

SmartSwitch 9000  
9G421-02/9G429-02  
Local Management Appendix

9032332-01

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# 9G421-02/9G429-02 Module Specific Information

## Introduction

This appendix contains local management information that is specific to the 9G421-02 and 9G429-02 Ethernet Modules.

The 9G421-02 and 9G429-02 modules are 3-port Ethernet switching modules with:

- 2 front-panel gigabit Ethernet ports
- 1 Internal Network Bus (INB) backplane port

## Modifying Fields and User Privileges

To modify fields on this module, you must have read-write or super-user privileges. If you have read-only privileges, you can view information; however, you cannot modify any fields. For more information about user privileges and community names, see the *SmartSwitch 9000 Module Local Management User's Guide*.

## Module Interface Codes

The 9G421-02 and 9G429-02 modules have 7 interfaces each. Table 1 lists the identifying number, name, and description of each interface.

**Table 1. 9G421-02/9G429-02 Module Interface Codes**

<b>Interface Number</b>	<b>Interface Name</b>	<b>Interface Description</b>
1	SMB1	1 Mbps System Management Bus
2	SMB10	10 Mbps System Management Bus
3	HOST	i960 Host
4	LOCAL	i960 Controller
5	INB	Internal Network Bus
6	ENET1	Gigabit Ethernet Front Panel Port 1
7	ENET2	Gigabit Ethernet Front Panel Port 2

Use the numbers listed in Table 1 to configure the module's default interface (see the Figure 1, the General Configuration Screen).

## General Configuration Screen

The General Configuration Screen (Figure 1), displays information about the selected module and allows you to set the following general parameters:

- Module Date and Time
- Screen Refresh and Lockout Time
- Host IP Address
- Subnet Mask
- Default Gateway and Interface
- TFTP Gateway IP Address

```
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General Configuration

Module Name: 9G421-02          Firmware Revision: 01.00.00
Slot Number: 8                BOOTPROM Revision: 01.01.01

Module Serial #:              Module Date:      08/11/1997
Module Board Revision:        Module Time:    10:18:31
                              Screen Refresh Time: 03 sec
                              Screen Lockout Time: 15 min

FLASH Memory: 4 MB

                              Host IP Address:   XXX.XXX.XXX.XXX
                              Subnet Mask:      255.255.0.0
                              Default Gateway:   NONE DEFINED
                              Default Interface:  NONE DEFINED

                              Base MAC Address:  00-00-1D-00-00-00

                              TFTP Gateway IP:   0.0.0.0

SAVE                          EXIT                          RETURN
```

Figure 1. General Configuration Screen

## General Configuration Screen Fields

The following information briefly explains each General Configuration Screen field.

### **Module Serial #**

Displays the serial number of the selected module.

### **Module Board Revision**

Displays the version number of the selected module.

### **FLASH Memory**

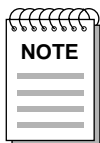
Displays the amount (megabytes) of flash memory in the selected module.

### **Module Date**

Contains a value that the module recognizes as the current date. To enter a new date, highlight the field and enter the date in MM/DD/YYYY format. The month and day portion of the date must include two digits. Therefore, enter a leading zero for months January through September, and for dates less than 10. For example, for June 4, 1996, enter 06/04/1996 (slashes are optional). If you do not enter slashes to separate the month, day, and year values, the first eight digits you enter in this field represent an entry (i.e., 06041996).

### **Module Time**

Contains a value that the module recognizes as the current time. To enter a new time, highlight the field and enter the time in HH:MM:SS format. Notice that there is no AM/PM indicator. Time should be entered based upon a 24-hour clock. For 4:07 p.m., enter 16:07:00 (colons are optional). If you do not enter colons to separate the hours, minutes, and seconds values, the first six digits you enter in this field represent an entry (i.e., 160700). For 6:12 a.m., enter 6:12:00 or 061200.



*The module's default date and time settings are indeterminate. The internal calendar and clock begin running as soon as you install the module.*

### **Screen Refresh Time**

Contains the rate at which the module's screens are updated. This setting determines how frequently (in seconds) information is updated on the screen. To enter a new refresh rate, highlight the field and enter a number. The **default** refresh rate is 3 seconds. The **range** is 3 - 99 seconds.

### **Screen Lockout Time**

Contains the maximum number of minutes that the Local Management application will display a module's screen while pending input or action from a user. For example, if you enter 5 in this field, users will have up to five minutes to respond in some fashion to each of the specified module's Local Management screens. In our example, after five minutes of "idleness" (no input or action), the Local Management application terminates the session on the selected module and the Slot Selection Screen reappears. To enter a new lockout time, highlight the field and enter a number. The **default** lockout time is 15 minutes. The **range** is 1 - 30 minutes.

### **Host IP Address**

Contains the Internet Protocol address currently assigned to the selected module. Set this field according to your network requirements. Highlight the Host IP Address field and enter the desired IP address using dotted decimal notation (4 decimal values between 1 and 255 separated by periods). For example, 255.255.255.255.

The maximum number that you can enter in any of the four segments is 255. The **default** is 0.0.0.0 . Any of the system interfaces on the module can use this address.

### **Subnet Mask**

Contains the subnet mask for the selected module. A subnet mask "masks out" the network bits of the IP address by setting the bits in the mask to 1 when the network treats the corresponding bits in the IP address as part of the network or subnetwork address, or to 0 if the corresponding bit identifies the host. The **default** subnet mask uses the first two portions of the IP address to identify the network id, leaving the rest of the IP address to identify specific nodes. To enter a new subnet mask, highlight the field and enter a new value using dotted decimal notation (4 decimal values between 1 and 255 separated by periods). For example, 255.255.255.255.

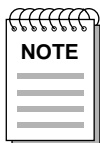
(The Subnet Mask field defaults to the natural mask value, based on the IP Address that you entered for the device.)

### **Default Gateway**

Contains the IP Address of the device to which all packets addressed to an unknown network or host are sent. If you do not configure a Default Gateway, any packets that are addressed to an unknown network or host will be dropped. This field is not defined until you enter an appropriate value using dotted decimal notation (4 decimal values between 1 and 255 separated by periods). The **default** is NONE DEFINED, meaning no default gateway selected.

### **Default Interface**

Contains the number that represents the interface that is connected to the module's Default Gateway. In some instances, dissimilar modules have different corresponding interface numbers. For example, if you are assigning a default interface to a 9E133-36 module and you enter a 3, then the default interface is the Flexible Network Bus. However, if you are assigning a default interface to a 9F310-02 module and you enter a 3, then the default interface is the Internal Network Bus. See Table 1 for module-specific interface information. The **default** is NONE DEFINED, meaning no default interface selected.



*The Default Interface field becomes active after you enter an IP address in the Default Gateway field.*

### **Base MAC Address**

Displays the MAC Address of the selected module. This is the MAC Address of the SMB-10 interface.

### **TFTP Gateway IP**

The IP address of the router that connects to or is closest to the module. Configure this address when you are performing TFTP downloads in a routed environment (if proxy ARP is disabled on the router).

## **Exiting the General Configuration Screen**

To exit the General Configuration Screen, use the arrow keys to highlight RETURN, then press the Return key.



## Port Statistics Screen

The Port Statistics Screen (Figure 2), displays information and statistics about the module's Ethernet ports.

```
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Port Statistics

Module Name: 9G421-02          Firmware Revision: 01.00.00
Slot Number: 8                BOOTPROM Revision: 01.01.01

PORT #: 1

OCTETS: 471908210             LINK STATUS: Link
PACKETS: 1047459244          PORT TYPE: MMF SC
TOTAL ERRORS: 0              PORT STATUS: ENABLED
COLLISIONS: 0                APPLICATION: BRIDGING
CRC/ALIGNMENT ERRORS: 0      OPERATION MODE: FULL DUPLEX
UNDERSIZE PACKETS: 0
OVERSIZE PACKETS: 0
FRAGMENTS: 0
JABBERS: 0
BROADCASTS: 0
MULTICASTS: 14929292

PORT #:[ 1]                  EXIT                      RETURN
```

Figure 2. Port Statistics Screen

## Port Statistics Screen Fields

The following information briefly explains each Port Statistics Screen field.

### **PORT #**

Indicates the current port for which statistics are displayed.

### **OCTETS**

Displays the number of octets transmitted and received on the port.

### **PACKETS**

Displays the number of packets transmitted and received on the port.

### **TOTAL ERRORS**

Displays the total number of errors on the port.

### **COLLISIONS**

Displays the total number of collisions detected on this port.

### **CRC/ALIGNMENT ERRORS**

Displays the number of packets with bad Cyclic Redundancy Checks (CRC) that have been received from the network. The CRC is a 4-byte field in the data packet that ensures that the data received is the same as the data that was originally sent. Alignment errors are due to misaligned packets.

### **UNDERSIZE PACKETS**

Displays the number of packets received whose size was less than the minimum Ethernet frame size of 64 bytes, not including preamble.

### **OVERSIZE PACKETS**

Displays the number of packets received whose size exceeded 1518 data bytes, not including preamble.

### **FRAGMENTS**

Displays the total number of packets received that were not an integral number of octets in length or that had a bad Frame Check Sequence (FCS), and were less than 64 octets in length (excluding framing bits but including FCS octets).

### **JABBERS**

Displays the total number of packets received that were longer than 1518 octets (excluding framing bits, but including Frame Check Sequence (FCS) octets), and were not an integral number of octets in length or had a bad Frame Check Sequence.

### **BROADCASTS**

Displays the number of broadcasts received.

**MULTICASTS**

Displays the number of multicasts received.

**LINK STATUS**

Indicates whether there is a physical connection from this port to another device. One of the following values appears:

- Link - There is a link signal present; there is a valid physical connection from this port to another device.
- No Link - There is no link signal present; there is no valid physical connection from this port to another device.

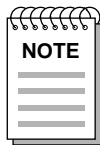
**PORT TYPE**

Displays the value GPIM-F01, which is an Ethernet Gigabit Fiber Channel 1 Gig, MMF, SC.

**PORT STATUS**

Indicates the administrative status of the selected port. Possible values are:

- ENABLED - The port is turned on administratively.
- DISABLED - The port is turned off administratively.



*Enable or disable ports from the Bridge Configuration Screen.*

**APPLICATION**

Displays **BRIDGING**, indicating that the port is operating as a bridge with a high-speed backbone connection.

**OPERATION MODE**

Displays the value **FULL DUPLEX**. The port can transmit and receive data at the same time, therefore, the port is running at 1000 Mbps.

**PORT # (Modifiable)**

Selects the port for which statistics are to be displayed.

## Displaying Statistics for Another Port

To display statistics for another port:

1. Use the arrow keys to highlight the **Port #** field at the bottom of the screen.
2. Press the **Space Bar** to increment (or press the **Backspace** key to decrement) the port number.

## Exiting the Port Statistics Screen

To exit the Port Statistics Screen, use the arrow keys to highlight RETURN, then press the **Return** key.