



**OMEGA TYPE LAN - 1011** LAN trainer is a versatile desktop system that provides hands on experimentation & understanding of local area Networks. The field being diverse, this trainer has been designed with an aim to touch upon the various aspects of LAN's such as hardware & cabling, software configuration & protocols.

The LAN trainer is supplemented by a set of 4 exhaustive manuals covering the various aspects of LAN's. The unique feature of this trainer is an onboard Hub & Cabling setup via jumpers so as to minimize the loss of expensive cable during training.

**OBJECT -**

Study of LAN (Local Area Network )

**FEATURES**

- 01 Three sets of onboard cabling setup for Ethernet.
- 02 On board parallel port direct cable connection setup.
- 03 On board serial port direct cable connection setup.
- 04 A 10 mbps hub is provided onboard with the circuitry exposed.
- 05 The power supply circuit for Hub is provided onboard.
- 06 A separate Hub is also provides so to train students for multi Hub Networking.
- 07 A set of 4 exhaustive manuals covering LAN hardware & cabling, software configurations protocols, terms & definitions.
- 08 The trainer comes with a cable fabrication kit to provide hands on experience on real cabling.

**SPECIFICATION**

LAN HARDWARE

- 01 10/100 Mbps Ethernet Card : 3 Nos.
- 02 UTP Straight cable with Connectors : 3 Nos. (5 mtr Each)
- 03 UTP Straight cable with Connectors : 3 Nos. (1/2 mtr Each)
- 04 UTP Cross Cable with connectors : 1 Nos. (3 mtr.)
- 05 Straight Parallel port cables 25Pin : 2 Nos. (1.25 mtr Each)
- 06 Straight Serial port cables 9 Pin. : 2 Nos. (1.25 mtr Each)
- 07 8 port 10 Mbps Hub. : 2 Nos.
- 08 Patch cords 2mm. 7" Red. : 22 Nos.
- 09 Patch cords 2mm. 7" Black. : 5 Nos.
- 10 Cable fabrication kit. : 16 Nos. RJ 45 male connectors. : 1 Nos. crimping tool. : 20 mtr. UTP cables.
- 11 Manuals : In four Volume.

**TRAINING PACKAGES AND EXPERIMENTS**

**1.00 LAN HARDWARE AND CABLING**

- 1.01 Setup a network between 2-8 Computers using Hub and straight cables.
- 1.02 Setup a network between two Computers without using Hub by using Cross cables.
- 1.03 Multi Hub Networking.
- 1.04 Setup a networking between Two computers using parallel port direct cable connection.
- 1.05 Setup a networking between Two computers using serial port direct cable connection.

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## 2.00 SOFTWARE CONFIGURATION

- 2.01 Networking Win9x (Adding a Network Adapter)
- 2.02 Setting up a Win9x Peer to Peer Network
- 2.03 WindowsXP Peer-to-Peer Networking
- 2.04 Sharing Local Resources
- 2.05 Adding Local or Network Printers
- 2.06 Adding a Network Printer With WindowsXP
- 2.07 Adding Workstation Print Drivers for Windows 2000 Printers
- 2.08 Adding NT4 Workstation Print Drivers for Windows 2000 Printers
- 2.09 Adding a Windows2000 Workstation to a Nt4 Domain
- 2.10 Configuring Dial-Up Internet Access with Windows9x (Adding the Dial-Up Adapter)
- 2.11 Windows2000 Dial-Up Internet Connection
- 2.12 Dial-Up Server (Installing and Configuring Dial-Up Server)
- 2.13 Windows2000 Networking Changes
- 2.14 WindowsXP Remote Assistance
- 2.15 WindowsXP Remote Desktop
- 2.16 Sharing a Fax/Modem on a Network
- 2.17 Configuring a machine running Windows 95/98/ ME to use DHCP.
- 2.18 Configuring a machine running Windows 2000 Professional Edition to use DHCP.
- 2.19 Configuring a machine running Windows NT 4.0 to use DHCP.
- 2.20 Configuring a machine running Windows XP to use DHCP.
- 2.21 Configuring a Windows 2000 VPN Server
- 2.22 Windows2003 VPN Server
- 2.23 WindowsXP VPN Server
- 2.24 Windows98 VPN Client
- 2.25 WindowsXP VPN Client
- 2.26 DNS Concept
- 2.27 How DNS Works
- 2.28 Various DNS Configuration
- 2.29 How Reverse - Lock up works
- 2.30 DNS Terms
- 2.31 Third Level Domains
- 2.32 Setting up MS DNS
- 2.33 MS DNS and Forwards
- 2.34 MS DNS Server as a Secondary

- 2.35 Client Side Caching (Offline Files)
- 2.36 Troubleshooting Internet
- 2.37 Troubleshooting TCP / IP Networks
- 2.38 Network Commands

## 3.00 STUDY MANUAL

- 3.01 Communicaton and Network Concepts
  - 3.01.01 Introduction
  - 3.01.02 What is a Network
  - 3.01.03 Need for Networking
  - 3.01.04 Evolution of Networking
  - 3.01.05 Switching Techniques
  - 3.01.06 Transmission Media
  - 3.01.07 Data Communication Technologies
  - 3.01.08 Types of Networks
  - 3.01.09 Network Topologies
  - 3.01.10 Network Devices
  - 3.01.11 Communication Protocol
  - 3.01.12 Wireless/ Mobile Computing
  - 3.01.13 Internetworking Terms and Concept
  - 3.01.14 Network Security
- 3.02 The TCP/IP and OSI Networking Models
- 3.03 Data Link Layer Fundamentals : Ethernet LAN's
- 3.04 Fundamentals of WAN's
- 3.05 Fundamentals of IP
- 3.06 Fundamentals of TCP and UDP
- 3.07 Virtual LAN's and Trunking
- 3.08 LAN Cabling,Standersds,and Topologies
- 3.09 IP Addressing and Subnetting

## 4.00 STUDY MANUAL

- 4.01 Network Topology
- 4.02 Network Hardware Connections
- 4.03 TCP/IP Ports and Addresses
- 4.04 Network Protocol Levels
- 4.05 IEEE 802 Standard
- 4.06 Network Categories
- 4.07 Network Devices
- 4.08 Address Resolution Protocol (ARP and RARP Address Translation)

- 4.09 Basic Addressing
- 4.10 Internet Protocol
- 4.11 Transmission Control Protocol
- 4.12 User Datagram Protocol
- 4.13 Internet Control Message Protocol
- 4.14 Network Cabling
- 4.15 Wireless Networking
- 4.16 Network WAN Connections
- 4.17 Ethernet
- 4.18 Token Ring
- 4.19 ARC net Network (Attached Resource Computer Network)
- 4.20 AppleTalk Network
- 4.21 FDDI (Fiber Distributed Data Interface)
- 4.22 IPX/SPX
- 4.23 NetBEUI
- 4.24 AppleTalk Protocols
- 4.25 System Network Architecture
- 4.26 Other Transport Protocols
- 4.27 Network Routing
- 4.28 More Complex Networking Routing
- 4.29 IP Masquerading
- 4.30 Firewalls
- 4.31 Domain Name Service (DNS)
- 4.32 Virtual Private Networking
- 4.33 DHCP
- 4.34 BOOTP
- 4.35 RPC and NFS
- 4.36 Internet Group Management Protocol
- 4.37 Dynamic Routing
- 4.38 Simple Mail Transfer Protocol (SMTP)
- 4.39 Simple Network Management Protocol
- 4.40 Network Services (Networking Services and Ports)
- 4.41 Wide Area Networks
- 4.42 Network Backup
- 4.43 Network Fault Tolerance
- 4.44 Network Trouble Shooting
- 4.45 Network Drivers
- 4.46 Network operating systems (NOS)
- 4.47 Network Applications
- 4.48 Peer to Peer Vs Client / Server Networks
- 4.49 Network Terms

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