

The DFX100 is a TDM aware layer 2 switch that provides switched ethernet, E1 and serial data interfaces for transmission over fast ethernet layer 2 networks.

The Avara DFX100 has been designed to empower PDH Multiplexer equipment by providing a seamless transport system to transport E1 circuits over 100 Mbps transmission links together with high capacity switched Ethernet connections.

The DFX100 enhances PDH Multiplexer installations by providing Fast Ethernet interfaces together with 4xG.703/2M (120/75 ohm balanced/unbalanced) and 3xV.11 to complement legacy TDM circuits provided by PDH Multiplexers.

With its unique clock distribution and node timing synchronization protocols, the DFX is capable of transporting synchronous traffic that meet the jitter and wander performance specified in G.823.

Each unit has two 100Mbps optical uplink interfaces. These can be configured for protected point-to-point, linear or ring operation.

When configured in a ring architecture, it is possible to map E1's between any port at any site. In this configuration, the E1's and serial data circuits are protected against fibre breaks and intermediate node failures. The protection switchover time is less than 50 msec.

Each unit has two fixed or SFP based 100Base-X optical network interfaces. These can be configured for point-to-point, linear or ring operation.

A range of optical power and wavelength options are provided in both the fixed and SFP based models thereby supporting short haul and long haul applications up to distances of 110kms. Single and Dual Fibre Working options are provided with power level monitoring for SFP versions.

The DFX100 delivers high performance layer 2 Ethernet switching in a compact form factor.

Tag based VLANs (802.1q) are supported allowing network segmentation without being restricted by physical connections. VLAN stacking is supported allowing network designers more flexibility.

Advanced features such as rate limitation on the Ethernet ports is provided, allowing users to better manage traffic profiles.

The DFX100 can be managed locally via the console port or remotely using Telnet, SNMP or Avara's Web Server over secure VLAN.

In addition, for those organizations with an existing HPOV management system, a plug-in is available to streamline the management of the DFX100 in a HPOV environment.

The DFX100 can also be managed using the Q1 protocol used to manage Dynanet nodes. This protocol can also be seamlessly transported over the provided V.11 interfaces, ensuring that existing management systems are maintained.

Full remote configuration and software download options reduces upgrade time. A comprehensive set of SNMP traps and alarms are provided to assist fault management and isolation.

Technical Highlights

Tributary Interfaces

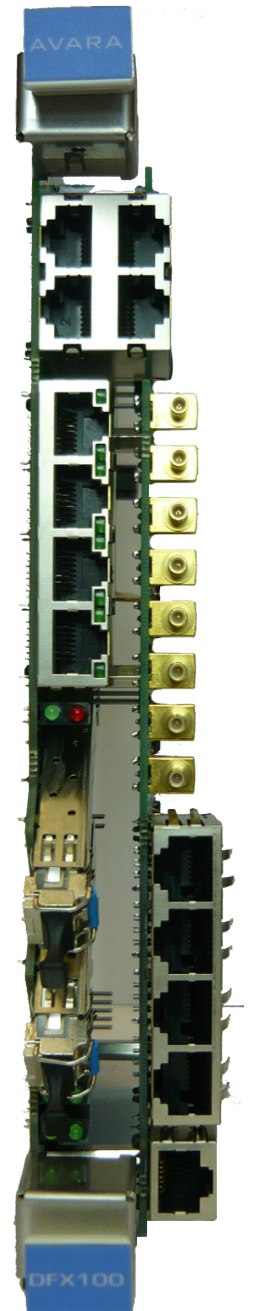
- 4 x 10/100Base-T Ethernet Ports
- 4 x G.703/2M E1 Ports
- 3 x V.11 Serial Data Ports supporting asynchronous operation

Network Interfaces

- 2 x 100Base-FX (fixed optics or SFP based)
- Supports Single Fibre and Dual Fibre Working

Key Features

- Point to point, linear and ring topology support
- Sub 50ms protection switching in ring mode
- High performance Ethernet layer 2 switch fabric with 802.1p/q VLAN capabilities
- Rate Limiting on Ethernet ports
- Supports both VLAN access ports as well as trunk ports
- High MTBF
- Management via Q1, SNMP, Telnet, CLI, Web Browser, HPOV
- 20-72 VDC Power Supply
- -5 to +65 °C operation



Technical Specifications

Mechanical Height Depth Width	233mm 160mm 50mm (Uses Two Slots)	Protection Switch Time Switch Mode	P2P, linear or ring < 50ms for E1 and Ethernet circuits Revertive & non-revertive for E1 circuits, revertive only for Ethernet
Interfaces Optical E1 Ethernet (Electrical) Serial	100Base-X (SFP or Fixed) G.703 10/100Base-T (RJ45) (Switched) V.11	Security Data Interfaces Management	Dedicated VLAN Password Protection, Dedicated VLAN
Optical Interfaces Speed Operating Modes Type	100Base-FX Single Fibre Working & Dual Fibre Working SFP or Fixed versions	Power Power Supply Consumption	-20 to -72 VDC 10W
E1 Interface Speed Impedance Timing	2.048Mbps (G.703) 120/75 Ohm (RJ45) User provided (pass through)	Alarm Contacts	2x Relay outputs of 1A @ 24V Capable of driving A & B alarms on M4 sub-rack
Serial Interface Async Speeds Operating Modes	9600 bps or less Asynchronous (oversampled at 64kbps)	MTBF	65 Years
Switch Parameters Speed Autonegotiation Duplex MDI/MDIX Support IEEE 802.1p/q MAC Address Size VLANs Supported Rate Limiting Traffic Shaping Priority Queues Per Output Port Mirroring	10/100Base-T Yes Full/Half Yes Yes 8K (2K on fixed optics versions) 4096 128K, 256K, 512K, 1M, 2M, 4M, 8M Strict & Weighted Round Robin 4 Yes	Standards	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.1p VLAN Tagging IEEE 802.1q Priority Queuing IEEE 802.3x Flow Control RFC1157 SNMP RFC1213 MIB II RFC854 Telnet RFC783 TFTP S002 PSTN Interconnection S003 Customer Premises Switching S004 VF Performance EN55022 Class A Emissions EN60950 Safety 41003 Laser Safety AS/ACIF S016 EN55024 Immunity EN50082-2 Generic Immunity EN60825-1 Class 1 ITU-T X.21 ITU-T V.11 ITU-T G.823 ETS 300 019 -1-1 Operational ETS 300 019 -1-2 Storage ETS 300 019 -1-3 Transport
Management Local Remote	CLI via Console Q1, Telnet, SNMP, Web Server		

Part Number	Operating Wavelength	Range	Margin	Output		Input		Connector
				Max	Min	Max	Min	
Fixed Optics	DFW - Dual Fibre Working							
P21009.01	ShortHaul - 1310nm	30	12	0	-20	0	-32	LC
P21009.02	Long Haul - 1310nm	75	30	0	-5	0	-35	LC
P21009.05	Long Haul - 1550nm	120	30	5	0	0	-35	LC
	SFW - Single Fibre Working							
P21009.03	Short Haul - 1310/1550nm	42	17	-8	-14	0	-31	SC
P21009.04	Long Haul - 1310/1550nm	72	29	0	-8	0	-34	SC
Pluggable Optics								
P21009.09	Refer to SFP specification brochure							

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