ATMbook Device

Regulatory Information

FCC Warning

The following warning is required by FCC regulations for all Class A digital devices or peripherals.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of the equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Certifications


Conformity to European electromagnetic compatibility (EMC) standard EN 50082-1, 1997 to include: EN 61000-4-2 ESC immunity; EN 61000-4-3 Radiated EMC; EN 61000-4-4 EFT/Burst immunity; EN 61000-4-5 Surge; EN 61000-4-6 Conducted radio frequency immunity; EN 61000-4-11 Voltage dips/interruptions; EN 61000-3-2 Harmonic current emissions; EN 61000-3-3 Voltage fluctuations/flicker.

Other Certifications:

Conformity to Japanese Class 2 emissions standard VCCI.

Caution: The OC-12c and OC-3c single-mode, fiber-optic interfaces are Class 1 laser devices. As such, they are considered safe based upon current medical knowledge.
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About This Manual

This document describes how to install, connect, and configure the ATMbook to monitor traffic, capture data, and generate packets with the Sniffer Pro application. The document contains the chapters listed and described in Table i.

Table i. ATMbook Installation, Connection, and Configuration Chapters

<table>
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<th>Chapter</th>
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</tr>
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<tr>
<td>Chapter 1</td>
<td><strong>Introducing the ATMbook</strong> describes the ATMbook physical characteristics and provides the minimum system requirements for a Sniffer Pro system with an ATMbook.</td>
</tr>
<tr>
<td>Chapter 2</td>
<td><strong>Installing the Phy</strong> describes the physical interface (Phy), explains how to install the Phy into the ATMbook, and identifies the incoming and outgoing connections on the Phy.</td>
</tr>
<tr>
<td>Chapter 3</td>
<td><strong>Connecting the ATMbook</strong> explains how to connect the ATMbook to the Sniffer Pro PC or Network hub, and instructs how to install a passive optical splitter or bridge tap.</td>
</tr>
<tr>
<td>Chapter 4</td>
<td><strong>Configuring the ATMbook</strong> provides configuration information for new and existing ATMbook installations.</td>
</tr>
<tr>
<td>Chapter 5</td>
<td><strong>Upgrading the ATMbook</strong> provides the procedure you must follow to upgrade your existing ATMbook and maintain compatibility with Sniffer Pro 4.7.</td>
</tr>
<tr>
<td>Chapter 6</td>
<td><strong>Capturing Data with the ATMbook</strong> explains and defines the capture options you may set to capture data using the ATMbook with the Sniffer Pro application.</td>
</tr>
<tr>
<td>Chapter 7</td>
<td><strong>Generating Packets with the ATMbook</strong> explains how to define packet transmission parameters and buffer transmission parameters so you may begin generating packets on an ATM network.</td>
</tr>
</tbody>
</table>
### Other Manuals for the Sniffer Pro

*Table ii* lists other manuals provided by Network Associates to describe specific Sniffer Pro features.

#### Table ii. Additional Sniffer Pro Manuals (1 of 2)

<table>
<thead>
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<th>Manual</th>
<th>Contents</th>
</tr>
</thead>
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<tr>
<td><strong>Sniffer Pro Installation Guide</strong></td>
<td>Describes how to install the Sniffer Pro application and enhanced drivers.</td>
</tr>
<tr>
<td><strong>Sniffer Pro Getting Started Guide</strong></td>
<td>Provides a comprehensive overview of all Sniffer Pro features.</td>
</tr>
<tr>
<td><strong>Sniffer Pro Expert Alarms Reference</strong></td>
<td>Describes each of the alarms generated by the Sniffer Pro’s Expert analyzer, along with their related thresholds.</td>
</tr>
<tr>
<td><strong>Sniffer Wireless Installation and Operations Guide</strong></td>
<td>Describes how to install, configure, and operate the Sniffer Pro with a supported wireless network adapter.</td>
</tr>
<tr>
<td><strong>Switch Expert Connection and Configuration Guide</strong></td>
<td>Describes how to connect and configure the Sniffer Pro to use Switch Expert features.</td>
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<tr>
<td><strong>ATM Adapter Card Installation, Connection, and...</strong></td>
<td>Describes how to install, connect, and configure the Sniffer Pro when using ATM hardware. Describes ATM interface pods.</td>
</tr>
<tr>
<td><strong>Full Duplex 10/100 Ethernet Installation and...</strong></td>
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<tr>
<td><strong>Gigabit Ethernet Installation and...</strong></td>
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<td><strong>WAN Adapter Cards Installation, Connection, and...</strong></td>
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<tr>
<td><strong>Snifferbook Ultra Installation and Operations Guide</strong></td>
<td>Describes how to install and configure the Snifferbook Ultra unit and optional phys.</td>
</tr>
<tr>
<td><strong>Using the Snifferbook</strong></td>
<td>Describes how to install, connect, and configure the Sniffer Pro when using the Snifferbook.</td>
</tr>
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Contacting Network Associates

Customer Service

For questions, comments, or requests concerning the software or hardware you purchased, your registration status, or similar issues, contact the Network Associates Customer Service department. The department hours of operation are 8:00 AM to 8:00 PM Central time, Monday through Friday.

Table iii. Contact Information for Corporate-licensed Customers

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone</td>
<td>(800) SNIFFER (800-764-3337)</td>
</tr>
<tr>
<td>E-Mail</td>
<td><a href="mailto:services_corporate_division@nai.com">services_corporate_division@nai.com</a></td>
</tr>
<tr>
<td>Web</td>
<td><a href="http://www.nai.com">http://www.nai.com</a></td>
</tr>
<tr>
<td>Mail</td>
<td>Network Associates Customer Service</td>
</tr>
<tr>
<td></td>
<td>13465 Midway Rd.</td>
</tr>
<tr>
<td></td>
<td>Dallas, Texas 75244</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
</tbody>
</table>

Technical Support

Network Associates is dedicated to customer satisfaction. We provide answers to technical support issues on the following World Wide Web site: http://www.support.nai.com

If the automated web services do not have the answers you need, corporate-licensed customers can call 1-800-SNIFFER (1-800-764-3337)
Monday through Friday between 8:00 AM and 8:00 PM Central time to contact Network Associates.

To provide the answers you need quickly and efficiently, the Network Associates technical support staff needs some information about your computer and software. Please have this information ready before you call:

- Sniffer product name and version number
- Computer brand and model
- Additional hardware or peripherals connected to your computer
- Operating system and version number(s)
- Network type and version, if applicable
- Contents of your AUTOEXEC.BAT, CONFIG.SYS, and system LOGIN script
- Specific steps to reproduce the problem

**Getting Help with Web Site Downloads**

To get help with navigating or downloading files from the Network Associates Web sites or FTP sites, call Corporate Customer Support at 1-972-308-9960.

**Virus Scan Information**

Sniffer Technologies scans all Sniffer Appliances and servers with McAfee Virus Scan as part of our manufacturing process. All products are shipped to customers virus-free.

Sniffer products are typically installed within the corporate infrastructure where known viruses have been eliminated, therefore there is little value in installing anti-virus software on Sniffer units. Installing such software is not supported and may adversely affect system performance.

Sniffer Technologies continues to test released software with updates and patches to Microsoft software. A list of supported versions is available through Tech Support. We encourage our customers to periodically update their units with the latest supported Microsoft patches.

**Sniffer University Training**

Since 1991, over 70,000 customers have completed Sniffer University training. Our customers typically are Network Administrators, Field Technicians, Network Managers, and Technical Support personnel for
medium to large size companies that proactively manage and troubleshoot expanding networks.

Customers find our education to be of great value in enhancing and updating their skills as well as providing an opportunity for achieving a Sniffer-specific certification through the Sniffer Certified Professional Program (SCPP).

We provide complete course and registration information regarding Sniffer University worldwide training and certification on our World Wide Web site: http://www.sniffer.com/education/default.asp
# International Contact Information

To contact Network Associates outside the United States, use the addresses, phone and fax numbers listed in Table iv.

## Table iv. International Offices

<table>
<thead>
<tr>
<th>Location</th>
<th>Name</th>
<th>Address</th>
<th>Phone and Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Network Associates Australia</td>
<td>Level 1, 500 Pacific Highway St. Leonards, NSW Sydney, Australia 2065</td>
<td>Phone: 61-2-8425-4200 Fax: 61-2-9439-5166</td>
</tr>
<tr>
<td>Austria</td>
<td>Network Associates Austria</td>
<td>Pulvermuehlstrasse 17 Linz, Austria Postal Code A-4040</td>
<td>Phone: 43-732-757-244 Fax: 43-732-757-244-20</td>
</tr>
<tr>
<td>Belgium</td>
<td>Network Associates Belgique</td>
<td>BDC Heyzel Esplanade, boîte 43 1020 Bruxelles Belgique</td>
<td>Phone: 0032-2 478.10.29 Fax: 0032-2 478.66.21</td>
</tr>
<tr>
<td>Brazil</td>
<td>Network Associates do Brasil</td>
<td>Rua Geraldo Flausino Gomez 78 Cj. - 51 Brooklin Novo - São Paulo SP - 04575-060 - Brasil</td>
<td>Phone: (55 11) 5505 1009 Fax: (55 11) 5505 1006</td>
</tr>
<tr>
<td>Canada</td>
<td>Network Associates Canada</td>
<td>139 Main Street, Suite 201 Unionville, Ontario Canada L3R 2G6</td>
<td>Phone: (905) 479-4189 Fax: (905) 479-4540</td>
</tr>
<tr>
<td>China</td>
<td>Network Associates People’s Republic of China</td>
<td>New Century Office Tower, Room 1557 No. 6 Southern Road Capitol Gym Beijing People’s Republic of China 100044</td>
<td>Phone: 8610-6849-2650 Fax: 8610-6849-2069</td>
</tr>
<tr>
<td>Denmark</td>
<td>Network Associates Denmark</td>
<td>Lautruphoej 1-3 2750 Ballerup Danmark</td>
<td>Phone: 45 70 277 277 Fax: 45 44 209 910</td>
</tr>
<tr>
<td>Finland</td>
<td>NA Network Associates Oy</td>
<td>Mikonkatu 9, 5. krs. 00100 Helsinki Finland</td>
<td>Phone: 358 9 5270 70 Fax: 358 9 5270 7100</td>
</tr>
</tbody>
</table>
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<th>Location</th>
<th>Name</th>
<th>Address</th>
<th>Phone and Fax</th>
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<tbody>
<tr>
<td>France</td>
<td>Network Associates France</td>
<td>50 Rue de Londres 75008 Paris France</td>
<td>Phone: 33 1 44 908 737</td>
</tr>
<tr>
<td></td>
<td>S.A.</td>
<td></td>
<td>Fax: 33 1 45 227 554</td>
</tr>
<tr>
<td>Germany</td>
<td>Network Associates Deutschland GmbH</td>
<td>Ohmstraße 1 D-85716 Unterschleißheim Deutschland</td>
<td>Phone: 49 (0)89/3707-0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: 49 (0)89/3707-1199</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Network Associates Hong Kong</td>
<td>19th Floor, Matheson Centre 3 Matheson Way Causeway Bay Hong Kong 63225</td>
<td>Phone: 852-2832-9525</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: 852-2832-9530</td>
</tr>
<tr>
<td>Italy</td>
<td>Network Associates Srl</td>
<td>Centro Direzionale Summit Palazzo D/1 Via Brescia, 28 20063 - Cernusco sul Naviglio (MI) Italy</td>
<td>Phone: 39 02 92 65 01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: 39 02 92 14 16 44</td>
</tr>
<tr>
<td>Japan</td>
<td>Network Associates Japan, Inc.</td>
<td>Shibuya Mark City West 20F 1-12-1 Dougenzaka, Shibuya-ku Tokyo 150-0043, Japan</td>
<td>Phone: 81 3 5428 1100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: 81 3 5428 1480</td>
</tr>
<tr>
<td>Latin America</td>
<td>Network Associates Latin America</td>
<td>1200 S. Pine Island Road, Suite 375 Plantation, Florida 33324 United States</td>
<td>Phone: (954) 452-1731</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: (954) 236-8031</td>
</tr>
<tr>
<td>Mexico</td>
<td>Network Associates de Mexico</td>
<td>Andres Bello No. 10, 4 Piso 4th Floor Col. Polanco Mexico City, Mexico D.F. 11560</td>
<td>Phone: (525) 282-9180</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: (525) 282-9183</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Network Associates International B.V.</td>
<td>Gatwickstraat 25 1043 GL Amsterdam The Netherlands</td>
<td>Phone: 31 20 586 6100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fax: 31 20 586 6101</td>
</tr>
<tr>
<td>Portugal</td>
<td>Network Associates Portugal</td>
<td>Av. da Liberdade, 114 1269-046 Lisboa Portugal</td>
<td>Phone: 351 1 340 4543</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Fax: 351 1 340 4575</td>
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<tr>
<th>Location</th>
<th>Name</th>
<th>Address</th>
<th>Phone and Fax</th>
</tr>
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<tbody>
<tr>
<td>South Africa</td>
<td>Net Tools Network Associates</td>
<td>Hawthorne House St. Andrews Business Park</td>
<td>Phone: 27 11 700-8200 Fax: 27 11 706-1569</td>
</tr>
<tr>
<td></td>
<td>South Africa</td>
<td>Meadowbrook Lane Bryanston, Johannesburg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>South Africa 2021</td>
<td></td>
</tr>
<tr>
<td>South East Asia</td>
<td>Network Associates South East</td>
<td>78 Shenton Way #29-02 Singapore 079120</td>
<td>Phone: 65-222-7555 Fax: 65-220-7255</td>
</tr>
<tr>
<td>Spain</td>
<td>Network Associates Spain</td>
<td>Orense 4, 4ª Planta. Edificio Trieste 28020 Madrid, Spain</td>
<td>Phone: 34 9141 88 500 Fax: 34 9155 61 404</td>
</tr>
<tr>
<td>Sweden</td>
<td>Network Associates Sweden</td>
<td>Datavägen 3A Box 596 S-175 26 Järfälla Sweden</td>
<td>Phone: 46 (0) 8 580 88 400 Fax: 46 (0) 8 580 88 405</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Network Associates AG</td>
<td>Baueulerwisstrasse 3 8152 Glattbrugg Switzerland</td>
<td>Phone: 0041 1 808 99 66 Fax: 0041 1 808 99 77</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Network Associates Taiwan</td>
<td>Suite 6, 11F, No. 188, Sec. 5 Nan King E. Rd. Taipei, Taiwan, Republic of China</td>
<td>Phone: 886-2-27-474-8800 Fax: 886-2-27-635-5864</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Network Associates International Ltd.</td>
<td>227 Bath Road Slough, Berkshire SL1 5PP United Kingdom</td>
<td>Phone: 44 (0)1753 217 500 Fax: 44 (0)1753 217 520</td>
</tr>
</tbody>
</table>
Overview

This chapter describes the main physical and functional characteristics of the ATMbook and how it works with Sniffer Pro as an ATM network monitoring solution.

About the ATMbook

The ATMbook is an ATM network analyzer. It can be used to monitor and capture ATM network data off the connected circuit in a Sniffer Pro (portable) environment. Traffic analysis, performed by the ATMbook, provides data for the Sniffer Pro monitor applications, ATM Smart Screens, and ATM Physical Statistics screens.

If Sniffer Pro is capturing in Expert mode, the captured data is encapsulated in Ethernet frames and streamed to a Sniffer Pro PC over an Ethernet connection for Expert analysis. If the ATMbook is not capturing in Expert mode, traffic is sent to the Sniffer Pro PC when you stop the capture. The analyzer strips the encapsulated data out of the Ethernet frame, making it available to Sniffer Pro’s protocol decodes.

The ATMbook supports Packet Generation for Windows NT 4.0. This feature enables you to transmit data on the network to create a level of network traffic that simulates a realistic network condition to help you test your equipment and applications. The ATMbook Packet Generator can transmit individual packets, send the contents of an open capture buffer, or send a saved trace file.

**NOTE:** Traffic Generator is not supported for Windows 2000.

Describing the ATMbook

The ATMbook is a self-contained, separately powered unit with interchangeable ATM network interface modules. In this manual, the interchangeable module, also known as the Physical Interface, is referred to as a ‘Phy’.
Introducing the ATMbook

With the network interface module installed, your ATMbook is configured to support a specific type of physical interface between the ATMbook and the ATM network. There are several ATMbook Phy available for this release:

- OC-3
- OC-12
- DS-3
- E-3
- UTP-155

The Front Panel

Figure 1–1 shows the front panel of the ATMbook with the indicators and connectors shown below.

![ATMbook Indicators and Connectors](image)

Figure 1–1. ATMBook LED Indicators and Connectors

The ATMbook LED indicators are listed and defined in Table 1–1.

Table 1–1. ATMbook Front Panel Indicators

<table>
<thead>
<tr>
<th>LED’s</th>
<th>Lights indicate…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>The ATMbook is powered on</td>
</tr>
<tr>
<td>Sys OK</td>
<td>The operative software is running (Flashes continuously during normal operation)</td>
</tr>
<tr>
<td>Fault</td>
<td>There is a hardware or Firmware problem</td>
</tr>
<tr>
<td>Active</td>
<td>The Sniffer Pro PC is talking to the device (TCP/IP is active)</td>
</tr>
</tbody>
</table>
The Rear Panel

*Figure 1–2* shows the rear panel of the ATMbook with all the connectors.

![Console Connector](image)

Figure 1–2. Connectors on the ATMbook Rear Panel

The ATMbook rear panel connectors are listed and defined in *Table 1–2*.

**Table 1–2. ATMbook Rear Panel Connections**

<table>
<thead>
<tr>
<th>Plug</th>
<th>Used for...</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC Card</td>
<td>Connects the ATMbook directly to the Sniffer Pro PC</td>
</tr>
<tr>
<td>Console Port</td>
<td>Used for direct serial connections to the ATMbook to configure the IP address and subnet mask</td>
</tr>
<tr>
<td>Power Connector</td>
<td>Used to supply power to the ATMbook</td>
</tr>
</tbody>
</table>

**NOTE:** The two small connectors between the two exhaust fans are for future use.
## Minimum System Requirements

*Table 1–3* lists the system requirements for a Sniffer Pro PC with an ATMbook.

### Table 1–3. System Requirements

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Pentium II 400MHz CPU</td>
</tr>
<tr>
<td>System Memory</td>
<td>128 MB RAM is required</td>
</tr>
<tr>
<td></td>
<td>256 MB RAM is recommended</td>
</tr>
<tr>
<td>Disk Space</td>
<td>100 MB</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>CD-ROM drive</td>
</tr>
<tr>
<td>Adapter Cards</td>
<td>A Network Associates supported network adapter cards and enhanced drivers.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> There are some adapters for which no enhanced drivers are needed.</td>
</tr>
<tr>
<td>ATMbook Unit</td>
<td>Network Associates ATMbook unit with an interchangeable interface module</td>
</tr>
<tr>
<td>Software</td>
<td>Sniffer Pro software; Microsoft TCP/IP (or other IP stack compliant with</td>
</tr>
<tr>
<td></td>
<td>Winsock v1.1 specifications); Network Associates LT2 ATM Virtual Adapter</td>
</tr>
<tr>
<td></td>
<td>installed.</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows NT 4.0 operating system (server and workstation) with</td>
</tr>
<tr>
<td></td>
<td>Service Pack 6a</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> The Release Free Build (production version) of the Windows NT 4.0</td>
</tr>
<tr>
<td></td>
<td>with Service Pack 3, 4, or 5 is also supported for use with the ATMbook.</td>
</tr>
<tr>
<td></td>
<td>The Checked Build of Windows NT is not supported.</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 2000 with Service Pack 2 (Professional &amp; Advanced Server)</td>
</tr>
<tr>
<td></td>
<td>operating on a laptop computer.</td>
</tr>
<tr>
<td>Browsers</td>
<td>Internet Explorer 5.5 or 6.0 w/Service pack 1 on Windows NT, and 2000</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> Java Virtual Machine (JVM) is required for the Sniffer Pro</td>
</tr>
<tr>
<td></td>
<td>application to display information properly. The application will not</td>
</tr>
<tr>
<td></td>
<td>display some information if JVM is not installed with Internet Explorer 5.5.</td>
</tr>
</tbody>
</table>

---

**Introducing the ATMbook**
Three static IP addresses are required to operate the ATMbook.
- One address for the LT2 ATM Virtual Adapter
- One address for the ATMbook
- One address for the Ethernet adapter

**NOTE:** On the **Sniffer Pro PC**, set the Line Speed to 100 Mbps and the Line Mode to half duplex.

**NOTE:** On the **ATMbook**, set the Line Speed to 100 Mbps.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software Configurations</strong></td>
<td>Three static IP addresses are required to operate the ATMbook.</td>
</tr>
<tr>
<td></td>
<td>- One address for the LT2 ATM Virtual Adapter</td>
</tr>
<tr>
<td></td>
<td>- One address for the ATMbook</td>
</tr>
<tr>
<td></td>
<td>- One address for the Ethernet adapter</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> On the <strong>Sniffer Pro PC</strong>, set the Line Speed to 100 Mbps and the Line Mode to half duplex.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE:</strong> On the <strong>ATMbook</strong>, set the Line Speed to 100 Mbps.</td>
</tr>
<tr>
<td><strong>Additional Hardware</strong></td>
<td>An Ethernet crossover cable; two 10-db inline attenuators (if using a single-mode fiber-optic interface).</td>
</tr>
<tr>
<td></td>
<td>A straight through cable is required if you use a hub to connect the ATMbook.</td>
</tr>
</tbody>
</table>
Introducing the ATMbook
Installing the Phy

Overview

This chapter explains how to install the Phy into the ATMbook.

The following tasks are covered in this chapter:

- Describing the Phy
- Installing the Phy in the ATMbook

Describing the Phy

The Phy is a modular unit that is inserted into the front panel of the ATMbook. The phy (shaded gray in Figure 2–1) enables the ATMbook to communicate with the ATM network. Make sure the phy you are installing supports the type of network you are targeting.

Sniffer Pro 4.7 supports the following Phy for the ATMbook:

- OC3
- OC12
- DS-3
- E-3
- UTP-155

Figure 2–1. Connectors, LED’s and Phy in the ATMbook
Installing the Phy

**OC-3 and OC12 Phy**

The OC-3 and OC-12 are available in multi-mode fiber (MMF) and single-mode fiber (SMF). Both are described in *Figure 2–2 on page 2–2*:

- Channel 1 - The receiver (Rx) connector is located on the left and the transceiver (Tx) is located on the right.
- Channel 2 - The receiver (Rx) connector is located on the left and the transceiver (Tx) is located on the right.

There are two sets of LED’s on these Phy:

- The LED’s in the middle indicate an active (healthy) status: Channel 1 status is displayed on top and Channel 2 status is displayed on bottom.
- The LED’s on the right indicate the mode of operation: End-station/Emulation status is displayed on top and monitor-only status is displayed on bottom.

*Figure 2–2. OC-3 and OC-12 Phy*

**DS-3 and E-3 Phy**

The DS-3 and E-3 Phy are described in *Figure 2–3 on page 2–3*:

- Channel 1 - The receiver (Rx) connector is located on the left and the transceiver (Tx) is located on the right.
- Channel 2 - The receiver (Rx) connector is located on the left and the transceiver (Tx) is located on the right.

The are two sets of LED’s on these Phy:

- The LED’s on the left indicate an active (healthy) status:
Channel 1 status is displayed on top and Channel 2 status is displayed on bottom.

- The LED’s on the right indicate the mode of operation:

End-station/Emulation status is displayed on top and monitor-only status is displayed on bottom.

![Mode of Operation LED’s](image)

**Figure 2–3. DS-3 and E-3 Phy**

**UTP-155 Phy**

The UTP-155 Phy is described in *Figure 2–4*:

- Channel 1 - The receiver (Rx) connector is located on the left and the transceiver (Tx) is located on the right.
- Channel 2 - The transceiver (Tx) connector is located on the left and the receiver (Rx) is located on the right.

There are two sets of LED’s on the Phy:

- The LED’s on the left indicate an active (healthy) status:
  Channel 1 status is displayed on top and Channel 2 status is displayed on bottom.
  - The LED’s on the right indicate the mode of operation:
Installing the Phy

End-station status is displayed on top and monitor-only status is displayed on bottom.

Figure 2–4. UTP-155 Phy

Installing the Phy

**To install the Phy in the ATMbook:**

1. Confirm the ATMbook is powered down.
2. Rear mount the Phy into the front panel of the ATMbook until it locks in place.
Connecting the ATMbook

Overview

This chapter provides instructions that explain how to connect the ATMbook to the Sniffer Pro PC. The following tasks are covered in this chapter:

- Connecting the ATMbook to the Sniffer Pro PC
- Selecting the correct cables
- Supplying power to the ATMbook
- Connecting the ATMbook to the network
- Installing a passive optical splitter or bridge tap

Connecting the ATMbook to the PC

The following instructions explain how to connect the ATMbook to the Sniffer Pro PC.

To connect the ATMbook to the Sniffer Pro PC:

1. Connect an Ethernet cross-over cable (see Connection Cables on page 3–2) to the Sniffer Pro PC.
2. Connect the opposite end of the Ethernet cable to the Ethernet CardBus Adapter.
3. Plug the Ethernet CardBus Adapter into the bottom Cardbus slot. See Figure 3–1 on page 3–1.
4. Connect the Power Supply to the ATMbook and the power source.

![Figure 3–1. ATMbook/Sniffer Pro PC Connection](image)
Connecting the ATMbook

Connection Cables

Each Phy requires a specific type of connection cable. The connection cables are listed below:

**OC-3 and OC-12 Phy**

The OC-3 and OC-12 Phy uses single-mode fiber or multi-mode fiber, depending on the phy inserted in the ATMbook.

**DC-3 and E-3 Phy**

The DS-3 and E-3 Phy uses RG59 coaxial cables.

**UTP-155 Phy**

The UTP-155 Phy uses Ethernet cables. *Table 3–1* lists the cable pin outs.

*Table 3–1. Pin Out’s for UTP-155 Ethernet Cables*

<table>
<thead>
<tr>
<th>User</th>
<th>Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1 Rx Tip</td>
<td>Pin 1 Rx Tip</td>
</tr>
<tr>
<td>Pin 2 Rx Ring</td>
<td>Pin 2 Rx Ring</td>
</tr>
<tr>
<td>Pin 7 Tx Tip</td>
<td>Pin 7 Tx Tip</td>
</tr>
<tr>
<td>Pin 8 Tx Ring</td>
<td>Pin 8 Tx Ring</td>
</tr>
</tbody>
</table>

Supplying Power to the ATMbook

**WARNING:** Never connect the power supply to the ATMbook when it is “hot” (plugged into a live socket). Doing so will result in serious damage to the ATMbook. Always remove power from the AC side of the circuit prior to removing or inserting the DC Power connector.

**WARNING:** Always use the correct Power Supply Unit. Using an incorrect power supply may permanently damage the ATMbook.
Connecting the ATMbook

NOTE: If the power to the ATMbook is lost, reboot the host PC before restoring power to the ATMbook, otherwise the ATMbook may not work properly.

Connecting the ATMbook to the Network

This section describes how to connect the ATMbook to the network.

To connect the ATMbook to the network:

1. Attach the cables from the two devices to the channel 1 and channel 2 connectors on the Phy. See Sample ATMbook Installation on page 3–4.

NOTE: To ensure proper communication, confirm the transceiver and receiver connections are plugged in appropriately. In you are unsure, refer to Chapter 2, Installing the Phy for a detailed description of each Phy.

NOTE: The Phy diagrams, shown in Chapter 1, indicate the transceiver and receiver connections as they appear when the labels on the Phy are right-side up.

a. Connect the OC3/OC12 MMF Phy to a multi mode network using multi mode fiber.

OR

b. Connect the OC3/OC12 SMF Phy to a single mode network using single mode fiber.

OR

c. Connect the DS-3 Phy and the E-3 Phy to a DS-3 or E-3 network, respectively, using coaxial cable.

NOTE: With ATMbook installations, it is recommended that you install a passive optical splitter or a bridge tap. See Installing a Passive Optical Splitter or Bridge Tap.

Figure 3–2 illustrates how to connect the Sniffer Pro PC to the ATMbook and establish connection to the network.
Connecting the ATMbook

Figure 3–2. Sample ATMbook Installation

Installing a Passive Optical Splitter or Bridge Tap

To ensure the network remains operational when the ATMbook is turned off, we recommend installing a passive optical splitter (for fiber optic interfaces) or a bridge tap (for DS-3 and E-3) along the cable that runs between the ATMbook and the local end device.

Figure 3–3 shows how a passive optical splitter taps output and sends it for analysis. The bridge tap operates on the same principle, therefore we recommend using an amplifier with a bridge tap.

Figure 3–3. Installing a Passive Optical Splitter
NOTE: The ATMbook is not shipped with an optical splitter or bridge tap.

**Minimum Power Required for a Passive Optical Splitter**

The minimum power level that an ATMbook must receive depends on the type of Phy that is installed. The following table summarizes the minimum power requirements for the ATMbook with the OC3 MMF or SMF and the OC12 MMF or SMF Phy installed.

<table>
<thead>
<tr>
<th>Type of Phy Unit</th>
<th>Minimum Power Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>OC3/OC12 Multi-mode</td>
<td>-29dBm to -27dBm</td>
</tr>
<tr>
<td>OC3/OC12 Single-mode</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** If the power received at the splitter cannot provide adequate power to *both* the local end device and the ATMbook, power amplification may be necessary. You can use an optical amplifier or an optical-to-electrical-to-optical amplifier to boost the power level.

It is essential to know the power level at the splitter so that you can determine a split ratio to ensure both the Sniffer and the end unit receive a satisfactory level of power. The only authoritative way to determine the level of available power at the splitter is to use a power meter.

Some of the factors that affect power level across a fiber optic line are:

- The power level transmitted at the originating end station
- The type of fiber optic cable
- The length of cable running from the originating end station to the splitter
- The types of intermediate fiber optic cable connectors

If you know the power level at the splitter, and the power requirements of both the Sniffer and the receiving end unit, you can calculate a split ratio.
Connecting the ATMbook

(and buy a splitter) that ensures both the end unit and the ATMbook receive sufficient power.

**NOTE:** A good rule of thumb for split ratios is 50/50 when using multimode fiber, and 90/10 when using single-mode fiber.

### Power Loss for Various Split Ratios

The power loss that is encountered on each side of a passive optical splitter is calculated as:

\[ P(\text{loss}) = 10 \log (\text{ratio}) \]

For example, for a 90/10 splitter, the loss on the 90% side (rounded) would be:

\[
P(\text{loss}) = 10 \log (0.9) \\
= 10 (.05) \\
= 0.5
\]

An additional power loss of 0.3dB - 0.5dB is normal at the splitter. *Table 3–2* shows the power loss that can be expected from five common split ratios:

**Table 3–2. Power Loss (Rounded) for Several Common Split Ratios**

<table>
<thead>
<tr>
<th>Split Ratio</th>
<th>Side of Splitter</th>
<th>Calculated Loss</th>
<th>Expected Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>90/10</td>
<td>90</td>
<td>0.5dB</td>
<td>0.8dB</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>10.0dB</td>
<td>10.3dB</td>
</tr>
<tr>
<td>80/20</td>
<td>80</td>
<td>1.0dB</td>
<td>1.3dB</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>7.0dB</td>
<td>7.3dB</td>
</tr>
<tr>
<td>70/30</td>
<td>70</td>
<td>1.5dB</td>
<td>1.8dB</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>5.2dB</td>
<td>5.5dB</td>
</tr>
<tr>
<td>60/40</td>
<td>60</td>
<td>2.2dB</td>
<td>2.5dB</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>4.0dB</td>
<td>4.3dB</td>
</tr>
<tr>
<td>50/50</td>
<td>50</td>
<td>3.0dB</td>
<td>3.5dB</td>
</tr>
</tbody>
</table>
Using a 10-db Inline Attenuator for Single-Mode Optical Fiber

If you are using a single-mode fiber optic interface and inserting the ATMbook on a relatively short run of cable (one mile or less), you must use 10-db inline attenuators to protect both the ATM device and the ATMbook from the power of the laser.

For example, in Figure 3–4, the channel that is running out over the shorter length of cable has an attenuator attached to both the Transmitting (Tx) and Receiving (Rx) ports on the ATMbook.

![Diagram](attachment:diagram.png)

**Figure 3–4. Single-Mode Fiber Optic Interface Example**
Connecting the ATMbook

3-8  Sniffer Pro
This chapter describes how to configure the ATMbook to work with Sniffer Pro 4.7. The following configuration tasks are described in this chapter:

1. Assigning IP addresses and the subnet mask
2. Setting the connection speed to 100 Mbps
3. Installing the ATMLT2 intermediate driver
4. Installing the ATMbook Firmware
5. Configuring a local agent to work with the ATMbook

NOTE: This chapter also provides ATMbook console commands and instructions for removing and replacing an Ethernet adapter after the ATMLT2 protocol is installed.

About Assigning IP Addresses

When configuring the ATMbook to work with Sniffer Pro 4.7, you must assign a unique IP address to the following components:

- The ATMbook
- The Ethernet adapter in the Sniffer Pro PC
- The ATMLT2 virtual adapter

The ATMbook requires a static IP address, therefore TCP/IP must be installed on the Sniffer Pro PC and DHCP must be disabled. Each IP address must be on the same subnet.

NOTE: The first time you configure the ATMbook, establish the IP address of the Ethernet adapter first and then assign the remaining IP addresses in the following sequence thereafter:
1. Assign an IP address to the **ATMbook** similar to the address assigned to the Ethernet adapter, but increase the last digit by one. This will differentiate the ATMbook IP addresses from the Ethernet adapter IP address; e.g. if the Ethernet adapter address is 10.0.0.3, then the ATMbook IP address would be 10.0.0.4. See *Assigning an IP Address and Subnet Mask to the ATMbook* for more on this topic.

2. Assign an IP address to the **ATM LT2 virtual adapter** using the same IP assignment convention explained in step #1, after you have installed the ATMbook firmware.

---

### Assigning an IP Address and Subnet Mask to the ATMbook

This section describes how to assign an IP address and subnet mask to the ATMbook. The first time you use the ATMbook you must configure the TCP/IP settings. If you choose to use the ATMbook on another network you must reset the TCP/IP settings to match the new network or subnet.

**IMPORTANT:** You need to know the IP address of the ATMbook when you create a local agent to communicate with the ATMbook in the Sniffer Pro application.

---

#### To configure the TCP/IP settings for the ATMbook:

1. Connect the PC and ATMbook via the Ethernet cable and the serial cable.

2. Power up the PC and ATMbook following the guidelines outlined in the section titled *Supplying Power to the ATMbook on page 3–2.*

3. Select the **HyperTerminal** option from Accessories located under Programs from the Start menu.

4. From the Connection Description dialog box, specify **ATMbook** (or any name you prefer) in the Name field.

5. Select an icon and click OK.

6. From the Connect To dialog box, select the COM port you are using from the drop-down list in the Connect Using field.

7. Click OK.

8. In the COM port Properties window, set the fields as shown in Figure 4–1 on page 4–3.
   - Bits Per Second: 57600
Configuring the ATMbook

- Data Bits: 8
- Parity: None
- Stop Bits: 1
- Flow Control: None

Figure 4–1. COM1 Properties

9. Click OK.
10. From the terminal window, press Enter to initialize the command line interface. You may need to do this several times before the ATMbook prompt (>>) appears.

**NOTE:** You can use the help or the “?” in the upper right hand corner of the dialog box to display all of the available commands.

11. Enter login.
   You will receive a message that indicates read/write access is enabled.
12. Enter Shell.
   - Use the default password (adminpass) if you have not assigned a new password.
13. Enter set name at the prompt to set the ATMbook name. For example:
   >>set name ATMbook_04
14. Enter **set password** at the prompt to set the ATMbook password. The system will prompt you for the old password (lowercase **adminpass** if you haven’t set one yet). Enter the new password twice.

15. Enter **set ipaddr** at the prompt to set the ATMbook IP address. For example:

   ```
   >>set ipaddr 189.22.13.124
   ```

16. Enter **set mask** at the prompt to set the ATMbook subnet mask. For example:

   ```
   >>set mask 255.255.255.0
   ```

17. Enter **set Ethernet MODE** at the prompt to set the ATMbook’s Ethernet connector to 100 Mbps. For example:

   ```
   >>em 100
   ```

**NOTE:** You must do this to synchronize the Ethernet connection at 100 Mbps.

18. Enter **reset** at the prompt to restart the system with your new settings.

19. Use the **show** command to verify that your settings were enacted correctly. Enter **show xxx**, where **xxx** is the name of the setting you would like to see (name, ipaddr, mask, gateway, macaddr, modem, or pppip).

20. The ATMbook is now configured with an IP address and subnet mask.

### Setting the Connection Speed to 100 Mbps

When connecting the ATMbook directly to the Sniffer Pro PC via a crossover cable, you must manually set the speed on both sides of the Ethernet connection to 100 Mbps:

- The Sniffer Pro PC’s Ethernet Card (*Setting the Sniffer Pro PC’s Ethernet Card to 100 Mbps on page 4–5*). Instructions are provided for Windows NT 4.0 and Windows 2000.

- The ATMbook’s Ethernet Connection (*Setting the ATMbook’s Ethernet Connection to 100 Mbps on page 4–7*)
Setting the Sniffer Pro PC’s Ethernet Card to 100 Mbps

Windows NT 4.0

To set the Sniffer Pro PC’s ethernet card to 100 Mbps for Windows NT:

1. Choose Control Panel from the Settings entry in the Start menu.
2. Open the Network control panel and select the Adapters tab.
3. In the list that appears, select the Ethernet adapter used for a direct connection to the ATMbook.

NOTE: Be sure to select the entry for the actual physical adapter and not the virtual adapter.

4. Click Properties. A dialog box similar to that shown in Figure 4–2 appears.
5. Use the Line Speed drop-down list to set the speed for this adapter to 100 Mbps instead of Auto and the Line Mode to half duplex (as shown in Figure 4–2).

6. Reboot the Sniffer Pro PC to apply the new settings.

Figure 4–2. Setting the Line Speed of the Ethernet Card to 100 Mbps
Windows 2000

To set the Sniffer Pro PC’s ethernet card to 100 Mbps on Windows 2000:

1. Open the Network and Dial-up Connections window from the Settings menu available via Start. The Network and Dial-up Connections window appears.

2. Right click the Local Area Connection that corresponds to the ATMbook ethernet adapter and select Properties. The Local Area Connection dialog box appears (Figure 4–3).

3. Click Configure to produce the adapter’s Network Connection Properties dialog box (Figure 4–4 on page 4–7).
Figure 4-4. The Network Connection Properties Dialog Box

4. Select the **Advanced** tab in the Network Connection Properties dialog box (*Figure 4-4*).
5. Select **Link Speed & Duplex** from the **Properties** list.
6. Select **100Mbps/Half Duplex** from the **Value** drop-down box.
7. Click **OK** to close the Network Connection Properties dialog box.
8. Click **OK** to close the Local Area Connection Properties dialog box.
9. **Reboot** the Sniffer Pro PC to apply the new settings.

### Setting the ATMbook’s Ethernet Connection to 100 Mbps

If you have not previously set the ATMbook’s connection speed, then please use the following procedure to do so.

**NOTE:** All of the commands in HyperTerminal are case sensitive.

To set the ATMbook’s ethernet connector to 100 Mbps:

1. Establish a Hyper Terminal connection to the ATMbook.
2. At the ATMbook prompt (>>), type the following command to set the ATMbook’s Ethernet connector to 100 Mbps.

   set ethernet <enter baud rate value> 100

3. Enter reboot to restart the ATMbook with your new settings.

Installing the ATM LT2 Intermediate Driver

To use the ATMbook with the Sniffer Pro PC, you need to install the ATM LT2 intermediate driver that is supplied with the software to create a "virtual adapter."

The virtual adapter binds to an existing Ethernet adapter in the Sniffer Pro PC. You can install one virtual adapter for each physical Ethernet card installed in the Sniffer Pro PC. If you create more than one virtual adapter, you need to assign a separate static IP address for each virtual adapter installed.

IMPORTANT: The ATM LT2 protocol used to communicate with the ATMbook requires Service Pack 3 or greater. If at some point you need to uninstall a Service Pack, you must first remove the ATM LT2 protocol (using the Remove button in the Protocols tab of the Network control panel’s dialog box).

If you do not remove the ATM LT2 protocol before removing a Service Pack, you may receive a Windows NT blue screen. See Removing and Replacing an Ethernet Adapter after the ATM LT2 Protocol is Installed on page 4–21 for instructions.

NOTE: You must uninstall the ATMbook virtual adapter (ATMLT2) if you are planning to use the Snifferbook Ultra with the Sniffer Pro PC. The Sniffer Pro PC will not recognize the Snifferbook Ultra BootP request if the virtual adapter is left intact.
Installing the ATM LT2 Intermediate Driver on Windows NT

The following procedure explains how to install and configure an ATM LT2 virtual adapter in a Sniffer Pro PC running Microsoft Windows NT.

**To install and configure the ATM LT2 driver on Windows NT:**

1. Verify that the Sniffer Pro software is installed. If it is not installed, please do so now.
2. Verify an Ethernet adapter is installed in your system.
3. Install the ATM LT2 Intermediate Driver Transport protocol provided by NAI for the Ethernet adapter to be used with the ATMbook:
   a. From **Start** select **Settings** and **Control Panel**. Open **Network** and select the **Protocols** tab.
   b. Click **Add**.
   c. In the dialog box that appears, click **Have Disk**.
   d. A dialog box appears prompting you to insert the Sniffer Pro disk or supply a new path (**Figure 4–6 on page 4–10**). If you installed Sniffer Pro in the default location, use the following path:
      
      C:\program files\nai\sniffernt\driver\atmlt2\winnt

   ![Insert Disk Dialog](image)

   **Figure 4–5. Supplying the Path to the ATMbook Driver**

   e. Click **OK**.
   f. From the Select OEM Option dialog box, select the **NAI ATM LT2 Pod Driver** shown in **Figure 4–6**.
Configuring the ATMbook

4-10 Sniffer Pro

g. Click OK.

h. The Network dialog box appears (Figure 4–7 on page 4–10) with the ATM LT2 Intermediate Driver Transport installed (in addition to any other protocols you may have installed).

i. Click Close.

After you click Close, the system scans the current bindings configuration and displays the ATM LT2 Virtual Adapters in the Network dialog box (Figure 4–10 on page 4–13).
4. In the ATM LT2 Virtual Adapters dialog box, create a “virtual adapter” to use with the ATMbook. The ATM LT2 virtual adapter uses the NAI ATM LT2 Pod Driver and an existing Ethernet card installed in the system.

![Figure 4–8. Creating an ATM LT2 Virtual Adapter](image)

**IMPORTANT:** You can create an ATM LT2 virtual adapter for each Ethernet card in the Sniffer Pro PC. However, unless you have more than one ATMbook, you will probably only want to create one ATM LT2 virtual adapter.

If you choose to create more than one ATM LT2 virtual adapter, you will need a separate static IP address for each virtual adapter.

Select the adapter to be used with the ATMbook and click **Add**. To remove the adapter, click **Remove**.

5. When you are done adding adapters, click **OK**.

The system scans the bindings configuration and indicates that the system must be restarted before your changes take effect.

**NOTE:** Restarting the system at this point is optional. You can save the time of rebooting by clicking **No** and continuing this installation procedure. However, nothing will be hurt by clicking **Yes**.

6. Next, specify a valid IP address, subnet mask, and default gateway for each ATM LT2 virtual adapter you created in the previous steps:
a. Choose **Control Panel** from the **Settings** entry in the **Start** menu.
b. Open the **Network** control panel and select the **Adapters** tab.
c. As shown in **Figure 4–9**, the **Adapters** tab will include a new entry for each virtual adapter you created. Virtual adapters are named **Network Associates LT2 ATM Adapter --> [xx]**, where **xx** indicates the number of the physical adapter to which the virtual adapter is connected.

d. Select a virtual adapter’s entry in the **Adapters** tab and click **Properties** to produce the ATM LT2 Adapter Properties box (**Figure 4–10**).

e. Use this dialog box to supply an IP address, subnet mask, and default gateway for the ATM LT2 adapter.

**NOTE:** The IP address you specify for the ATM LT2 virtual adapter must be on the same subnet as the IP address you specify for the ATMbook.
f. When you have finished specifying the TCP/IP settings for this adapter, click **OK**.

g. Click **Close**.

h. The system scans the bindings configuration and presents a dialog box informing you that you must shut down and restart your computer before the new settings can take effect.
   - If this is the last virtual adapter you need to configure, click **Yes** to restart the computer.
   - If this is NOT the last virtual adapter you need to configure, click **No** and repeat steps c through step f for each virtual adapter listed in the **Adapters** tab.

**NOTE:** If at some point you need to remove and replace the physical Ethernet adapter used with the ATM LT2 virtual adapter See *Removing and Replacing an Ethernet Adapter after the ATM LT2 Protocol is Installed* on page 4–21 for details.
Installing the ATM LT2 Driver on Windows 2000

The following procedure explains how to install and configure an ATM LT2 virtual adapter in a Sniffer Pro laptop PC running Microsoft Windows 2000. The object of this procedure is to bind the Network Associates Win2000 ATM Book driver to each physical adapter with which the user wants to monitor the ATMbook.

To install and configure the ATM LT2 driver on Windows 2000:

1. Right-click My Network Places and select the Properties menu item.
   Or, from the Start menu, click Settings and Network and Dial-Up Connections.

   The Network and Dial-Up Connections window appears.

2. Double-click the Local Area Connection icon. If there is more than one Local Area Connection icon, they will be numbered in increasing order from 2. The Local Area Connection Properties dialog box appears as shown in Figure 4–11.

   NOTE: If you are connected to a network, the Local Area Connection Status dialog box appears first. In this case, click Properties in this dialog box to open the Local Area Connection Properties dialog box.

![Figure 4–11. The Local Area Connection Properties Dialog Box](image)
3. From the Connect using: drop-down list, select the Local Area Connection (representing the installed physical adapter). If only one physical adapter is installed you will see it listed as the default.

4. From the Local Area Connection Properties dialog box, click Install. The Select Network Component Type dialog box appears as shown in Figure 4–12.

![Select Network Component Type Dialog Box](image)

5. From the Select Network Component Type dialog box, select Service in the list box and click Add.

6. From the Select Network Service dialog box (Figure 4–12 on page 4–15), click Have Disk.

7. Browse to the following location of the Network Associates Win2000 ATMbook driver:

   `<drive>`:\Program files\nai\sniffernt\driver\ATMLT2\win2k.

8. Click Open in the browse utility.

9. Click OK in the Install From Disk dialog box.
Configuring the ATMbook

10. Click OK in the Select Network Service dialog box.

11. For each reiteration of the message, “Digital Signature Not Found,” respond by clicking Yes. When finished, you will return to the Local Area Connection Properties dialog box. The Network Associates Win2000 ATM Book driver will be listed and checked.

12. Select the Network Associates Win2000 ATM Book driver and click Properties. The Network Associates Win2000 ATM Book driver properties dialog box appears as shown in Figure 4–14.
In the dialog box, default values are provided for the Base Port Number, IP Address, Subnet Mask and Default Gateway for the virtual adapter.

**NOTE:** A virtual adapter is connected to the physical adapter which is represented by the Local Area Connection icon.

13. Change the default IP Address of the ATM LT2 driver so it is:
   - Different from that of the Ethernet adapter, ATMbook and additional virtual adapters.
   - Within the same subnet as the Ethernet adapter card and ATMbook.

For instance, if the ATMbook IP address is 10.0.0.1 then you should assign the Ethernet Adapter the following IP address 10.0.0.2; and the ATM LT2 adapter should be assigned 10.0.0.3.

**NOTE:** In future releases, the ATM LT2 driver will be able to use a user assigned base TCP/UDP port number. This feature is not currently available.

14. Click **OK**. You will return to the Local Area Connection Property dialog box.

15. Click **OK** in the Local Area Connection Property dialog box to conclude the virtual adapter installation process

   **OR**

   Create a virtual adapter for any additional physical adapters you have installed. To do this, repeat Steps 12 through 14 and click **OK** in the Local Area Connection Property dialog box.

16. Restart Windows 2000. This is necessary for the system to recognize the virtual adapter parameters and for the Sniffer Pro software to work correctly.

### Uninstalling the ATM LT2 Driver from Windows 2000

1. Open the Local Area Connection Properties dialog box and select the Network Associates Win2000 ATM Book Driver.

2. Click **Uninstall**.

3. Confirm that you want to uninstall the driver by clicking **Yes**.
Configuring the ATMbook

Installing/Upgrading the ATMbook Firmware

NOTE: Do not attempt to use an ATMbook installed with Sniffer Distributed firmware with the Sniffer Pro application. The version of firmware supplied with the Sniffer Distributed ATMbook is designed to operate in a distributed environment and is not supported for use with Sniffer Pro.

How to install/upgrade the ATMbook firmware:

1. On the Sniffer Pro PC, locate the fwdload.exe file under the directory:
<drive>:\Program Files\NAI\SnifferNT\Program

2. Double-click the fwdload.exe file. The ATMbook Firmware Upgrade dialog box appears as shown Figure 4–15.

3. Enter the following information into the fields:
   - User Name - Enter admin
   - Password - Enter adminpass
   - Flash File - Browse to the following location
     <drive>:\Program Files\NAI\SnifferNT\Driver\ATMLT2\(Win2k or winnt)
     Select the tinker.fls file
   - IP Address - Enter the ATMbook IP address

Figure 4–15. Firmware Upgrade Dialog Box
4. Once the options are set, click **Upgrade**.
5. In the message box, verify that no other application is connected to the ATMbook.
6. Click **Done**.

**NOTE:** If you are unable to upgrade the firmware or have lost communication with the ATMbook, see Appendix A for another method to update the firmware.

### Configuring a Local Agent to Work with the ATMbook

After you have connected the ATMbook to the Sniffer PC and the network, you are ready to configure the Sniffer Pro to work with the ATMbook.

You must define a new local agent to work with the ATMbook in Sniffer Pro’s Settings dialog box.

**To create a local agent in the Sniffer Pro that will use the ATMbook:**

1. Start the Sniffer Pro application.
2. In the **File** menu, choose **Select Settings**. The Settings dialog box (Figure 4–16 on page 4–19) displays the local agents that have already been defined for this Sniffer PC.

![Figure 4–16. The Settings Dialog Box](image)

3. Click the **New** button to define a new local agent to work with the ATMbook. The New Settings dialog box (Figure 4–17) opens.
4. In the Description field, enter a name for your new local agent. Your description will appear in future instances of the Settings dialog box.

5. In the Network Adapter field, select Network Associates LT2 ATM Adapter to use the Adapter with the ATMbook.
   - When you select the Network Associates LT2 ATM Adapter, the ATMbook is automatically selected in the Netpod Type field.
   - The Netpod IP Address field is automatically filled with the ATMbook’s IP address.

**NOTE:** TCP/IP must be installed on the Sniffer Pro PC. In addition, because the ATMbook requires a static IP address, DHCP must be disabled.

**IMPORTANT:** The IP address in the Netpod IP Address field must match the one you specified for the ATMbook during the Hyper Terminal session or the ATMbook will not function correctly. For more information, see Assigning an IP Address and Subnet Mask to the ATMbook on page 4–2.
6. If at some point you want to define an additional local agent using the same settings you have specified here, you can use the Copy settings from field to use these settings as a template. The drop-down list includes all previously defined local agents on the Sniffer Pro PC. However, only one agent can use the ATMbook at a time.

7. Click OK in the New Settings dialog box.

8. A new entry appears in the Settings dialog box for the local agent you just defined. Select this agent by clicking it.

9. Click OK in the Settings dialog box.

The new agent is now selected for capturing and monitoring the network with the ATMbook.

Removing and Replacing an Ethernet Adapter after the ATM LT2 Protocol is Installed

You can remove and replace the physical Ethernet adapter used with the ATM LT2 virtual adapter without removing the ATM LT2 protocol. The following procedure explains how to accomplish this task.

To remove and replace the ethernet adapter used with the ATM LT2 virtual adapter:

1. Remove the physical adapter used with the ATM LT2 virtual adapter:
   a. Choose Control Panel from the Settings entry in the Start menu.
   b. Open the Network control panel and select the Adapters Tab.
   c. Select the entry for the physical adapter used with the ATM LT2 virtual adapter.
   d. Click the Remove button to remove the selected adapter.
   e. Restart the Sniffer Pro PC.

2. Install the Ethernet driver for the new Ethernet adapter:
   a. Choose Control Panel from the Settings entry in the Start menu.
   b. Open the Network control panel and select the Adapters Tab.
   c. Click the Add button to add the driver for the new adapter.
   d. Select the driver from the list in the dialog box that appears. Alternatively, click the Have Disk button to add a driver supplied with your new Ethernet card.
   e. Follow the system instructions to complete the installation and click the Close button in the Network dialog box.
When the system has completed installing the necessary files, you will be prompted to reboot the machine before your changes take effect. Do not reboot at this time (Click No).

3. Add the newly-installed Ethernet adapter to the ATM LT2 protocol:
   a. Choose Control Panel from the Settings entry in the Start menu.
   b. Open the Network control panel and select the Protocols Tab.
   c. Select the entry for the ATM LT2 Intermediate Driver Transport protocol and click Properties.
   d. The ATM LT2 Virtual Adapters Properties dialog box appears with your newly-installed Ethernet adapter listed in the Available Adapters pane. Select this entry and click Add to move the newly-installed Ethernet adapter into the Virtual Adapters pane.
   e. Click the OK button in the ATM LT2 Virtual Adapters Properties dialog box.
   f. Click the Close button on the Network dialog box. Once the system has completed installing the necessary files, you will be prompted to reboot the machine before your changes take effect. You do not need to reboot at this time (click No).

4. Verify the new virtual adapter has been installed:
   a. Choose Control Panel from the Settings entry in the Start menu.
   b. Open the Network control panel and select the Adapters Tab.
   c. Verify the LT2 ATM virtual adapter entry for the newly-installed physical Ethernet adapter (see Figure 4–11 on page 4–14).
   d. Configure the IP properties for the new ATMLT2 virtual adapter by selecting its entry in the Adapters tab and clicking the Properties button. Use the instructions starting with Step 6 on Page 10 to do so. Follow the rest of that procedure to finish configuring the new virtual adapter.
ATMbook Console Commands

This section lists the various commands you can use to interact with the ATMbook over a console connection. Table 4–1 shows the ATM console commands.

Table 4–1. ATM Console Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>set name <em>system_name</em></td>
<td>Set the ATMbook name (up to 16 characters).</td>
</tr>
<tr>
<td>set ipaddr <em>n.n.n.n</em></td>
<td>Set the Ethernet IP address to <em>n.n.n.n</em>.</td>
</tr>
<tr>
<td>set mask <em>n.n.n.n</em></td>
<td>Set the subnet mask to <em>n.n.n.n</em>.</td>
</tr>
<tr>
<td>set password</td>
<td>Set the password.</td>
</tr>
<tr>
<td>show setting</td>
<td>Display the value of the specified <em>setting</em>, which can be:</td>
</tr>
<tr>
<td></td>
<td><em>name</em></td>
</tr>
<tr>
<td></td>
<td><em>ipaddr</em></td>
</tr>
<tr>
<td></td>
<td><em>mask</em></td>
</tr>
<tr>
<td></td>
<td><em>gateway</em></td>
</tr>
<tr>
<td></td>
<td><em>macaddr</em></td>
</tr>
<tr>
<td></td>
<td><em>modem</em></td>
</tr>
<tr>
<td></td>
<td><em>ppprip</em></td>
</tr>
<tr>
<td>banner</td>
<td>Display version information.</td>
</tr>
<tr>
<td>shell</td>
<td>Exit to shell.</td>
</tr>
<tr>
<td>login</td>
<td>Log in to the ATMbook system.</td>
</tr>
<tr>
<td>logout</td>
<td>Log out of the ATMbook system.</td>
</tr>
<tr>
<td>reboot</td>
<td>Reboots the system.</td>
</tr>
</tbody>
</table>
Overview

This chapter covers how to upgrade your existing ATMbook and maintain compatibility with Sniffer Pro. These tasks must be followed in sequence to ensure a successful upgrade.

1. Uninstall the ATM LT2 intermediate driver
2. Install the new ATM LT2 intermediate driver
3. Upgrade the ATMbook firmware

Uninstalling the ATM LT2 Driver

How to uninstall the Sniffer Pro application and the ATM LT2 driver:

1. Uninstall the ATM LT2 intermediate driver by removing the ATM LT2 protocol.
   b. Select the ATM LT2 protocol and click Remove.
2. Restart your PC.

Installing the ATM LT2 Intermediate Driver

Once the Sniffer Pro 4.7 application is installed, then you are ready to install the ATM LT2 intermediate driver and create the virtual adapter. See Installing the ATM LT2 Intermediate Driver on page 4–8 for further instructions.

Upgrading ATMbook Firmware

To upgrade the ATMbook Firmware:

1. Select Tools from the menu bar and Options from the drop-down list.
2. Click the ATM Setup tab.
3. Click **Firmware Upgrade**. The Firmware Upgrade dialog box appears (*Figure 5–1*).

![Figure 5–1. Firmware Upgrade Dialog Box](image)

4. Enter your **User Name**. Use the default user name (**admin**) if you have not assigned a new user name.

5. Enter your **Password**. Use the default password (**adminpass**) if you have not assigned a new password.

6. Browse to the following path in the **Flash File** field:

   `<drive>:\Program Files\NAI\SnifferNT\driver\atmlt2\(WinNT or Win 2k)\tinker.fls`

7. Once the options are set, click **Upgrade**.

8. Click **Done**.

**NOTE:** If you are unable to upgrade the firmware or have lost communication with the ATMbook, see **Appendix A** for further instructions on how to update the firmware.
Overview

This chapter explains how to setup the ATMbook capture parameters using the ATM Setup tab (Figure 6–1). To access the tab select Options from the Tools menu or select the Media Options button on the ATM toolbar.

NOTE: The ATM Setup tab is only available if the ATM adapter is the currently selected. You can change the selected adapter using the Select Settings command in the File menu.

![ATM Setup Tab in the Options Dialog Box](image)

Figure 6–1. ATM Setup Tab in the Options Dialog Box

**ATM Setup Tab Options**

The following configuration options are available in the ATM Setup tab:

- ATM Interface
- Mode
- Cell Scrambling
- Only AAL5
- Capture Cells
- Firmware Upgrade
- Connection Setup
Configuring the Capture Options

ATM Interface Option

The ATM Interface option designates whether the physical connection being monitored is an ATM User-Network Interface (UNI) or an ATM Network-Node Interface (NNI). Because UNI cells and NNI cells use a slightly different format, the analyzer must know which type of cell to expect to interpret traffic correctly.

- The UNI is the interface between the customer (or end system) and the network switch (or service provider).
- The NNI is the interface between network switches or networks.

Although UNI cells and NNI cells are both 53 bytes long, they differ in the following ways:

- UNI cells use four bits for generic flow control (GFC).
- NNI cells do not use GFC. Instead, NNI cells take the four GFC bits and use them to expand the VPI field from 8 to 12 bits.

Mode Option

The Mode option lets you specify whether to run the ATMbook in Monitor mode or Emulation mode.

Monitor Mode - Select monitor mode while using the ATMbook during normal monitoring operations.

Emulation Mode - Select emulation mode when transmitting data using the ATMbook Packet Generator

NOTE: For information on the ATMbook Packet Generator see Generating Packets with the ATMbook on page 7-1.

Cell Scrambling Option

The Cell Scrambling option lets you specify whether to use cell scrambling on the ATM network you are analyzing. Some physical layers (DS-3) use cell scrambling to randomize cell payloads as they are adapted into lower layer frames, thereby avoiding continuous non-variable bit patterns.

Enabled - Sniffer Pro will scramble cells

Disabled - Sniffer Pro will not scramble cells
NOTE: Depending on network traffic, if you enable the **Cell Scrambling** option and see a large number of CRC errors in captured traffic (nearly one per frame), then you should disable the Cell Scrambling option.

### Only AAL5 Option

The **Only AAL5** option specifies whether Sniffer Pro should interpret all connections as AAL5.

**Enabled** - Sniffer Pro will assume that all connections seen on the network use AAL5 (instead of AAL1, AAL2, or AAL3/4) and will forego the AAL deduction process.

**Disabled** - Sniffer Pro will use the AAL deduction process to determine the type of traffic seen on each connection. During the AAL deduction process, the first few frames of each connection are captured as raw cells until Sniffer Pro has seen enough information to determine the type of AAL in use. Once the type of AAL in use on the connection is determined, the raw cells are reassembled into higher-layer frames.

NOTE: If you change this option, you must close and restart Sniffer Pro for your changes to take effect.

### Capture Cells Option

The **Capture Cells** option specifies what format the captured traffic is stored in the Sniffer Pro buffer once capturing stops.

**Enabled** — When capture stops, captured traffic is transferred from the ATMbook to Sniffer Pro and stored in its buffer as **raw cells**.

**Disabled** — When capture stops, captured traffic is transferred from the ATMbook to Sniffer Pro and stored in its buffer as **higher-layer frames**.

### Firmware Upgrade Option

The Firmware Upgrade button is used to update the firmware provided by Network Associates for the ATMbook. Occasionally, upgrades of the firmware become available. You may use this button to install the new firmware on the ATMbook.
NOTE: Using the Firmware Upgrade option in Sniffer Pro requires you to have previously assigned an IP address and subnet mask to the ATMbook and established connections with it either directly or over a network. If you have not already done so, see Assigning an IP Address and Subnet Mask to the ATMbook on page 4–2 for detailed instructions.

Connection Setup Option

The ATM Connections (Figure 6–2) dialog box appears when you click the Connection Setup button in the Options dialog box. The ATM Connections dialog box enables you to tell the ATM Sniffer on which VPI.VCIs to look for specific types of traffic.

![ATM Connections Dialog Box](image)

Figure 6–2. ATM Connections Dialog Box

The ATM Connections dialog box settings are listed and defined in Table 6–1:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILMI</td>
<td>If enabled, frames received on the Interim Local Management Interface (ILMI) channel (0.16) are interpreted as ILMI frames.</td>
</tr>
<tr>
<td>LAN Emulation</td>
<td>If enabled, frames received on the LAN Emulation Configuration Server (LECS) connection (0.17) are interpreted as LAN Emulation Control frames.</td>
</tr>
<tr>
<td>PNNI Routing</td>
<td>If enabled, frames received on PNNI connection(s) are interpreted as PNNI Routing frames.</td>
</tr>
</tbody>
</table>
### Table 6–1. ATM Connections Dialog Box Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IP Switching</strong></td>
<td>If enabled, frames received on standard IP switching channels are interpreted as IP switching data. For example, if this option was enabled, traffic seen on VPI.VCI 0.15 (the VPI.VCI normally used for Ipsilon’s IP switching and signaling traffic) would be interpreted as IP switching data.</td>
</tr>
<tr>
<td><strong>NOTE:</strong></td>
<td>If you change the <strong>IP Switching</strong> option, you must close and restart the Sniffer application for your change to take effect.</td>
</tr>
<tr>
<td><strong>OAM/RM</strong></td>
<td>If enabled, cells received on the x.3 and x.4 connections are interpreted as Operations and Management cells.</td>
</tr>
<tr>
<td><strong>Signaling</strong></td>
<td>The analyzer always captures data from the standard ATM Forum signaling channel (0.5) as signaling frames. However, some ATM networks use multiple signaling channels. This option lets you specify a second channel used for signaling on your ATM network.</td>
</tr>
<tr>
<td></td>
<td>Use the <strong>Active</strong> option to specify whether the analyzer should currently be interpreting frames seen on the named VPI.VCI as signaling frames. If you disable the <strong>Active</strong> option, the analyzer will stop interpreting frames seen on the named VPI.VCI as signaling frames.</td>
</tr>
<tr>
<td></td>
<td>Use the <strong>VPI</strong> and <strong>VCI</strong> fields to specify a second VPI.VCI on which received frames will be interpreted as signaling frames.</td>
</tr>
<tr>
<td><strong>Fore SPANS</strong></td>
<td>Use the <strong>Active</strong> option to specify whether the analyzer should currently be interpreting frames seen on the named VPI.VCI as Fore SPANS frames. If you disable the <strong>Active</strong> option, the analyzer will stop interpreting frames seen on the named VPI.VCI as Fore SPANS frames. This option can be useful when switching between IP Switching environments and Fore SPANS environments, since they both use the same VPI.VCI for control traffic (0.15).</td>
</tr>
<tr>
<td></td>
<td>Click the <strong>AAL3/4</strong> or <strong>AAL5</strong> option to specify whether the Fore SPANS protocol runs over AAL5 or AAL3/4 on your network.</td>
</tr>
<tr>
<td><strong>NOTE:</strong></td>
<td>Fore SPANS traffic can run over either AAL5 or AAL3/4. If your network runs Fore SPANS over AAL3/4, you must enable the <strong>AAL3/4</strong> option. This tells the analyzer not to try and reassemble the AAL3/4 traffic (which it would be unable to do correctly), but instead to just capture the cells. The protocol interpreter for AAL3/4 will decode the BOM, SSM (Begin of Message, Single Segment Message) correctly but not the COM or EOMs.</td>
</tr>
<tr>
<td></td>
<td>Use the <strong>VPI</strong> and <strong>VCI</strong> fields to specify a VPI.VCI on which received frames will be interpreted as Fore SPANS frames. The default VPI.VCI is 0.15.</td>
</tr>
</tbody>
</table>
Configuring the Capture Options
Overview

This chapter explains how to set up the ATMbook to generate packets on an ATM network. The following topics are covered in this chapter:

- Starting the Packet Generator
- Defining the Packet Generator Parameters
- Defining the Buffer Transmission Parameters
- Explaining Buffer Rate Modes

About the ATMbook Packet Generator

NOTE: Traffic Generator is not supported for Windows 2000.

The ATMbook Packet Generator enables you to transmit test packets onto an ATM network so you can accomplish the following tasks:

- Reproduce network problems to troubleshoot and verify fixes for your network equipment or applications
- Generate a level of network traffic load to simulate realistic network conditions and test your equipment or applications

With the ATMbook Packet Generator, you can transmit a single packet whether it is a packet that you created or one that you have captured from the network. You can also transmit the entire contents of the capture buffer or a capture file.

While transmitting, the ATMbook Packet Generator operates in emulation mode, transmitting traffic only from port A of the ATMbook. Therefore, it is only necessary to make a connection between port A on the physical interface and the ATM network. Similar to monitor mode, any data received through port A will be retransmitted through port B. However, data received on port B will not be retransmitted through port A. Port A is the transmission port.

To accommodate the differences in ATMbook Packet Generator’s functionality, additional options are available on the ATMbook Packet Generator’s Packet Setup and Buffer Setup tabs.
Generating Packets with the ATMbook

- **WARNING:** Transmitting packets to a real network may produce unexpected results which may cause difficulty. To be safe, transmit only *benign* packets to a production network, or isolate your test network from the production network before proceeding with packet generation.

**Starting Packet Generator**

To start the ATMbook Packet Generator, you must have an ATMbook installed and configured on a Sniffer Pro PC running Windows NT 4.0.

**NOTE:** Traffic Generator is not supported for Windows 2000.

1. Place the ATMbook in emulation mode by selecting the Emulation radio button in the ATM Setup tab. Navigate to the ATM Setup tab by selecting **Options** from the **Tools** menu.

   **NOTE:** If you do not place the ATMbook in Emulation mode before transmitting, the Sniffer Pro software will ask you to confirm Emulation mode when you run the test packet or buffer.

2. Select **Packet Generator** from the **Tools** menu to produce the Packet Generator window *(Figure 7–1)*:

   ![Packet Generator Window](image)

   **Figure 7–1. Packet Generator Window**
Define parameters for packet and buffer transmission.

**NOTE:** For information on defining packet transmission parameters, see *Defining Packet Transmission Parameters* on page 7–3. For information on defining buffer transmission parameters, see *Defining Buffer Transmission Parameters* on page 7–6.

Select a packet or buffer for transmission.

**NOTE:** For information on selecting the packet or buffer for transmission, see the Sniffer Pro online help and the *Sniffer Pro Getting Started Guide*.

Run the test packet or buffer.

The Packet Generator window (*Figure 7–1 on page 7–2*) has the following tabs.

- The **Detail** tab provides a variety of statistics on the traffic generation in progress.
- The **Connections** tab provides detailed statistics on each of the VPLVCIs on which the ATMbook Packet Generator is transmitting.

**NOTE:** For more information about the Packet Generator window, see the Sniffer Pro online help and the *Sniffer Pro Getting Started Guide*.


### Defining Packet Transmission Parameters

Before sending a packet, you need to specify the transmission parameters in the Packet Setup dialog box. The packet sent can be a defined packet, a packet loaded from the Packet Library, or a packet selected in the current buffer.

**NOTE:** For information about using the Packet Library and Packet Generator Scripts, see the Sniffer Pro online help and the *Sniffer Pro Getting Started Guide*.
Open the Packet Setup dialog box (Figure 7–2) in one of the following ways:

- Click the \( \text{button} \) in the Packet Generator window.
- If a frame is currently selected in the Summary pane of the Sniffer Pro’s Decode display (and the Decode display is not minimized), click the Send Current Packet button or right-click on the packet in the Decode menu.
- From the Summary Pane of the Sniffer Pro’s Decode display, right-click on a packet you want to transmit. In the context menu that appears, select the Send Current Packet option.

**Figure 7–2. Packet Setup Dialog Box**

The Packet Setup dialog box contains the following tabs (Table 7–1):
- General
- Rate
- Advanced
- ATM

**NOTE:** For further details about each of these transmission options, consult the Sniffer Pro online help and the Sniffer Pro Getting Started Guide.
NOTE: For the ATMbook Packet Generator, the software handles the overwriting of the PTI field so that the AAL-5 protocol is maintained. When AAL-5 segmentation is selected in the ATM page, the software overrides the last bit of the PTI field of each cell to signify them as part of a frame. For example, if the PTI is set to 111, the PTI is changed to 110 for all cells of the frame except for the last cell in which the PTI will be 111. The lower order bit (1) is used to delimit the frame. Put another way, only the upper two bits of the PTI are overwritten when in AAL-5 segmentation mode because the lower order bit is required to follow AAL-5 protocol.

<table>
<thead>
<tr>
<th>Tab</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Enables you to specify how many times you would like to send the selected packet.</td>
</tr>
<tr>
<td>Rate</td>
<td>Enables you to specify the delay time between packet transmissions, the number of packets transmitted per second, and the network utilization. You can enable traffic shaping in this tab. If you select Traffic shaping, select the settings for it in the ATM tab. Select a rate mode to have your rate settings apply to either a rate per connection or rate per port.</td>
</tr>
<tr>
<td>Advanced</td>
<td>Enables you to select random packet size.</td>
</tr>
<tr>
<td>ATM</td>
<td>Enables you to specify the value of the GFC field, PTI field, and CLP bit. In addition, you can also specify whether to transmit cells or frames, on which VPI.VCIs to transmit the packet, and set traffic shaping parameters for the selected VPI.VCIs. The ATM tab is shown in.</td>
</tr>
</tbody>
</table>
Setting ATM Packet Parameters

The following packet parameters are determined in the ATM tab of the Packet Setup dialog box (Figure 7–3 on page 7–6).

Specify the value of the GFC field, PTI field, and CLP bit in the cell headers of the packet to be transmitted (in hex, decimal, or binary).

Specify on which VPI.VCIs to transmit the selected packet. You can transmit on a single specified VPI.VCI or click the List button to create a list of up to 15 VPI.VCIs on which to transmit. You can also use the Address Book (Cnx button) to select known VPI.VCIs.

Specify traffic shaping parameters to control the rate at which the selected packet will be transmitted. Traffic shaping parameters are only used if the Traffic shaping option is enabled on the Rate tab.

Specify whether to transmit raw cells or AAL5 frames.

Figure 7–3. Packet Setup Dialog Box

NOTE: The maximum transmission speed depends on the physical interface and other factors. Utilization may be lower when smaller buffers are transmitted continuously.

Defining Buffer Transmission Parameters

The ATMbook Packet Generator sends the contents of an open capture buffer or of a saved trace file according to the parameters you set for the buffer you are sending. The buffer transmission parameters are assigned in the Buffer Setup dialog box.
Select either of the following methods to access the Buffer Setup dialog box (Figure 7–4):

- Select the Packet Generator command from the Tools menu to produce the Packet Generator window. Click the Send Buffer button.
- From the Sniffer Pro’s Decode display, right-click anywhere to display a context menu. In the context menu that appears, select the Send Current Buffer option.

**Figure 7–4. Buffer Setup Dialog Box**

The Buffer Setup dialog box contains the following tabs (Table 7–2 on page 7–8):

- General
- Rate
- ATM
NOTE: For further details about each of these buffer transmission options, consult the Sniffer Pro online help and the *Sniffer Pro Getting Started Guide*.

### Table 7–2. Buffer Setup Dialog Box Tabs

<table>
<thead>
<tr>
<th>Tab</th>
<th>Description</th>
</tr>
</thead>
</table>
| General | Enables you to specify how many times you would like to send the selected buffer. You can set the run delay which is the wait time between buffer transmissions. The **Data On Port** option allows you to transmit data received on buffer port A, B, or both.  
**NOTE:** The ATMbook is designed to transmit packets to the network through port A only. The buffer, which may be the result of a capture, has packets that were received on port A (DTE) and packets that were received on port B (DCE). The **Data On Port** option gives you the choice to transmit packets that came in through port A or port B or both ports. |
| Rate | Enables you to transmit the buffer as received or impose an interpacket delay time. You can also select the number of packets per second and percentage of network utilization. You can enable traffic shaping in this tab and set the select traffic shaping parameters by clicking the ATM tab. In this tab, you can also select rate per port mode or rate per connection mode.  
**NOTE:** There are conditions under which you can select the Rate Mode for buffer transmission. See *About Buffer Rate Modes* on page 7–9. |
| ATM | Enables you to overwrite the headers of the cells in the selected buffer with your own custom headers. You can also choose whether to transmit the buffer on the VPI.VCIs found in the buffer itself or to send the entire buffer only on your own custom selected VPI.VCIs.  
**NOTE:** For the ATMbook Packet Generator, the software handles the overwriting of the PTI field so that the AAL-5 protocol is maintained. In Buffer Setup there is no AAL-5 segmentation option, but the packets in the buffer are determined to be either raw cells or AAL-5 frames. If transmitting an AAL-5 frame in the buffer, and **Overwrite GFC, PTI, CLP** is selected on the ATM page, the software will not overwrite the lower order bit of the PTI of the cells because they are required to follow the AAL-5 protocol.  
There are two ways you can send a Buffer:  
- Select the **File** option to transmit a saved trace file. Click the Browse button to display a common Browse dialog box in which you can navigate to, and open, the trace file to be transmitted.  
- Select the **Buffer** option to transmit a currently open capture buffer. The drop down list includes all currently open buffers and trace files. |
Setting ATM Buffer Parameters

The following buffer parameters are assigned in the ATM tab located in the Buffer Setup dialog box (Figure 7-5).

Use these fields to overwrite the headers of the cells in the selected buffer with your own custom headers.

Specify whether to transmit the buffer on the VPI.VCIs found in the buffer itself or to send it only on your own custom selected VPI.VCIs. If you select to overwrite the VPI.VCIs found in the buffer, you can transmit on a single specified VPI.VCI or create a list of up to 15 VPI.VCIs on which to transmit. Checking this option makes the Rate per conn. choice available in the Rate tab.

Figure 7-5. ATM Tab in the Buffer Setup Dialog Box

About Buffer Rate Modes

A rate mode can be selected on the Rate tab. The Rate Per Conn. mode can be selected in the Rate tab if the Overwrite Vp.Vc. option is enabled on the ATM tab.

NOTE: If you have disabled the Overwrite Vp.Vc. option, the Rate Per Port option will be forced and the Rate Per Conn. option will be grayed out. The reason for this is the system does not support rate per connection unless the packets’s Vp.Vc is being overwritten and all packets are being sent on user defined connections.
Installing Network Associates ATMbook Firmware

Overview

Network Associates supplied you with an ATMbook that has Sniffer Pro firmware pre-installed. The firmware is designed to work with this build of Sniffer Pro. When you installed the program, a firmware upgrade utility was included in the files you installed on your PC.

NOTE: Do not attempt to use an ATMbook installed with Sniffer Distributed firmware with the Sniffer Pro application. The version of firmware supplied with the Sniffer Distributed ATMbook is designed to operate in a distributed environment and is not supported for use with Sniffer Pro.

If your ATMbook did not come with the Sniffer Distributed firmware installed from the factory, please use the following instructions to install/upgrade the firmware now.

Installing/Upgrading the ATMbook Firmware via Fwdload.exe

To install/upgrade the ATMbook firmware:

1. On the Sniffer Pro PC, locate the fwdload.exe file under the directory:

<drive>:\Program Files\NAI\SnifferNT\Program
2. Double-click the fwdload.exe file. The ATMbook Firmware Upgrade dialog box appears as shown *Figure A–1.*

![Firmware Upgrade Dialog Box](image)

**Figure A–1. Firmware Upgrade Dialog Box**

3. Enter the following information into the fields:
   - User Name - Enter *admin*
   - Password - Enter *adminpass*
   - Flash File - Browse to the following location
     \<drive>\Program Files\NAI\SnifferNT\Driver\ATMLT2\(Win2k or winnt)
     Select the *tinker.fls* file
   - IP Address - Enter the ATMbook IP address
4. In the message box, verify that no other application is connected to the ATMbook.
5. Once the options are set, click **Upgrade**. A dialog box will appear to confirm the upgrade procedure was completed successfully.
6. Click **Done**.

**NOTE:** If you are unable to upgrade the firmware using the Fwdload.exe utility, you may use the following HyperTerminal method to update the firmware.
Installing Network Associates ATMbook Firmware via Hyperterminal

**NOTE:** You only need to use these procedures if you are unable to install/upgrade the Firmware using the Upgrade Dialog box and/or the Fwload.exe utility.

---

**To download the NAI firmware to the ATMbook over a direct connection:**

1. Establish a Hyper Terminal connection to the ATMbook as described in *Assigning an IP Address and Subnet Mask to the ATMbook on page 4–2*.
2. At the ATMbook prompt (>>), type the **shell** command to go to the VxWorks shell.
3. You will be prompted to supply the admin password. The default admin password is **adminpass** (all lowercase).
4. After you enter the correct password, the ATMbook responds with “Starting shell...” Then, the VxWorks prompt (->) appears.
   
   Type the following command to the VxWorks prompt to ensure that the ATMbook is in the proper state to receive the download of the Firmware:
   
   ```
   ->rcv_flushChannelData (command)
   value = 0 = 0x0 (response)
   ```
   
   **IMPORTANT:** The ATMbook may not respond with the `value=0=0x0` response the first time you issue this command. If it does not, repeat the command until you receive the `value=0=0x0` response.

5. Use the following command to set up a temporary file system on the system. Note that the commands are case sensitive.
   
   ```
   -> mkRam2Fs (command)
   value = 0 = 0x0 (response)
   ```
   
6. From the PC, start a FTP session to the ATMbook using the commands shown below. Use the default admin and adminpass values for the username and password to connect to the ATMbook.
   
   ```
   ftp 1.2.3.4 (command)
   admin (response to User: prompt)
   adminpass (response to Password: prompt)
   ftp> (command prompt)
   ```
7. From the FTP session, use the following commands to set the directory and copy the Firmware file (tinker.fls) to the system using binary mode.

```plaintext
ftp> cd ram2: (change unit’s directory)
ftp> lcd a:\ (change PC directory to A:)
ftp> bin (set binary mode)
ftp> put a:tinker.fls (send the file)
```

**IMPORTANT:** Type the colon after the cd ram2: command. Otherwise, the directory will not be changed and the download will fail.

8. Start the upgrade from Hyper Terminal. Use the following command (with the double quotes as shown):

```plaintext
-> netload "ram2:tinker.fls" (command)
```

You should see the following general response to this command. The section values listed may be different than those shown.

```
copying file ram2:tinker.fls to ram1:netload.fls
  file is 782668 bytes long
  netload will rewrite the following Flash sections:
    .text  c0000000-c009ce9f.  Sections  7-11
    .data  c009cea0-c009ce9f.  Section   11
    .sec13 c00c0000-c00deb33. Section   13
    .bss   c009cea0-c009ce9f.  Section   11
  Erasing: 7 8 9 10 11 13
  Erasing Flash. Are you sure? (Y/[N]):
```

9. Continue the upgrade by answering Yes to the Erasing Flash query. The upgrade will continue as follows:

```
Erasing Flash. Are you sure? (Y/[N]): Y Erasing Flash Section 7...
Erasing Flash Section 8...
Erasing Flash Section 9...
Erasing Flash Section 10...
Erasing Flash Section 11...
Erasing Flash Section 13...
Programming Flash at 0xc0000000...
............................................
............................................
............................................
............................................
-- Load complete --
Start address is : C0000000
value = 1 = 0x1
->
```

10. Did you see the response from the system shown above?
• If you see the above response, the upgrade is complete. Reboot the system by issuing a reboot command. Close the Hyper Terminal session.
  -> reboot (command)
• If the response indicates a failure, DO NOT reboot the unit. Call NAI Technical Support immediately.

At this point, the `tinker.fls` Firmware is successfully loaded on the ATMbook.
Adding Value To Your Network Associates Product

Sniffer Technologies network management software helps to ensure that the critical technology you rely on functions smoothly and effectively. Taking advantage of a Network Associates support plan extends the protection you get from your software by giving you access to the expertise you need to install, monitor, maintain and upgrade your system with the latest Network Associates technology. With a support plan tailored to your needs, you can keep your system or your network working dependably in your computing environment for months or years to come.

Corporate customers can choose from four levels of extended support under the Network Associates Corporate PrimeSupport program.

PrimeSupport Options for Corporate Customers

The Corporate PrimeSupport program offers these four support plans:
- PrimeSupport KnowledgeCenter Plan
- PrimeSupport Connect Plan
- PrimeSupport Priority Plan
- PrimeSupport Enterprise Plan

Each plan has a range of features that provide you with cost-effective and timely support geared to meet your needs. The following sections describe each plan in detail.

The PrimeSupport KnowledgeCenter Plan

The PrimeSupport KnowledgeCenter Plan gives you access to an extensive array of technical support information via a Network Associates online knowledge base, and download access to product upgrades from the Network Associates website. If you purchased your Network Associates product with a subscription license, you receive the PrimeSupport KnowledgeCenter Plan as part of the package, for the length of your subscription term.
If you purchased a perpetual license for your Network Associates product, you can purchase a PrimeSupport KnowledgeCenter Plan for an annual fee.

To receive your KnowledgeCenter password or to register your PrimeSupport agreement with Network Associates, visit:


Your completed form will go to the Network Associates Customer Service Center. You must submit this form before you connect to the PrimeSupport KnowledgeCenter site.

With the PrimeSupport KnowledgeCenter Plan, you get:

- Unrestricted, 24-hour-per-day online access to technical solutions from a searchable knowledge base within the Network Associates website
- Electronic incident and query submission
- Technical documents, including user’s guides, FAQ lists, and release notes
- Online data file updates and product upgrades

**The PrimeSupport Connect Plan**

The PrimeSupport Connect Plan gives you telephone access to essential product assistance from experienced technical support staff members. With this plan, you get:

- In North America, unlimited toll-free telephone access to technical support from Monday through Friday, 8:00 AM to 8:00 PM Central Time
- In Europe, the Middle East, and Africa, unlimited telephone access to technical support, at standard long-distance or international rates, Monday through Friday, from 9:00 AM to 6:00 PM local time
- In the Asia-Pacific region, unlimited toll-free, telephone access to technical support, Monday through Friday, from 8:00 AM to 6:00 PM AEST
- In Latin America, unlimited telephone access to technical support, at standard long-distance or international rates, Monday through Friday, from 9:00 AM to 5:00 PM Central Time
- Unrestricted, 24-hour-per-day online access to technical solutions from a searchable knowledge base within the Network Associates website
- Electronic incident and query submission
The PrimeSupport Priority Plan

The PrimeSupport Priority Plan gives you round-the-clock telephone access to essential product assistance from experienced Network Associates technical support staff members. You can purchase the PrimeSupport Priority Plan on an annual basis when you purchase a Network Associates product, either with a subscription license or a one-year license.

The PrimeSupport Priority Plan has these features:

- In North America, unlimited toll-free telephone access to technical support from Monday through Friday, 8:00 AM to 8:00 PM Central Time
- In Europe, the Middle East, and Africa, unlimited telephone access to technical support, at standard long-distance or international rates, Monday through Friday, from 9:00 AM to 6:00 PM local time
- In the Asia-Pacific region, unlimited toll-free, telephone access to technical support, Monday through Friday, from 8:00 AM to 6:00 PM AEST
- In Latin America, unlimited telephone access to technical support, at standard long-distance or international rates, Monday through Friday, from 9:00 AM to 5:00 PM Central Time
- Priority access to technical support staff members during regular business hours
- Responses within one hour for urgent issues that happen outside regular business hours, including those that happen during weekends and local holidays
- Unrestricted, 24-hour-per-day online access to technical solutions from a searchable knowledge base within the Network Associates website
- Electronic incident and query submission
- Technical documents, including user’s guides, FAQ lists, and release notes
- Data file updates and product upgrades via the Network Associates website
The PrimeSupport Enterprise Plan

The PrimeSupport Enterprise Plan gives you round-the-clock, personalized, proactive support from an assigned technical support engineer. You’ll enjoy a relationship with a support professional who is familiar with your Network Associates product deployment and support history, and who will call you at an interval you designate to verify that you have the knowledge you need to use and maintain Network Associates products.

By calling in advance, your PrimeSupport Enterprise representative can help to prevent problems before they occur. If, however, an emergency arises, the PrimeSupport Enterprise Plan gives you a committed response time that assures you that help is on the way. You may purchase the PrimeSupport Enterprise Plan on an annual basis when you purchase a Network Associates product, either with a subscription license or a one-year license.

With the PrimeSupport Enterprise Plan, you get:

• Unlimited, toll-free telephone access to an assigned technical support engineer on a 24-hour-per-day, seven-day-per-week basis, including during weekends and local holidays.

**NOTE:** The availability of toll-free telephone support varies by region and is not available in some parts of Europe, the Middle East, Africa, and Latin America.

• Proactive support contacts from your assigned support engineer via telephone or e-mail, at intervals you designate

• Committed response times from your support engineer, who will respond to pages within half an hour, to voice mail within one hour, and to e-mail within four hours

• Assignable customer contacts, which allow you to designate five people in your organization who your support engineer can contact in your absence

• Optional beta site status, which gives you access to the absolute latest Network Associates products and technology

• Unrestricted, 24-hour-per-day online access to technical solutions from a searchable knowledge base within the Network Associates website

• Electronic incident and query submission
• Technical documents, including user’s guides, FAQ lists, and release notes
• Online data file updates and product upgrades

**Ordering a Corporate PrimeSupport Plan**

To order any PrimeSupport Plan, contact your sales representative, or

- In North America, call Network Associates at (972) 308-9960, Monday through Friday from 8:00 AM to 7:00 PM Central Time. Press 3 on your telephone keypad for sales assistance.
- In Europe, the Middle East, and Africa, contact your local Network Associates office. Contact information appears near the front of this guide.
### Table A–1. Corporate PrimeSupport Plans at a Glance

<table>
<thead>
<tr>
<th>Plan Feature</th>
<th>Knowledge Center Plan</th>
<th>Connect Plan</th>
<th>Priority Plan</th>
<th>Enterprise Plan</th>
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<tr>
<td>Technical support via website</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Software updates</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Technical support via telephone</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>North America: 8 AM–8 PM CT</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Europe, Middle East, Africa: 9 AM–6 PM local time</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Asia-Pacific: 8 AM–6 PM AEST</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Latin America: 9 AM–5 PM CT</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Priority call handling</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>After-hours support</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Assigned support engineer</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
</tr>
<tr>
<td>Proactive support</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
</tr>
<tr>
<td>Designated contacts</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>At least 5</td>
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<tr>
<td>Response charter</td>
<td>E-mail within one business day</td>
<td>Calls answered in 3 minutes, response in one business day</td>
<td>Within 1 hour for urgent issues after business hours</td>
<td>After hours pager: 30 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Voicemail: 1 hour E-mail: 4 hours</td>
</tr>
</tbody>
</table>
The PrimeSupport options described in the rest of this chapter are available only in North America. To find out more about PrimeSupport, Training and Consultancy options available outside North America, contact your regional sales office. International contact information appears in the Preface of this guide.

Table A–2. International Prime Support Information

<table>
<thead>
<tr>
<th>Country or Region</th>
<th>Phone Number*</th>
<th>Bulletin Board System</th>
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<tbody>
<tr>
<td>Germany</td>
<td>+49 (0)69 21901 300</td>
<td>+49 89 894 28 999</td>
</tr>
<tr>
<td>France</td>
<td>+33 (0)1 4993 9002</td>
<td>+33 (0)1 4522 7601</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>+44 (0)1 171 5126099</td>
<td>+44 1344-306890</td>
</tr>
<tr>
<td>Italy</td>
<td>+31 (0)55 538 4228</td>
<td>+31 (0)20 586 6128</td>
</tr>
<tr>
<td>Netherlands</td>
<td>+31 (0)55 538 4228</td>
<td>+31 (0)20 586 6128</td>
</tr>
<tr>
<td>Europe</td>
<td>+31 (0)55 538 4228</td>
<td>+31 (0)20 688 5521</td>
</tr>
<tr>
<td>Latin America</td>
<td>+55-11-3794-0125</td>
<td>+55-11-5506-9100</td>
</tr>
</tbody>
</table>

* Long distance charges may apply.

Network Associates Consulting and Training

The Network Associates Total Service Solutions program provides you with expert consulting and comprehensive education that can help you maximize the security and performance of your network investments. The Total Service Solutions program includes the Network Associates Professional Consulting arm and the Educational Services program.

Professional Services

Network Associates Professional Services is ready to assist you during all stages of your network growth, from planning and design, through implementation, and with ongoing management. Network Associates consultants provide an expert’s independent perspective that you can use as a supplemental resource to resolve your problems. You’ll get help integrating Network Associates products into your environment, along with troubleshooting assistance or help in establishing baselines for network performance. Network Associates consultants also develop and deliver custom solutions to help accomplish your project goals—from lengthy, large-scale implementations to brief problem-solving assignments.
Jumpstart Services

For focused help with specific problem resolution or software implementation issues, Network Associates offers a Jumpstart Service that gives you the tools you need to manage your environment. This service can include these elements:

- **Installation and optimization.** This service brings a Network Associates consultant onsite to install, configure, and optimize your new Network Associates product and give basic operational product knowledge to your team.

- **Selfstart knowledge.** This service brings a Network Associates consultant onsite to help prepare you to perform your new product implementation on your own and, in some cases, to install the product.

- **Proposal Development.** This service helps you to evaluate which processes, procedures, hardware and software you need before you roll out or upgrade Network Associates products, after which a Network Associates consultant prepares a custom proposal for your environment.

Network Consulting

Network Associates consultants provide expertise in protocol analysis and offer a vendor-independent perspective to recommend unbiased solutions for troubleshooting and optimizing your network. Consultants can also bring their broad understanding of network management best practices and industry relationships to speed problem escalation and resolution through vendor support.

You can order a custom consultation to help you plan, design, implement, and manage your network, which can enable you to assess the impact of rolling out new applications, network operating systems, or internetworking devices.

To learn more about the options available:

- Contact your regional sales representative.

- In North America, call Network Associates at (972) 308-9960, Monday through Friday from 8:00 AM to 7:00 PM Central Time.

- Visit the Network Associates website at:
  
Educational Services

Network Associates Educational Services builds and enhances the skills of all network professionals through practical, hands-on instruction. The Educational Services technology curriculum focuses on network fault and performance management and teaches problem-solving at all levels. Network Associates also offers modular product training so that you understand the features and functionality of your new software.

You can enroll in Educational Services courses year-round at Network Associates educational centers, or you can learn from customized courses conducted at your location. All courses follow educational steps along a learning path that takes you to the highest levels of expertise. Network Associates is a founding member of the Certified Network Expert (CNX) consortium. To learn more about these programs:

- Contact your regional sales representative.
- Call Network Associates Educational Services at (800) 395-3151 Ext. 2670 (for private course scheduling) or (888) 624-8724 (for public course scheduling).
- Visit the Network Associates website at:
  http://www.nai.com/naicommon/services/education.asp
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