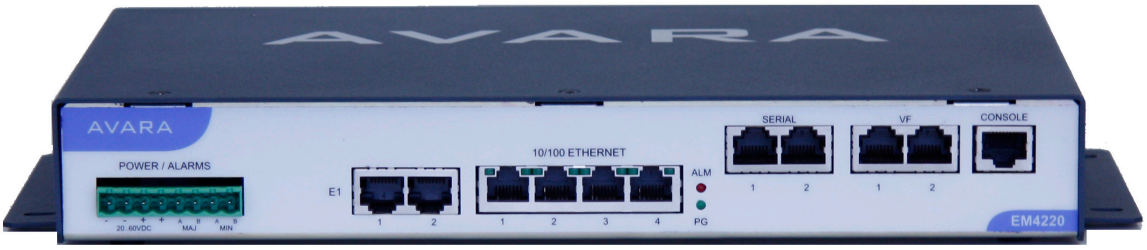
EM4400/EM4220 Switch Multiplexer

The Avara EM series of multi-service access nodes are versatile, feature rich, small form factor devices that are capable of transporting TDM and ethernet services over circuit switched networks using minimum bandwidth.



The Avara EM4xxx has been designed to provide Ethernet, E1 (G.703/G.704), VF E&M and V.24 interfaces for transport over circuit switched TDM networks.

With the capability to cross connect at 64K and add/drop at 8, 16, 32 and 64K granularities, the EM4xxx provides a powerful platform to optimise network bandwidth requirements when transporting low speed circuits over a TDM network.

The unit provides up to 2 x VF E&M, 2 x RS-232 (synchronous/asynchronous), 2 x E1 and 4 x 10/100Mbit/s Ethernet physical interfaces. When configured and used as a Primary rate Multiplexer, the VF, Serial and Ethernet interfaces are transported over a TDM network at Nx64K access rates with the E1 interfaces acting as trunks.

With 8K & 16K access granularities, low speed interfaces can be packed into a fewer number of timeslots thus reducing operational costs when transporting services over public infrastructure services.

The EM4xxx can be locally cascaded using E1 interfaces thus allowing simple, stackable expansion capabilities.

The EM4xxx 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.

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

The EM4xxx 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 EM4xxx in a HPOV environment.

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

Interfaces

- 4 x 10/100Base-T Ethernet Ports
- 2 x 2/4-Wire VF Ports with E&M signaling
- 2/4 x RS232 Serial Data Ports supporting synchronous and asynchronous operation
- 2 x G.703/G.704/Nx64K

Key Features

- High performance Ethernet layer 2 switch fabric with 802.1p/q VLAN capabilities
- Supports VLAN access ports, trunk ports and filtered trunk ports
- Transport serial data using V.110/V.14 Rate Adaptation to Nx8K granularities
- Transports VF interfaces transparently using G.711 codec
- Transports Ethernet, Serial and VF over Nx64K E1 interfaces
- High MTBF
- High operating temperature

Technical Specifications

Model Order Code	
Em4400	P21035.02
EM4220	P21035.01
EM4400	
Voice	-
Serial	4 x RS232
10/100Base-T	4
E1	2
EM4220	
Voice	2 x VF
Serial	2 x RS232
10/100Base-T	4
E1	2
Mechanical	
Height	45mm
Depth	340mm
Width	210mm (Accessory Kit Available for 19" & 21" Rack Mounting)
Interfaces	
E1	G.703/G.704 2M/Nx64K (120 Ohm RJ45)
Ethernet (Electrical)	10/100Base-T (RJ45) (Switched)
Voice	2/4W with E&M signalling
Serial	RS232
E1 Interfaces Parameters	
Speed	Nx64K
Mode	PCM30, PCM31, PCM30C, PCM31C
Timing Modes	Internal, Recovered From Line, Recovered from Remote
Ethernet & Switching Parameters	
Speed	10/100Base-T
Autonegotiation	Yes
Duplex	Full/Half
MDI/MDIX Support	Yes
IEEE 802.1p/q	Yes
MAC Address Size	2K
VLANs Supported	4096
Rate Limiting	128K, 256K, 512K, 1M, 2M, 4M, 8M
Traffic Shaping	Strict & Weighted Round Robin
Priority Queues Per Output	4
Port Mirroring	Yes

Serial Interface Parameters	
Async Speeds	4800, 9600, 19200
Sync Speeds	4800, 9600, 19200
Control Signal Support	RTS, CTS, DTR, DCD
Rate Adaptation	V.110 / V.14
Management	
Local	CLI via Console
Remote	Telnet, SNMP, Web Server
Security	
Data Interfaces	Dedicated VLAN
Management	Password Protection, Dedicated VLAN
Power	
Power Supply	-20 to -72 VDC (230VAC*)
Power Consumption	10W (* AC power option provide using external plug pack.)
Alarm Contacts	2x Relay outputs with current carrying capacity of 1A @ 24V
Environmental	
Operating Temperature	-5 °C to +65 °C
Relative Humidity	5-90% (Non-condensing)
Standards	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.1p VLAN Tagging IEEE 802.1q Priority Queing 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 AS/ACIF S016 EN55024 Immunity EN50082-2 Generic Immunity ITU-T X.21 ITU-T V.11 ITU-T G.823 ITU-T G.703 / G.704 ITU-T G.711 ITU-T G.726 ETS 300 019-1-1 Operational ETS 300 019-1-2 Storage ETS 300 019-1-3 Transport

Head Office

9 Business Park Drive
Notting Hill, Victoria 3168
Australia
Tel: +61 3 95400330
Fax:+61 3 99236545

www.avaratechnologies.com

Regional Distributor -Australia and New Zealand

Quality ISO 9001

We make every effort to ensure this item has been created from environmentally sustainable products. We only print what we need.

N13071 CE RoHS COMPLIANT