

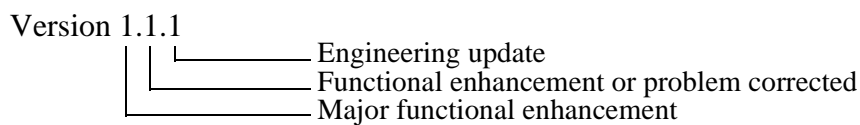


9033024-01

**DIGITAL MultiSwitch Fast Ethernet Switch
924TXG Release Notes
Version 1.1.1
April 2000**

As warranted, we change the firmware of this device to make functional enhancements or to correct reported problems. These Release Notes identify enhancements and changes to the firmware that impact end-user operations. They also contain firmware and software requirements, and list updates in this release as well as known conditions and restrictions that apply to the operation of the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG.

The following example describes the firmware version number:



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Firmware Requirements

The DIGITAL MultiSwitch 900 Firmware Version 5.5 or higher is required to manage the following versions of network modules:

Product	Version	Filename
DIGITAL MultiSwitch Fast Ethernet Switch 924TXG	1.1.1	MA111.bin

We recommend you update your network module(s) to the latest revision. Refer to the following World Wide Web site for the latest module revision upgrades and release notes:

<http://www.cabletron.com/dnpg/dr/hubs/firmware/>

Management Requirements

There are three processes that can be used to manage the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG module:

Using . . .	You can . . .
The Console	Configure and manage the module. Procedures are described in Chapter 4 <i>Configuring the Module</i> found in the <i>DIGITAL MultiSwitch Fast Ethernet Switch 916TXG and 924TXG Installation and Configuration</i> manual.
WebView	Configure and manage the module as described in the <i>DIGITAL MultiSwitch Fast Ethernet Switch 916TXG and 924TXG Web Management Guide</i> .
The <i>clear</i>VISN Web Suite	Manage the module using the <i>clear</i> VISN Web Suite. Procedures for managing the module are described in the <i>clear</i> VISN Web Suite 3.0 <i>Installation and Getting Started Guide</i> .

Hardware Requirements

The minimum hardware revision level for the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG module that is required to support this release of firmware is hardware version 2.0.

*clear*VISN Patch

To download the latest *clear*VISN patch software upgrades, go to either of the following World Wide Web sites:

<http://www.cabletron.com/dnpg/dr/clearvsn/patches/>

<http://www.cabletron.com/dnpg/dr/hubs/firmware/>

Known Conditions

This section describes conditions and restrictions related to the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG Version 1.1.1 firmware.

DIGITAL MultiSwitch 900 Resets may adversely affect MultiSwitch 924TXG LAN Interconnect configurations

The DIGITAL MultiSwitch 900 maintains and controls LAN Interconnect configuration tables for modules that are connected to backplane LANs. This information is shared with *clearVISN* in establishing backplane connections and is displayed within *clearVISN*'s LAN Interconnect window.

The following may arise when a reset occurs on the MultiSwitch 900 and there is no reset (at that same time) on the MultiSwitch 924TXG:

- The MultiSwitch 900 loses the current LAN Interconnection information for the MultiSwitch 924TXG and clears the database of any connections the module may still have. (This is a MultiSwitch 900 limitation and will be fixed in a later release.)
- *clearVISN* and the MultiSwitch 924TXG module retain the backplane configuration data they had before the MultiSwitch 900's reset. *clearVISN* continues to display the connections in the LAN Interconnect window and the module's LEDs continue to blink. However, since this information is no longer in synchronization with the MultiSwitch 900's control database, it is considered "stale" and not valid.
- Any subsequent attempts to remove or establish backplane connections to the MultiSwitch 924TXG using *clearVISN* will fail.

To regain synchronization between the MultiSwitch 900, *clearVISN* and the MultiSwitch 924TXG and to recover LAN Interconnect capabilities on the MultiSwitch 924TXG, do the following:

- Reset all MultiSwitch 924TXGs that are in the hub.
- Click on the "Refresh" button in *clearVISN*'s LAN Interconnect window to update *clearVISN* to the MultiSwitch 900's configuration tables.

For notification of MultiSwitch 900 resets, an SNMP trap address may be set up to monitor and record the MultiSwitch 900 events.

Walking SNMP v2 Objects through the 900 Hub

MIB objects of type COUNTER64 (SNMP v2) cannot be walked through the MultiSwitch 900 hub. The MultiSwitch 924TXG has several objects with this data type. In order to walk these objects you must walk the MultiSwitch 924TXG through a front-panel port using its own IP address and community string.

TFTP Filename Length

The length of TFTP filenames is restricted to 37 characters or less. Any attempt to set a filename exceeding 37 characters will cause the switch to reset.

SNMP Downloads

Downloads using SNMP sets to the pcomLoad group are not supported in this release. Use the Download Software Menu within the console interface to upgrade the module.

OBM and Console Ports Not Supported

The OBM and console ports on the back panel of the DEChub ONE and DEChub ONE-MX are not supported. Use the front console port on the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG module to configure the module.

Activity LED Response on Ports Remapped to the Hub Backplane

On ports remapped to the HUB backplane, the activity LED should flicker orange when there is receive or transmit activity between the switch and the backplane. However, if a cable with network traffic is plugged into the front-panel port, the activity LED will turn green according to the cable traffic. The green LED indication overrides the orange indication from the backplane traffic. Although the cable is isolated from the switch and the backplane (i.e., the port has been remapped to the backplane), the LED indication still reflects cable traffic when a cable is connected. The fix for this is to remove the cable from the front-panel port (for those ports that have been remapped to the backplane).

MultiSwitch 900 v5.5 Backplane Connection Restrictions

The increased number of 924TXG backplane connection subtypes available (i.e., 100Mb Half-Duplex, 100Mb Full-Duplex, etc.) creates a restriction within the MultiSwitch 900 (versions v5.5 and earlier). This restriction limits the number of modules that can be used for backplane interconnect. *This limitation will be fixed in a later release of the MultiSwitch 900.*

In V5.5 and earlier versions, the MultiSwitch 900 maintains a LAN Interconnect configuration table of up to 256 subtypes. Each module supports a defined number of subtypes (see table below for the number of subtypes on specific products). When a module is powered on within the MultiSwitch 900, the module's total number of subtypes is added to the MultiSwitch 900's configuration table. Once the configuration table is filled to capacity or when the number of entries available in the table does not accommodate the number of subtypes on a newly inserted module, all subtypes on that module will be ignored and none of its ports will be usable on the backplane.

An indication that this limitation has been exceeded (or that the number of subtypes of a module could not fit within the MultiSwitch 900's LAN Interconnect table) can be observed in the clearVISN LAN Interconnect screen. Attempts to expand a view of the module will fail such that no backplane capable ports will be displayed.

NOTE

This limitation only affects backplane connectivity. All other features of the module are unaffected.

The number of backplane connection subtypes per module are listed in the following table:

Module	Number of Backplane Connection Subtypes
MultiSwitch 924TXG	60
DECswitch 900EF	15
PORTswitch 900TP/12	25
PORTswitch 900TPJ	7
DECrepeater 900TM	2
MultiSwitch Hub 924TXG	2
VNswitch 900EF	22
VNswitch 900FF	17
VNswitch 900CC	1
VNswitch 900LL	14
VNswitch 900EE	14

This limitation becomes a consideration in configurations that include modules with many subtype capabilities (i.e., greater subtype values).

To determine whether a configuration will allow backplane connectivity on all of the modules' backplane capable ports, calculate the total number of subtypes per module within the hub and compare this number to the 256 limitation. If the number is greater than 256, loss of backplane connectivity on some modules will occur.

See the following examples of sample configurations that stay within or exceed the 256-subtype limitation.

- Examples of configurations that *stay within* the 256 subtype limitation:

Three MultiSwitch 924TXGs (3 @ 60 subtypes) and three PORTswitch 900TP/12s (3 @ 25 subtypes) for a total number of 255 subtypes.

Two MultiSwitch 924TXGs (2 @ 60 subtypes), two VNswitch 900EFs (2 @ 22 subtypes) and two PORTswitch 900TP/12s (2 @ 25 subtypes) for a total number of 214 subtypes.

- Example of a configuration that *exceeds* the 256 subtype limitation:

Four MultiSwitch 924TXGs (4 @ 60 subtypes) and two PORTswitch 900TP/12s (2 @ 25) for a total number of 290 subtypes.

NOTE

In general, most combinations of two MultiSwitch 924TXGs plus six of any other modules fall within the 256-subtype limitation of the hub. (An exception to this is the inclusion of the PORTswitch 900TP/12, where it is recommended the above calculations be followed.)

Connecting Two MultiSwitch 924TXGs in 2-Wire Mode

There are two port-ranges relevant when connecting two MultiSwitch 924TXGs on the backplane using the 2-wire mode subtype. The two ranges are: Ports 7-9, 19-21; and Ports 10-12, 22-24.

NOTE

A port on one MultiSwitch 924TXG may only be connected to a port within the same range on the other MultiSwitch 924TXG. For example, port 7 on one module may be connected to any port 7-9, 19-21 on the other module. Port 10 on one module may be connected to any port 10-12, 22-24 on the other module.

Hot-Swapping Modules

Hot-swapping is the insertion or removal of a module residing in a DIGITAL MultiSwitch 900 chassis or in a DIGITAL MultiSwitch 900-4 chassis without disrupting power to the chassis.

CAUTION

Do *not* hot-swap more than **one** module into or out of a DIGITAL MultiSwitch 900 at a time. Simultaneously inserting or removing more than one module can cause problems with the operation of other installed modules.

Hot-Swapping GBICs

CAUTION

Do *not* install or remove a Gigabit (GBIC) card while the 924TXG module is powered on. GBICs must *not* be hot-swapped; they must only be inserted in or removed from a module that is powered off.

Refer to the detailed instructions supplied with the GBIC card for installation/removal procedures.

Diagnostics

If the diagnostic test fails, the module will not complete the power-up cycle. Access may still be gained through the 924TXG console.

Features Not Supported in This Release

The following features are not supported in this release:

- IP Services
- *clearVISN* Flash Loader
- Trunking on the Backplane
- VLAN on the Backplane

Xmodem Upgrades

Do not attempt an Xmodem upgrade unless everything is in place to follow through. Not doing so may force you to power down the module to restart it.

Restrictions and Limitations

1. Certain traffic patterns may occasionally place addresses into the forwarding table that have not been actually seen by the switch. The Source MAC address of error frames (64 bytes or greater in length) is improperly learned by the switch.
2. Error and dropped packet statistics reported on the “Switch Summary and Individual Port Statistics” screen may not synchronize properly with each other; dependent on the traffic flow through the switch.
3. Broadcast frames increment the SNMP “ifOutOctets” counter for ports that have no link.
4. When new entries are made to the SNMP RMON log table, they are not done so sequentially.
5. VLAN must be enabled to use Class of Service (priority queuing).
6. The maximum number of 924TXG port based VLANs that can be configured on switches manufactured in week 9908 and later (and running this version of firmware) is 128. Any VLAN ID within the range of 0-4095 is valid, but only 128 VLANs can be created on the switch at one time.
7. The broadcast performance on one group of 8 ports (1-8, 9-16, or 17-24) is less than that of the ports on the switch; dependent on which switch cluster broadcasts are being passed to the CPU.
8. When VLAN operation on the switch is enabled, the overall throughput performance of the switch drops due to the fact that internally, each packet passing through the switch is appended with a four-byte IEEE 802.1Q VLAN tag.
9. When using the port mirroring feature, the mirroring and mirrored (source and destination) ports must be in the same switch cluster (i.e., Group of 8 ports).
10. When using port mirroring, traffic rates on the mirroring port may be less than those on the mirrored port; dependent on the traffic flow through the switch.
11. Discard address filtering rules can be overwritten. If a packet is received by the switch with a source MAC address that is the same as a static address set to be discarded, the discard rule will be overwritten, allowing packets with the source address to be forwarded through the switch.
12. When transmitting packets out of a port, the packet size statistics counters on the Port Statistics screen do not increment properly. The counters do properly increment for packets received on the port.
13. The switch will execute a software reset after performing a TFTP download. The reset will occur whether the download was successful or failed.
14. If Hewlett-Packard GBIC (Gigabit Ethernet Interface Converter) modules are inserted/removed on the 924TXG while power is applied to the switch, they may become damaged. The damage results in the presence and type identity of the GBIC not being recognized by software. Data will still be switched successfully through the port.

CAUTION

Do not hot-swap any GBIC.

15. The following issues are present when using the Port Trunking feature in this release of firmware:
 - When configuring Port Trunking, the Spanning Tree path costs on ports can become misconfigured.
 - Ports in different VLANs can be placed into the same trunk, which should not be allowed.
 - Trying to add a port to a trunk that has been created in a different switch cluster (group of 8 ports) causes the ports in the trunk to be erroneously deleted.
 - When a trunk group is configured, and the first port of that trunk group becomes disabled, local management reports that the entire trunk status is disabled; this is a false signal. The status can be corrected by disabling and re-enabling that port.

16. When a BootP server and DHCP server are both present in the network, in some cases only the IP address will be acquired; the firmware image will not be received. Both protocols work properly when only one server type is present. This condition also existed in earlier versions of firmware. Cabletron's recommendation is to remove the DHCP server and reboot the switch; this will cause the switch to send BootP requests and receive an image from the BootP server.
17. When Microsoft Internet Explorer is used to access Cabletron WebView management, the initial start-up time is excessive (approximately 20 minutes), after which it performs normally. To avoid this delay, the switch's IP address should be added to Internet Explorer's Proxies "Ignore" area.
18. When configuring 802.1Q trunks, the VLAN that includes the ports configured as trunks must not have those ports on the egress list for that VLAN. This results in a misconfiguration.
19. When configuring Port Trunks as 802.1Q trunks, you must add the port trunks to the egress list as a pair. Adding them separately results in an error reporting add VLAN Violation.
20. Spanning Tree Fast Step Feature change - On the Spanning Tree configuration screen, there is an extra selection called "stpstandby enable":
 - If defaulted to *yes*, there is a 30-second forwarding delay.
 - If defaulted to *no*, ports will go to forwarding within one second.
21. Management Disabling a port, through the console or otherwise, is not supported in this release. If you Management Disable a port, the 924TXG will eventually stop responding to queries or to pass traffic. This will be fixed in the next firmware release.

MIB and RFC Information

The following MIBs are supported:

- Bridge-mib
- ctron-smartrunk-mib
- ianaifType-mib
- if-mib
- igmp-mib
- multiswitch-common-mib
- netvantage-mib
- p-bridge-mib
- q-bridge-mib
- rfc1155
- rfc1213
- rfc1398
- snmpv2-mib

MIB and RFC information can be found online. Refer to the section entitled *Accessing Online Information* in these release notes for information about retrieving MIBs and RFCs.

Documentation

The following documentation supports the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG Version 1.0 firmware release:

- *DIGITAL MultiSwitch Fast Ethernet Switch 916TXG and 924TXG Installation and Configuration*
- *DIGITAL MultiSwitch Fast Ethernet Switch 916TXG and 924TXG Quick Start Card*
- *DIGITAL MultiSwitch Fast Ethernet Switch 916TXG and 924TXG Read Me First*
- *DIGITAL MultiSwitch Fast Ethernet Switch 916TXG and 924TXG Web Management Guide*

These documents exist in Adobe Acrobat online readable and Printable Document Format (PDF) on the Web Site (see *Accessing Online Information*).

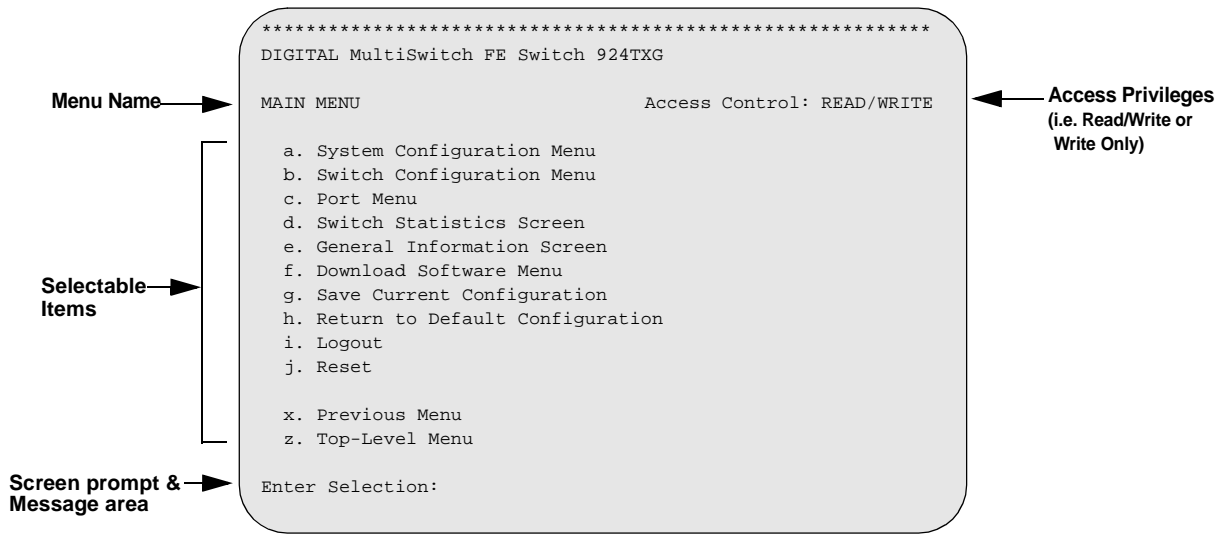
Firmware Upgrades

This section describes the process for performing firmware upgrades for the DIGITAL MultiSwitch Fast Ethernet Switch 924TXG. To perform a firmware upgrade, complete the following instructions:

If the module is in a Digital MultiSwitch 900, select `Start Redirect Mode` from the DIGITAL MultiSwitch 900 `INSTALLATION MENU`. Enter the slot number of the module to get the module's Installation Menu.

Main Menu

From the module's installation menu, type `f` to view the Main Menu selections as described below.



Selection	Description
System Configuration Menu	Contains commands and parameters that reflect the global configuration of the switch related to management.
Switch Configuration Menu	Provides access to information and parameters affecting the function of the switch, for instance, the movement of packets through the switch. For example, you can configure Forwarding Table, Spanning Tree, and virtual LANs (VLANs).
Port Menu	Shows the configuration of the individual ports on the switch and allows you to modify switch port operation.
Switch Statistics Screen	Presents switch-level and port-level statistics.
General Information Screen	Displays the system software version, switch serial number, base MAC address, system up time and power-up count.
Download Software Menu	Contains parameters and commands for initiating a software download to upgrade the switch operating software.
Save Current Configuration	Saves current switch operating parameters to non-volatile memory.
Return to Default Configuration	Restores switch operating parameters to factory defaults. You must re-set the switch for activate default parameters.
Logout	Logs out of the Telnet interface. Once you logout, you must enter a password before you can access the Telnet interface again. Note: this menu item is only seen from within a Telnet session.
Reset	Performs a software reset of the switch by restarting the system software and reloading all operating parameters.
Previous Menu	Returns you to the previous menu.
Top-Level Menu	Returns you to the top-level menu.

Download Software Menu

The Download Software Menu allows you to set up and initiate a software download.

To set up and initiate a software download, do the following:

1. Select **f** from the Main Menu to view the Download Software Menu.
2. Observe the following message prompt display (menu selections are defined in the following table).

```
DOWNLOAD SOFTWARE          Access Control: READ/WRITE

a. TFTP Server IP Address  1.2.3.4
b. TFTP File Name
c. Start TFTP Download
d. Start XMODEM Download

x. Previous Menu
z. Top-Level Menu

Enter Selection:
```

Selection	Description
TFTP Server IP Address	The IP address of the TFTP server.
TFTP File Name	The file name to be downloaded from the TFTP server (maximum of 64 characters).
Start TFTP Download	Starts a TFTP download using TFTP Server IP Address and TFTP File Name information.
Start XMODEM Download	Starts an XMODEM (serial) download.

NOTE

These load procedures are used for both the main image file (.bin) and the web image file (.web).
Please note that an in-band connection is required for TFTP to work.

Save Current Configuration

The Save Current Configuration screen ensures that all changes made to the module via the console menus are stored in the event of power outages or power cycles.

To save your current configuration, do the following:

1. Select **g** from the Main Menu to view the Save Current Configuration screen. The following message prompt displays:

```
The current settings will become permanent.
All the saved settings will be lost!

a. OK
x. Cancel and return to the Previous Menu
z. Cancel and return to the Top-Level Menu

Enter Selection:
```

2. Select **a** to confirm the process; select **x** or **z** to cancel the process.

Return to Default Configuration

The Return to Default Configuration screen allows you to restore the original factory default switch settings before changes were made via the user interface or SNMP.

To return to default configuration settings, do the following:

1. Select **h** from the Main Menu to view the Return to Default Configuration screen. The following message prompt displays:

```
Switch will return to default settings.  
All the current changes and settings will be lost!  
  
a. OK  
x. Cancel and return to the Previous Menu  
z. Cancel and return to the Top-Level Menu  
  
Enter Selection:
```

2. Select **a** to confirm the process; select **x** or **z** to cancel the process.

Logout

The Logout menu item allows you to log out of the Telnet interface and return to the Login screen. Select **i** from the Main Menu to logout. After this command is entered, the system logout occurs automatically. **Note:** this menu item is only seen from within a Telnet session.

Reset

The Reset screen allows you to perform a switch hardware reset. You are first prompted as to whether or not to save the current switch configuration.

To reset the switch, do the following:

1. Select **j** from the Main Menu to view the Reset screen. The following message prompt displays:

```
Switch will go through a hardware reset.  
All the current changes that have not been saved  
will be lost!  
  
a. Save changes and Reset  
b. Don't save changes and Reset  
  
x. Cancel and return to the Previous Menu  
z. Cancel and return to the Top-Level Menu  
  
Enter Selection:
```

2. Select **a** or **b** to confirm the process; select **x** or **z** to cancel the process.

Accessing Online Information

Online Information

Product-specific information can be found at the following World Wide Web sites:

<http://www.cabletron.com/digital>

<http://www.cabletron.com/dnpg/dr/hubs/firmware/>

<http://www.cabletron.com/dnpg/dr/clearvsn/patches/>

Documentation Comments

If you have comments or suggestions about this document, e-mail them to:

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