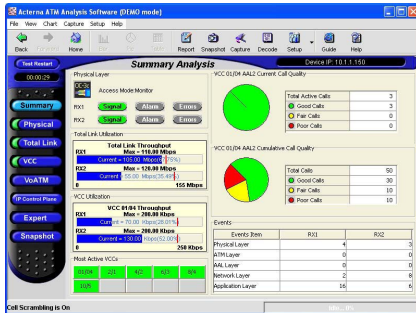# DA-3400/DA-3600A ATM Analysis
Real-time Monitoring and Testing

Key Features

- DS1 through OC-12/STM-4 support

- Real-time and historical visibility of IP conversations

- VoATM/AAL2 analysis

- FRF.5 analysis of frame relay over ATM

- ATM O.191 and IP ping feature for circuit turn-up testing

- Customizable report generator

- IP search capability across VCCs

- Real-time signaling and routing protocol analysis

- Real-time decodes of reassembled PDUs

The ATM network is often blamed for faults in transmission facilities and problems in performance-sensitive applications. Network downtime and open trouble tickets increase operating costs, decrease revenue, and can cause customer churn. Using the JDSU DA-3400 or DA-3600A Data Network Analyzer together with the JDSU ATM Analysis Software, ATM network downtime is minimized, and customer service is greatly improved.

The ATM Analysis Software provides visibility into difficult higher layer data problems, enabling quick identification and fast resolution of complex problems. In addition, the powerful combination of the ATM Analysis Software with either the DA-3400 or DA-3600A provides comprehensive troubleshooting capabilities and expert tools for maintaining network uptime, isolating data/VoATM problems, and identifying customer traffic anomalies over ATM, Ethernet, WAN, and PoS networks.

In addition to ATM Analysis Software, JDSU offers Ethernet Analysis Software and High-speed WAN Analysis Software for the DA-3400 and DA-3600A as well as Packet over SONET (PoS) Software for the DA-3600A.

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Features

Multiple interface support with network connections

By supporting networks from DS-1/E1 to OC-12/STM-4 in one instrument, the DA-3400 and DA-3600A meets the most demanding ATM network requirements. Support for multiple test access methods ensures an easy connection to the network.

VoATM analysis

Many DSL circuits support both Voice and Data services. The ATM Analysis Software monitors these VoATM/AAL2 connections for quality, providing both real-time troubleshooting analysis and long-term performance monitoring.

Data traffic analysis

The ATM Analysis Software identifies and provides statistics for each AAL type in use on each VCC. Reassembled PDU analysis is performed in real time with detailed IP host and application statistics.

Expert events

Automatic identification of important network events ensures the identification of transient problems. This allows technicians to examine the history of the circuit in order to analyze when problems occurred at different OSI layers.

Reporting

Professional, customized report generation is an integral capability of the ATM Analysis Software. Easily customized and formatted for printing, it is also possible to export the reports to standard database applications.

Routing, signaling, authentication

The ATM Analysis Software provides a separate view for protocols related to routing, VoIP signaling, SS7, and RADIUS authentication. Technicians can view messages by type, define display filters, and view decodes in real time. This allows for the quick identification of issues related to packet routing, VoIP and SS7 call control, and user logon access.

Remote or local operation

Using IP networks or dial-up connections, technicians can control the DA-3400 or DA-3600A remotely. A direct connection to a PC allows for easy control in portable field service environments. Once initiated, network monitoring continues without the need to maintain the connection.

Frame relay within ATM

FRF.5 support allows for the analysis of frame relay services quickly and easily at aggregate monitoring points in an ATM transport network.

### Real-time and historical visibility of IP conversations

Network problems often occur beyond the reach of a traditional element management system. To simplify cause-and-effect analysis across OSI layers, both the DA-3400 and DA-3600A provide real-time data and VoIP traffic visibility as well as historical trending of IP conversations for up to 30 days.

Real-time protocol decodes

The ATM Analysis Software allows technicians to display protocol decodes in real time. Summary, hex, and detailed decode views are available for over 350 protocols.
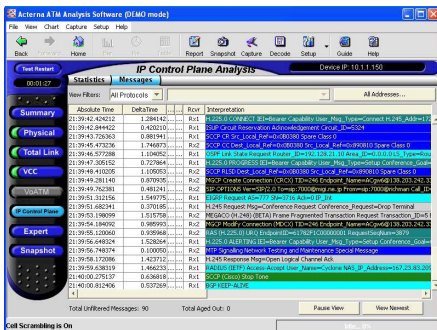
IP control plane analysis
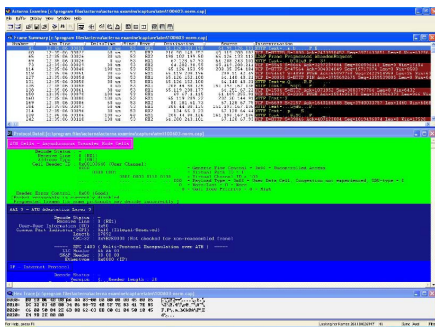

Real-time protocol decodes

Applications

Data service troubleshooting

The ATM Analysis Software uses VCC traffic classification and real-time IP conversation analysis to solve the complex higher-layer problems that traditional element management systems are unable to solve. Coupled with an intuitive graphical user interface (GUI), the ATM Analysis Software allows for the rapid identification and solution of problems that decrease mean time to repair (MTTR) and increase customer satisfaction.

VoATM troubleshooting

VoATM deployments support the transport of voice over broadband technologies such as DSL, cable, and wireless networks. The ability to support this service requires tools that identify the source of problems quickly.Understanding cell loss and timing issues are critical to sectionalizing and resolving performance issues. The VoATM analysis option provides a simple way to identify poor quality calls that allow technicians to sectionalize the network easily and understand the source of the problem.

Network baselining
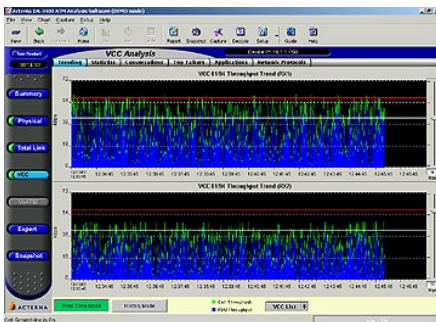
Network baselining provides an understanding of current network use

Understanding network use is the first step in adding new applications, which require additional bandwidth. This can prevent circuit overload that degenerates the performance of all of the applications sharing the bandwidth. Placed at key points on the network for long-term monitoring, both the DA-3400 and DA-3600A use historical trends, coupled with event correlation, to provide an understanding of current network operation and the ability of a specific circuit to handle additional traffic. The ATM Analysis Software allows technicians to identify potential problem areas before the application carries live traffic.

ATM circuit turn-up

After physical layer and network element installations are complete and tested, the ability to generate and analyze cells and packets is required to verify circuit provisioning. The ATM O.191 turn-up feature allows for provisioning verification, and the IP ping feature tests IP connectivity. The ATM Analysis Software provides a simplified verification process for error-free circuits.

VoIP and SS7 signaling monitoring

Troubleshooting VoIP over ATM services is challenging. The ATM Analysis Software allows technicians to monitor, analyze, and decode VoIP and SS7 signaling messages on ATM circuits. PUD reassembly and frame decoding are performed in real time for efficient problem resolution.

Filter, capture, and decode

With powerful filtering and a line rate capture capability of one Gigabyte RAM, the DA-3400 and DA-3600A allow technicians to capture traffic for post-capture decoding and analysis. Additionally, it is possible to view decodes in real time. Coupled with line rate filters, technicians can focus on specific traffic, improving efficiency and reducing problem resolution times.

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Specifications

DA-3400 and DA-3600A Mainframes

Physical characteristics

Overall dimensions (w x l x d)	10.5 x 12.6 x 2.6 in (26.7 x 32 x 6.6 cm)
Weight	7 lb (3.2 kg)
Rack mount height	2U

Environment

Ambient temperature range	+5ºC to +40ºC
Storage and transport	−10ºC to +60ºC

Electrical

Power supply	100–240 VAC, 50/60 Hz
DA-3400 power consumption	70 W
DA-3600A power consumption	90 W
Safety	UL 3111-1, CAN/CSA C22.2 No. 1010.1, IEC-61010-1, EN61010-1

Configuration/control/power connectors

RJ-45 10/100 Ethernet console port
Keypad with LCD for communication setup
LED indicators for physical, link, error
Dual cardbus slot
RS-232 serial port
12 VDC power supply input

Minimum system requirements

Windows 2000, Windows XP Professional
800 MHz processor
128 MB RAM — 256 MB recommended
300 MB disk space

Ordering Information

Mainframe

Description	Part number
DA-3400 Data Network Analyzer	DA3400
DA-3600A Data Network Analyzer	DA3600A

Interface Modules

DS1/DS3 E1/E3 WAN/ATM/ISDN — DA3000M-DS/E

DS1/Channelized DS1: Dual RJ connectors, receive sensitivity 0 dBdsx to −30 dBdsx

DS3/Channelized DS3: Dual BNC connectors, terminate receive sensitivity 200 mVp to 1.2 Vp, DSX receive sensitivity 30 mVp to 80 mVp, designed for −20 dB resistive loss

E1/Channelized E1:Dual RJ connectors, receive sensitivity 0 dBdsx to −30 dBdsx

E3: Dual BNC connectors, terminate receive sensitivity 110 mVp to 1.2 Vp, DSX receive sensitivity 30 mVp to 85 mVp, designed for −20 dB resistive loss

OC-3 STM-1 POS/ATM

OC-3 STM-1 Singlemode (DA-3400 only) — DA3000M-155-SM
Dual SC full-duplex connectors: Optical transmit power −8 dBm to -15 dbm, optical receive sensitivity −14 dBm to −26 dbm

OC-3 STM-1 Multimode (DA-3400 only) — DA3000M-155-MM
Dual SC full-duplex connectors: Optical transmit power −14 dBm to -20 dbm, optical receive sensitivity -14 dBm to −26 dbm

OC-3/12 STM-1/4 POS/ATM

OC-3/12 STM-1/4 Singlemode — DA3000M-622-SM
Dual SC full-duplex connectors: Optical transmit power −8 dBm to −15 dbm, optical receive sensitivity −14 dBm to −26 dbm

OC-3/12 STM-1/4 Multimode — DA3000M-622-MM
Dual SC full-duplex connectors: Optical transmit power −14 dBm to -20 dbm, optical receive sensitivity −14 dBm to −26 dbm

Ethernet

10/100 Base-T Ethernet (DA-3400 only)	DA3000M-10/100
10/100/Gigabit Ethernet	DA3000M-1G

Software and Options

DA-3400 and DA-3600A software

ATM Analysis	DA3000S-ATM
Ethernet Analysis	DA3000S-Ethernet
WAN Analysis	DA3000S-HSW
VoATM Analysis	DA3000T-VoATM
VoIP Analysis	DA3000T-VoIP
Application Response Time	DA3000T-APPRES

DA-3600A advanced software

Advanced (POS/Ethernet) Analysis	DA3600S-Advanced
Streaming Application	DA3600S-Streaming

Options

Cardbus Hard Disk Drive	AC-018398
Rack Mount Kit	RM-18006
Gigabit Ethernet Upgrade (DA-3400 only)	DA3000T-1G-U1
622 ATM Upgrade (DA-3400 only)	DA3000T-622-U1
PVA-1000 VoIP Analysis and Playback	PVA-1000-VOIPN

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