FLUKE networks™

OptiView

WAN Analyzer OC3/OC12

Getting Started Guide

PN 1778341
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OptiView WAN Analyzer OC3/OC12

Using This Guide

This *Getting Started Guide* is supplied with the OptiView™ WAN Analyzers for OC3 and OC12 networks to help you learn to use your new analyzer quickly and more efficiently. The guide introduces you to the key features and operation of the OptiView WAN Analyzer and describes the steps to follow to set up the analyzer and operate it remotely from a PC.

This guide provides a quick overview of the OptiView WAN Analyzer's main features and functions. After you install the remote control software from the *OptiView Resource CD*, you will find the online Help system the best source for answering questions you may have about using the analyzer to monitor the performance of ATM and Packet over SONET networks.

Introduction

The OptiView™ WAN Analyzer is a distributed Wide Area Network analyzer that can be used to monitor the performance of Asynchronous Transfer Mode (ATM) and Packet over SONET (PoS) networks.

The OptiView WAN Analyzer is an automated tool that provides meaningful information about your WAN immediately—with virtually no need for configuration. Measured parameters are analyzed and important information is "rolled up" into a comprehensive "front-page" view, giving you the ability to remotely view the health status of any of your ATM or PoS WAN links from the physical layer to the application layer. You can even perform cell or packet capture, when necessary.

Overview of Features

The OptiView WAN Analyzer offers the following features:

- Supports high-speed OC3 and OC12 optical interfaces
- Allows non-intrusive monitoring of full-duplex links
- Accepts either single-mode (SM) or multi-mode (MM) inputs
- Provides multi-user, simultaneous remote access through a 10/100MB Ethernet management port
- SNMP-enabled, providing MIB II, RMON, and RMON2 traffic analysis
- Performs passive and active network discovery with address-to-name resolution
- Tracks latency and availability of key network devices
- Provides bandwidth utilization statistics, including top applications, conversations, and protocols
- Provides instant HTML reports for all seven layers of statistics and problem tracking
- Features a dedicated cell and packet capture engine with protocol decoding available through Fluke Networks Protocol Expert software.

Available Models

The OptiView WAN Analyzer is available in the following models:

- OptiView OC3 WAN Analyzer: a WAN link analyzer for ATM or PoS networks. Features an OC3c/SDH STM-1 interface at 155.52 Mbps.
- OptiView OC3/OC12 WAN Analyzer: a WAN link analyzer for ATM or PoS networks. The user can configure this model to support either an OC12c/SDH STM- 4 interface at 622 Mbps or an OC3c/SDH STM-1 interface at 155.52 Mbps.
- OptiView OC3 WAN Distributed Vision Suite: a bundle that includes the OptiView OC3 WAN Analyzer, the OptiView Console, and the OptiView Protocol Expert.
- OptiView OC3/OC12 WAN Distributed Vision Suite: a bundle that includes the OptiView OC3/OC12 WAN Analyzer, the OptiView Console, and the OptiView Protocol Expert.

Contact your nearest Fluke Networks Distributor or Service Center for purchasing information (see “Contacting Fluke Networks”).

Care and Maintenance

The OptiView WAN Analyzer is designed to be maintenance free. Treat it with care to ensure the best performance. The suggestions below will help you fulfill the obligations of the warranty and enjoy the analyzer for many years.

- Avoid rough handling
  Although the analyzer can absorb shock and vibration, avoid dropping it. If you must ship the analyzer, use the original packaging or the ruggedized transit case (listed in Table 4).
- Clean carefully
  To clean the analyzer, use a soft, slightly damp cloth. To remove any stains, use a mild soap. Never use detergents, solvents, or abrasive cleaners on the analyzer.
- Provide adequate ventilation
  Always place the analyzer in an area where there is sufficient space in front and behind the unit to provide adequate ventilation.

Safety Information

To avoid possible electric shock or personal injury, the following general safety precautions must be observed during all phases of operation, service, or repair of the analyzer. Failure to comply with these precautions or with specific warnings in this guide violates the safety standards of design, manufacture, and intended use of the analyzer. Fluke Networks assumes no liability for the customer's failure to comply with these requirements.

⚠ Warnings

If this product is used in a manner not specified by the manufacturer, the protections provided by the product may be impaired.

The chassis is expected to be connected to earth ground through the power cord as required for a CLASS 1 instrument. Verify that the instrument chassis is connected to earth to ground.

This product contains a CLASS 1 Laser receiver. To avoid possible eye damage, do not look into the fiber optic cable prior to connecting it to the receiver.

Do not use the analyzer if it is damaged. Before using, inspect the case. Look for cracked or missing case parts. Pay particular attention to the insulation surrounding the connectors.

Do not operate the analyzer around explosive gas, vapor, or dust.

When servicing the analyzer, use specified replacement parts only.

Do not connect a telephone line to the analyzer.

Provide adequate ventilation in front of and behind the analyzer.

Table 1 describes the international electrical symbols used on the analyzer and in the accompanying documentation.

Table 1. International Electrical Symbols

Symbol	Meaning
	Warning: Risk of electrical shock.
	Warning or Caution: Risk of damage or destruction to equipment or software.
	This terminal is not for connection to the public telephone network.

Service and Adjustment

Service and adjustment of the analyzer should be performed by trained Fluke Networks service personnel only. If you experience a problem with the analyzer, visit the Fluke Networks website at http:/www.flukenetworks.com, send email to support@flukenetworks.com, or contact your nearest Fluke Networks Service Center to report the problem (see "Contacting Fluke Networks" for a list of telephone numbers).

If the analyzer requires repair, service center personnel will provide you with shipping information and repair prices. If the analyzer is covered under warranty, it will be promptly repaired or replaced (at Fluke Networks' option) and returned to you, postage paid, at no charge. See the registration card for warranty terms. If the warranty has lapsed, Fluke Networks will repair the analyzer for a fixed fee and return it, postage paid, to you.

Contacting Fluke Networks

To contact Fluke Networks, visit our website at http://www.flukenetworks.com or send email to support@flukenetworks.com.

For operating assistance in the USA, call 1-800-283-5853.

To order accessories or to find out the location of the nearest Fluke Networks distributor or service center, call:

- USA: 1-888-99-FLUKE (1-888-993-5853)
- Canada: 1-800-363-5853
- Europe: +44 1923 281 300

- Beijing: 86 (10) 6512-3435
- Japan: +81-3-3434-0181
- Singapore: +65-6738-5655
- Anywhere in the world: +1-425-446-4519

Visit our website for the latest list of phone numbers.

Standard Accessories

Take a moment to check the shipping container to make sure that the contents match the supplied items listed below. Match each item with those shown in Figure 1. If any item is damaged or missing, contact your place of purchase.

- AC power cord (PN 284174 North America; PN 769455 UK; PN 769422 Continental Europe; PN 728771 South Africa; PN 658641 Australia)
- Female-to-female DB-9 null modem RS-232 cable (PN 944806)
- CAT5 patch cable (PN 107109)
- OptiView Resource CD (PN 1626397)
- Registration card
- This *Getting Started Guide* (PN 1778341).

You can order additional software and accessories for the analyzer. See Table 4 for the list of optional accessories.

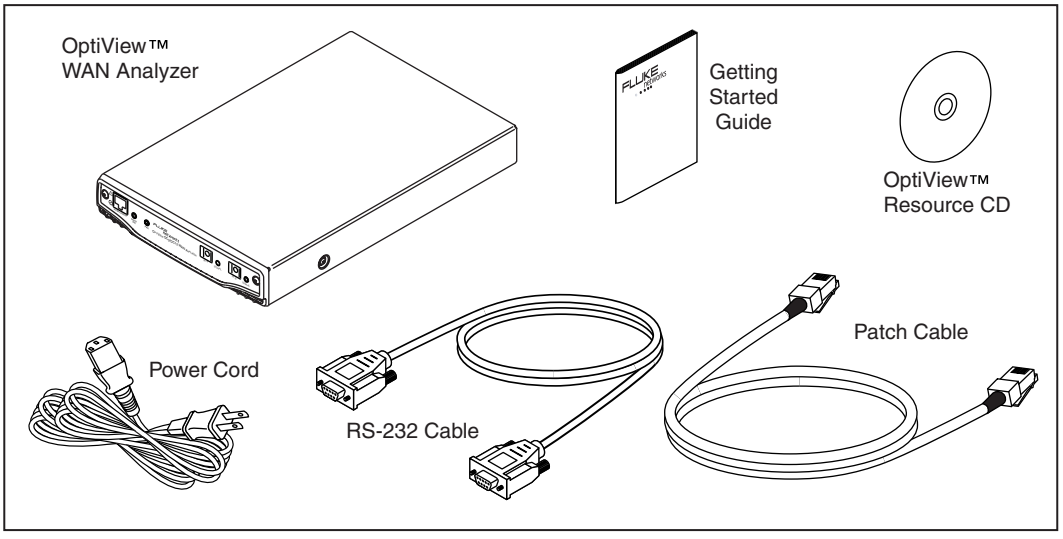

Figure 1. Standard Accessories

Registering the OptiView WAN Analyzer

Please take the time to register your OptiView WAN Analyzer. Either fill out and mail the registration card that is inside of the shipping box or go to the Fluke Networks website http://www.flukenetworks.com/registration to register online.

As a registered user, you are entitled to entry-level product support, including the following:

- Three free telephone support incidents during the first 60 days of ownership
- Access to our entry-level, online Knowledge Base library of product operation and application information
- Web-based trouble ticketing.

We will also send you Fluke Networks company and product information updates.

Front Panel

The OptiView WAN Analyzer's front panel is shown in Figure 2. Following the figure are descriptions of the elements on this panel.

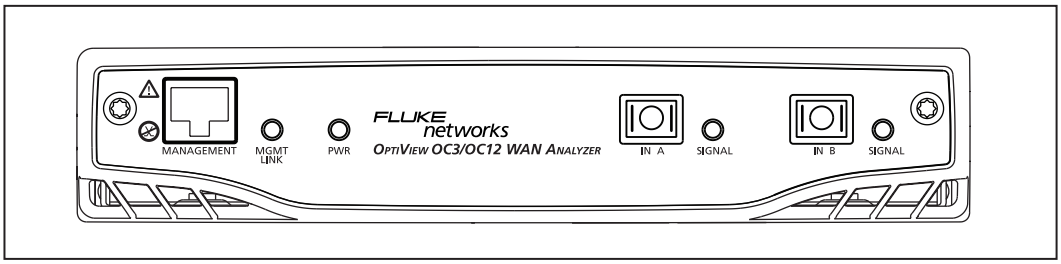

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Figure 2. OptiView WAN Analyzer's Front Panel

Management Port

The management port (Figure 2) is the analyzer's remote control interface. This port, which is located on the analyzer's front panel, is an Ethernet RJ-45 connector that accepts 10BASE-T/100BASE-TX twisted-pair copper cable.

LEDs

The OptiView WAN Analyzer has four LEDs. These LEDs indicate the following conditions:

- **MGMT LINK** (Management Port Link)
  Indicates that a link has been established (lights solid green) on the Ethernet management port. If there is activity on the link, the LED flashes green.
- **PWR** (Power)
  Indicates whether the analyzer is Off or On (lights blue).
- **SIGNAL** (one for each receiver, A and B)
  Indicate the status of the signal detected by each receiver:
  - Green indicates that both a proper signal level and SONET/SDH framing are being detected at the input.
  - Red indicates that no signal is being detected at the input.
  - Yellow indicates that a proper signal level is being detected, but no SONET/SDH framing is being detected at the input.

Receivers

The analyzer has two inbound receivers: **IN A** and **IN B**. The receivers accept SM or MM fiber with SC connectors.

Back Panel

On the analyzer's back panel are the AC power cord receptacle, ground connection, serial configuration port (DB-9 male connector), and the On/Off switch.

Turning on the Analyzer

To turn on the analyzer, do the following:

1. Plug the supplied AC power cord into the power receptacle on the analyzer's back panel.
2. Move the power switch to the On position.

Note

The power switch is located on the back panel above the power cord receptacle.

The **PWR** LED on the front panel lights blue to indicate that the analyzer is turned on.

When the analyzer powers on, it performs a sequence of operations, which includes initializing the processor and memory. If a link is established on the management connection, the **MGMT LINK** LED on the front panel (Figure 2) lights solid green. If there is activity on the link, this LED flashes green. If there is a valid OC3 or OC12 signal on the receivers, the **SIGNAL** LEDs light solid green.

Setting Up the Analyzer

Note

The analyzer's management port IP address is, by default, DHCP-enabled. We suggest that you statically assign the IP address instead of using the default DHCP setting. If you choose to use DHCP, start at Step 2 in the following procedure.

The overall process for setting up the analyzer is outlined below. Follow the steps in the order given. If you need detailed instructions for a particular step, go to the referenced section, then return to this procedure.

1. Statically assign the IP address of the analyzer's management port (see "Statically Assigning the Management Port's IP Address").
2. Deploy the analyzer to the location where the WAN link is to be monitored.
3. Install a tap on the OC3/OC12 WAN link and connect the analyzer to the tap (see "Installing a Tap on the WAN Link").

4. Connect the analyzer to the LAN (see "Connecting the Analyzer's Ethernet Management Port to the LAN").
5. Turn on the analyzer.
6. Connect the PC that will remotely control the analyzer to the network (see "Connecting the PC to the Network").
7. On the remote controlling PC, install the remote user interface software (see "Installing the Remote User Interface").
8. Start the remote user interface software (see "Starting the Remote User Interface").

The analyzer is properly connected if you can connect to it through the **OptiView Browser** (Figure 7) and display the **Front Page** (Figure 9)**.**

Configuring the analyzer is probably the first task that you will want to perform. Initially, you may want to configure the WAN interface type, password controls, and the addresses of remote consoles. Procedures for these tasks are documented under "Configuring the Analyzer". For information on other configuration tasks, consult the online Help.

Statically Assigning the Management Port's IP Address

To statically assign the management port's IP address, complete the following:

1. Connect one end of the supplied RS-232 cable to the 9-pin serial configuration port on the back of the analyzer and the other end to an RS-232 serial port on a PC or terminal.
2. Turn on the analyzer.
3. On the PC, run a terminal emulation application (such as HyperTerminal) to access the serial configuration port command-line interface.

Note

The analyzer's serial configuration port communication parameters are fixed at Baud rate=9600, Data bits=8, Parity=none, and Stop bits=1. Software flow control should be set to Xon/Xoff or none.

4. Press **Enter**.

   A prompt is displayed that includes the SNMP name of the analyzer.

5. At the prompt, type **management**, then press **Enter**.

   The text **/Management**> is appended to the SNMP name to indicate that you are in Management Port configuration mode.

6. Type **ipaddr** *A.B.C.D E.F.G.H*, where *A.B.C.D* is the management port's IP address and *E.F.G.H* is the subnet mask. Press **Enter**.

7. Type **iprouter** *A.B.C.D*, where *A.B.C.D* is the IP address of the default router. Press **Enter**.

8. Type **ippridns** *A.B.C.D*, where *A.B.C.D* is the IP address of the primary DNS server. Press **Enter**.

9. (Optional) Type **ipsecdns** *A.B.C.D*, where *A.B.C.D* is the IP address of the secondary DNS server. Press **Enter**.

10. Type **apply**, then press **Enter** to apply the management port IP settings.

11. Type **show**, then press **Enter**. Verify that the IP address settings for the management port are correct.

12. Type **exit** to leave Management Port configuration mode.

Connecting the Analyzer

This section documents all of the connections you need to make to ensure that the analyzer operates correctly.

Installing a Tap on the WAN Link

You have to connect the analyzer's measurement interface to the WAN link that you want to monitor. To do this, you need to install a fiber tap on that link. A fiber tap is a passive wiring device that provides a method of directly viewing traffic on a full-duplex SONET/SDH fiber optic link from the OptiView OC3/OC12 WAN Analyzer.

A fiber tap is a required piece of equipment. Both multi-mode and single-mode versions are available. Make sure that you have the correct type of fiber tap for your network before you install it on the WAN link. If you use the wrong type, you can cause the signal to be degraded.

You can use another vendor's tap or a Fluke Networks Fiber Tap, which you can purchase separately from Fluke Networks (see "Optional Accessories"). Use SM or MM cables (as appropriate for your network) with SC connectors.

To install a Fluke Networks Fiber Tap, refer to the diagram in Figure 3 as you complete the following:

1. Connect the Fiber Tap **Port A Out** to the **Rx** port on Device A. Connect **Port A In** to the **Tx** port on Device A.
2. Connect the Fiber Tap **Port B Out** to the **Rx** port on Device B. Connect **Port B In** to the **Tx** port on Device B.
3. Connect the Fiber Tap **Out B** to the OptiView WAN Analyzer **IN B** port.
4. Connect the Fiber Tap **Out A** to the OptiView WAN Analyzer **IN A** port.

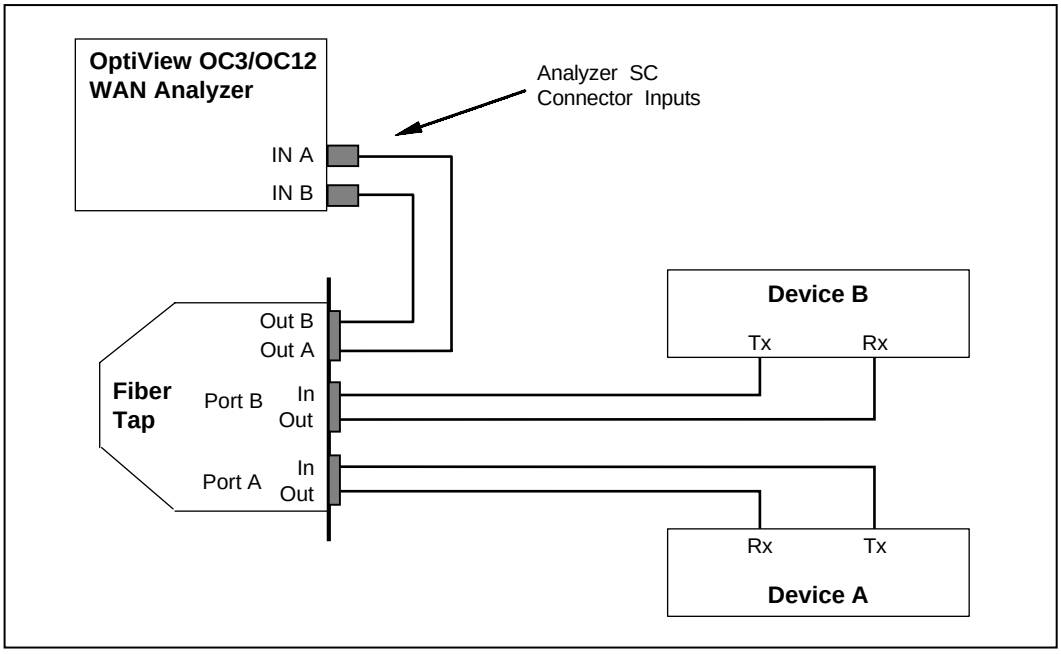

Figure 3. Fluke Networks Fiber Tap Installation Diagram

Out A on the Fiber Tap mirrors traffic transmitted by Device A. **Out B** mirrors traffic transmitted by Device B.

Connecting the Analyzer's Ethernet Management Port to the LAN

You need to connect the analyzer's Ethernet management port to the LAN. Complete the following:

1. Using the supplied (or your own) CAT5 patch cable, connect one end to the **MANAGEMENT** port, which is located on the analyzer's front panel (Figure 2).
2. Connect the other end of the cable to the 10/100 Ethernet network that matches the IP subnet that you statically configured for the analyzer.

Connecting the PC to the Network

The PC that remotely controls the analyzer must be connected to the network. The connection diagrams in Figures 4-6 illustrate the various ways a PC can be connected.

In Figure 4, the PC with the remote user interface software installed is connected to the same Ethernet network (broadcast domain) that the analyzer's management port is connected to:

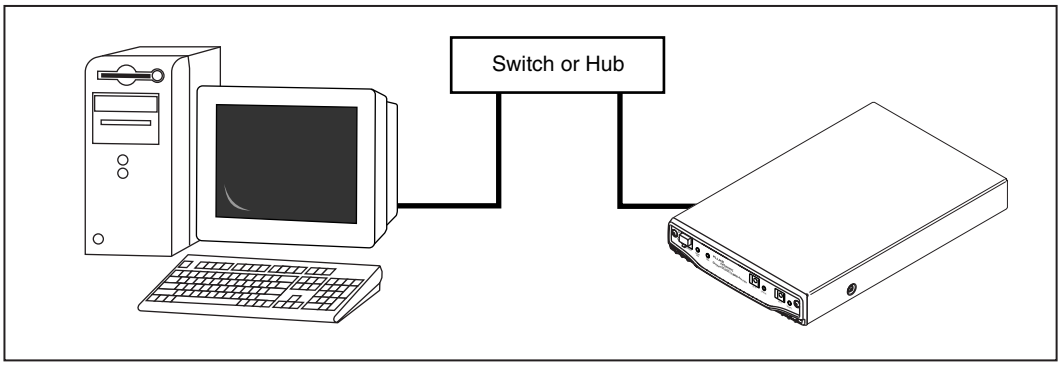

Figure 4. Management Port to LAN Connection

Figure 5 shows a direct connection to a PC. The analyzer's Ethernet management port is connected to the PC's Network Interface Card (NIC):

Note

The PC's IP address must be statically configured to be in the same address range as the OptiView WAN Analyzer.

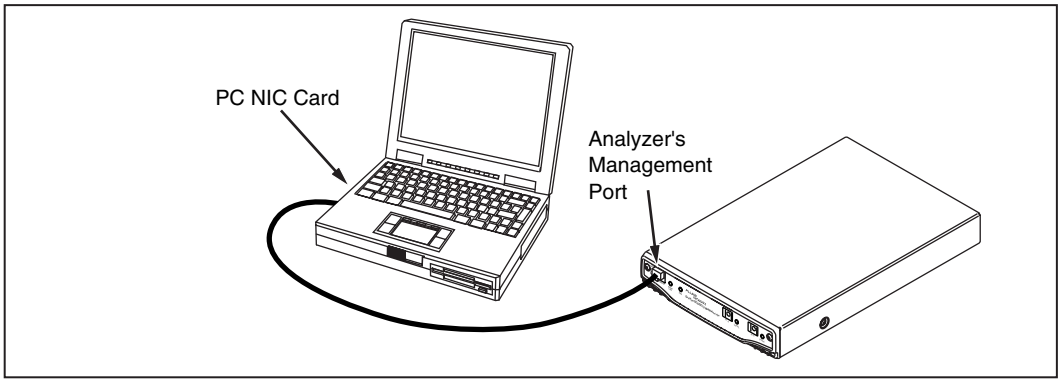

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Figure 5. Direct Connection to a PC

Figure 6 shows a remote connection from the analyzer's Ethernet management port through a WAN to the remote controlling PC:

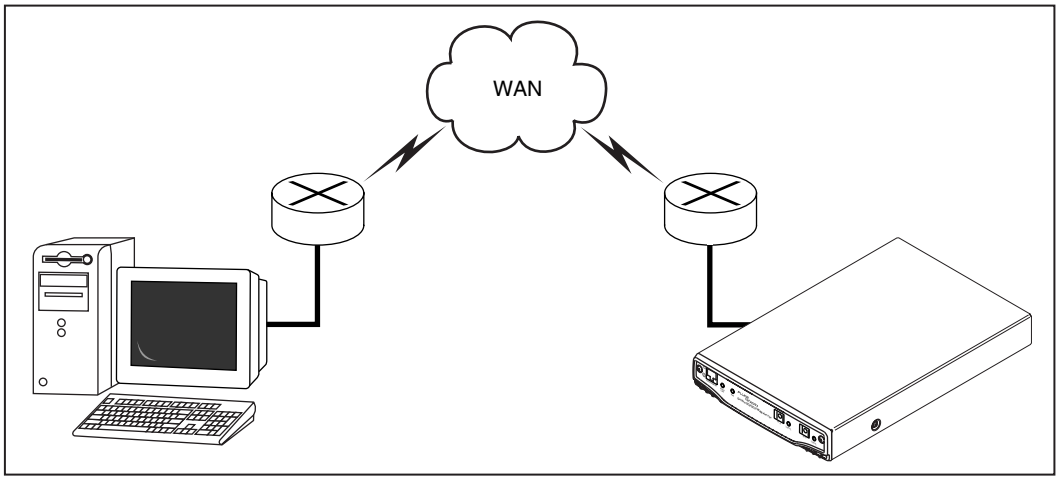

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Figure 6. Remote Management Port Connection through a WAN

The Remote User Interface

The remote user interface software enables your PC to remotely connect to and control any OptiView analyzer within the network that has a path back to the PC. This section shows you how to install the software on a PC, start the program, and access analyzers through the **OptiView Browser**.

System Requirements

To run the remote user interface software, your system must meet the following requirements:

- Windows 98 SE, Windows NT 4.0 with Service Pack 5 or greater (with Administrative privileges), Windows 2000, or Windows XP
- A minimum of 65 MB of temporary hard disk space (for installation)
- Microsoft TCP/IP stack
- Winsock 2.0
- 200 MHz Pentium processor
- 128 MB system RAM (running multiple instances of the software requires more memory; typically 16 MB per session)
- 800 x 600 video SVGA display
- 120 MB disk drive space
- CD-ROM drive.

Installing the Remote User Interface

To install the remote user interface software, do one of the following:

- Insert the *OptiView Resource* CD in the CD-ROM drive of the remote controlling PC. Click the **Install Remote User Interface** button, then follow the on-screen instructions to complete the installation.

  OR

- Double-click the file **Launch.exe**, which is located in the root directory of the supplied *OptiView Resource* CD. Click the **Install Remote User Interface** button, then follow the on-screen instructions to complete the installation.

After you install the program, an icon appears on the desktop of the remote controlling PC.

Starting the Remote User Interface

To start the remote user interface:

1. On the remote controlling PC, double-click the desktop icon for the OptiView Analyzer remote user interface or select the program from the **Start** menu.

   The **OptiView Browser** (Figure 7) is displayed.

2. To connect to an analyzer, do the following:

   - In the IP address list, select or enter the IP address of the analyzer you want to connect to.

     OR

   - Select the analyzer from the list of analyzers at the bottom of the screen. Then, click the Start User Interface button (Figure 7).

You are connected to the analyzer when the **Front Page** screen (Figure 9) is displayed. See “The Front Page” for details.

The OptiView Browser

The **OptiView Browser** (Figure 7) is the first screen that you see when you start the remote user interface software on the remote controlling PC. From this screen, you can access any OptiView analyzer within the network that has a path to the remote controlling PC.

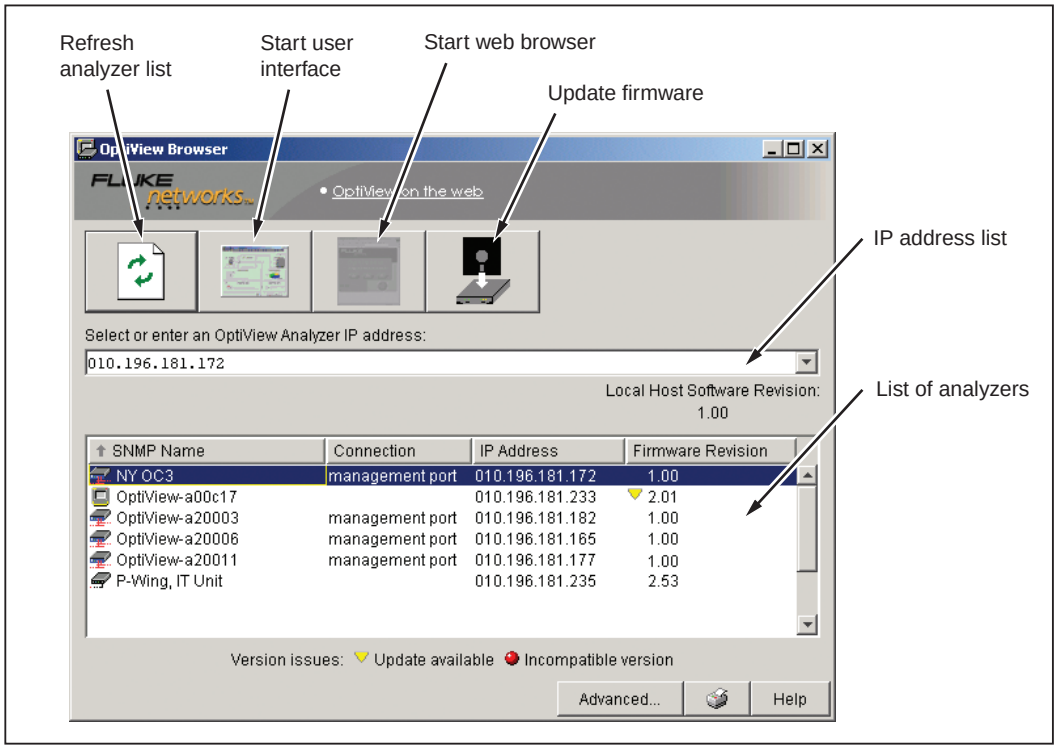


Figure 7. The OptiView Browser

The **OptiView Browser** has five main areas:

- Task buttons
  Click the buttons (located at the top of the screen) to perform these tasks:

Re-displays the list of OptiView analyzers. Any analyzer that is in the same local network appears in this list.

Starts the remote user interface for the selected analyzer.

Starts the Web Browser. (Applies to OptiView Integrated Network Analyzers only. This button is not available if an OptiView Workgroup Analyzer or OptiView WAN Analyzer is selected.)

Updates the selected analyzer's firmware. (Does not apply to OptiView Integrated Network Analyzers.)

- IP address list
  Provides an entry field for you to type the IP address of the OptiView analyzer that you want to connect to. Previously entered IP addresses are retained in the list so, alternatively, you can click the drop-down arrow and select an address.
- Local Host Software Revision
  Displays the revision of the remote user interface software installed on the PC. If ▼ appears next to the Local Host Software Revision, you need to update the remote user interface software.
- List of analyzers
  Any OptiView analyzer that is in the same local network as your PC appears in this list. If an analyzer is not in the same local network, its name appears in the list if you added the PC's IP address to the analyzer's **Remote Consoles** list.

Note

*To add a PC's IP address to the **Remote Consoles** list, see "Setting the Remote Controlling PC's IP Address".*

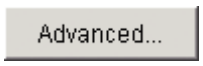
The following information is provided for each analyzer:

- **SNMP Name**: the user-specified name of the analyzer.
- **Connection**: the type of connection (management port for WAN analyzers).
- **IP Address**: the analyzer's IP address.
- **Firmware Revision**: displays the firmware version of the analyzer. To the right of the firmware version, you may see one of the following symbols:

  Update available indicates that the analyzer's firmware is older than the user interface software on your PC and that a software update is available. If this symbol is displayed, you need to update the firmware (see "Updating the Software").

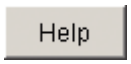
  Incompatible version indicates that the analyzer firmware is not compatible with the user interface software on your PC. If this symbol is displayed, you need to update the analyzer's firmware (see "Updating the Software").

- Utility Buttons
  Three utility buttons are located in the lower right corner:



This button does not apply to OptiView WAN Analyzers. It is used if a software update for a remote OptiView Workgroup Analyzer fails during the update process.

Click to print the contents of the currently displayed screen on the default printer.



Click to display OptiView Browser Help.

The Online Help

The remote user interface software has a built-in Help system. As you operate the analyzer, you can obtain immediate assistance and information about any screen you are currently viewing by clicking the **Help** button. This button is located in the lower right corner of every screen.

Changing the Default Language for Help

The default language setting for Help is English. To change the language, do the following:

1. Start the remote user interface software for the analyzer.
2. Click **Setup** to display the Setup screen, then select **Version**.
3. In the **Language** selection box (Figure 8), select the desired language to display the Help:

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Figure 8. Selecting a Language for Help Displays

Finding a Help Topic

To search the Help for a particular topic, you can use the navigational tabs that are displayed directly above the left pane of the Help window:

These tabs give you three ways to locate a topic within the Help system:

- Click **Contents** to display a table of contents organized by topic.
- Click **Index** to display a multi-level list of keywords, phrases, and terms that are associated with Help topics.
- Click **Search** and supply a specific word or phrase that you want to locate. When you click this tab, a text entry box is displayed that prompts you to supply a keyword to search the Help for.

Navigating the Help

Click the **Back** and **Forward** buttons to quickly move back and forth, respectively, between previously viewed Help topics:

Opening and Closing the Left Pane

Depending on how you like to work, you can open or close the left pane.

Click to close the left pane and make more room for Help topics.

Click to open the left pane where navigational tabs and a table of contents are displayed.

Printing Help Topics

To print a Help topic, click  . This button lets you print the selected topic or the selected heading and all subtopics under that heading.

The Front Page

The **Front Page** (Figure 9) is the first screen that is displayed after you connect to an analyzer:

Note

*The figure below shows the **Front Page ATM** screen. If the analyzer's WAN interface is configured for Packet over SONET, the **Front Page** screen for PoS is displayed.*

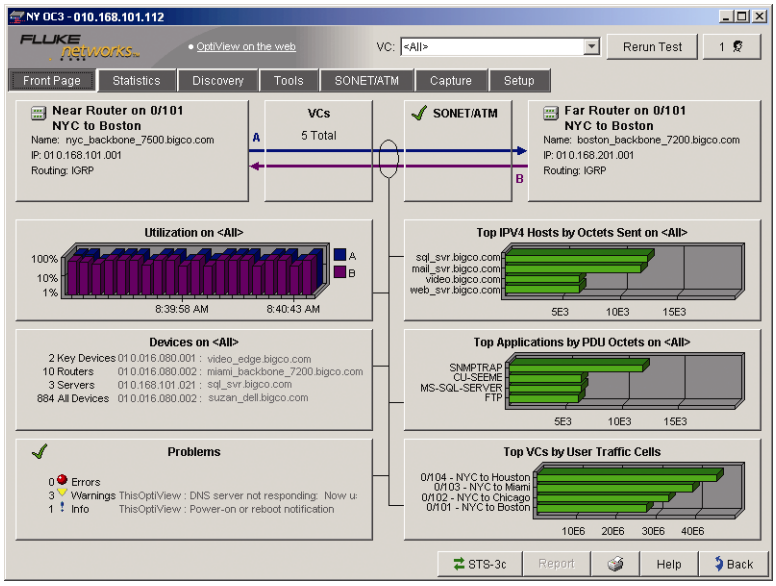

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Figure 9. Front Page ATM Screen

The **Front Page** provides a "macro" view of the status and health of a WAN link from the physical layer to the application layer by alerting you to problems and providing critical network utilization and performance information.

On this screen, measured parameters are analyzed, "rolled up", and summarized for you on individual status buttons The combined information on all of the buttons gives you a quick update on a link's overall condition. To view the details behind any summary, click the desired button. **Front Page** buttons are described in Table 2.

For ATM, you can view **Front Page** statistics for all VCs on the WAN link by selecting **<All>**:

Or you can select a particular VC to view statistics for that circuit only.

Main Front Page Buttons

The **Front Page ATM** screen has 10 main buttons while **Front Page PoS** has eight. Table 2 summarizes the functions of the **Front Page** buttons. For detailed information about these buttons, access the online Help within the remote user interface software.

Table 2. Front Page Main Buttons

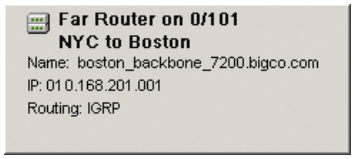
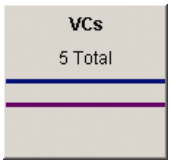
Button	Description
 **Router**	The two Router buttons represent the near-end and far-end routers. Each button displays the IP address of the router and the routing protocol used. If a routing protocol runs between the two routers, both Router buttons are available and you can click either one to view detailed information about that router. For ATM, the VPI/VCI of the ATM link and the user-defined VC description (if specified) are also shown.
 **VCs (ATM only)**	Displays the total number of virtual circuits that the analyzer discovered on the WAN link. Click to display detailed information about each discovered VC.

Table 2. Front Page Main Buttons (continued)

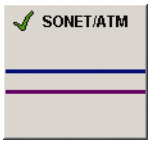
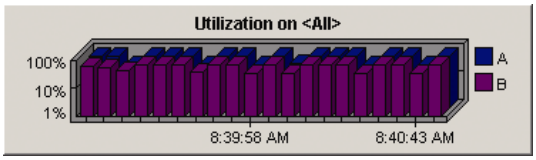
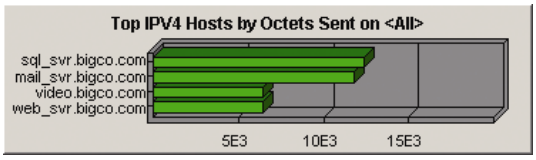
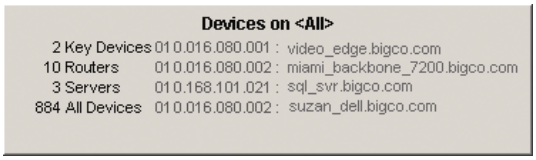
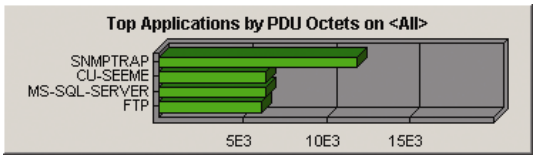
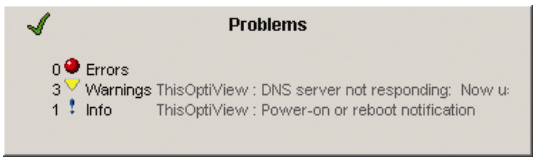
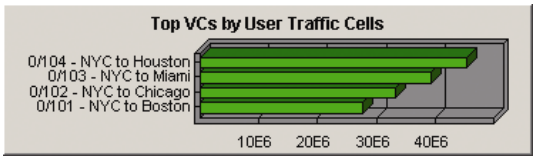
Button	Description
 **SONET/ATM**	Provides information on the status of the WAN physical layer (SONET/SDH) and the ATM layer (ATM only). A ✓ indicates that the link is up and that no problems are currently being detected. An ✗ alerts you that the analyzer is currently detecting errors and/or alarms. If **Current Errors** or **Previous Errors** is displayed on this button, click it to find out what SONET/SDH or ATM errors and alarms were detected.
 **Utilization**	Displays bandwidth utilization statistics in both directions (A and B) for the entire WAN link or for a selected VC (ATM only). Click this button to display detailed bandwidth utilization statistics.
 **Top Hosts**	Displays the leading four transmitting hosts (devices) on the WAN link that the analyzer is connected to. This measurement is based on the octet count of IPv4 packets sent by all hosts using the WAN link or a selected VC (ATM only). Click this button to display detailed information on the leading 50 hosts.
 **Devices**	Displays the number of devices by type that the analyzer discovered on the entire WAN link or on a selected VC (ATM only). Specific address and domain names are given. Device discovery is periodically cycled and updated. Click this button to view details for each discovered device.

Table 2. Front Page Main Buttons (continued)

Button	Description
 **Top Applications**	Displays the leading four TCP or UDP applications detected by the analyzer on the entire WAN link or on a selected VC (ATM only). These four applications are generating the highest combined output of octets for directions A and B. Click this button to view detailed information on the leading 50 applications.
 **Problems**	The OptiView WAN Analyzer can automatically detect common WAN link problems. This button displays a summary of the number of problems detected for each level of severity. A ✓ indicates that the link is problem free while an ✗ alerts you to problems. The critical errors ●, warning ▼, and information ! symbols are used on this button and throughout the user interface to identify devices experiencing problems. Click this button to view specific events detected by the analyzer.
 **Top VCs (ATM only)**	Displays the leading four VCs on the WAN link that the analyzer is connected to. This measurement is based on the total traffic cell counts for directions A and B combined. Click this button to view detailed traffic cell counts for all VCs.

Additional Front Page Buttons

Additional Front Page buttons are listed in Table 3. These buttons are located in the upper and lower portions of the **Front Page** and may be available on other user interface screens. For detailed information on the functions of these buttons, access the online Help within the remote user interface software.

Table 3. Additional Front Page Buttons

Button	Description
Rerun Test	Click this button to clear gathered statistics and discovery information. The **Front Page** is updated with the latest network information.
1	Displays the number of users (or remote control sessions on a single PC) that are currently connected to the analyzer through the OptiView remote user interface software. Click to display the **Sessions** window, which provides detailed information on each connected user.
STS-3c	Indicates the status of the signal and framing format in each direction on the link: • A green arrow indicates that both a proper signal level and SONET/SDH framing are being detected at the input. • A red arrow indicates that no signal is being detected at the input. • A yellow arrow indicates that a proper signal level is being detected, but no SONET/SDH framing is being detected at the input.
Help	Click to display OptiView WAN Analyzer Help. This button is located in the lower right corner of every screen.
Back	This button works only with buttons that contain the forward arrow . When you display a screen by clicking a button that contains a forward arrow, click this button to return to the previously displayed screen.
Report	This button is available only on certain screens. Click it to save results that are displayed on the current screen and put them into an HTML file. When prompted, use the file name provided or specify your own. Reports are saved in the **c:\Program Files\FlukeNetworks\OptiView\Reports** folder.

Configuring the Analyzer

This section shows you how to display the setup screens and provides a few basic procedures to configure the analyzer through the remote user interface. The remote user interface software must be installed on the remote controlling PC. See "Installing the Remote User Interface" for instructions.

Note

You can also configure the analyzer through the serial configuration port. See the online Help for details.

To configure the analyzer through the remote user interface, do the following:

1. Start the remote user interface on the remote controlling PC as described under "Starting the Remote User Interface".
2. Click **Setup** to display the Setup screens (Figure 10):

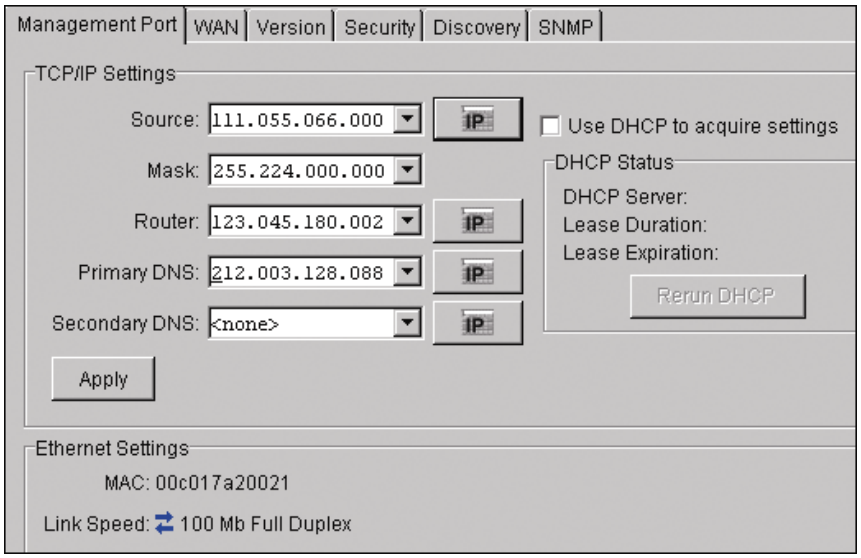


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Figure 10. Setup Screens

Setting the Management Port's IP Address

Previously, when you set up the analyzer (under "Setting Up the Analyzer"), you statically assigned the management port's IP address through the serial configuration port. If you want to change that configuration now or use a DHCP-assigned IP address, complete the following:

1. Click **Management Port**.
2. In the **TCP/IP Settings** section:
   - To use a DHCP-assigned address, check the **Use DHCP to acquire settings** box.

     OR
   - To use a static IP address, select or type IP address information in the **Source**, **Mask**, **Router**, **Primary DNS**, or (optional) **Secondary DNS** fields.
3. Click Apply to apply the change.

   This warning is displayed: `Connection to remote OptiView analyzer may be lost. Proceed anyway?`
4. Click Yes.

   If you lose the remote connection to the analyzer because you changed the IP address, you can reconnect through the **OptiView Browser** as described under "Starting the Remote User Interface".

Setting the WAN Interface Type

To set the WAN technology and configure the physical layer parameters:

1. Click **WAN**.
2. Select a WAN setting (**Asynchronous Transfer Mode—ATM** or **Packer over SONET—PoS**).

Note

The analyzer uses the setting you select to determine the appropriate remote user interface to display.

3. Configure the physical layer parameters for **ATM** or **PoS**.
4. When you finish, click Apply to apply the changes.

   This warning is displayed: `The WAN type has been changed. This will cause the analyzer to reboot, resulting in data loss. Proceed?`
5. Click Yes.

Setting the Remote Controlling PC's IP Address

If you plan to have a PC that is outside of the local broadcast domain remotely control the analyzer, you need to configure the analyzer with that PC's IP address. When the analyzer is connected, it will send a hello packet back to the PC you specify. The analyzer's IP address will automatically appear in the **OptiView Browser** list, allowing the PC to directly connect to it.

It is recommended that you supply the IP address of at least two remote controlling PCs, one of which can serve as a backup. You can use this procedure to provide the IP addresses for up to 20 PCs.

To set the remote controlling PC's IP address:

1. Click **Security**.
2. In the **Remote Consoles** section, click Add.. Then, enter the IP address of the PC running the remote user interface software.
3. Click OK to add the address to the list.

Setting Password Controls

The OptiView WAN Analyzer is shipped with no default password. To enable password protection, you need to create a password. After a password is set, only users who know the password can view and change parameters on the **Security** screen, update the analyzer's firmware, or access the serial configuration port.

Additionally, you can password-protect any one or all of the following features:

- Packet/cell capture
- Ability to rerun tests
- Ability to run the remote user interface software.

A password is case sensitive and has a maximum length of 40 characters. You can use any printable ASCII character, including spaces.

To password-protect the analyzer:

1. Click **Security**.
2. In the **Password Control** section, click Create Password. Supply a password in the **New password** and **Confirm password** boxes, then click OK to save.
3. In the **Feature Selection** section, you can password-protect additional analyzer features by doing the following:

   - Check the **Password required to capture** box to prevent other users from performing captures.
   - Check the **Password required to rerun test** box to prevent other users from rerunning tests.
   - Check the **Password required to run remote user interface** box to prevent other users from running a remote user interface and connecting to the analyzer at all.

Updating the Software

From time to time, improvements are made to the remote user interface software and the analyzer's firmware. You can obtain the latest version of software by visiting our website and downloading the update file to the PC that you use to control the analyzer. If you prefer to have newer versions supplied to you on a CD, call your nearest Fluke Networks distributor or service center to obtain the CD.

Note

To be notified when a new software update is available for the analyzer, go to our website and register the analyzer.

The update process has two main steps:

1. Update the remote user interface software on the PC.
2. Update the firmware on each OptiView WAN Analyzer to match the software version on the PC.

Step 1: Update the Remote User Interface Software on the PC

To update the remote user interface software:

1. Do one of the following:
   - Run the **Launch.exe** file on the supplied *OptiView Resource* CD.

     OR

   - If the file was downloaded from the website, run the downloaded executable file.
2. Follow the **InstallShield** program instructions to update the existing user interface software.

Step 2: Update the Analyzer's Firmware

Notes

You cannot use this procedure to update an OptiView Integrated Network Analyzer. See the documentation supplied with that analyzer for instructions.

To determine if an analyzer's firmware needs to be updated, look at the list of analyzers in the ***OptiView Browser****. If this Version Issue symbol is displayed next to the firmware revision for an analyzer, you should update its firmware:* .

For each analyzer that you want to update, complete the following:

1. Start the remote user interface software on the remote controlling PC.
2. In the **OptiView Browser**, do one of the following:
   - If the analyzer that you want to update is in the list of analyzers, select it. Then, click the Update Firmware button (see Figure 7) and follow the on-screen instructions to start the update process.

     OR

   - If the analyzer is not in the list of analyzers, type its address in the IP address list. Press **Enter**, then follow the on-screen instructions to start the update process.

   After the new firmware is installed on the analyzer, the **Transfer Complete** box is displayed.
3. Click OK.

Optional Accessories

Table 4 lists optional software and accessories that you can purchase for any model of the OptiView WAN Analyzer. To order accessories or software, contact Fluke Networks Customer Service (see "Contacting Fluke Networks" for details).

Table 4. Optional Accessories for OptiView WAN Analyzers

Item	Description	Model/Part Number
OptiView Protocol Expert	The Fluke Networks Windows-based protocol analyzer for network engineers, LAN administrators, and network technicians who maintain LANs and WANs. The application allows you to monitor and decode captured packets on your local network. The application decodes OptiView WAN Analyzer packet capture files.	OPV-PE/PRO PN 1627440
OptiView Console	The Fluke Networks OptiView Console application is a Windows software tool for network engineers, LAN administrators, and network technicians who maintain LANs and WANs. The application allows you to monitor, document, and troubleshoot LAN segments and WAN links.	Call a Fluke Networks sales representative
19" Rackmount Kit	Rackmount kit for mounting one or two OptiView WAN or Workgroup analyzers or a WAN Analyzer and one Fiber Tap	OPV-RMK/ PN 1606511
Ruggedized transit case	Ruggedized transit case for shipping analyzers to remote sites.	OPV-TCASE PN 1630617
MM Fiber Tap	Passive Multi-Mode Fiber Tap, 1 port	FTAP-101

Table 4. Optional Accessories for OptiView WAN Analyzers (continued)

Item	Description	Model/Part Number
SM Fiber Tap	Passive Single-Mode Fiber Tap, 1 port	FTAP-102
Rackmount Kit for Three Fiber Taps	A rackmount kit for mounting three Fiber Taps (19”)	FTAP-003
Rackmount Kit for 12 Fiber Taps	A rackmount kit for mounting 12 Fiber Taps (19”)	FTAP-012
RS-232 Cable	Female-to-female DB-9 null modem RS-232 cable	PN 944806
CAT5 patch cable	Patch cable for connecting the management port to a 10/100 Ethernet interface	PN 107109
Gold Service Package	OptiView WAN Analyzer Gold Service Support package	Call a Fluke Networks sales representative
OC3 to OC3/OC12 upgrade	Service Center upgrade to change an OC3 model into a OC3/OC12 model	OPV-OC12EK

OptiView WAN Analyzer Specifications

Table 5 lists the electrical and mechanical specifications for the OptiView WAN Analyzers.

Table 5. Electrical and Mechanical Specifications

Weight: 1.2 kilograms (2.8 lbs.)
Size: (H x W x D): approximately 4.1 cm x 21.1 cm x 32.8 cm (1.6 inches x 8.3 inches x 12.9 inches)
AC input: 85 to 265 VAC; 47/63 Hz; 25 watts. Blue power LED indicator.
Test Access: Passive dual receivers for monitoring full duplex links via an optical tap connection.
Layer 2 Support: Asynchronous Transfer Mode (ATM) and Packet over SONET (PoS)
Network Analysis Interfaces: OC3 and OC12, SM or MM (SC)
Network Analysis LEDs: Signal Status (IN A and IN B)
Receive Sensitivity: • OC3/OC12 WAN Analyzer: -30 dBM (typical) • OC3 WAN Analyzer: -36 dBm (typical)
Capture Memory: 256 MB (shared between receivers)
Serial Configuration Port: Serial RS-232 (9-pin male)
Management Port: 10BASE-T/100BASE-TX (RJ-45) Ethernet, Full and Half Duplex
Management Port LEDs: Link/TX (solid green for link and flashing green for activity)
Shock and vibration: Meets requirements of MIL-PRF-28800F for Class 3 equipment
Operating Temperature: • 10º C to 30º C (50º F to 86º F) with up to 95 % relative humidity • 10º C to 40º C (50º F to 104º F) with up to 75 % relative humidity **Non-Operating Temperature**: -20º C to +60º C (-4º F to +140º F)
Connection to public telephone network: Do *not* connect the analyzer's network interfaces to public telephone systems.

Table 5. Electrical and Mechanical Specifications (continued)

Safety: c SP us Complies with CSA C22.2 No. 950 Canadian standards, UL 1950 US standards, and EN60950 3rd edition (CE Mark). CLASS 1 Laser Product.
EMC: CE Complies with EN61326 Class A.
Framing Formats: SDH (STM-1 and STM-4) ITU G.707; SONET (STS-3c and STS-12c) GR-253-CORE, ANSI T1.105
RFC Compliance: 2684 (obsoletes 1483) Multiprotocol Encapsulation over ATM Adaptation Layer 5; 2364 PPP Over AAL5; 2819 (obsoletes 1757) RMON MIB; 2021 RMON2 MIB; 2895 RMON Protocol Identifier Reference; SMIv2 [2011 IP, 2012 TCP, 2013 UDP]; 2558 (obsoletes 1595) SONET/SDH MIB; HC-RMON-MIB (IETF draft) RMON for High Capacity Networks; RFC 2233 (obsoletes 1573) IF-MIB.
ATM Forum IEs: AF-NM-TEST-0080.000 ATM RMON MIB objects