



## IOLAN STS-D Terminal Server



- 4 or 8 serial RS232 on RJ45 Ports
- 10/100 Ethernet
- Small compact size
- Wall, desk or DIN Rail mounting
- Advanced security feature set

Engineers and Project Managers that require a cost effective 4 or 8 port serial RS232-to-Ethernet solution that maintains serial device protocol integrity across Ethernet must consider the IOLAN STS-D. Having the highest performance processor available along with the Perle's unique TrueSerial™ technology, the IOLAN STS-D will provide the most authentic serial connections across Ethernet. IOLAN STS4-D Serial Terminal Servers are also available with support for Power over Ethernet (PoE).

### Ideal for

- Engineers and Project Managers requiring a high performance serial to Ethernet interface for up to 4 serial RS232 based devices. Connect to serial based applications over Ethernet
- Compact size offers the smallest 4 or 8 port serial to Ethernet solution on the market

### Why IOLAN STS D Terminal Servers are the preferred choice:

- High performance 87 MIPS 32 bit processor for the best throughput available. Ideal for time sensitive applications
- Compact size offers the smallest 4 port serial to Ethernet solution on the market
- 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
- FIPS 140-2 – Cryptographic modules meet US Government NIST compliancy
- Dynamic DNS – Easy console management access from anywhere on the Internet
- Intelligent Power cycling of equipment with Perle Remote Power Switches
- Java-free browser access to remote serial console ports via Telnet and SSH
- Ping watchdog probes enable customers to power cycle equipment with attached Perle RPS power switches in the event of an unresponsive networking gear
- Lifetime warranty – best investment protection available

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
	SSL V3.0/TLS V1.0, SSL V2.0
	SSL Server and SSL client mode capability
	SSL Peer authentication
	IPSec VPN : NAT Traversal, ESP authentication protocol
	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, Vista, Linux, Solaris, SCO and HP UX. For 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 Break Safe

Local port buffer viewing - 256K bytes per port

External port buffering via NFS, encrypted NFS and Syslog

Event notification

Manage AC power of external equipment using Perle RPS power management products

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

Ping watchdog probes enable customers to power cycle equipment with attached Perle RPS power switches in the event of an unresponsive networking gear

### 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

## Hardware Specifications - IOLAN STS-D RS232 Terminal Server

	IOLAN STS4-D	IOLAN STS8-D
Processor	MPC852T, 66 Mhz, 87 MIPS	
<b>Memory</b>		
RAM MB	32	-
Flash MB	8	-
<b>Interface Ports</b>		
Number of Serial Ports	4	8
Serial Port Interface	RS232 DTE on RJ45 (10 pin)	RS232 DTE on RJ45 (8 pin)
Sun / Solaris	Sun break safe	
Serial Port Speeds	50bps to 230Kbps with customizable baud rate support	
Data Bits	5,6,7,8, 9-bit protocol support	
Parity	Odd, Even, Mark, Space, None	
Flow Control	Hardware, Software, Both, None	
Serial Port Protection	15Kv Electrostatic Discharge Protection (ESD)	
Local Console Port	RS232 on RJ45 with DB9 adapter (provided)	
Network	10/100-base TX Ethernet RJ45	
	Software selectable Ethernet speed 10/100/Auto	
	Software selectable Half/Full/Auto duplex	
Ethernet Isolation	1.5Kv Magnetic Isolation	
<b>Power</b>		
Power Supply	120 V AC (USA), 230V AC (International) Wall Power Adaptor included	
Power Supply Options	Power via External power 9-30v DC, 4.8 Watts uses standard 5.5mm x 9.5mm x 2.1mm barrel socket, Power IN over serial cable	Power via External power 9-30v DC, uses standard 5.5mm x 9.5mm x 2.1mm barrel socket,
Nominal Input Voltage	12v DC	
Input Voltage Range	9-30v DC	
Power IOLAN over Serial	9-30v DC	N/A
Power External Device via Serial Port	+5v DC regulated, 1W max	N/A
Typical Power Consumption @ 12v DC ( Watts )	2.4	3
<b>Indicators</b>		
LEDs	Power/System Ready	
	Network Link activity	
	Serial: Transmit and Receive data per port	
<b>Environmental Specifications</b>		
Heat Output (BTU/HR)	8.2	10.2
MTBF ( Hours @ 30C ) per MIL-HDBK-217	391,199	339,967
Operating Temperature	0C to 55C, 32F to 131F	
Storage Temperature	-40C to 85C, -40F to 185F	
Humidity	5 to 95% (non condensing) for both storage and operation.	
Case	SECC Zinc plated sheet metal (1 mm)	
Ingress Protection Rating	IP30	
Mounting	Wall mount - bracket included	
	DIN Rail bracket optional	
<b>Product Dimensions</b>		
Weight	0.36 kg (0.79 lbs)	0.55 kg (1.2 lbs)
Dimensions	11.3 x 8.1 x 2.8 (cm), 4.4 x 3.2 x 1.1 (in)	11.3 x 15.6 x 2.8 (cm), 4.4 x 6.1 x 1.1 (in)

Packaging		
Shipping Weight	1.1 kg (2.4 lbs)	1.3 kg (2.9 lbs)
Shipping Dimensions	25.5 x 16.5 x 6.5 (cm), 10.0 x 6.5 x 2.6 (in)	26 x 6.5 x 17 (cm), 10 x 2.5 x 6.5 (in)
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)	
	EN55022:1998 + A1:2000 + A2:2003 Class A	
	EN61000-3-2 : 1995, Limits for Harmonic Current Emissions	
	EN61000-3-3 : 1995, Limits of Voltage Fluctuations and Flicker	
Immunity	EN55024:1998 + A1:2001 + A2:2003	
	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	IEC 60950-1 : 2005 (2nd Edition) + A1 : 2009 and EN 60950-1 : 2006 + A11 : 2009	
	CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, First Edition April 1st 2003 (Recognized Component)	
Other	RoHS - 2002/95/EC Directive	
	WEEE - 2002/96/EC Directive	
	CCATS - G052929	
	ECCN - 5A992A	
	HTSUS Number: 8471.80.1000	
	Perle Lifetime warranty	

**Serial Connector Pinout - IOLAN STS4-D**

**IOLAN DTE**

Pin 1



RJ45 Socket

IOLAN RJ45 Socket	Function	Direction
1	Power In	←
2	DCD	←
3	RTS	→
4	DSR	←
5	TXD	→
6	RXD	←
7	GND	—
8	CTS	←
9	DTR	→
10	Power Out	→

Optional Perle adapters for use with straight thru CAT5 cabling

## Serial Connector Pinout - IOLAN STS8-D

### IOLAN DTE

Pin 1



RJ45 Socket

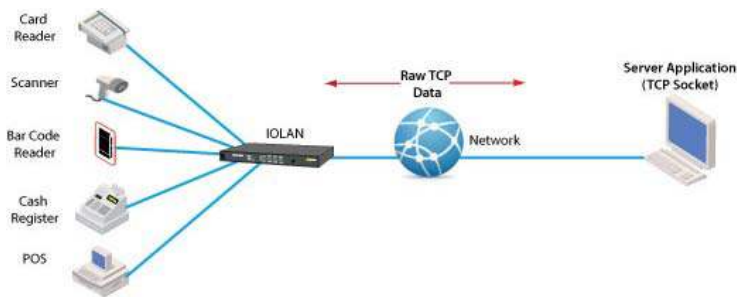
IOLAN RJ45 Socket	Function	Direction
1	DCD	←
2	RTS	→
3	DSR	←
4	TXD	→
5	RXD	←
6	GND	—
7	CTS	←
8	DTR	→

Optional Perle adapters for use with straight thru CAT5 cabling

## TCP

### Using RAW TCP Sockets

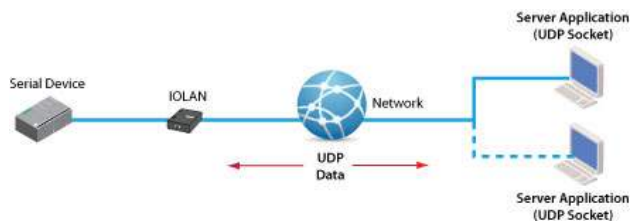
A raw TCP socket connection which can be initiated from the serial-Ethernet device or from the remote host/server. This can either be on a point to point or shared basis where a serial device can be shared amongst multiple devices. TCP sessions can be initiated either from the TCP server application or from the Perle IOLAN serial-Ethernet adapter.



## UDP

### Using Raw UDP Sockets

For use with UDP based applications, Perle IOLANs can convert serial equipment data for transport across UDP packets either on a point to point basis or shared across multiple devices.



## Console Server

### Console Management

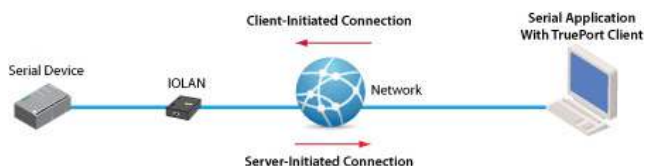
For access to remote console ports on routers, switches, etc, Perle IOLANs enable administrators secure access to these RS232 ports via inband Reverse Telnet / SSH or out of band with dial-up modems. Perle IOLAN models with integrated modems are available.



## COM/TTY

### Connect Serial-based Applications with a COM/TTY Port Driver

Serial ports can be connected to network servers or workstations running Perle's TruePort software operating as a virtual COM port. Sessions can be initiated either from the Perle IOLAN or from TruePort.



## Tunneling

### Serial Tunneling between two Serial Devices

Serial Tunneling enables you to establish a link across Ethernet to a serial port on another IOLAN. Both IOLAN serial ports must be configured for Serial Tunneling (typically one serial port is configured as a Tunnel Server and the other serial port as a Tunnel Client).















## Virtual Modem

### Virtual Modem

Enables the serial-Ethernet adapter to simulate a modem connection. When connected to the IOLAN and initiates a modem connection, the IOLAN starts up a TCP connection to another IOLAN serial-Ethernet adapter configured with a Virtual Modem serial port or to a host running a TCP application.





	Description	Power Cord	Product Part Number
	IOLAN STS4 D - 4 x RJ45 connector, 10/100 Ethernet, desktop/wall mount, EIA232 interface, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD	USA	 04030834
		UK	 04030831
		EU	 04030832
		SA	 04030835
		AUS	 04030836
	IOLAN STS8 D - 8 x RJ45 connector, 10/100 Ethernet, desktop/wall mount, EIA232 interface, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD	USA	 04030434
		UK	 04030431
		EU	 04030432
		SA	 04030435
		AUS	 04030436

Accessories:

Accessories			
	3m Cbl-Straighthru	3 meter RJ45 to RJ45 CAT5 Straight-thru cable # 1100360-10	 04005120
	4 DIN Rail Mount Bkt	DIN Rail Mounting Kit for 4 & 8 port IOLAN SDS/STS wall mount models and Stand-Alone Media Converters. Two of these brackets are required for the 8 port STS8-D model.	 04030840
	Starter Kit (8-wire)	IOLAN Starter Kit (8-wire): 1x RJ-45 to DB-25 DTE Male adapter, 1x RJ-45 to DB-25 DCE Male adapter, 1x RJ-45 to DB-25 DTE Female adapter, 1x RJ-45 to DB-9 Male DTE adapter, 1x RJ-45 to DB-9 Female DTE adapter and 1x RJ45M-RJ45F Sun/Cisco crossover adapter	 04007000
Cable Accessories			
Please click here to see what adapters you may need			
	3m Cbl-Sun/Cisco Prl	3m Cbl-Sun/Cisco Prl - RJ45-RJ45 IOLAN DS to Sun/Cisco 3m Cable	 04030070
	DBA0010	DBA0010 - RJ-45F to DB-25F crossover (DTE) adapter for console port # 1100220-10	 04006950
	DBA0010 8pck	DBA0010 8pck - 8 pack of #04006950 IOLAN-RJ45F to DB25F (DTE) crossover adapter	 04031240
	DBA0011	DBA0011 - RJ-45F to DB-25M crossover (DTE) adapter for console ports. # 1100230-10	 04006960
	DBA0011 8pck	DBA0011 8pck - 8 pack of #04006960 IOLAN-RJ45F to DB25M (DTE) crossover adapter	 04031250
	DBA0013	DBA0013 - RJ-45F to DB-25M straight-thru (DCE) adapter for modems # 1100260-10	 04006990
	DBA0013 8pck	DBA0013 8pck - 8 pack of #04006990 IOLAN-RJ45F to DB25M Straight-thru adapter for modems	 04031280
	DBA0020	DBA0020 - RJ-45F to DB-9F crossover (DTE) adapter for console ports. # 1100240-10	 04006970
	DBA0020 8pck	DBA0020 8pck - 8 pack of #04006970 IOLAN-RJ45F to DB9F (DTE) crossover adapter	 04031260
	DBA0021	DBA0021 - RJ-45F to DB-9M crossover (DTE) adapter for console ports. # 1100250-10	 04006980
	DBA0021 8pck	DBA0021 8pck - 8 pack of #04006980 IOLAN-RJ45F to DB9M (DTE) crossover adapter	 04031270
	DBA0023	DBA0023 - RJ-45F to DB-9M straight-thru (DCE) adapter for modems # 1100340-10	 04007200
	DBA0031	DBA0031 - IOLAN - RJ45M to RJ45F Sun/Cisco crossover adapter # 1100219-10	 04030080
	DBA0031 8pck	DBA0031 8pck - 8 pack of #04030080 IOLAN-RJ45M to RJ45F Sun/Cisco crossover adapter	 04031230
Maintenance agreements - Console Server / Device Server / Terminal Server			
Please click here to check for maintenance availability in your region			
	NSS- 4 PortXPRESSREP	4 Port Terminal/Device/Console Servers - Express Replacement	 SERNSS04
	NSS- 4 PortXPRESSREPF	4 Port Terminal/Device/Console Servers - Express Replacement French	 SERNSS04F
	NSS- 8 PortONSITE5x7	8 Port Terminal/Device/Console Servers - On Site Mon-Fri 9am - 5pm	 SOS5NSS08
	NSS- 8 PortONSITE7x24	8 Port Terminal/Device/Console Servers - On-Site 7x24	 SOS7NSS08
	NSS- 8 PortXPRESSREP	8 Port Terminal/Device/Console Servers - Express Replacement	 SERNSS08
	NSS- 8 PortXPRESSREPF	8 Port Terminal/Device/Console Servers - Express Replacement French	 SERNSS08F