

## DA-3600A Data Network Analyzer

### Advanced Network analysis and troubleshooting



#### Key Features

- Provides fast, timely information on network performance
- Support for Ethernet, WAN, ATM, and POS
- Supports speeds from 56Kbps to 2.4 Gbps
- Comprehensive filter, capture, and decode
- 1 Gigabyte of capture buffer
- Portable and distributed operation
- Advanced MPLS and VLAN flow classification
- VoIP and VoATM applications
- Realtime Routing and signaling analysis

Today's data networks are constantly challenged by more complex and bandwidth-intensive applications. For network support engineers, identifying the root cause of user application problems and IP network performance issues has become a complex task. In an environment where reduced costs and increased customer satisfaction are a priority, it is important to reduce the time it takes to isolate problems and restore optimal network functionality.

For the most demanding network professional, JDSU offers the DA-3600A. In a single chassis, the DA-3600A supports LAN, WAN, ATM, and Packet Over SONET from 56Kbps to 2.4 Gbps. This unmatched flexibility is enhanced with hardware-based analysis, 1 Gigabit of capture memory, and an internal 40 Gigabyte hard disk drive. The result is the most flexible and powerful data network analyzer available with the performance to meet the demanding needs of today's converged networks.

## Features

### Multiple technology support in one powerful instrument

JDSU's DA-3600A is a powerful instrument employing a sophisticated real-time hardware engine that analyzes thousands of IP conversations simultaneously at speeds up to 2.4 Gbps. The DA-3600A platform supports interfaces for LAN, WAN, ATM, and POS, from T1/E1 to OC-48c/STM-16, in a single unit. This ensures that the engineer has the tools and interfaces necessary to get the job done.

### Local and remote use

Small and portable, the DA-3600A supports both local and remote use. When required, the DA-3600A can be left at a remote location to allow centrally located engineers to perform troubleshooting. The DA-3600A can be configured and shipped to a remote site for installation by untrained technicians. Once installed, the unit can be fully operated from a remote location eliminating the need for on-site personnel.

### Three modes of operation

The DA-3600A offers three modes of operation. The standard mode supports Ethernet, WAN, and ATM analysis. For users requiring Packet Over SONET support the DA-3600A supports the Advanced flow classifier application. This allows users to perform monitoring, analysis, and troubleshooting on backbone and peering links running IP or MPLS. The third mode is the streaming option that allows a subset of network frames to be copied from the monitored circuit and forwarded to third party applications for analysis in real-time.

### Real-time signaling and routing protocol analysis

Whether troubleshooting routing update storms, monitoring TCP network sessions, tracking VoIP call setups, or following mobile IP application activation, the DA-3600A tracks the entire protocol message exchange process in realtime. In addition to providing a detailed message view, a simple click of the mouse displays the full decode of the message content, providing engineers with all the important parameters of a particular protocol message exchange. This level of detail dramatically reduces the time required to identify problems with network infrastructure, locate equipment incompatibilities, and sectionalize network bottlenecks (figure 1).

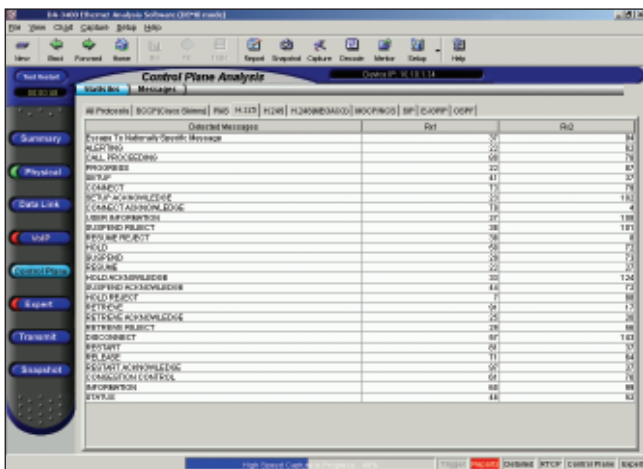


Figure 1

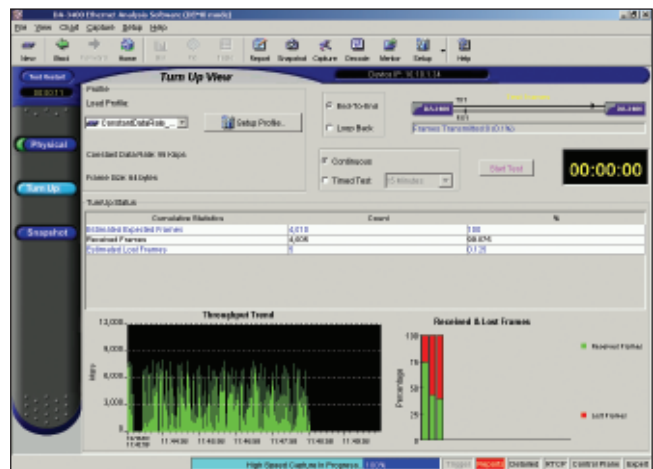


Figure 2

### Comprehensive traditional analyzer capabilities

In addition to its advanced powerful real-time analysis capabilities, the DA-3600A is packed with traditional troubleshooting features that enable post-capture problem identification. The customizable filtering mechanism, generous 1 Gigabyte capture buffer, and sophisticated Examine seven-layer decode engine support well over 1000 protocols. These features accelerate problem identification and resolution.

### Professional report generation

Presenting the results of an analysis session can be done using the integrated report generator. Selected reports can be printed or stored on the DA-3600A for later retrieval. Full scheduling is supported allowing selected reports to automatically generated.

### Circuit turnup

Turning up Metro Ethernet or ATM circuits can be accomplished using the DA-3600A. The Ethernet turnup application generates traffic that insures an Ethernet circuit is operating as designed. For ATM networks the user can employ the O.191 turnup capability to verify the proper operation of an ATM circuit (Figure 2).

### VoIP and VoATM

Monitoring signaling and quality for packet voice deployments can be difficult. This is made more difficult on converged voice and data networks. The DA-3600A provides the ability to monitor quality and signaling in real-time. Identifying problems related to jitter, packet loss, delay, and correlating call quality to overall network traffic (Figure 3).

### CLI and Scripting Interface

Configuration and operation of the DA-3600A can be done from a command line interface that supports scripting. Scripts can be stored on the DA-3600A that configure, start and stop analysis and automatically forward results. Incorporating the DA-3600A into third party management systems can be easily done using the scripting interface.

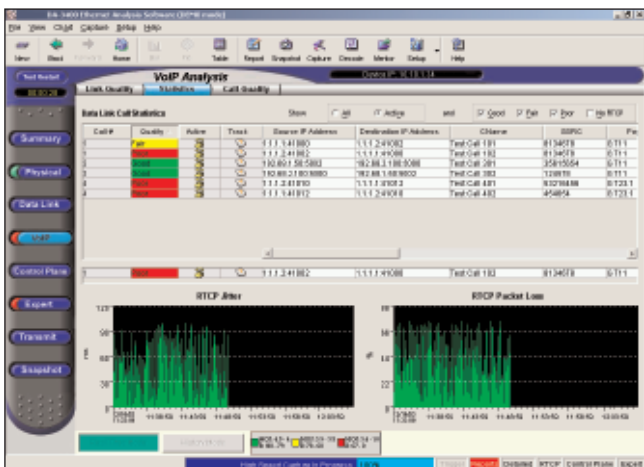


Figure 3

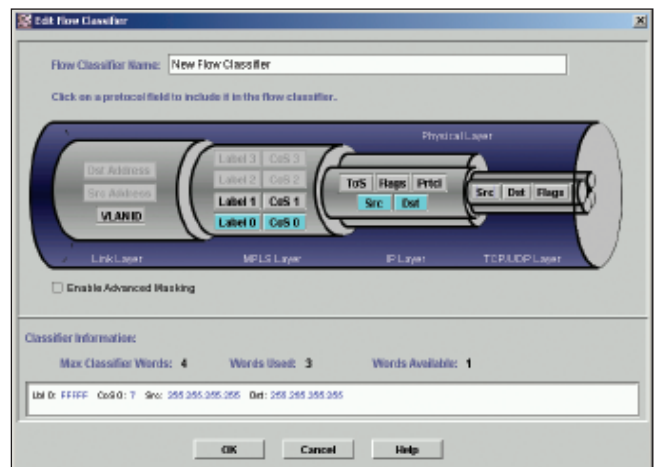


Figure 4

### **Advanced mode features Flow Classifier**

For high-speed POS and Ethernet backbone networks the DA-3600A offers an advanced flow classifier. This option allows statistics to be grouped based on user-defined parameters. Whether classifying IP flows based on MPLS labels, VLAN tags, IP address, applications, or combinations of parameters, the DA-3600A can maintain statistics on 160,000 unique flows (figure 4).

The Advanced Flow Classifier software also allows users to define filters and triggers. This limits the traffic analyzed by the DA-3600A and controls the function of the capture buffer. Users can define up to 160,000 unique filters using a wide variety of parameters. String search filters are also supported allowing the user to define a specific string of characters for filter-in or filter-out operations.

### **Results database**

When operating in the advanced mode, the user results are stored in a database on the DA-3600A. Users can export all or part of the database in order to generate custom reports or for integration into other third party database applications.

### **Transmit**

For POS and Ethernet transmit, the DA-3600A advanced mode offers users the ability to define multiple frames. Using the integrated frame builder, GUI users can modify the frame header fields to generate standard compliant as well as non-compliant frames, to test the effectiveness of security firewalls and router/switch behavior. Stored transmit profiles can be populated with multiple user defined frames that can be recalled and modified.

### **Peering link monitoring and analysis**

The DA-3600A provides visibility into all IP flows occurring on any Packet Over SONET peering link. With this visibility, carriers can truly see what traffic is entering and exiting their peering links by monitoring IP traffic flows. The DA-3600A can be configured to extract routing tables and provide statistics for each defined AS (Autonomous System) in the routing table.

### **Streaming mode features**

Streaming mode allows the DA-3600A to take frames matching specific user defined criteria and forward them to a third party device in real-time. For example, some network tools cannot operate at full line rate Gigabit Ethernet speeds. Using the DA-3600A a filter can be defined to forward a subset of the traffic in real-time to the network tool. Users may define IP addresses or dynamically forward any IP conversation that contains a specific string.

## Specifications

### Technical specifications

#### JDSU 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 +5°C to +40°C  
Storage and transport -10°C to +60°C

##### 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

##### Panels

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 98SE, Windows 2000, Windows NT 4.0 (SP6a), Windows XP Professional  
800 MHz processor  
128MB RAM — 256MB recommended  
300 MB disk space

### Order information

Description	Part number
<b>Mainframe</b>	
JDSU DA-3600A Data Network Analyzer	DA3600A

### Interface Modules

#### Ethernet

##### 10/100/1000 Ethernet **DA3000M-1G**

Dual RJ connectors  
Dual GBIC slots  
Optical SX GBIC AC-GBIC-SX  
Optical LX GBIC AC-GBIC-LX

#### DS1/DS3 E1/E3 WAN/ATM/ISDN interface

##### DS1/Channelized DS1 **DA3000M-DS/E**

Dual RJ connectors  
Receive Sensitivity 0dBsx to -30dBsx  
DS3/Channelized DS3  
Dual BNC connectors  
Terminate Receive Sensitivity 100mVp to 1.2Vp  
DSX Receive Sensitivity 30mVp to 80mVp  
Designed for -20dB resistive loss

##### E1/Channelized E1

Dual RJ connectors  
Receive Sensitivity 0dBsx to -30dBsx

#### E3

Dual BNC connectors  
Terminate Receive Sensitivity 110mVp to 1.2Vp  
DSX Receive Sensitivity 30mVp to 85mVp  
Designed for -20dB resistive loss

#### OC-3/STM-1 POS/ATM interface

OC-3/12 STM-1/4 Single Mode **DA3000M-622-SM**  
Dual SC full duplex connectors  
Optical transmit power -8 dBm to -15dbm  
Optical receive sensitivity -14 dBm to -26dbm

#### OC-3/12 STM-1/4 Multimode **DA3000M-622-MM**

Dual SC full duplex connectors  
Optical transmit power -14 dBm to -20dbm  
Optical receive sensitivity -14 dBm to -26dbm

#### OC-48c STM-16 POS interface

OC-48c STM-16 Single Mode **DA3000M-2.4G**  
Dual LC full duplex connectors  
Optical transmit power -3dBm to -10dBm  
Optical receive sensitivity -3dBm to -18dBm

### Software/Options

#### DA-3600A software

ATM Analysis Software **DA3400S-ATM**  
Ethernet Analysis Software **DA3400S-Ethernet**  
High Speed WAN Analysis Software **DA3400S-HSW**

#### DA-3600A software

Advanced (POS) Analysis Software **DA3600S-Advanced**  
Streaming software **DA3600S-Streaming**

#### Options

VoATM Analysis Software Option **DA3000T-VOATM**  
VoIP Analysis Software Option **DA3000T-VOIP**  
Cardbus Hard disk drive **AC-018398**  
Rack Mount Kit **RM-18006**

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