



DIGITAL GIGAswitch GS2000 Line Card Installation DEFGC-AA November 1997

This document contains information critical to the use of the DIGITAL GIGAswitch GS2000 line card (DEFGC-AA) that can be used in the following GIGAswitch systems:

- GIGAswitch/ATM system
- GIGAswitch/ATM 5-slot system
- GIGAswitch/FDDI system

The DIGITAL GIGAswitch GS2000 line card (GS2000) module has one ATM port that supports ATM modular PHY (modPHY) cards and has one FDDI Dual Attachment Station (DAS) port using two FDDI modular Physical layer Media Dependent (modPMD) cards. Read your GIGAswitch system installation documentation and this document before installing and using this line card for your connections.

The GS2000 module supports the following ATM modPHY cards:

- STS-3c (155 Mb/s) multimode fiber (MMF), DAGGM-AA
- STS-3c (155 Mb/s) single-mode fiber (SMF), DAGGS-AA
- STS-3c (155 Mb/s) unshielded twisted-pair (UTP) or
STS-3c (155 Mb/s) screened twisted-pair (ScTP), DAGGU-AA

This line card implements one ATM port using the supported links provided by the ATM modPHY cards. The ATM modPHY cards cannot be hotswapped in the GS2000 module. Refer to the *DIGITAL ATM Modular PHY Cards Installation* book for more information about the installation and use of ATM modPHY cards.

The GS2000 module supports the following FDDI modPMD cards:

- FDDI multimode fiber (MMF) modPMD ANSI MIC, DEFXM-AA
- FDDI multimode fiber (MMF) modPMD SC, DEFXM-SC
- FDDI single-mode fiber (SMF) modPMD ST, DEFXS-BA
- FDDI single-mode fiber (SMF) modPMD SC, DEFXS-SC
- FDDI unshielded twisted-pair (UTP) modPMD RJ45, DEF XU-BA

This line card supports one Dual Attachment Station (DAS) port using a pair of FDDI modPMD cards. Refer to the *GIGAswitch/FDDI System Installation and Service Guide* for more information about the installation and use of FDDI modPMD cards.

Supported Firmware Versions

The GS2000 module uses the GIGAswitch GS2000 V2.0 firmware. Check the firmware release notes for your GIGAswitch system to make sure that you have the latest versions of the required firmware.

GIGAswitch/ATM systems require firmware release 2.5 and CMM firmware 1.90 as a minimum. To use the GIGAswitch/ATM firmware V2.5 release, your master line card *must* have one of the expanded memory options (DAGME-AA) installed.

GIGAswitch/FDDI systems require SCP firmware release 3.3 and CLK firmware release 3.3 as a minimum.

NOTE

You must have the appropriate versions of firmware required for your GIGAswitch system to use the GS2000 module.

New versions of software images for the GIGAswitch systems are available from the DIGITAL Network Products Business Web Site. The Web Site can be reached from different geographic locations via the following URLs:

Americas	http://www.networks.digital.com
Europe	http://www.networks.europe.digital.com
Asia Pacific	http://www.networks.digital.com.au

To get firmware and MIB information, choose the “Technical Information” link, and from there choose the “Technical Information (Drivers, Manuals, Tech Tips, etc.)” link.

Installing the Line Card

To install or remove the line card, follow the instructions for installing or replacing logic modules as described in your GIGAswitch system’s Installation and Service manual. That document provides you with information about the proper slot positions for the line cards.

Before installing the line card in your system, install the power module that you need to use as described in the [Installing the DC-to-DC Power Module section on page 7](#) of this document.

If you are using the defaults specified in Appendix B of the *DIGITAL GIGAswitch GS2000 Line Card Management* book, you do not need to configure the GS2000 module after you install it in your system. If you wish to make any configuration changes, refer to the *DIGITAL GIGAswitch GS2000 Line Card Management* book for the necessary information.

Testing the Line Card

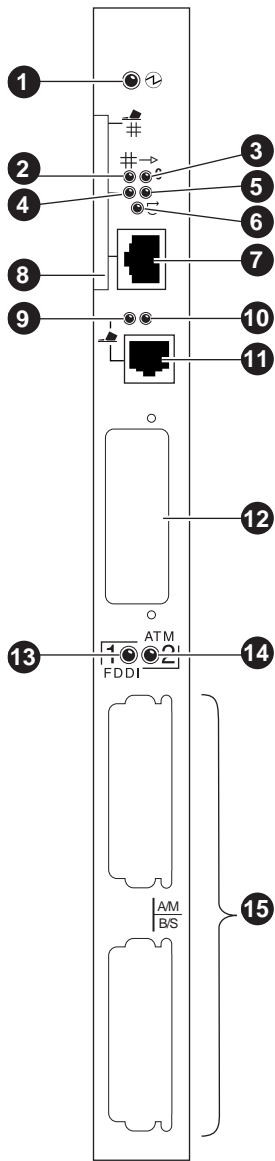
This section helps you evaluate the results of the module self-test (MST) by identifying each light-emitting diode (LED) and describing its purpose.

The following table lists the LEDs and other components on the line card as shown in [Figure 1](#).

Item	Name
1	Module LED
2	Load Status 1 LED
3	Load Status 2 LED
4	Load/Dump/Management (LDM) Port Status LED
5	LDM Activity LED
6	Reset button
7	LDM port
8	Address label
9	Front Panel CLI Redirect Status LED
10	Backplane CLI Redirect Status LED
11	Console port
12	ATM port
13	FDDI Port Status LED
14	ATM Port Status LED
15	FDDI port

[Figure 1](#) shows the LEDs and the rest of this section describes the meaning of each LED condition for the GS2000 module.

Figure 1: LEDs for GS2000 Module



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The Module LED (topmost LED) **1** displays information about the module status as shown in [Table 1](#).

Table 1: Module LED Conditions

LED Condition	Meaning
Off	Module is powered down or not fully seated.
Amber	Self-test is in progress. The Load Status 1 and the Load Status 2 LEDs flash an alternating amber and green pattern in 5-second intervals to indicate that self-test is in progress.
Green	Self-test completed successfully and module is operational.
Flashing green	Firmware download is in progress. The LDM Port Status and LDM Activity LEDs indicate the module's operational state during the firmware download as shown in Table 2 and Table 3 .

The LDM Port Status ④ and the LDM Activity ⑤ LEDs indicate the module's operational state during the firmware download as shown in [Table 2](#) and [Table 3](#).

Table 2: LDM Port Status LED Conditions

LED Condition	Meaning
Off	No link established.
Green	Proper link established.
Flashing	Disabled.

Table 3: LDM Activity LED Conditions

LED Condition	Meaning
Green	Indicates high traffic.
Flashing	Transmitting or receiving packets.

The Port Status LEDs indicate the activity on the ports as shown in [Table 4](#) and [Table 5](#).

Table 4: Port 1/FDDI Status LED Conditions

LED Condition	Meaning
Off	No PHY connection has been established.
Green	PHY connection has been established on either PHY A or PHY B.

Table 5: Port 2/ATM Status LED Conditions

LED Condition	Meaning
Off	No PHY connection has been established.
Green	PHY connection has been established.
Amber	PHY connection has been disrupted. For example, a cable has been removed from an established connection.

The PHY LEDs are located on the daughter cards and display Physical layer information.

Refer to [Table 6](#) for information about the PHY LEDs for the FDDI modPMD cards. The PHY Status LED is on the left and the Port Type LED is on the right.

Table 6: Meaning of FDDI PMD LEDs

State	PHY Status LED	Port Type LED
Off	Ready to connect	M-Type
Green	Connection accepted	S-Type
Flashing green	Broken or disabled	A/B Type
Amber	Link confidence test failure	PMD loop test failed
Flashing amber	Topology reject	—
Alternate green/amber	Dual homing standby	—

Refer to [Table 7](#) for information about the PHY LEDs for the ATM modPHY cards. The PHY LED is labeled PHY and indicates the state of the Physical Layer interface. The field-replaceable unit/mode (FRU/Mode) status LED is labeled with a broken line and indicates the port's fault or diagnostic status.

Table 7: Meaning of ATM modPHY LEDs

Indication	Action
FRU/Mode LED is amber.	The diagnostics have detected a fault. If possible, try the modPHY card in another slot to determine whether the modPHY card or the host module contains the fault. If the modPHY card contains the fault, replace your card or contact your DIGITAL sales representative.
FRU/Mode LED is blinking green.	The port has been redirected elsewhere. See the host system's documentation for more information about a redirected port.
PHY LED is green.	No action is necessary. The card is working properly and a link is established.
PHY LED is amber.	The port is inactive due to excessive media errors. Perform loopback testing to isolate the problem.
PHY LED is blinking green.	The card has been disabled by management.
PHY LED is off.	Refer to the <i>DIGITAL ATM Modular PHY Cards Installation</i> book for information about checking your connections. There might be a connection problem because the port is unable to receive from the neighboring switch or station.

Installing the DC-to-DC Power Module

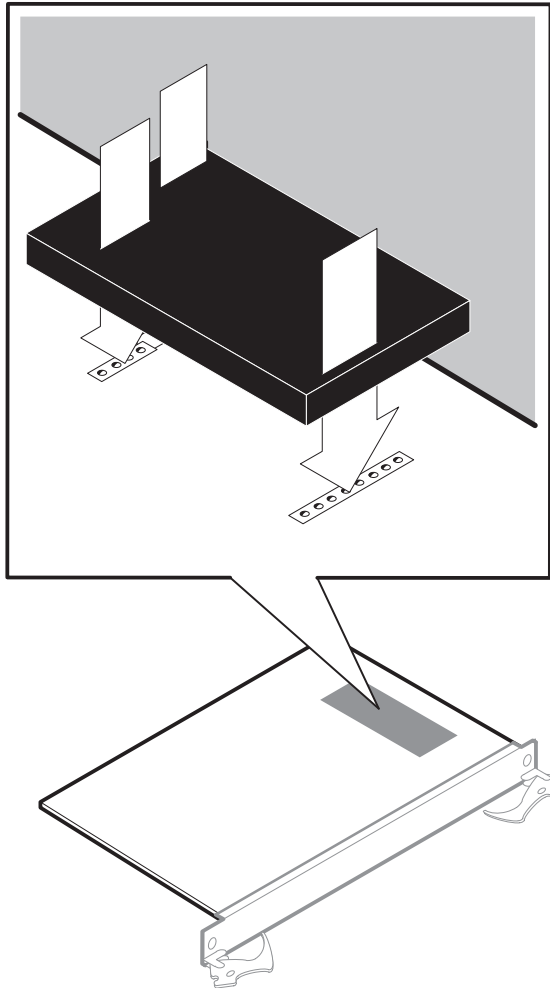
The line card uses one of two power modules, depending on the system that you are installing it in. Line cards used in the GIGAswitch/FDDI system or GIGAswitch/ATM 14-slot system must have the 48 V option (DAGPL-AB). Line cards used in the GIGAswitch/ATM 5-slot system must have the 5 V option (DAGPL-AA). Refer to [Figure 2](#) (which shows the 48 V option) and follow these steps to install either power module.

- 1 Align the pins on the power module with the mating sockets on the line card. The DAGPL-AB option has one end with seven pins that are closer to the front of the line card. The DAGPL-AA option has one end with a pin offset from the others that is closer to the front of the line card.
- 2 Press the power module firmly into place while supporting the line card.

NOTE

Be careful not to damage surrounding components when installing these power modules.

Figure 2: Installing the DC-to-DC Power Module



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Removing the 48 V Power Module Option

Follow these steps to remove the 48 V power module option (DAGPL-AB).

- 1** Carefully place a thin flat blade screwdriver between the power module and the line card on the inner edge of one set of pins.
- 2** GENTLY insert the screwdriver without touching the line card surface so that the power module is eased away from the line card.

NOTE

Do not insert the screwdriver more than 2.54 cm (1 in).

- 3** Repeat steps 1 and 2 for the other set of pins.
- 4** Gently pull the power module off the line card.

Removing the 5 V Power Module Option

Follow these steps to remove the 5 V power module option (DAGPL-AA).

- 1 Carefully grasp the edges of the power module.
- 2 GENTLY pull the power module off the line card.

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Warning!

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.

Achtung!

Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Avertissement!

Cet appareil est un appareil de Classe A. Dans un environnement résidentiel cet appareil peut provoquer des brouillages radioélectriques. Dans ce cas, il peut être demandé à l'utilisateur de prendre les mesures appropriées.

