

# TS4xxx Terminal Server

The Avara TS4400 & TS4220 are industrial grade access devices that delivers serial and VF services together with broadband Ethernet services over switched Ethernet and Routed IP networks.



The TS4400 and TS4220 are part of the OAP402 family.

With support for legacy interfaces such as serial data and VF as well as 10/100Base-T interfaces, the TS4400/4220 is the technology of choice in transporting synchronous and asynchronous circuits together with Ethernet services over packet switched networks for mission critical applications.

The TS4400/4220 uses Circuit Emulation and Terminal Server Technology enabling it to transport both synchronous & asynchronous narrowband services such as serial and VF circuits over switched Ethernet and Routed IP networks seamlessly, allowing system integrators to deploy existing VF and Asynchronous and Synchronous Serial services over public and private packet switched networks.

The TS4xxx unit also provides digital and analogue summing functions enabling the deployment of point to multi-point based network connections over packet switched networks.

The TS4xxx also has an integrated, high performance Layer 2 switch allowing it to deliver layer 2 Ethernet switching together with VF & Serial interface transport in a compact form factor.

By using the TS4xxx as the integrated access device to the WAN connection, VF & Serial circuits will be prioritised over the local Ethernet data traffic to maximise performance and reliability of the VF & Serial circuits.

Tag based VLANs (802.1q) are supported allowing network segmentation without being restricted by physical connections. Priority options based on VLAN (802.1p) as well as DSCP are available allowing VF & Serial circuits to be tagged and prioritised accordingly to comply with the chosen WAN priority scheme.

Advanced features such as rate limiting on the Ethernet ports is also provided, preventing unpredictable performance due to broadcast storms of malfunctioning equipment

The TS4400/4220 can be managed locally via the console port or remotely using Telnet, SNMP or Web interface over a secure VLAN.

Full remote configuration and software download functionality reduces installation time and complexity.

A comprehensive set of SNMP traps and alarms are provided to assist fault management and isolation.

## Technical Highlights

- 4 x 10/100Base-T Ethernet Interfaces
- Up to 2 x Voice Frequency ports supporting 2/4-Wire
- VF with E&M signaling
- Up to 4 x RS232/V.11 serial data ports
- Has integrated high performance Ethernet layer 2 switch fabric with 802.1p/q VLAN capabilities
- Supports both VLAN access ports as well as trunk ports
- Supports synchronous and asynchronous operation
- Offers Terminal Server and Reverse Terminal Server operation for each serial port
- Supports bit shaving for error free continuous serial data stream operation
- Transports VF interfaces transparently using circuit emulation
- Transports Serial interfaces synchronously using circuit emulation (64kbps over sampling) or packetized using UDP/IP
- Has analogue and digital summing capabilities for point to multi-point application support
- High MTBF
- High operating temperature

# Technical Specifications



<b>Model Order Code</b> TS4420 TS4400	P21031.03 P21031.01	<b>Network Parameters</b> Transmission Protocol Re-transmission Capability Tolerable Delay Tolerable Packet Jitter Required Network Bandwidth	<b>VF</b> UDP  No NA 100ms  <100kbps per VF channel	<b>Serial</b> UDP  Yes 1 sec NA  Speed dependent
<b>TS4400</b> Voice Serial 10/100Base-T <b>TS4220</b> Voice Serial 10/100Base-T	- 4 x RS232/V.11 4  2 X VF 2 x RS232 4	<b>Management</b> Local Remote	CLI via Console Telnet, SNMP, Web Server	
<b>Mechanical</b> Height Depth Width	45mm 340mm 210mm	<b>Security</b>	Dedicated VLAN, Password Protection, Management ACL	
<b>Interfaces</b> Ethernet Voice Serial	10/100Base-T (RJ45 (Switched)) 2/4W with E&M signalling RS232 / V.11 / X.21	<b>Power</b> Supply Consumption	-20 to -72 VDC (230VAC*) 10w	
<b>Serial Interface</b> Async Speeds Sync Speeds Operating Modes  Control Signal Support Packet Forwarding Mechanisms  Rate Adaptation (Async Mode)	1200, 2400, 4800, 9600, 19200 64000 Port To Port/Socket Tunnel Mode, Reverse Terminal  RTS to CTS  Quiet Period, Delimiter(s), Packet Size, Constant Rate V.14 concepts	<b>Alarm Contacts</b>	2 x Relay outputs with current carrying capacity of 1A @ 24V	
<b>VF Interface</b> Speed Codecs Supported Timing Modes  E&M	64K G.711 Internal, Recovered From Remote, Adaptive Type I	<b>MTBF</b>	65 Years	
<b>Switch Parameters</b> 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 4096 128K, 256K, 512K, 1M, 2M, 4M, 8M Strict & Weighted Round Robin 4 Yes	<b>Environmental</b> Operating Temp. Relative Humidity	-5 °C to +65 °C 5-90% (Non-condensing)	
		<b>Standards</b>	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 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	

\*AC power option provide using external plug pack.



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