



AA-R9QKC-TE

**DIGITAL GIGAswitch/Ethernet System
Version 1.1.8
Release Notes
September 1998**

These release notes identify hardware requirements, list known conditions and restrictions, and describe new features and corrected problems that apply to the operation of the GIGAswitch/Ethernet system.

As warranted, DIGITAL changes firmware to make functional enhancements or to correct reported problems. To determine whether your system has the latest firmware, check the DIGITAL Network Products Home Page on the World Wide Web for information about upgrades. See [Accessing Online Information on page 11](#) for home page locations.

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Hardware Requirements

Power Supply Configurations

The GIGAswitch/Ethernet system uses type A or type B power supplies. The system will not power up properly if the two types are mixed in the same chassis. See the table below for configurations using type A or B power supplies in your region.

Type A and B power supplies are interchangeable and may be swapped as long as all supplies in the system are of the same type. To verify the type of power supply installed in your system, select **Power System** from the web agent menu. The display shows present power supplies as type A or B.

If you wish to swap power supplies, contact your DIGITAL representative or distributor.

Types of Power Supplies Required for Redundant Installation

Region	GIGAswitch/Ethernet System Chassis*		
	Bay 3	Bay 2	Bay 1
Europe and U.S.	Type B Part number DGBGP-AA Universal autoswitching 120/240 V, 400 W	Type B Part number DGBGP-AA Universal autoswitching 120/240 V, 400 W	Type B Part number DGBGP-AA Universal autoswitching 120/240 V, 400 W
U.S. only	Type A Part number DGBGP-AB Factory set 120 V, 400 W	Type A Part number DGBGP-AB Factory set 120 V, 400 W	Type A Part number DGBGP-AB Factory set 120 V, 400 W
Europe only	Type A Part number DGBGP-AC Factory set 240 V, 400 W	Type A Part number DGBGP-AC Factory set 240 V, 400 W	Type A Part number DGBGP-AC Factory set 240 V, 400 W

*Shown with maximum power supply configuration. For configurations using two power supplies, the second supply may be installed in either bay 2 or bay 3.

Known Conditions and Restrictions

Gigabit Ethernet standard

- The fiber-optic cable distances for the GIGAswitch/Ethernet system are based on IEEE 802.3z-1998:

Description	Link Distances	
	Direct Launch	Conditioned Launch
1000BASE-SX 62.5/125 Fiber	2 – 220 meters	Not available ¹
1000BASE-SX 50/125 Fiber	2 – 550 meters	Not available ¹
1000BASE-LX 62.5/125 Fiber	2 – 150 meters ²	2 to 550 ³
1000BASE-LX 50/125 Fiber	2 – 150 meters ²	2 to 550 ³
1000BASE-LX 9/125 Fiber	2 – 5000 meters	Not required ⁴

Note:

- 1) Conditioned launch requirements are not specified by IEEE 802.3z-1998.
- 2) Not specified by 802.3z-1998. DIGITAL recommends no more than 150 meters.
- 3) One effective method to obtain a conditioned launch for 1000BASE-LX is defined in Std 802.3z-1998 as an “SMF with offset ferrule launch into the MMF cable.”
- 4) Conditioned launch is not required for singlemode fiber.

10/100BASE-TX module (DGBGT-AA)

- You may experience difficulties with autonegotiation between some versions of the 10/100BASE-TX module and adapter cards using physical interfaces manufactured by National Semiconductor. The symptom is loss of connectivity. You can address this problem by either disabling autonegotiation, or using a patch cable longer than 5 meters. The following command line interface command also corrects the problem:

```
GIGAswitch/Ethernet> port set NationalPhyMode <slot> <port> enable
```

- For some versions of the 10/100BASE-TX module, a sensitivity problem has been found when operating at 10 Mb/s. This sensitivity results in the part transmitting frames with cyclic redundancy check (CRC) errors. These frames, since they have CRC errors, are then dropped by the receiving station. This problem occurs at 10 Mb/s only; 100 Mb/s operation is not affected.

Version 1.1.8 has implemented a new configuration command that disables the power saving mode of the PHY chip. Disabling the power saving mode has the effect of moving the operational temperature of the part past the problem range. Testing this software configuration is 100% successful in resolving the error.

The command is available only from the Command Line Interface (CLI). It is saved in Non-Volatile Random Access Memory (NVRAM). You should disable the power saving mode for only those ports that are experiencing this problem. Disabling the power saving mode for parts that are operating at a lower temperature than the problem range may accidentally raise the temperature into the problem range.

The command to disable the power saving mode for ports is:

```
GIGAswitch/Ethernet> port set DisablePowerSave <slot> <port> on
```

VLANs

Configuring VLANs with the GIGAswitch/Ethernet system may produce unexpected results. This problem will be addressed in an upcoming firmware release. Be aware of the following additional issues when configuring VLANs:

- The switch's web agent interface is best used for making quick and simple VLAN configuration settings.
- The default setting (1024) for Initial Hash Table Size (a number used to determine how much space is initially reserved for new address tables) supports 58 simultaneous VLANs (the switch supports 1,000 VLANs). To increase the number of VLANs you can implement, simply decrease the initial hash table size for each address table instance. To access the hash table pop-up menu, select **Create VLAN** in the web agent interface.
- The switch powers up very slowly when large numbers of VLANs (more than 500) are configured. This problem will be addressed in an upcoming firmware release.
- If you set a port's VLAN trunking mode to **Clear**, make sure not to change the VLAN Binding Type from the default value: **Static**.
- If you are using both the VLAN autolearning feature and the Binding Type **Bind to Received**, make sure that you set the binding type before you set Autolearn to **Enable**.

Gigabit Ethernet ports

- The DIGITAL GIGAswitch/Ethernet system's Gigabit Ethernet ports operate at 1 Gb/s, full duplex, and currently do not support autonegotiation. If you connect a DIGITAL Gigabit Ethernet port to a device that supports autonegotiation, you must disable autonegotiation on the non-DIGITAL device.

Module power-up time

- Modules typically take about 17 seconds to power up.

Hunt groups

- Hunt groups are proprietary to the GIGAswitch/Ethernet system, and support Ethernet hunt groups only.
- Hunt groups will not load share if the source and destination traffic and the hunt group ports are on the same fabric port. For example, if you have a 20-port module, the first 10 ports are associated with one fabric port and the remaining 10 ports are associated with the other fabric port. Consequently, to configure a hunt group on this module, you should ensure that the hunt group ports are not located on the same 10 ports of the module where the source traffic occurs.
- All ports in a hunt group must be the same speed. Currently, the firmware does not enforce this rule. For example, you may have a situation where ports in a hunt group intended to consist only of 100 Mb/s ports autonegotiate to run at 10 Mb/s, causing the hunt group not to function as expected.

MIB groups supported

The following MIB groups are supported in Version 1.1.8:

- MIB-II:
 - system
 - interfaces
 - at
 - ip
 - icmp
 - tcp
 - udp
 - dot3 (Ethernet MIB)
 - snmp
- Bridge MIB
 - dot1dbase
 - dot1dstp
- RMON-I:
 - etherStats
 - history (Ethernet)
 - alarm
 - event
- DIGITAL Enterprise Specific:
 - gsEInventory
 - gsEPowerSupplyTable
 - gsEPowerSystems
 - gsETemperature
 - gsEModules
 - gsESwitchingLayerII
 - gsEEvents
 - gsEAlarms

Ping function

- The GIGAswitch/Ethernet system cannot ping its own IP address.
- The GIGAswitch/Ethernet system's ping function does not support frames larger than the maximum Ethernet frame size (that is, it does not support fragmented ping frames).

Switch events

- Switch port event log entries are identified by internal fabric port and subport identifiers. In the future, they will be identified by physical slot and port.

Firmware download

- TFTP downloads require that you specify the location of the firmware file using the UNIX subdirectory structure, that is, with a forward slash (/) — even on a Windows system.
- If you use a DOS TFTP server for firmware downloads, file names must be in the 8.3 format. To meet this requirement, change the name of the firmware file.
- The TFTP timeout for the GIGAswitch/Ethernet agent is 30 seconds. If you have problems downloading an image, decrease the timeout limit for the TFTP server from which you are attempting to download an image.
- It takes a few seconds before the Status button on the TFTP Download screen returns accurate information.

Loopback tests

- Loopback tests on ports may fail when there is traffic present on the link at startup. The circumstances to create this scenario are rare.

Fault tolerance

- Support for a redundant switch control processor is not available for this release. This option will be available in an upcoming firmware release. The hot-swap feature, however, is supported in the current release.

Software downgrades

- When reverting from Version 1.1.8 to an earlier version of software (such as Version 1.0.12), System Information fields (Name, Location, Administrator) may revert to factory defaults. No service-impacting parameters are lost. To correct the problem, re-enter System Information after downgrading software.

Spanning Tree mode

- When the Spanning Tree mode is set to IEEE 802.1D, Bridge Protocol Data Units (BPDUs) are sent out ports in Clear (non-trunked) format even if the port has a trunking format (that is, 802.1Q) defined. DIGITAL recommends that you set Spanning Tree to per-VLAN when using trunked ports. This prevents an entire link from being blocked when there is a loop in one VLAN.
- Spanning Tree now defaults to Per-VLAN mode. The current Spanning Tree state is retained. No action is required for an update.

Information library

- The Information Library's Setup program may copy the image file for the Adobe Acrobat Reader (ar32e30.exe) to the destination drive when the Reader installation option is disabled. This file can be deleted from the destination drive if you do not need to install the Reader.
- To ensure that the online help is available to the web agent, be sure to specify the location of the server in the Http server configuration screen as described below, and check that the server is running.
 - You can use IP addresses and node names in these formats:
`http://xx.xx.xx.xx:2010` <for ip address entry>
`http://node_name:2010` <for node-name entry>
 - Eliminating the “http://” from your entry makes it invalid.

New Features

Redundant switch controller and switch matrix modules

- Support has been added for redundant backplane hardware components. This feature does not require any user interaction or configuration. If your system has redundant hardware, the new software automatically detects it and enables the automatic switchover.

You can verify operation of your backup hardware through the web interface by selecting **Switch Fabric** under **System Information**. This displays a web page that shows the current status of the backup hardware. You can also test the fault-tolerant components by selecting the redundant switch controller or redundant switch matrix module. This action results in the redundant path being used through the switch fabric to verify operation. If either of these components is missing or fails, the switch does not allow the redundant path to be enabled to prevent accidental disruption of existing service.

You can override the automatic detection of the redundant backplane by manually setting the backplane configuration through the web interface. For example, if the fault-tolerant components are removed from the system, you should change the redundant configuration to **none** to prevent spurious alarms.

In the event of component failure and switchover, you must use the web interface to re-enable the redundancy feature by reconfiguring the hardware, after the faulty component has been replaced.

Configuration archival and retrieval

- You can now save your configuration information to a TFTP (Trivial File Transfer Protocol) server. The configuration information is saved as a single binary file.

NOTES

Most UNIX implementations of the TFTP server require that the file exist on the server for the transfer to proceed. Therefore, you must create the file with the proper permissions on the server before saving the configuration.

Make sure your TFTP server is configured to Write access.

To save or restore your configuration, complete the following steps:

- 1 Select **Memory Subsystem** from the navigation bar of the web agent.
- 2 Select **TFTP Update**.
- 3 Enter the IP address of the TFTP server you want to access.
- 4 Enter the name of the file you want to save or restore the configuration to (see the previous note).
- 5 Select **Save Configuration** to save the configuration or **Restore Configuration** to restore the configuration from the TFTP Target Section pull-down menu.
- 6 Click **Perform Update Now** to start the transfer. The status of the TFTP transfer is returned through the Status button on the update page.

NOTES

If the restoration of the files is successful, the switch **automatically** resets.

It takes a few seconds before the Status button on the TFTP Download screen returns accurate information.

Static routes

- The ability to add and delete static routes has been added. This feature enables redundant network routes for management of the GIGAswitch/Ethernet agent.

Per-VLAN Spanning Tree

- The Spanning Tree default is now PER-VLAN. However, if you are upgrading from an earlier version, the default remains at the previous configured Spanning Tree default.

SNMP traps

- Added Simple Network Management Protocol (SNMP) trap support, including support for the following traps:
 - Cold start
 - Link up/down
 - Authentication
 - DIGITAL enterprise-specific traps
 - Bridge MIB enterprise-specific traps

User login database

- Added capability to initialize the user login database.

NOTE

Initializing the user login database requires boot ROM V1.0.2.

Bridge MIB

- Added support for the bridge MIB.

Load sharing for hunt groups

- Added support for enabling or disabling load sharing for hunt groups.

Corrected Problems

- The TFTP timeout for the GIGAswitch/Ethernet agent has been increased from 10 to 30 seconds.
- Ethernet Interface Histogram Counters now increment correctly for gigabit Ethernet ports on the Ethernet Interface Statistic page of the web agent.
- The system now supports sending SNMP traps.
- All events of type **Status** were displayed as a single event type. With version 1.1.8, there is more differentiation between status events.
- The Ethernet Interface Statistics table on the **Ethernet Interface Statistics: Port *n.n*** html page (where *n.n* is the number of the module and port respectively) is now displayed when you use Netscape Navigator browser software.
- Hunt group addresses are now relearned or forwarded properly.
- Port specific counter information now displays correctly when you use a Netscape browser.
- The receive and transmit utilization for full-duplex links no longer maxes out at 50%. In addition, the utilization no longer exceeds 100%.
- With version 1.1.8, you can no longer erroneously create null passwords for user accounts.
- When bridge ports that are part of a Hunt Group configuration are disabled, non-base ports no longer improperly block traffic.
- The Web Agent Switch Port page no longer incorrectly displays port assignments. It now displays the full port designation (i.e., slot.port).
- An event log message is now generated when the base port of a hunt group changes or the base port loses link and a new base port is selected.
- With this revision, the web agent no longer truncates the server location name and help directory name. Both fields now support up to 127 available characters per entry.

NOTE

Only 50 of the 127 characters you can enter in each of these fields are visible to you. Note, however, you can scroll to view the entire 127 characters.

- Fragments are no longer counted in the ifInErrors statistics display.
- Full-duplex Fast Ethernet ports now display an ifSpeed of 200000000. This was previously reported as 400000000 in some instances.
- Bridged Protocol Data Unit (BPDU) reserved addresses are filtered by the GIGAswitch/Ethernet system.

Accessing Online Information

For a rich set of up-to-date information on DIGITAL products, technologies, and programs, visit the DIGITAL home page on the World Wide Web at <http://www.digital.com>. Further information about the GIGAswitch/Ethernet system is available on the DIGITAL Network Products Home Page at the following locations:

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

Follow the Technical Information link to firmware, TechTips, manuals, and more for the GIGAswitch/Ethernet system.

Using Electronic Mail

The Network Information Center (NIC) of SRI International provides automated access to NIC documents and information through electronic mail. This is especially useful for users who do not have access to the NIC from a direct Internet link, such as BITNET, CSNET, or UUCP sites.

To use the mail service, follow these instructions:

- 1 Send a mail message to **SERVICE@NIC.DDN.MIL**.
- 2 In the SUBJECT field, request the type of service that you want followed by any needed arguments.

Usually, the message body is ignored, but if the SUBJECT field is empty, the first line of the message body is taken as the request.

The following example shows the SUBJECT lines you use to obtain NIC documents:

```
HELP
RFC 822
RFC INDEX
RFC 1119.PS
FYI 1
IETF 1IETF-DESCRIPTION.TXT
INTERNET-DRAFTS IID-ABSTRACTS.TXT
NETINFO DOMAIN-TEMPLATE.TXT
SEND RFC: RFC-BY-AUTHOR.TXT
SEND IETF/1WG-SUMMARY.TXT
SEND INTERNET-DRAFTS/DRAFT-IETF-NETDATA-NETDATA-00.TXT
HOST DIIS
```

Requests are processed automatically once a day. Large files are broken into separate messages.

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