LOCAL AREA NETWORK TRAINER (XPO-LAN)

TÜV CERT
ISO 9001 : 2000
Certificate : 44100010551-E3
TÜV NORD

SALIENT FEATURES

- Offers comprehensive experiment set up explaining various topologies of LAN viz; Token Ring, Token Bus, Ethernet (CSMA/CD), Modbus etc.
- Set of Users Guides provided with each unit.
- Table top setup made using light but sturdy Aluminum profile (4X2) Rack complete with cables, connectors, RS232 to RS485 converter etc.

Technical Specification

Types of LAN IEEE	Token Ring (802.5)	Token Bus (802.4)	Modbus	CSMA/CD (802.3)
Port	RS232	RS485	RS485	Ethernet
Connector	9 pin D type (M)	4 pin relimate bus	4 pin relimate bus	RJ45
Cable	3 core with (4+1) 9 pin D (F) connectors arranged in Ring (1.5 m)	Twisted 2 core arranged in bus (1.5m) with RS232 to RS485 converter for Pc connectivity		5 port LAN switch with 5 straight CAT5 UTP cable + 1 cross cable (half length) 2 meter each.
Mode	Physical ring, logical ring, Full duplex, Token passing	Physical bus, logical ring, Half duplex, Sliding, Token passing	Master-Slave half duplex, Stop & wait	
PC Software	Network monitor			Sniffer duplex, Stop & wait
PC Hardware	Any lab PC with (P4/XP), CDROM, COM Port and one Ethernet port needed (PC is not in scope of supply).			
Node Hardware	a) Embedded Controller device: 89C51RD2(89V51RD2) operating @ 16MHz. And On chip RAM: 256 (1K) bytes data RAM, Flash/EEPROM: 8KB(64KB.) b) Serial port (RS232C) 9 pin D (M). c) Display (option): 16X2 LCD(Backlit) or 20X4 LCD(Backlit) d) General Purpose bicolor (green, red) 8X2 LEDs & 8 Push button switches/DIP switches. e) I2C serial EPROM (512KB), SPI serial EPROM (1KB), F) Power (SMPS) : 5V/2.5Amp SMPS with RCA plug. SMPS. AC I/P230Vac +/-10% / 50Hz x 4 Nos.			
Node Software	Embedded program written in C illustrating particular Ring/Bus topology & token of 32 byte.		Embedded program written in C	TCP/IP stack for Ethernet port and RS232 based command monitor.
No. of nodes	4 nodes + PC as monitoring station (PC is not in scope of supply)			
Interface module needed	Built in RS232 9 pin D (M) connector	RS485 piggyback module with 4 pin bus connector.		Ethernet piggybag module with RJ45 connector.
Functionality	Select slave no. & transmit one of the 2 msg. (msg 1 & 2) and selected no. and make it on/off (only 2 leds)		LED control Key readings	Display of web page including IP & MAC address, Text message simultaneously command line control over RS232 select specific IP/MAC for a node etc.
Experiment topics / software	• Ethernet experiment covers protocols like ARP, UDP, TCP/IP, ICMP (PING), HTTP (web page), Telnet using Hyperterminal winsock, FTP, SMTP • DNS (domain name system), IP aliasing, error generation under ICMP & ARP • Setting of IP no. • CSMA / CD, CSMA, Token Bus, Token Ring.			
Mechanical	Flat panel 4 x 2 rack with 4 client nodes mounted, RS232 multiplexer panel (1 of 4 nodes) to connect PC (Server mode) comport.			

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