDs are OK with LED test. (Press the active controller module LED test push button.)

001

– **Determine how many power supplies are installed in slots 1 to 4. Depending on the number of installed power supplies, you must have the same number of LEDs ON or flashing on the active controller module.** .

Are the power status LEDs of the active controller module, (with have a power supply installed in its corresponding slot number), constantly ON?
Yes   No

002

– Go to "MAP 0160: Controller Module LEDs" on page 2-14.

003

– Ensure that you are not in Test Mode. Otherwise, exit LED test mode by pressing the LED test button on the controller module or wait 40 seconds for the test to complete.

Have you exited the LED test mode?
Yes   No

004

– Exit from the LED test mode.

005

Power status LEDs are ON for installed and running power supplies.

Power status LEDs are OFF, if there is no power supply installed in the appropriate slot or the LED failed. (Step **005** continues)

005 (continued)

Are any of the active controller module fan status LEDs constantly ON or OFF?
Yes   No

> **006**
>
> – Go to "MAP 0160: Controller Module LEDs" on page 2-14.

007

Fan status LEDs are ON for running fans.

Fan status LEDs are OFF, if the fan LED is faulty.

Is the temperature status LED OFF?
Yes   No

> **008**
>
> – Go to "MAP 0180: Controller Module/Fans" on page 2-18.

009

The 8265 temperature is within the normal range or the temperature status LED is faulty. To check the proper operation of LEDs use the LED test.

Are both standby and active LEDs on the controller module constantly ON?
Yes   No

> **010**
>
> The 8265 temperature is within the normal range or the temperature status LED is faulty.
>
> – To verify proper operation of LEDs use LED test. Return to the MAP that sent you here.

011

– The code download to the controller module failed for any reason. Start the download again. Both LEDs will be ON until code download is successful.

– Recover from failure by installing a second controller module and set it to active state. Then download code to the failed module (that is now in standby mode).

MAP 0200: Fans

Symptom Explanation	Conditions That Could Cause This Symptom
There is no power supply LED flashing on the active controller module or on the active CPSW2.	• Fan problem

---

Notes

- The three fans on the back of the 8265 chassis are available as FRUs.

- Use the **show hub** command on the A-CPSW console display, to verify the fan status.

- Each fan status LED corresponds to its fan location on the back of the 8265. LED 1 for left fan on back.

| 001 |

– Check the fan on the back of the 8265 that matches with the blinking LED.

Has the fan stopped?
Yes   No

| 002 |

– The fan speed might be degraded. Replace the fan. See Chapter 4, "FRU Exchange" on page 4-1.

| 003 |

– Open the back panel.

Is the fuse OK?
Yes   No

| 004 |

– Replace the fan (including the cable with the fuse). See Chapter 4, "FRU Exchange" on page 4-1.

| 005 |

– Verify the fan cables. Swap the fan cables to troubleshoot the problem.

– Replace the fan if cabling and connection are correct. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0210: CPSW/CPSW2 in Maintenance Mode

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

┌─ **Note** ───┐

In this manual, CPSW is the generic name for CPSW (Feature Code 6501) and CPSW2 (Feature Code 6502) unless otherwise specified.

└──┘

MNTN means that your CPSW enters in maintenance mode. Connect a local console to your CPSW and, according to the **>>XX** maintenance code displayed on your local console prompt, go to the indicated MAP.

┌─ **Important** ───┐

The CPSW FRU is part of the 8265 restricted list and cannot be replaced without a PE level 2 or level 3 agreement.

└──┘

MAP 0210 (continued)

Code	Cause	CPSW	CPSW2	Go to
>>20	NVRAM TEST FAILED	X	X	"MAP 0220: MNTN Code 20" on page 2-25
>>20	CONFIG HAS BEEN CLEARED	X	X	"MAP 0220: MNTN Code 20" on page 2-25
>>21	OPERATIONAL CODE VALIDITY TEST FAILED	X	X	"MAP 0270: MNTN Code 21" on page 2-30
>>22	SWITCH CARD TEST FAILED	X	X	"MAP 0300: MNTN Code 22" on page 2-33
>>24	PCMCIA TEST FAILED	X	X	"MAP 0320: MNTN Code 24" on page 2-35
>>25	IPC REGISTER TEST FAILED		X	"MAP 0340: MNTN Code 25" on page 2-37
>>30	SPU DIAG ERROR	X	X	"MAP 0350: MNTN Code 30/31 – 39/3A" on page 2-38
>>31	FAT DIAG ERROR	X	X	"MAP 0350: MNTN Code 30/31 – 39/3A" on page 2-38
>>34	NOT ENOUGH MEMORY	X		"MAP 0360: MNTN Code 34" on page 2-40
>>38	MAC ADDRESS INVALID	X	X	"MAP 0370: MNTN Code 38" on page 2-42
>>39	FAT DIAG ERROR IN RB TRAFFIC MODE		X	"MAP 0350: MNTN Code 30/31 – 39/3A" on page 2-38
>>3A	FAT DIAG ERROR IN NRB TRAFFIC MODE		X	"MAP 0350: MNTN Code 30/31 – 39/3A" on page 2-38
>>3A	MULTIPLE CONFIGURATION MATCH	X		"MAP 0380: MNTN Code 3A–3E/3F" on page 2-43
>>3E	NO CONFIGURATION MATCH		X	"MAP 0380: MNTN Code 3A–3E/3F" on page 2-43
>>3F	MULTIPLE CONFIGURATION MATCH		X	"MAP 0380: MNTN Code 3A–3E/3F" on page 2-43
>>40	ACT TO BACKUP CPSW POLLING FAILURE	X	X	"MAP 0390: MNTN Code 40" on page 2-45
Note: X means that the cause is specific to CPSW or CPSW2				

.

MAP 0220: MNTN Code 20

Symptom Explanation

MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

MNTN means that your CPSW enters in maintenance mode. Connect a local console to your CPSW and, according to the **>>20** message displayed on the CPSW display, go to the indicated MAP.

NVRAM location on control point card

NVRAM is the component ZM27. It is a DALLAS component located between ATM top connector and tri channel bottom connector.

Message on CPSW	CPSW	CPSW2	Go to:
RTC MODULE IS NOT FOUND ON THE CP CARD	X	X	"MAP 0230: MNTN Code 20 (Continued)" on page 2-26
RTC MODULE CLOCK DOES NOT WORK PROPERLY	X	X	"MAP 0240: MNTN Code 20 (Continued)" on page 2-27
NVRAM ERROR FOUND DURING DATA TEST	X	X	"MAP 0240: MNTN Code 20 (Continued)" on page 2-27
NVRAM WAS FOUND KO AND HAS BEEN SUCCESSFULLY RE-INITIALIZED	X	X	"MAP 0250: MNTN Code 20 (Continued)" on page 2-28
CONFIG HAS BEEN CLEARED BY THE OPERATOR	X		"MAP 0260: MNTN Code 20 (Continued)" on page 2-29
NVRAM OK BUT CLEARED. PREVIOUS CONFIG DATA IS LOST		X	"MAP 0260: MNTN Code 20 (Continued)" on page 2-29
Note: X means that the message is specific to CPSW or CPSW2			

MAP 0230: MNTN Code 20 (Continued)

Symptom Explanation
Message displayed: RTC MODULE IS NOT FOUND ON THE CP CARD

001

– Check at the NVRAM location.

Is the NVRAM present?
Yes   No

> **002**
>
> – Contact your PE support to order an NVRAM. For details go to "How to Order an NVRAM" on page 3-25.

003

Is the NVRAM correctly plugged in?
Yes   No

> **004**
>
> – Carefully unplug and replug the NVRAM. Enter **boot** on the local console.
>
> – If the problem is still present continue with Step 005.

005

– You may have an NVRAM failure.

Do you have time to wait for an NVRAM to be delivered?
Yes   No

> **006**
>
> – With a PE agreement, replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1.

007

– Contact your PE support to order an NVRAM. For details go to "How to Order an NVRAM" on page 3-25.

MAP 0240: MNTN Code 20 (Continued)

Symptom Explanation
Messages displayed: RTC MODULE CLOCK DOES NOT WORK PROPERLY, or NVRAM ERROR FOUND DURING DATA TEST

001

– Check at the NVRAM location.

Is the NVRAM correctly plugged in?
Yes   No

> **002**
>
> – Carefully unplug and replug the NVRAM. Enter **boot** on the local console.
>
> – If the problem is still present continue with Step 003.

003

– You may have an NVRAM failure.

Do you have time to wait for an NVRAM to be delivered?
Yes   No

> **004**
>
> – With a PE agreement replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1.

005

– Contact your PE support to order an NVRAM. For details go to "How to Order an NVRAM" on page 3-25.

MAP 0250: MNTN Code 20 (Continued)

Symptom Explanation
Messages displayed: NVRAM WAS FOUND KO AND HAS BEEN SUCCESSFULLY RE-INITIALIZED

001

– looking to the maintenance function, enter **boot**.

Is the same message displayed after rebooting CPSW?
Yes   No

> **002**
>
> – In case of other problems, restart the problem determination. Go to Chapter 1, "Start Problem
>   Determination" on page 1-1.

003

– You may have an NVRAM failure.

Do you have time to wait for an NVRAM to be delivered?
Yes   No

> **004**
>
> – With a PE agreement replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1.

005

– Contact your PE support to order an NVRAM. For details go to "How to Order an NVRAM" on
  page 3-25.

MAP 0260: MNTN Code 20 (Continued)

Symptom Explanation
Messages displayed: CONFIG HAS BEEN CLEARED BY THE OPERATOR, or NVRAM OK BUT CLEARED. PREVIOUS CONFIG DATA IS LOST

001

Did you issue a *Clear all* command?
Yes   No

   002

   – Go to Step 003.

003

– Issue a *boot* command to reinitialize the CPSW.

MAP 0270: MNTN Code 21

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error

MNTN means that your CPSW enters in maintenance mode. Connect a local console to your CPSW and, according to the **>>21** message displayed on the CPSW display, go to the indicated MAP.

Operational code location on control point card

Active and backup (if any) operational codes are loaded onto the PCMCIA card.

Message on CPSW	Go to
OPER CODE FOUND INVALID, CAN NOT PROCESS CHECKSUM	"MAP 0280: MNTN Code 21 (Continued)" on page 2-31
OPER CODE CHECKSUM IS BAD, CODE CORRUPTED	"MAP 0280: MNTN Code 21 (Continued)" on page 2-31
LOAD OF OPERATIONAL CODE FAILED	"MAP 0290: MNTN Code 21 (Continued)" on page 2-32

MAP 0280: MNTN Code 21 (Continued)

Symptom Explanation
Messages displayed: OPER CODE FOUND INVALID, CAN NOT PROCESS CHECKSUM, or OPER CODE CHECKSUM IS BAD, CODE CORRUPTED

001

Can you load a new code out-of-band in maintenance mode?
Yes No

> **002**
>
> – Go to Step 004.

003

– Download in maintenance, out-of-band an 8265 operational code and SWAP active code.

Is the problem solved?
Yes No

> **004**
>
> – Replace the PCMCIA card. See Chapter 4, "FRU Exchange" on page 4-1.
>
> **Is the problem solved?**
> **Yes No**
>
> > **005**
> >
> > – With a PE agreement replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1
>
> **006**
>
> – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

007

– Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

MAP 0290: MNTN Code 21 (Continued)

Symptom Explanation
Messages displayed: LOAD OF OPERATIONAL CODE FAILED

001

– Verify the PCMCIA card plugging.

Is the PCMCIA card correctly plugged?
Yes   No

> **002**
>
> – Unplug and replug the PCMCIA card correctly.
>
> **Is the problem still present?**
> **Yes   No**
>
> > **003**
> >
> > – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.
>
> **004**
>
> – Go to Step 005.

005

Is the connection between the control point card and switch card correct?
Yes   No

> **006**
>
> – Fermely push the control point card onto the switch connector.
>
> **Is the problem solved?**
> **Yes   No**
>
> > **007**
> >
> > – Go to Step 009.
>
> **008**
>
> – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

009

– If the problem is still present after CPSW resets and with the PE agreement, replace the CPSW card.
  See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0300: MNTN Code 22

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

MNTN means that your CPSW enters in maintenance mode. Connect a local console to your CPSW and, according to the **>>22** message displayed on the CPSW display, go to the indicated MAP.

┌─ **Switch and daughter card location** ─────────────────────────────

The switch card is plugged into the 8265 slot 9 or 11. It is connect to the control point card plugged into slot 10 or 12 that contains the PCMCIA card.

The daughter card is plugged into the switch card. It is between the control point card and the switch card on the bottom side of the CPSW. This card contains the CAP/CAD/SFE component for the control point to switch ATM communication.

The daughter card is present **only** on the CPSW **not** on the CPSW2.

Message on CPSW	Go to
SWITCH STATUS CTRL REG TEST FAILED	"MAP 0310: MNTN Code 22 (Continued)" on page 2-34
SFE RCV CTRL REG TEST FAILED	"MAP 0310: MNTN Code 22 (Continued)" on page 2-34
SFE XMIT CTRL REG test failed	"MAP 0310: MNTN Code 22 (Continued)" on page 2-34
ERROR DURING SWITCH CARD INIT	"MAP 0310: MNTN Code 22 (Continued)" on page 2-34

MAP 0310: MNTN Code 22 (Continued)

Symptom Explanation
Messages displayed: SWITCH STATUS CTRL REG TEST FAILED, or SFE RCV CTRL REG TEST FAILED, or SFE XMIT CTRL REG TEST FAILED, or ERROR DURING SWITCH CARD INIT

001

– Ensure that the CPSW daughter card is correctly plugged on the switch card.

Is the daughter card correctly plugged?
Yes   No

> **002**
>
> > – If the daughter card is not plugged correctly perform the following operations (if you have obtained the PE agreement).
> >
> > – Remove the CPSW assembly using the instructions given in "Checking of the CPSW Module" on page 3-28.
> >
> > – Plug the CPSW inside the chassis and verify that becomes active (ACTV) or standby (STBY).
> >
> > **Is the problem still present after correctly replacing the daughter card?**
> > **Yes   No**
> >
> > > **003**
> > >
> > > > – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.
> >
> > **004**
> >
> > – Go to Step 005.

005

– With the PE agreement, replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1

MAP 0320: MNTN Code 24

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

MNTN means that your CPSW enters in maintenance mode. Connect a local console to your CPSW and, according to the **>>24** message displayed on the CPSW display, go to the indicated MAP.

PCMCIA card location

The PCMCIA Intel** flash card is located on the top of the control point card.

The message displayed on the CPSW, should be one of the following. Go to the appropriate MAP.

Message on CPSW	Go to
PCMCIA FLASH CARD NOT DETECTED ON THE CONTROL POINT CARD	"MAP 0330: MNTN Code 24 (Continued)" on page 2-36
TYPE OF PCMCIA FLASH CARD DETECTED IS NOT SUPPORTED	"MAP 0330: MNTN Code 24 (Continued)" on page 2-36
CAN NOT DEFINE THE PCMCIA FLASH CARD SIZE	"MAP 0330: MNTN Code 24 (Continued)" on page 2-36
NO VALID MICROCODE HEADER DETECTED	"MAP 0330: MNTN Code 24 (Continued)" on page 2-36

MAP 0330: MNTN Code 24 (Continued)

Symptom Explanation

Messages displayed:
PCMCIA FLASH CARD NOT DETECTED ON THE CONTROL POINT CARD, or
TYPE OF PCMCIA FLASH CARD DETECTED IS NOT SUPPORTED, or
CAN NOT DEFINE THE PCMCIA FLASH CARD SIZE, or
NO VALID MICROCODE HEADER DETECTED

001

Is the PCMCIA flash card not detected on the control point card?
Yes   No

> **002**
>
> – Ensure that the PCMCIA card is present on the control point card and correctly plugged in.
>
> – If the problem is still present after CPSW initialization (boot), replace the PCMCIA card. See Chapter 4, "FRU Exchange" on page 4-1.

003

– A message saying that the PCMCIA type not is not supported, card size not defined, or microcode header is not valid is displayed.

– Replace the PCMCIA card. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0340: MNTN Code 25

Symptom Explanation
MNTN is displayed on the CPSW2 alternating with a message giving information about the reason of the error

MNTN means that your CPSW2 enters in maintenance mode. Connect a local console to your CPSW2 and, according to the **>>25** message displayed on the CPSW2, perform the action specified.

IPC Register

The IPC register test is done only on the active CPSW (not on the redundant one). In addition the behaviour, in case of test failure, is not the same if the IPC is master or not and if there is or not the manufacturing wrap plug.

- The IPC is not master (Remote power controller has the control)

  If one of the IPC register is found failing during the test the boot code does not stop but a record is made into the error log to inform about the register in error and the bit of that register which has been detected bad.
- The IPC is master.

  If only the LED register is failing the test there is only a record made into the error log.
  If either the PWR enable register or the I2C data register is failing the test a record is made into the error log and the boot code goes in maintenance mode (code = 25)

The following message are sent to the display according to the register in error.

Message on CPSW
CPSW IPC PWR ENABLE REG TEST WAS FAILING
CPSW IPC I2C REG TEST WAS FAILING
CPSW IPC PWR ENABLE REG AND I2C REG TEST WAS FAILING
CPSW IPC PWR ENABLE AND LED REG TEST WAS FAILING
CPSW IPC I2C AND LED REG TEST WAS FAILING
CPSW IPC REG GLOBAL TEST FAILURE

With the PE agreement replace the CPSW2 card. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

MAP 0350: MNTN Code 30/31 – 39/3A

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error

Connecting a local console to the CPSW, maintenance code **>>30**, **>>31**, **>>39**, or **>>3A** is displayed.

If one of the previous maintenance codes is displayed on the local 8265 console, a **CPSW operational diagnostics error occurs**.

The message displayed on the CPSW, should be one of the following.

Message on CPSW	MNTN
SPU DIAG ERROR	30
FAT DIAG ERROR	31
FAT DIAG ERROR IN RB TRAFFIC MODE	39
FAT DIAG ERROR IN NRB TRAFFIC MODE	3A

Continue the procedure.

001

– Ensure that the connection between the control point card and the switch card is correct.

Is the daughter card correctly plugged into the switch card?
Yes No

> ### 002
>
> – If the daughter card is not plugged correctly perform the following operations (if you have obtained the PE agreement).
>
> – Remove the CPSW assembly using the instructions "Checking of the CPSW Module" on page 3-28.
>
> – Plug the CPSW into the chassis and verify that it becomes active **ACTV** or standby **STBY**.
>
> **Is the problem still present after correctly replacing the daughter card?**
> **Yes No**
>
> > ### 003
> >
> > – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.
>
> ### 004
>
> – With the PE agreement replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1.

005

(Step **005** continues)

005 (continued)

– Switch card failure. With PE agreement replace the CPSW card. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0360: MNTN Code 34

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

Connecting a local console to the CPSW, maintenance code **>>34** is displayed.

If one of the previous maintenance codes is displayed on the local 8265 console, the **code can not be loaded into DRAM** due to lack of memory. This maintenance code is displayed **only** with CPSW (not with CPSW2).

┌─ **DRAM location** ───┐

DRAM1 and DRAM2 are located next the PCMCIA on the control point card. Each DRAM is 16MB. (ZM3 and ZM4)

The message displayed on the CPSW, should be the following one.

Message on CPSW	MNTN
NOT ENOUGH MEMORY	34

Continue the procedure.

┌─────┐
│ 001 │
└─────┘

Is your code type PNNI?
Yes No
 │
 │   ┌─────┐
 │   │ 002 │
 │   └─────┘
 │
 │   – With the IISP code, 16 MB memory is sufficient.
 │
 │   – Issue a **Show RAM** command to check DRAM1 or DRAM2 presence.
 │
 │   – If the problem is still present, replace the 16 MB SIMM.
 │
┌─────┐
│ 003 │
└─────┘

– Issue a **Show RAM** command.

Is DRAM1: 16MB DRAM2: blank?
Yes No
 │
 │   ┌─────┐
 │   │ 004 │
 │   └─────┘
 │
 │   – If no DRAM is detected:
 │
 │   • Ensure that the SIMMs are correctly plugged into the SIMMs socket.
 │
 │   • Unplug and re-plug the SIMMs.
 │
 │   (Step **004** continues)

004 (continued)

Is the problem solved?
Yes   No

 │   │
 │   ┌──────┐
 │   │ **005** │
 │   └──────┘
 │
 │   – Replace the DRAM 16 MB.
 │
┌──────┐
│ **006** │
└──────┘

– Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

──

┌──────┐
│ **007** │
└──────┘

– You may have tried to load a PNNI code onto a 16 MB memory CPSW. **32MB is mandatory for PNNI code.**

– Add a 16 MB SIMM.

──

MAP 0370: MNTN Code 38

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

Connecting a local console to the CPSW, maintenance code **>>38** is displayed.

If the previous maintenance code is displayed on the local 8265 console, the **MAC address is invalid**.

```
 ┌─ EEPROM location ──────────────────────────────────────────────────────┐
   The MAC address is set in an EEPROM, located on the 8265 ATM backplane.
 └────────────────────────────────────────────────────────────────────────┘
```

The the message displayed on the CPSW, should be the following.

Message on CPSW	MNTN
MAC ADDRESS IS INVALID	38

Continue the procedure.

001

Is this a first installation?
Yes   No
```
 │    │
 │    │  ┌─────┐
 │    │  │ 002 │
 │    │  └─────┘
 │    │
 │    │  – The NVRAM lost the CPSW MAC address. Go to Step 003.
 │
 ┌─────┐
 │ 003 │
 └─────┘
```

– Issue a **SET MAC_ADDRESS** <**mac-address**> command to load a MAC address into the CPSW NVRAM (mac-address must have the format: xx-xx-xx-xx-xx-xx).

Is the command successful?
Yes   No
```
 │    │
 │    │  ┌─────┐
 │    │  │ 004 │
 │    │  └─────┘
 │    │
 │    │  – You may have a new chassis with a bad EEPROM on the ATM backplane.  You must replace the
 │    │     EEPROM. See Chapter 4, "FRU Exchange" on page 4-1.
 │
 ┌─────┐
 │ 005 │
 └─────┘
```

– Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

MAP 0380: MNTN Code 3A–3E/3F

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

Connecting a local console to the CPSW, maintenance code **>>3A**, **>>3E** or **>>3F**is displayed.

If one of the previous maintenance codes is displayed on the local 8265 console, the **microcode does not know which configuration to load**.

─ Configuration ─
The 8265 configuration is loaded into the NVRAM on the CP card.

The message displayed on the CPSW, should be one of the following.

Message on CPSW
NO CONFIGURATION MATCH MULTIPLE CONFIGURATION MATCH

Continue the procedure.

001

Has the problem occurred after a new code was loaded or a PCMCIA card exchanged?
Yes   No

> **002**
>
> – The NVRAM lost the CPSW configuration. Go to Step 003.

003

– Issue a *clear config* and *boot* command from the local console.

Is the problem still present?
Yes   No

> **004**
>
> – You must re-enter the 8265 configuration.

005

– Issue a *clear all* and *boot* command from the local console.

Is the problem still present?
Yes   No

> **006**
>
> (Step **006** continues)

MAP 0380 (continued)

006 (continued)

– You must re-enter the 8265 configuration.

007

– You may have an NVRAM failure. Go to "MAP 0230: MNTN Code 20 (Continued)" on page 2-26.

MAP 0390: MNTN Code 40

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error.

Connecting a local console to the CPSW, maintenance code **>>40** is displayed.

If the previous maintenance code is displayed on the local 8265 console, a **polling failure occurs between the active to backup CPSW**.

---- **Active and Standby CPSW** --

This problem occurs in dual CPSW configuration, regardless of which position holds the active CPSW (slot 9/10 or 11/12).

The message displayed on the CPSW, should be the following.

Message on CPSW
ACT TO BACKUP CPSWX POLLING FAILURE

Continue the procedure.

001

Are both CPSWs at the same code level?
Yes No

> **002**
>
> – Update both CPSWs to the same code level.
>
> **Is the problem still present?**
> **Yes No**
>
> > **003**
> >
> > – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.
>
> **004**
>
> – Go to Step 005.

005

Are both CPSWs issuing the same message?
Yes No

> **006**
>
> – If one CPSW is active, go to Step 007 on page 2-46.

MAP 0390 (continued)

```
007
```

– You may have a CPSW or a backplane problem. Contact your support for further problem
  determination.

MAP 0400: Backup CPSW with No Standby LED ON

Symptom Explanation
MNTN is displayed on the CPSW alternating with a message giving information about the reason of the error, or Arrow **>>** is displayed in alternance with a return code.

You are in this MAP because **MNTN** is displayed on the CPSW alternating with a message giving information about the reason of the error. Go to "MAP 0210: CPSW/CPSW2 in Maintenance Mode" on page 2-23 to troubleshoot your CPSW.

or

You are in this MAP because an arrow is displayed alternating with a return code that informs the user that there is additional information available for the error code (using the pushbutton located just below the arrow).

If an arrow is shown on the CPSW, that means that the failed area is critical and the CPSW will never enter in maintenance mode.
Go to"MAP 0410: Arrow and Four Digits on Hexadecimal Display" on page 2-48 to troubleshoot your CPSW.

MAP 0410: Arrow and Four Digits on Hexadecimal Display

Symptom Explanation
Arrow **>>** is displayed alternating with a return code.

Note

In this manual, CPSW is the generic name for CPSW (Feature Code 6501) and CPSW2 (Feature Code 6502) unless otherwise specified.

An arrow is displayed alternating with a return code that informs the user that there is additional information available for the error code (using the pushbutton located just below the arrow).

If an arrow is shown on the CPSW, the failing area is critical and the CPSW will never enter in maintenance mode.

Attention

The CPSW FRU is part of the 8265 restricted list and cannot be replaced without PE agreement.

According to the following return codes go to the appropriate MAP.

Return Code	Go To
• BRSD • BRAT • BRDT • BRXB • BRBX • BRXW • BRWX • BSTX • PTYX	"MAP 0420: Four Digits on Hexadecimal Display" on page 2-49
• BOCS • BO01	"MAP 0430: Four Digits on Hexadecimal Display (Continued)" on page 2-51

Note: The CPSW2 has SIMMs of 32 MB.

MAP 0420: Four Digits on Hexadecimal Display

Symptom Explanation	
Return Code	Message Displayed
BRSD	NO DRAM SIMM FOUND ON THE CP CARD
BRAT	DRAM ADD BUS TEST ERROR BIT>YY
BRDT	DRAM DATA BUS TEST ERROR BIT>ZZ
BRXB	DATA ERROR FOUND DURING BYTE FORWARD TEST OF SIMM1 ARRAY
BRBX	DATA ERROR FOUND DURING BYTE BACKWARD TEST OF SIMMX ARRAY
BRXW	DATA ERROR FOUND DURING WORD FORWARD TEST OF SIMMX ARRAY
BRWX	DATA ERROR FOUND DURING BACKWARD TEST OF SIMMX ARRAY
BSTX	BURST TEST ERROR OF SIMMX
PTYX	PARITY ERROR DURING SIMMX => SINGLE ACCESS OR BURST ACCESS

001

Is the following message displayed? NO DRAM SIMM FOUND ON CP CARD
Yes   No

> **002**
>
> – Unplug and re-plug the SIMMs.
>
> – Ensure that the SIMM connectors are not damaged.
>
> – If you have only one SIMM, try it in another SIMM socket.
>
> **Is the problem still present?**
> **Yes   No**
>
> > **003**
> >
> > – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.
>
> **004**
>
> – You may have DRAM SIMM permanent failure.
>
> – Replace the DRAM SIMM. See Chapter 4, "FRU Exchange" on page 4-1.
>
> **Is the problem still present after DRAM SIMM replacement?**
> **Yes   No**
>
> > **005**
> >
> > – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.
>
> **006**
>
> – You may have a CPSW problem on the SIMM connectors. With the PE agreement, replace the CPSW. See Chapter 4, "FRU Exchange" on page 4-1.

007

(Step **007** continues)

MAP 0420 (continued)

007 (continued)

– Ensure that the DRAM SIMMs are correctly plugged into SIMM socket.

– Verify the DRAM SIMM type.

Is the problem still present?
Yes   No

> **008**
>
> – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

009

– Replace the DRAM SIMM memory. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0430: Four Digits on Hexadecimal Display (Continued)

Symptom Explanation	
Return Code	Message Displayed
BOCS BO01	BOOT CHECKSUM IS BAD, BOOT CORRUPTED BOOT CODE FOUND INVALID, CAN NOT PROCESS CHECKSUM

Boot EEPROM location

The boot EEPROM is located on the control point card, on the left tri-channel connector (boot EEPROM: ZM36).

001

– Upgrade the CPSW PCMCIA with a new code.

Is the problem still present?
Yes   No

> **002**
>
> – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

003

Is this happen after a new boot code download?
Yes   No

> **004**
>
> – Go to Step 005.

005

– You may have a corrupted boot code and the only way to recover is to replace the EEPROM.

– Contact your PE for assistance, to get one EEPROM as fast as possible.

Is this problem still present after EEPROM replacement?
Yes   No

> **006**
>
> – Problem determination completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

007

– With the PE agreement, replace the CPSW. See Chapter 4, "FRU Exchange" on page 4-1.

MAP 0440: CPSW/CPSW2 LEDs

> **Note**
>
> In this manual, CPSW is the generic name for CPSW (Feature Code 6501) and CPSW2 (Feature Code 6502) unless otherwise specified.

Symptom Explanation	Conditions That Could Cause This Symptom
CPSW module LEDs (red or yellow) ON	• CPSW

> **Notes**
>
> • For code version and download information, refer to "Upgrading the 8265 by Code Download" on page 3-12.
>
> • One or two A-CPSW devices can be installed in a 8265 chassis. The first device must go in slots 9 and 10. The second A-CPSW goes in slots 11 and 12.
>
> • Use the command **Show device** for more information about   the A-CPSW.

Enter the **Show device** command to determine which CPSW is in inactive mode.

> **Important**
>
> If there are two A-CPSWs, switching over to active state from one CPSW to the secondary, will cause a reset of the ATM subsystem.

001

– Verify the faceplate of the **active** CPSW.

Is the CPU stop (red) LED OFF?
Yes   No

> ### 002
>
> – Ensure that you are not in LED test mode.
>
> – Ensure that the CPSW module has been installed correctly by checking the installation procedure in the *8265 Nways ATM Switch Installation Guide*, SA33-0441.
>
> – Reset the ATM subsystem by pressing (once) the ATM reset button on the active CPSW.
>
> – Wait for approximately 40 seconds to allow the restart.
>
> – If the problem remains unchanged, replace the A-CPSW module with the PE agreement. See Chapter 4, "FRU Exchange" on page 4-1.

003

(Step **003** continues)

003 (continued)

Is the Reset (yellow) LED OFF?
Yes   No

> **004**
>
> – Ensure that you are not in LED test mode.
>
> – Ensure that the CPSW module has been installed correctly by checking the installation procedure in the *8265 Nways ATM Switch Installation Guide*, SA33-0441.
>
> – Reset the ATM subsystem by pressing (once) the ATM reset button on the active CPSW.
>
> – If the reset LED is constantly ON, replace the module.
>
> – If the reset LED flashes one time, the ATM subsystem or 8265 has been reset by the console command or a reset push button.
>
> – Wait for the reset procedure to complete.
>
> – Refer to the A-CPSW table to "MAP 0410: Arrow and Four Digits on Hexadecimal Display" on page 2-48.
>
> **Can you log on to the A-CPSW console?**
> **Yes   No**
>
> > **005**
> >
> > – To connect the A-CPSW console, refer to the *8265 Nways ATM Switch Installation Guide*, SA33-0441.
> >
> > – Go to Step 006.
>
> **006**
>
> – Logon to the A-CPSW console as an administrator and verify code levels of the module. See the code level "How to See the Code Level of CPSW Module" on page 3-26.
>
> – The code version must be 3.20 or higher. Update code is necessary.

007

Is "ACTIV" or "STBY" displayed on the CPSW?
Yes   No

> **008**
>
> – Go to CPSW system display message table to "MAP 0410: Arrow and Four Digits on Hexadecimal Display" on page 2-48. to determine the cause of the message.

009

– The A-CPSW module has passed all self tests successfully, and it is in a normal state.

– Verify the network and CSPW configuration. Call your support for help.

MAP 0450: Module Installation Problem

Symptom Explanation
Problems related to modules installed in slots 1 to 8 and 12 to 17, especially insertion, connection, status LED down problem.

Important

This MAP must be followed under PE guidance.

Notes

- For modules in slots 18 and 19 (controller modules), go to "MAP 0160: Controller Module LEDs" on page 2-14.
- 8260 modules can ONLY be installed in slots 1, 3, 5, 7. To recognize these modules, refer to the *8265 Nways ATM Media Module Reference Guide*, SA33-0459 (if needed).
- To verify the status and hardware level of a module in a chassis, enter the ***show module <slot> verbose*** command on the CPSW console.
- Though 8265 and 8260 modules are hot-swappable, it is advised that the ***set module <slot> isolated*** command is entered on the console before removing a module. When the module is replaced by the same type of module, the previous module configuration is kept by the system.

001

Is the "wrong slot LED" OFF on all modules in the chassis?
Yes No

> **002**
>
> – Refer to the *8265 Nways ATM Switch Installation Guide*, SA33-0441 to determine which modules can be installed in their corresponding slot. The CPSW module can only be installed in slots 9 and 11. Other modules can fit into slots 1 to 8 and 12 to 17.
>
> – Go to Step 003.

003

Are power requirements met for this module?
Yes No

> **004**
>
> To verify this, go to "How to See the Power Requirement for a Module" on page 3-27.

005

Is the module at the correct hardware level?
Yes No

> **006**
>
> To verify this and acquire information on hardware updates go to "Compatibility Problems between Hardware and Microcode Module Levels" on page 2-68.

| 007 |

– At this point, to ensure that the LEDs are OK, perform a LED test by pushing the 'LED Test' button from any controller module (slots 18/19).

Is the Reset LED either steady ON or blinking on any other module in the chassis (ensure that you have exited the LED test)?
Yes   No

> | 008 |
>
> – You have exited the LED test. Go to Step 011.

| 009 |

– Wait approximately one minute. If the Reset LED remains ON or blinking, re-insert the module.

Does the Reset LED flash once then stays OFF after module re-insertion?
Yes   No

> | 010 |
>
> – If the Reset LED keeps steady ON: insert the module into another slot. If the result is still the same, replace the module. Go to Chapter 4, "FRU Exchange" on page 4-1.
>
> – If the Reset lights regularly, go to "MAP 0460: Reset Problem on Media Module" on page 2-59.

| 011 |

Is the Status LED ON for every module in the chassis?
Yes   No

> | 012 |
>
> The corresponding module is not connected to the CPSW.
>
> – Enter **show module <slot>** command you should get:
>
> ```
> Slot  Install  Connect  Operation  General Information
> --------------------------------------------------------
> xx       Y        N         N       8265 ATM n ports xxxMbps
> ```
>
> – Enter the **set module xx connected** command to connect the module to the CPSW. Go to Step 013.

| 013 |

– Enter the **show module <slot> verbose** command.

Is the following type of message displayed?

```
Slot  Install  Connect  Operation  General Information
--------------------------------------------------------
xx       Y        Y         Y       8265 ATM n ports xxxMbps
status: connected / hardware okay
        enable / normal
```

Yes   No

MAP 0450 (continued)

> **014**

– Go to Step 016.

015

Problem determination is completed. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

016

Does the install value = N?
Yes   No

> **017**

– Go to Step 019.

018

The module is not sensed as plugged into the chassis.

– Carefully re-insert the module.

– If the symptom is the same: Install the module in another slot and have it connected to the CPSW.

– If the symptom is the same: The module is failing. Replace it with a new one. Go to Chapter 4, "FRU Exchange" on page 4-1.

019

Does connect value = N?
Yes   No

> **020**

– Go to Step 024 on page 2-57.

021

– Re-enter the **set module<slot>connected** command.

Did you get Cannot complete the action and can you see in the error log a message like the following?

```
48 10 03 10:15:59 atmcsdmm.c-134      E CS       Hard MAJOR 05_2033_CS
Unexpected Return Code.  No Blade description for CardId 0 in slot 13.
```

Yes   No

> **022**

– Go to Step 024 on page 2-57.

023

(Step **023** continues)

023 (continued)

– The module is failing. Replace it with a new one. Go to Chapter 4, "FRU Exchange" on page 4-1.

024

– Carefully re-insert the module, (if possible) into another slot. Connect it to a CPSW.

Do you still have Connect = N ?
Yes   No

> **025**
>
> – Go to Step 027.

026

– Upload the 8265 error log on a your station.

– Look for a potential tip (web, RETAIN) corresponding to this problem and lead the related actions.

– In other cases, route the call to the next level in the support structure. Further investigation will be required. The module should be replaced.

027

Does operation value = N?
Yes   No

> **028**
>
> – Go to Step 030.

029

– If you have checked the modules hardware level, the module is failing. Replace it with a new one. Go to Chapter 4, "FRU Exchange" on page 4-1.

– If you have not checked the modules hardware level, go to "Compatibility Problems between Hardware and Microcode Module Levels" on page 2-68.

030

Is the result of the *show module ALL* command for each module like similar to the following?

```
Slot Install Connect Operation General Information
----------------------------------------------------------------------
xx       Y        Y          Y         8265 ATM n ports xxxMbps
status: connected / hardware okay
        enable / normal
```

Yes   No

> **031**
>
> (Step **031** continues)

MAP 0450 (continued)

031 (continued)

– Go to "MAP 0450: Module Installation Problem" on page 2-54 and perform problem determination for the other modules.

032

– All the modules in the chassis are OK.

Are all problems solved?
Yes No

033

– Go to Chapter 1, "Start Problem Determination" on page 1-1.

034

– Repair is complete. Go to Chapter 5, "CE Leaving Procedure" on page 5-1.

MAP 0460: Reset Problem on Media Module

Symptom Explanation
Repetitive reset problems on media modules

Important

This MAP must be followed under PE guidance.

Notes

Media module here stands for any 826x ATM Module excluding CPSW and controller modules.

- Module resets are normal when triggered by the operator through *reset module <slot>* command.
- Another typical cause for module resets is the congestion of modules or ports of the module with a CBR traffic. This particularly true on 8260 media modules. On new 8265 media modules, this case is prevented by the new traffic management **Policing** feature set ON by default, that regulates input traffic thus preventing congestion on 8265 only modules.

001

Is the Module Reset LED blinking regularly (every 60 seconds)?
Yes No

> **002**
>
> Reset was triggered manually.
>
> – Browse the 8265 error log and look for a set of messages similar to the following:
>
> ```
> 32283 08|11 13:59:40 atmehbld.c-316  E EH      Hard minor 00_0012_EH
> BLADE TRANSIT TO KO Blade 1 transit to KO notification received.
> 32938 08|11 13:59:45 atmehbld.c-1121 E EH      Hard minor 00_0024_EH
> BLADE OK Blade 1: successful recovery.
> ```
>
> – If message found, stop problem determination procedure here.
>
> – If message not found, go to Step 003.

003

Does only one module show the Module Reset LED blinking (example: module resetting)?
Yes No

> **004**
>
> – Go to Step 006.

005

– Go to Step 007 on page 2-60.

006

(Step **006** continues)

MAP 0460 (continued)

006 (continued)

When different modules are reset, one after the other and become isolated, the problem cause is frequently on the CPSW module.

– Browse the 8265 error log and look for a set of messages similar to the following for each concerned module.

```
'775 10|03 11:59:35 atmehbld.c-914     E EH      Hard minor 00_0032_EH POLL  CELL NOT
RECEIVED Poll cell not received when processing blade 13
   776 10|03 11:59:37 atmcspol.c-329     E CS      Soft minor 05_2043_CS Poll
 response missing.  Cause slot 13 (no_resp=1), poll timer is now 3000 ms (was 2500 or 3000)
   777 10|03 11:59:42 atmehbld.c-914     E EH      Hard minor 00_0032_EH POLL
 CELL NOT RECEIVED Poll cell not received when processing blade 13
   778 10|03 11:59:49 atmehbld.c-914     E EH      Hard minor 00_0032_EH POLL
 CELL NOT RECEIVED Poll cell not received when processing blade 13
    780 10|03 11:59:55 atmehbld.c-914      E EH       Hard minor 00_0032_EH POLL
 CELL NOT RECEIVED Poll cell not received when processing blade 13
   781 10|03 12:00:02 atmehbld.c-914     E EH      Hard minor 00_0032_EH POLL
 CELL NOT RECEIVED Poll cell not received when processing blade 13
   782 10|03 12:00:02 atmehbld.c-723     E EH      Hard MAJOR 00_0021_EH TOO
MANY RESETS Too many unsuccessful resets (4) for blade 13.
   783 10|03 12:00:02 atmehbld.c-1125    E EH      Hard MAJOR 00_0023_EH ISOLATION
REQUESTED Blade 13: unsuccessful recovery isolation required'
```

If you can see this, then go to "MAP 0210: CPSW/CPSW2 in Maintenance Mode" on page 2-23 for CPSW related problems.

007

– Verify the port activity LEDs of the failing module.

Is there at least one LED permanently ON?
Yes   No

> **008**
>
> – Perform the LED test to ensure that the modules LED are OK.
>
> **Is at least one activity LED burned?**
> **Yes   No**
>
> > **009**
> >
> > If the LEDs are OK, the modules hardware level is suspected to be bad: To check this and get information on hardware update, go to "Compatibility Problems between Hardware and Microcode Module Levels" on page 2-68.
> >
> > – If the problem persists (after a module upgrade) or the module is already at the latest hardware level, enter:
> > **set port <slot.port1 port2.. portn> disable** then **wrap<slot.all>internal** commands.
> >
> > **Did you receive at least one message stating that the test failed?**
> > **Yes   No**
> >
> > > **010**
> > >
> > > (Step **010** continues)

010 (continued)

– Go to Step 013

011

– The module has an internal failure. It must be replaced. Go to Chapter 4, "FRU Exchange" on page 4-1.

012

013

– Browse the error-log and look for the following messages:

```
47098 10|09 09:00:10 atmcshwi.c-2059    E CS      Hard minor 05_2032_CS Unexpected Return
Code.  Missing GRC response to CONFIRM blade reg CF=0x26 IS=0x100
000A6 DR=0x0 EC=0x4E3A7 slot_id=17
47099 10|09 09:00:10 atmc5hwg.c-357     E C5      Soft MAJOR 05_6001_C5 Unex
pected Return Code.  4x155 Mbps, cannot set framer register RSOPBIP8MSB to 0x11
 (s=2 p=0)
 47100 10|09 09:00:10 atmc5ctg.c-235    E C5      Soft MAJOR 05_6001_C5 Unex
pected Return Code.  4x155 Mbps, cannot trig B1ECT registers transfert (s=17 p=2)
 47101 10|09 09:00:10 atmc5ctg.c-391    E C5      Soft MAJOR 05_6001_C5 Unex
pected Return Code.  4x155 Mbps, cannot treat B1 counter (s=17 p=2)
 47102 10|09 09:00:10 atmcshwi.c-2059   E CS      Hard minor 05_2032_CS Unex
pected Return Code.  Missing GRC response to CONFIRM blade reg CF=0x26 IS=0x100
001A6 DR=0x0 EC=0x4E3A7 slot_id=17
 47103 10|09 09:00:10 atmc5hwg.c-314    E C5      Soft MAJOR 05_6001_C5 Unex
pected Return Code.  4x155 Mbps, cannot get framer register RSOPBIP8MSB (s=17 p=4)
 47104 10|09 09:00:10 atmc5ctg.c-246    E C5      Soft MAJOR 05_6001_C5 Unex
pected Return Code.  4x155 Mbps, cannot get B1ECT MSB register (s=17 p=4)
 47105 10|09 09:00:10 atmc5ctg.c-391    E C5      Soft MAJOR 05_6001_C5 Unex
pected Return Code.  4x155 Mbps, cannot treat B1 counter (s=17 p=4)
 47106 10|09 09:00:15 atmcspol.c-329    E CS      Soft minor 05_2043_CS Poll
 response missing.  Cause slot 17 (no_resp=1), poll timer is now 3000 ms (was 2000 or 2500)
 47107 10|09 09:00:20 atmcspol.c-329    E CS      Soft minor 05_2043_CS Poll
 response missing.  Cause slot 17 (no_resp=1), poll timer is now 3000 ms (was 2000 or 2500)
```

Did you receive the previous messages?
Yes No

014

015

– The probable cause is a port/module congestion, due to CBR/reserved bandwidth traffic exceeding physical limitations of the module (User/Configuration error). Complete the problem determination by checking active connections on this module. Enter the **show signalling cross_connections port <slot.n>** command for each port, and check for CBR connections suc as:

MAP 0460 (continued)

```
In: slot.port vpi.vci  type   Out: slot.port vpi.vci  type     Conn   Cat
-------------------------------------------------------------------------------
slot_in.n         VP.vc  *VC    slot_out.n         VP.vc   *VC      P2*P  CBR
```

Did you find a CBR connection?
Yes   No

> **016**
>
> > – Upload the 8265 error log on a your station.
> >
> > – Look for a potential tip (web, RETAIN) corresponding to this problem and lead the related actions.
> >
> > – In other cases, route the call to the next level in the support structure. Further investigation will be required. The module should be replaced (to be agreed upon by the PE team).

017

– Inform the customer of the problem and provide him with the two endpoints of the connection.

– Do the two endpoints respect the maximum bandwidth value?

– Do the endpoint ports have police parameter ON?

– Stop problem determination procedure here it is an user error.

018

Problems seem to be related to the traffic entering the module. Enter the **_set port <slot.port> disable_** command for the port with permanent activity.

Does the reset still occur?
Yes   No

> **019**
>
> > – Verify the port configuration. Ensure that the police parameter is ON.
> >
> > – Run the wrap test (internal and external) on this port. Verify that is OK.
> >
> > – Enter the **_wrap <slot.port> internal_** command. If the result is test failed, the module must be replaced.
> >
> > – Enter the **_wrap <slot.port> external_** command. If the result is test failed, the port daughter card has a failure. It must be replaced.
> >
> > – If there is no daughter card on this module, replace the module. Go to Chapter 4, "FRU Exchange" on page 4-1.

020

In the error log are there any messages similar to the following?

```
  922 10|03 13:46:25 atmcshwi.c-2120    E CS       Hard minor 05_2032_CS Unex
pected Return Code. Write of 0x93 failure in hdw reg of slot 13 (CF=0x6,IS=0x1
003008C): Reading 0x13 while expecting 0x93 (mask=0xFF)
```

Or

```
   1041 10|03 14:40:40 atmcseth.c-63        E CS       Hard MAJOR 05_2033_CS Unex
pected Return Code.  Read VPD ATM Backplane rc=7
   1042 10|03 14:40:54 atmcspol.c-329       E CS        Soft minor 05_2043_CS Poll
 response missing.  Cause slot 13 (no_resp=1), poll timer is now 3000 ms (was 1
000 or 1500)
   1043 10|03 14:40:57 atmcspol.c-329       E CS        Soft minor 05_2043_CS Poll
 response missing.  Cause slot 13 (no_resp=2), poll timer is now 3000 ms (was 2
500 or 3000)
   1044 10|03 14:41:00 atmcspol.c-329       E CS        Soft minor 05_2043_CS Poll
 response missing.  Cause slot 13 (no_resp=3), poll timer is now 3000 ms (was 2
500 or 3000)
   1045 10|03 14:41:03 atmcspol.c-329       E CS        Soft minor 05_2043_CS Poll
 response missing.  Cause slot 13 (no_resp=4), poll timer is now 3000 ms (was 2
500 or 3000)
   1046 10|03 14:41:03 atmcspol.c-341       E CS       Hard MAJOR 05_2039_CS Asse
rtion false.  Slot 13 as non_replied_pollings=4. Informing EH
   1047 10|03 14:41:03 atmehbld.c-276       E EH       Hard minor 00_0010_EH BLAD
E DOES NOT RESPOND Blade 13 no response notification received.
   1048 10|03 14:41:05 atmehbld.c-914       E EH       Hard minor 00_0032_EH POLL
 CELL NOT RECEIVED Poll cell not received when processing blade 13
```

Yes No

   |

     | 021 |

- – Upload the 8265 error log on a your station.

- – Look for a potential tip (web, RETAIN) corresponding to this problem and lead the related actions.

- – In other cases, route the call to the next level in the support structure. Further investigation will
  be required. The module should be replaced

| 022 |

– This module shows all symptoms of an internal hardware failure. The module must be replaced. Go to
Chapter 4, "FRU Exchange" on page 4-1.

MAP 0470: Problem During Activity on Media Modules

Symptom Explanation
Problems during port activity on media modules. These problems (sometimes related to the port error LEDs being ON) can lead to degraded traffic performance, poor connection reliability, and so on.

Important

This MAP must be followed under PE guidance.

Notes

Modules with port daughter cards function as follows, when **one or several daughter cards are not installed**:

- On new 8265 modules such as 1 port OC12 or 4 ports OC3 modules, the error LED remains permanently ON. This is normal behaviour.
- On 8260 modules such as 2 or 3 port OC3 modules, the error LED is OFF.

  Therefore do not replace any module with a missing daughter card because the error LED is ON when the module is connected.
- 155M and 622M are Sonet/SDH hardware standard based interfaces. This means that cells are put into frames that carry them over the link. They will be extracted at the remote end. Sonet frames also carry different statuses or indicators of line quality, remote end status, alarms, and so on. Non respect of framing format or alarms ON in the frame can generate problems at the port interface. This will make error LEDs light.

```
┌─────┐
│ 001 │
└─────┘
```

Is the port status LED OFF and the port error LED ON?
Yes   No

```
 │      ┌─────┐
 │      │ 002 │
 │      └─────┘
 │
 │      – Go to Step 004.
 │
┌─────┐
│ 003 │
└─────┘
```

The port error LED might be ON as explained in the preceding notes. There is certainly no fiber/cable linked to a remote device connected to this port.

– Stop problem determination procedure here.

```
┌─────┐
│ 004 │
└─────┘
```

Is the port status LED blinking regularly?
Yes   No

```
 │      ┌─────┐
 │      │ 005 │
 │      └─────┘
 │
 │      – Go to Step 007 on page 2-65
 │
┌─────┐
│ 006 │
└─────┘
```

(Step **006** continues)

006 (continued)

There is probably user/accessory error: No signal/light was received on this port.

– Ask customer to check the cable or the remote device to ensure that the:

  • cable is OK: Insert a wrap plug into the port and ensure that the status LED goes ON.
  • the remote device is up, and its ATM port/adapter is active.

– To complete the problem determination, enter **set port <slot.port> disable** and **wrap <slot.port> external** commands to ensure that the CPSW path to this port connector is up and running.

– If the wrap external test result is Test failed, enter the **wrap <slot.port> internal** command.

– If the wrap internal test result is the same, the module must be replaced. Go to Chapter 4, "FRU Exchange" on page 4-1.

┌─────┐
│ **007** │
└─────┘

 Is the port error LED permanently ON?
Yes   No
         │
      ┌─────┐
      │ **008** │
      └─────┘

      Go to Step 012.

┌─────┐
│ **009** │
└─────┘

– Enter the **show port <slot.port>** command. The following type of message is displayed:

```
        Type   Mode      Status
-------------------------------------------------------
 s.01: PNNI  enabled   DOWN:xxxxxxxx-ing
```

– Enter the **set port <slot.port> disable** and **wrap <slot.all> external** commands.

Is the result: test failed?
Yes   No
         │
      ┌─────┐
      │ **010** │
      └─────┘

      – Continue with Step 012

┌─────┐
│ **011** │
└─────┘

– Change the daughter card. Go to Chapter 4, "FRU Exchange" on page 4-1, then return here to continue the procedure.

– Re-run the wrap test after the daughter card exchange. If the failure persists, replace the module. Go to Chapter 4, "FRU Exchange" on page 4-1.

┌─────┐
│ **012** │
└─────┘

– Enter the **port <slot.port>** command.
(Step **012** continues)

MAP 0470 (continued)

012 (continued)

Is the following type of port status message displayed?

```
        Type  Mode     Status
 s.01:  PNNI enabled  DOWN:xxxxxxxx-ing
```

Yes No

> **013**
>
> – Go to Step 017

014

– Browse the error-log.

Is there a similar message in error-log?

```
117 10|03 10:43:01 atmsagdi.c-419      E CPsaal   Hard MAJOR 07_0901_SA BAD BASE CODE
RC  rc on bc_disable_nps= 1, lcba= 1f3, for blade= 13, port= 2, vpi= 0, vci= 5
```

Yes No

> **015**
>
> – Go to Step 017

016

– The module must be replaced. Go to Chapter 4, "FRU Exchange" on page 4-1.

017

Is the port error LED OFF?
Yes No

> **018**
>
> The problem is due to a bad port configuration or from errors on the line.
>
> – Go to Step 020 on page 2-67

019

The problem is one of the following protocol level problem, not a hardware level problem.

- Port type incompatibility (example: UNI - PNNI)
- Standard level incompatibility (example: UNI 3.0 - UNI 3.1)
- Interoperability problem (example: PNNI or UNI connection to vendor box)

– Verify the port configuration at both ends of the link. If there is no mistakes in the configuration, take a trace according to "UNI Level Problems" on page 3-2, "PNNI Level Problems" on page 3-3, "ILMI Problems" on page 3-6.

– Route the call to the upper level in the product structure providing network configuration around the machine, the module port configurations, and the traces that you uploaded previously. Stop problem determination procedure here.

If the port error LED lights regularly or intermittently, the problem may be caused by:

1. Port clocking inconsistency

   Verify the port clocking parameter: for synchronization purposes, one side of the connection must be **clock = internal** and the other side should be **clock = external**.

   Note: Both sides with **clock = external** will generate errors and make the port error LED go ON.

2. Sonet framing or scrambling inconsistency

   The default for the 826x is **Frame format = SONET STS-3c** and **Scrambling mode = Frame AND Cell**. Ensure that these values have not been changed or are still compatible with the port configuration set at the other end of the link.

   Note: As previously mentioned, this will cause framer mal-functions and the port error LED will go ON.

3. Sonet errors/alarms or Poor line quality:

   Enter **set device contact** command (and enter the same date as given by the **show clock** command). You have now access to hidden commands, and will get extended status information. Enter the **show port <slot.port> verbose** command several times and verify the following extra information:

   - Remote device is active
   - Frame format: SONET STS-3c
   - Scrambling mode: frame and cell
   - Clock mode: internal

     The following 11 indicators report current status of the port framer. If one of the status is in UPPERCASE, there is an anomaly on the line
   - Signal Detect: active
   - RDOOL Status: inactive
   - Loss Of Signal: inactive
   - Loss Of Frame: inactive
   - Line FERF: inactive
   - Line AIS: inactive
   - Path FERF: inactive
   - Path AIS: inactive
   - Loss Of Pointer: inactive
   - Loss Cell Delineation: inactive
   - Out Of Frame: inactive

     The following two counters report errors detected on the incoming traffic. I one of the counters report a number higher than 0 errors have been encountered (It is often correlated with anomalies on the preceding counters).
   - B1 Errors Counter: 0
   - HCS Errors Counter: 0

   If problems occur:

   - Perform wrap tests on the module. Replace the module or daughter card or both if the test failed.
   - Perform the end-to-end wrap test. If remote device supports it (826x 155/622M ports support **Wrap reply mode** to perform this test), to check end to end connection.
   - If the wrap tests are successful, connect an analyzer to the line to monitor traffic and line statuses. Have the problem fixed on the line or on the remote device.

Compatibility Problems between Hardware and Microcode Module Levels

Symptom Explanation
Problems related to compatibility between levels of hardware and or microcode for the modules installed in your machine.

8260 Modules

Attention

When a CPSW2 module is installed on an 8265, no 8260 module can be installed on this 8265.

The following table lists 8260 ATM media modules that can be installed in the 8265, providing that their FPGA code has been upgraded **at least** to the indicated level.

.

Module	Feature Code	Faceplate	FPGA Level
3 Port 155 Mbps Flex Module	5003	A3-MB 155	C31
2 Port 155 Mbps Flex Module	5002	A2-MB 155	B50
4 Port 100 Mbps Module	5104	A4-SC100	B50
MSS Server Module	5300	A-MSS	B50
8281 ATM LAN Bridge	5204	A04MB-BRG	B50
12 Port 25 Mbps Module	5012	A12-TP25	C30
8271 LAN Switch Module	5212/5312	A-TR8LS2/A-TR8LS4	B50
8272 LAN Switch Module	5208/5308	A-E12LS2/A-E12LS4	B50
ATM WAN2 Module	5602	A8-WAN	C32
ATM WAN Module	5302	A2-WAN	B50
Video Distribution Module	5008	A8-MPEG	B50

Note that the code upgrades for the 8260 blades are available in the "8260 Microcode Upgrades" at:
http://www.networking.ibm.com/support/products.nsf/techsupport/(8260)?OpenDocument

Note: See "ESS URL" on page 2-70.

8265 Modules

Module	Feature Code	Faceplate	FPGA Level
CPSW CPSW2	6501 6502	CPSW CPSW2	F3.32 FPGA: 1D12
155 Mbps 4P Flex Module (see note 1)	6543	A4-MB155	FPGA: 1D23
155 Mbps 4P Flex Module (see note 2)	6543	A4-MB155	FPGA: 2D23
155 Mbps 4P MMF Integrated Module (see note 1)	6540	A4-MF155	FPGA: 1D23
155 Mbps 4P MMF Integrated Module (see note 2)	6540	A4-MF155	FPGA: 2D23
622 Mbps 1P MMF Module	6511	A1-MF622	FPGA: 2D23
622 Mbps 1P SMF Module	6 512	A1-SF622	FPGA: 2D23
MSS	5401	A-MSS	FPGA: 2D23

Notes:

1. Applies to modules equipped with Xilinx chips 4020 -3.

2. Applies to modules equipped with Xilinx chips 4020 -2.

The levels indicated above are up-to-date at the time of edition, but may be updated during the life of the product (see "Compatibility Problems between Hardware and Microcode Module Levels" on page 2-68). To obtain the current levels, refer to the "cross compatibility" table available at:
http://www.networking.ibm.com/support/products.nsf/techsupport/(8260)?OpenDocument

Note: See "ESS URL" on page 2-70.

The PNNI code needs CPSW memory upgrade to 32MB. This is achieved by the addition of an extra 16MB SIMM card (FC 6516, PN 13J8698).

Installation of the SIMM Memory on the CPSW Module

On the top right area of the CPSW module (next the PCMCIA card) there are two SIMM location. One SIMM is already in DRAM1. The extra 16MB   the extra 16MB SIMM has to be inserted in the free connector (DRAM 2) with the same layout as the first one. SIMM must be inserted in the free connector (DRAM2) with the same layout as the other one.

Note: SIMM is 32 MB on CPSW2.

When physical installation is completed, all modules seated in place and powered up, issue the **device** command to display the sensed memory size. It is displayed with the code type (IISP or PNNI) at the end of the text.

8260 Features Used in the 8265

> **Attention**
>
> When a CPSW2 module is installed on an 8265, no 8260 module can be installed on this 8265.

- The media modules must be at the appropriate FPGA level in order to be used in the 8265 (refer to the Warning Notice included with the PCMCIA card).
- The 8260 controller module (PN 58G5800) must have a microcode level of 1.14 or higher in order to operate in the 8265.
- The controller module must be upgraded before being plugged into the 8265 (by using an 8260 Hub)

Important

If the controller module is not at the correct level, the 8265 will not start.

ESS URL

http://www.networking.ibm.com/support/products.nsf/techsupport/(8265)?OpenDocument

Note: You can substitute **any NHD product** for the 8265 here and access the eSS support homepage of that product. Also, the parentheses "()" are part of the URL.

Reasons for directing customers to the eSS URL:

1. Currently when you select "Downloads" from this homepage, it will link you to our current html (www.networking.ibm.comm/8265/8265fix.html) where the microcode is kept, but in the future it will link you to eSS server where the code packages will be maintained.
2. The Ess 8260 or 8265 homepage does not reference a microcode registration link yet; if the customer chooses "subscribe", this activates technical tip notification only. Once the microcode dowload packages are fully migrated "susbscribe" will offer the customer microcode **or** tip update information. But still by accessing the eSS homepage for the 8260/8265, the downloads takes you to our current download page (826/5fix.html) which links them to the registration page maintained by La Gaude (826/reg.html).
3. We are advertising to new customers as well as customers who have these previous htmls bookmarked, the new eSS web site for **all** products.

Chapter 3. Procedures

This chapter provides useful information for maintenance activities or explanations on how to perform specific actions.

Collecting Traces and Dumps

Traces and dumps are necessary for some specific problems.

Refer to the:

- *8265 Nways ATM Switch Command Reference Guide* SA33-0458
- *V3.32 Release Note* to use the integrated web server to collect traces and dumps.

Note: Using the web to collect traces and dump is more efficient than using the tftp upload command.

Trace and Dump Selection

─── **Important** ───────────────────────────────

This procedure must be followed under PE guidance.

If You Have:	Go To:
UNI level problems	"UNI Level Problems" on page 3-2
PNNI level problems	"PNNI Level Problems" on page 3-3
Connections problems (PVCs, LAN emulation, CIP)	"Connection Problems" on page 3-4
SNMP problems	"SNMP Problems" on page 3-5
ILMI problems	"ILMI Problems" on page 3-6

UNI Level Problems

This procedure helps you choose traces and dumps that are to be collected for UNI problems.

UNI station or server connected to 8265.

- The **show port<slot.port>verbose** command shows **ILMI DOWN not in service**:
  - Enter **show ilmi stats port<slot.port>**
  - Enter **show ilmi dump port<slot.port>**
  - Collect traces:
    - **base**
    - **signalling messages**
    - **ilmi**
    - **saal**
- Station do not register to switch:
  - Enter **show signalling ATM_inteface port<slot.port>**
  - Collect traces:
    - **base**
    - **signalling messages**
    - **ilmi**
    - **connections**
  - Collect dump **signalling control_data all**
  - Collect dump **signalling control_blocks port<slot.port>**

PNNI Level Problems

This procedure helps you choose traces and dumps that are to be collected for PNN0I problems.

- Collect traces:
    - **pnni_base**
    - **pnni_messages**
    - **pnni_neighbour**
    - **pnni_path_selection**

- Collect dumps:
    - **topology_data_base**
    - **ptse**
    - **path_selection**

Connection Problems

This procedure helps you choose traces and dumps that are to be collected for connection problems.

PVC Connection Problems

After investigation of the cause given by the ***show pvc<slot.port pvcid>verbose*** command:

- Collect traces:

    - **base**
    - **pvc**
    - **connections**

- Enter ***show ilmi_stats stats port<slot.port>***

- Enter ***show ilmi_stats dumps port<slot.port>***

LAN Emulation Connection Problems

After investigation of the cause given by the ***show device*** command:

- Collect traces:

    - **base**
    - **lec**
    - **connections**

Classical IP Connection Problems

After investigation of the cause given by the ***show device*** command:

- Collect traces:

    - **base**
    - **RFC1577**
    - **connections**

SNMP Problems

This procedure helps you choose traces and dumps that are to be collected for SNMP problems.

- Collect trace:
  - **snmp**

ILMI Problems

This procedure helps you choose traces and dumps that are to be collected for ILMI problems.

- Collect traces:
  - **signalling messages**
  - **saal**
  - **ilmi**

For a Port

- Enter **show ilmi stats port<slot.port>**

- Enter **show ilmi dump port<slot.port>**

For a vpc_link

- Enter **show ilmi dump vpc<slot.port vpi>**

- Enter **show ilmi stats vpc<slot.port vpi>**

Online Diagnostics

This section gives information for online diagnostics.

The **wrap** commands are provided to isolate the fault. Several levels of wrap can be used.

Local Wrap Commands

- Internal wrap: the data path stays inside the module.
- External wrap: a physical wrap must be *wired* from transmitter to receiver.
- Reply mode wrap: an internal wrap from the receive side to the transmit side allowing to exercise the whole path from a port to another one.
- Payload wrap: an internal wrap from the receive side to the transmit side allowing to exercise the whole path from a port to another one including transmitter, receiver and framer of remote module.

The following drawings show the operating mode of the four wrap levels.

Internal Wrap

External Wrap

External Wrap

Reply_Mode Wrap

External Wrap

Payload Wrap
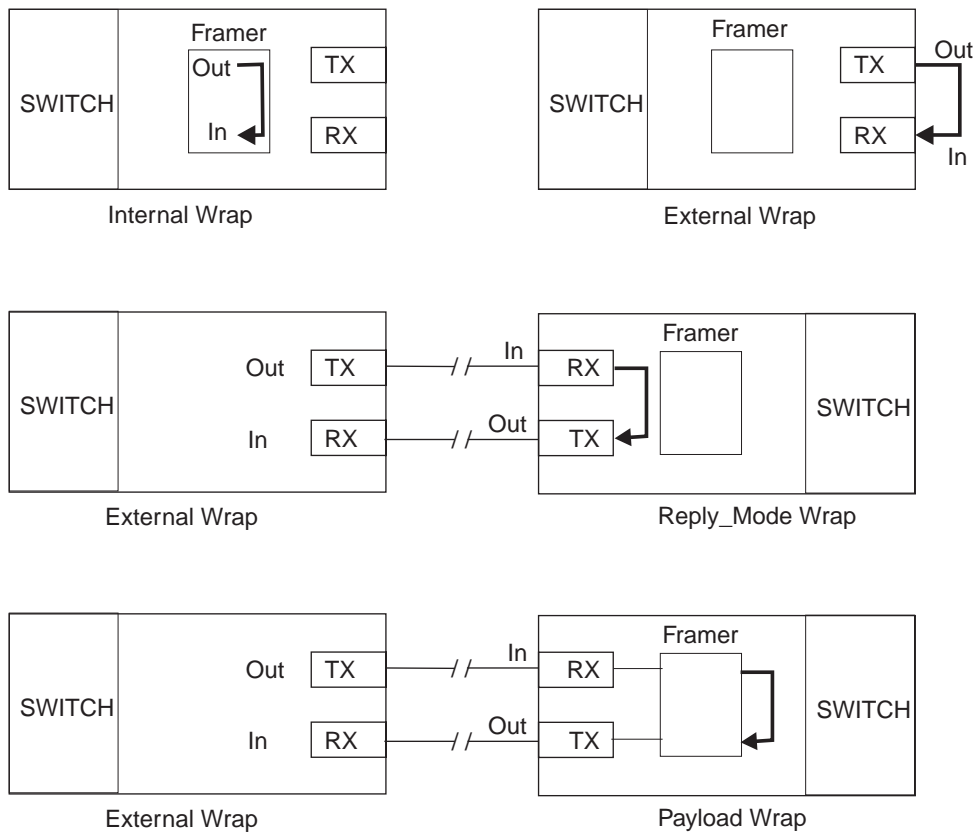
Note: On a 4-Port 155 Mbps module, a port can be configured in reply mode and another port of the same module in wrap external.

Remote Wrap Commands

These commands are started from a local console and put the remote port in wrap for testing.

- **Far_End_Mode wrap**: This test put the remote port in **reply mode wrap**. Starting a **Far_End_Test** on local console allows to test the link. The test result appears on local console.
- **Far_End_Payload wrap**: This test put the remote port in **payload mode warp.** Starting a **Far_End_Test** on local console allows to test the link. The test result appears on local console.

The following drawings show the operating mode of the wrap levels.
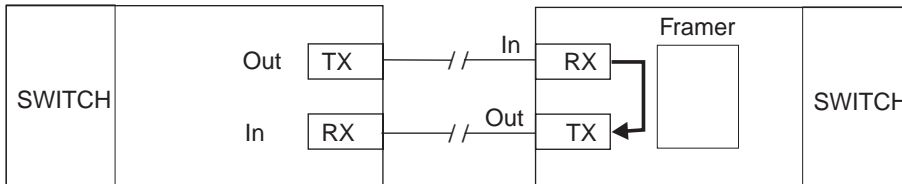
1 - Far_End_Model Wrap
2 - Far_End_Test
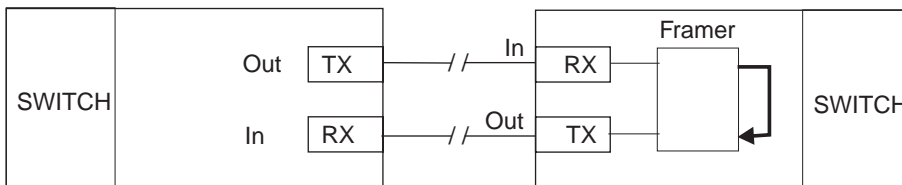
1 - Far_End_Paylod Wrap
2 - Far_End_Test

Wrap Commands Syntax

The syntax of the command to issue is:
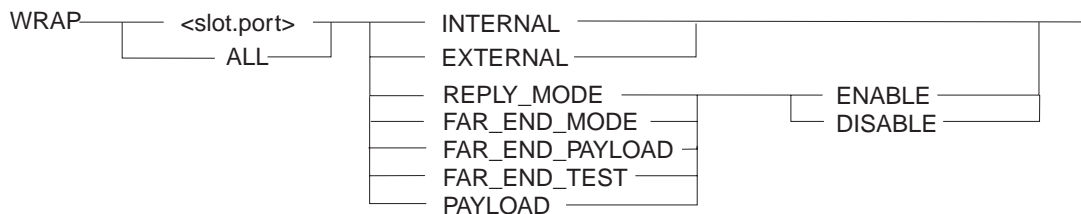
Use of commands

If the **wrap all ...** command is used, all the modules installed in the 8265 will be tried.

The **reply_mode** command must be used on the remote port, before the linked port be set up to "wrap external" for the test to complete.

Completion of the command

Normal completion of the wrap test (except the reply_mode) will be:

- **<slot.port>** *Test successful ==>* no failure was found.
- **<slot.port>** *Test failed ==>* a problem was found in the module.

For the ports which have not been disabled before the command was issued, the following message will be returned:
   <slot.port> *Port not disabled. Execute the command to disable the port*.

If the installed port does not support the wrap test (example: 8260 compatible modules), the following message will be returned :
   <slot.port> *Not supported on this type of port*.

Wraps Available

The following table gives the wraps available on WAN 2 I/O card.

Table 3-1. Wraps available on WAN Modules						
Wraps	**WAN I/O Card**					
	E3	**DS3**	**OC3**	**SMT1**	**E1**	**T1(DS1)**
Internal	X	X	X	X	X	X
External	X	X	X	X	X	X
Reply_Mode	X	X	X	X	X	X
Payload					X	X
Far_End_Mode		X				X
Far_End_Payload						X
Note: X means that the wrap is available for the I/O card.						

How to Verify a Link

Two commands are available to verify the link with a target device. Each of them is specific. Use the **ping** command to test the link with an IP device (see "PING"), and the **atm_ping** command to test the link with a 8265 ATM switch (see "ATM_PING").

PING

Use this command to determine whether an IP device is active and reachable. The target device may be reachable over a LAN Emulation Over ATM or Classical IP Over ATM network. The command sends packets to the device to be "pinged" and requests the device to send back the same packets. **ping** loops continuously until the CTRL-C keys are pressed.

PING Syntax

```
PING ──────┬──────── ip_address ──────────────────────────────────────────────
           └──────── host_name ───────┘
```

ip_address

Specifies the IP address in the format *n.n.n.n*, where *n* is 0-255.

host_name

Specifies the name of a host as defined with the **set host** command.

Notes:

1. If the target device is reachable via a Classical IP over ATM subnetwork as defined in RFC1577 (either directly attached or attached behind a router), the 8265 switch must be configured with the ATM address of the ARP server (using the **set device arp_server** command).

2. In addition, if the target device is reachable via a router, the 8265 switch must be configured with the IP address of the default gateway (using the **set device default_gateway** command)

Example

```
8265ATM> ping newyork
Starting ping (hit CTRL-C to stop) ...
Ping 9.100.86.131: 1 packets sent, 1 received
Ping 9.100.86.131: 2 packets sent, 2 received
Ping 9.100.86.131: 3 packets sent, 3 received          [CTRL-C]

8265ATM>
```

ATM_PING

Use this command to determine whether another 8265 ATM Switch is active and reachable. The command sends packets to the device to be "pinged" and requests the device to send back the same packets. **atm_ping** loops continuously until the CTRL-C keys are pressed.

ATM_PING Syntax

```
ATM_PING ──────┬──────── atm_address ──────────────────────────────────────────
               └──────── host_name ───────┘
```

atm_address

> Specifies the ATM address of the remote 8265 to ping.

> **Note:** Pressing '?' (help) while entering the bytes of an ATM address displays a prompt indicating the number of the next byte to be entered.

host_name

> Specifies the name of an ATM host as defined with the SET HOST command.

Note: *atm_ping* can only be used to PING another 8265 ATM Switch. Other ATM devices will not respond.

Example

```
8265ATM> atm_ping atMG13
Starting ATM ping (hit CTRL-C to stop) ...
--- ATM ping statistics ---
SVC established. Packets sent
ATM address: 47.41.82.65.13.13.00.00.00.00.00.13.13.65.00.00.00.94.13.00
ATM Ping (hostname: ATMG13): 1 packets sent, 1 received
ATM Ping (hostname: ATMG13): 2 packets sent, 2 received
ATM Ping (hostname: ATMG13): 3 packets sent, 3 received

8265ATM>
```

Upgrading the 8265 by Code Download

The updates for FPGA picocode, boot, and operational microcodes for the 8265 CPSW are available at:
http://www.networking.ibm.com/support/products.nsf/techsupport/(8265)?OpenDocument

Note: See "ESS URL" on page 2-70.

Click on the control point switch module. You have access to IISP code and to PNNI code by entering the ID and password found in the CPSW Warning Notice shipped with the PNNI PCMCIA card.

The IISP or PNNI zipped package should be placed in a directory, reachable through TFTP (such ase /tmp for a UNIX/AIX station).

The 8265V332.zip Internet package contains these files (where xxxx indicates if the file applies to IISP or PNNI):

- 8265xxxx.RME: This file.
- BOOT332.BIN: BOOT A-CPSW microcode V.3.32
- xxxxV332.OPE: A-CPSW microcode V.x.xx, where yyyy is PNNI or IISP
- FPGA1D12.BIN: A-CPSW FPGA microcode 1D12
- REL8265.PDF: Release note for the 8265 current level (Adobe PDF file).
- 8265v23.MIB: MIB Version 2.3 for CPSW (binary).

In-Band Download Method

Classical IP mode

Ensure 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 with ATM addresses.
2. For each A-CPSW module, ensure 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.
5. If under AIX, ensure that the directories and files to download are readable (chmod 777 file_name).

Ethernet or Token Ring LAN-Emulation Mode

Ensure that your network is configured in Ethernet or Token Ring LAN-Emulation mode. 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.
2. You must configure the Ethernet or Token Ring LAN-Emulation Client on your 8265.
3. You must have a TFTP server somewhere in the IP network (either on the Emulated LAN, or behind an IP Gateway), and the microcode files installed on that TFTP server.
4. Ensure that you can PING the TFTP server from 8265 LEC.

Serial Line Support (SLIP) Mode

Ensure that your workstation can act as a TFTP server.

1. Set up a A-CPSW Configuration Console in SLIP Mode: Refer to the section "Setting Up a Configuration Console in SLIP Mode" in the *8265 Nways ATM Switch User'Guide*, SA33-0456. or on the 8265 CD-ROM documentation.
2. Configure the SLIP interface on the TFTP workstation which 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.

8265 CPSW RJ45 Support (TCP/IP Telnet)

The Ethernet port IP address must be in a different IP subnet than the other subnets defined in the hub. To connect to the RJ45 Ethernet port, you must establish the connection via an Ethernet hub with a passthrough cable or use a crossed Ethernet cable (Laptop TFTP Server directly connected to the 8265 CPSW RJ45 connector).

Note: The 8265 Ethernet port support only Ethernet DIX frame format.

Upgrade Synopsis

In-band code download
on the A-CPSW

Save your configuration in
order to reload it in case of
problems.

Step 1

Download A-CPSW
operational microcode.

Step 2

Swap FPGA picocode.

Download A-CPSW FPGA
picocode.

Step 3

Swap CPSW microcode.

Download A-CPSW boot
microcode.

Step 4

Step 6

No redundant
CPSW or both CPSW
are downloaded?

Yes

No redundant
CPSW or both CPSWs
are swapped.

Yes

No

No

Make redundant A-CPSW
Active.

Step 5

Make redundant CPSW
inactive (secondary).

Upgrade complete

Download Process

1. If you have only one A-CPSW (no redundant A-CPSW) follow Steps 1 through 4 then Steps 6 through 8.

2. If you have two A-CPSW modules (one in slot 9-10 and one in slot 11-12) follow Steps 1 through 5 for main A-CPSW and the Steps 2 through 4 then Step 6 for redundant A-CPSW. Then follow Steps 6,7 and 8 on the main A-CPSW (see upgrade synopsis).

Read carefully:

Important

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 maintenance period. You should save all your configuration parameters before performing.

IF you are using an OS/2 TCP/IP TFTP SERVER, you must set a very high or no timeout value on TFTP before doing any inband download of operational, FPGA, or boot code.

   Otherwise,TFTP times out while the 8265 is erasing the flash.

   use the command **tftpd -t -1** (no time out at all)

If you have a lower TCP/IP level than WARP TCP/IP 3.0, you need to install :
   1- Public fixpack UN00067
   2- ServicePac Refresh WR08210.
Both programmes are available from OS2tools. They contain a number of fixes to TCP/IP V3.0 for WARP.

Note: The same problem exists while uploading configurations or traces to the TFTP server.

- **STEP 1**. Saving the configuration before upgrade

    1. Set the TFTP parameters by entering the following commands:
        a. **set tftp server ip address** <ip address of the TFTP server>
        b. **set tftp file_type configuration**
        c. **set tftp file_name** (provide the full path of the file when prompted)
    2. Start the upload inband procedure be entering: **upload**

- **STEP 2**. Download Inband the 8265 A-CPSW operational code Upgrade the new active A-CPSW operational microcode (2nd PCMCIA bank memory) as follows:

    1. Configure the TFTP parameters by entering the following commands:
        a. **set tftp server_ip address** <ip address of the TFTP server>
        b. **set tftp file_type operational**
        c. **set tftp file_name** (provide the full path of the file xxxxv332.ope when prompted)
        d. **save tftp**
    2. Verify that you can reach the TFTP server by entering : **ping <ip address of the TFTP server>** (Stop PING by entering: CTL+C)
    3. Start the download inband procedure by entering:
        download inband
    4. When prompted, type **Y** to confirm.

5. 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**.

6. The command **show device** displays the new operational code version. It will appears as backup V3.3.2. This new backup operational code will only become active after a **swap microcode** command completion.

- **STEP 3**. Download Inband the 8265 A-CPSW FPGA picocode if it is a new FPGA level.

  1. Configure the TFTP parameters by entering the following commands:
     a. **set tftp server_ip address** <ip address of the TFTP server>
     b. **set tftp file_type fpga**
     c. **set tftp target_module n** (where n is 9 or 11 depending of active A-CPSW position).
     d. **set tftp file_name** (provide the full path of the file fpga1d12.bin when prompted)
     e. **save tftp**
  2. Verify that you can reach the TFTP server by entering: **ping <ip address of the TFTP server>** (Stop PING by entering&olon. CTL+C)
  3. Start the download inband procedure by entering:
         download inband
  4. When prompted, type **Y** to confirm.
  5. 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**.
  6. The command **show module n verbose** displays the new operational code version. It will appears as backup 1D12. This new backup FPGA picocode will only become active after a swap FPGA command completion.

- **STEP 4**. Download inband the 8265 A-CPSW boot microcodeHWT 410 Upgrade the new active A-CPSW boot microcode as follows:

  1. Log on as the administrator on the A-CPSW console.
  2. Enter the command:
         set device migration not_allowed
  3. Upgrade the A-CPSW boot microcode (boot EEPROM) as follows:
     a. Configure the TFTP parameters by entering the following commands:
        1) **set tftp server_ip address** <ip address of the TFTP server>
        2) **set tftp file_type boot**
        3) **set tftp file_name** (provide the full path of the file (bootv332.bin) when prompted)
        4) **save tftp**
     b. Verify that you can reach the TFTP server by entering: **ping <ip address of the TFTP server>**
        (Stop PING by entering: CTL+C)
     c. Start the download inband procedure by entering:
            download inband
     d. When prompted, type **Y** to confirm.
     e. 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**.
     f. The command **show device** displays the new boot code version. It appears as V3.3.2. This new boot code will be active after an A-CPSW reset, and it is located on the flash boot EEPROM on the Control Point card (ZM36).

- **STEP 5**. Activate the backup A-CPSW

  If you have a redundant A-CPSW active the backup by entering (on the active A-CPSW):

  1. **set device role secondary**

2. **save all**
3. **reset atm_subsystem**
4. Log on as the Administrator on the A-CPSW console

```
┌─ Swapping ──────────────────────────────────────────────────────┐
│                                                                  │
│  Do not perform any swap before downloading the:                 │
│                                                                  │
│    1. Operational code                                           │
│    2. FPGA code                                                  │
│    3. Boot code                                                  │
│                                                                  │
└──────────────────────────────────────────────────────────────────┘
```

The hub will reset and the backup CPSW will become active. Go to Step 2.

- **STEP 6**. Activate the new FPGA picocode and new A-CPSW microcode.

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

      a. **save all**
      b. **swap fpga_picocode 9 or 11**

      The Telnet session (if existing) is broken. Logon as Administrator on the A-CPSW console.

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

      swap microcode

   3. Confirm with **Y**.

   4. If you do not have redundant A-CPSW, go to **Step 7**.

   If you have already swapped new FPGA picocode and microcode on both A-CPSW modules go to **Step 7**.

   Verify the new levels of codes:

   – **show device**
   – **show module n verbose**

   By entering the following, the A-CPSW will become secondary (as it was before the beginning of the download operation):

   1. **set device role secondary**
   2. **save all**
   3. **reset atm_subsystem**
   4. The hub will reset and the back-up A-CPSW will become active
   5. Perform the Step 6 again on the other A-CPSW

- **STEP 7**. Check the new levels of code:

   1. **show device**
   2. **show module n verbose**

   When a PCMCIA card is installed as a Release Vehicle, the following steps must be followed. Do not reset the 8265 during all these phases until *Press Enter* and *8265 password required* are displayed.

   1. If the A-CPSW boot code is different from the one located on the PCMCIA card, UPDB is displayed on the CPSW display. This means that the flash boot EEPROM (ZM36) on the control point card is updated with the boot code based on the PCMCIA card.

   2. Once the boot updated phase is completed, the operational code is loaded on the DRAM. LOAD is displayed on the CPSW display, then ACTV is displayed.

   3. The CPSW FPGA is compared to the one located on the PCMCIA card. The following message is displayed on the local console:

FPGA released by PCMCIA Checking for needed update

In case the CPSW FPGA level is different, the backup FPGA is updated and the following message is displayed on the local console:

Downloading new picocode for FPGA (up to 3 minutes)....

The FPGA is then swapped. The following message is displayed:

FPGA picocode downloaded, now swapping (40 seconds)

The CPSW has been reset. The init time duration is 40 seconds if the diagnostics were enabled.

The new FPGA backup is compared to the PCMCIA backup. If it is different, the process restarts with:

Downloading new picocode for FPGA (up to 3 minutes)....
FPGA picocode downloaded, now swapping (40 seconds)
FPGA released by PCMCIA, Checking for needed update
The Switch FPGAs are up to date.
Press Enter

The following is a subset of the screen display after the **show device** command is entered:

```
ATM_gg32>show device

8265 ATM Control Point and Switch Module
...
Manufacture id:930
Part Number:02L3099 EC level:F12445
Boot EEPROM version:v.3.3.2
FLASH EEPROM version:V.3.3.2
flash EEPROM backup version:
Last restart:18:19:43 Thu 3 Mars 1998 (Restart Count:1)
```

Screen display after the **show module 9 verbose** command is entered:

```
ATM_gg32>show module 9 verbose

        Slot Install Connect Operation General Information
        ----------------------------------------------------------------
         9     Y      Y       Y      8265 ATM Control Point and Switch
                                     Module:Active

       Status: connected / hardware okay
                      enable  / Normal
          P/N:02L3099 EC level:F12445 Manufacture: 930
            Operational FPGA version: 1D13
                 Backup FPGA version: 1D13
```

Summary of Important Commands and When to Use Them

The following information provides a quick reference guide for the 8265 Problem Determination and Service in table format. It gives the various commands that can be used in both user and administrator mode (for more information, refer to the IBM 8265 ATM Switch Command and User Guides.)

The command line interface has the following characteristics :

- The command are not case-sensitive. The system interprets XYZ the same as xyz.
- Abbreviated command input is accepted. This allows the minimum required number of unique command characters to be typed. Pressing the space bar after this automatically fills in the rest of the command string.
- System prompts if mandatory commands are not entered.
- Typing "?" provides HELP and displays the systems next available options. Cancelation of a command already initiated can be achieved by entering "Ctrl and C" simultaneously.

.

Command	Action Performed
?	Provides help and displays next options.
logout	Ends a User terminal session.
show alert	Displays the alert settings for the A-CPSW.
show clock	Displays current date and time.
show community	Shows the associated community names for specified management stations.
show device	Provides configuration information about ATM Control Point.
show e164	Displays the contents of the E.164 mapping table.
show errors (maintenance mode)	Displays all errors since last dowload.
show flash (maintenance mode)	Provides information on the current microcode stored in the PCMCIA flash EEPROM.
show future_pnni configuration_state	Displays any uncommitted changes to the future PNNI configuration.
show future_pnni node	Shows the current Node settings in the future PNNI configuration.
show future_pnni path_selection	Displays the ABR and UBR path selection in the future PNNI configuration.
show future_pnni summary_address	This is a summary list of addresses in the future PNNI configuration.
show host	This is the current list of host names assigned IP addresses.
show hub	Provides information about the 8265 switch environment.
show ilmi	Displays ILMI statistics or instances.

Command	Action Performed
show inventory	Lists all modules, daughter cards, Ctl module, and software.
show lan_emul config_server	Displays the entries in the LECS address table.
show module	Configuration information is displayed on the connected module.
show pnni configuration_state	Shows any uncommitted changes pending in the future PNNI configuration.
show pnni crankback	Shows the status of the signalling crancback function.
show pnni data_base	Displays all or selected parts of the PNNI database.
show pnni hierachy	Displays the PNNI hierachy on the local 8265 switch.
show pnni neighbor	Lists the neighbor node IDs connected to one or more ports of the 8265.
show pnni node_0	Shows the current Node 0 settings in the active PNNI configuration.
show pnni path_selection	Displays the ABR and UBR path selection in the current PNNI configuration.
show pnni peer_group_leader_election	Displays the peer group leader election elements for the selected peer groups.
show pnni_peer_group_members	Lists the current Node IDs of members of the ATM peer group.
show pnni summary_address	Lists the entry number, description and value for each summary address defined on the local switch.
show port	Displays configuration information on a single port or all ports.
show power	Displays power modes and classes.
show profile	Displays current port threshold profiles.
show pvc	Displays the definitions of selected or all PVCs.
show ram (maintenance command)	Lists the amount of random access memory (DRAM) installed.
show reachable address	Displays all reachable addresses defined in the local switch.
show role (maintenance command, information available by using a show device command)	Displays the primary or secondary status of A-CPSW.
show security	Displays security access control settings and violation for the 8265.
show signalling atm_interface	Displays signalling interface settings for a port or a PVC.

Command	Action Performed
show signalling call_pacing	Displays current call-pacing settings for the control point.
show signalling connection	Displays, for a selected port or VPC, the current connection.
show signalling control	Displays the global state of the signalling entity in the switch.
show signalling cross_connections	Shows current defined cross connections for port or PVC.
show snoop	Displays ports with port mirroring currently active.
show terminal	Displays the A-CPSW console port settings for terminal and SLIP connections.
show tftp	Displays the parameters for inband download and upload operations.
show thresholds	Displays port threshold settings.
show trace	Displays the status of all available trace types.
show vpc_link	Displays all or selected VPC links.
telnet	Logs on to and manages any A-CPSW in the network.

In **administrator mode**, all commands are available to the user. The following table represents only a fraction of the available commands in administrator mode. The table is a quick reference guide to the initial setup of an 8265 ATM Switch.

Command	Action Performed
set device password	Configures either user or administrator password.
set terminal baud *set terminal databits* *set terminal parity* *set terminal stopbits* *set terminal prompt* *set terminal timeout* *set terminal hangup* *set terminal console_port protocol*	Configures the A-CPSW's console port settings.
set clock *set device name* *set device location* *set device contact*	Changes the factory default settings for the A-CPSW.
set pnni node_0 atm address	Configures a user-defined ATM address for the A-CPSW.
set module enable *set module isolated* *set port*	Configures ATM media modules and ports.
set terminal baud *set terminal slip_address* *set terminal console_port_protocol*	Configures SLIP parameters.
set device ip_address *set device default_gateway* *set device arp_server* *set device community* *set alert*	Configures Classical IP parameters.
set device lan_emulation_client *set device default gateway* *set community set alert*	Configes the LANE parameters.
set pvc	Configures PVCs for both VCCs and VPCs.
set tftp	Configures TFTP parameters for code download/upload.
set trace	Configures trace and dump facilities.

Maintenance Mode

> **Note**
>
> The *maintain* command can only be used from a local ASCII (VT100 or equivalent) terminal connected locally to the console port of the A-CPSW.

When the operational code has started, maintenance mode can be entered either because the user operator requested it or because an error has been detected. In this case, a message related to the cause of maintenance mode entry is displayed on the CPSW display (go to "MAP 0160: Controller Module LEDs" on page 2-14).

When maintenance mode is entered upon user request, the following message is displayed:

>>>> MAINTENANCE MODE ENTERED UPON USER REQUEST

Command	Action Performed
boot	Activates the new software stored in the PCMCIA flash EEPROM, ends maintenance mode, and starts a new A-CPSW session.
clear all	Deletes all stored information such as configuration, error log, and restarts the counters.
clear configuration	Erases the ATM subsystem configuration in an A-CPSW.
download out_of_band	Downloads new A-CPSW software.
set default gateway	Assigns the IP address of the router used to receive and forward IP packets to stations that are not attached to the 8265.
set ip_address	Assigns the IP address to the Ethernet port on the CPSW.
set mac_address	Assigns a MAC address to the Ethernet port on the A-CPSW.
set role	Selects which A-CPSW is primary and secondary in a redundant A-CPSW configuration.
set subnet_mask	Assigns a subnetwork mask to the Ethernet port on the A-CPSW.
show errors	Displays the errors recorded during the last execution of the *download_out_of_band* command.
show flash	Displays a summary of the microcode stored in the flash memory.
show ram	Displays the amount of random access memory (DRAM) installed.
show role	Displays the primary or secondary role of the A-CPSW.
swap active	Activates the backup flash EEPROM without resetting the A-CPSW.
use baud	Changes the baud rate of the console terminal connection while in maintenance mode.

Resetting and Changing the Password

If the administrator password for the A-CPSW needs to be reset (for any reason), the following procedure must be followed:

1. Enter **force** at the password prompt

2. Press the ATM reset button on the A-CPSW within 3 seconds.

This procedure will reset the password back to its original factory default setting of the 8265.

How to Order an NVRAM

The NVRAM is not available as a FRU.

Contact Product Engineering (PE) to obtain one NVRAM, as usual with PMH:

- In EMEA: 8265PS,812
- In U.S.A. and Canada:: 82HUBS,L036(lvl2) - CATMPE,L036(lvl3)/LANS,L928.
- In Asia Pacific countries: Japan 8265FS,L675 / Australia ANZSSG,L622.
- 8265 PE level 3 support in La Gaude: 8265C6,L888.

Send the failing NVRAM back to La Gaude (for failure analysis) at the following address:

8265 Support Group - BP 23 - Dept 083900
Compagnie IBM France
Centre d'Etudes et de Recherches
Le Plan du Bois - 06610 La Gaude
FRANCE

invoice to code 706 / 49W
ship to code 706 / 917

Tel: (33) 4 92 11 52 87

How to See the Code Level of CPSW Module

1. Enter the **show device** command.

2. You obtain a screen similar to the following:

```
&prompt; show device
8265 ATM Control Point and Switch Module
Name : 8265ATM
Location :
ICI

For assistance contact :
 20 Jul 1998

Manufacture id: 930
Part Number: 25L4434 EC Level: F12356
Boot EEPROM version: H.4.0.d
Flash EEPROM version: d.4.0.d
Flash EEPROM backup version: d.4.0.b
Last Restart : 15:01:43 Mon 20 Jul 1998 (Restart Count: 162)

A-CPSW
-------------------------------------------------------------------------------
 > Subnet ethernet: Up
   IP address: 9.100.109.217. Subnet mask: FF.FF.FF.00
   MAC Address: 0056291F83D6 (BIA)
 > Subnet atm: Up
 IP address: 9.100.94.14. Subnet mask: FF.FF.FF.80

 > Subnet lan emulation ethernet/DIX
   Up
   Config ELAN Name : "8265V4_LES_ETH"
   Actual ELAN Name : "8265V4_LES_ETH"
   MAC Address: 0056291F03D6
   IP address: 5.6.7.8. Subnet mask: FF.FF.FF.C0
   ATM address: 47.41.82.65.14.14.00.00.00.00.00.14.14.65.00.00.00.94.14 .00
   Config LES addr: none
   Actual LES addr: 45.40.82.65.00.00.00.00.00.00.00.01.19.50.19.19.19.19.19.02
   BUS ATM address: 45.40.82.65.00.00.00.00.00.00.00.01.19.50.19.19.19.19.19.02
   Config LECS add: none
   Actual LECS add: 47.00.79.00.00.00.00.00.00.00.00.00.00.A0.3E.00.00.01.00
   LEC Identifier: 16. Maximum Transmission Unit: 1492
```

How to See the Power Requirement for a Module

1. Enter the **show power verbose** command.
2. You obtain a screen similar to the following:

```
8265ATM> show power requirement module 17.1

power requirements for card 17.1&colon;

  +2V power requirements (in units of 0.10 watt)&colon;    0
  +5V power requirements (in units of 1.00 watt)&colon;   30
  -5V power requirements (in units of 0.25 watt)&colon;    0
 +12V power requirements (in units of 0.50 watt)&colon;    2
 -12V power requirements (in units of 0.25 watt)&colon;    0

8265ATM>
```

Checking of the CPSW Module

1. Remove the CPSW from the 8265.

2. Unscrew the two RS232 connector screws **1** on the face plate.
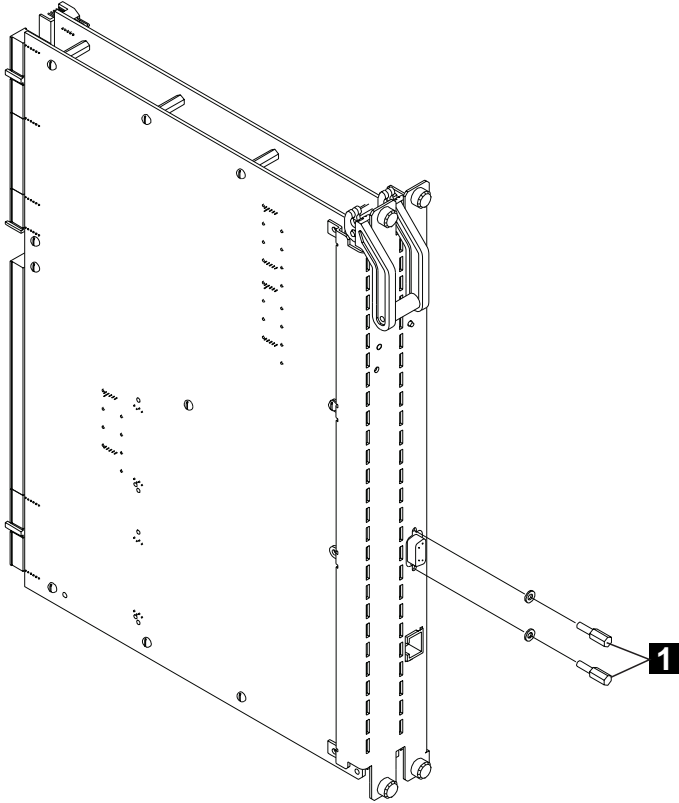
3. Unscrew the eight screws **2** from the face plate (4 each side).
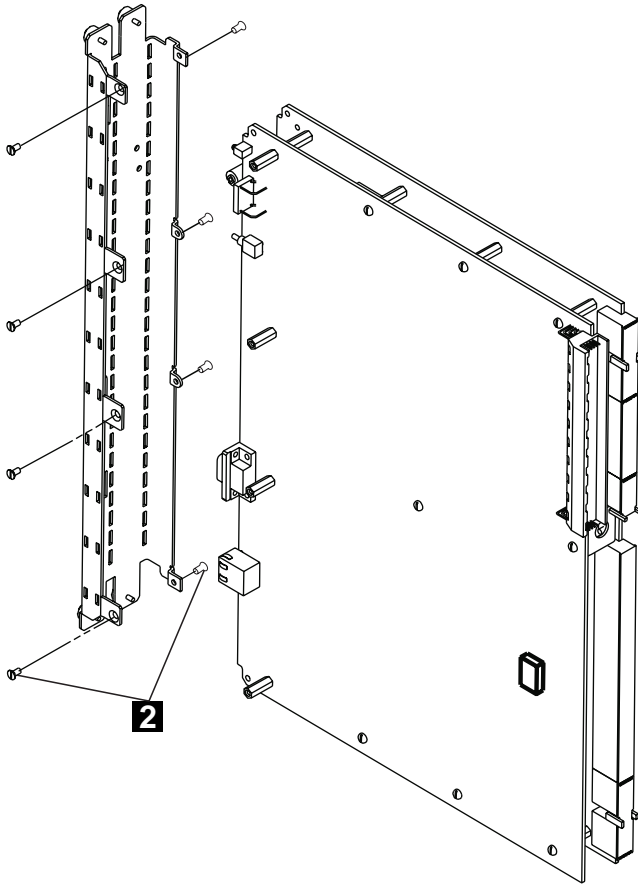
4. Remove the little clamp **3** from the upper and lower pins **4** . Remove the pins, then remove the levers and the face plate.

Lever

Clamp **3**

Pin **4**

Bottom View
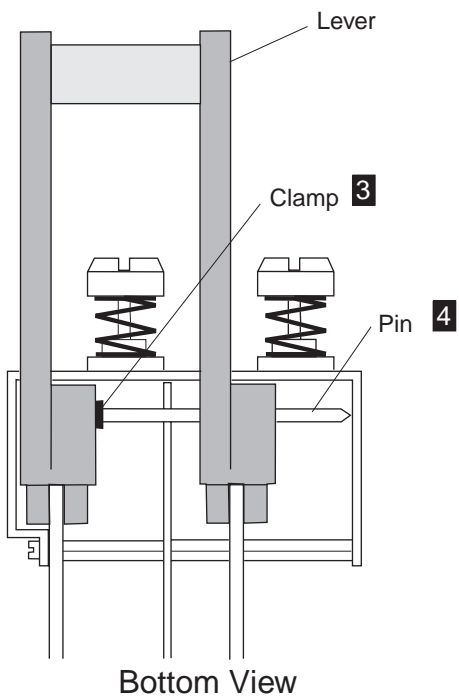
5. Unscrew the nine screws from CP side **5** and the two standoffs.
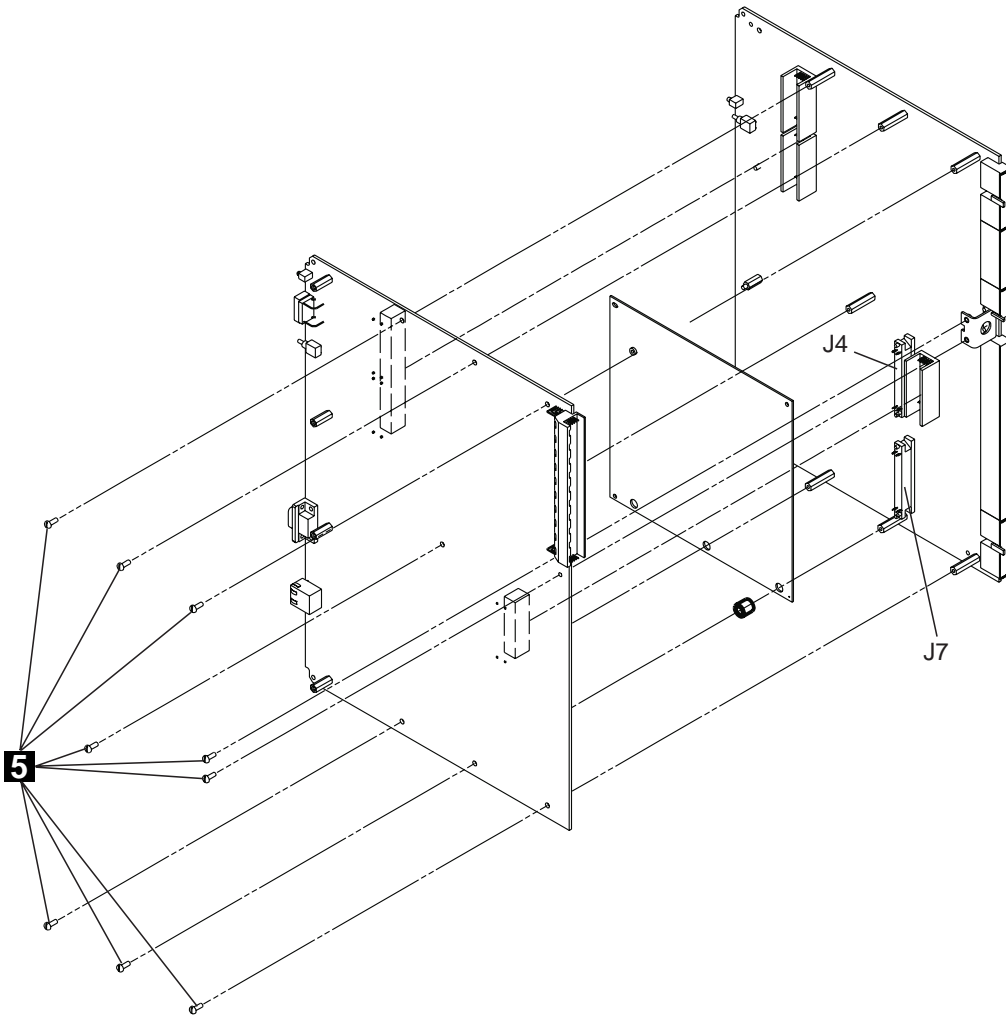
6. Unplug the CP from the switch card (two connectors, one near the PCMCIA and the other near the tri_channel).

7. Verify that the daughter card is correctly seated on the switch connectors J4 and J7.

8. Re-plug CP connectors onto switch connectors carefully.

9. Screw the nine screws **5** on the CP (three up and three down, two on the rear, one in the middle).

10. Replace upper and lower standoffs and replace the face plate. Screw up the eight screws **2** on the face plate (the four screws on CPSW top side are in V).

11. Replace the two levers with their pins **4** and secure them with their clamps **3** .

12. Replace the two RS232 connector screws **1** .

CPSW and CPSW2 Differences

The main differences between the CPSW (Feature 6501) and the new CPSW2 (Feature Code 6502) are:

- Integrated power control
- Improved performances
- No backward compatibility with any 8260 modules (see list below)
- A module in slot 12 will be powered up by the new CPSW2 only if the chassis is a "Release 4" chassis (P/N 26L0112). The EC to upgrade the 8265 chassis to "Release 4" is a 'use as is'.The P/N of the old chassis is 13J8689 (see table below) :
- The chassis level (in fact the backplane level) can also be read thru the console (useful when remote access). The command to display the backplane P/N is **show inventory verbose**. New backplane P/N is 02L4093.

CPSW/CPSW2 - Chassis/Backplane Compatibility Table

- **8265 module** designates an ATM module with an 768Mbps backplane attachment.
- **8260 module** designates an ATM module with an 256Mbps backplane attachment.

Module	Old Chassis (PN 13J8689)	Release 4 Chassis (PN 26L0112)
CPSW (Feature code 6501)	**8260 module**: Slots 1,3,5,7 **8265 module**: Slots 1 to 8 and 12 to 17	**8260 module**: Slots 1,3,5,7 **8265 module**: Slots 1 to 8 and 12 to 17
CPSW2 (Feature Code 6502)	**8260 module**: Not operational **8265 module**: Slots 1 to 8 and 13 to 17 (with IPC active)	**8260 module**: Not operational **8265 module**: Slots 1 to 8 and 12 to 17 (with IPC not active)

CPSW2 (FC 6502) and Controller Module (FC 8000) Coexistence

A chassis with CPSW2 does not require a controller module to operate. The CPSW2 handles the power control (including fans and inventory management). However, the CPSW2 will be operational if a controller module is plugged in the chassis. In this case, the customer may choose if he wants the CPSW2 or the controller module to handle the power control. A red switch is located on the CP card, on the bottom left of the circuit board. When the switch is OFF, the integrated power control is active, when the switch is ON (Force Controller Module), the controller module is active. You can also use the following table.

Switch position	ON	OFF
Controller Module present	Controller Module	Integrated Power Control
Controller Module not present	Hub remains power off	Integrated Power Control

This functions allows a customer to take benefit of the controller module redundancy with the CPSW2. Even if the availability of the CPSW2 is significantly improved versus the CPSW, the availability is still better with one CPSW2 and two controller modules. So, we may find customers who can afford this availability function or who already own controller modules (8260 migration, upgrade Feature Code 6501 to Feature Code 6502).

There is no possible power control redundancy between a CPSW2 (FC 6502) and a controller module.

Chapter 4. FRU Exchange

Use this chapter once you know what FRU to exchange.

Exchange Precautions

1. Most of the 8265 FRUs can be exchanged in concurrent maintenance. Thus, it is very important that these procedures be followed when replacing any FRU in the machine.

2. Before starting FRU exchange, make sure that the involved area has been disabled by the customer.

3. Procedures for exchanging FRUs are listed on the next pages, use the list in alphabetical order leading to the correct page.

8265 FRUs and Parts Number Exchange Procedure

FRU/Part Number	Action
ac Power Supply	Go to "ac Power Supply Exchange" on page 4-2
- 48 Volt dc Power Supply	Go to "-48 Volt dc Power Supply Exchange" on page 4-5
Controller Module	Go to "Controller Module Exchange" on page 4-8
CPSW/CPSW2	Go to "CPSW / CPSW2 Exchange" on page 4-9
DRAM SIMM	Go to "DRAM SIMM Exchange" on page 4-11
EEPROM	Go to "EEPROM Exchange on Backplane" on page 4-22
Fan	Go to "Fan Unit Exchange" on page 4-7
Media Module and I/O Card	Go to "Media Module and I/O Card Exchange" on page 4-12
PCMCIA	Go to "PCMCIA Exchange" on page 4-10

ac Power Supply Exchange

> **Note**
>
> When replacing a power supply, you must leave enough supplies running at all times to satisfy the requirements of installed modules. If removal of a defective, but still functioning, power supply will not cause a power deficit in the 8265, you can remove the faulty supply without losing power to a module or modules. Before attempting to remove a power supply from the chassis, enter the **show power budget** command to display current power conditions for the 8265.

> **Caution**
>
> To avoid electric shock, be sure to set the faulty power supply's ON/OFF switch (I / O) to the OFF (O) position, and to disconnect the power cord from both the power supply and the wall outlet before attempting to remove the power supply from the chassis.

To replace a defective ac power supply:

1 If installed, remove the power supply bay grille to gain access to the power supply bay (see Figure 4-2 on page 4-4).

2 Set the defective power supply's ON/OFF switch (I / O) located on the front of the supply to the OFF (O) position.

3 Remove the power cord from the wall outlet.

4 Remove the power cord from the power supply socket.

5 Loosen the spring-loaded screws that secure the power supply to the front of the 8265.

6 Pull the power supply straight out from the chassis, making certain you do not damage the connectors on the rear of the supply or those on the power switching board.

7 Remove the replacement power supply from its shipping box and set the power supply's ON/OFF (I / O) switch to the OFF (O) position.

> **Caution**
>
> Be sure to use the same power type (ac) as the removed power supply.

8 Carefully slide the power supply into the selected power supply slot (the same slot from which the defective supply was removed, or any other available power supply slot).
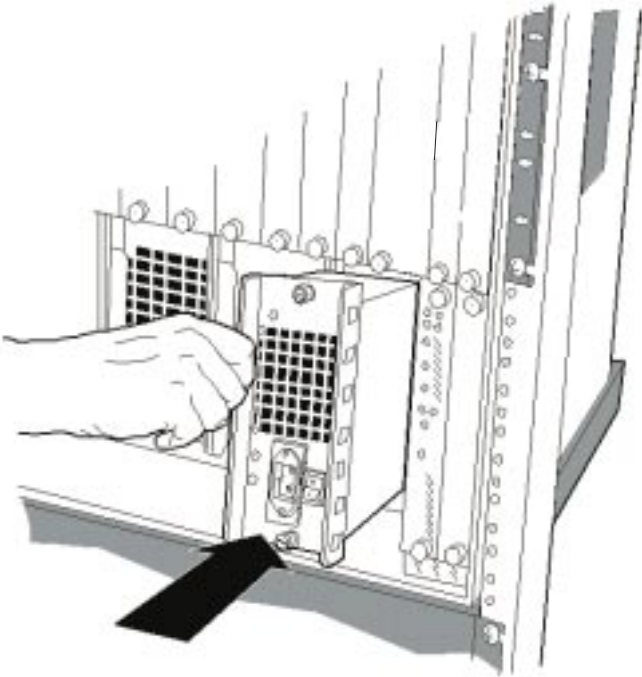
Figure   4-1. Replacing a Defective Power Supply

9 Hand-tighten the spring-loaded screws that secure the power supply to the front of the 8265.

10 Plug the power cord into the socket on the power supply.

11 Plug the power cord into the wall outlet.

12 Set the power supply's ON/OFF switch (I / O) to the ON (I) position. The replacement power supply is now fully operational.

13 Optionally, install the power supply bay grille:

a Grasp both ends of the grille and place the two bottom tabs into the notches at the base of the power supply bay.

b Flex the grille so the tab on each end of the grille can be fitted into the corresponding notches on the power supply bay.

c Still flexing the grille, insert the tabs into each respective notch.
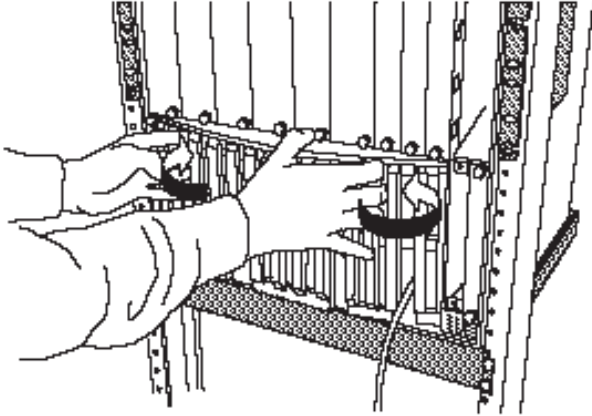
Figure   4-2.   Power Supply Bay Grille Installation

d Once the tabs have been inserted in each notch, release the grille to complete the installation.

14 Check the Power Supply LEDs (on the active Controller module, if installed, or active CPSW module) to verify that the replacement power supply is functioning normally. All LEDs for installed power supplies should be illuminated to indicate normal operation.

-48 Volt dc Power Supply Exchange

Note

When replacing a power supply, you must leave enough supplies running at all times to satisfy the requirements of installed modules. If removal of a defective, but still functioning, power supply will not cause a power deficit in the 8265, you can remove the faulty supply without losing power to a module or modules. Before attempting to remove a power supply from the chassis, enter the **show power budget** command to display current power conditions for the 8265.

Follow these steps when removing the -48 Volt dc power supply without disconnecting the power cord.

Caution

Only trained electrical service personnel must make disconnections to the -48 Volt dc power source.

---

1 If installed, remove the power supply bay grille to gain access to the power supply bay (see Figure 4-2 on page 4-4).

2 Set the defective power supply's ON/STANDBY switch to the STANDBY position.

3 Turn off the power source circuit breaker, protecting the power supply you want to remove.

4 Unplug and remove the keyed cable connector from the power supply socket.

5 Loosen the spring-loaded screws on the power supply faceplate.

6 Carefully pull out the power supply from the slot of the chassis.

7 Remove the replacement power supply from its shipping box and set the power supply's ON/STANDBY switch to the STANDBY position.

8 Plug the keyed-connector into the power supply socket.

9 Carefully slide the power supply into the selected power supply slot (the same slot from which the defective supply was removed, or any other available power supply slot).

Caution

Be sure to use the same power type (dc) as the removed power supply. Do not mix ac and dc power supplies.

---

10 Hand-tighten the spring-loaded screws that secure the power supply to the front of the switch.

11 Set the power supply's ON/STANDBY switch to the ON position. The replacement power supply is now fully operational.

12 Optionally, install the power supply bay grille:

   a. Grasp both ends of the grille and place the two bottom tabs into the notches at the base of the power supply bay.
   b. Flex the grille so the tab on each end of the grille can be fitted into the corresponding notches on the power supply bay.

c. Still flexing the grille, insert the tabs into each respective notch.

d. Once the tabs have been inserted in each notch, release the grille to complete the installation. See Figure 4-2 on page 4-4.

13 Check the Power Supply LEDs (on the active Controller module, if installed, or active CPSW module) to verify that the replacement power supply is functioning normally. All LEDs for installed power supplies should be illuminated to indicate normal operation.

Fan Unit Exchange

1 Remove and save the four corner screws that attach the fan unit to the rear of the 8265.

2 Carefully pull the fan unit straight out from the 8265 fan bay and, before completely removing the fan, grasp the four-position fan connector cable and disconnect it from the 8265 (see Figure 4-3).

Fan Unit

Fan Connector
Cable

Fan Connector

Screw (one at each corner)
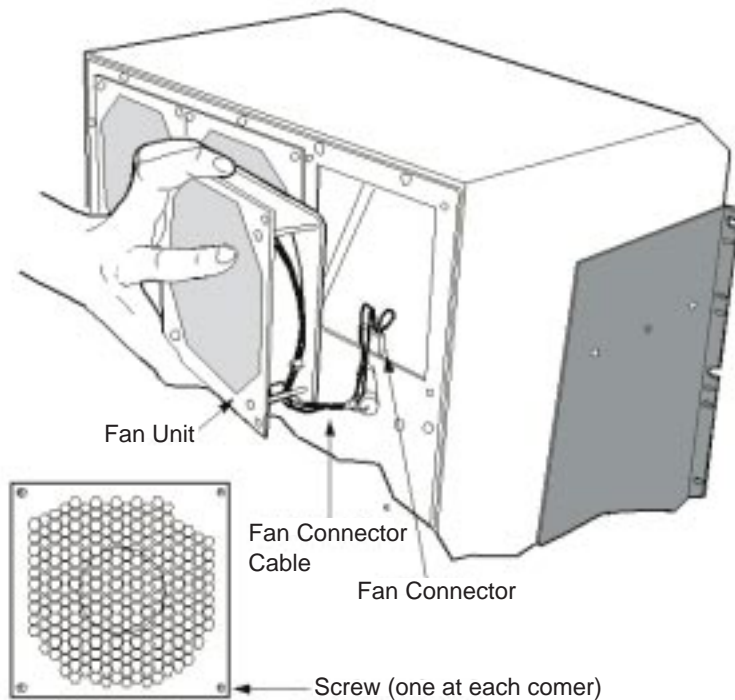
Figure   4-3. Replacing a Defective Fan Unit

3 Remove the replacement fan unit from its shipping box and carefully slide the fan into the slot formerly occupied by the faulty unit. Connectors on the installed fan must be firmly seated in the corresponding 8265 connectors.

Note: The fan begins rotating the moment the unit is plugged in.

4 Verify that the replacement fan is flush with the back of the 8265.

5 Replace the four screws that secure the fan unit to the rear of the 8265.

6 Visually inspect all installed fans to verify that each is turning without interruption.

7 Check the Fan LEDs (on the active Controller module, if installed, or active CPSW module) to confirm that all fan units are indeed functioning normally. LEDs for installed fans should be illuminated to indicate normal operation.

Controller Module Exchange

> **Notes**
>
> 1. In a 8265 with two installed Controller modules, removal of the active Controller module causes a fast reset (the standby Controller module becomes the active Controller module). In a 8265 with one installed controller module, removal of the controller module causes the switch to go down.
> 2. If you have a standby controller module installed, make sure the Standby LED (STBY) is ON before attempting to remove the active Controller module.

To remove a Controller Module:

1 Loosen the screws at the top and bottom of the module faceplate until the screws disconnect from the switch.

2 Grasp the end of the module ejector at the lower left corner of the faceplate, and pull it down. This action causes the ejector to exert pressure on the switch, forcing the Controller Module out of the slot so its faceplate can then be grasped.

3 Grasp the faceplate and pull the Controller module straight out of the slot.

Note: Each 8265 Controller module is equipped with an ejector that helps you to remove the Controller module. This ejector can be in any position when you install the Controller module.

Slide the Controller Module into the selected slots as shown here.
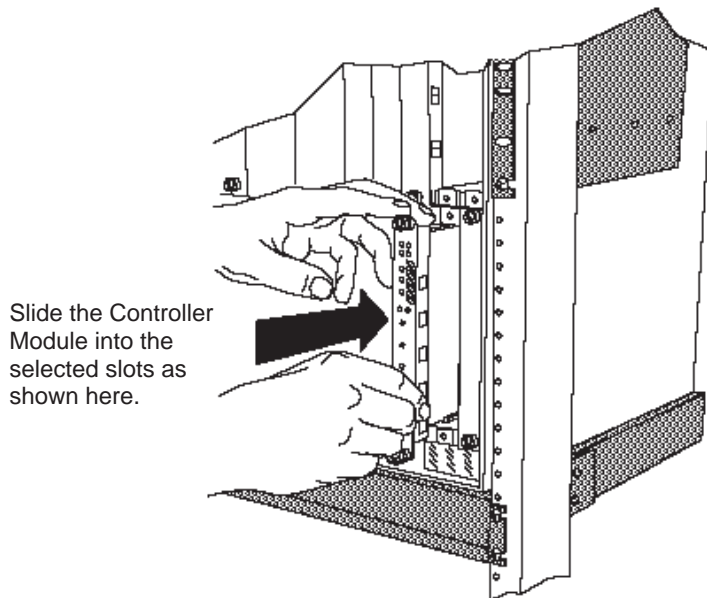
Figure 4-4. Installing a Controller Module

4 Lock the ejector into place by applying pressure to the Controller module faceplate with one hand as you pull up on the end of the ejector. Ensure that the Controller module remains fully seated in the backplane connector as you close the Controller module ejector.

5 Lift the end of the ejector until the ejector locks into place.

6 Complete the installation by hand-turning each of the spring-loaded screws at the top and bottom of the module in a clockwise direction. Do not overtighten the screws.

CPSW / CPSW2 Exchange

Important

In a 8265 with two installed CPSW2 modules with their internal power control active, removal of the active CPSW2 module causes a fast reset (the standby CPSW2 module becomes the active CPSW2). In a 8265 with one installed CPSW2 module and without of any controller module, removal of the CPSW2 module causes the switch to go down.

---

1 Loosen the screws at the top and bottom CPSW faceplate.

2 Using the top and bottom lever extract the CPSW from the 8265 chassis.

3 If you exchange a CPSW2 verify on the new CPSW2 the switch setting located in the bottom left of the module. Set this switch as it was on the removed CPSW2.

Notes:

   a. When this switch is down (OFF) the power and fan control is assured by the CPSW2.

   b. When this switch is up (ON) the power and fan control is assured by the controller module(s) installed in the 8265.

4 Re-insert the new CPSW into the 8265 chassis.

5 Secure it with the screws located at the top and bottom of the CPSW module.

PCMCIA Exchange

1 Remove the CPSW module (see "CPSW / CPSW2 Exchange" on page 4-9).

2 Locate the PCMCIA card.

PCMCIA Card

DRAM Memory
Banks
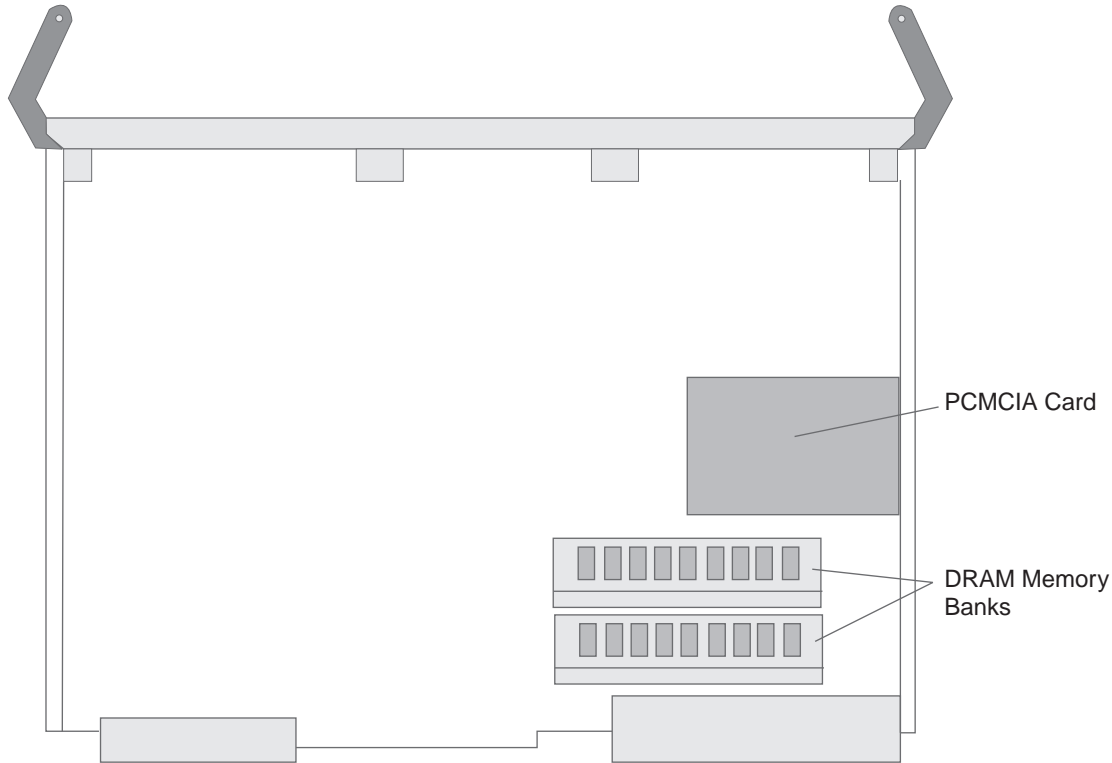
3 Remove the PCMCIA card by pressing down the small lever on the left of the slot.

4 Position the new PCMCIA card so that is just above the slot on the CPSW module, making sure that the edge with the connectors is inserted first.

5 Push gently downwards until the card clicks into place. If the card does not seat properly, turn the card over and try again. The card will not click into place when inserted back-to-front.

    a Insert the CPSW module in its slot position by matching the top and bottom board guides as you slide the module cleanly into place (by pressing evenly on the top and bottom of the faceplate).

    b Fasten the spring-loaded screws on the top and bottom of the front panel of the module to the chassis using your finger. Do not over-tighten.

6 If the 8265 is already powered on, press the LED Test button to ensure that all LEDs are functional (optional).

DRAM SIMM Exchange

1 Remove the CPSW module (see "CPSW / CPSW2 Exchange" on page 4-9).

2 Locate the defective memory module

PCMCIA Card

DRAM Memory Banks
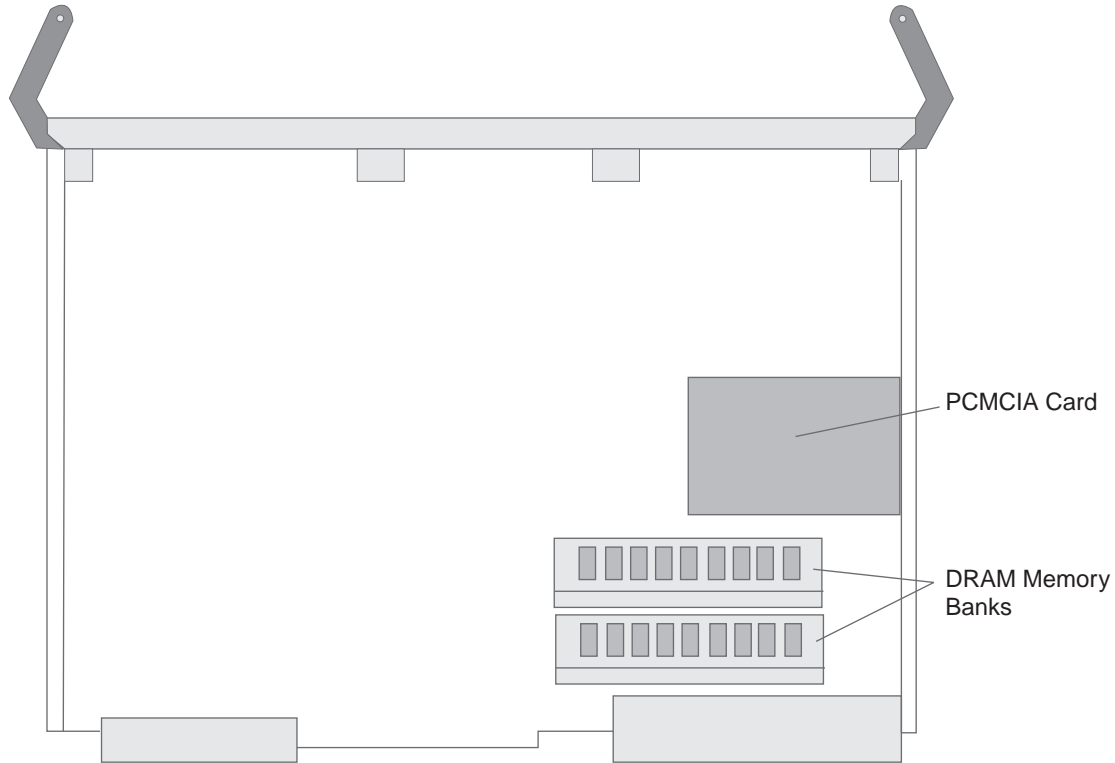
3 Remove the memory module by releasing the clips at either end of the module, then slide the module upwards gently and lift out.

4 Position the new module above the socket on the CPSW module, making sure that the ned with the notch is facing to the rear of the module.

5 Gently insert the module into the socket at 45 degrees.

6 Push gently downwards on the module until it clips into place.

7 Re-install the CPSW module:

a Insert the CPSW module in its slot position by matching the top and bottom board guides as you slide the module cleanly into place (by pressing evenly on the top and bottom of the faceplate).

b Fasten the spring-loaded screws on the top and bottom of the front panel of the module to the chassis using your finger. Do not over-tighten.

8 If the 8265 is already powered on, press the LED Test button to ensure that all LEDs are functional (optional).

Media Module and I/O Card Exchange

Attention

When installing an I/O card on the motherboard, be careful not to touch its components. Always hold the card by its edges.

---

1 Enter **set module** *slot* **isolated** where *slot* is the slot number of the failed module. Then press enter.

2 Remove the Media Module from the chassis.

3 Use the following table to select the procedure according to the module type.

Module	Go to Step
4-Port 155 Mbps Module	**5 on page 4-13**
25 Mbps Module	**6 on page 4-14**
WAN 2 or WAN 2.5 Module with E1/T1 I/O Card	**7 on page 4-15**
WAN 2 or WAN 2.5 Module with E3/DS3/OC3/STM1 I/O Card	**8 on page 4-18**
Other Modules	**4**

4 Exchange the defective module by a new one. Go to Step **9 on page 4-20** .

5 **Removal and Installation of I/O Card on the 155 Mbps Module Motherboard**

    a If you have to exchange the module, remove **all** the screws **A** from **all** I/O cards installed on the module.

- Exchange the module.
- Reinstall all the I/O cards using screws **A** on the new module.

    b If you have to exchange a defective I/O card remove the screws **A** from the defective I/O card.

- Remove the defective I/O card.
- Reinstall the new I/O card using screws **A** on the module.
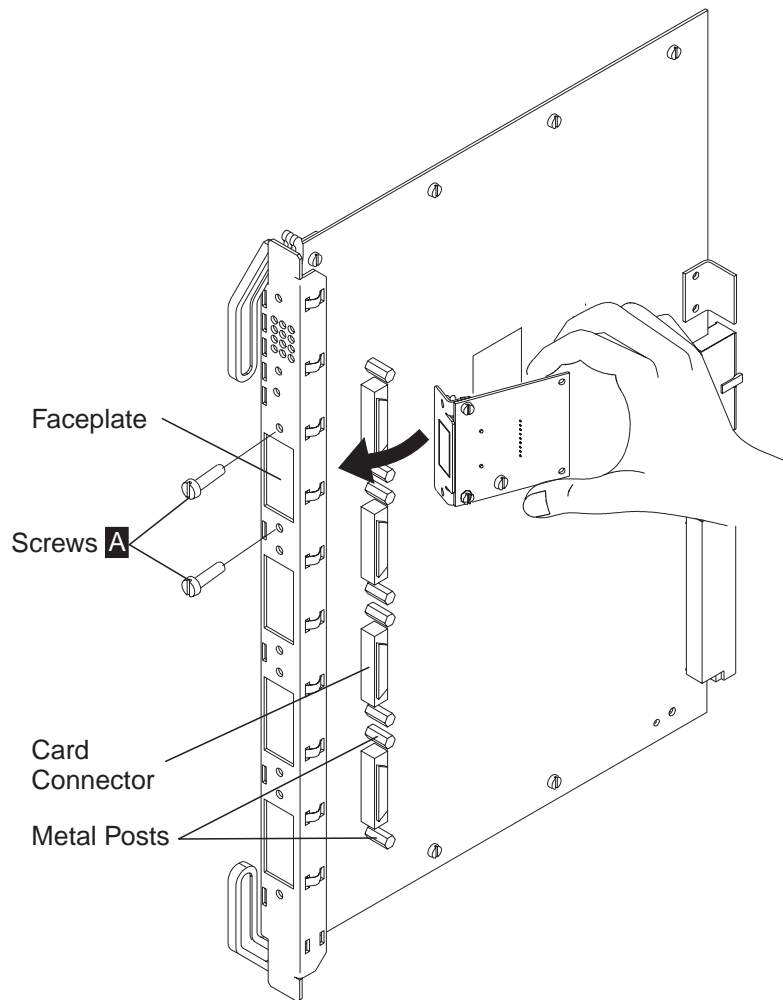
    c Go to **9 on page 4-20** .

6 Removal and Installation of I/O Card on the 25 Mbps Module Motherboard

a If you have to exchange the module, remove the screws **A** from the I/O card installed on the module.

- Exchange the module.
- Reinstall the I/O card using screws **A** on the new module.

b If you have to exchange the defective I/O card remove the screws **A** from the defective I/O card.

- Remove the defective I/O card.
- Reinstall the new I/O card using screws **A** on the module.

C Springs

Cover Plate

A Screws

B Screws
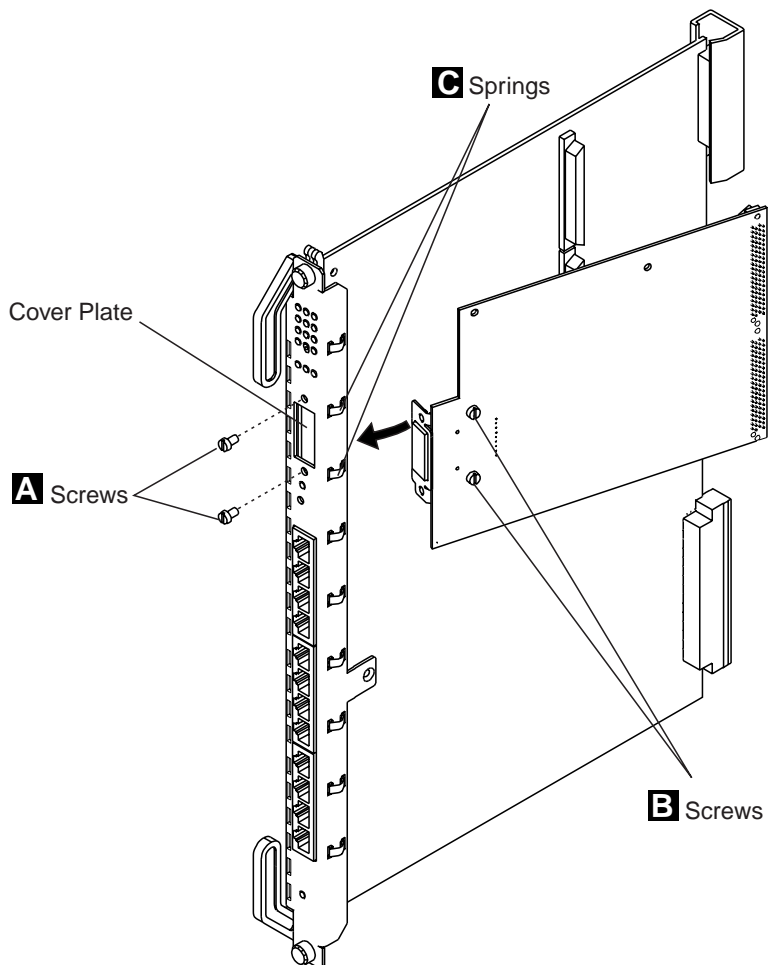
C Go to **9 on page 4-20** .

7 **Removal and Installation of E1/T1 I/O Card on the WAN 2 or WAN 2.5 Module Motherboard**

Use the following Steps as guidance to:

- Remove a defective I/O card and install a new I/O card on the module,

  or

- Remove I/O card from a defective module and reinstall the I/O card on the new module.

  a Detach the motherboard by removing the four screws (**1** and **2** in Figure 4-5) that hold the motherboard to the module. Retain the screws for reattaching the motherboard.
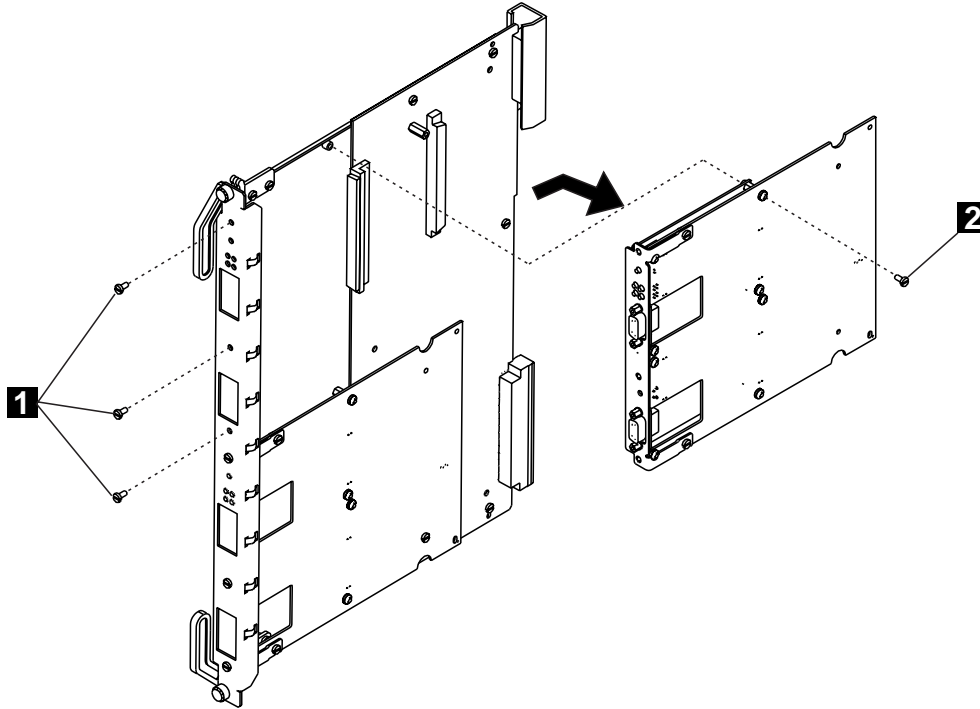
Figure   4-5. Removing the Motherboard

  b Disconnect the motherboard connectors and lift the motherboard out of the module.

c Remove the faceplate bracket from the motherboard by removing the screws and posts (**3** , **4** in Figure 4-6). Retain the screws, the posts, and the bracket.
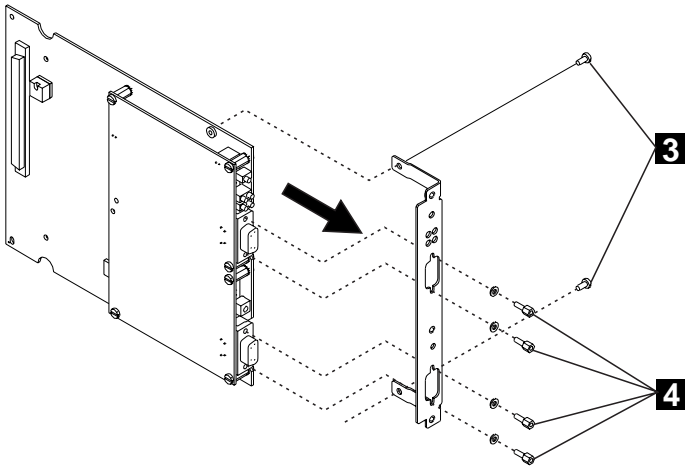
Figure 4-6. Removing the Faceplate Bracket

d Detach the I/O card from the motherboard by removing the six screws (**5** in Figure 4-7).
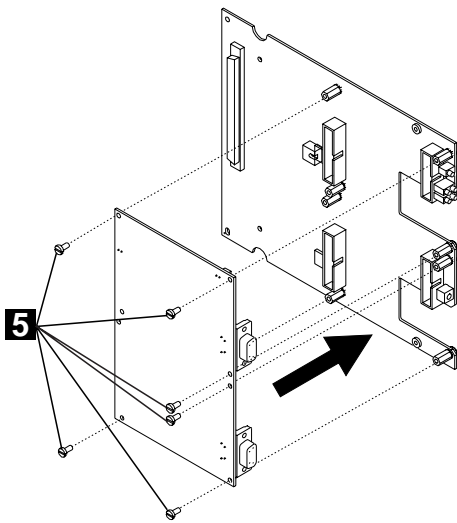
Figure 4-7. Attaching the I/O Card

e Install the I/O card on the motherboard and secure it with the screws **5** .

f Attach the faceplate bracket to the motherboard using the six screws (**3** , in Figure 4-8 on page 4-17).
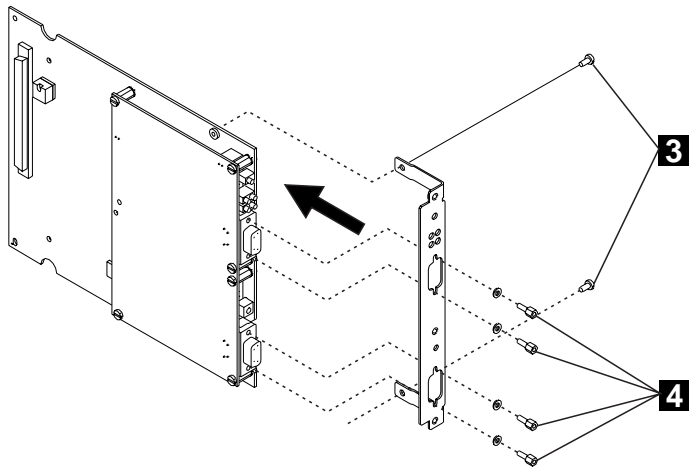
Figure 4-8. Attaching the Faceplate Bracket

g Using a screwdriver, attach one post (**4**) onto each side of each of the two ports on the I/O card.

h Hold the motherboard so that the connectors and screw holes are aligned correctly on the module. Then gently push the card downwards until you hear it click into the motherboard connectors.
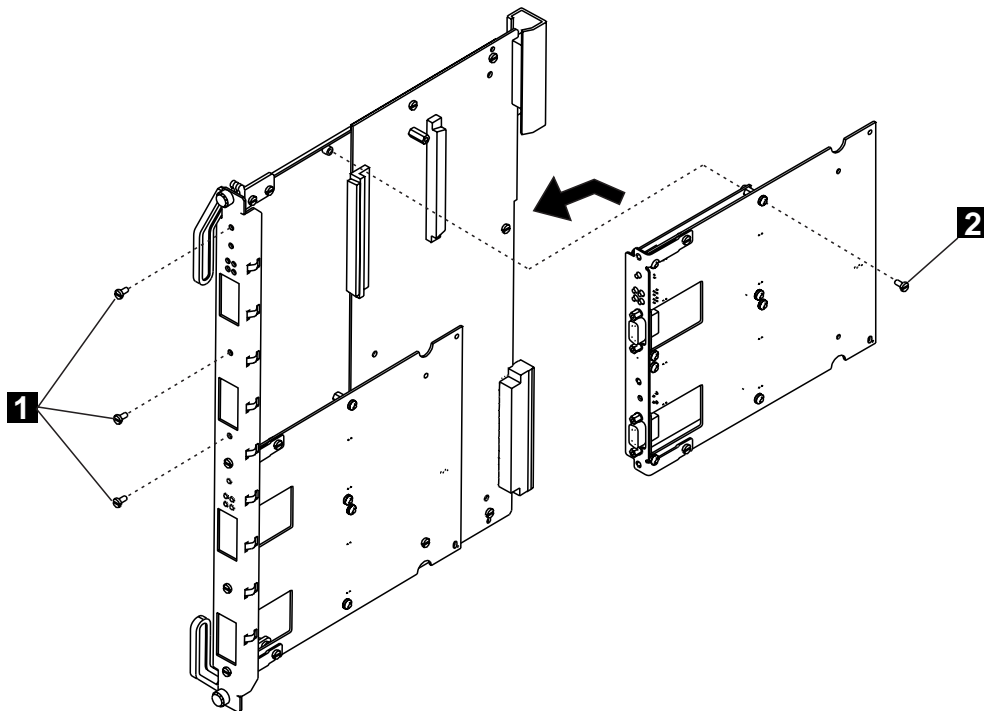
Figure 4-9. Reattaching the Motherboard

i Reattach the motherboard to the module using the four screws (**1** and **2** in Figure 4-9) that originally held the motherboard.

j Go to **9 on page 4-20** .

8 Removal and Installation of E3/DS3/OC3/STM1 I/O Card on the WAN2 Module Motherboard

Use the following Steps as guidance to:

- Remove a defective I/O card and install a new I/O card on the module,

  or
- Remove I/O card from a defective module and reinstall the I/O card on the new module.

  a Detach the motherboard by removing the four screws (**1** and **2** in Figure 4-10) that hold the motherboard to the module. Retain the screws for reattaching the motherboard.
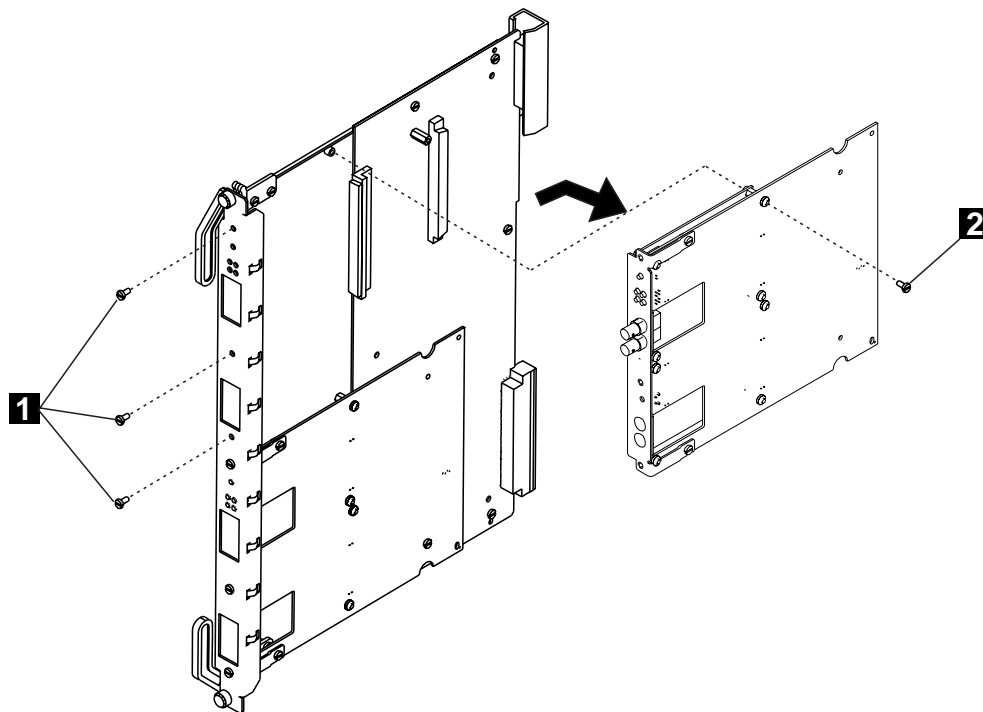
Figure 4-10. Removing the Motherboard

  b Disconnect the motherboard connectors and lift the motherboard out of the module.

  c Remove the faceplate bracket from the motherboard (**3** in Figure 4-11 on page 4-19), retaining the screws and the bracket.
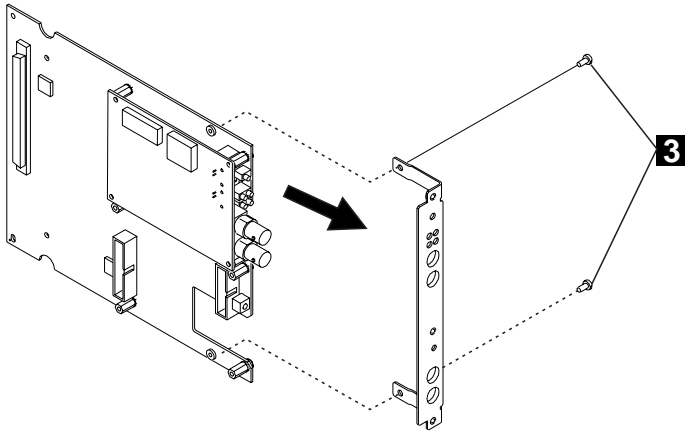
Figure 4-11. Removing the Faceplate Bracket

d Detach the I/O card from the motherboard using the four screws (**4** in Figure 4-12).

   Note: The I/O card must be installed in the **top position**.
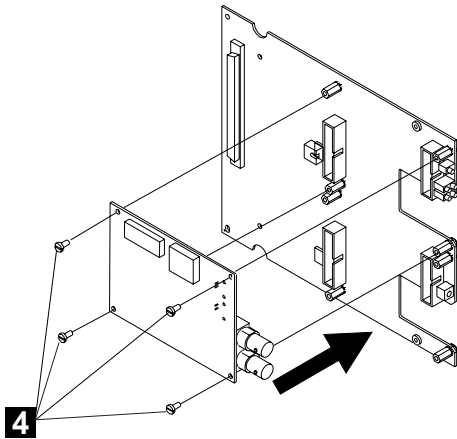
Figure 4-12. Attaching the I/O Card

e install the I/O card and secure it with screws **4** .

f Attach the faceplate bracket to the motherboard using the two screws (**3** in Figure 4-13 on page 4-20).
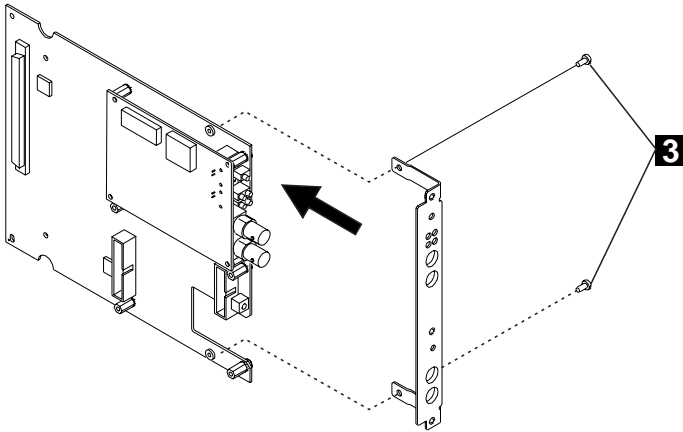
Figure 4-13. Attaching the Faceplate Bracket

g Hold the motherboard so that the connectors and screw holes are aligned correctly on the module. Then gently push the card downwards until you hear it click into the motherboard connectors.

h Reattach the motherboard to the module using the four screws (**1** and **2** in Figure 4-14) that originally held the motherboard.
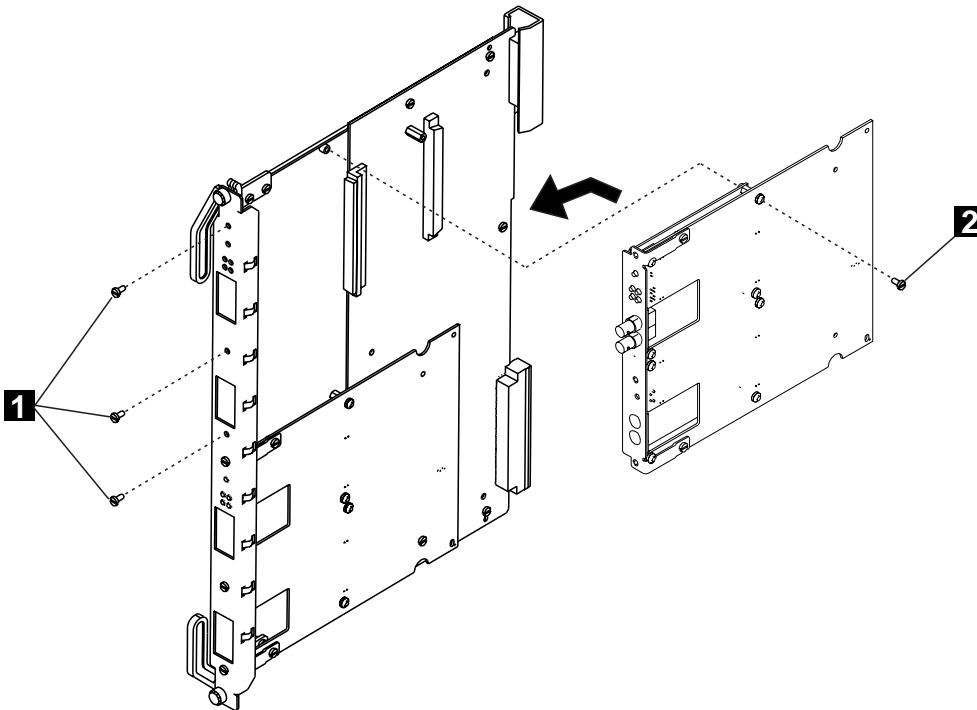
Figure 4-14. Reattaching the Motherboard

9 Re-install the media module:

a Insert the media module in its slot position by matching the top and bottom board guides as you slide the module cleanly into place (by pressing evenly on the top and bottom of the faceplate).

b Fasten the spring-loaded screws on the top and bottom of the front panel of the module to the chassis using your finger. Do not over-tighten.

10 If the 8265 is already powered on, press the LED Test button to ensure that all LEDs are functional (optional).

11 Enter **set module** *slot* **connected** where *slot* is the slot number of the failed module. Then press Enter.
The WAN 2 / WAN 2.5 module is automatically configured with the last setting configured for the slot number you entered.

EEPROM Exchange on Backplane

Attention

Switch the 8265 power OFF.

---

1 Remove the rear cover of the 8265 (22 screws).

2 Unplug the three fan cables from the 8265.

3 Locate the EEPROM on the backplane.
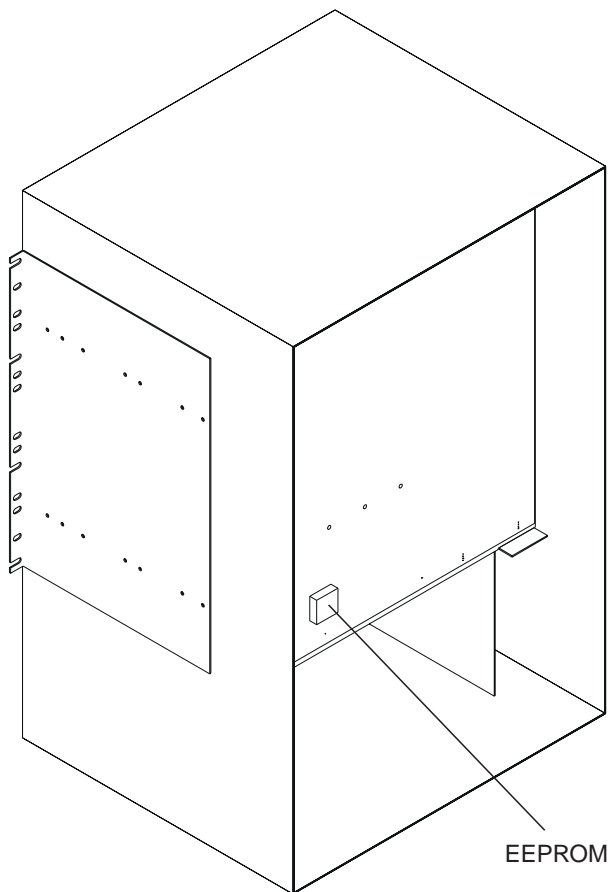
EEPROM

Figure   4-15. EEPROM Location

4 Unplug the EEPROM.

5 Plug the new EEPROM on the socket.

6 Re-plug the three fan cables previously removed.

7 Re-install the rear cover of the 8265 and secure it with the screws previously removed.

Chapter 5. CE Leaving Procedure

This Procedure intends to assist you in cleaning up before leaving the customer or closing the call as the repair is done. It is in the form of a checklist:

Check item	Actions	Done?
If you have changed a module, did you reconnect it?	set module <slot> connected (It might seem obvious, but ...)	
Are the ports in the same status as initially (enable/disable)?	set port <slot.port> enable/disable	
If you changed a Media module, did you check that every port status is now OK ?	show port <slot.all> verbose and check status data is OK	
Once you have uploaded Error log, did you clean it?	clear error_log	
Once you have taken traces and uploaded them, did you stop them? (Traces are performance wasting)	set trace <trace_type / all> disable	
Did you disable the hidden commands mode?	set device contact <enter> nothing <enter>	
Did you log out from Administrator mode ?	logout	

5-1

Appendix A. 8265 Part Numbers

8265 Parts
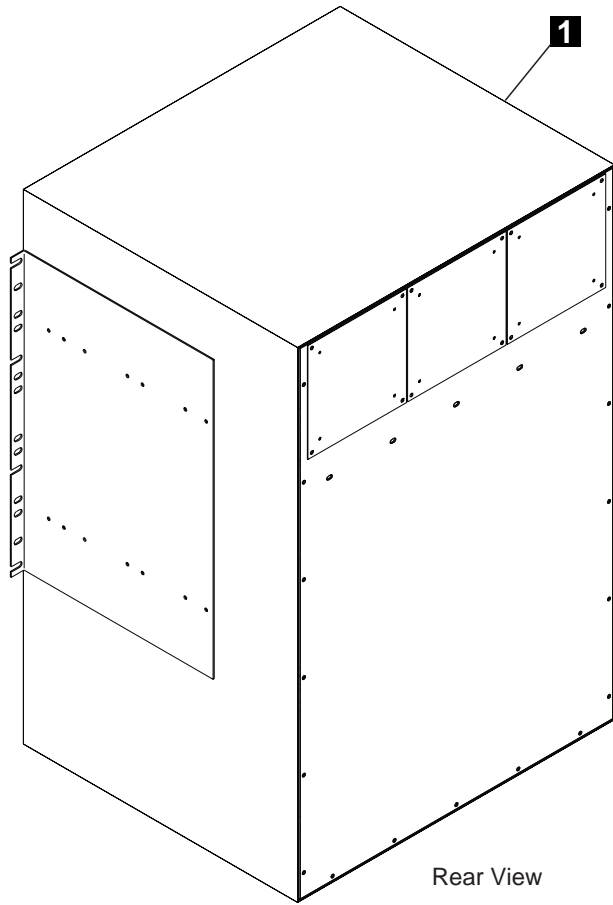
Rear View

Parts Listing

Index	FRU No.	Description
1	26L0112	17 Slots chassis including: - Power board distribution - Board 17 slots - Fan Assembly (3)
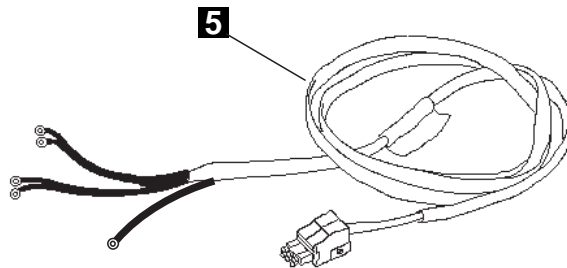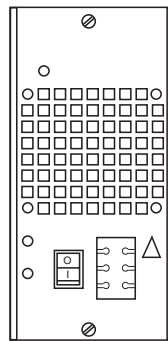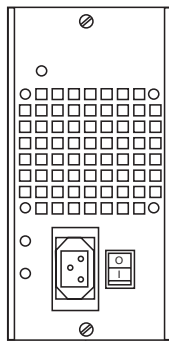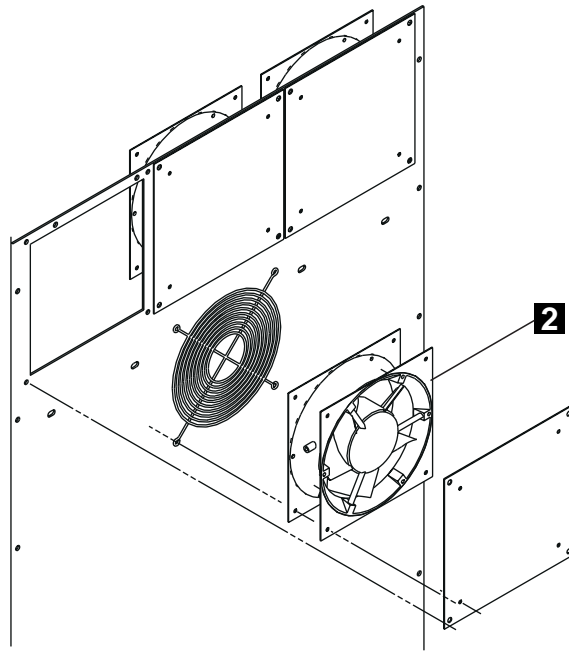
Parts Listing

Index	FRU No.	Description
2	25H1798	Fan Assembly
3	25L9923	Power Supply -48 V dc
4	10J2682	Power Supply 415W
5	02L4055	Power Cord -48 V dc
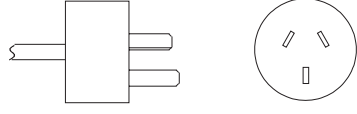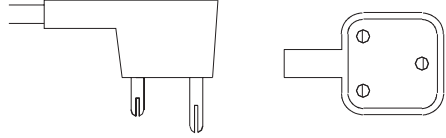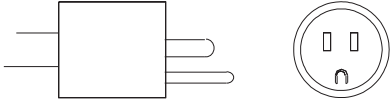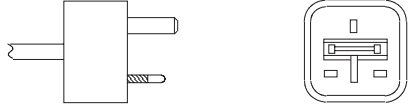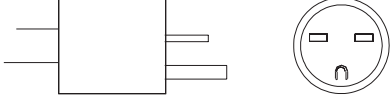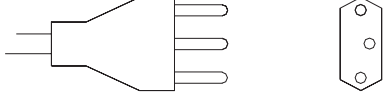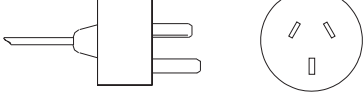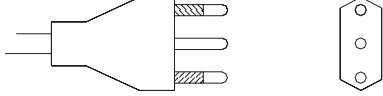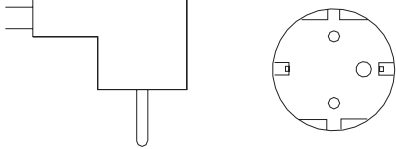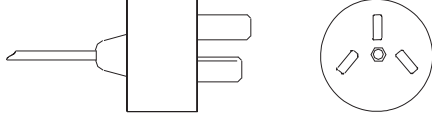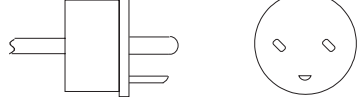
Modules and other Part Numbers

Part Number	Designation
25L4649	CPSW
26L0108	CPSW2
02L3551	PCMCIA (IISP) for CPSW
02L3552	PCMCIA (PNNI) for CPSW
25L4659	PCMCIA (IISP) for CPSW2
25L4660	PCMCIA (PNNI) for CPSW2
13J8698	DRAM SIMM (16MB)(additional memory)

Power Cord Part Numbers

Part Number	Designation	Feature Code
13F9979	2.7 m power cord for countries with power plug number 18	8036
14F0033	2.7 m power cord for countries with power plug number 23	8037
13F9940	2.7 m power cord for countries with power plug number 06	8038
6952300	2.7 m power cord for countries with power plug number 04	8039
6952301	1.8 m power cord for countries with power plug number 04	8040
14F0015	2.7 m power cord for countries with power plug number 22	8041
14F0069	2.7 m power cord for countries with power plug number 25	8042
14F0051	2.7 m power cord for countries with power plug number 24	8043
13F9997	2.7 m power cord for countries with power plug number 19	8044
14F0087	2.7 m power cord for countries with power plug number 32	8045
6952291	2.7 m power cord for countries with power plug number 02	8046
1838574	2.7 m power cord for countries with power plug number 05	8047

Power Plug Number

2 125 V 15A 250 V 10 A	**22** 250 V 16 A
4 250 V 15 A	**23** 250 V 13 A
5 250 V 15 A	**24** 250 V 10 A
6 125 V 15A 250 V 10 A	**25** 250 V 16 A
18 250 V 16 A	**32** 250 V 16 A
19 250 V 10 A	

Bibliography

8265 Documentation

For additional information on the IBM 8265 Nways ATM Switch, please refer to the following documents. The documents are included on the *IBM 8265 Nways ATM Switch Documentation Library* CD, SA33–0454.

IBM 8265 Nways ATM Switch Product Description, GA33-0449.

IBM 8265 Nways ATM Switch User's Guide, SA33-0456.

IBM 8265 Nways ATM Switch Command Reference Guide, SA33-0458.

IBM 8265 Nways ATM Switch Installation Guide, SA33-0441.

IBM 8265 Nways ATM Switch Planning and Site Preparation Guide, GA33-0460.

IBM 8265 Nways ATM Switch Media Module Reference Guide, SA33-0459.

These documents are also available via the Internet:

`http://www.networking.ibm.com/did/8265bks.html`

Related Documentation

The following related publications are included on the *IBM 8265 Nways ATM Switch Documentation Library* CD, SA33–0454.

Multiprotocol Switched Services (MSS) Server Introduction and Planning Guide, GC30-3820.

Nways Multiprotocol Switched Services Server Interface Configuration and Software User's Guide, SC30-3818.

Nways Multiprotocol Switched Services (MSS) Configuring Protocols and Features, SC30-3819.

Multiprotocol Switched Services (MSS) Server Service and Maintenance Manual, GY27-0354.

Nways Multiprotocol Switched Services (MSS) Server Module Installation and Initial Configuration Guide, GA27-4141.

Nways MAS/MRS/MSS Library, Configuration Program User's Guide for Nways Multiprotocol Access, Routing and Switched Services, GC30-3830.

Nways Event Logging System Messages Guide, SC30-3682.

8271 LAN Switch Module Planning and Installation Guide, GA27-4162.

8272 LAN Switch Module Planning and Installation Guide, GA27-4163.

4-Port 10BASE-T & 3-Port 10BASE-FL UFCs Planning and Installation Guide, GA27-4120.

100BASE-TX and 100BASE-FX Universal Feature Cards Planning and Installation Guide, GA27-4096.

ATM 155 Mbps Multimode Fiber Universal Feature Card Planning and Installation Guide, GA27-4156.

2-Port Fiber and 4-Port UTP/STP Token-Ring Enhanced Universal Feature Card Planning and Installation Guide, GA27-4168.

IBM Video Distribution Module User's Guide, GA27-4173.

The 8260Nways ATM Kit Development Program, We Carry Your Creativity to ATM, GA33-0371.

ATM Forum

For more information on ATM Forum specifications, refer to the following:

- *UNI Specification – Versions 3.0, 3.1, and 4.0*
- *P-NNI Specification Version 1.0*
- *ILMI Specification Version 4.0*
- *UNI Traffic Management Version 4.0*

List of Abbreviations

The following are the abbreviations and technical terms used in the 8265 Service Guide.

ac. Alternating current.

asynchronous transfer mode (ATM). A high-speed, connection-oriented switching and multiplexing protocol that transmits different types of traffic (voice, video, and data) simultaneously.

ATM. Asynchronous transfer mode.

CBR. Constant bit rate

CP. Control point.

CPSW. Control point and switch (module).

dc. Direct current.

DRAM. Dynamic random access memory

EEPROM. electrically erasable programmable read-only memory.

ESS. electronic support service

FPGA. Field programmable gate array

FRU. Field replaceable unit.

hot pluggable. Refers to a hardware component that can be installed or removed without disturbing the operation of any other resource that is not connected to, or dependent, on this component.

IISP. Interim inter switch protocol.

LAN. Local area network.

LED. Light-emitting diode.

MAC. Medium access control.

Mbps. Megabits per second (10 to the power of 6 bits per second).

ms. Millisecond (1/1000 second).

NSC. Network Support Center.

NVRAM. Non volatil random access memory

optical fiber. In fiber optics technology, a wave guide that propagates optical signals from light-generating transmitters to light-detecting receivers.

OSI. Open systems interconnection.

PCMCIA. Personal computer memory card international association

PNNI. Private Network Network Interface. A routing information protocol that enables extremely scalable, full fubction, dynamic multi-vendor ATM switches to be integrated in the same network.

RETAIN. Remote Technical Assistance Information Network

RSF. Remote support facility.

s. Second.

SIMM. Single in-line memory module

SRAM. Static random access memory

SW. Switch (card).

switch card (SW). A card in the 8265 that interconnects the adapters through an ATM cell switch. It can have a backup.

UNI. User network interface.

UPC. Usage parameter control.

URL. Uniform resource locator.

user network interface (UNI). A standardized interface between a user and a communication network.

Readers' Comments — We'd Like to Hear from You

8265 Nways ATM Switch
Problem Determination
and Service Guide

Publication No. SY33-2128-00

Please send us your comments concerning this book. We will greatly appreciate them and will consider them for later releases of the present book.

If you prefer sending comments by FAX or electronically, use:

- FAX: 33 4 93 24 77 97
- IBM Internal Use: LGERCF at IBMFR
- Internet: lgercf@fr.ibm.com

In advance, thank you.

Your comments:

Name _____   Address _____

Company or Organization _____

Phone No. _____

IBM®