

# MEN-6332

Managed Layer 2+ Aggregation Fast Ethernet Switch  
24-slot 100FX SFP + 4 Gigabit Combo Ports



## Description

The MEN-6332 is a Managed Layer 2+ aggregation switch specifically designed with high fiber-port count plus Gigabit connectivity to provide extended reach for retail, branch-office and enterprise environments. With its 24-100Base-FX SFP slots, the MEN-6332 delivers stable quality transmissions over significantly long distances and 4-Gigabit combo ports provides greater flexibility in choosing the type of connectivity you need, fiber or copper, without consuming unused switching fabric or degrading switching performance.

Built with a high port density that provides 12.8Gbps non-blocking bandwidth and performance, the MEN-6332 is an ideal solution for service providers who want to reduce transmission bottlenecks and increase their network bandwidth. A set of comprehensive QoS policies and VLAN capabilities are integrated into the switch to ensure network bandwidth is utilized efficiently by prioritizing all types of traffic and enable administrators to have a better control of the network. Designed specifically for high density subscriber base with medium ARPUS, the MEN-6332 delivers most demanding Ethernet services efficiently and profitably as well.

## Features Highlight

### Basic Layer 3 Features

Being a Layer 2+ switch, the MEN-6332 is designed with intelligent modern routing capabilities such as Static-route and Inter-VLAN routing to maximize routing efficiency. While static routing can be used for small networks, Inter-VLAN routing brings capability to route traffic between VLANs. These both basic Layer 3 features provide logical segmentation of the network with additional security and separation of broadcast domains. The MEN-6332 implements Inter-VLAN routing, the best solution to route traffic between VLANs, that makes use of latest technology to ensure a very fast, reliable and cost-effective routing solution.

### Redundant connectivity to the edge

The MEN-6332 adapts Dual Homing feature which provides an active/primary connection and a standby/backup connection. In the event of primary connection failure, the backup connection is activated and ensures network uptime. RSTP offers faster convergence and LACP connects two or more physical links between network devices to increase bandwidths and provide redundancy. These features of the MEN-6332 provide a highly reliable network with redundancy connections whenever required and guarantee continuous network uptime.

### Comprehensive Traffic Prioritization

Network applications need different levels of services delivered to them reliably without any transmission delays and interruptions. The MEN-6332 has comprehensive QoS mechanisms that assign priority to applications and send only specific dedicated traffic to them. In addition, bandwidth management functions of the switch allocate greater bandwidth for mission-critical communications. With increased control, administrators can prevent unpredictable errors and utilize the bandwidth more effectively.

### Enhanced Control and Security

The MEN-6332 implements complete Layer 2 to Layer 4 ACLs to restrict access to your sensitive network resources by filtering specific packets based on TCP/UDP ports, source and destination IP addresses or particular network devices. Furthermore, DHCP snooping, ARP, IEEE 802.1X and Port Security provide additional tools to manage access and levels of use of network. These defence mechanisms of the MEN-6332 deliver robust network security and enables service providers to offer more stable services on a more secure network.

### Efficient network monitoring and proactive capability

In a network, the issues that impact network performance can be quickly identified with the MEN-6332's most accepted and enhanced traffic management, monitoring and analysis protocols such as SNMP and RMON. SNMP allows end users to centrally manage different levels in a network and RMON gives the capability to monitor the network performance. Service providers can ensure a reliable network by identifying connectivity and performance issues and isolating the problem remotely on individual switches. This avoids high OPEX and manage a healthy and efficient network.

### Unparalleled Network Performance

Excessive and unnecessary inbound unicast, multicast or broadcast traffic on physical interfaces can degrade your network performance and can even result in complete loss of network service. Storm control and traffic monitor features of the MEN-6332 enables ISPs to effectively monitor and limit incoming traffic to prevent disruption of LAN ports. In addition, loop detection on the switch identifies loops in the network and disables the relevant ports to avoid loop storms, preventing LAN degradation and achieving maximum network performance. These features along with auto-recovery timer deliver robotic methods to control your network automatically.

Features Highlight

Last-mile Investment Protection

It is critically important for ISPs to protect their last-mile infrastructure from device thefts to avoid delays in delivering network services and loss of your investment. Focusing on this on-field hassle, the MEN-6332 is designed with Device Lock feature, a feature that locks your device to your network. By enabling Device Lock feature, the switch will not function in any network other than its configured network. This innovative feature of the MEN-6332 reduces device thefts and provides a continuous network connectivity saving your infrastructure investments.

Fine-grained Service Management

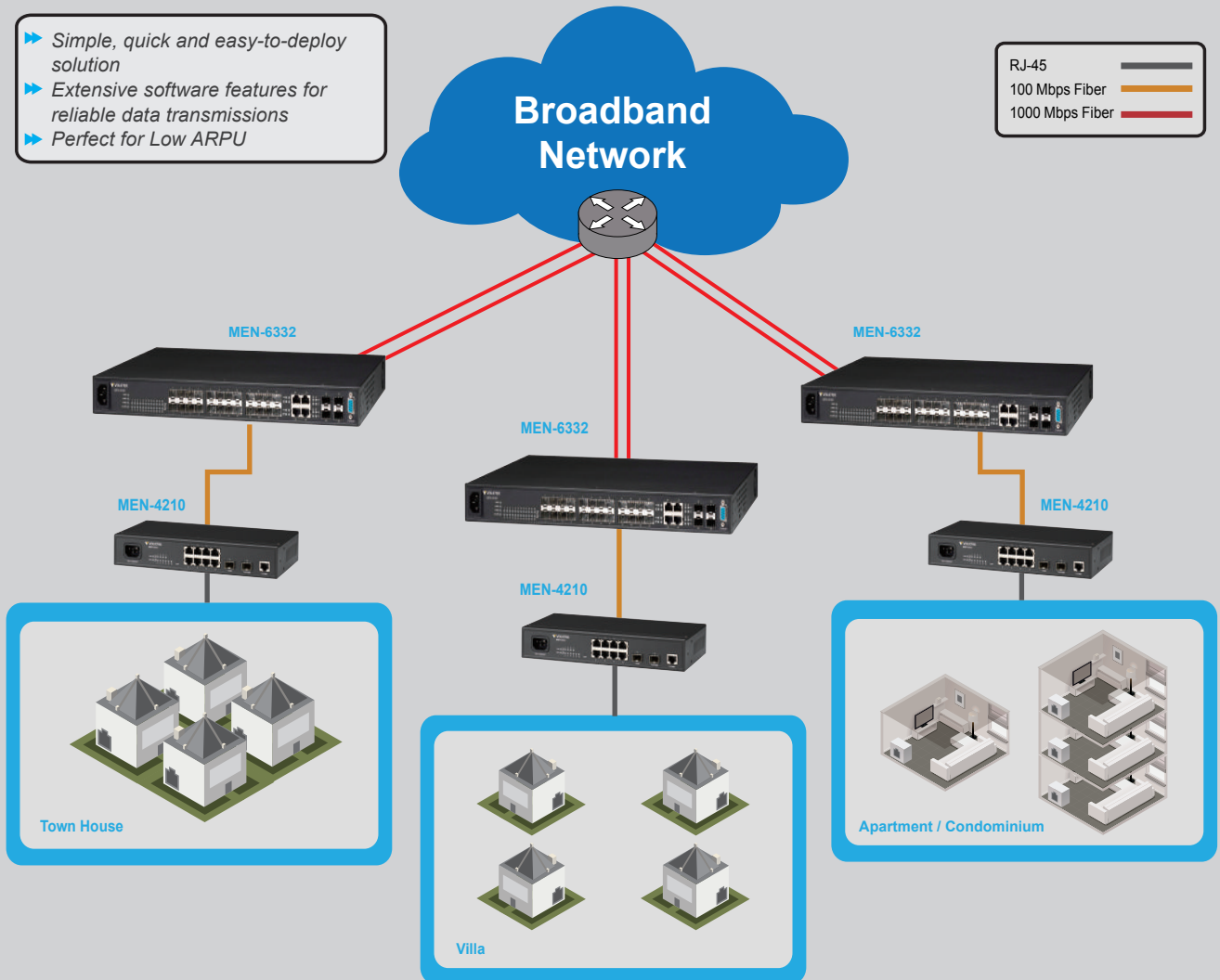
Beside basic port-based VLAN function, the MEN-6332 provides higher and flexible levels of VLAN configuration related to MAC and Protocol-based. While MAC-based comprises of defining a virtual network according to the MAC addresses of stations, the Protocol-based VLAN makes it possible to create a virtual network by protocol type. These features along with VLAN stacking enable ISPs to flexibly deliver services with extra security and separation. As a result, ISPs using the MEN-6332 can experience fine-grained service management fulfilling the requirements of their subscribers.

Application

High-quality Data services in a small but powerful package

- ▶ Simple, quick and easy-to-deploy solution
- ▶ Extensive software features for reliable data transmissions
- ▶ Perfect for Low ARPU

RJ-45	—
100 Mbps Fiber	—
1000 Mbps Fiber	—



**Aggregation Level**  
 MEN-6332: 24-slot Fast Ethernet SFP,  
 4 Gigabit Combo ports Managed L3 Aggregation Switch

**Access Level**  
 MEN-4210: 8-port 10/100Base-TX, 1-slot Fixed Gigabit SFP,  
 1-slot 100-FX/Gigabit SFP Managed Access Switch

Specifications

Features

<b>Network L3 Function</b>	SNMP v1/v2c with RMON 1, 2, 3, 9
Static Route	Port-based Mirroring
Inter-VLAN routing	Support Log/Trap
<b>Enhanced Function</b>	Monitor alarm
Code Redundancy	Loopback PHY test
MSTP	Status display and event report
Xpress Ring	802.3x Flow Control
Dual Homing	Device Lock
Protocol-based VLAN	DDMI support
MAC-based VLAN	Firmware upgrade
IP subnet-based VLAN	Configuration Backup/Restore
GARP/GVRP	Management VLAN
VLAN Trunking	<b>User Security</b>
MAC-based 802.1x	Static MAC Forwarding
IGMP Statistics/Group Filter	ARP Inspection
IGMP Message Filter/Throttling	ACL (L2/L3/L4)
DHCP Relay/Option 82	BPDU Filter/Guard
<b>Network Function</b>	DHCP Snooping
Loop detection with recover timer	DoS Attack Prevention SSH
Static/LACP Trunking	HDoS
Spanning tree Protocol	MAC Anti-Spoofing
Rapid Spanning Tree Protocol	<b>Traffic Management and QoS</b>
IGMP Snooping (v1, v2, v3)	Flow control, Rate Limitation
VLAN Stacking (Q in Q)	Tag Based/Port-Based VLAN
DHCP Snooping	4K Active VLAN Support
MVR	802.1p Priority Queues per port
<b>Network Management</b>	Traffic Classification
Local Console	Network Storm Control
CLI through Console and Telnet	QoS Scheduler SP/WRR
Web-based GUI	

Maximum Distances

<b>Copper</b>	100 m
<b>Console</b>	15 m
<b>SFP</b>	Up to 110 Km

Performance

<b>Throughput</b>	14,880 pps to 10 Mbps ports
	148,800 pps to 100 Mbps ports
	1,488,000 pps to 1000 Mbps ports
<b>Switch Fabric</b>	12.8Gbps
<b>L2 Forwarding</b>	9.6Mpps
<b>MAC Table Size</b>	32K
<b>Packet buffer size</b>	2MByte
<b>Jumbo Frame Size</b>	9K

Standards

<b>IEEE 802.3</b>	10Base-T
<b>IEEE 802.3u</b>	100Base-TX
<b>IEEE 802.3ab</b>	1000Base-T
<b>IEEE 802.3z</b>	1000Base-SX/LX/LHX
<b>IEEE 802.3x</b>	Flow Control
<b>IEEE 802.3ad</b>	Link Aggregation
<b>IEEE 802.1d</b>	STP
<b>IEEE 802.1w</b>	RSTP
<b>IEEE 802.1p</b>	CoS Prioritization
<b>IEEE 802.1q</b>	VLAN Tagging
<b>IEEE 802.1x</b>	Port Authentication
<b>IEEE 802.1ab</b>	LLDP
<b>IEEE 802.3</b>	N-way Auto Negotiation

Power

<b>Input Voltage</b>	AC: 100~240V
	DC: 36~60V
<b>Power Consumption</b>	55W (w/o Battery)

Interface

<b>Ports</b>	24 x 100Base-FX/SFP
	4 x GbE Combo
	1 x RS-232 Console (DB-9, female)

Mechanical and Environment

<b>Operating Temperature</b>	0°C~50°C
<b>Storage Temperature</b>	-20°C~70°C
<b>Operating Humidity</b>	10 to 80% RH (non-condensing)
<b>Storage Humidity</b>	5 to 90% RH (non-condensing)
<b>Weight</b>	4.5kg
<b>Dimensions</b>	440x44x284mm (WxHxD)

Ordering Information

<b>MEN-6332</b>	Managed L2+ 24-slot 100FX SFP, 4G Combo Switch, w/ AC Power Supply
<b>MEN-6332D</b>	Managed L2+ 24-slot 100FX SFP, 4G Combo Switch, w/ DC Power Supply
<b>MEN-6332R</b>	Managed L2+ 24-slot 100FX SFP, 4 Gigabit Combo Switch, w/ Redundant AC Power Supply
<b>MEN-6332DR</b>	Managed L2+ 24-slot 100FX SFP, 4 Gigabit Combo Switch, w/ Redundant DC Power Supply
<b>FPM-107</b>	100Base-FX Multi-mode SFP, 2Km
<b>FPM-107-30</b>	100Base-FX Single mode SFP, 30Km
<b>GBM-132</b>	100Base-FX Bi-di Single Mode SFP Module, 20Km
<b>GBM-104</b>	1000Base-SX 1.25G, Multi-mode SFP, 500m
<b>GBM-104-2</b>	1000Base-SX 1.25G, Multi-mode, 3.3V, 1310nm, 2Km
<b>GBM-104-10</b>	1000Base-LX 1.25G, Single mode SFP, 10Km
<b>GBM-123</b>	1000Base-LX Bi-di Single Mode SFP Module, 10Km

\*Specifications subject to change without notice.

Dimension

