IOLAN DS1 and TS2

perle.com/products/iolan-ds-terminal-server.shtml

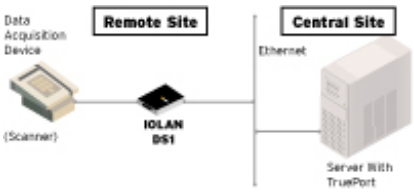
Serial to Ethernet Device Servers

- 1 or 2 serial Ports
- Software selectable RS232/422/485 or fixed RS232 serial port interface
- 10/100 Ethernet
- Extended temperature model available

The **IOLAN DS/TS Device Server** is the best choice for simple **serial to Ethernet** connectivity applications. Delivering a cost effective solution in a compact size, the IOLAN DS/TS offers flexibility and advanced TrueSerial® technology making it ideal for applications that require an authentic serial connection across an Ethernet network. **IOLAN DS1 Device Servers** are also available with support for Extended Temperature Ranges.

Features and Benefits

- TrueSerial® delivers the most authentic serial connections across Ethernet
- 66 Mhz, 87 MIPS processor for the best perfomance on the market
- Indicators for network and serial interfaces for easy troubleshooting
- Plug & Play installation utility eliminates configuration hassles for all IOLANs on you IP network
- TruePort software provides true remote serial ports over an Ethernet LAN
- Share a serial port with multiple TCP or UDP servers
- Software Development Kit available to develop powerful custom applications
- Power over serial cable models eliminate costs of a separate power installation
- Next Generation IP support (IPv6) for investment protection and network compatibility
- Compact and protective solid steel enclosure for tabletop, wall mount or DIN rail mounting



Flexible and Reliable Serial to Ethernet Connections

The IOLAN DS/TS is ideal for connecting serial-based COM port, UDP or TCP socket based applications to remote devices. Perle's TruePort re-director provides fixed TTY or COM ports to server based applications enabling communication with remote devices connected to Perle device servers. You can also tunnel serial data between devices across an IP network.

Easy to set up and manage, the IOLAN DS1 has a software selectable RS-232/422/485 interface capability which simplifies setup and eliminates mechanical tampering associated with DIP switch based products.

Perle's Device Management software, shipped as standard with the IOLAN DS/TS, provides better centralised control and management of multiple units resulting in maximum uptime for your remote equipment. Protection against electrostatic discharges and power surges is provided on the IOLAN DS/TS with its robust 15Kv ESD protection circuitry enabling organisations to utilise this solution with confidence.

IOLAN Plug-ins

Backed with the experience of connecting hundreds of thousands of different devices to Ethernet over the years, using a Perle Device Server you can rest assured that virtually any device with a serial COM port will operate in conjunction with your desired application exactly as it did when you had it directly connected. If the unlikely event occurs that the Perle Device Server does not enable this out of the box, *Perle will make it work*.

Perle IOLAN Device Servers utilize customer installable "Device Plug-ins" to successfully network devices where other solutions have failed. Request a free engineering consultation now.

Advanced IP Technology

With support for Next Generation IP (IPv6) the IOLAN range provides organizations with investment protection to meet this rapidly growing standard.

Demand for IPv6, which is compatible with IPv4 addressing schemes, is driven by the need for more IP address. With the implementation and rollout of advanced cellular networks, a robust method is needed to handle the huge influx of new IP addressable devices on the Internet. In fact, the US Department of Defense has mandated that all equipment purchased be IPv6 compatible. In addition, all major Operating Systems such as Windows, Linux, Unix and Solaris, as well as routers, have built-in support for IPv6.

It is therefore important for end users and integrators to select networking equipment that incorporates the IPv6 standard. The IOLAN line with support for IPv6 already built in, is the best choice in serial to Ethernet technology.

Lifetime Warranty

The **Perle IOLAN DS/TS Device Server** is backed by the best service and support in the industry including Perle's unique lifetime warranty. Since 1976 Perle has been providing its customers with networking products that have the highest levels of

performance, flexibility and quality.

Serial Port Access
Connect directly using Telnet and Reverse Telnet
Multihost access enables multiple hosts/servers to share serial ports
Accessibility
In-band (ethernet) and out-of-band (dial-up modem) support
IPV6 and IPV4 addressing support
Availability
Primary/Backup host functionality enables automatic connections to alternate host(s)
Security
Local database USERID/PASSWORD
Disable unused daemons
Terminal Server
Telnet
Auto session login
MOTD - Message of the day
Serial machine to Ethernet
Tunnel raw serial data across Ethernet
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
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 - 4K bytes circular per port
Console Management
Sun / Oracle Solaris Break Safe
Reverse Telnet
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, ARP, RARP, UDP, UDP Multicast, ICMP, BOOTP, DHCP, TFTP, Telnet, raw, reverse Telnet, WINS, HTTP, SNMPV3*, RFC2217

* No SNMPV3 encryption. For full SNMPV3 support see IOLAN SDS Device Servers .

Hardware Specifications - IOLAN DS1 - TS2

	IOLAN DS1	IOLAN TS2

Processor	MPC852T, 66 Mhz, 87 MIPS	
	Memory	
RAM MB	16	16
Flash MB	4	4
	Interface Ports	
Number of Serial Ports	1	2
Serial Port Interface	Software selectable RS-232/422/485 on DB25M, DB25F, DB9M or RJ45	RS-232on RJ45 - 10 pin
Sun / Solaris	Sun / Oracle ‘Solaris' Safe - no "break signal" sent during power cycle causing costly server re-boots or downtime	
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 Serial Port	
Network	10-base T / 100-base TX ethernet RJ45	
	Software selectable Ethernet speed 10/100 Auto	
	Software selectable Half/Full/Auto duplex	
Ethernet Isolation	1.5Kv Magnetic Isolation	
	Power	
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.	
Nominal Input Voltage	12v DC	

Input Voltage Range	9-30v DC	
Power IOLAN over Serial	9 - 30v DC with DB25 and RJ45 models	N/A
Typical Power Consumption @ 12v DC (Watts)	1.7	
	Indicators	
LEDs	Power / Ready	
	Network Link	
	Network Link activity	
	Serial: Transmit and Receive data per port	
	Environmental Specifications	
Heat Output (BTU/HR)	5.8	
MTBF (Hours)*	124,004	299,680
Operating Temperature	0ºC to 55ºC, 32ºF to 131ºF	0ºC to 55ºC, 32ºF to 131ºF
Storage Temperature	-40ºC to 66ºC, -40ºF to 150ºF	-40ºC to 66ºC, -40ºF to 150ºF
Humidity	5 to 95% (non condensing) for both storage and operation.	
Case	SECC Zinc plated sheet metal (1 mm)	
Ingress Protection Rating	IP40	
Mounting	Wall or Panel mounting . DIN Rail mounting kit optional	
	Product Weight and Dimensions	
Weight	230 Grams	
Dimensions	91 x 64 x 24 (mm), 3.6 x 2.5 x 0.92 (in) case dimensions not including mounting tabs, 91 x 89 x 24 (mm), 3.6 x 3.5 x 0.92 (in) includes mounting tabs.	
	Packaging	

Shipping Dimensions	25.5 x 16.5 x 6.5 (cm), 10 x 6.5 x 2.6 (in)
Shipping Weight	0.75 KG including Power Adaptor
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	Reach, RoHS and WEEE Compliant
	ECCN - 5A991A
	HTSUS Number: 8471.80.1000
	Perle Lifetime warranty
Serial Connector Pinout	

IOLAN DB9M Socket	Direction	RS232	RS485 Full Duplex	RS485 Half Duplex	RS422
1	←	DCD	-	-	-
2	←	RxD	RxD+	-	RxD+
3	→	TxD	TxD+	DATA+	TxD+
4	→	DTR	-	-	-
5	—	GND	GND	GND	GND
6	←	DSR	RxD-	-	RxD-
7	—	RTS	-	-	-
8	←	CTS	-	-	-
9	—	-	TxD-	DATA-	TxD-

IOLAN RJ45 Socket	Direction	RS232	RS485 Full Duplex	RS485 Half Duplex	RS422
1	—	Power In	Power In	Power In	Power In
2	←	DCD	-	-	-
3	→	RTS	TxD+	DATA+	TxD+
4	←	DSR	-	-	-
5	→	TxD	TxD-	DATA-	TxD-
6	←	RxD	RxD+	-	RxD+
7	—	GND	GND	GND	GND
8	←	CTS	RxD-	-	RxD-
9	→	DTR	-	-	-
10	—	-	-	-	-

IOLAN DB25M Socket	Direction	RS232	RS485 Full Duplex	RS485 Half Duplex	RS422
1	—	Sheild	Sheild	Sheild	Sheild
2	→	TxD	-	-	-
3	←	RxD	-	-	-
4	→	RTS	-	-	-
5	←	CTS	-	-	-
6	←	DSR	-	-	-
7	—	GND	GND	GND	GND
8	←	DCD	-	-	-
9	—	-	-	-	-
12	—	Power In	Power In	Power In	Power In
13	—	-	-	-	CTS-
14	—	-	TxD+	DATA+	TxD+
15	—	-	TxD-	DATA-	TxD-
18	—	-	-	-	RTS+
19	—	-	-	-	RTS-
20	→	DTR	-	-	-
21	—	-	RxD+	-	RxD+
22	—	-	RxD-	-	RxD-
25	—	-	-	-	CTS+

IOLAN DB25F Socket	Direction	RS232	RS485 Full Duplex	RS485 Half Duplex	RS422
1	—	Sheild	Sheild	Sheild	Sheild

2	←	RxD	-	-	-
3	→	TxD	-	-	-
4	←	CTS	-	-	-
5	→	RTS	-	-	-
6	→	DTR	-	-	-
7	—	GND	GND	GND	GND
8	←	DCD	-	-	-
9	—	-	-	-	-
12	—	Power In	Power In	Power In	Power In
13	—	-	-	-	RTS-
14	—	-	RxD+	-	RxD+
15	—	-	RxD-	-	RxD-
18	—	-	-	-	CTS+
19	—	-	-	-	CTS-
20	←	DSR	-	-	-
21	—	-	TxD+	DATA+	TxD+
22	—	-	TxD-	DATA-	TxD-
25	—	-	-	-	RTS+

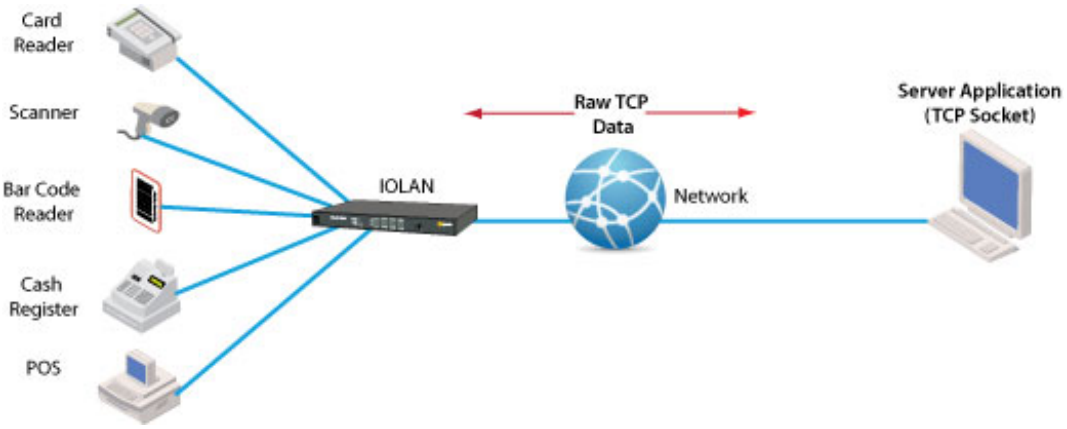
Optional Perle adapters for use with straight thru CAT5 cabling

*Calculation model based on MIL-HDBK-217-FN2 @ 30 °C

TCP

Using RAW TCP Sockets

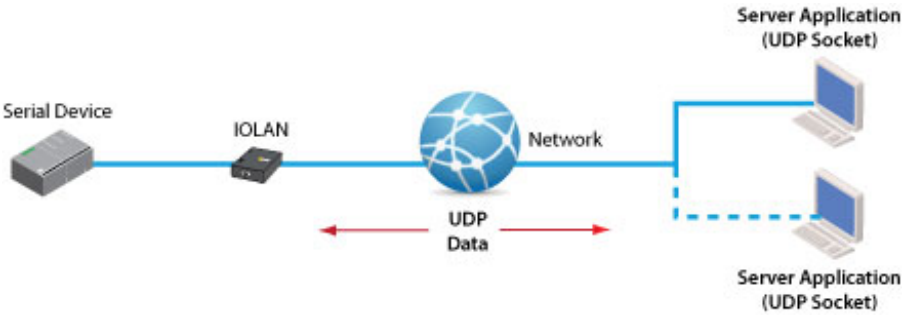
A raw TCP socket connection which can be initiated from the serial-Ethernet device or from the remote host/server. This can either be on a point to point or shared basis where a serial device can be shared amongst multiple devices. TCP sessions can be initiated either from the TCP server application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

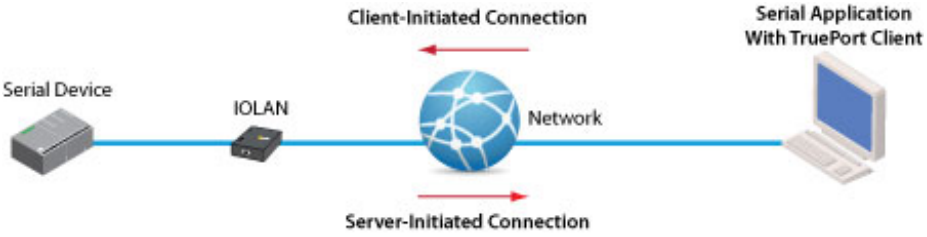
Console Management

For access to remote console ports on routers, switches,etc, Perle IOLAN's enable administrators secure access to these RS232 ports via inband Reverse Telnet 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.