

FrameStart™

Release 1.2



Frame relay's low-cost, high connectivity and efficient throughput advantages are only realized when networks are installed and performing properly. Verilink's FrameStart™ T1 and DDS network units (FSM, FST, and FSD) ensure that frame relay service is operational prior to installation and connection to other equipment.

FrameStart's technology helps reduce equipment and installation costs, simplifies configuration setup, and alleviates frame relay connection uncertainties — in one unit. In addition, FST, FSM and FSD operate as traditional DSUs/CSUs over T1/FT1 and DDS leased line or point-to-point facilities, respectively.

The FSM, when deployed with the FST and FSD products, offers the lowest-cost circuit management solution in the market today. FrameStart offers a lower-cost alternative to Probe products by reducing the time required to install and configure PVCs, and monitor the reliability of virtual circuits in a frame-relay network. The FSM can also be deployed with FSMs at all sites to provide SLA monitoring and real-time delay measurements across a frame relay network.

FrameStart offers *two* software options:

FrameStart *Install* enables step-by-step validation of network operations and requires no data terminal equipment such as routers or FRADs. If DTE is connected, operation is halted to perform installation diagnostics. FrameStart *Install* allows advanced tests, including:

- LMI Sourcing
- End-to-end Integrity
- PVC Delay Testing
- Network Receive Level

FrameStart *Monitor* complements FrameStart *Install* to monitor real-time network conditions nonintrusively when connected to real-world applications. FrameStart *Monitor* diagnostics maintain and manage the activity of the frame relay network from the host FrameStart unit. FrameStart *Monitor* also performs:

- LMI Monitoring
- LMI Auto-Sourcing
- SOS Mode
- New Circuit Install



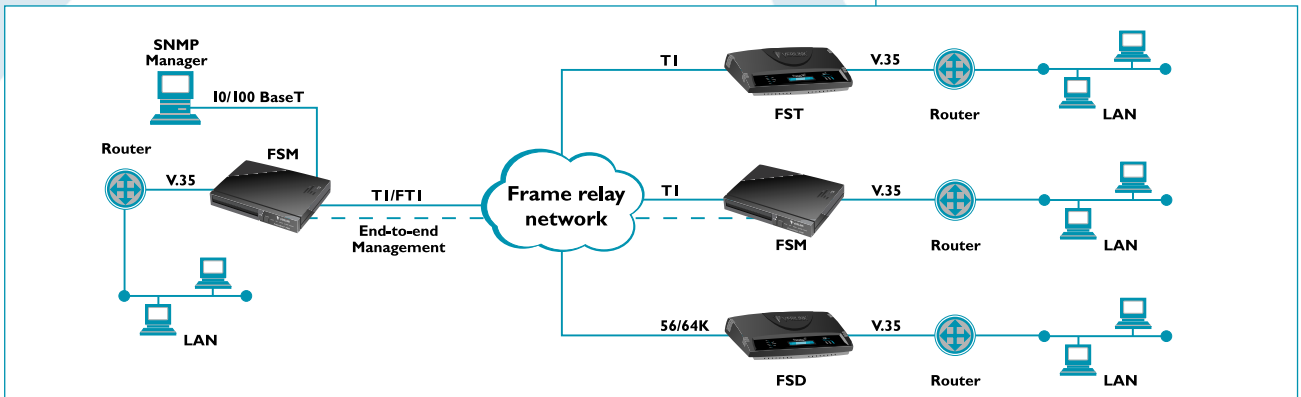
Highlights

FrameStart

- Low cost access to frame relay networks
- Quick and easy set-up
- Simple to maintain and troubleshoot
- Embedded frame relay test set
- Supports leased-line and frame relay services
- LCD - FST and FSD

Managed FrameStart

- Web-based, inband SNMP Management
- Embedded HTTP server for remote configuration and real time reporting via Web-browser
- Easy configuration from SNMP or via Web-browser
- Support for up to 128 DLCIs
- Layer 2 end-to-end visibility and control that maximizes network availability and manages the growth of the network
- Software configurable DTE port for RS 232, EIA 530 or V.35
- Service Level agreement management and enforcement
- Lowest-cost circuit management solution in the market



FrameStart Performance Management

Part Number & Description

F-FSD-001- -111	FrameStart for DDS
F-FSD-001- -112	FrameStart for DDS (with monitor mode)
9-305-020-4	FSD upgrade kit (upgrades FSD to monitor mode)
F-FST-001- -111	FrameStart for T1
F-FST-001- -112	FrameStart for T1 (with monitor mode)
9-305-020-3	FST upgrade kit (upgrades FST to monitor mode)
F-5130-001- - 111	Managed FrameStart (with monitor mode)

Network Interface

FrameStart for T1 - FST & FSM

Line Rate	1.544 Mbps
Coding	AMI or B8ZS
Framing	D4 or ESF
Impedance	Balanced 100 Ω
Input Signal	DS1
Input LBO	0, -7.5, -15, -22.5 dB
Output Signal	3.0V
Line Protection	Per GR1089
Interface	RJ-48C

FrameStart for DDS FSD

Line Rate	56/72 kbps
Coding	Bipolar AMI
Framing	DDS-1 and DDS-2
Impedance	135 Ω
Input Signal	To -43 dB
Interface	RJ-48S

DTE Interface

FrameStart for T1 - FST

Data Rate	<i>nx</i> 56 or <i>nx</i> 64 kbps
Interface	Winchester V. 35

FrameStart for T1 - FSM

Data Rate	<i>nx</i> 56 or <i>nx</i> 64 kbps
Interface	Selectable RS-530, RS-232 or V.35 DB-25, female

FrameStart for DDS

Data Rate	56 or 64 kbps
Interface	Winchester V. 35

Management

FST & FSD

Front Panel	3-button, 8-LED, LCD
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FSM

Front Panel	2-button, 5-LED
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Management FSM

Supervisory Connection

	DB-9 Female
Rates	2.4 kbps to 115.2 kbps
SNMP Connection	In-band via ethernet or network ports: RFC 1157, RFC 1213, RFC 1315 Verilink MIB extensions

Layer 2 Statistics - FSM

Reports	Statistics gathering on individual DLCIs based on 96 - 15 minute intervals
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FrameStart Test Set

Reports	Access link status, LMI type, number of configured DLCIs, status per DLCI, frame relay network condition
PVC Testing	LMI sourcing, PVC discovery, end-to-end connectivity per DLCI, PVC delay
Monitor	LMI monitoring, LMI auto-sourcing, SOS mode, new circuit install mode

Diagnostics

Loops	Line, payload, V. 54, local
Line Test	Rx level status
BERT	511, 0's, 1's, 3-in-24 (FST), 2047 (FSD) 511, 0's, 1's, QRSS, 2047 (FSM)

Timing

FST & FSM	Network or internal
FSD	Network

Regulatory Compliance

Telecom	FCC Part 68/CS-03
EMI	FCC Part 15 Subpart B, Class A
Safety	UL 1950/CSA 950

Power

External	115 VAC
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Dimensions

FST & FSD

Standalone	7 in. W x 8.75 in. D x 1.75 in. H
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FSM

Standalone	11.75 in. W x 8.75 in. D x 1.94 in. H
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Warranty and Support

Five year warranty for all Verilink products