DataSMART® 486 and 488

E1/FE1 Frame Monitoring DSU/CSUs

DataSMART E1/FE1 Frame Monitoring DSU/CSUs provide comprehensive, easy-to-use, end-to-end circuit monitoring to improve Frame Relay network performance.

E1/FE1 Frame Monitoring DSU/CSUs

With DataSMART Frame Monitoring DSU/CSUs, service providers and network managers have the tools to deliver reliable, high-performance Frame Relay services. Frame Monitoring DSU/CSUs help verify Service Level Agreements between the PTT and customer, match bandwidth to application needs, and isolate performance problems to the LAN, the WAN, or the local loop.

DataSMART DSU/CSUs maximize your network uptime with convenient management features, such as in-band access for simplified remote management. Each DSU/CSU includes an integrated Ethernet port and a front-panel LCD for easy local management, along with standards-based SNMP management.

DataSMART E1/FE1 Frame Monitoring DSU/CSUs, teamed with FrameVision Reporter software, deliver the tools and information necessary to ensure ongoing savings – and a quick return on investment.

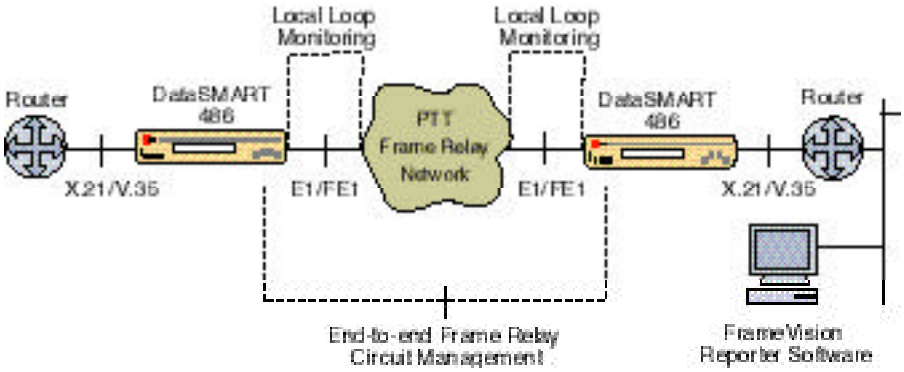
- Provide end-to-end circuit monitoring for Frame Relay networks
- Identify when bandwidth adjustments are needed
- Isolate the source of slow network performance: the LAN, local loop, or WAN
- G.704 performance monitoring for E1 services
- X.21/V.35 data port available for a variety of equipment
- Add/drop voice port available for voice and data traffic integration
- Standards-based, in-band management with SNMP
- Easy local management with 10Base-T access and front-panel LCD
- Free DataSMART® Installer and Alarms Utility software
- 5-year manufacturer's warranty ensures reliability

ADC Kentrox
The Network Access Company™

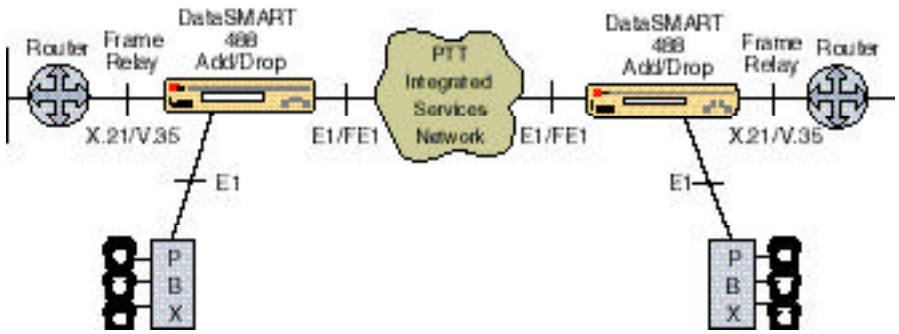
DataSMART E1/FE1 Frame Monitoring DSU/CSU Product Portfolio:

	PHYSICAL INTERFACE		PROTOCOLS	USER PORTS		
	NETWORK	USER	NETWORK	DATA OR VIDEO	VOICE	RATES
DataSMART 486 Single-Port	E1 FE1	X.21 V.35 EIA-530 RS449	Clear Channel Frame Relay	1	0	Nx64k, 2.048 Mbps
DataSMART 488 Single-Port Add/Drop	E1 FE1	X.21 V.35 EIA-530 RS449 E1/FE1	Clear Channel Frame Relay	1	1	Nx64k, 2.048 Mbps

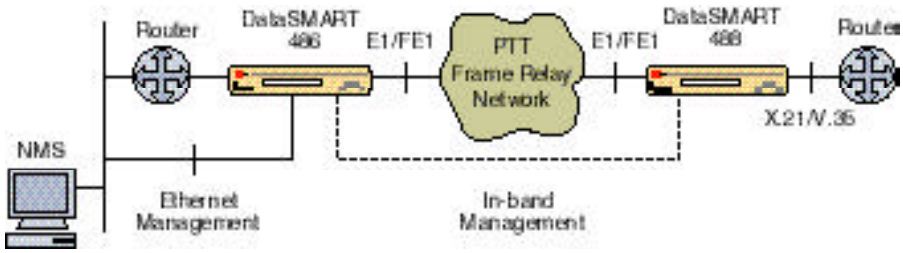
The DataSMART 486 and 488 support FrameVision Reporter software to deliver key performance measurements on individual customer circuits.



The DataSMART 488 integrates voice and data traffic onto a single E1/FE1 line.



With in-band management and local Ethernet connectivity, the DataSMART 486 and 488 can be managed easily from a remote or local site. The management system can be located anywhere on the business network.



Verify Frame Relay performance

DataSMART Frame Monitoring DSU/CSUs help you isolate circuit availability problems and measure round-trip delay from DSU to DSU.

You can see the exact time a service outage occurred and how long it lasted, to determine if it was an isolated incident or a chronic problem.

You can monitor bandwidth utilization at the port and virtual circuit to determine the right bandwidth to meet your application requirements.

Advanced management and diagnostics

The DataSMART DSU/CSUs have advanced management features that enable you to take active control of your network, such as in-band SNMP management and an integrated Ethernet port. Comprehensive E1 diagnostic tools help you identify and resolve performance issues in the Frame Relay local loop before they affect service. With the DataSMART, you can remotely configure your units, and receive SNMP traps for important network events.

Standards-based Management

The DataSMART embedded SNMP agent supports SETs, GETs and Traps, as well as standard MIBs, such as MIB II and the E1 MIB. And for comprehensive control, an enterprise MIB supports all available functions. These MIBs are available on the ADC Kentrox web site (www.kentrox.com).

DataSMART Installer for Windows

Free with each unit, DataSMART Installer software is an intuitive, Windows-based utility that dramatically reduces setup time.

Alarms Utility

Downloadable free from www.kentrox.com, Alarms Utility monitors the entire network for interface and device errors, posting them to the event log in an HP OpenView management system. Customer icons uniquely identify all ADC Kentrox devices for easy recognition by the Network Node Manager.

Specifications

E1/FE1 Frame Monitoring DSU/CSUs

NETWORK INTERFACE

Line Rate E1 (2048 Kbps) ± 50 ppm
Framing G.704
Line Code HDB3
Protocol Clear Channel
Frame Relay
Line Impedance
120Ω ± 10Ω at 1024 KHz
75Ω ± 10Ω at 1024 KHz
Mechanical
DA15 socket for 120Ω
Adapter for 75Ω BNC
Lightning Protection
120Ω interface withstands lightning surges defined per FCC Part 68, and unit recovers

TERMINAL INTERFACE (DataSMART 488)

Line Rate E1 (2048 Kbps) ± 50 ppm
Framing G.704
Line Code HDB3
Protocol Clear Channel (DS0)
Line Impedance
120Ω ± 10Ω at 1024 KHz
75Ω ± 10Ω at 1024 KHz
Mechanical
DA15 socket for 120Ω
Adapter for 75Ω BNC

DATA PORT INTERFACE

Bit Rate Nx64 kbps (N=1...31)
Electrical V.35 compatible
X.21 via adapter
V.11/X.27/EIA-530
Mechanical
DB25 socket

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
10Base-T RJ45 socket
Transmit and receive LEDs
SNMP Agent
MIB II (RFC 1213)
DS1/E1 MIB (RFC 1406)
Frame Relay MIB (RFC 1315)
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

ALARMS

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

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; cur/prev 15 min; cur/prev 2 hour; cur 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

LOCAL LOOP DIAGNOSTICS

Loop Tests
Line loopback
Payload loopback
Data port loopback
Line Test Codes
2^{23}-1, 2^{15}-1, QRS, 3-in-24, 1-in-8, All 1s, All 0s
Data Test Codes
511, 2047
BERT Tester
Independent BERT on all test codes

LOCAL LOOP PERFORMANCE MONITORING

Data Storage
Last 24 hours of data in 15 minute increments; last 7 days of data in 24-hour increments
Monitors Network and terminal interface
Reports Based on G.821 for performance
Far end
Alarm history
Network interface statistical
Terminal interface statistical (add/drop only)

DIAGNOSTICS

LEDs Power/fail
E1
Data port transmit
Data port receive
Data port CTS
Data port RTS
Loop Tests
Local loopback
Data terminal loopback
Terminal interface loopback (add/drop only)

STANDARDS

EN60590
EN55022 Class B
EN50081-2
ITU G.703, G.704, G.821
BABT NTR4, CTR 12, CTR 13

REGULATORY (Call for current status)

ACN Australian Communications Authority and Spectrum Management
BABT NTR 4
CE 0682 _X_
TUV GS

ENVIRONMENT

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

POWER

AC 85-265 VAC, 47-63 Hz, 8W

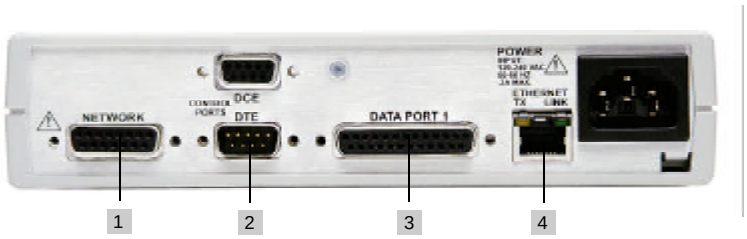
PHYSICAL

Usage Desktop or tray mount
Dimensions
19.68 cm W x 4.32 cm H x 29.21 cm D
Weight 1.14 kg (approx.)

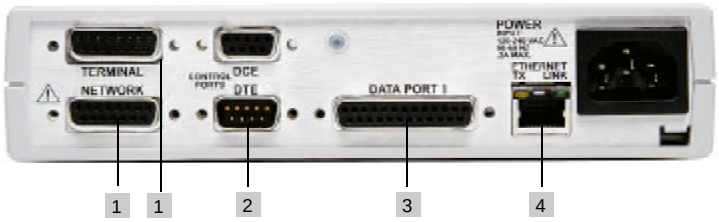
**MIB files available at www.kentrox.com.*

DataSMART
E1/FE1 Frame Monitoring DSU/CSUs

DataSMART 486 E1/FE1
Frame Monitoring DSU/CSU



DataSMART 488 E1/FE1 Add/Drop
Frame Monitoring DSU/CSU



Back Panel & Cable Guide

1 To Network and Terminal Equipment

930xx091	DA15P to DA15S
930xx101	DA15P to Stub
930xx121	DA15P to RJ48C Modular Plug
930xx131	DA15P to DA15P
77892	DA15P to RJ48C Socket Adapter
77895	DA15P to 2 x 75 ohm Socket Coaxial Adapter
960xx009	BNC Plug to BNC Socket
960xx010	BNC Plug to BNC Plug
93005132	DA15P to DA15P, Crossover
77993003	DA15P to Barrier Strip Adapter

2 To Control Terminal

95006022	DE9S to DE9P, 6 ft. (2.4 m)
95005023	DE9S to DB25P, 5 ft. (2 m)
93001211	DE9P to RJ48, Cisco 2500 SLIP

To Control Port

78899	DE9S to RJ45 Adapter
78891	DataSMART Installation Kit

3 To Data Equipment

V.35

95010054	DB25P to MRAC34P, 10 ft. (4 m)
95010073	DB25P to MRAC34P, tail circuit timing (DCE to DCE)
95001074	DB25P to MRAC34S, 1 ft. (0.4 m)
78904	DB25P to MRAC34S Adapter

X.21

78902	DB25P to DA15S, X.21 Adapter
95010061	DB25P to DB25P, 10 ft. (4 m)
95010058	DB25P to DB25P, tail circuit timing (DCE to DCE)
95010066	DB25P to DC37P (EIA-530 to RS449)

4 To 10Base-T LAN

95007077	RJ45 Plug to RJ45 Plug, Cat. 3 UTP, 7 ft. (2.8 m)
95007078	RJ45 Plug to RJ45 Plug, Crossover, Cat. 3 UTP, 7 ft. (2.8 m)

NOTE: 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).

Ordering Guide

Description	Model No.
Frame Monitoring DSU/CSUs	
DataSMART 486 E1/FE1 Frame Monitoring DSU/CSU	72486
DataSMART 488 E1/FE1 Add/Drop Frame Monitoring DSU/CSU	72488
Mounting Accessories	
Mounting Tray, 1 Stand-alone unit	78031
Management and Reporting Software	
FrameVision Reporter	70304*
DataSMART Installer	70305
Alarms Utility	70451

*Call for availability.

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8/98 05-04-007

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