DIGITAL TRANSMISSION SYSTEM
828AFXT DIGITAL MULTIPLEXER
SPECIFICATIONS

1. GENERAL

1.01 This section is a cover sheet for the Telco Systems Fiber Optics Corporation Digital Transmission System 828AFXT Digital Multiplexer Specifications. This section is reproduced with permission of Telco Systems Fiber Optics Corporation and is the equivalent of Telco practice 833-102-004, Issue 1.

1.02 Whenever this section is reissued the reason(s) for reissue will be listed in this paragraph.

1.03 This section contains specifications for the 828AFXT Digital Multiplexer and the card and module specifications.

1.04 If corrections are required in the attached document, use Form-3973 as described in Section 000-010-015.

1.05 If equipment design and/or manufacturing problems should occur, refer to Section SW 010-522-906 for procedures on filing an Engineering complaint.

2. ORDERING PROCEDURE

2.01 For information concerning equipment and parts availability contact Telco Systems, Order Administration Department, In Norwood, Massachusetts, at:

1-800-44-SALES
1-617-551-0300

2.02 To order additional copies of this practice, use TELC 365-407-856SW as the section number.

3. REPAIR/RETURN

3.01 For defective modules and assemblies contact the Repair and Return Department at the following number:

8:00 a.m. - 5:00 p.m. (617) 551-0300 - Ext. 2778

Attachment: Telco Systems Fiber Optics Corporation
Digital Transmission System
828AFXT Digital Multiplexer
Specifications

DIGITAL TRANSMISSION SYSTEM
828AFXT DIGITAL MULTIPLEXER
SPECIFICATIONS

CONTENTS PAGE

1. SCOPE

1.01 This section contains specifications for the 828AFXT Digital Multiplexer (see Figure 4-1), and the card and module specifications.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

2. MULTIPLEXER SPECIFICATIONS

2.01 TABLE A contains the 828AFXT specifications, including interface and power requirements, physical characteristics, and environmental operating conditions.

3. CARD AND MODULE SPECIFICATIONS

3.01 This subsection contains the specifications for the cards

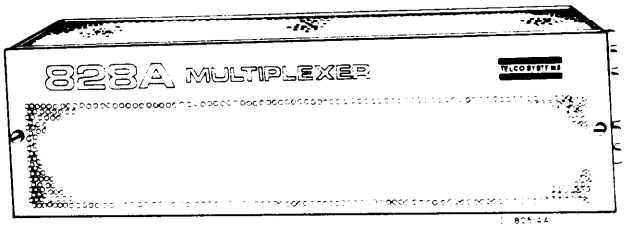

Figure 4-1. 828AFXT Multiplexer

and modules of the 828AFXT Multiplexer. Included are specifications on the following:

- o LS INTER T1 (T1 Low-Speed Interface) card (TABLE B)
- o HS COM (High-Speed Common) card (TABLE C)
- o XCVR (Transceiver) card (TABLE D)
- o Power Supply Module input/output voltages (TABLE E)
- o RAC II (Remote Alarm) Card (TABLE F)

TABLE A. 828AFXT Digital Multiplexer System Specifications

DS-1 INTERFACE	
Line Rate:	1.544 Mb/s ± 130 ppm
Line Code:	Half-width Bipolar (AMI)*
Line Impedance:	100 ohms, nominal balanced
Pulse Amplitude:	3.0 V ± 0.6 V
Jitter:	0.3 time-slots rms
Cable:	ABAM, or equivalent
Maximum Span:	655 feet to cross-connect facility
HIGH-SPEED INTERFACE	
Line Rate:	44.736 Mb/s ± 20 ppm (optical)
Line Code:	Randomized NRZ data
Wavelength (Minimum Center):	1280 nm
Wavelength (Maximum Center):	1330 nm
MULTIPLEXER MAIN FRAME	
Channel Capacity:	Up to 28 lines of 1.544 Mb/s data
Multiplexed Data Rate:	44.736 Mb/s ± 20 ppm
Transmit Multiplex Timing:	Internally or externally supplied
Line Impedance:	75 ohms, ± 5% unbalanced
Reframe Time - Automatic:	T1C, 17 ms T2, 7 ms T3, 2 ms
Operating Mode:	Full Duplex
Signal Interface	
Line Rate:	44.736 Mb/s ± 20 ppm (optical)
Line Code:	Randomized NRZ data
PRIMARY POWER	
Voltage:	-42 Vdc to -56 Vdc
Power Consumption:	50 Watts
PHYSICAL	
Height:	6.0 inches
Width:	23.0 inches
Depth:	11.5 inches
Weight:	22.0 lb. (fully loaded)
DS-1 Connectors:	Wire-wrap

* AMI (Alternate Mark Inversion)

TABLE A. 828AFXT Digital Multiplexer System Specifications (Cont.)

ENVIRONMENTAL CONDITIONS (OPERATING)

Condition	Min. to Max. Temperature(^{o}F)	Min. to Max. Temperature (^{o}C)	Relative Humidity (30^{o}C) (Non-Condensing)
Operational:	-40 to +151	-40 to +66	Up to 80%
Storage:	-40 to +151	-40 to +66	Up to 95%

Note: Ambient temperature refers to conditions 5 feet above the bottom of, and 15 inches in front of the 828AFXT.

TABLE B. LS INTER T1 Card Specifications

Line Rate:	1.544 Mb/s ± 130 ppm
Line Code:	Half-width bipolar (AMI)*
Impedance:	100 ohms nominal, balanced
Amplitude:	3.0 V ± 0.6 V
Cable Type:	ABAM, or equivalent
Cable Span:	0 to 655 feet to DSX-1 cross-connect facility

TABLE C. HS COM Card Specifications

Line Rate:	44.736 Mb/s ± 20 ppm
Line Code:	ECL (Emitter-Coupled Logic) level
Format:	Bell System DS-3 Mastergroup structure

* AMI (Alternate Mark Inversion)

TABLE D. XCVR Card Specifications

Output:	SM	-9.0 dBm ± 1.5 dB
	MM	0 dBm ± 1.0 dB
	SM	-24.0 dBm ± 1.5 dB
	SM	-3.0 dBm ± 1.0 dB
Receiver* Sensitivity:		≤-37.0 dBm
Receive Saturation:		≥-23.0 dBm

* This includes the loss at the XCVR card receive optical connector.

TABLE E. Power Supply Module Specifications

Input Voltage:	-42 to -56 Vdc (PSX016-4)
Output Voltages: (Full Load)	-5.6 Vdc ± 0.025 Vdc
	+5.4 Vdc ± 0.025 Vdc
	+15.3 Vdc ± 0.050 Vdc

Table F. Remote Alarm Card (RAC II) Specifications

Alarm Input Capacity:	Eight Opto Coupled Alarm Points
Alarm Active Range	
Lack of Voltage Input:	0 Vdc ± 500 mV
Input Voltage Sense:	5 to 53.75 Vdc
Input Impedance:	2.7 kohms (Design per PUB 49001)
Relay Contact Closure Outputs:	(8)
Relay Contact Closure Rating:	500 mA
Contact Closure Fusing:	1 A

Note: Contact closures may be configured to be normal energized or de-energized.