

IOLAN STS Rack

Serial to Ethernet Terminal Server



- 4, 8, 16 or 24 serial RS232 on RJ45 Ports
- 10/100/1000 Ethernet
- Advanced security feature set

Engineers and Project Managers that require a cost effective **serial RS232-to-Ethernet** 1U rack solution that maintains serial device protocol integrity across Ethernet must consider the IOLAN STS Rack. Having the highest performance processor available along with Perle's unique TrueSerial™ technology, the IOLAN STS Rack will provide the most authentic serial connections across Ethernet.

IOLAN STS Terminal Servers are ideal for

- Engineers and Project Managers requiring a high performance serial to Ethernet interface for 4 to 24 serial RS232 based devices. Connect to serial based applications over Ethernet
- IT Professionals requiring a cost-effective **terminal server** or serial **console server** for out of band management of IT equipment located in smaller data centers or remote sites

Why IOLAN STS Terminal Servers are the preferred choice:

- High performance 400 MHz, 750 MIPS, 32 bit processor with integrated hardware encryption processor for the best throughput
- Next Generation IP support (IPv6) for investment protection and network compatibility
- **TrueSerial™** packet technology – the most authentic serial connections across Ethernet ensures serial protocol integrity
- Primary/Backup host functionality enables automatic connections to alternate hosts should the primary TCP connection go down
- **EasyPort Web** – Access equipment serial console ports by using your java-enabled Internet browser
- **TruePort** – Perle's com/tty redirector for serial based applications operates on Windows, Vista, Linux, Solaris, SCO and Unix
- **Clustering** – Provides a single view of all out of band console ports. Ideal for large data centers
- **Dynamic DNS** – Easy console management access from anywhere on the Internet 4, 8, 16 or 24 serial RS232 on RJ45 Ports
- Java-free browser access to remote serial console ports via Telnet and SSH
- Lifetime warranty – best investment protection available

Software Features - IOLAN STS Terminal Servers

Serial Port Access
• Connect directly using Telnet / SSH by port and IP address • Connect with EasyPort menu by Telnet / SSH • Use an internet browser to access with HTTP or secure HTTPS via EasyPort Web menu • Java-free browser access to remote serial console ports via Telnet and SSH • Ports can be assigned a specific IP address (aliasing) • Multisession capability enables multiple users to access ports simultaneously • Multihost access enables multiple hosts/servers to share serial ports
Accessibility
• In-band (Ethernet) and out-of-band (dial-up modem) support • Dynamic DNS enables users to find a console server from anywhere on the Internet • Domain name control through DHCP option 81 • IPV6 and IPV4 addressing support
Availability
Primary/Backup host functionality enables automatic connections to alternate host(s)

Security

- SSH v1 and v2
- PCI DSS Compliance: TLS v1.2, TLS v1.1, TLS v1.0, SSL v3.0, SSL v2.0
- SSL Server and SSL client mode capability
- SSL Peer authentication
- **IPSec VPN : NAT Traversal, ESP authentication protocol**
- SSH ciphers: AES-CTR, AES-GCM and ChaCha20-poly1305
- SSL encryption: AES-GCM, key exchange ECDH-ECDSA, HMAC SHA256, SHA384
- Encryption: AES (256/192/128), 3DES, DES, Blowfish, CAST128, ARCFOUR(RC4), ARCTWO(RC2)
- Hashing Algorithms: MD5, SHA-1, RIPEMD160, SHA1-96, and MD5-96
- Key exchange: RSA, EDH-RSA, EDH-DSS, ADH
- X.509 Certificate verification: RSA, DSA
- Certificate authority (CA) list
- Local database
- RADIUS Authentication, Authorization and Accounting
- TACACS+ Authentication, Authorization and Accounting
- LDAP, NIS, Kerberos Authentication
- RSA SecureID-agent or via RADIUS Authentication
- SNMP v3 Authentication and Encryption support
- IP Address filtering
- Disable unused daemons
- Active Directory via LDAP

Terminal Server

- Telnet
- SSH v1 and v2
- Rlogin
- Auto session login
- LPD, RCP printer
- MOTD - Message of the day

Serial machine to Ethernet

- **Tunnel raw serial data across Ethernet - clear or encrypted**
- Raw serial data over TCP/IP
- Raw serial data over UDP
- **Serial data control of packetized data**
- **Share serial ports with multiple hosts/servers**
- Virtual modem simulates a modem connection - assign IP address by AT phone number
- Virtual modem data can be sent over the Ethernet link with or without SSL encryption
- **TruePort com/tty redirector** for serial based applications on Windows, Linux, Solaris, SCO, HP UX, NCR UNIX and AIX. For a complete list of all the latest drivers click **here**
- **TrueSerial** packet technology provides the most authentic serial connections across Ethernet ensuring serial protocol integrity
- RFC 2217 standard for transport of serial data and RS232 control signals
- Customizable or fixed serial baud rates
- **Plug-ins allow customer or Perle provided plug-ins for special applications**
- **Software Development Kit (SDK) available**
- **Serial encapsulation of industrial protocols such as ModBus, DNP3 and IEC-870-5-101**
- **ModBus TCP gateway enables serial Modbus ASCII/RTU device connection to ModBus TCP**
- **Data logging will store serial data received when no active TCP session and forward to network peer once session re-established - 32K bytes circular per port**

Console Management

- **Sun / Oracle Solaris Break Safe**
- Local port buffer viewing - 256K bytes per port
- External port buffering via NFS, encrypted NFS and Syslog
- Event notification
- **Clustering - central console server enables access ports across multiple console servers**
- **Windows Server 2003/2008 EMS - SAC support GUI access to text-based Special Administrative Console**

Remote Access

Dial, direct serial	PPP, PAP/CHAP, SLIP
	HTTP tunneling enables firewall-safe access to remote serial devices across the internet
Automatic DNS Update	Utilize DHCP Opt 81 to set IOLAN domain name for easy name management and with Dynamic DNS support , users on the Internet can access the device server by name without having to know its IP address. See Automatic DNS update support for details

IPSEC VPN client/servers	• Microsoft L2TP/IPSEC VPN client (native to Windows XP) • Microsoft IPSEC VPN Client (native to Windows Vista) • Cisco routers with IPSEC VPN feature set • Perle IOLAN SDS/STS and SCS models
OA&M (Operations, Administration and Management)	
• SNMP V3 - read and write, Perle MIB • Syslog • Perle Device Manager - Windows based utility for large scale deployments • Configurable default configuration • Installation Wizard • Set a Personalized Factory Default for your IOLANs	
Protocols	
IPv6, IPv4, TCP/IP, Reverse SSH, SSH, SSL, IPsec/IPv4, IPsec/IPv6, L2TP/IPsec, CIDR, RIPv2/MD5, ARP, RARP, UDP, UDP Multicast, ICMP, BOOTP, DHCP, TFTP, SFTP, SNTP, Telnet, raw, reverse Telnet, LPD, RCP, DNS, Dynamic DNS, WINS, HTTP, HTTPS, SMTP, SNMPV3, PPP, PAP/CHAP, SLIP, CSLIP, RFC2217, MSCHAP	

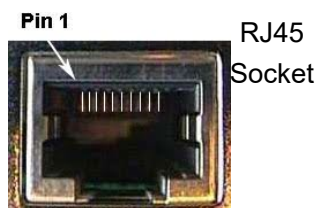
Specifications				
Lifetime limited warranty	Reach, RoHS and WEEE Compliant	HTSUS Number: 8517.62.0020	UNSPSC Code: 43222625	ECCN: 5A992
				CCATS Number: G168387
CPU				
Processor		MPC8349E, 400 Mhz, 750 MIPS		
Memory				
RAM		IOLAN STS4 32 MB	IOLAN STS8 64 MB	IOLAN STS16 64 MB
				IOLAN STS24 128 MB
Flash		IOLAN STS4 16 MB	IOLAN STS8 16 MB	IOLAN STS16 16 MB
				IOLAN STS24 16 MB

Interface Ports				
Number of Serial Ports	IOLAN STS4 4	IOLAN STS8 8	IOLAN STS16 16	IOLAN STS24 24
Serial Port Interface	RS232 DTE on RJ45			
Sun / Solaris	Sun / Oracle 'Solaris' Safe - no “ <i>break signal</i> ” sent during power cycle causing costly server re-boots or downtime			
Serial Port Speeds	50bps to 230Kbps with customizable baud rate support			
Data Bits	Configurable for 5,6,7 or 8-bit protocol support Use TruePort to transparently pass 9-bit serial data			
Parity	Odd, Even, Mark, Space, None			
Flow Control	Hardware, Software, Both, None			
Serial Port Protection	15Kv Electrostatic Discharge Protection (ESD)			
Local Console Ports	RS232 on RJ45 with DB9 adapter (provided)			
Network	• 10/100/1000-base TX Ethernet RJ45 • Software selectable Ethernet speed 10/100/1000, Auto • Software selectable Half/Full/Auto duplex			
Ethernet Isolation	1.5Kv Magnetic Isolation			
Power				
Power Supply	• USA models - IEC320-C13 to NEMA 5-15P line cord • UK models - IEC320-C13 to BS1363 line cord • EU models - IEC320-C13 to CEE 7/7 Schuko • South Africa Models - IEC320-C13 to BS546 line cord • Australia models - IEC320-C13 to AS3112 line cord			
Nominal Input Voltage	110/230v AC			
Input Voltage Range	100-240v AC			

AC Input Frequency	47-63Hz			
Current Consumption @ 100v (Amps)	IOLAN STS4 0.11	IOLAN STS8 0.11	IOLAN STS16 0.12	IOLAN STS24 0.12
Current Consumption @ 240v (Amps)	IOLAN STS4 0.05	IOLAN STS8 0.05	IOLAN STS16 0.06	IOLAN STS24 0.06
Typical Power Consumption (Watts)	IOLAN STS4 11	IOLAN STS8 11	IOLAN STS16 12	IOLAN STS24 12
Power Line Protection	• Fast transients: 1 KV (EN61000-4-4 Criteria B) • Surge: 2KV (EN61000-4-5 common mode), • 1KV (EN61000-4-5 differential and common modes)			
Indicators				
LEDs	• Power • System Ready • Network Link activity • Serial: Transmit and Receive data per port			
Environmental Specifications				
Heat Output (BTU/HR)	IOLAN STS4 38	IOLAN STS8 38	IOLAN STS16 42	IOLAN STS24 42
MTBF (Hours)	IOLAN STS4 179425 Hours	IOLAN STS8 174418 Hours	IOLAN STS16 160992 Hours	IOLAN STS24 130470 Hours
	Calculation model based on MIL-HDBK-217-FN2 @ 30°C			
Operating Temperature	0°C to 55°C, 32°F to 131°F			
Storage Temperature	-40°C to 85°C, (-40°F to 185°F)			
Humidity	5 to 95% (non condensing) for both storage and operation.			
Ingress Protection Rating	IP30			
Mounting	1U - 19' rack, front and rear mounting hardware included			

Product Weight and Dimensions				
Weight	IOLAN STS4 2.8 kg	IOLAN STS8 3 kg	IOLAN STS16 3.1 kg	IOLAN STS24 3.1 kg
Dimensions	1U Rack form factor - 26.4 x 43.4 x 4.4 (cm), 10.38 x 17.1 x 1.75 (in)			
Packaging				
Shipping Dimensions	59 x 36 x 9cm			
Shipping Weight	IOLAN STS4 3.96 kg	IOLAN STS8 3.98 kg	IOLAN STS16 4.0 kg	IOLAN STS24 4.2 kg
Regulatory Approvals				
Emissions	• FCC Part 15, Subpart B, Class A • CFR47:2003, Chapter 1, Part 15 Subpart B,(USA) Class A • ICES-003, Issue 4, February 2004 (Canada) • CISPR 32 / EN 55032 • EN55011 (CISPR11) • EN61000-3-2 : 2010, Limits for Harmonic Current Emissions • EN61000-3-3 : 2010, Limits of Voltage Fluctuations and Flicker			
Immunity	• CISPR 35 / EN 55035 • EN61000-4-2: Electrostatic Discharge • EN61000-4-3: RF Electromagnetic Field Modulated • EN61000-4-4: Fast Transients • EN61000-4-5: Surge • EN61000-4-6: RF Continuous Conducted • EN61000-4-8: Power-Frequency Magnetic Field • EN61000-4-11: Voltage Dips and Voltage Interruptions			
Safety	• UL/EN/IEC 62368-1 • CAN/CSA C22.2 No. 62368-1 • IEC 60950-1(ed 2); am1, am2 and • EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 • CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, • First Edition April 1st 2003 (Recognized Component)			

IOLAN RJ45 Serial Connector Pinout



Pinout	Direction	EIA-232
1	in	DCD
2	out	RTS
3	in	DSR
4	out	TxD
5	in	RxD
6	N/A	GND
7	in	CTS
8	out	DTR

Product List



IOLAN STS24 - 24 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS
04030464	04030461	04030462	04030465	04030466



IOLAN STS16 - 16 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS
04030444	04030441	04030442	04030445	04030446



IOLAN STS8 - 8 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS
04030414	04030411	04030412	04030415	04030416



IOLAN STS4 - 4 x RJ45 serial ports, 10/100/1000 Ethernet, 1U rack mount, RS232 interface, advanced feature set

Power Cord & Part Number(s)

USA	UK	EU	AUS	SA
04030404	04030401	04030402	04030406	04030405

Related Accessories

Cable Accessories



3 meter RJ45 to RJ45 CAT5 Straight-thru cable #1100360-10

04005120



Cvtr-PC DB25 Prl - RJ45-DB25 converter for IOLAN to PC DB25 Female.

04006930



Cvtr-PC DB9 Prl - RJ45-DB9 converter for IOLAN to PC DB9 Female.

04006931



Cvtr-Print DB25 Prl - RJ45-DB25 converter for IOLAN to Printer DB25 Male.

04006933



DBA0010 - RJ-45F to DB-25F crossover (DTE) adapter #1100220-10 for console port.

04006950



DBA0011 - RJ-45F to DB-25M crossover (DTE) adapter #1100230-10 for console ports.

04006960



DBA0020 - RJ-45F to DB-9F crossover (DTE) adapter #1100240-10 for console ports.

04006970



DBA0021 - RJ-45F to DB-9M crossover (DTE) adapter #1100250-10 for console ports.

04006980



DBA0013 - RJ-45F to DB-25M straight-thru (DCE) adapter #1100260-10 for modems.

04006990



IOLAN Starter Kit (8-wire): 1x RJ-45 to DB-25 DTE Male adapter, 1x RJ-45 to DB-25 DCE Male

04007000



DBA0023 - RJ-45F to DB-9M straight-thru (DCE) adapter #1100340-10 for modems.

04007200



3m Cbl-Sun/Cisco Pri - RJ45-RJ45 IOLAN DS to Sun/Cisco 3m Cable

04030070



DBA0031 - IOLAN - RJ45M to RJ45F Sun/Cisco crossover adapter #1100219-10.

04030080



DBA0031 8pck - 8 pack of #04030080 IOLAN-RJ45M to RJ45F Sun/Cisco crossover adapter.

04031230



DBA0010 8pck - 8 pack of #04006950 IOLAN-RJ45F to DB25F (DTE) crossover adapter.

04031240



DBA0011 8pck - 8 pack of #04006960 IOLAN-RJ45F to DB25M (DTE) crossover adapter.

04031250



DBA0020 8pck - 8 pack of #04006970 IOLAN-RJ45F to DB9F (DTE) crossover adapter.

04031260



DBA0021 8pck - 8 pack of #04006980 IOLAN-RJ45F to DB9M (DTE) crossover adapter.

04031270



DBA0013 8pck - 8 pack of #04006990 IOLAN-RJ45F to DB25M Straight-thru adapter for modems.

04031280

Accessories



DIN Rail Mounting Kit for select IOLAN Rack models

04032490

Maintenance agreements - Console Server / Device Server / Terminal Server



4 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS04



4 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS04F



8 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS08



8 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS08F



16 to 18 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS16



16 to 18 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS16F



24 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS24



24 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS24F