VIAVI Solutions

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Brochure

VIAVI T-BERD/MTS-5800

Datacom Extension Module

The combination of the VIAVI Datacom Extension Module (DEM) and a T-BERD®/MTS-5800 delivers power utility operators the broad-test capability to measure both legacy network technologies (Datacom, SONET/SDH, T1/E1, etc.) and new technologies (Ethernet, C37.94, etc). The DEM expands the test coverage of the already versatile T-BERD/MTS-5800, allowing technicians and engineers the broadest range of testing with the least amount of gear to carry.

Supported Serial Interfaces

RS-232 / V.28

Standard V.28 interface for serial data for connecting DTE or DCE computer serial ports.

RS-530/RS-530A

High speed serial data communication interface that uses a balanced V.11 signals to transmit and receive clock and data for DTE or DCE.

System 🔛 Tests 😽 Fiber Optio

RS-449

High speed V.11 serial data communication interface that uses balanced paired signals to transmit and receive clock and data for DTE or DCE.

V.35

High speed data communication interface that can use balanced signals to transmit and receive for DTE or DCE.

Running 0-0:13:27	V35 Interface	Normal 🖨 Signal Mode	DCE 🖨	16384000 (Synth.Frequency (bps)	QRSS Pattern	\$
 Summary ✓ HS DataComm Clock Present 	Summary 🖨	Bert	•	Interface	Bert	• -
Tx Clock Present	Sync Status		NoSync -	Sync Status		NoSync -
Pattern Sync	Total Errors		0	Total Errors		0
 History Data Rx 	Error Rate		0	Error Rate		•
Data Tx Control Rx	Error Second(Logic Error)		0	Error Second(Logic Error)		0
	Error Seconds		0	Error Seconds		0
	Error Free Second		0	Error Free Second		0
	Severely Error Sec		0	Severely Error Sec		0 Pro
	Degraded Minutes		0	Degraded Minutes		0
	Loss Of Sync Count		0	Loss Of Sync Count		0
	Loss Of Sync Sec		807	Loss Of Sync Sec		807
	Available Seconds		0	Available Seconds		•
	Error					

RS-485

High speed serial data communication V.11 interface that uses balanced paired signals to transmit and receive clock and data for single point to point communications for DTE or DCE. This interface is supported using the RS-449 setting.

X.21

Serial data communications V.11 interface that uses a balanced clock and data for DTE or DCE.

Timing Configuration

Sync Mode

Data is transmitted with the clock signal and the transmitter and receiver share a common clock.

Async Mode

Data is transmitted without a clock signal. Start, stop, and parity bits are added to the signal and are adjustable. Transmitter and receiver use their own independent clock.

Frequency Range

Interfaces	Mode	Frequency Range				
Interfaces	Mode	Low	High			
RS-530						
RS-530A	Sync	300 Hz	16.384 Mhz			
RS-449	Sync	10.304 IVIIIZ				
V.35						
RS-232	Sync	300 Hz	200 kHz			
X.21	Sync	300 Hz	2.048 Mhz			
	Async	300 Hz	115.2 kHz			
	Manch GE T	300 Hz	1.024 Mhz			
All	NRZI	.05 Mhz	10 Mhz			
All	ManchDiff	300 Hz	1.024 Mhz			
	FMO	300 Hz	1.024 Mhz			
	FM1	300 Hz	1.024 Mhz			

BERT Patterns

The supported Bit Error Rate Test (BERT) Patterns include:

QRSS	NIU Loop Up and Loop Down codes
2^6-1	All Ones
2^9-1	All Zeroes
2^11-1	1:1
2^15-1	1:7
2^20-1	3 in 24
2^23-1	Delay Pattern
CSIII can lin and loop Down codes	

CSU Loop Up and Loop Down codes

Error Insertion

Single Errors can be inserted manually by the user interface.

Linear Error rates in the range of between 1E-3 down to 1E-9 can be adjusted by the user interface.

Serial Encoding

- Manchester
- NRZI
- FM0
- FM1

Differential Manchester async encoding

Clock Timing

Internal

Internal clock transmitted with data for timing.

External

External clock supported via a 50 Ω coaxial cable.

Recovered

Timing recovered from received signal interface.

Termination Settings

Terminate

Emulates communication between devices. Able to transmit and receive data through DCE or DTE operation settings.

Monitor

Monitor data going between two communicating devices using monitor cables

cs		V2 🦎 🜒 🔒 9:44
rn Timed Test		Results
	V35	÷ 🕐
	DCE	♦
	Termination	¢ Stop
		Test
		Precision De Measureme
		Measureme
		vm Timed Test V35 DCE

Transmit Control Signals

Interface	TX Control Signals									
Interface	RTS	DTR	RL	RL LL		С	TR			
RS-232										
RS-530/A										
V.35										
X.21										
RS-449										

Receive Control Signals

Interface	RX Control Signals										
Interface	CTS	DSR	RLSD	ТМ	RI	CS	I	DM	RR	IC	CI
RS-232											
RS-530											
RS-530A											
V.35											
X.21											
RS-449											

Cable Ordering Information

Cable Catalog Number	Cable Description	
CB-44348	V.24 EIA-530 Y Monitor Cable - Length 6 Feet	
CB-21148994-002	Hi-Speed V.24/EIA-530 DTE/DCE Emulation Cable -	
	Length 6 Feet Long Y Split 24 Inch Long Legs	
CB-21144332-001	V.36 DTE/DCE Emulation Ring Indicate Cable - 72 Inches Long Y Split 12 Inches	
CB-21144332-002	V.36 DTE/DCE Emulation Ring Indicate Cable - 72 Inches Long Y Split 24 Inches	
CB-44347	V.36 Monitor Cable - Length 6 Feet	
CB-21149199-001	Hi-Speed X.21 DTE/DCE Emulation Cable - Length 6 Feet Long	
	Y Split 12 Inch Long Legs	
CB-44345	X.21 Monitor Cable - 10 Mhz Operation - Length 6 Feet	
CB-21148995-002	Hi-Speed V.35 DTE/DCE Emulation Cable - Length 6 Feet Long	
	Y Split 24 Inch Long Legs	
CB-44341	V.35 Monitor Cable - Length 6 Feet	
CB-DCCLK	DATACOM PIM Clock Adapter Cable	



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