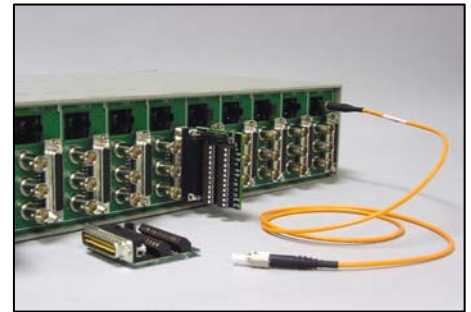


# DTM-2200

## 8 Two-Wire, Digital, Telephone Fiber Optic Multiplexer



- Supports 8 two-wire telephone line
- Ringing subscriber line interface circuits (RSLIC)
- Supports analog Plain Old Telephone Service (POTS)
- Modular configurations with all optical wavelengths, **LED Multimode** and **Laser Single-mode**.
- **Coarse Wave-division Multiplexing (CWDM)** systems are available for up to **16 wavelengths** over **ONE optical fiber**.
- **Optical budget** of up to **30 dB** for Single-mode.
- Universal AC operation for **85-265 VAC** and Telco DC operation for **48 VDC**.
- **Now support analog video, analog audio, serial digital video and digital audio in the same tray.** The UTIL-200-DVM Tray supports the DVM-2200 Video, 6 Audio and 3 Data Transport Cards, the DTV-220/230 SDI Transport Cards, the DTV-201/210F SDI Fan-out and Reclocking Cards, the DAM-2200 6 Audio and 3 Data Transport Cards and the AES-2200 6 AES/EBU and 3 Data Transport Cards.
- Applications include links from **studio to transmitter (STL)**, **studio to studio**, **studio to CATV head-end**, **common carrier**, **RBOC Telco circuits**, distance learning, **Intelligent Transportation Systems** & back-haul feeds from special events.

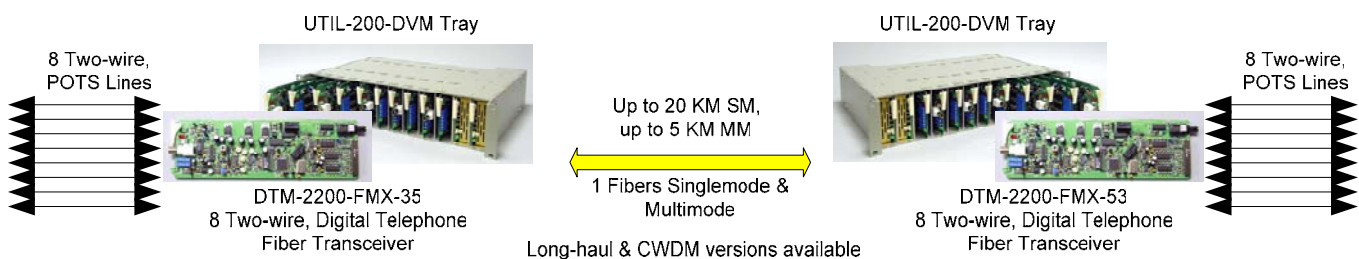


### DESCRIPTION

The DTM-2200 is the ideal solution for sending up to 8 telephone lines over fiber optic cable. The system supports ringing subscriber line interface circuits (RSLIC). The DTM-2200 also supports analog Plain Old Telephone Service (POTS).

This card configuration is designed to fit in our UTIL-200-DVM Tray along with other fiber modules for SDI (DTV220/225 series) and composite video and audio (DVM-2200 series) allowing multiple functions in one card cage. CWDM modules allow multiple DTM-2200 outputs to be combined on to a single strand of fiber.

### Application Diagram for DTM2200 8 Two-wire, Digital, Telephone Fiber Optic Transport System



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# SPECIFICATIONS

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>RINGING PARAMETERS</b>					
VRS Input Impedance (Note 3)		450	-	-	kΩ
Differential Ringing Gain (Note 4)	Balanced Ringing, VRS to 2-Wire, RLOAD= ∞	78	80	82	V/V
	Unbalanced Ringing, VRS to 2-Wire, RLOAD= ∞	-	40	-	V/V
Centering Voltage Accuracy	Tip, Referenced to VBH/2 + 0.5 (Note 9)	-	± 2.5	-	V
	Ring, Referenced to VBH/2 + 0.5	-	± 2.5	-	V
Open Circuit Ringing Voltage	Balanced Ringing, VRS Input = 0.840VRMS	-	67	-	VRMS
	Unbalanced Ringing, VRS Input = 0.840VRMS	-	33.5	-	VRMS
Ring Voltage Total Distortion	RL= 1.3 kΩ, VT-R=  VBH  -5	-	-	3.0	%
4-Wire to 2-Wire Ringing Off Isolation	Active Mode, Referenced to VRS Input	-	90	-	dB
2-Wire to 4-Wire Transmit Isolation	Ring Mode Referenced to the Differential Ringing Amplitude	-	80	-	dB
<b>AC TRANSMISSION PARAMETERS</b>					
Receive Input Impedance (Note 3)		160	-	-	kΩ
Transmit Output Impedance (Note 3)		-	-	1	Ω
4-Wire Port Overload Level	THD = 1%	3.1	3.5	-	VPK
2-Wire Port Overload Level	THD = 1%	3.1	3.5	-	VPK
2-Wire Return Loss	300Hz	-	24	-	dB
	1kHz	-	40	-	dB
	3.4kHz	-	21	-	dB
<b>PARAMETER TEST CONDITIONS MIN TYP MAX UNITS</b>					
2-Wire Longitudinal Balance (Notes 5, 6)	Forward Active, Grade A and B	58	62	-	dB
	Forward Active, Grade C, D and E	53	59	-	dB
4-Wire Longitudinal Balance (Notes 5, 6)	Forward Active, Grade A and B	58	67	-1	dB
	Forward Active, Grade C, D and E	53	64	-	dB
2-Wire to 4-Wire Level Linearity 4-Wire to 2-Wire Level Linearity Referenced to -10dBm	+3 to -40dBm, 1kHz	-	±0.02 5	-	dB
	-40 to -50dBm, 1kHz	-	±0.05 0	-	dB
	-50 to -55dBm, 1kHz	-	±0.10 0	-	dB
Longitudinal Current Capability Per Wire (Note 3)	Test for False Detect	20	-	-	mARMS
	Test for False Detect, Low Power Standby	10	-	-	mARMS
4-Wire to 2-Wire Insertion Loss		0.20	0.00	+0.2 0	dB
2-Wire to 4-Wire Insertion Loss		6.22	-6.02	-5.82	dB
4-Wire to 4-Wire Insertion Loss		6.22	-6.02	-5.82	dB
Forward Active Idle Channel Noise (Note 6)	2-Wire C-Message, T = 25°C	-	10	13	dBmC
	4-Wire C-Message, T = 25°C	-	4	7	dBmC
Reverse Active Idle Channel Noise (Note 6)	2-Wire C-Message, T = 25°C	-	11	14	dBmC
	4-Wire C-Message, T = 25°C	-	5	8	dBmC
<b>DC PARAMETERS</b>					
Off Hook Loop Current Limit	Programming Accuracy	-8.5	-	+8.5	%
	Programming Range	15	-	45	mA
Off Hook Transient Current Limit	Programming Accuracy	-10	-	+10	%
	Programming Range	40	-	100	mA
Loop Current During Low Power Standby	Forward Polarity Only	18	-	26	mA
Open Circuit Voltage (Tip - Ring)	VBL= -16V	-	8.0	-	VDC
	VBL= -24V	14	15.5	17	VDC
	VBH> -60V	43	49	-	VDC
Low Power Standby, Open Circuit Voltage (Tip - Ring)	VBL= -48V	-	44.5	-	VDC
	VBH> -60V	43	51.5	-	VDC
Absolute Open Circuit Voltage	VRG in LPS and FA; VTG in RA; VBH> -60V	-	-53	-56	VDC
<b>TEST ACCESS FUNCTIONS</b>					
Switch On Voltage	IOL= 45mA	-	0.30	0.60	V
Loopback Max Battery		-	-	52	V
<b>LOOP DETECTORS AND SUPERVISORY FUNCTIONS</b>					
Switch Hook Programming Range		5	-	15	mA
Switch Hook Programming Accuracy	Assumes 1% External Programming Resistor	-10	-	+10	%
Dial Pulse Distortion		-	1.0	-	%
Ring Trip Comparator Threshold		2.3	2.5	2.9	V
Ring Trip Programming Current Accuracy		-10	-	+10	%
Ground Key Threshold		-	12	-	mA
E0 Transition, DET Output Delay		-	20	-	µs
Thermal Alarm Output	IC Junction Temperature	-	175	-	°C
Power dissipation					<15 Watts, per unit
AC operation					85 to 265 VAC
Operating temperature					0 to +50 °C

Specifications subject to change without notice.

## ORDERING INFORMATION:

	<b>Fiber Optics, Broadcast Multiplexers, 8 Two-wire Telephone Line Transceiver, Modular, Singlemode: (SIN 58-6)</b>
DTM-2200-FMX-3/5	Digital, Telephone Fiber Optic Transceiver, 1310/1550nm, Singlemode, 8 two-wire Telephone Lines
DTM-2200-FMX-5/3	Digital, Telephone Fiber Optic Transceiver, 1550/1310nm, Singlemode, 8 two-wire Telephone Lines
	<b>Modular Utility Trays and Power Supplies &amp; Accessories (SIN 58-6)</b>
UTIL-200-DVM-2RU-AC	Analog, Digital and Fiber, up to 10 Slots, 2RU, Modular Utility Tray, with one 85-265 VAC Power Supply & Line Cord. <b>Supports the DVM-2200 &amp; DTV-220/230 SDI cards.</b>
PS-200-DVM-AC	Modular 85-265 VAC Power Supply & Line Cord for 200 series trays
UTIL-200-DVM-2RU-48VDC	Analog, Digital and Fiber, up to 10 Slots, 2 RU, Modular Utility Tray, with one 36-60 VDC Power Supply. <b>Supports the DVM-2200 &amp; DTV-220/230 SDI cards. (Delivery 10 Weeks)</b>
PS-200-DVM-48VDC	Modular 36-60 VDC Power Supply for 200 series trays (Delivery 10 Weeks)
-DTMPOT22	Phone screw terminal break-out adapter for DTM2200



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