



FRM220-E1/DATA

E1 to Data

The FRM220-E1/Data is a single port G.703/704 Fractional E1 DSU/CSU card for the FRM220/220A Series Platform Media Converter Rack. The converter supports Unframed, PCM31, PCM31+CRC4, PCM30, and PCM30+CRC4 framing modes. The clock source may be selected internally, recovered from received E1 signal, externally from the Data port or transparent. The data port interface utilizes a single hi-density 26pin connector. Cable solutions are provided for RS-530/449, X.21, V.35 and RS-232. The unit can recognize the cable type attached and automatically self-configure the interface circuits. Choosing from one of two model types, the E1 connection is either unbalanced 75 ohm with two BNC connectors or balanced 120 ohm with one RJ-45 connector. When the FRM220-E1/Data card is placed in the FRM220 rack with SNMP management, the management can view the converter card's status, type, version, E1 link status and alarms. The card can be configured to enable or disable the port, reset the card, set clocking, frame mode, interface type and provide analog or digital diagnostic loopbacks. A unique feature of the FRM220-E1/Data is the use of a common card design which may either be inserted in the FRM220-CH01 single slot chassis as a stand-alone modem or as a card when placed in the FRM220-CH20 managed rack.

Features

- Supports Fractional E1 and Unframed E1 services with V.35/X.21/RS530 adapter cable
- I/O connectors all located on front panel
- Multiple clock source selection and remote loopback (Internal or External: E1 recovery, DTE or DCE)
- Unbalanced E1/BNC or balanced E1/RJ45
- Fully compatible with FRM220-CH20 and FRM220A chassis
- SNMP management with FRM220-CH20 chassis
- LED Alarm indication
- Standalone RS232 console management via CH01M

Specifications

E1 Interface	Framing	Framed/Unframed	LEDs	Power, TD, RD, RTS, DCD, TX Clock loss, Signal loss, Sync loss, Alarm, test error								
	Standards	ITU-T G.703/G.704/G.706 & G.732, G.823		Power	12VDC							
	Bit rate	2.048Mbps± 50ppm			Power Consumption	< 6W						
	Line code	HDB3				Dimensions	Card: 155 x 20.8 x 88mm (D x W x H)					
	Clock setting	Internal OSC or recovery clock					Weight	130g				
	Receive level	-43dB						Temperature	0 ~ 50°C (Operating), -10 ~ 70 °C (Storage)			
	Line impedance	75 ohm (BNC) / 120 ohm (RJ45)							Humidity	10 ~ 90% RH (non-condensing)		
	Jitter	Complies with ITU-T G.823								Certifications	CE, FCC	
	Performance										MTBF	65,000 hrs
	Pulse Mask	Complies with ITU-T G.703										
	Pulse amplitude	Nominal 2.37V ± 10%										
	Delay Variance	8ms										
	Connector	BNC / RJ-45										
	Diagnostics	Digital remote loopback										
Serial Interface	Standards	ITU-T, E1A										
	Data rate	Nx56 / Nx64										
	Connector	HDB26F w/ adapter cable for Data										

Application

Managed E1 Access Unit



Ordering Information

Model Name	Description
FRM220-E1/V35-R	V35 to framed E1 RJ-45 with HP26M to MB34F cable (30cm)
FRM220-E1/V35-B	V35 to framed E1 BNC with HP26M to MB34F cable (30cm)
FRM220-E1/X21-R	X21 to framed E1 RJ-45 with HP26M to DB15M cable (30cm)
FRM220-E1/X21-B	X21 to framed E1 BNC with HP26M to DB15M cable (30cm)
FRM220-E1/RS530-R	RS530 to framed E1 RJ-45 with HP26M to DB25M cable (30cm)
FRM220-E1/RS530-B	RS530 to framed E1 BNC with HP26M to DB25M cable (30cm)
FRM220-E1/RS449-R	RS449 to framed E1 RJ-45 with HP26M to DB37M cable (30cm)
FRM220-E1/RS449-B	RS449 to framed E1 BNC with HP26M to DB37M cable (30cm)
FRM220-E1/RS232-R	RS232 to framed E1 RJ-45 with HP26M to DB25M cable (30cm)
FRM220-E1/RS232-B	RS232 to framed E1 BNC with HP26M to DB25M cable (30cm)

Cable
Type

FRM220 - □□ / □□□ - □

Example: FRM220 – E1/V35 – R

Interface Cable Adapters



Note: This card may be set by DIP switch and placed in CH01 chassis, or set by serial console if placed in CH01M chassis. For standalone SNMP management, place this card in CH02/NMC chassis.