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SOLUTIONS

Leased Line

Frame Relay

APPLICATIONS

In-Band Remote Management of E1 DSU/CSUs

Migrating SNA to Frame Relay

WHITE PAPERS

Frame Relay Circuit Management

PRODUCTS

Family Overview

DataSMART 486

DataSMART 488

DataSMART 680 & 686

DataSMART 681

DataSMART 688

Alarms Utility

DataSMART Installer

FrameVision Reporter

FAQs

SW UPDATES

MANUALS

Install Guide
2.2MB 2.0MB

Setting up IP Management over Ethernet
152K

MIB Guide
1.3MB 0.7MB

User's Guide

Products: DSU/CSUs: DataSMART® 584 & 588

T1/FT1 Frame Monitoring Plug-in DSU/CSUs

Free Preview Download!

Key Features

Specifications

Ordering Information

Back Panel & Cabling Information

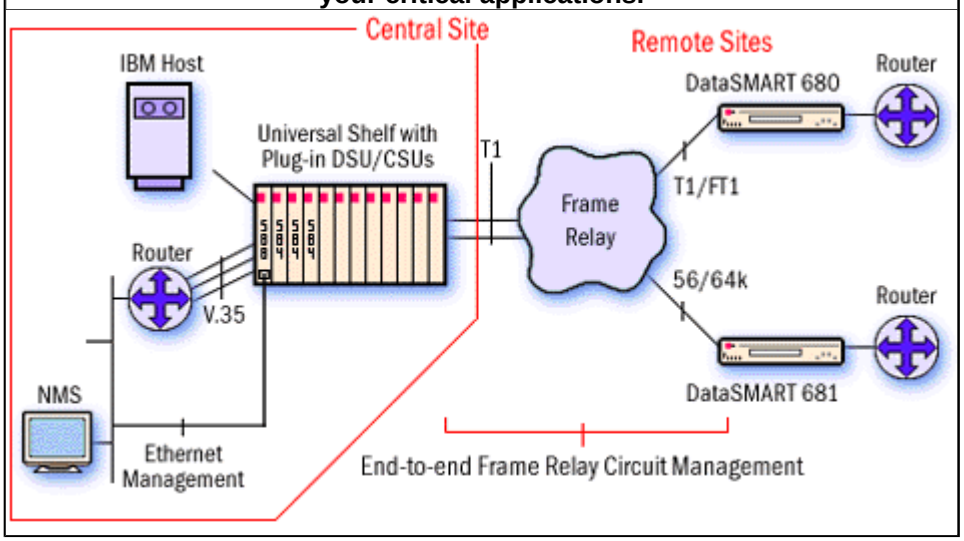
Ask An Expert

Description

DataSMART Frame Monitoring Plug-In DSUs are part of the new FrameVision™ family for Frame Relay circuit management. FrameVision products also include a suite of tools for measuring your Frame Relay link performance and managing your bandwidth costs.

DataSMART Frame Monitoring Plug-ins provide all the information you and your Frame Relay provider need to ensure your service is robust enough for your centralized enterprise applications. They continuously gather detailed statistics on network availability, congestion, excess bursting, delays and circuit utilization. The statistics may be collected over the local Ethernet port, or, in-band by the carrier over a selected virtual circuit (VC).

With popular enterprise reporting systems and the DataSMART frame monitoring plug-ins at the central site, you can right-size bandwidth for your critical applications.



1.2MB 0.8MB

Key Features

- Plugs into the Universal Shelf
- Leads in price and performance for large managed Frame Relay sites
- Connects frame-based CPE to the Frame Relay network
- Matches bandwidth to application requirements
- Isolates WAN vs. LAN performance issues
- Open, standards-based SNMP architecture ensures compatibility with management systems

The DataSMART 588 also provides:

- T1 add/drop port for voice traffic
- Ethernet port for convenient local shelf management
- Unique auto-configuration feature for simplified network growth

Specifications

Network Interface	
Common	
Line Rate	Internal or external clock; 1.544 Mbps +/- 50 bps. When timing is derived from input signal: 1.544 Mbps +/- 200 bps. Output line rate follows input line rate.
Line Code	AMI, B8ZS
Line Impedance	100 ohms +/- 10 ohms at 772 kHz. 100 ohms +/- 20% over the frequency band 100 kHz to 1 MHz.
Connectors	2-slot shelf: RJ48C socket. 12-slot shelf: DA15 plug.
Lightning Protection	Lightning surges defined per FCC Part 68 will not damage unit.
Framing Format	SF or ESF per ANSI T1.403-1989, and TR-54016-1989. Ericsson Framing (defined as valid F_T bits only).
Protocol	Frame Relay or ATM DXI
Input Only	
Input Level	DSX-1 to -27.5 dB
Input Jitter Tolerance	Per TR 62411-1990 (p. 4.7.1)
Output Only	
Output Level	Per ANSI T1.403-1989 3.0 Volt peak +/- 10% into 100 ohms at output connector
Output Signal	Tolerant to impedance mismatches
Line Build Out	0, 7.5, 15.0 selectable
Output Jitter	TR 62411-1990 (p. 4.7.2)
Jitter Transfer	DSU: TR 62411-1990 (p. 4.7.3)

Terminal Interface (Add/Drop Port: Model 588 only)

Common

Line Rate	Internal; 1.544 Mbps +/- 50 bps. When timing is derived from input signal: 1.544 Mbps +/ - 200 bps. Output line rate follows input line rate.
Line Code	AMI, B8ZS (selectable)
Line Impedance	100 ohms +/- 10 ohms at 772 kHz. 100 ohms +/- 20% over the frequency band 100 kHz to 1 MHz.
Connectors	2-slot shelf: RJ48C socket. 12-slot shelf: DA15 plug.
Framing Format	SF or ESF per ANSI T1.403-1989, and TR-54016-1989. Ericsson Framing (defined as valid F_T bits only). Idle ESF Data Link is set to 1s.

Input Only

Input Level	DSX-1 to -10.0 dB
Input Jitter Tolerance	Per TR 62411-1990 (p. 4.7.1)
Input Jitter Transfer	Per TR 62411-1990 (p. 4.7.2)

Output Only

Output Level	DSX-1 at connector (no equalization enabled)
Equalization	Up to 655 feet selectable, 5 steps

Serial Control Port Interface

Baud Rate	2400, 9600, 19200, 38400
Electrical	EIA-574
DCE Connector	DB9S
DTE Connector	DB9P

Data Port Interface

Bit Rates	Nx56 Kbps or Nx64 Kbps (N=1...24)
Electrical	V.35 compatible
Connector	DB25 socket

Power

AC Input Range	24 to 48 VDC @ 7 watts
Power Interruptions	Loss of power does not damage unit.

	Loss of power for less than five years does not change the configuration settings which may have been set by the user. Loss of power for less than two hours (nominal) does not affect the real-time clock setting.

Management

Control Ports	DCE and DTE EIA-574 DE9 socket Daisy chain 38.4 kbps maximum English menus Async ASCII or SLIP/PPP
Ethernet Port **(Model 588 only)**	10Base-T RJ45 socket Transmit and receive LEDs
SNMP Agent	MIB II (RFC 1213) Frame Relay DTE MIB, Circuit Table (RFC 1315) DS1 MIB (RFC 1406) Enterprise MIB TELNET server Responds to Ping Security filters (for IP source addresses) Up to 10 SNMP Trap hosts
In-band	From network or router Shared or dedicated VC Frame Relay or ATM DXI
LCD	Front panel display of unit status Front panel configuration of unit

Frame Relay Circuit Management

Methodology	Non-intrusive, in-band
Virtual Circuit (VC) Traffic	**Group Measurements:** % bandwidth utilization Kbps Delays VC status (24 hour) **Detail:** Frames Octets Kbps Delay measurements VC status
VC Status	Up Down BECN set FECN set DE set Bandwidth utilization Threshold exceeded Delay threshold exceeded
VC Traffic Detail Measurement Intervals	Current/previous second Current/previous 15 min

	Current/previous 2 hour Current 24 hour Previous 7 complete days 12 2-hour intervals for current day
VC Delay Measurements	Maximum observed delay Average delay Attempts made Measurement packets lost Automatic delay measurements for up to 64 active VCs
VC Delay Diagnostics	Round-trip VC delay via in-band
Frame Relay Performance Thresholds	User configurable Access bandwidth utilization Round-trip delay
Frame Relay Statistics	Non-integral number of octets Invalid header address Invalid HDLC FCS Aborted frames FPING responses lost (system total)
Reports	Frame statistical Frame group (VC summary) Frame individual (VC detail) Frame VC utilization Burst: data sent above CIR and above Excess Burst rates

Diagnostics

LEDs	Power/fail Auto Configuration (588 only) Network Interface Data Network Interface Code Violation Network Interface Red Alarm Network Interface Yellow Alarm T1 Code Violation (588 only) T1 Status (588 only) Test status Data port transmit Data port receive Data port CTS Data port RTS Ethernet Link (588 only) Ethernet Transmit (588 only)
Loop Tests	Local loopback Data terminal loopback Terminal interface loopback (588 only)

T1 Local Loop Diagnostics

Loop Tests	Line loopback Payload loopback Data port loopback
Line Test Codes	QRS

	3-in-24 1-in-8 All 1s All 0s
Data Test Codes	511 2047
BERT Tester	Independent BERT on all test codes

T1 Local Loop Performance Monitoring

Methodology	T1.403 in-band performance monitoring
Data Storage	Last 24 hours of data in 15 minute increments. Last 7 days of data in 24-hour increments.
Monitors	Network interface
Registers	Separate for carrier and user
Reports	Based on G.821 for performance Far end Alarm history Network interface statistical

Alarms

Traps	SNMP Traps via SLIP/PPP, Ethernet or in-band
ASCII	Transmitted out async control port

Physical

Usage	Rack mount
Dimensions	2-slot shelf: 17" W x 1.75" H x 12" D 12-slot shelf: 17" W x 7" H x 12" D
Weight	2-slot shelf: 8 lbs., empty 12-slot shelf: 12 lbs., empty Plug-in models: 1 lb. (approx.)

Environment

Operating	0º to 50º C 5% to 90% RH, non-condensing
Storage	-20º to 66º C 5% to 65% RH

Compatibility

AT&T	TR 54016-1989 TR 62411-1990 TR 54019A PUB 43802
ANSI	T1.403-1995

Bellcore	TR 194

Regulatory	
FCC Compliance	Part 68; Part 15, Class A
NRTL Listed	UL 1950, 3rd Edition
CSA	22.2; No. 950
IC	CS-03

Ordering Information

Part Number	Description
72584	DataSMART 584 T1 Frame Monitoring DSU/CSU
72588	DataSMART 588 T1 Add/Drop Frame Monitoring DSU/CSU w/ Ethernet
78270	Universal Shelf, 12 slots, DC
78272	Universal Shelf, 12 slots, DC, for use in Canada (CSA)
78075	Universal Shelf, 2 slots, AC
78070	Universal Shelf, 2 slots, DC
	Power Supplies 120VAC to:
77092	24/48 VDC, 1.25 amps up to 4 units
72073	48 VDC, 100 watts up to 1 shelf
72075	48 VDC, 100w x 2 (2 shelves), or 100w redundant (1 shelf)
72079	48 VDC, 100w x 4 (4 shelves), or 100w redundant (2 shelves)

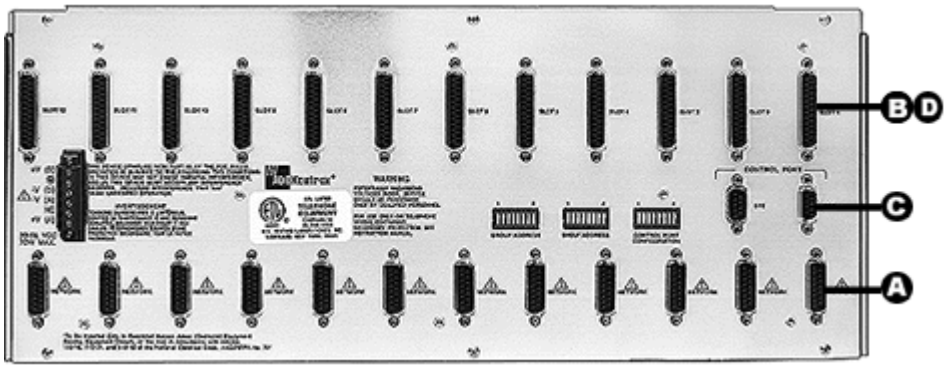
Back Panel and Cabling Information
2-slot shelf

A	**RJ48 - To Network**	
	930xx141	RJ48C Plug to RJ48C Plug
	930xx142	RJ48C Plug to RJ48C Plug, Crossover
B	**RJ48-To Terminal Equipment**	
	930xx142	RJ48C Plug to RJ48C Plug, Crossover
C	**DE9-To Control Terminal**	
	95006022	DE9S to DE9P, 6 feet
	95005023	DE9S to DB25P, 5 feet
	93001211	DE9P to RJ48, Cisco 2500 SLIP, Control Port

78899	DE9S to RJ45 Adapter
78891	DataSMART Installation Kit

D	**DB25 - To Data Terminal Equipment**
V.35	
95010054	DB25P to MRAC34P, 10 feet
95010073	DB25P to MRAC34P, tail circuit timing
95001074	DB25P to MRAC34S, 1 foot
78904	DB25P to MRAC34S Adapter
78905001	V.35 Adapter to existing DataSMART single-port cable
78906001	DB25P to MRAC34S (Wellfleet)
EIA-530	
950xx042	DB25P to DC37S
95010061	DB25P to DB25P, 10 feet
95010058	DB25P to DB25P, tail circuit timing
95010066	DB25P to DC37P (EIA-530 to RS449)

12-slot shelf



A	**DA15 - To Network**
930xx091	DA15S to DA15P
930xx111	DA15S to Stub
930xx151	DA15S to RJ48C Modular Plug
77891	DA15S to RJ48C Jack Adapter
77993004	DA15S to Barrier Strip Adapter

B	**DB25-To Terminal Equipment**
Terminal Equipment Only	
950xx094	DB25P to RJ48C Plug
Terminal and Data Equipment The 12-slot Shelf requires split cables to access data and terminal equipment simultaneously	
95001088	DB25P to DB25S and DA15P
95001089	DB25P to DB25S and DA15S

95001090	DB25P to MRAC34S and DA15P
95001091	DB25P to MRAC34S and DA15S

C DE9-To Control Terminal

95006022	DE9S to DE9P, 6 feet
95005023	DE9S to DB25P, 5 feet
93001211	DE9P to RJ48, Cisco 2500 SLIP, Control Port
78899	DE9S to RJ45 Adapter
78891	DataSMART Installation Kit

D DB25 - To Data Equipment

The 12-slot shelf requires split cables to access both data and terminal equipment simultaneously.

V.35	
95010054	DB25P to MRAC34P, 10 feet
95010073	DB25P to MRAC34P, tail circuit timing
95001074	DB25P to MRAC34S, 1 foot
78904	DB25P to MRAC34S Adapter
78905001	V.35 Adapter to existing DataSMART single-port cable
78906001	DB25P to MRAC34S (Wellfleet)
EIA-530	
950xx042	DB25P to DC37S
95010061	DB25P to DB25P, 10 feet
95010058	DB25P to DB25P, tail circuit timing
95010066	DB25P to DC37P (EIA-530 to RS449)

xx denotes length of cable, contact factory for available lengths. DA, DB, DC, DE designate the size of the shell which encapsulates the cable connector. P = Plug (male); S= Socket (female).

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