

# 2000NET

NETWORK INTERFACE MODULE

## Instruction Manual

SOFTWARE VERSION 4.0.0

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*the most watched worldwide*

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# *Preface*

## **About This Manual**

This manual describes the features of a specific 2000 Series module in the Kameleon Media Processing System. As part of this module family, it is subject to Safety and Regulatory Compliance described in the 2000 Series frame and power supply documentation (see the Kameleon 2000 Series Frames Instruction Manual).



# *2000NET Network Interface Module*

## **Introduction**

The 2000NET is designed to operate in 2000 Series Kameleon frames to provide remote control and monitoring. The 2000NET enables a web browser graphical user interface (GUI) and an optional remote Newton Control Panel for remote configuration and monitoring of the frame and remote control of its media modules.

## **2000NET Features**

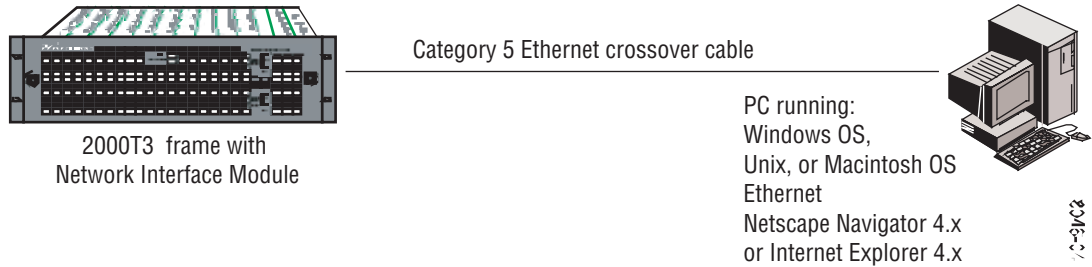
The 2000NET module features:

- 10 Base-T Ethernet interface,
- Save/load frame configuration files,
- Slot memory for each media module configuration, and
- Support for:
  - HTML protocol support,
  - Newton Control Panel,
  - Asset Tag identification,
  - Simple Network Management Protocol (SNMP) Agent,
  - NetConfig Networking Configuration application, and
  - Software update downloading.

## Basic Network Design

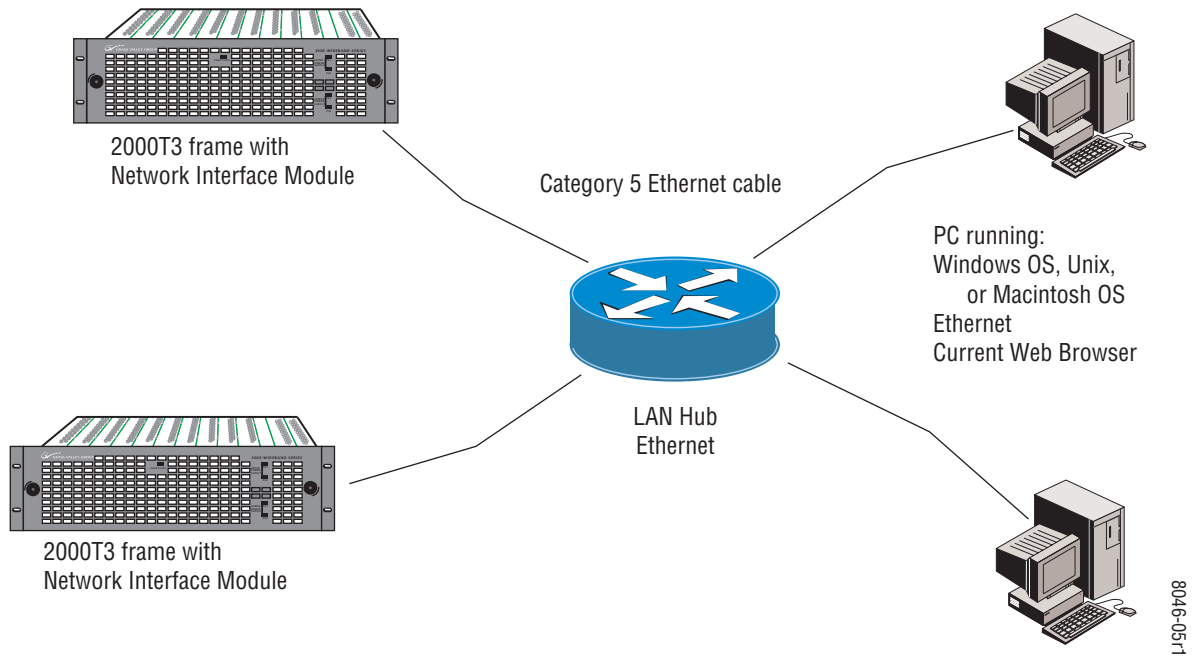
The 2000NET can be employed in either a point-to-point or local area network (LAN) control/monitoring configuration. [Figure 1](#) illustrates a point-to-point configuration.

Figure 1. Point-to-point Configuration



[Figure 2](#) illustrates a typical LAN configuration.

Figure 2. Basic Network Configuration





# Installation

This section describes placing the module in the 2000 Series Kameleon frame and cabling the communications ports. Procedures for power-up, DIP switch settings, and network configuration of the module are described in following sections.

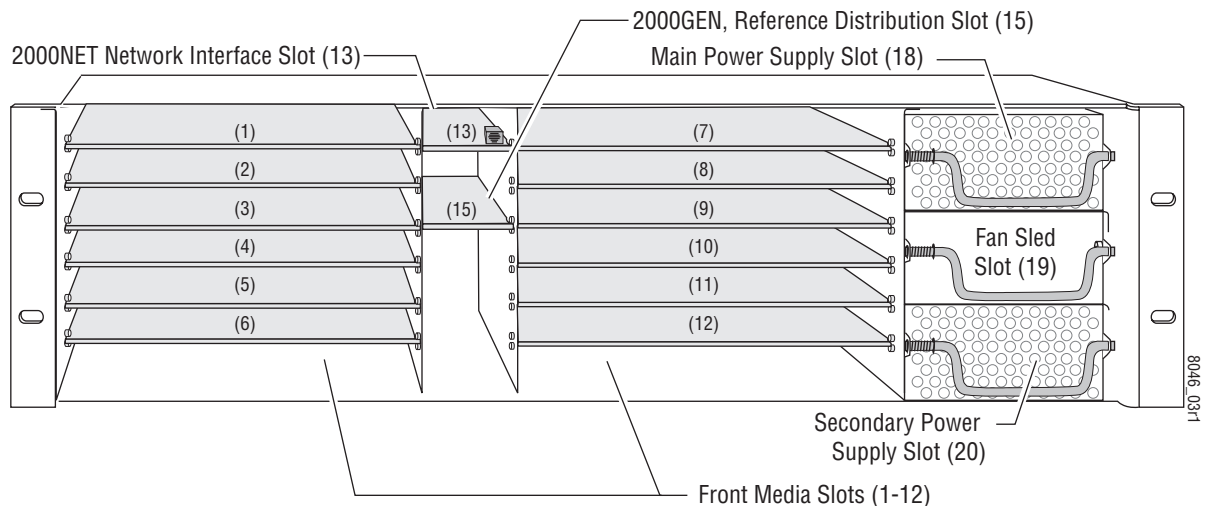
## Module Placement in the Kameleon Frame

In a 3 RU frame, there are two rows of six front media module slots in the frame to accommodate either analog or digital media modules. Between these rows are slots for the 2000NET and 2000GEN Frame Reference modules. Refer to [Figure 3](#).

The three slots on the right side of the frame are allocated for the power supply sleds and the optional fan module. For additional information concerning the Power Supply module, refer to the *2000 Series Frame Instruction Manual*.

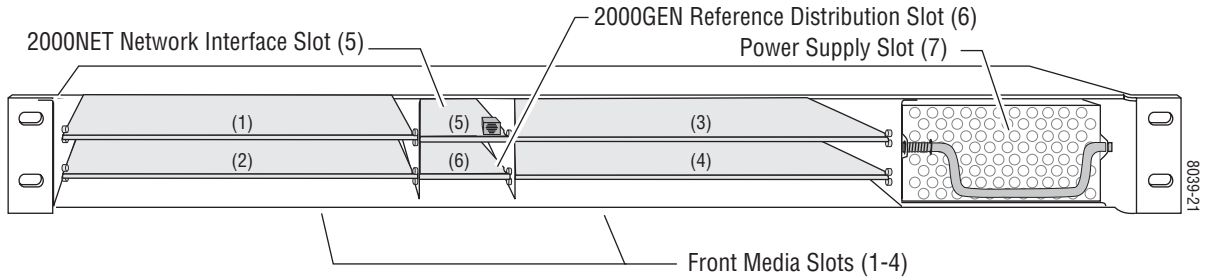
Slot number 13 (top middle) is allocated for the 2000NET module.

Figure 3. 2000T3NG Frame Front Module Locations



In a 1 RU frame, the 2000NET module installs in slot number 5 as shown in [Figure 4](#).

Figure 4. 2000T1DNG Frame Front Module Locations

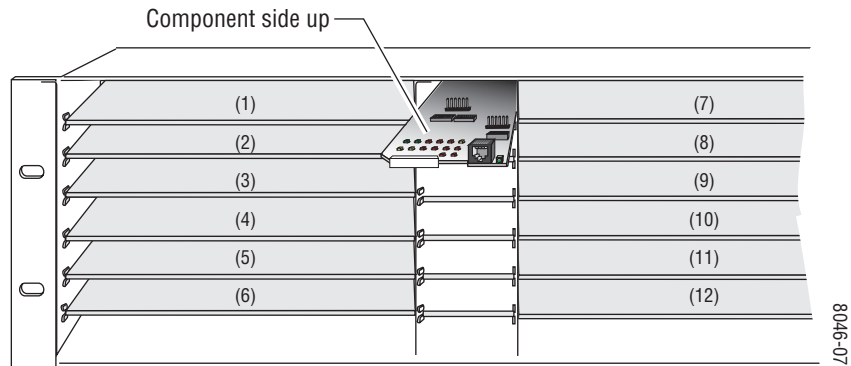


**Note** The 2000NET module can be plugged in and removed from a 2000 Series Kameleon frame with power on. When power is applied to the module, LED indicators reflect the initialization process (see [Power Up on page 18](#)).

To install the 2000NET module in the 3 RU or 1 RU frame:

1. Insert the module, connector end first (see [Figure 5](#)), with the component side of the module facing up. Slide the module in until it stops.
2. Press on the connector tab to seat the module in place. There will be a positive click when the module is fully seated.

Figure 5. 2000NET Module/Frame Orientation



## Cabling

This section describes physical connections, the connectors and cables, used for network communications. Setup procedures for each type of connection are described in [Establishing Frame Network Identity on page 26](#).

Control and monitoring connectors on the 2000T3 frame are illustrated in [Figure 6](#) and the 2000T1 frame in [Figure 7](#).

**Note** The cables and adapters illustrated below for connection to a PC are available from Grass Valley as part of cable kit model 2000CAB. The standard Ethernet cable is not included.

Figure 6. 2000NET Input/Output Connectors – 2000T3 Frame

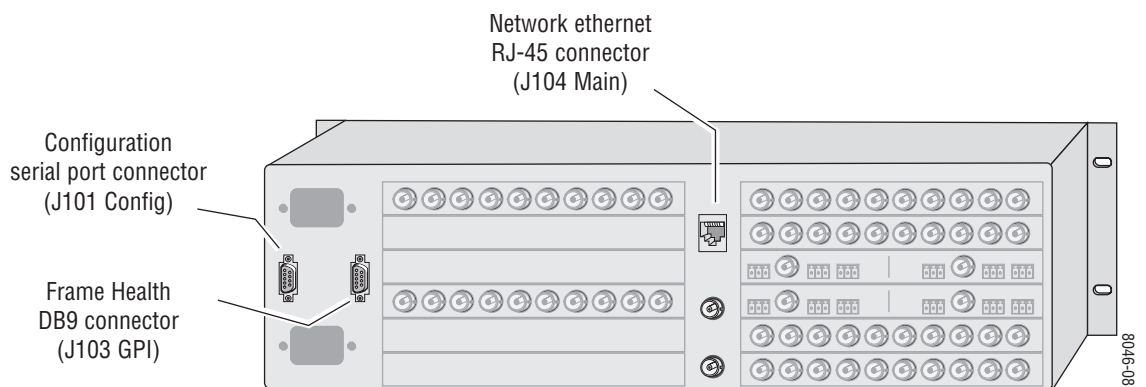
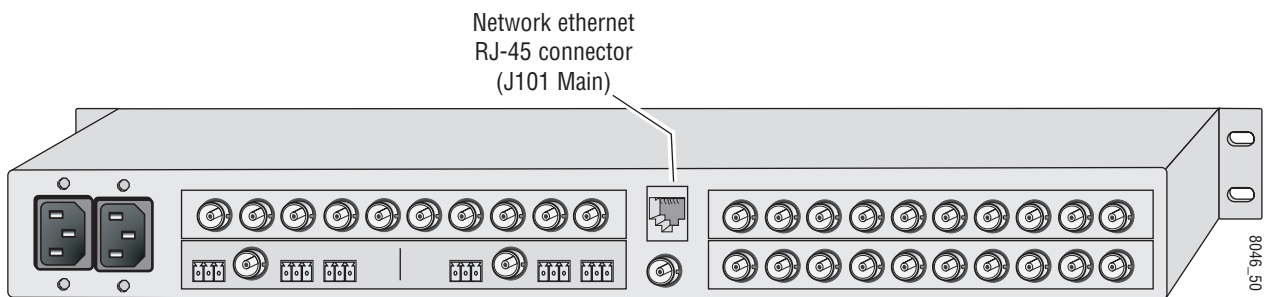


Figure 7. 2000NET Input/Output Connectors – 2000T1 Frame



## Frame Health Alarm Connection

On a 3 RU frame, the Frame Health Alarm connection provides a relay closure that will act as an alarm trigger for a user-supplied alarm circuit. The relay is accessed through connector J103 SER3/GPI. Complete details for cabling the Frame Health Alarm are given in the Installation section of the *Kameleon 2000 Frames Instruction Manual*.

The Frame Health Alarm responds to conditions enabled on the 2000NET Network Interface module with DIP switches S1 and S2 as given in [Table 3 on page 22](#). This information from the module is also available over the network to an SNMP monitoring system as described in [SNMP Monitoring on page 24](#).

## Configuration Serial Port Cable

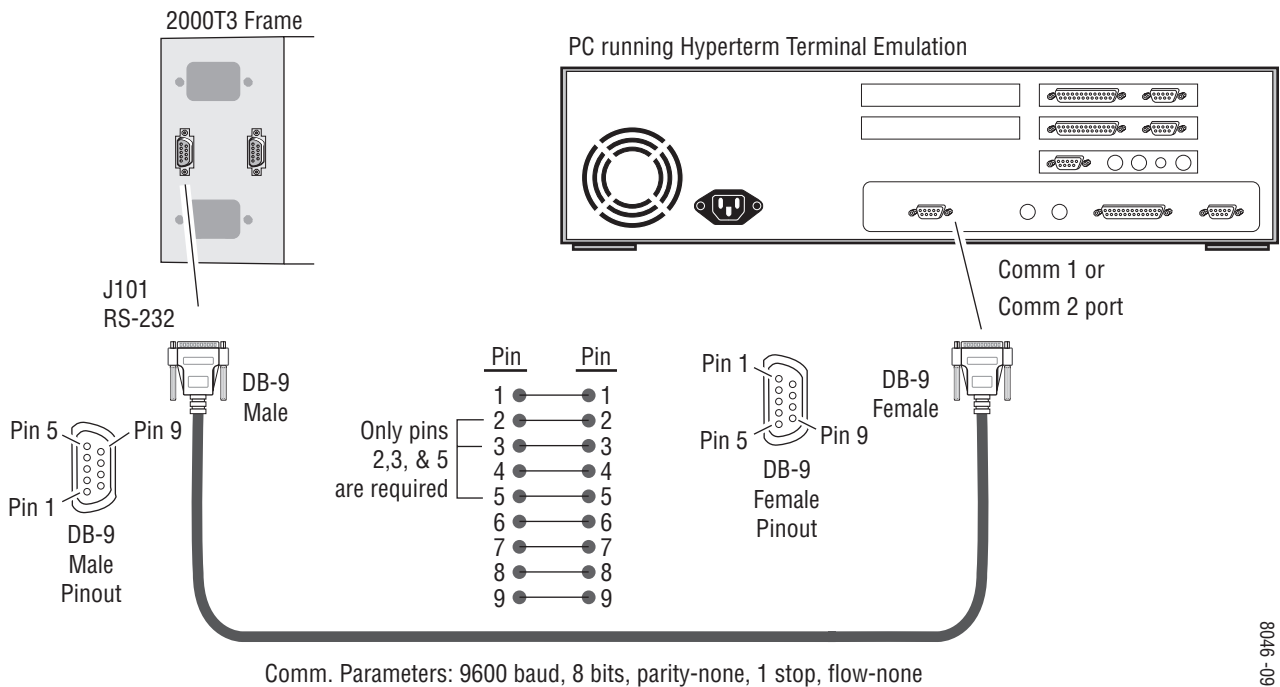
The nine-pin RS-232 serial port connector is used to connect the frame to a PC for initial setup of the frame's network communication parameters. After network communication is established, subsequent changes to these parameters can be made using the network GUI.

The communication parameters for the RS-232 connection are:

- Baud rate: 9600
- Data bits: 8
- Parity: none
- Stop bits: 1
- Flow control: none

The male end connects to J101 on the 2000T3 frame (see [Figure 8](#)) and the female end connects to either Comm 1 or Comm 2 on the PC, depending upon the configuration of the computer's I/O ports.

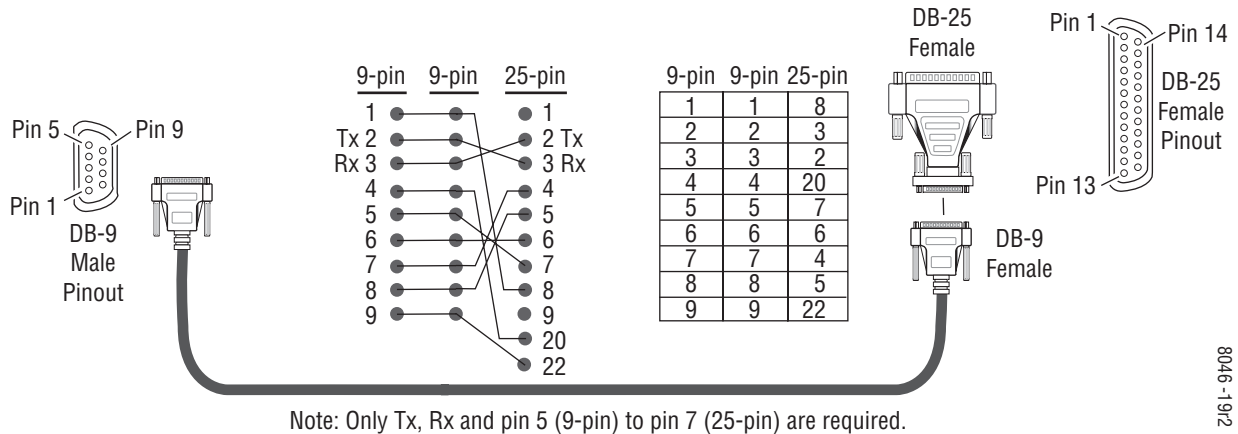
Figure 8. RS-232 to Initialization PC Cable and Pinout



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If the PC uses a 25-pin RS-232 connector, use a cable adapter as shown in [Figure 9 on page 14](#).

Figure 9. DB-9 Cable and DB-25 Cable Adaptor Pinout



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### Module Front RJ-45 Connector

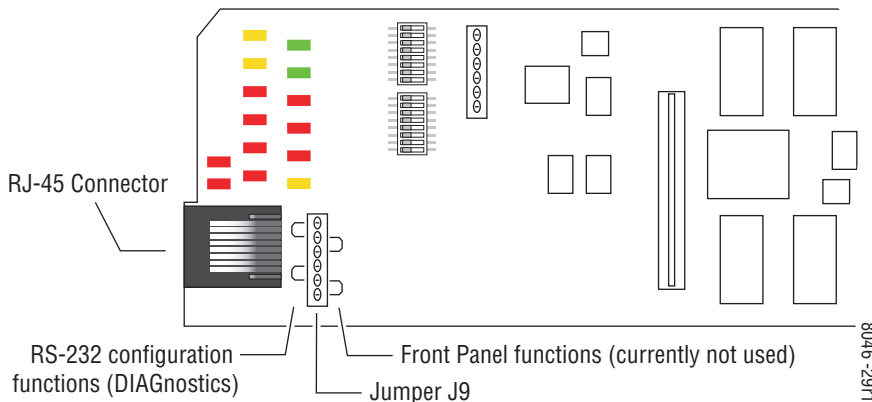
When the 2000NET module is installed in a 1 RU 2000T1 frame, the dual purpose RJ-45 connector on the front of the 2000NET module is used as the Serial Configuration port for the module. The RJ-45 connector is configured using the jumper positions shown in Figure 10. Use the RS-232 (DIAG) jumper positions when connecting to a PC for initializing the 2000NET module. The **Front Panel** jumper configuration is for future use.

**CAUTION** This is not an Ethernet port. Damage can result from connecting Ethernet equipment to this connector.

In the three rackunit 2000T3 frame, with the jumpers set in the DIAG position, the RJ-45 connector is in parallel with the Serial Configuration port on the back of the frame (J101).

**Note** In the 2000T3 frame, the module front connector and rear frame connector cannot be used at the same time.

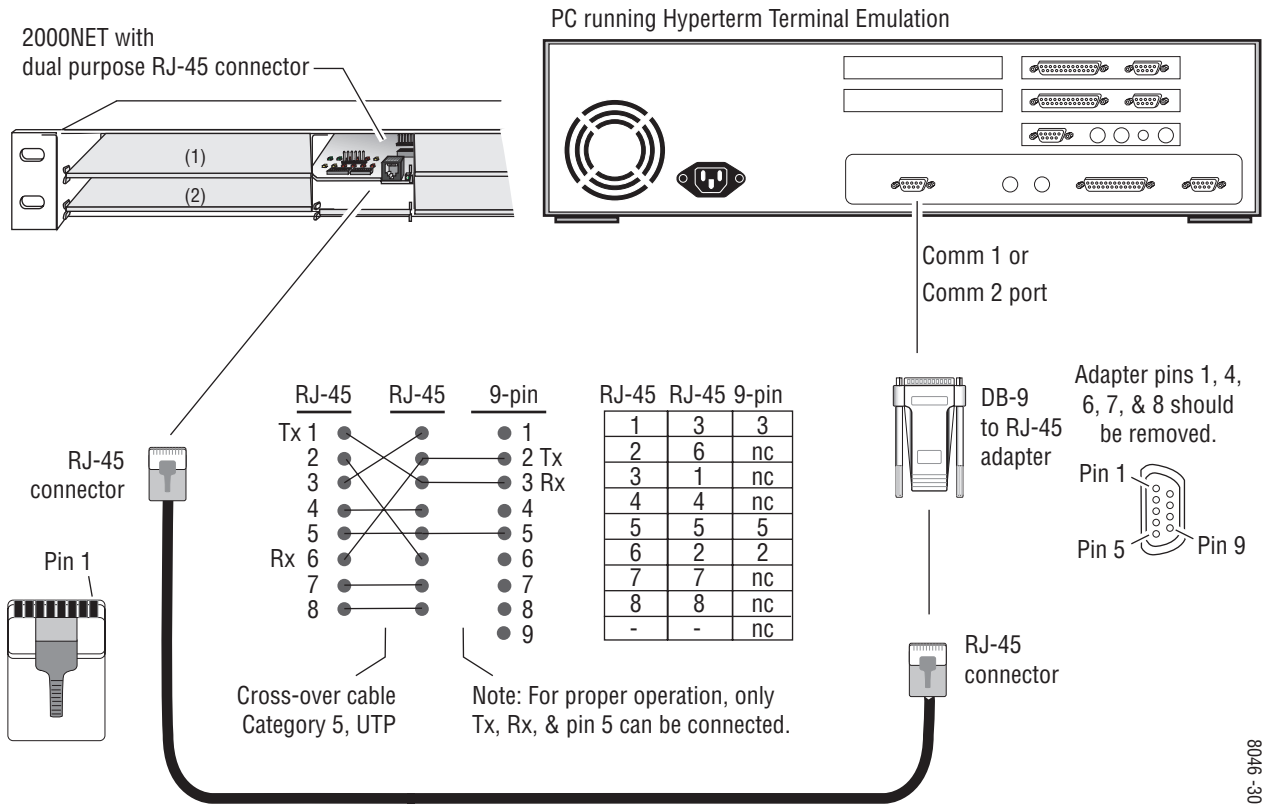
Figure 10. Dual Purpose RJ-45 Connector and Jumpers



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Figure 11 shows the adapter and cable pinout required for the serial connection to a PC.

Figure 11. Module RJ-45 to PC Cable and Adapter Pinouts



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## Ethernet Cable

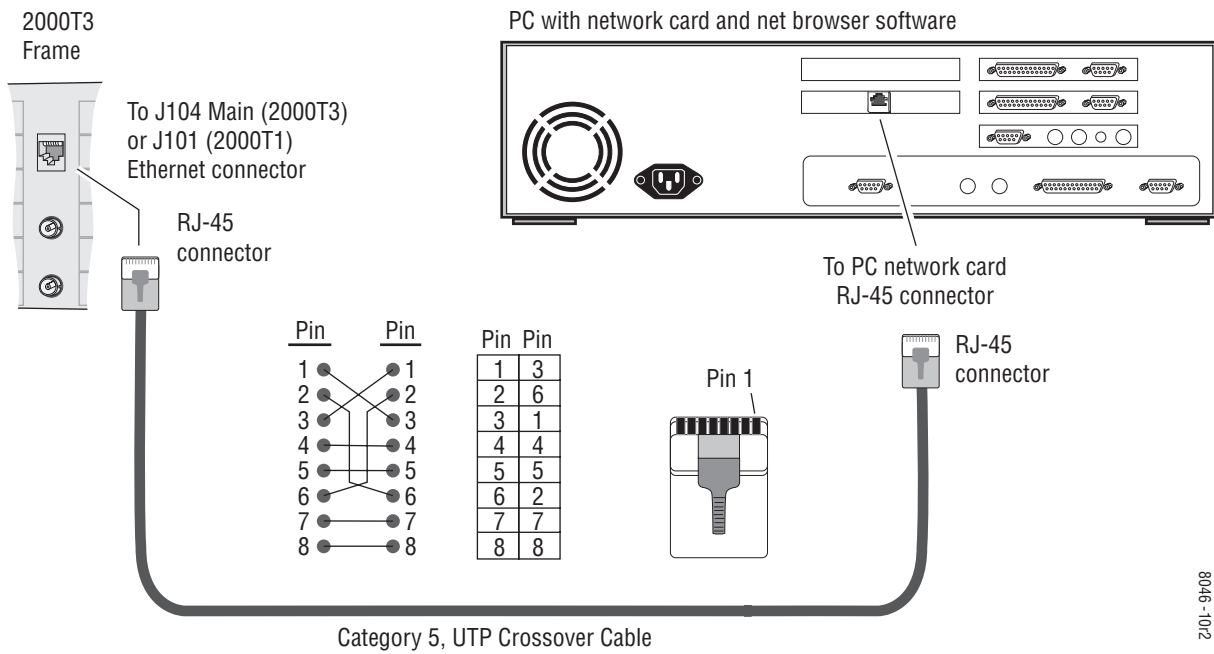
The 2000NET module enables the frame's RJ-45 Ethernet connector. Through this port the 2000 frame can connect to:

- A single PC with a network module (point-to-point), or
- A local area network (LAN) through a network hub.

### Point-to-Point Connection

Figure 12 illustrates the crossover cable connection and pinout for a point-to-point connection to the controlling PC.

Figure 12. Point-to-Point RJ-45 Connection and Cable Pinout



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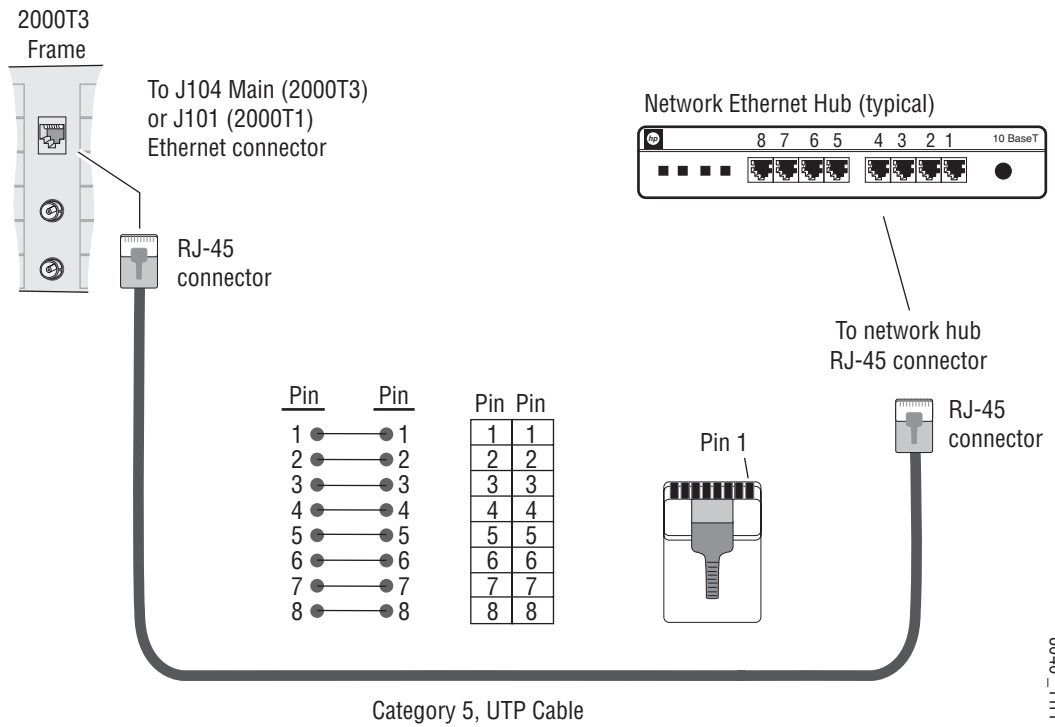


### Local Area Network (LAN) Connection

Figure 13 illustrates the cable connection for a LAN connection to a network hub.

**Note** Because of varying length requirements and ready availability from network equipment suppliers, this cable is not supplied by Thomson Grass Valley.

Figure 13. LAN RJ-45 Connection and Cable



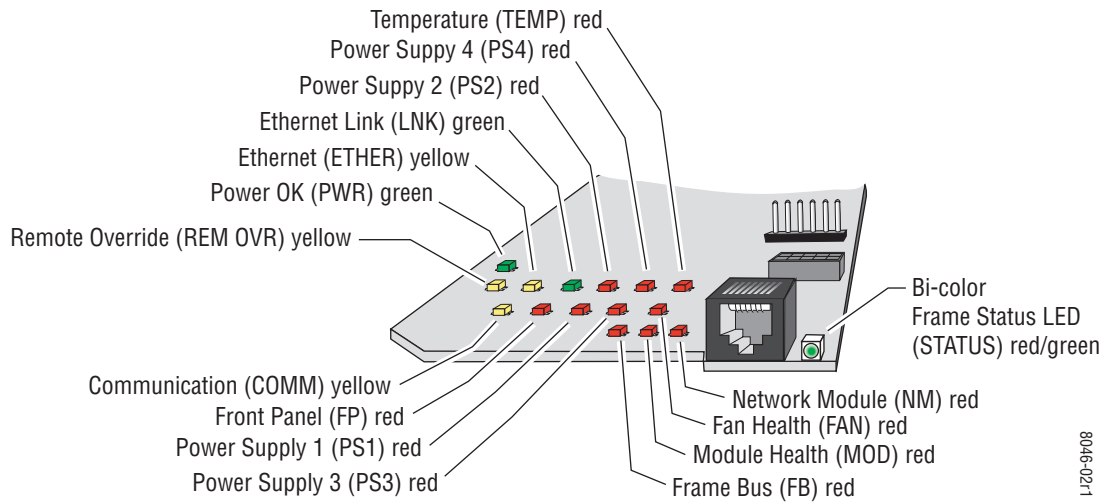
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# Power Up

The various front LED indicators and configuration switches are illustrated in Figure 14. Upon power-up, all LEDs should light for the duration of the initialization process. If all LEDs remain on, the module may not be fully seated in its slot. After initialization the Power OK LED (PWR) will be on and the red Network Module LED (NM) should go off. All other LEDs report detected conditions within the frame and the installed modules. If the NM LED does not go off, the board needs servicing.

**Note** When a module is first plugged into the 2000 frame, the 2000NET module may report a momentary fault. This will clear once the module has booted up.

Figure 14. LEDs and Configuration Switches



The Frame Status LED is visible through the frame front cover. Table 1 and Table 2 on page 19 describe the module LEDs and the conditions they indicate.

## Indicator LEDs

The frame Status LED, visible on the front cover, reports the conditions indicated in Table 1.

Table 1. Frame Status LED and Conditions Indicated

LED State	Condition
Green	Frame and all modules functioning properly. Frame locator is inactive.
Red	One or more modules in the frame has detected an internal fault. Frame locator is inactive.
Long Flash Green	Frame locator – flashes when activated by a remote control device. Green indicates frame and all modules functioning properly.
Long Flash Alternating	Frame locator – flashes when activated by a remote control device. Alternating color indicates one or more modules in the frame has detected an internal fault.

The module LEDs and their possible status and indicated conditions are shown in [Table 2](#).

Table 2. Indicator LEDs and Conditions Indicated

LED	LED State	Condition
<b>POWER OK</b> (green)	Off	Power is off or on-board regulator has failed
	On continuously	Module is powered
<b>ETHER(NET)</b> (yellow)	Active	Indicates communication taking place on the Ethernet bus
<b>LNK</b> (green)	Active	Indicates active link established with another device on the Ethernet bus
<b>PS1</b> (red)	Off	Power supply 1 is operating normally or is not installed
	On continuously	Power supply 1 is present and reporting output not within specified voltage range
<b>PS2</b> (red)	Off	Power supply 2 is operating normally or is not installed
	On continuously	Power supply 2 is present and reporting output not within specified voltage range
<b>PS3</b> (red)	Off	Power supply 3 is operating normally or is not installed
	On continuously	Power supply 3 is present and reporting output not within specified voltage range
<b>PS4</b> (red)	Off	Power supply 4 is operating normally or is not installed
	On continuously	Power supply 4 is present and reporting output not within specified voltage range
<b>TEMP</b> (red)	Off	2000NET sensors reading temperature within specified parameters
	On continuously	Over-temperature condition detected in frame
<b>FP (Front Panel)</b> (red)	Off	Currently not used
	On	
<b>REM OVR</b> (yellow)	Off	Module settings match those set onboard by switches and jumpers
	On	One or more settings have been overridden by remote control system (see <a href="#">Table 3 on page 22</a> )
<b>COMM</b> (yellow)	Active	Indicates module is polling the devices on the internal frame communication bus
<b>FAN</b> (red)	Off	All fans in the frame are working properly
	On continuously	At least one fan in the frame is not rotating at its specified rate
<b>FB (Frame Bus)</b> (red)	Off	Network module is communicating with modules on the Frame Bus
	On	Internal Frame Bus communication failure
<b>MOD</b> (red)	Off	None of the media or center communication/sync modules is reporting a fault
	On continuously	At least one of the media or center communication/sync modules is reporting a fault
<b>NM</b> (Net Module) (red)	Off	Network Module is working properly
	On continuously	Network Module has detected an internal fault and is not functioning
<b>FRAME STATUS</b> (Bi-Color Red/Green)	Green On continuously	Frame Status OK
	Green Flashing	Frame Locate indicator has been selected on the Frame Configuration web page
	Red Flashing	Fault or warning on the frame bus

## Rebooting the Module

If you need to reboot the 2000NET module, either remove and replace the module in the slot or use the GUI to access the 2000NET Configuration or Network pages. Both pages have a **reboot** button (see [2000NET Configuration Web Page on page 46](#) or [2000NET Network Web Page on page 50](#)).

## Status Monitoring and Reporting

This section provides a complete summary of frame status monitoring and reporting in a Kameleon 2000 Series system with an 2000NET module installed in the frame. It summarizes what status items are reported and how to enable/disable reporting of each item. There are a number of ways to monitor status of frame power supplies, fans, modules in the frame, and other status items depending on the method of monitoring being used including Frame Alarm (2000T3 frame only) and SNMP reporting.

### Frame Status Reporting

2000 Frame status will report the following items:

- Power supply health,
- Status of fans in the frame front cover,
- Temperature,
- Module health, and
- Frame bus status.

Module health status will report the following items:

- Internal module state (and state of submodule or options enabled) including configuration errors (warning), internal faults, and normal operation (Pass).
- Signal input states including valid/present (pass), not present or invalid (warning), not monitored, and not available (no signal inputs).
- Reference input states including locked/valid (pass), not locked/invalid (warning), and not monitored.
- Signal output states with reporting functionality (reference output).

The Module Health bus provides a means for older (legacy) or less capable modules (such as DAs with no microprocessor) that cannot communicate over the Frame serial bus to report alarm conditions to the Frame Monitor or 2000NET module. The reporting is done using a voltage level sent by the module. When a problem exists on the module, it will pulse or provide a

continuous voltage level to the Module Health bus indicating that a problem exists on the module but will not indicate what the problem is.  
Alarms and SNMP Monitoring

Faults and alarms from the 2000NET module can be reported to a Frame Health Alarm connector on the rear of the 2000T3 frame (see [Frame Health Alarm Connection on page 12](#)) and/or to a networked SNMP monitoring system (see [SNMP Monitoring on page 24](#)).

### 2000NET Module Alarm DIP Switches

Two eight-position DIP switches (S1 and S2) enable or disable the overall fault and alarm reporting functions of the module. The current status of these settings is reported on the Status web page of the 2000NET GUI ([page 45](#)), the Frame Alarm Reporting web page ([page 36](#)), and the SNMP Reporting web page ([page 38](#)). Disabling (or filtering) of fault reports can also be useful in isolating problems in the frame.

The Frame Health Alarm on the rear of the Kameleon 2000 Series frame responds directly to the settings of the DIP switches. Some media modules provide enabling/disabling of Frame Health reporting for Slot Status, Signal Loss and Reference Loss on the Slot Config web page for the media module. Refer to [Media Module Slot Configuration on page 51](#) for details.

Refer to [Figure 15](#) for the location of S1 and S2 and [Table 3 on page 22](#) for the possible settings. A settings table is also silk-screened on the bottom of the module.

Figure 15. DIP Switches S1 and S2

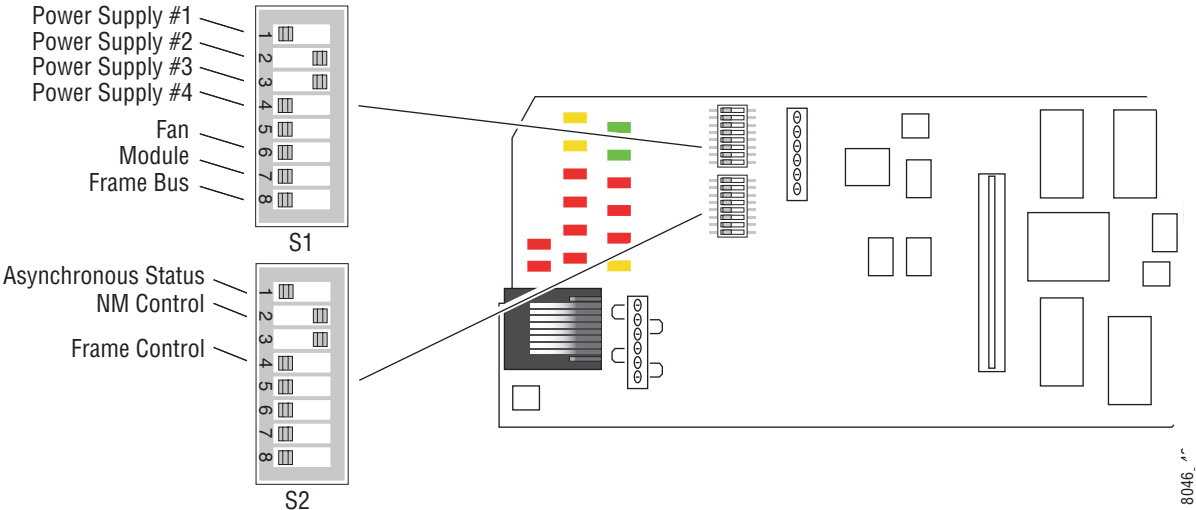


Table 3. Configuration DIP Switches

2000NET S1 and S2 Functions and Settings		
S1 Segment	Left Position (open)	Right Position (closed)
1	PS1 fault reporting enabled	PS1 fault reporting disabled
2	PS2 fault reporting enabled	PS2 fault reporting disabled
3	PS3 fault reporting enabled	PS3 fault reporting disabled
4	PS4 fault reporting enabled	PS4 fault reporting disabled
5	(Currently not used)	
6	Fan fault reporting enabled	Fan fault reporting disabled
7	Module fault reporting enabled	Module fault reporting disabled
8	Frame Bus fault reporting enabled	Frame Bus fault reporting disabled
S2 Segment	Left Position (open)	Right Position (closed)
1	Asynchronous Status Enabled (enabled alarms are reported over SNMP)	SNMP Reporting is disabled except for Over Temp alarm
2	Net module remote control enabled	Net module remote control disabled
3	(Currently not used)	
4	Frame remote control enabled	Frame remote control disabled
5-8	(Currently not used)	

**Note** Disabled faults are still detected by the network GUI but LEDs will be inactive.

Refer to the next section, [Status Reporting Methods](#), for an overview of how status is reported from the 2000 frame, 2000NET and Kameleon and 2000 media modules in the frame.

## Status Reporting Methods

The frame status reporting methods include the following:

- LEDs on the Frame, 2000NET module, and individual frame media modules,
- External Frame Health Alarm output on the rear of the 2000T3 frame,
- Web pages, graphics and text, and
- SNMP traps, captured by NetCentral or another SNMP Manager Application (HyperTerminal).

**Note** SNMP trap information is only available when an SNMP Agent has been installed and configured.

## LEDs

LEDs on the 2000NET module, media modules in the frame, and on the front of the 2000T1 and 2000T3 frames indicate status of the frame and the installed power supplies, fans in the front covers, and modules.

When a red FAULT LED is lit on a frame front cover, the fault will also be reported on the 2000NET module. The LEDs on the front of the module can then be read to determine the following frame and module fault conditions:

- Power Supply 1 and 2 health,
- Fan rotation status,
- Frame over-temperature condition,
- Frame Bus fault (2000NET only), and
- Module health bus.

In general, LED colors used on the frame and modules indicate:

- Green – normal operation, (Pass) or signal present, module locked.
- Red – On continuously = fault condition, flashing = configuration error.
- Yellow – On continuously = active condition (configuration mode or communication), flashing in sequence = module locator function.

Status LEDs for the 2000NET module are shown in [Figure 14 on page 18](#) and described in [Table 2 on page 19](#). LEDs for the Frame Monitor module that comes in the Kameleon 2000 frames are described in the *Kameleon 2000 Frames Instruction Manual*.

## Frame Health Alarm (2000T3 Frame Only)

An external Frame Health Alarm connector is available on pins 8 and 9 of the RS-232 connector on the rear of 2000T3 frame (Frame Monitor or 2000NET Network Interface module required) as described earlier in [Figure 6 on page 11](#).

The Frame Alarm responds directly to the settings of the 2000NET DIP switches described in [Frame Status Reporting on page 20](#) and to the selections made on the [Frame Alarm Reporting Web Page on page 36](#). When any of the fault or warning conditions enabled with the DIP switches or Frame Reporting web page are present, the module responds with a pulsing or continuous voltage level to the Frame Alarm. The type of voltage output is user selectable on the Frame Reporting web page.

Connection and use of the Frame Health Alarm is covered in detail in the *Kameleon 2000 Frames Instruction Manual*.

## Web Browser Interface

When the 2000NET module is installed in the frame, a web browser GUI can indicate frame and module status on the following web pages:

- Frame Status web page – reports overall frame and module status in graphical and text formats. Refer to [Frame Status Web Page on page 30](#) for complete details.
- Module Status web page – shows specific input and reference signal status to the module along with enabled options and module versions.
- A Status LED icon is present on each web page to report communication status for the frame slot and acts as a link to the Status web page where warnings and faults are displayed (2000NET version 3.0 or later).

In general, web page graphics and text colors used indicate the following:

- Green = Pass – signal or reference present, no problems detected.
- Red = Fault – fault condition.
- Yellow = Warning – signal is absent, has errors, or is mis-configured.
- Grey = Not monitored (older 2000 module).
- White = Not present.

Status reporting for the frame is enabled or disabled with the 2000NET module configuration DIP switches (see [2000NET Module Alarm DIP Switches on page 21](#)). Some module status reporting items can also be enabled or disabled on individual configuration web pages.

## SNMP Monitoring

The Thomson Grass Valley Modular Control and Monitoring System uses the Simple Network Monitoring Protocol (SNMP) internet standard for reporting status information to remote monitoring stations. The SNMP reporting from the 2000NET module provides status reports (traps) for various frame and module faults and warnings as described in [Table 4 on page 25](#).

Status reports (traps) are unsolicited reports sent from the SMMP Agent to one or more SNMP Managers such as Thomson Grass Valley's NetCentral. Once an SNMP agent has been installed, the 2000 frame and each module slot can be configured to enable or disable these reports through the Frame SNMP Reporting web page (see [SNMP Reporting Web Page on page 38](#)).

**Note** Two of the DIP switches described in [Table 3](#) must be enabled for corresponding SNMP reporting of the system components (S1 segment 5 and S2 segment 1).



SNMP Trap severity can be one of three degrees:

- Warning – a limitation in the module’s intended performance,
- Alarm – a failure in communication with the module, or
- Informational – a configuration change such as a switch setting.

The enabled SNMP traps will be reported to any SNMP manager that is identified as an SNMP Report Destination in 2000NET configuration (see [2000NET Configuration Web Page on page 46](#). Trap severity is read-only hard-coded information that is interpreted and responded to by the SNMP Manager software configuration.

The SNMP traps available on the Kameleon 2000 frame and modules are outlined in [Table 4](#). The web page location for the enable/disable controls are listed as well as the SNMP trap reports available and their severity.

Table 4. 2000/Kameleon Control System SNMP Traps Summary

SNMP Trap Report	Trap Severity
2000 Frame	
Frame Bus Status	Alarm
Fan Status	Alarm
Frame Over Temperature	Alarm
<b>Power Supplies</b>	
PS 1 Fault	Alarm
PS 2 Fault	Alarm
Sled Removed	Warning
Fan Status	Alarm
<b>Fan Sled</b>	
Fan Sled Removed	Warning
Fan Status	Alarm
<b>2000NET Module</b>	
Net Card Status	Alarm
Hardware Switch	Informational
<b>Media Modules</b>	
Slot Fault	Alarm
Module Removed	Warning
Signal Loss	Warning
Reference Loss	Warning

For the latest MIB (Management Information Base) files for the modular control system, go to the Thomson Grass Valley public ftp site at:

<ftp://ftp.thomsongrassvalley.com/pub/modular/>

## Establishing Frame Network Identity

The initial configuration of the 2000NET module, using the RS-232 port (refer to [Figure 8 on page 13](#)), establishes the frame's network identity to enable the operation of the Web-based GUI. A PC running a terminal emulation application is used to set the initial parameters for network communication. Once initial identity is established, the GUI can be used to make subsequent changes to the networking parameters. Parameters established include:

- Local IP address,
- Gateway IP address, and
- Subnet Mask.

**Note** If the 2000 Kameleon frame is to be connected point-to-point to a single PC workstation, both the frame and the PC must be on the same Subnet.

### Good Networking Practices

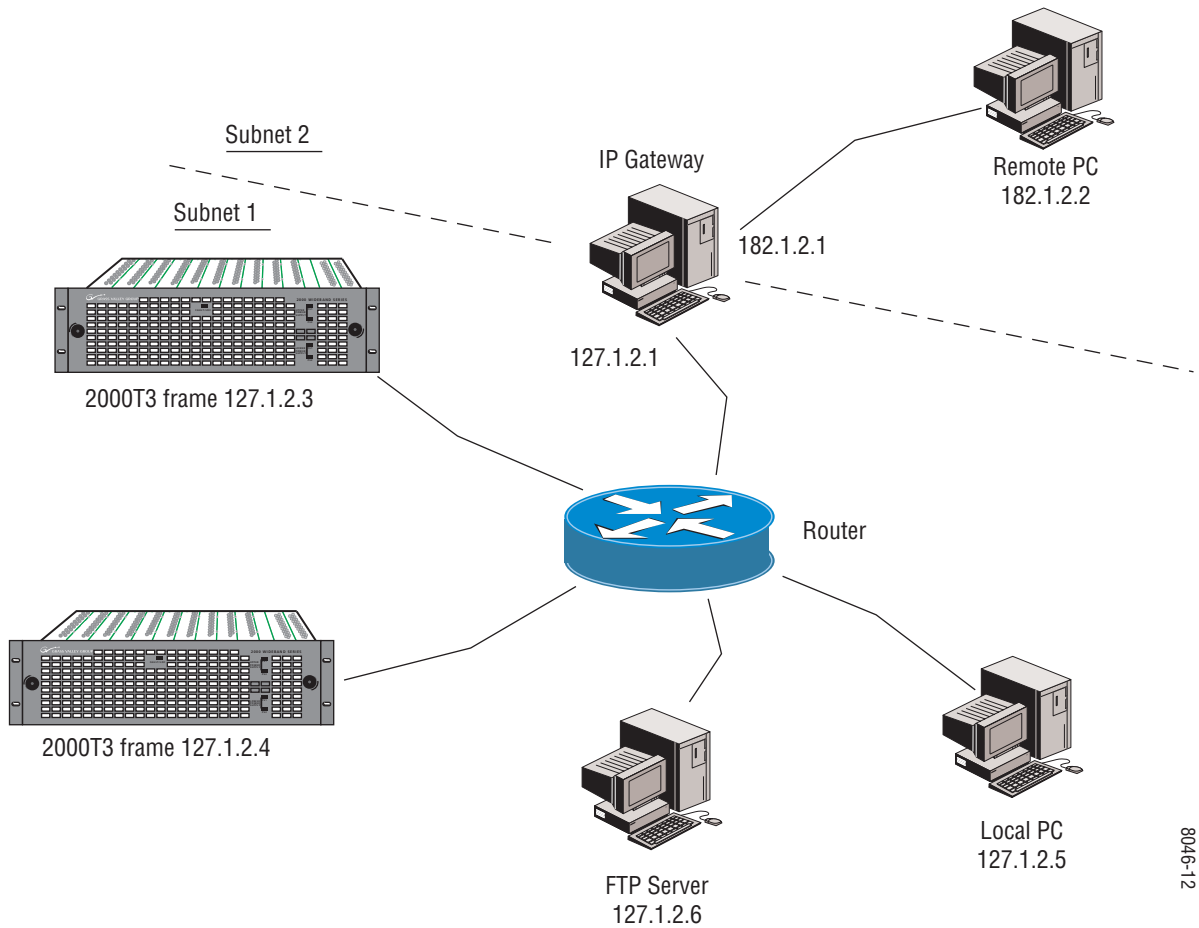
The Local IP Address form of a URL can be used within an intranet to address the 2000 Kameleon frame's Web page. An intranet is set up and maintained within your facility and is isolated from the Internet.

Access from outside, through the Internet, may require the use of a Domain Name and a firewall, depending upon your network architecture. Domain Name Addressing requires a Domain Name Server located within the intranet that maps the Domain Name to the frame's IP Address. The 2000 frame has no knowledge of its assigned Domain Name.

Remote workstations are also subject to network traffic delays. Local PC workstations should be used for real-time operation of the 2000NET.

The most direct and timely access to the frame is achieved by using a PC workstation that is assigned to the same Subnet (see [Figure 16 on page 27](#)). A workstation in a different Subnet, even when located on the same router, will be subject to processing of the IP Gateway.

Figure 16. Local IP and Subnet Addressing



8046-12

## Setting Frame Network Identity

After you have connected the PC to the RS-232 port (refer to [Configuration Serial Port Cable on page 13](#)) and established communication using the terminal emulation application, press the **enter/return** key several times to see the active prompt.

At the prompt enter:

```
setup
```

You will see:

```
-> setup
```

Here are the current parameters and their values:

```
Local IP Address:      192.158.211.83
Gateway IP Address:   192.158.211.1
Subnet Mask:          255.255.255.0
If a change is made, it is necessary to reboot
```

this machine. This will occur automatically when you have completed making changes.

Do you wish to change any of the values? y/n (n): y

For each parameter, you will be given the name of the parameter and its current value in parenthesis. To change it, just type in the new value. If you don't wish to change it, just hit the Enter key.

If you make a mistake on a previous value, continue with the remaining parameters; you will be given an opportunity to modify the value again.

Please ensure that you change from Factory defaults to your network parameters.

The local Ip Address is the Internet address of this machine. It consists of four numbers separated by periods ('.'). Each number can be in the range of 0 to 255. For example: 192.167.221.45  
There must an IP address.

IP Address (192.158.211.83):

The Default Route is the Internet address of the machine which routes network packets outside of the local network. It consists of four numbers separated by periods ('.').

Each number can be in the range of 0 to 255.  
For example: 192.167.221.1  
If you respond with a single period (.), a default route will not be assigned.

Default Route (192.158.211.1):

The Subnet Mask is used in the routing algorithm. The Net Card will use the mask to determine if a address is in local net or to send the message to the default. It consists of four numbers separated by periods ('.').

Each number can be in the range of 0 to 255.  
For example: 192.167.221.1

If you respond with a single period (.), a Subnet Mask will not be assigned.  
Subnet Mask (255.255.255.0):

## Web Browser Setup

The recommended web browser for use with the 2000NET Control and Monitoring System is either:

- Netscape Navigator 4.x or later, or
- Internet Explorer 4.x or later.

**Note** The use of Internet Explorer 4 with Windows NT has been found to be very slow.

Versions 3.x or earlier of these browsers may cause undesirable results in the presentation of HTML frames.

### Addressing the Frame URL

To address a 2000 Kameleon frame from an internet browser, enter the frame's default URL into the URL line of the browser (**LOCATION** in Netscape Navigator, **ADDRESS** in Internet Explorer). The URL will be the IP Address given to the frame during initial setup (see [Setting Frame Network Identity on page 27](#)), or a Domain name that has been mapped to the IP address in your Domain Name Server tables. The URL should look like this:

http://{Frame's IP Address}/

Example:

http://127.123.234.2/

Or:

http://{Frame's Domain Name}/

Example:

http://frame1.xyz.com/

The correctly entered URL will call up the 2000 frame's default first web page—Frame Status.

### Default MAC (machine) Address

Each 2000 Kameleon frame has a unique ethernet physical level MAC address that is stored in the frame ID memory chip. If this memory has failed, the 2000NET module will substitute a default MAC address: 08-00-11-09-CD-AB. If more than one 2000 frame in your network is assigned the default MAC address, network conflicts will occur. To verify the frame has a unique MAC address refer to [2000NET Network Web Page on page 50](#).

## Using the 2000NET GUI

Once you have accessed the 2000 Kameleon frame's first web page, Frame Status (see [Figure 17 on page 32](#) for a 3 RU Frame Status web page or [Figure 18 on page 32](#) for a 1 RU Frame), use the hypertext Link List in the left column to select the desired device.

The Link List is a two-tier list with the frame's devices at the highest tier and sub-pages for each device in a secondary tier (sub-list) below the parent device.

To navigate from device to device, click on a device link. This will open the device's status web page and open the sub-list of device pages. You can also click on the slot icon in the content display to access a particular module's status web page.

To navigate to one of the device's pages click on any of the device's sub-list of links. This will update the content display to the right.

Using the web browser's refresh function will always return you to the Frame Status page. To refresh a particular page, always click on that page's **Refresh** button to the right of the page name.

**Note** To update status, HTML pages must be manually refreshed by clicking on the **Refresh** button. Changes made at the frame or from other browsers on the network will not be displayed until the page is refreshed.

## 2000 Frame Interface

This section describes GUI functions for the Kameleon 2000 frames.

### Frame Status Web Page

Use  
this  
link

- [Status](#)
- [Configuration](#)
- [Connections](#)
- [Frame Alarm Reporting](#)
- [SNMP Reporting](#)
- [Power Supply/Demand](#)

The Frame Status web page ([Figure 17 on page 32](#) for a 3 RU frame and [Figure 18 on page 32](#) for a 1 RU frame) displays an overall status for the frame. This includes status for each device, module, empty slot, power supply, and the 2000NET and 2000GEN modules.

**Note** 2000 and legacy Thomson Grass Valley modules that can reside in the 2000T3 frame are supported to different degrees by the 2000NET module.

The top section reports the following for the frame:

- Model Number,
- Description,
- Frame Location (defined in Frame Configuration),
- Frame Health Alarm status,
- Temperature Status,

- Power and Fan Sled status, and
- Warning messages.

The graphical content display shows:

- Module slot status,
- Power and Fan sleds installed (and empty slots),
- Presence of the 2000NET module (Net Card), and
- A clickable link to each device's status page.

The status of modules, empty slots, power supply and fan sleds, and the 2000NET board are presented in icons arranged from left to right as they are in the physical frame. Each icon also provides a clickable link to the device's status page.

**Note** When the 2000NET is first installed or when many modules are installed simultaneously, it may take some time for the 2000NET to poll, update status, and build the HTML pages. This is especially true if there are modules that fail frame bus reporting. During these periods the Frame Status Page may fall behind temporarily until the 2000NET board can catch up and present a true current status.

During initial polling, modules that do not respond immediately may transition to a **WARNING, MODULE NOT RESPONDING** status. In this case, this is a temporary status until a maximum number of sequential attempts fail and a Fault is reported.

## Module Slot Status

Module Slot Status icons report one of the following:

Table 5. Module Status Indicators

Icon Color	Module Status	Icon Text	Indication
White	None	Empty	No module detected in slot.
Grey	No Comm	No Comm	Slot contains a legacy module which was not designed to support Frame Bus communications with an 2000NET module.
Green	Pass	Module	Slot contains a fully Frame Bus capable module.
Yellow	Warning	Module	2000NET has detected a warning condition in module due to lack of input signal or incomplete support for remote monitoring and control. Ability of module to perform intended operation is limited.
Red	Fault	Module	2000NET has detected a fault condition in module. Fault may have been communicated over the Frame Bus, or may indicate a failure of the module to respond over the Frame Bus.

Figure 17. 2000NET GUI for 3 RU Frame Control

The Links section lists the frame and its current modules. The selected link's Status page is first displayed and the sub-list of links for the selection is opened. The sub-list allows you to select a particular information page for the selected device.

Content display section displays the information page for the selected frame or module (frame slot icons are also active links).

Refresh button for manual refresh of page

**Status**

Model: 2000T3N Description: Module Frame  
 Frame Location: Modular Lab - Bay 8  
 Frame Health Alarm **PASS** Temperature Status **PASS**  
 Power Status **PASS** Fan Status **PASS**

Media Module	Net Card	Media Module	Power Sled
Media Module		Media Module	
Empty	Empty	Empty	Empty
Empty		Empty	
Empty		Empty	Empty
Empty		Media Module	

**Properties**  
 Vendor Thomson, Grass Valley Software Version 4.0.0  
 Media Slots 13

8046\_13/3

Figure 18. 2000NET GUI for 1 RU Frame Control

**Status**

Model: 2000T1N Description: Module Frame  
 Frame Location: not assigned  
 Frame Health Alarm **PASS** Temperature Status **Pass**  
 Fan Status **PASS**

Media Module	Net Card	Media Module	Power Sled
Media Module	Aux Card	Media Module	

**Properties**  
 Vendor Thomson, Grass Valley Software Version 4.0.0  
 Media Slots 5



## Frame Configuration Web Page

Use  
this  
link

- [Status](#)
- [Configuration](#)
- [Connections](#)
- [Frame Alarm Reporting](#)
- [SNMP Reporting](#)
- [Power Supply/Demand](#)

Use the Frame Configuration web page shown in [Figure 19 on page 34](#) to:

- Activate the **Locate Frame** function,
- Save or recall a frame configuration to a default file,
- Assign the frame a name, index number, and location, and
- Link to the Frame Alarm Reporting (2000T3 frame only) and SNMP Trap Reports web pages.

### Locate Frame

Select the **Flash** radio button in the **Locate Frame** function to flash the Frame Status LED green (visible through the front cover) on the 2000NET module for a 50 ms on then 50 ms off duty cycle ([Figure 14 on page 18](#)) to help locate the 2000 frame.

### Save/Load Frame Configuration File

You may save a frame configuration to a file by clicking on the **Save To** button. A frame configuration is saved to a default file (FrameConfig-Data.mcm) and the name cannot currently be changed. Follow the file download instructions for saving the file. This file can be recalled on this or any other networked 2000 frame of the same frame type (2000T3 to 2000T3 or 2000T1 to 2000T1) to create a duplicate configuration.

**Note**      Uploading a FrameConfigData.mcm file from a T1 to a T3 frame yields unexpected results.

Use the **Browse** button to locate a saved frame configuration file or enter a path and file name into the display. Select the **Load** button to load the selected configuration to the frame.

### Frame Identification

Enter any name, an index number (for SNMP reporting), and a location name to identify a frame. You may also use the factory default frame name or location by selecting either **Default** button.

### Frame Health Reports

(2000T3 frame only) A link is provided to the frame health reports on the Frame Alarm Reporting web page (see [Frame Alarm Reporting Web Page on page 36](#)).

### Frame SNMP Trap Reports

A link is provided to the Frame SNMP trap reports on the SNMP Reporting web page (see [SNMP Reporting Web Page on page 38](#)).

Figure 19. 2000 Frame Configuration Web Page

### Configuration

Model: [2000T3N](#) Description: [Module Frame](#)

Frame Location: [Mod Lab - Bay 2 QA](#)

### Locate Frame

Flash  Off

### Save/Load Frame Configuration File

Save to...

Enter filename:

Browse...

Load

### Frame Identification

Frame Name:

Default

Frame Index:

Frame Location:

Default

2000T3 frame only

[Frame Health Reports](#)

[SNMP Trap Reports](#)

## Frame Connections Web Page

Use this link — [Status](#)  
[Configuration](#)  
[Connections](#)  
[Frame Alarm Reporting](#)  
[SNMP Reporting](#)  
[Power Supply/Demand](#)

Selecting the Connections link will bring up the Connections web page shown in [Figure 20](#). This page provides a summary of the type and IP Address of any Newton software or hardware panel or other control panel communicating with any module in the frame.

When no control panels are communicating with modules in the frame, the display will report **No Connections**.

Figure 20. 2000 Frame Connections Web Page

### Connections

Model: [2000T3N](#) Description: [Module Frame](#)

Frame Location: [Modular Lab](#)

#### Control Panel Connections

Type	IP Address
<a href="#">NEWTON</a>	<a href="#">10.16.23.40</a>
<a href="#">NEWTON</a>	<a href="#">10.16.18.96</a>
<a href="#">NEWTON</a>	<a href="#">10.16.23.41</a>
<a href="#">NEWTON</a>	<a href="#">10.16.18.78</a>
<a href="#">NEWTON</a>	<a href="#">10.16.18.98</a>

## Frame Alarm Reporting Web Page

Use  
this  
link

[Status](#)  
[Configuration](#)  
[Connections](#)  
[Frame Alarm Reporting](#)  
[SNMP Reporting](#)  
[Power Supply/Demand](#)

(2000T3 frame only.) Selecting the Frame Alarm Reporting link from the Frame link list or the Frame Health Reports link from the Frame Configuration, Frame Power Supply Status, Frame Fan Sled Status, any Media module Slot Config, or the 2000NET Configuration web page will bring up the web page shown in [Figure 21 on page 37](#). This page provides a summary of the various alarms and warning reports that can be enabled and sent to the external RS-232 Frame Health Alarm connector on the rear of the frame (see [Frame Health Alarm Connection on page 12](#)).

The Frame Alarm Reporting web page allows configuration of the alarms and warnings that are reported to the external Frame Health Alarm connector on the rear of the 2000T3 frame.

**Note** This page is only present on the 2000T3 frame. The 2000T1 frame does not have an external Frame Health alarm.

This web page contains the following sections:

- **Hardware Switch Status** – the Hardware Switch Status section of this web page displays the current settings of the alarm and warning configuration DIP switches, S1 and S2, on the 2000NET circuit board in this frame (see [2000NET Module Alarm DIP Switches on page 21](#)). These switches allow enabling and disabling of what overall status reporting information is provided to the external Frame Alarm.
- **Output Format for Warnings** – set the Output Format for Warnings on the external RS-232 Frame Alarm output on the rear of the 2000T3 frame. When the **Open** radio button is selected, warnings are not reported to the external frame alarm. Selecting the **Closed** radio button, causes warnings to be reported in the same manner as alarms.
- **Frame Health Reporting** – this section provides a table showing the presence and slot status of all frame devices such as modules, power supplies, and fans and other frame functions such as Module Health and Frame Bus status. Module slot status is indicated by color in the same manner as the Status web page (see [Module Slot Status on page 31](#)).

Use the corresponding **Report** checkboxes to indicate which alarms and warnings should be reported to the Frame Health alarm for the following conditions:

- Faults
- Signal Loss
- Reference Loss
- Config Error

You may also use the **Set Defaults**, **Set All** or **Clear All** buttons.

Figure 21. Frame Alarm Reporting Web Page

**Frame Alarm Reporting** 

Model: 2000T3N Description: Module Frame

Frame Location: Modular Lab

**Hardware Switch Status**

	HW Switch		HW Switch
PS1 Status Reporting	Enabled	PS2 Status Reporting	Enabled
PS3 Status Reporting	Enabled	PS4 Status Reporting	Enabled
Asynchronous Status Reporting	Enabled	Fan Fault Reporting	Enabled
Module Status Reporting	Enabled	Frame Bus Fault Reporting	Enabled
Frame Remote Control	Enabled	Net Card Remote Control	Enabled

Output Format for Warnings  Open  Closed

**Frame Health Reporting**

Slot	Name	Fault	Signal Loss	Reference Loss	Config Error
	SEVERITY	ALARM	WARNING	WARNING	WARNING
1	Media Slot 1	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
2	KAM-XM-UDC	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
3	Media Slot 3	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
4	Media Slot 4	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
5	KAM-HDD-FS	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
6	Media Slot 6	<input checked="" type="checkbox"/> Report	<input type="checkbox"/> Report	<input type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
7	Media Slot 7	<input checked="" type="checkbox"/> Report	<input type="checkbox"/> Report	<input type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
8	HD-FS-8	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
9	Media Slot 9	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
10	HD-FS-10	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
11	Media Slot 11	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
12	Media Slot 12	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
13	2000NET	<input checked="" type="checkbox"/> Report	-	-	-
15	2000GEN	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
18	PS1	<input checked="" type="checkbox"/> Report	-	-	-
	PS2	<input checked="" type="checkbox"/> Report	-	-	-
20	PS3	<input checked="" type="checkbox"/> Report	-	-	-
	PS4	<input checked="" type="checkbox"/> Report	-	-	-
	Frame Bus Status	<input checked="" type="checkbox"/> Report	-	-	-
	Fan Status	<input checked="" type="checkbox"/> Report	-	-	-
	Set Defaults	Set All Clear All	Set All Clear All	Set All Clear All	Set All Clear All

## SNMP Reporting Web Page

Use  
this  
link

[Status](#)  
[Configuration](#)  
[Connections](#)  
[Frame Alarm Reporting](#)  
[SNMP Reporting](#)  
[Power Supply/Demand](#)

Select the SNMP Reporting link to open the 2000NET SNMP Reporting web page (Figure 22 on page 39 for the 2000T3 frame and Figure 23 on page 40 for the 2000T1 frame). This link will only be present when SNMP Agent software has been installed on the 2000NET module. This web page allows configuration of what alarms and warnings are reported to the SNMP management software.

- **Trap Destinations Link** – this link will take you to the 2000NET Configuration web page (*2000NET Configuration Web Page on page 46*) where SNMP Trap Destinations are configured.
- **Hardware Switch Status** – the Hardware Switch Status section of this web page displays the current settings of the alarm and warning configuration DIP switches, S1 and S2, on the 2000NET circuit board in this frame. These switches allow enabling and disabling of what overall status reporting information is provided to the SNMP traps.

**Note** Slot SNMP traps can be enabled only when the hardware switches for Module Fault reporting and Asynchronous Status reporting are in enabled on the 2000NET module (DIP switch S1 segment 7 and DIP switch S2 segment 1).

- **SNMP Trap Reporting** – this section provides a table showing the presence and/or status of all frame devices such as modules, power supplies, power and fan sleds and other frame functions such as fan and Frame Bus status. Device status is shown by color in the same manner as the Status web page (see *Module Slot Status on page 31*).

Use the corresponding **Report** checkboxes to indicate what trap warnings and alarms should be reported to the SNMP manager for the following conditions:

- Faults
- Devices removed
- Signal Loss
- Reference Loss
- Config Error (such as the wrong rear module)

You may also use the **Set Defaults**, **Set All** or **Clear All** buttons at the bottom of the page.

The enabled SNMP traps will be reported to any SNMP manager that is identified as an SNMP Report Destination in 2000NET configuration. Trap severity is read-only hard-coded information that is interpreted and responded to by the SNMP Manager software configuration.

Figure 22. SNMP Reporting Web Page – 2000T3 Frame

**SNMP Reporting** 

Model: [2000T3N](#) Description: [Module Frame](#)

Frame Location: [Modular Lab](#)

[Trap Destinations](#)

**Hardware Switch Status**

	HW Switch		HW Switch
PS1 Status Reporting	<a href="#">Enabled</a>	PS2 Status Reporting	<a href="#">Enabled</a>
PS3 Status Reporting	<a href="#">Enabled</a>	PS4 Status Reporting	<a href="#">Enabled</a>
Asynchronous Status Reporting	<a href="#">Enabled</a>	Fan Fault Reporting	<a href="#">Enabled</a>
Module Status Reporting	<a href="#">Enabled</a>	Frame Bus Fault Reporting	<a href="#">Enabled</a>
Frame Remote Control	<a href="#">Enabled</a>	Net Card Remote Control	<a href="#">Enabled</a>

**SNMP Trap Reporting**

Slot	Name	Fault	Removed	Signal Loss	Reference Loss	Config Error
	SEVERITY	<a href="#">ALARM</a>	<a href="#">WARNING</a>	<a href="#">WARNING</a>	<a href="#">WARNING</a>	<a href="#">WARNING</a>
1	Media Slot 1	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
2	<a href="#">KAM-XM-UDC</a>	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
3	Media Slot 3	<input checked="" type="checkbox"/> Report	<input type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
4	Media Slot 4	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
5	<a href="#">KAM-HDD-FS</a>	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
6	Media Slot 6	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
7	Media Slot 7	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
8	HD-FS-8	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
9	Media Slot 9	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
10	HD-FS-10	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
11	Media Slot 11	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
12	Media Slot 12	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
13	<a href="#">2000NET Hw Switch</a>	<input type="checkbox"/> Report	-	-	-	-
		-	<input type="checkbox"/> Report	-	-	-
15	<a href="#">2000GEN</a>	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
18	<a href="#">Power Sled 18 PS1 PS2</a>	-	<input checked="" type="checkbox"/> Report	-	-	-
		<input checked="" type="checkbox"/> Report	-	-	-	-
		<input checked="" type="checkbox"/> Report	-	-	-	-
19	Fan Sled 19	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	-	-	-
20	Power Sled 20 PS3 PS4	-	<input checked="" type="checkbox"/> Report	-	-	-
		<input checked="" type="checkbox"/> Report	-	-	-	-
		<input checked="" type="checkbox"/> Report	-	-	-	-
	<a href="#">Frame Bus Status</a>	<input checked="" type="checkbox"/> Report	-	-	-	-
	<a href="#">Fan Status</a>	<input checked="" type="checkbox"/> Report	-	-	-	-
	<input type="button" value="Set Defaults"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>

Figure 23. SNMP Reporting Web Page – 2000T1 Frame

**SNMP Reporting** 

Model: [2000T1N](#) Description: [Module Frame](#)

Frame Location: [not assigned](#)

[Trap Destinations](#)

**Hardware Switch Status**

	HW Switch		HW Switch
PS1 Status Reporting	<a href="#">Enabled</a>	PS2 Status Reporting	<a href="#">Enabled</a>
Asynchronous Status Reporting	<a href="#">Enabled</a>	Fan Fault Reporting	<a href="#">Enabled</a>
Module Status Reporting	<a href="#">Enabled</a>	Frame Bus Fault Reporting	<a href="#">Enabled</a>
Frame Remote Control	<a href="#">Enabled</a>	Net Card Remote Control	<a href="#">Enabled</a>

**SNMP Trap Reporting**

Slot	Name	Fault	Removed	Signal Loss	Reference Loss	Config Error
	SEVERITY	<a href="#">ALARM</a>	<a href="#">WARNING</a>	<a href="#">WARNING</a>	<a href="#">WARNING</a>	<a href="#">WARNING</a>
1	<b>KAM</b>	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
2	Media Slot 2	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
3	Media Slot 3	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
4	Media Slot 4	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
5	<b>2000NET Hw Switch</b>	<input checked="" type="checkbox"/> Report	-	-	-	-
		-	<input checked="" type="checkbox"/> Report	-	-	-
6	<b>2000GEN</b>	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report	<input checked="" type="checkbox"/> Report
7	<b>Power Sled PS1 PS2</b>	-	-	-	-	-
		<input checked="" type="checkbox"/> Report	-	-	-	-
	<b>Frame Bus Status</b>	<input checked="" type="checkbox"/> Report	-	-	-	-
	<b>Fan Status</b>	<input checked="" type="checkbox"/> Report	-	-	-	-
	<input type="button" value="Set Defaults"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>	<input type="button" value="Set All"/> <input type="button" value="Clear All"/>



## Power Supply/Demand Web Page

Use  
this  
link \

- [Status](#)
- [Configuration](#)
- [Connections](#)
- [Frame Alarm Reporting](#)
- [SNMP Reporting](#)
- [Power Supply/Demand](#)

The Power Supply/Demand web page (Figure 24 for the 2000T3 frame and Figure 25 on page 42) provides a Power table listing each of the media modules present in the frame and their power demand. The total amount of power demand is totaled at the bottom of the display. If total capacity for the frame is exceeded, a warning will be generated stating: Warning – Power Demand Exceeds Supply on the Frame Status web page (see *Frame Status Web Page* on page 30).

Figure 24. Power Supply/Demand Web Page – 2000T3 Frame

### Power Supply/Demand

Model: [2000T3N](#) Description: [Module Frame](#)

Frame Location: [Modular Lab](#)

Power Status: [PASS](#)

#### Power

Slot	Device	Demand*	Capacity**
1	Media Slot 1	0.0 Watts	
2	KAM-XM-UDC	27.0 Watts	
3	Media Slot 3	0.0 Watts	
4	Media Slot 4	0.0 Watts	
5	KAM-HDD-FS	22.0 Watts	
6	Media Slot 6	5.5 Watts	
7	Media Slot 7	5.5 Watts	
8	HD-FS-8	0.0 Watts	
9	Media Slot 9	5.5 Watts	
10	HD-FS-10	0.0 Watts	
11	Media Slot 11	0.0 Watts	
12	Media Slot 12	0.0 Watts	
13	2000NET	5.0 Watts	
15	2000GEN	5.0 Watts	
18	Power Sled 18	4.6 Watts	
19	Fan Sled 19	0.0 Watts	
20	Power Sled 20	0.0 Watts	
	<b>TOTAL Demand</b>	80.1 Watts	
	<b>TOTAL Capacity</b>		165.0 Watts

\* Worst Case Power Demand

\*\* A function of power supplied and capacity to dissipate heat

Figure 25. Power Supply/Demand Web Page – 2000T1 Frame

**Power Supply/Demand** 

Model: [2000T1N](#) Description: [Module Frame](#)

Frame Location: [not assigned](#)

Power Status: [PASS](#)

**Power**

Slot	Device	Demand*	Capacity**
1	KAM	18.0 Watts	
2	Media Slot 2	5.5 Watts	
3	Media Slot 3	0.0 Watts	
4	Media Slot 4	0.0 Watts	
5	2000NET	5.0 Watts	
6	2000GEN	5.0 Watts	
7	Power Sled	4.6 Watts	
	<b>TOTAL Demand</b>	38.1 Watts	
	<b>TOTAL Capacity</b>		95.0 Watts

\* Worst Case Power Demand

\*\* A function of power supplied and capacity to dissipate heat

### Frame Power Sled Web Pages

Use these links

- [18 Power Sled 18 Status](#)
- [19 Fan Sled 19](#)
- [20 Power Sled 20](#)

The frame power supply sled Status web pages for power supply sleds in Slots 18 and/or 20 provide:

- Power supply status – pass/fail status of each supply and fan in the power supply sled (see [Figure 26](#)).
- (2000T3 only) A Frame Health Reports link (see the [Frame Alarm Reporting Web Page on page 36](#)), and
- An SNMP Trap Reports link (see the [SNMP Reporting Web Page on page 38](#)).

Figure 26. Power Supply Status Web Page



Model: [2000PS](#) Description: [Power/Fan Sled](#)

Frame Location: [Modular Lab](#) , Slot: [18](#)

Sled Slot Status [PASS](#)

Power Supply 1 State [PASS](#)

Power Supply 2 State [PASS](#)

Fan 1 State [PASS](#)

Fan 2 State [PASS](#)

2000T3 frame only

[Frame Health Reports](#)

[SNMP Trap Reports](#)

## Frame Fan Sled Web Pages

Use this link  
[18 Power Sled 18](#)  
[19 Fan Sled 19](#)  
[20 Power Sled 20](#)

The fan sled Status web page provides:

- Fan sled status – pass/fail status of each fan in the fan sled (see [Figure 27](#)), and
- (2000T3 frame only) A [Frame Health Reports](#) link (see the [Frame Alarm Reporting Web Page on page 36](#)), and
- An [SNMP Trap Reports](#) link (see the [SNMP Reporting Web Page on page 38](#)).

Figure 27. Fan Sled Status Web Page



Model: [2000FAN](#) Description: [Fan Sled](#)  
Frame Location: [Mod Lab - Bay 2 QA](#) , Slot: [19](#)  
Sled Slot Status [PASS](#)  
Fan 1 State [PASS](#)  
Fan 2 State [PASS](#)

2000T3 frame only

[Frame Health Reports](#)

[SNMP Trap Reports](#)

## 2000NET Module Interface

This section describes GUI functions for the 2000NET module.

### 2000NET Status Web Page

Use this link — [13 2000NET](#)  
[Status](#)  
[Configuration](#)  
[Network](#)  
[Software Update](#)

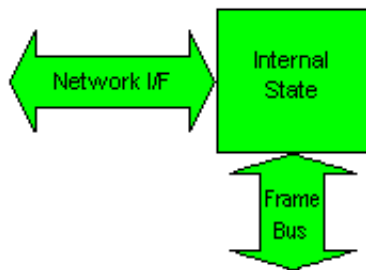
The 2000NET Status web page (Figure 28) provides:

- Module identity, frame location, and pass/fail status of module,
- Status icons reporting network interface, internal module state, and frame communications bus health (see Table 5 on page 31),
- Hardware and software versions, module identification numbers, and assigned Asset Tag number, and
- Current status of fault reporting enable switches. Refer to *2000NET Module Alarm DIP Switches* on page 21.

Figure 28. 2000NET Module Status Web Page



Model: [2000NET](#) Description: [Network Interface Module](#)  
 Frame Location: [Modular Lab](#) , Slot: [13](#)  
 Net Card Status: [PASS](#)



#### Properties

Hardware Revision [01A1](#)      Serial Number [FP00370097](#)  
 Software Version [4.0.0](#)      Part Number [671-5231-01A1](#)  
 Asset Tag

#### Hardware Switches

PS1 Status Reporting	<a href="#">Enabled</a>	PS2 Status Reporting	<a href="#">Enabled</a>
PS3 Status Reporting	<a href="#">Enabled</a>	PS4 Status Reporting	<a href="#">Enabled</a>
Fan Fault Reporting	<a href="#">Enabled</a>	Module Status Reporting	<a href="#">Enabled</a>
Frame Bus Fault Reporting	<a href="#">Enabled</a>	Asynchronous Status Reporting	<a href="#">Enabled</a>
Net Card Remote Control	<a href="#">Enabled</a>	Frame Remote Control	<a href="#">Enabled</a>

## 2000NET Configuration Web Page

Use  
this  
link

- [13 2000NET](#)
- [Status](#)
- [Configuration](#)
- [Network](#)
- [Software Update](#)

The 2000NET Configuration web page provides the following:

- A **reboot** button,
- SNMP Agent setup installation,
- An Asset Tag identifier field,
- (2000T3 frame only) A Frame Health Reports link, and
- An SNMP Trap Reports link.

### Reboot Module

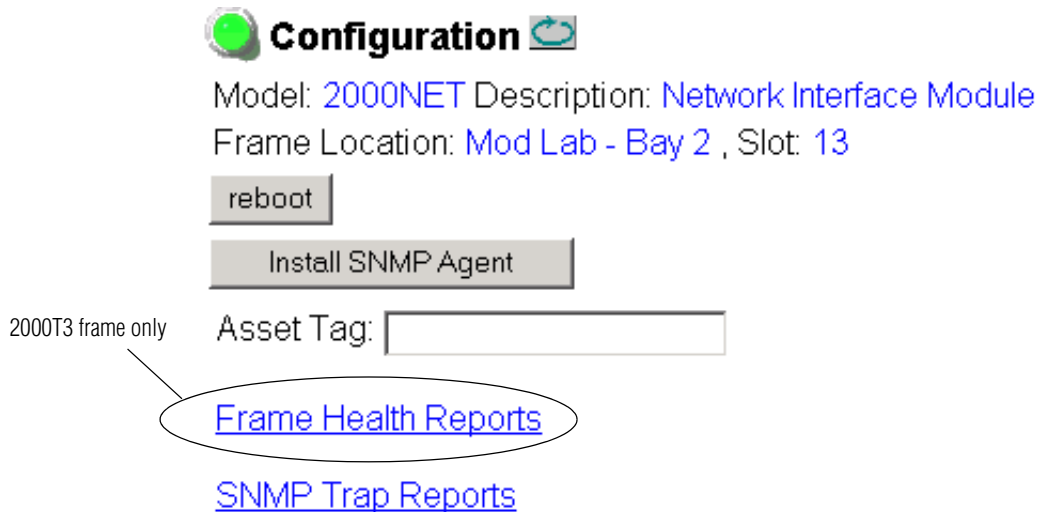
You may reboot the 2000NET module by selecting the **reboot** button at the top of the page. A reboot can also be done on the 2000NET Network web page.

### SNMP Agent Installation

To use SNMP, the SNMP Agent software must be installed on the 2000NET module. The 2000NET Configuration web page shown in [Figure 29](#) is displayed if the agent software has not already been installed.

When SNMP Agent software is installed on the 2000NET module, enabled status reports are sent to an SNMP Manager such as the Grass Valley's Net-Central application. Refer to [SNMP Monitoring on page 24](#) for more information.

Figure 29. 2000NET Configuration Web Page



After reading the agreement, click on **Accept** to finish installing the SNMP Agent (Figure 30). Clicking the **Decline** button will abort the SNMP Agent installation.

Figure 30. Installing the SNMP Agent

All questions regarding the Agreement or the licenses granted herein should be directed to Contract Administration, Grass Valley Group, Inc., P.O. Box 59900, Nevada City, California 95959-7900.

\*070952001\*



When the SNMP Agent is successfully installed, the 2000NET Configuration web page will contain the setup items shown in Figure 31 on page 48.

### SNMP Report Activation Modes

Each report destination has an activation control that can select one of the following modes of operation:

- **CREATE – GO** creates a new report destination that becomes active after the next module reboot.
- **CREATE – WAIT** creates a new report destination that remains out of service until the user selects active and then reboots the module.
- **ACTIVE** changes a **NOT IN SERVICE** report destination to active after the next module reboot.
- **NOT IN SERVICE** changes an active report destination to inactive after the next module reboot.
- **DELETE** removes the report destination entry. If the entry was active it remains active until the next module reboot.

**Note** Report destination status does not change until the 2000NET module is rebooted.

Figure 31. 2000NET Module Configuration for SNMP

2000T3 frame only

**Configuration**

Model: 2000NET Description: Network Interface Module  
 Frame Location: Modular Lab , Slot: 13

Asset Tag:

[Frame Health Reports](#)

[SNMP Trap Reports](#)

**SNMP Trap Destinations**

IP Address	Community Name	Status	Operation
<input type="text" value="192.168.42.189"/>	<input type="text" value="public"/>	Active	<input type="button" value="v"/>
<input type="text" value="10.16.6.4"/>	<input type="text" value="public"/>	Active	<input type="button" value="v"/>
<input type="text" value="10.16.23.28"/>	<input type="text" value="public"/>	Active	<input type="button" value="v"/>
<input type="text" value="10.16.23.55"/>	<input type="text" value="public"/>	Active	<input type="button" value="v"/>
<input type="text" value="10.16.18.62"/>	<input type="text" value="public"/>	Active	<input type="button" value="v"/>

The status column to the left of the activation operation pull-down window provides one of the following status reports:

- **<BLANK>** – No entry has been applied.
- **ACTIVE** – All new status reports will be sent to this destination.
- **NOT IN SERVICE** – The destination has a valid definition but the user has not activated it.
- **ACTIVE PENDING REBOOT** – This entry indicates the report destination will become active upon the next module reboot.
- **NOT IN SERVICE PENDING REBOOT** – This entry indicates the report destination will become inactive upon the next module reboot.
- **NOT READY** – The destination entry is invalid. The IP Address may not be properly defined or there is no IP Address or Community entry.



### **Assign Asset Tag**

The 2000NET module can be assigned as asset tag identifier by entering numbers or text in the Asset Tag field. This information will appear on the Status web page and in the module inventory when using the NetConfig Network Configuration application.

### **Frame Health Reports**

(2000T3 frame only) A link is provided to the frame health reports on the Frame Alarm Reporting web page for (see [Frame Alarm Reporting Web Page on page 36](#)).

### **Frame SNMP Trap Reports**

A link is provided to the Frame SNMP trap reports on the SNMP Reporting web page (see [SNMP Reporting Web Page on page 38](#)).

## 2000NET Network Web Page

Use this link

- [13 2000NET](#)
- [Status](#)
- [Configuration](#)
- [Network](#)
- [Software Update](#)

After initial frame network addressing is done using the RS-232 port, subsequent address changes may be made using the Network Parameter entry fields on the 2000NET Network web page illustrated in [Figure 32](#).

The 2000NET module must be rebooted before changes will take effect. You can reboot the module from the Network web page by clicking the **reboot** button. The **reboot** button can also be found on the Configuration web page.

Figure 32. Configuring the 2000 Network

The screenshot shows the 'Network' configuration page for a 2000NET module. At the top, there is a green circular icon with a refresh symbol next to the word 'Network'. Below this, the following information is displayed: Model: 2000NET, Description: Network Interface Module, Frame Location: Modular Lab, Slot: 13. A blue link reads 'Reboot the Net Card for any changes to take effect'. A grey 'reboot' button is positioned below the link. The MAC Address is shown as 00-B0-09-00-60-6A. A section titled 'Network Parameters' contains three input fields: IP Address (10.16.18.62), SubNet Mask (255.255.248.0), and Gateway IP Address (10.16.16.1). Annotations with arrows point to the 'reboot' button and the 'Network Parameters' section.

Frame Machine Address

reboot

MAC Address: 00-B0-09-00-60-6A

Enter and Apply Network Parameters

**Network Parameters**

IP Address:	10.16.18.62
SubNet Mask:	255.255.248.0
Gateway IP Address:	10.16.16.1

**Note** SubNet Mask and Gateway IP Address are required.

## Media Module Slot Configuration

Use  
this  
link

- [2 Media Slot 2](#)
- [Status](#)
- [Slot Config](#)
- [Software Update](#)

The 2000NET module also provides the functions for the Slot Config web page for each media module in the frame (Figure 33 on page 52). Media module slots may be named to reflect specific functions for that slot or module within the facility. The configuration for the module can also be saved to slot memory on the 2000NET module.

**Note** Both frame and module names and configuration information can be saved to file and recalled as necessary. This allows quick and easy reconfiguration of the 2000NET module if it must be replaced or moved to another frame (see [Frame Configuration Web Page on page 33](#)).

- **Slot Identification** – the module may be identified by typing a specific name in the **Name** field. The assigned name is stored on the 2000NET module and travels with the 2000NET module if it is moved to another frame. Select **Default** to enter the factory default module name.

The module may also be assigned an asset tag identifier by entering text or numbers into the **Asset Tag** field.

**Note** Asset tag functionality not available on all 2000 media modules.

- **Locate Module** – when enabled by selecting the **Flash** pulldown, the **Locate Module** function flashes the yellow COMM and CONF LEDs to make it easy to locate the module in the frame.

**Note** This function is not available on all Kameleon and 2000 modules and may operate differently on some modules (only the COMM LED will flash).

- **Slot Memory** – the slot configuration for each media module is automatically saved periodically to the 2000NET module in that frame. You may also select the **Learn Module Config** button at any time to save the current configuration for this slot. The configuration is saved on the 2000NET module. If the 2000NET module is removed or powered down, the stored configurations are not saved.

When the **Restore upon Install** box has been checked, the current configuration saved to this slot is saved as slot memory. When the current module is removed and another module of the same type is installed, the configuration saved to the 2000NET module will be downloaded to the new module. The box must be checked before the current module with the saved configuration is removed.

If a different type of module is installed in this slot, a warning message will state that the original module type has been replaced with another module type. In this case, a **Clear** button will appear allowing you to clear the stored configuration from the previous module.

- (2000T3 frame only) A **Frame Health Reports** link is provided to the Frame Alarm Reporting web page for setting up frame health reporting for this media module (see the [Frame Alarm Reporting Web Page on page 36](#)).
- An **SNMP Trap Reports** link is provided to the SNMP Reporting web page for setting up SNMP Trap Reporting for this media module (see the [SNMP Reporting Web Page on page 38](#)).

Figure 33. Media Module Slot Configuration Web Page

## Slot Config

Model: [KAM-HDD](#) Description: [HD/SD w/ Monitoring Down Cnvrtr](#)

Frame Location: [Mod Lab - Bay 2 QA](#) , Slot: 11

### Locate Module



### Slot Identification

Name:

Asset Tag:

### Slot Memory

[Warning KAM-HDD-FS has been replaced with KAM-HDD in this slot!](#)

Restore upon Install

2000T3  
frame only

[Frame Health Reports](#)

[SNMP Trap Reports](#)

## Updating Software

There are currently three ways of updating software on Kameleon and 2000 series media modules depending on the type of module and its current software version.

- 2000NET (version 3.2.0 and later), Kameleon, and some applicable 2000 modules may be updated using the NetConfig Networking Application option available with modular and other Grass Valley products. Refer to [NetConfig Method Overview on page 54](#).
- Older version (2.1.2 and earlier) 2000NET modules must be updated using the FTP download method described in [2000NET Software Update From FTP Server on page 75](#).
- Some 2000 series media modules are not upgradeable with either of the above methods and require a special cable kit as described in [Unsupported Software Updates on page 87](#).

## Acquiring Software Updates

Software upgrade packages are available from the Grass Valley Customer Service FAQ site or the public FTP site.

You may connect to the Grass Valley FAQ site to access the latest module and free NetConfig software and subscribe to software updates automatically at the following URL:

`http://gvg.custhelp.com`

The information provided here is the most up-to-date. Using this link is recommended so that when new versions of software are released, you are notified by E-mail. It also provides information on module software updating, including a list of the modules that do not support remote upgrades.

To find the latest available 2000 software on the FAQ site, do the following:

1. Navigate to the FAQ site and click on the first FAQ in the list labeled **DOWNLOAD THE LATEST SOFTWARE?**
2. Select the link to the correct module software.

If you cannot find the software you need you may also go directly to the Thomson Grass Valley ftp site to download the software at the following location:

`ftp://ftp.thomsongrassvalley.com/pub/modular`

## NetConfig Method Overview

To use this method, your 2000NET module must be running software version 3.2.0 or later and you must have the NetConfig Networking Application option running on a networked PC on the same subnet as the frame with the 2000NET module. This procedure uses NetConfig version 2.0.6.

2000 and Kameleon media modules that can be updated with NetConfig are listed on the Customer Service web site.

Two files are required for updating software with NetConfig, the .fld and the .sw2 for the module being updated. For acquiring software, refer to [Acquiring Software Updates on page 53](#).

To use NetConfig for software updating, follow the steps below:

1. Locate the PC directory in which the NetConfig application has been installed. The default location is C:\Program Files\Grass Valley Group\NetConfig.

If this is not where NetConfig was installed, right-click on the NetConfig desktop shortcut and select **Properties**, click on the **Shortcut** tab and note the location of the installation in the **Start In** field.

2. Copy the .sw2 file for the module update into the main NetConfig directory.
3. Create a subdirectory named **modular** (if one does not already exist) in the main NetConfig directory.
4. Copy the .fld file for the update into this **modular** subdirectory in the NetConfig directory.



5. Open NetConfig and click on the **Load SW** icon on the top toolbar (shown at left).
6. The NetConfig Update Devices window will open showing the software files available in two directories, **modular** and **Misc** ([Figure 34 on page 55](#)). This will be different on older versions of NetConfig.

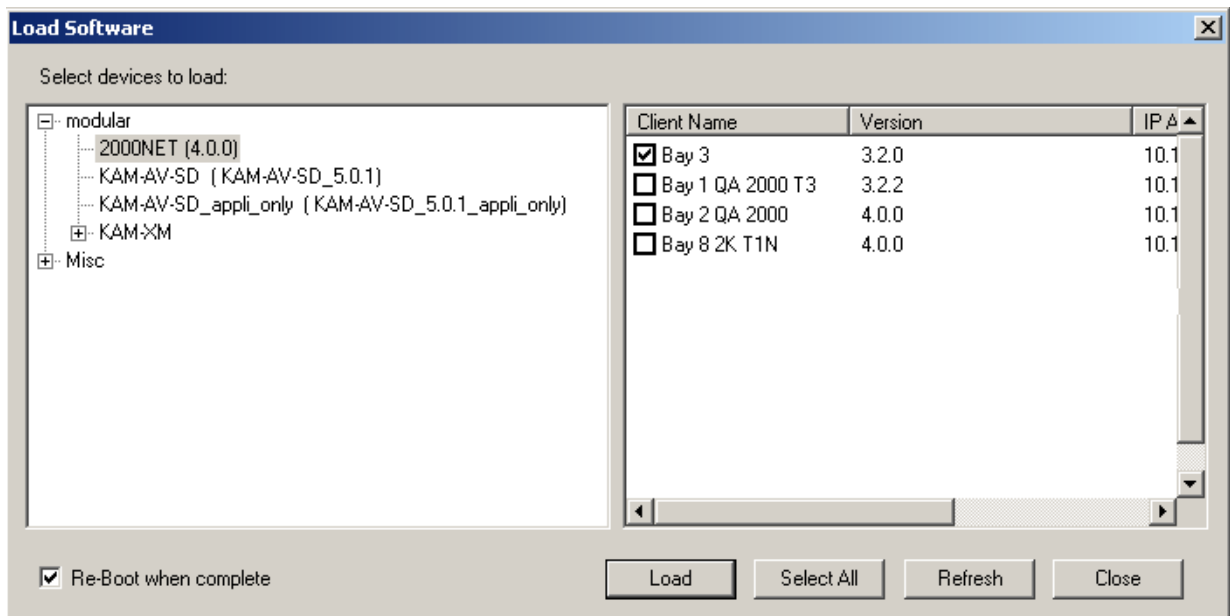
**Note** These device types and versions represent the .sw2 and .fld files loaded in the NetConfig main directory and the modular subdirectory. These files must be present on the PC running NetConfig for them to appear in the Device Type list.

7. Select the 2000NET (4.0.0) selection in the **modular** folder. In the example in Figure 34, the 2000NET selection is highlighted. All of the modules of this type accessible on the network will appear in the window on the right under the **Client Name** heading as shown.

The current software loaded on each module will be listed as well as the IP address and other information for the module client.

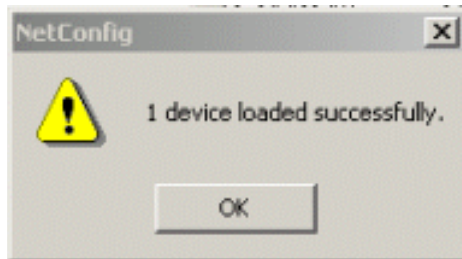
8. Check the corresponding **Client Name** boxes to upgrade the modules or use the **Select All** button to update all modules of this type present on the network.
9. Press the **Load** button to perform the update to all the selected modules.

Figure 34. NetConfig Load Software Window



10. If the load has been successful, a popup will appear as shown in [Figure 35](#). Click the **OK** button.

Figure 35. Load Successful Popup



11. Allow the reboot to complete.
12. Once the loading is complete, select the **Refresh** button to make sure all selected modules have updated to the correct software version which will be reported in the window.
13. For more information on using NetConfig, refer to the NetConfig *Networking Application Instruction Manual* which is included with the option, available on the Thomson Grass Valley web site, and may also be present in the NetConfig directory during some NetConfig installations.



# Service

The 2000NET modules make extensive use of surface-mount technology and programmed parts to achieve compact size and adherence to demanding technical specifications. Circuit modules should not be serviced in the field.

If your module is not operating correctly, proceed as follows:

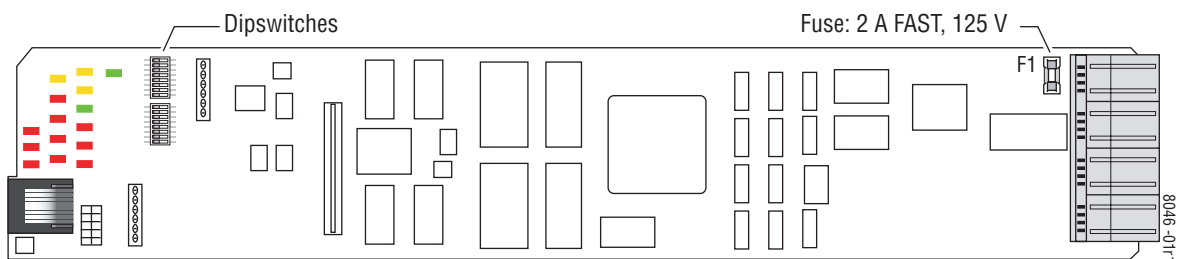
- Check frame and module power and signal present LEDs.
- If frame power is okay but module power is absent, check Fuse F1 (see [Figure 36](#)).
- Check network connections at the frame and network routing devices.
- Verify that all Ethernet devices have a unique MAC and IP Address/ Domain Name.
- Reboot the 2000NET module (see [Rebooting the Module on page 20](#)).

Refer to [Figure 14 on page 18](#) for the location of PWR LED and [Table 2 on page 19](#) for proper LED indications.

If the module is still not operating correctly, replace it with a known good spare and return the faulty module to a designated Thomson Grass Valley repair depot. Call your Thomson Grass Valley representative for depot location.

Refer to [Contacting Grass Valley](#) at the front of this document for the Customer Service Information number.

Figure 36. 2000NET Module Fuse



## Troubleshooting GUI Operation

The following is a list of possible 2000NET GUI and network problems and logical steps for troubleshooting them.

### Cannot Open Any of the Frame's Web Pages

1. Check power to the frame.
  - a. Is at least one of the power supplies operating?
  - b. Is the 2000NET module's PWR LED on?
2. Check that the frame is physically connected to the network.
  - a. Is a cable plugged into the RJ-45 connector of the frame or 2000NET module?
  - b. Is that cable also connected to a 10Base-T Ethernet hub?
  - c. Does the 2000NET module's ETHER LED indicate network activity?
  - d. Does the Ethernet hub have any indication that a link is established to the frame?

3. Is the correct IP Address/URL being used to address the frame?

If a Domain Name is being used to address the frame, try to connect using the frame IP Address instead.

The Domain Name may not be properly assigned in the local Domain Name Server or in the workstation's host file.

The Domain Name Server may not be available to the workstation. Check that the 2000NET module has been properly configured.

- a. Is the correct IP Address or URL being addressed in the web browser?
  - b. Was the 2000NET module configured over the serial connection with the **SETUP** command?
  - c. Has the 2000NET module been assigned the correct IP Address in **SETUP** (re-run setup over the serial connection)?
  - d. Is the workstation in the same subnet as the frame? If not:
    - Has the 2000NET module been assigned the correct Default Routing Address?
    - Has the 2000NET module been assigned the correct Subnet Mask?
  - e. Has the 2000NET module been rebooted since new IP Address, Default Routing, or Subnet Mask were assigned or changed?
4. Check if the frame web pages can be opened from a different workstation on the network.

5. Is the subject workstation physically connected to the network?

6. Check that the workstation and browser have been properly configured.

- a. Can the frame be opened from a different workstation?
- b. Has the workstation been assigned a proper IP Address?
- c. Has the workstation been assigned a Gateway Address?
- d. Is the browser configured to connect to the correct port?

Is it attempting to connect through a modem when it should be connecting through a network interface module?

Some laptops have two separate network ports, one for stand-alone operation, and the other for operation with a docking station. Is the correct port being used?

7. Check that network traffic can be routed between the workstation and the frame.

- a. If the workstation supports a network ping, ping the frame. For example, using Windows NT:

Open a command prompt (DOS window)

In the DOS window, enter:

**C:\> PING** [frame's ip address]

The results will indicate if the ping reached the frame.

- b. If the workstation does not support a network ping, ping the workstation from the frame serial interface:

In the frame serial command window, enter:

**->PING** [workstation's IP address]

The workstation's IP address must be inside the double quotes. The results will indicate if the ping reached the workstation.

- c. If the network ping failed, there may be a network problem between the frame and the workstation. To ensure it is not the frame, check the frame with a point-to-point connection:

Using a crossover Ethernet cable, connect the frame directly to a workstation. The workstation should be assigned an IP Address on the same Subnet as the frame. Attempt to load the frame's web page from a Browser on this workstation.

8. If the point-to-point connection attempt fails call Customer Service. If the point-to-point connection attempt succeeds, the problem is somewhere in the network between the original workstation and the frame.
  - a. Check the connectivity to the frame from different locations in the network to attempt to isolate physical disconnect problems.
  - b. Check the connectivity to the frame from inside and outside the frame's subnet to isolate IP Gateway routing problems.
  - c. Check for possible Ethernet MAC Address collisions.

If the Frame ID Memory chip installed on the rear of the frame is missing or has failed, the frame adopts the default Ethernet MAC Address.

If more than one frame in the Network adopts the default Ethernet MAC Address, there could be address resolution problems. Upon power up the frame will indicate in the serial port console window, either:

"MAC address is unique!" – The Frame has successfully retrieved a unique Ethernet MAC Address from the Frame ID Memory chip

or

"MAC address is default!" - The Frame is using the default Ethernet MAC Address. The Frame ID Memory chip is missing or has failed. Call THOMSON Grass valley Customer Service

### **Cannot modify parameters on Web Page**

1. Press the **Refresh** button on the web page. Fully loaded frames may take longer to load complex configurations to the 2000NET module delaying module response.
2. Check if parameters can be set for other modules.

If so, the module may be in a remote lockout state.

  - a. Check if the LOC/REM – LOCAL jumper on the module is set for local control only. (Refer to that specific module's manual for help.)
  - b. In version 2.0 and later of the 2000NET module software, the web pages for a module in the remote lockout state will indicate that module remote control is disabled and the module's controls on the web pages will be in read-only mode.

If other modules are not controllable, the entire frame may be in a remote lockout state. In this state, software updates to the modules and the 2000NET module are also locked out.

- c. Check The 2000NET module's status page if the frame remote control is disabled.  
If so, flip Switch 3 on the S2 DIP switch block (FRAME CNTRL) to the enabled setting.
- 3. If only a specific parameter is read-only, the module may be in a mode assigning read-only operation to that parameter. Refer to the module's instruction manual.
- 4. If only the 2000NET module is read-only, the 2000NET module may be in remote lockout mode.
  - a. Check the 2000NET module's status page to see if the **NET CARD REMOTE CONTROL** status is disabled.
  - b. If so, flip Switch 2 on the S2 DIP switch block (NM CNTRL) to the enabled setting (see [Table 3 on page 22](#)).

### **Event Messages From the Frame Are Not Being Displayed by NetCentral or Another SNMP Manager Application**

1. Check that the frame is powered on and configured with an 2000NET module on the Network.
2. Check that the 2000NET module in the frame is loaded with software version 2.2.0 or later.  
Earlier versions of software do not support SNMP.
3. Check that the SNMP Agent has been installed and configured on the 2000NET module.

View the 2000NET module **CONFIGURATION** page and note the event configuration parameters, the **NET CARD EVENT REPORTS** form and **REPORT DESTINATIONS** table.

If these are not visible, install the SNMP Agent per the instructions in the manual.

4. Check that the IP Address and Community Name for the SNMP Manager has been assigned in the **REPORT DESTINATIONS** table and is Active.
  - If there is no entry for the SNMP Manager in the Table, the SNMP manager's IP Address and Community name must be entered (see [2000NET Configuration Web Page on page 46](#)).
  - If the entry for the SNMP Manager is incorrect, it must be corrected, activated, and the 2000NET module must be rebooted.
  - If the entry has been entered and the Status of the entry is reported **NOT IN SERVICE**, the Active operation for that entry must be selected, applied and the 2000NET module must be rebooted.
  - If the entry has been entered and the Status of the entry is **NOT READY**, the entry must be corrected, activated and the 2000NET module must be rebooted.
  - If the entry has been entered and the Status of the entry is **ACTIVE – PENDING REBOOT**, the 2000NET module must be rebooted.
5. Check that the particular event has been enabled in the frame.
  - For all events, check that the STATUS switch (Switch 1) on the S2 DIP switch block of the 2000NET module is Enabled.
  - For Module Failure-Fixed events:

Check that the MODULE switch (Switch 7) on the S1 DIP switch block of the 2000NET module is Enabled, and

Check that the **SLOT STATUS REPORTING** parameter on the slot's **SLOT CONFIG** page is Enabled.
  - For Power Supply Failure-Fixed events:

Check that the PS1, PS2, PS3, or PS4 switch (Switch 1, 2, 3, or 4) on the S1 DIP switch block of the 2000NET module is Enabled, and

Check that the **POWER SUPPLY STATUS REPORTING** parameter on the power supply's **CONFIGURATION** page is Enabled.
  - For 2000NET module Failure-Fixed events, check that the **NET CARD STATUS REPORTING** parameter on the 2000NET module's **CONFIGURATION** page is Enabled.
  - For Hardware Switch change events, check that the **HARDWARE SWITCH REPORTING** parameter on the 2000NET module's **CONFIGURATION** page is Enabled.

- For Frame Bus Failure-Fixed events:  
Check that the FRAME BUS switch (Switch 6) on the S1 DIP switch block of the 2000NET module is Enabled, and  
Check that the **FRAME BUS STATUS REPORTING** parameter on the frame's **CONFIGURATION** page is Enabled.
  - For Front Cover Removed -Installed events, check that the **COVER STATUS REPORTING** parameter on the frame's **CONFIGURATION** page is Enabled.
  - For Frame Bus Failure-Fixed events:  
Check that the FRAME BUS switch (Switch 6) on the S1 DIP switch block of the 2000NET module is Enabled, and  
Check that the **FRAME BUS STATUS REPORTING** parameter on the frame's **CONFIGURATION** page is Enabled.
  - For Cooling Fan Failure-Fixed events:  
Check that the FAN switch (Switch 4) on the S1 DIP switch block of the 2000NET module is Enabled, and  
Check that the **FAN STATUS REPORTING** parameter on the frame's **CONFIGURATION** page is Enabled.
  - For Module Health Failure-Fixed events,  
Check that the MODULE switch (Switch 5) on the S1 DIP switch block of the 2000NET module is Enabled, and  
Check that the **MODULE HEALTH REPORTING** parameter on the frame's **CONFIGURATION** page is Enabled.
  - Check that the SNMP Manager is properly configured to receive the Event Messages.  
Check that the SNMP Manager has been assigned the same community name as in the frame's configuration.
6. Check the network connectivity between the SNMP Manager and the frame as described in the steps on [page 58](#).

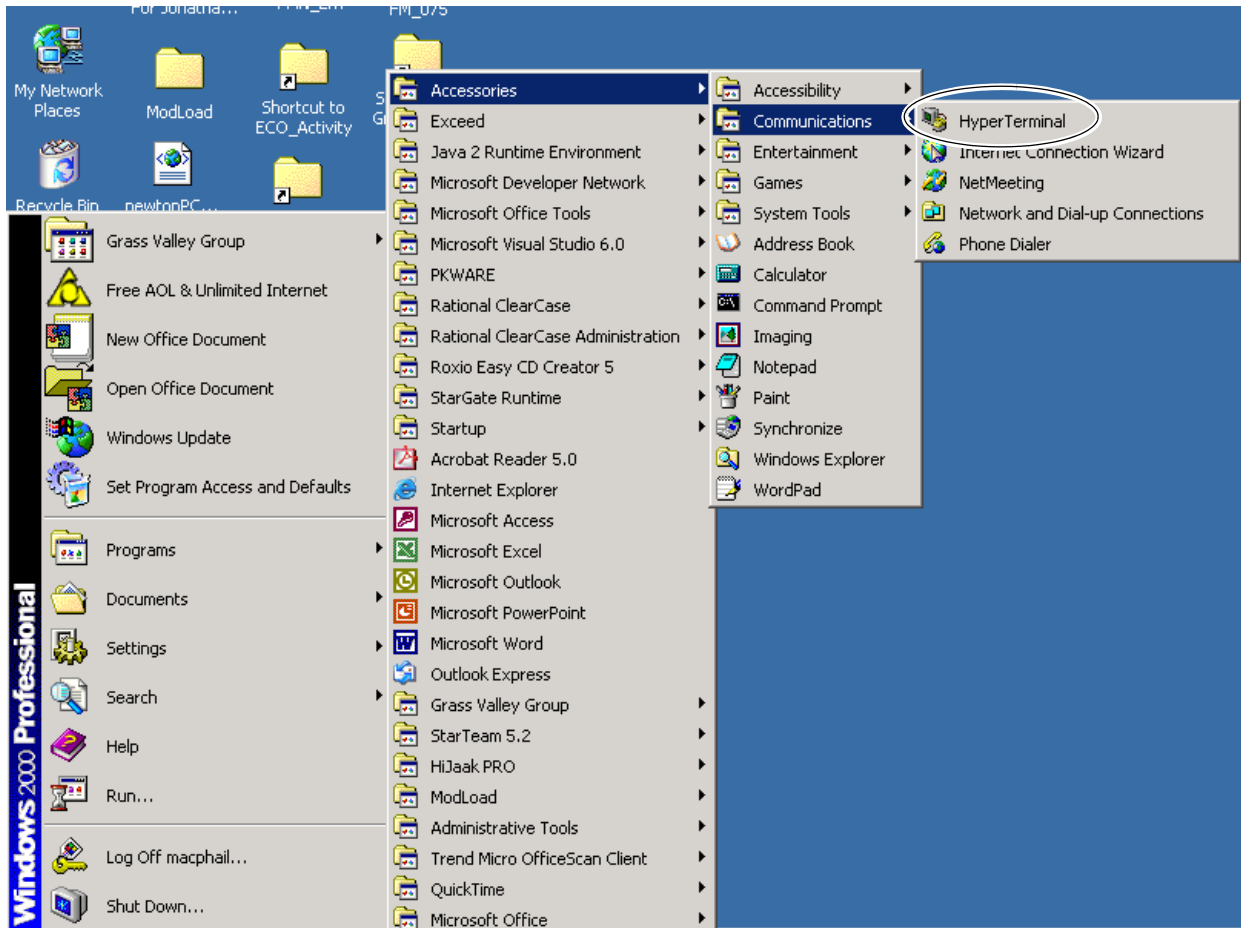
## LogPrint Procedure From 2000 Frame

You may use the logging function of the 2000NET module to troubleshoot errors from modules in the 2000 frame. The log will report the last 300 commands received by the 2000 frame. It will contain all commands from changes made through the web interface or control panel.

To access a LogPrint from a 2000 Frame do the following:

1. Access HyperTerminal by pressing the **Start** button. Select Programs/Accessories/Communications/HyperTerminal as shown in [Figure 37](#).

Figure 37. Find HyperTerminal



2. Click on the HyperTerminal accessory. HyperTerminal will open and bring up the **Connection Description** window shown in [Figure 38 on page 65](#).
3. Type **telnet** into the Name field and select **OK**.



Figure 38. Connection Description Window



This will bring up the **Connect To** window shown in [Figure 39](#).

4. In the **Connect To** window, select TCP/IP (Winsock) selection in the **Connect Using** pulldown.

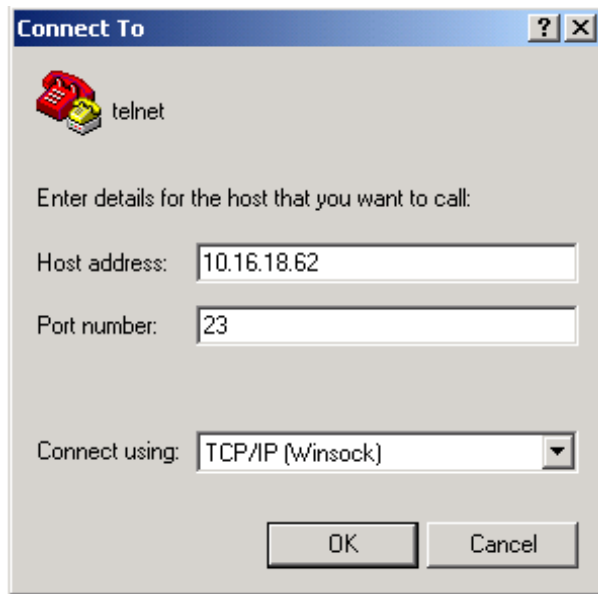
Figure 39. Connect To Window



This will bring up the telnet window shown in [Figure 40 on page 66](#).

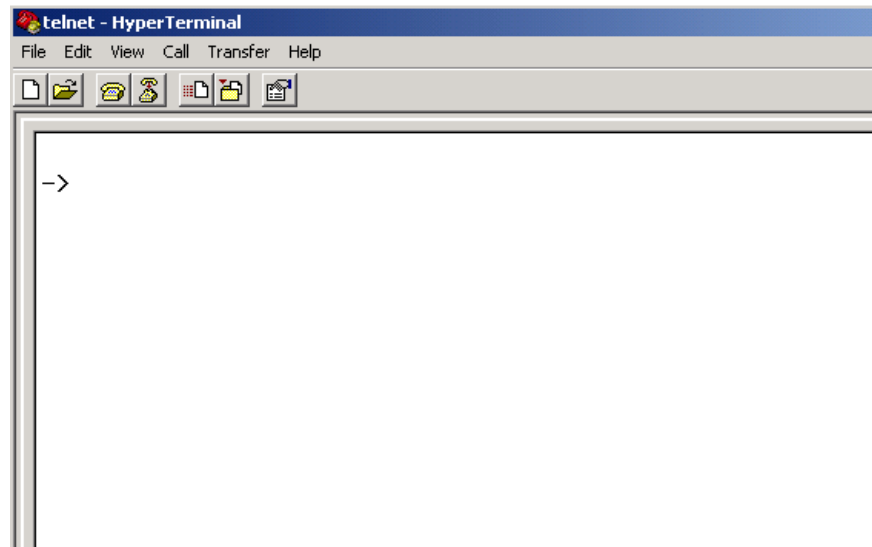
5. In the **Host address** field that appears, type the IP address of the frame you wish to connect to and press **OK**.

Figure 40. Enter Host Address



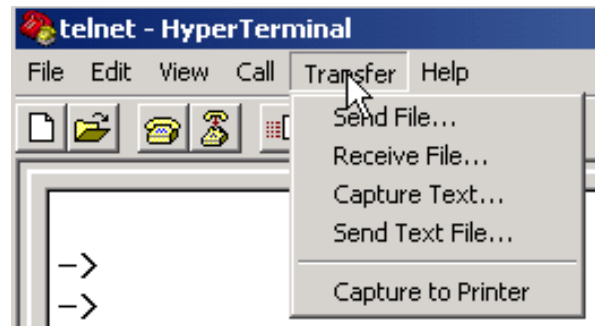
This will bring up the telnet-HyperTerminal screen shown in [Figure 41](#).

Figure 41. Telnet Screen



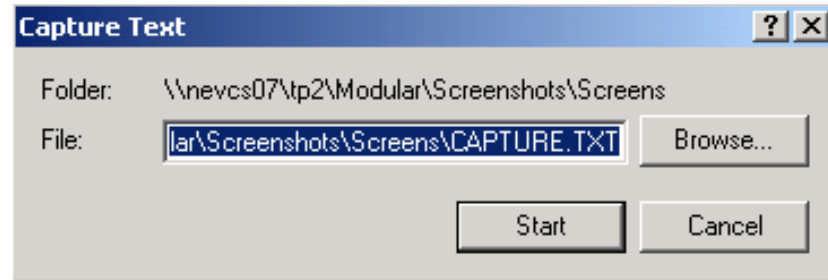
6. To save the log to a .txt file while it is running, select the **Transfer** pulldown in HyperTerminal and select **Capture Text** before running the log ([Figure 42 on page 67](#)).

Figure 42. Capture Text Pulldown



7. In the **Capture Text** window, browse to a location to save the text file as shown in Figure 43. Select the **Start** button. This will capture the text until you indicate it to stop.

Figure 43. Capture Text



8. On the HyperTerminal screen, Press the **Enter** key several times to verify the connection, then enter the **LogPrint** command shown in Figure 44.

Figure 44. LogPrint Prompt

```

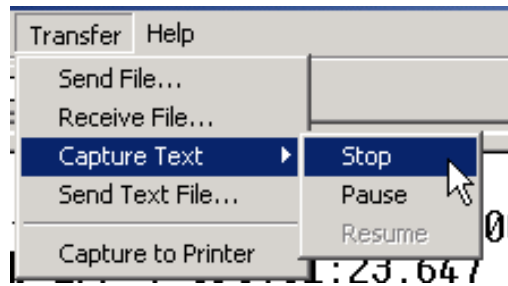
->
->
->
->
-> LogPrint

```

9. Press the **Enter** key to run the log.
10. Once the log has stopped, you may also stop the text capture by selecting **Capture Text** in the Transfer pulldown again and select **Stop** (Figure 45 on page 68).

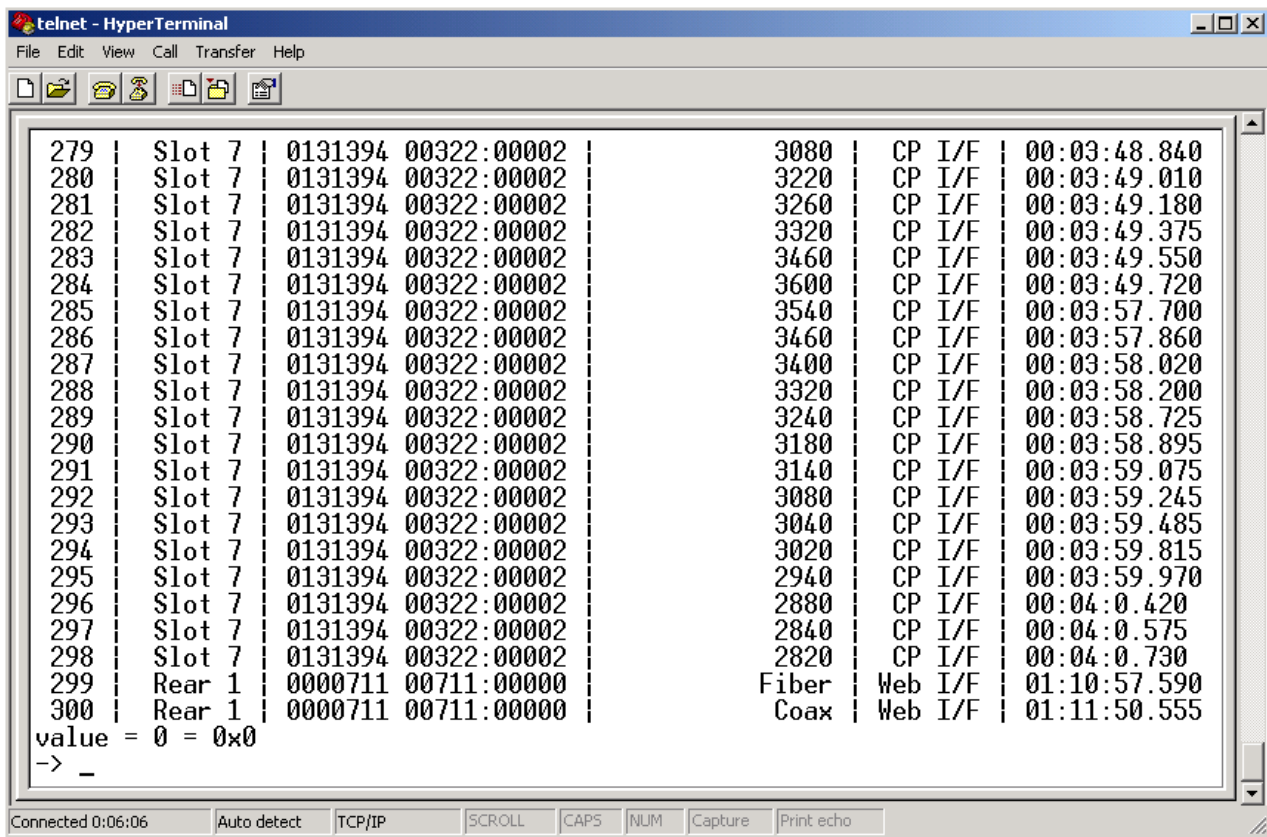
The text file will now contain a record of the last 300 commands received by the frame.

Figure 45. Stop Text Capture



The log will also appear in the HyperText window as shown in Figure 46.

Figure 46. Log Print

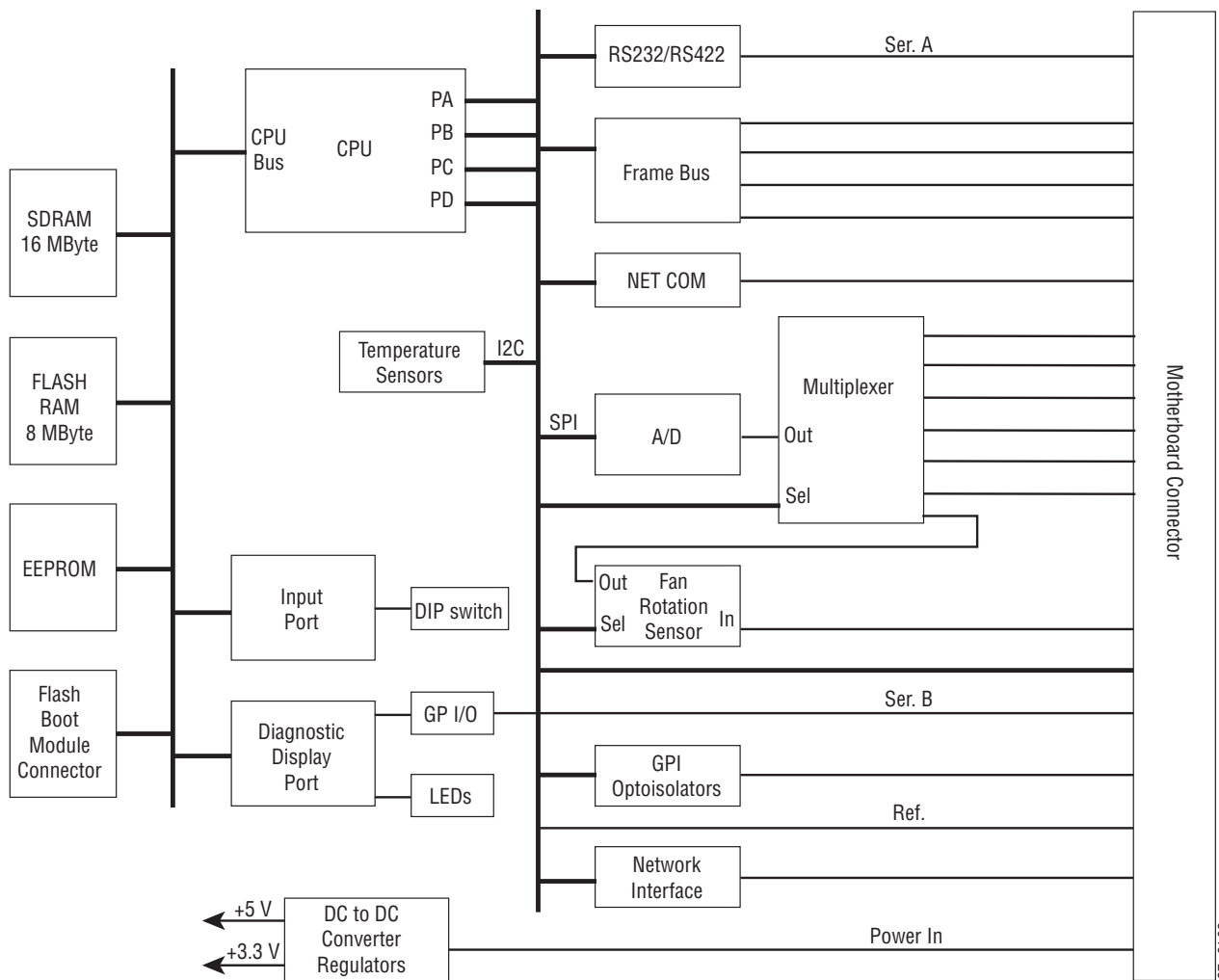


# Functional Description

The 2000NET is designed to allow remote control and monitoring of modules in a 2000 Series Kameleon frame. It communicates to remote devices through an Ethernet connection. It communicates with modules in the frame via the frame bus. It also performs the error monitoring of the power supplies, modules, temperature and fans. It does error reporting through on board LEDs, the front panel LEDs, and, on the 2000T3 frame only, the frame alarm relay (via a DB-9 connector on the back of the frame).

Refer to the block diagram in [Figure 47](#) while reading the following functional description.

Figure 47. 2000NET Block Diagram



## Processor (CPU)

The 2000NET processor runs at 50 MHz. All 2000NET software runs on this processor.

## Memory

The 2000NET has three different memory types, SDRAM, FLASH and non-volatile.

The SDRAM consists of two 4 Mb x 16 ICs for a total of 16 MB configured as 4 Mb x 32. During boot-up, the program code is loaded into SDRAM and the program executes out of SDRAM after boot-up.

The flash RAM consists of two 2 Mb x 16 ICs for a total of 8 MB configured as 2 Mb x 32. The program code is stored in flash and loaded into SDRAM at bootup.

The non-volatile memory consists of a single 8kb x 8 IC for a total of 8 kilobytes. Various configuration information is stored in this memory.

## Temperature Sensing

The module has two temperature sensors. One is located near the motherboard side of the module and is used to measure frame temperature. The other is near the front cover side of the module and is used to measure ambient temperature. The processor reads these temperature sensors through an I2C bus.

## DIP switches

The 2000NET module has two DIP switches (S1 and S2) for status report enabling/disabling. The DIP switches are read by the processor through the Input Port.

## General Purpose (GP) I/O

The general purpose inputs and outputs are through two relays (K3 and K4) that can be open or closed through software control.

There are two general purpose inputs. Each has two pins, and a current must be passed through them for the processor to read a logic high.

## LEDs

There are twenty LEDs on the module and support for an LED on the front cover. DS1, DS2, DS5, and DS6 are for factory use only. The remainder of the LEDs on the module provide status information to the user.

The power LED is DS20. This LED is driven directly by the 3.3V power rail.

The Ethernet activity LED (ETHR) is driven directly by a 100Base-T transceiver. It indicates when there is either transmit or receive traffic on the Ethernet connection.

**Note** Note: The Ethernet activity LED will indicate receive activity even if the packet is not addressed to the 2000NET module.

Processor driven LEDs include the following:

- MOD
- FB
- COMM
- PS1
- PS2
- PS3
- PS4
- FAN
- TEMP
- REM OVR
- NM
- FP

These LEDs are all controlled by the processor through a register. The power-up state of these LEDs is on.

The bi-color LED is a right angle LED that is labeled STATUS. It powers on in the red state, and can be shown red or green by the processor. It lines up with a light pipe on the front cover and is visible when the front cover is on the frame.

## RS-232 Serial Port

The RS-232 port is used to initialize the module with critical network parameters including a static assigned IP Address. The Ethernet MAC address is stored on a serial EPROM on the frame. (The frame needs both MAC and IP addresses.)

## Frame Bus

The Frame Bus provides serial communication to each of the media modules for remote configuration and monitoring over a network.

## Multiplexer and A/D Converter

The Multiplexer and A-to-D converter circuit is used to read the following lines:

- Media Module Present Lines (12 front media modules, 12 rear media modules)
- Center module preset lines
- Power Supply/Fan Slots Module Preset
- Frame Version
- Frame Type
- Fan Rotation
- Front Panel Fault/Presence
- Power Supply Health

The circuitry consists of five multiplexers, an A/D converter, and miscellaneous passive circuitry. The processor selects the line to read then drives the multiplexer to select a particular input of that multiplexer. The processor then waits a fixed amount of time for the circuit to settle and then reads the level using the A/D converter. Most of the input lines are connected to ground through a resistor.

This circuit also has protection on most inputs. A  $1\text{ k}\frac{3}{4}$  resistor and diodes clamp each input (except fan rotation) to 3.3 V to prevent a bad input from causing the whole circuit to fail.

The processor should get a value of between 2.1 V and 2.7 V when reading power supply health.

## Fan Rotation Sensor

The fan rotation circuit consists of a multiplexer and a one-shot IC followed by an RC filter. The multiplexer is used to select one of the eight possible fan rotation lines. When connected to a fan, these lines carry a square wave with a frequency proportional to the fan speed. The one-shot circuit produces a DC output proportional to the frequency of the square wave. This circuit requires about 1 second to settle once one of the lines is selected. The fans used in the 2000 series frame have a rotation sense period of approximately 3.4 ms.



## **Network Interface**

Network Interface circuitry contains 100Base-T interface circuitry. Although this circuitry will work at both 10Base-T and 100Base-T rates, currently the 2000NET software works only in 10Base-T mode.

## **DC-to-DC Converter**

DC-to-DC Converter circuitry converts the +24 V into the board to +5 V. It also contains a regulator that generates +3.3 V from the +5 V. Fuse F1 protects the +24 V rail.

# Specifications

Table 6. 2000NET Specifications

Parameter	Value
<b>Recommended Software</b>	
Web browser	Netscape 4.x or Internet Explorer 4.x or later
PC operating system	Windows 95/98 or later
Terminal emulation	HyperTerminal
<b>Environmental</b>	
Frame temperature range	0 to 45° C
Operating humidity range	0 to 90% non-condensing
Non-operating temperature	0 to 45° C
<b>Mechanical</b>	
Frame type	2000 Series
RS-232 connector	DB-9 female
Ethernet connector	RJ-45
SMPTE fault alarm connector	BNC
<b>Power Requirements</b>	
Supply voltage	+ 24 V
Power consumption	5 Watts

# Appendix

## 2000NET Software Update From FTP Server

If you are updating a 2000NET module with a software version earlier than version 3.2.0, you must use the following procedure. Software version 4.0.0 and later must be updated using NetConfig.

### FTP Method Overview

The Modular Remote Monitoring and Control System is an extension of the Grass Valley Signal Management System (SMS) routing system and uses the same File Transfer Protocol (FTP) technique to download software.

**Note** This procedure assumes your Local FTP Server computer is a 32-bit Windows host running Win95, 98, NT or later.

If you do not have an FTP server, Grass Valley provides a free FTP server package that is easy to install and operate. This procedure assumes you will use the Xitami FTPD provided. If you already have an FTPD available, you can skip steps 3 through 5.

The software update process consists of the following steps:

1. Acquire the software update files and, if needed, the FTP Server package.
2. Place the module software update files into an FTPD modular directory.
3. Extract the FTP Daemon (Xitami FTPD).
4. Run the Xitami installation program.
5. Modify the FTPD configuration files to the Xitami directory.
6. Start the FTPD.
7. Use the 2000 GUI to initiate software updates.

**Note** When updating numerous Kameleon or 2000 modules, it is a good idea to dedicate one frame for the update process to avoid interrupting communication with active modules.

8. Verify the software update results.

## FTP Software Update Procedure

1. Acquire the software update files from Grass Valley (refer to [Acquiring Software Updates on page 53](#)).
  - a. Create a temporary download directory on your PC:  
c:\temp\
    - b. Using the web browser, select the desired .fld or zipped file.
    - c. Click to download the .bin (2000NET only), .fld (2000 media modules) or zipped file. You are queried to either **OPEN** the file or **SAVE AS**. Select the **SAVE AS** option and set the path to the temporary directory on your computer.

This process will trigger the download of the file to your computer.

**Note** If you have access to an existing FTP Server's directory, the module update files can be downloaded directly into that directory.

2. Move or extract the module update files into an FTPD modular directory.

The module software update files must reside in a directory that the FTPD can access. The Grass Valley supplied FTPD is configured to access a directory designated:

```
\modular\2000
```

The new software for the 2000NET module (version 3.2.0 and later) will be a binary file (.bin extension) or a field update files (.fld extension).

- a. Open Windows Explorer on the local server computer.
- b. If one does not already exist, create a directory on the C drive:  
c:\modular\2000
- c. Double-click the module software.exe file (in the temporary directory) and save it to the appropriate directory. The resulting file will be a .bin or .fld:

```
c:\modular\2000\2000net_sw400a_fw1.bin
```

**Note** The file name shown indicates: 2000NET, software version 4.00, firmware version 1.0.

3. Extract the FTPD (Xitami FTP Server) files.

**Note** This section is for facilities that do not already have an FTP Daemon (FTPD), also known as a File Transfer Protocol (FTP) Server, installed on the Kameleon 2000 frame's network. For those facilities that already have an FTPD or other FTP Service available in their network, go to step 6.

Grass Valley provides a free FTP server for those facilities that do not have a local FTP service. The FTP server package is the same Xitami Web Server-FTP package that is provided with the Grass Valley SMS router upgrade package. The version of the Xitami Web-FTP server distributed with module software upgrades is for a 32-bit Windows host.

The FTP Daemon in the temporary directory is a self-extracting file (ftpd.exe). To extract the files:

- a. Open Windows Explorer and find the ftpd.exe file.
- b. Double click on the .exe file and extract the files to C:\temp.

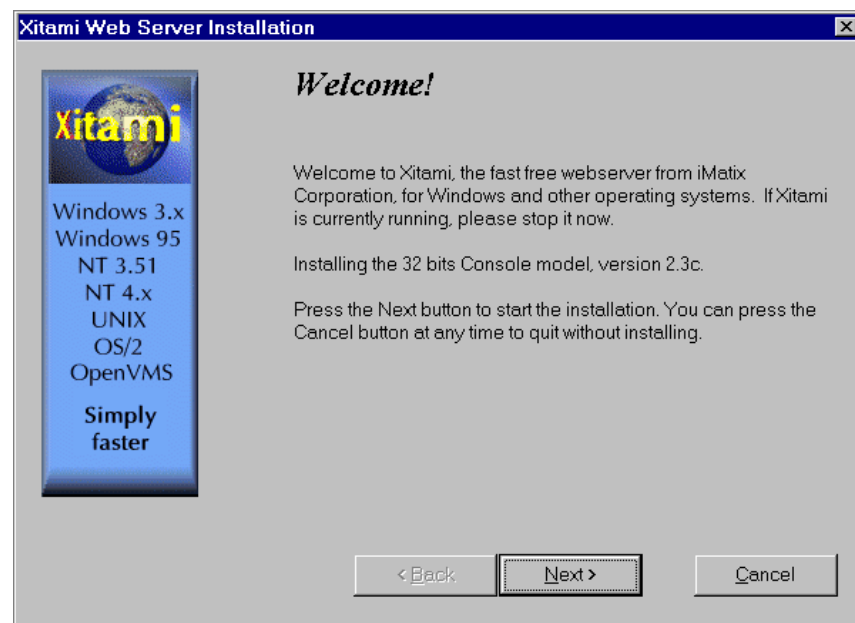
These files will be extracted:

- xic3223c.exe – the Xitami installation file,
- defaults.cfg – an FTPD configuration file that has been modified specifically for Grass Valley software downloads, and
- ftpusers.sms – the FTPD's admin file specifying user names and passwords network access to files in the ftp server directories.

4. Run the Xitami installation program.

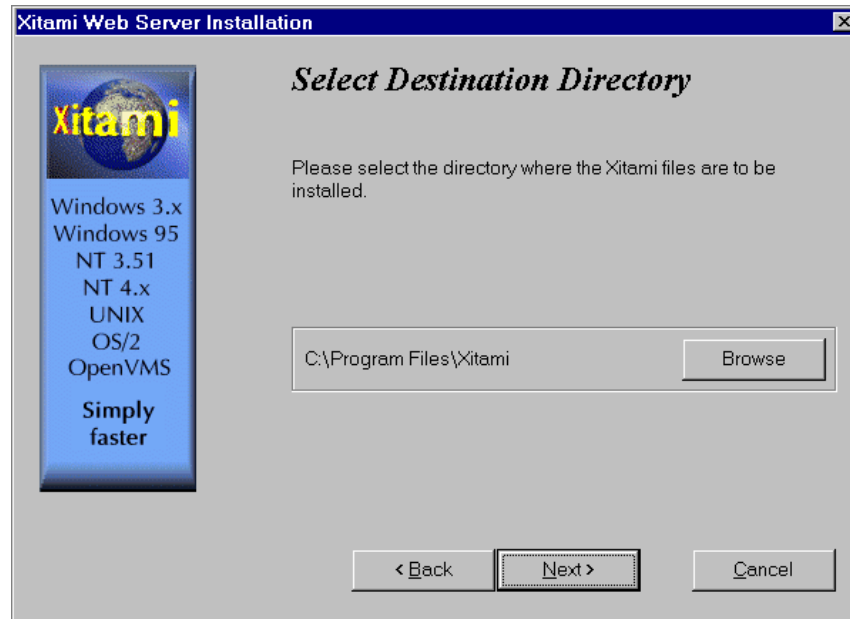
- a. Double Click on xic3223c.exe. You will see the Xitami Welcome (Figure 48). Click on **Next >**.

Figure 48. Xitami Web Server Welcome



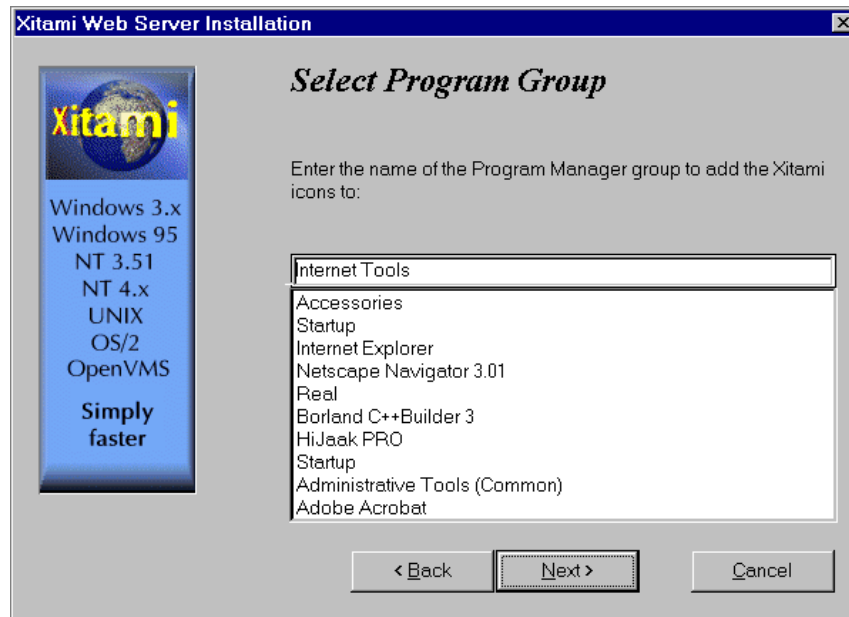
- b. You will see the Xitami Installation Notes (not shown). Click on **Next >**.
- c. You will see Select Destination Directory (Figure 49). Do not change the default settings. Click on **Next >**

Figure 49. Select Destination Directory



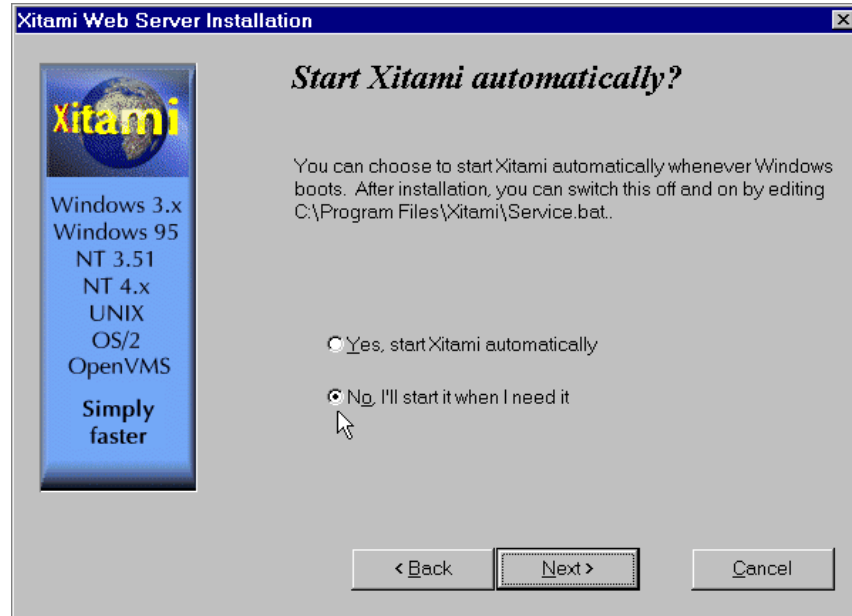
- d. You will see the Select Program Group screen (Figure 50). Do not change the default settings. Click on **Next >**.

Figure 50. Select Program Group



- e. You will see the Automatic Startup Query screen (Figure 51). Select **No**. Click on **Next >**.

Figure 51. Automatic Startup Query



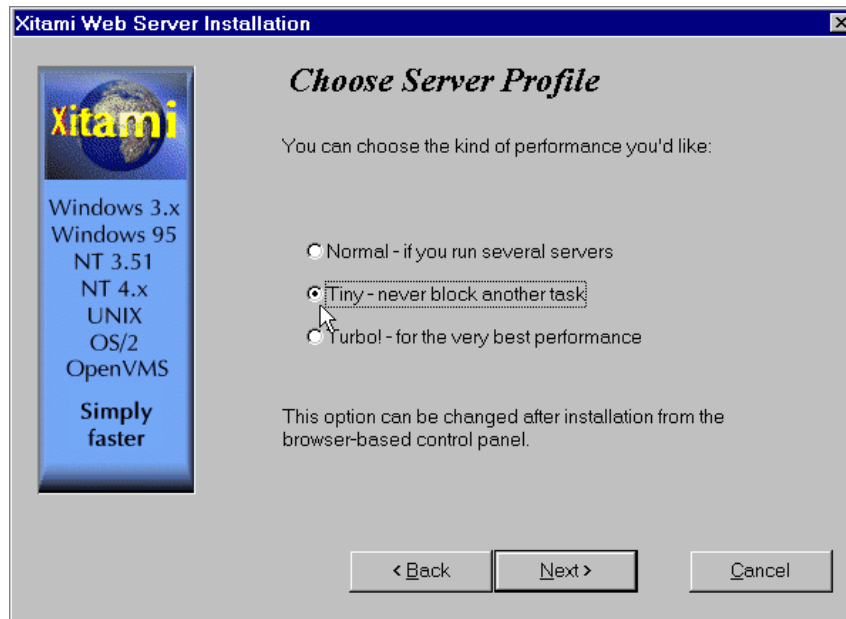
- f. You will see the Administration Password screen (Figure 52). Do not enter anything in these fields. Click on **Next >**.

Figure 52. FTPD Server Administration Password



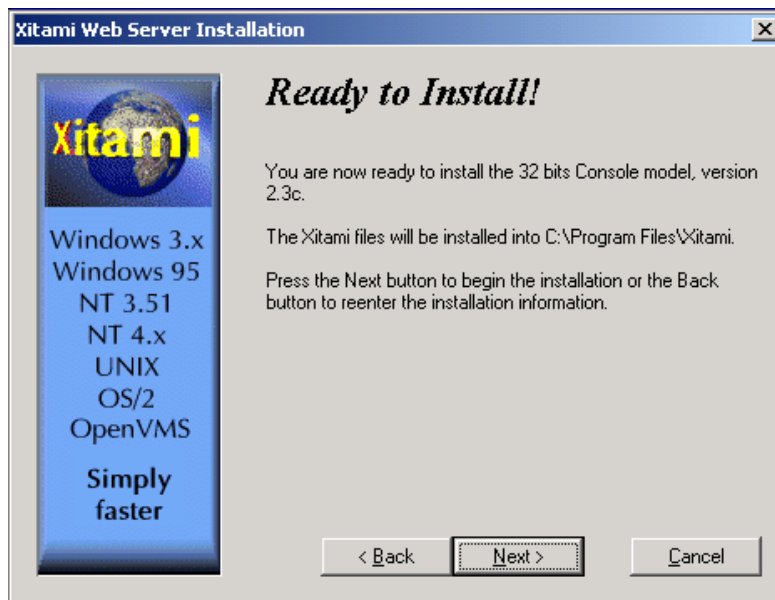
- g. You will see the Choose Server Profile screen (Figure 53). Select **Tiny - never block another task**. Click on **Next >**.

Figure 53. Choose Server Profile



- h. You will see the Ready To Install screen (Figure 54). Click on **Next >** to begin installation.

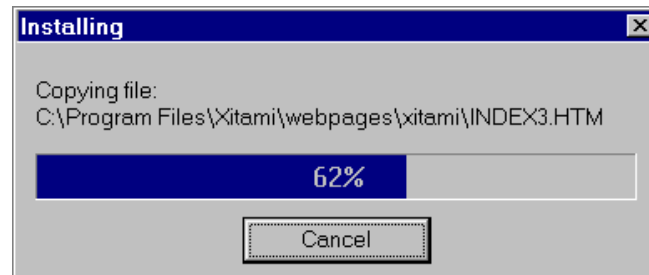
Figure 54. Ready to Install



- i. An installation meter box will appear as shown in Figure 55.

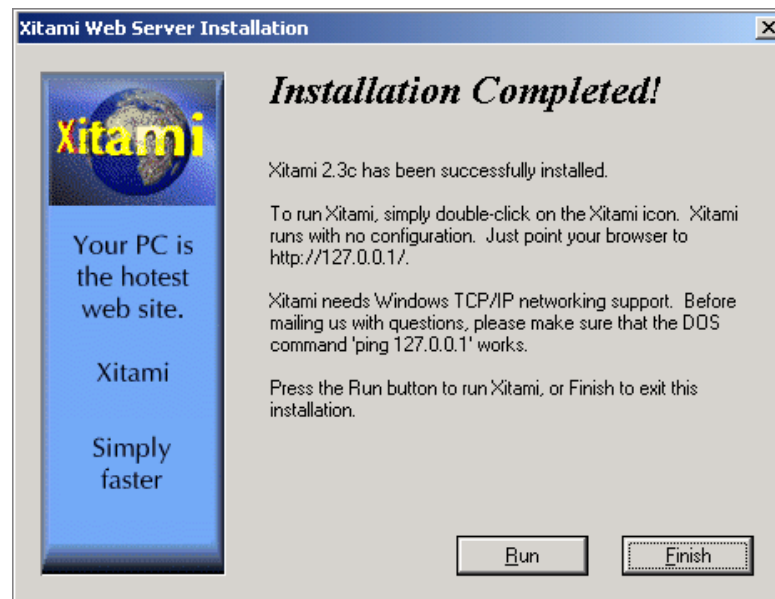


Figure 55. Installation Meter Box



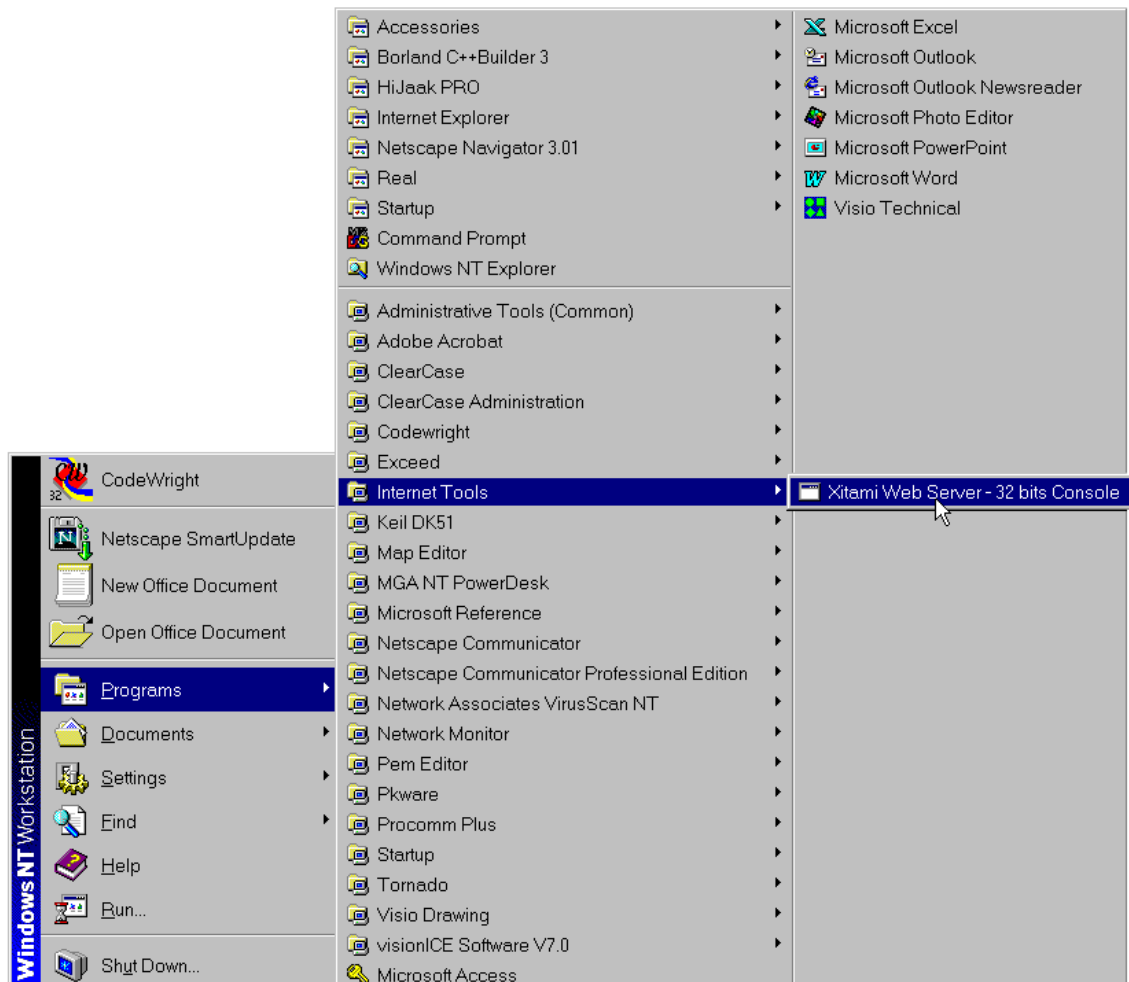
- j. Upon completion, you will see the Installation Complete! screen (Figure 56). Click on **Finish**.

Figure 56. Installation Complete



An Icon (see Figure 57) will have been created in the Program Group window that was selected during installation (see Figure 50 on page 78).

Figure 57. FTPD Icon in Program Group Window



**5. Move the FTP Daemon Start-up Configuration Files.**

The FTP Daemon has now been installed and requires configuration files be placed in the Xitami directory.

- a. Open Windows Explorer.
- b. From the Explorer window, return to the FTPD directory and move the extracted defaults.cfg and ftpusers.sms files to the directory at:

c:\Program Files\Xitami

The defaults.cfg and the ftpusers.sms files contain default configuration instructions that the FTPD application reads at start-up.

**6. Start the FTPD.**

If the Xitami Web Server (FTPD) is not already running, start it.

- a. Click on the **Start** popup window on the PC.

- b. Select **PROGRAMS**, then **INTERNET TOOLS**, and click on **Xitami Web Server – 32 bit console** (Figure 57 on page 82).

The Xitami Console will open as a DOS window. There will be a log of events, at least one of which will indicate it is accepting connections (see Figure 58).

Figure 58. Typical FTPD Console Screen

```
Xitami Web Server v2.3c2 (c) 1991-98 iMatix
Xitami is free software and comes with ABSOLUTELY NO WARRANTY.
You may redistribute this software under certain conditions;
read the file LICENSE.TXT for details. Type xitami -h for help.

0/04/26 14:00:56: LAMP: ready for LAMP connections on port 81
0/04/26 14:00:56: smthttp: preparing for connections on port 80
0/04/26 14:00:56: smthttp: ready for HTTP connections on port 80
0/04/26 14:00:56: smthttp: accepting connections on 192.158.211.46
0/04/26 14:00:56: smthttp: accepting connections on 127.0.0.1
0/04/26 14:00:56: smtftpc: preparing for connections on port 21
0/04/26 14:00:56: smtftpc: ready for FTP connections on port 21
```

Example: Actual IP Address will be the one assigned to your FTP Server PC.

Ready message verifies the FTPD is running.

The IP Address line should actually indicate the IP address of the PC you are using for the FTP server. This is the IP Address that will be used to initiate the software update.

The line that verifies that the FTPD is running reads:

```
ready for FTP connections on port 21
```

## Password Protection for Software Upgrades

The FTPD distributed for software downloads provides user name and password protection for software updates. User name and password entry is required in the Software Update web pages.

The assignment of user names and passwords for a given FTP root directory is administered by editing the ftpuser.sms file included in the FTPD distribution (see [Step 3](#) of this procedure). This file initially contains the default user name and password (user name: moduser, password: moduser) for access to the modular root directory and instructions for setting up an account.

The contents of the file are shown in [Figure 59](#). (The file also includes the SMS7000 account for customers with Thomson Grass Valley SMS routers.)

Figure 59. User Name and Password File ftpuser.sms

```

ftpusers.sms - Notepad
File Edit Format Help
#
# ftpusers.sms - FTP users file for XITAMI
#
# Each section [xxxx] defines a user who can connect to the FTP service.
# The user name is not case sensitive. Possible options for a user are:
#
# access=(G|P|D|M|R)+      Access rights, get/put/delete/mkdir/rmdir
# password=(-|*|""|text)  * = anonymous; - = disabled; "" = none
# root=directory          with leading '/' is absolute path; "" is
#                          main ftproot directory.
#
# aliases=1              Has access to aliases? By default 1 if
#                          root="", else defaults to 0. Note: this
#                          command is not currently implemented.
#
# NOTE: do not modify this file except for testing. When you re-install
# Xitami, this file may be replaced. Instead, change the ftp:user-file
# option and copy this file.
#
#*END

[smsuser]
Access=G
Password=smsuser
Root=/sms7000                #Must be able to find file

[moduser]
Access=G
Password=moduser
Root=/modular                #Must be able to find file
  
```

**Note** The FTPD configuration files should be installed in a password protected directory.

## Upgrading Software

With the FTPD running, use the 2000 GUI to initiate software updates. Use the web-browser to:

- Access the appropriate Software Update page for a given module,
- Enter the required data into the HTML Form on that page, and
- Submit the form.

The 2000 frame uses the data in the form to contact the FTPD on the server, download the update file, and reprogram the targeted module.

**Note** Prior to attempting update of software, refer to the target module's manual and confirm that the Remote/Local Only jumper is in the Remote position.

**Note** To monitor the progress of the download, you may use the serial port connection with a computer running a terminal emulation application.

- Open a web browser on a PC that is connected over the network to the 2000 frame.
- Enter the URL of the frame where the module to be updated resides. The frame's main status page will appear.
- Click on the module's link and then click on **Software Update**.

The module's Software Update page will appear (Figure 60). This form is the same for all 2000 modules that support network software update.

Use  
this  
link

[13 2000NET](#)  
[Status](#)  
[Configuration](#)  
[Network](#)  
[Software Update](#)

Figure 60. Network Module Software Update Web Page

### **Software Update**

Model: 2000NET Description: [Network Interface Module](#)

Frame Location: [Modular Lab](#) , Slot: 13

Software Version: 3.2.0

[Enter FTP Server IP , Username , Password and File to Initiate](#)

	selection	current setting
FTP Server Address:	<input type="text" value="10.16.4.103"/>	10.16.4.103
File Path:	<input type="text"/>	
FTP UserName:	<input type="text"/>	
FTP Password:	<input type="text"/>	
	<input type="button" value="Apply"/>	

- d. In the FTP Server Address field, enter the IP Address of the PC that has the FTPD installed and running.
- e. You can enter the Host Name of the PC that has the FTPD running into the FTP Server Name field. This is an optional step and can be omitted.
- f. Click on **Apply** to set the FTP Address.

The web page will refresh and the new FTP address should be displayed as the Current Settings.

- g. In the File Path field, enter the FTP file path of the software update file.

The FTP file paths use forward slashes. The directory name “/modular” is not needed in the path name.

- h. Submit the form and start the update process by entering the user name and password and clicking on **Apply**.

By default, the Xitami Server has been configured to accept a user name of “moduser” and a password of “moduser” for the modular root directory. This may be changed by modifying the ftpusers.sms file in the C:\Program Files\Xitami directory (see [Password Protection for Software Upgrades](#) on page 84).

After you click on **Apply**, the web page will be reloaded, displaying the Progress Monitor ([Figure 61 on page 87](#)).

If an incorrect file name or password is entered, the Progress Monitor will report the condition and allow you to go back to the Software download page and re-enter the correct information.

The module software compatibility check uses compatibility information included in the Field Update File to ensure that the new software was intended for this module. In the event that there is a mismatch, the Net Board will abort the upgrade.

**Note** Do not make any changes to the web page during the software download.

- i. Once the download has started, wait for the Success message at the end of the Progress Monitor screen to appear ([Figure 61 on page 87](#)) and allow the frame to reboot before making any web page changes. Click on the **Software Update** link again to refresh the page.

Figure 61. 2000NET Successful Software Download

```

.....
.....
.....
.....
.....
Write to Flash Complete
Net Card Software Update Successful
Initiating Net Card Reboot...
Results: SUCCESS!

```

7. Verify the software update results by checking the Installed Software Version on the device's Properties web page.



The software and firmware (if applicable) numbers should match that indicated in the .bin or .fld file name (see [Step 2](#) of this procedure for file names and version numbers).

## Unsupported Software Updates

If the 2000 module does not support network software updates, the Software Update web page will indicate software updating is not supported as shown in [Figure 62](#). These modules require a special cable kit (8900-FLOAD-CBL with Instruction Manual) available from Grass Valley Sales or Service to perform a software update. Details for the module will be available in the specific module release notes that accompany the upgrade.

**Note** Always read the Release Notes for the specific module for the latest software download procedure before attempting to download software.

Figure 62. Software Update Not Supported

 **Software Update** 

Model: [2010RDA](#) Description: [AES Reclocking DA](#)  
 Frame Location: [Modular Lab](#) , Slot: [4](#)  
 Software Version: [1.0.1](#) Firmware Version: [1](#)  
 Module Update: [Not Supported](#)





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