



AT-9748TS/XP

Managed Layer 3 Stackable Gigabit Ethernet Switch with 10 Gigabit Uplinks

AT-9748TS/XP

48 port 10/100/1000TX stackable Layer 3+ Gigabit Ethernet switch + 4 SFP Combo and optional 2 x 10GbE uplinks

Performance

The AT-9748TS/XP is an advanced Layer 3 functionality IRU switch designed to meet the requirements of multimedia switches and bring traffic control and high-performance to the edge of the network.

With IP routing capabilities for investment protection and flexible management tools, the AT-9748TS/XP is designed to be a cost effective solution for today's market with the ability to expand as network demands grow. Specially designed for high-performance desktop edge connectivity, workgroup, mid-sized networks, campus and metro access edge, the AT-9748TS/XP provides Layer 3 functionality to support multimedia services like voice and video applications which are becoming more and more integrated into data networks. The optional 2 x 10GbE uplink ports provide a ultra high speed connection to other 10GbE Switches.

When stacked, up to 384* ports of Gigabit Ethernet can be achieved, providing enough performance that exceeds that of many chassis and is suitable for medium enterprises, multi-unit buildings, hospitals, schools, and universities. Using a powerful switch fabric, the AT-9748TS/XP passes traffic reliably and efficiently with wire-speed performance. Supports an impressive stacked backplane speed of 40Gbps. The AT-9748TS/XP can be stacked with the 24 port AT-9724TS switch.

**Please contact your local sales representative for the exact number of switches that can be stacked as this depends on the configuration used.*

Rich Feature Set

A rich set of features is incorporated into the AT-9748-TS/XP to provide full support for multimedia Layer 3 applications. All switches include advanced features to provide advanced QoS/Cos, VLAN and Security, including 8 priority queues for 802.1p/ToS/Diffserv. Layer 3 routing features include: RIPv1/v2, OSPFv2, PIM-DM, PIM-SM, DVMRP and VRRP. Security features include MAC-address, IP-address, or TCP/UDP-based Access Control Lists; 802.1x MAC-based authentication and 802.1x Port-based authentication. VLAN support includes port-based VLANs GARP/GVRP, and 802.1q.

Uplink Capability

Each switch can be field upgraded with a 2 x 10GbE uplink module, providing a ultra high-speed connection to a core aggregation switch. Alternatively, two stacks of AT-9748TS/XP switches can be connected over fiber 10GbE links, providing a high-speed inter-connect over large distances.

Stackability

Up to 8 Switches can be stacked together as a Ring. Users can add units to reach maximum 384 GbE ports per Ring stack. Switches are stacked together through dedicated 2 x 10G stacking ports with high-speed stack cables for a total of 40Gbps. The entire stack can be managed with a single IP address. Users can see the number of switches stacked together from the seven-segment display on the front panel.

Scalability

Each switch supports four optional SFP connectors, which allow extended distance links with fiber optic cabling. Two 10GbE ports can also be added to each 9748TS/XP.

Key Features

Stack Up to 384 Ports

- 40Gbps dedicated stack ports (2 x 10Gbps ports)

176Gbps Switching Fabric, 131Mpps

- Wire-speed Layer 2 to 3 filtering
- Wire-speed Layer 2 switching
- Wire-speed Layer 3 IP routing

Flexible, Modular Design

- 4 SFP bays for fiber media
- 2 x 10GbE modular uplink IEEE 802.3ae
- IRU Form Factor

Advanced Performance Features

- Full QoS for multimedia applications
- Eight Priority Queues Per Port
- GVRP VLAN Support
- Supports up to 4000 VLANs
- Jumbo Frames up to 9000 bytes
- IEEE 802.1s Multiple Spanning Tree Support
- IEEE 802.3ad link aggregation (LACP)

Routing

- IEEE RIP v1/v2
- OSPF
- IGMPv1 and IGMPv2

Management

- SNMP Support
- RMON Support
- Port Mirroring
- Web
- Menu
- CLI

Security

- Port Security
- SSH
- SSL
- TACACS/TACACS+
- RADIUS Authentication
- Access Control Lists

Assurance

- Redundant Power Supply Option
- Two Year Warranty
- Resilient Ring Stacking
- 802.3ad (LACP)
- 802.1s (MSTP)
- 802.1w (RSTP)

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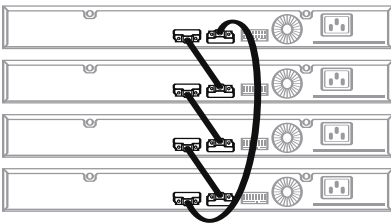
Management

The AT-9748TS/XP have an integrated management agent, which provides an embedded web server, SNMP, RMON, console telnet capabilities.

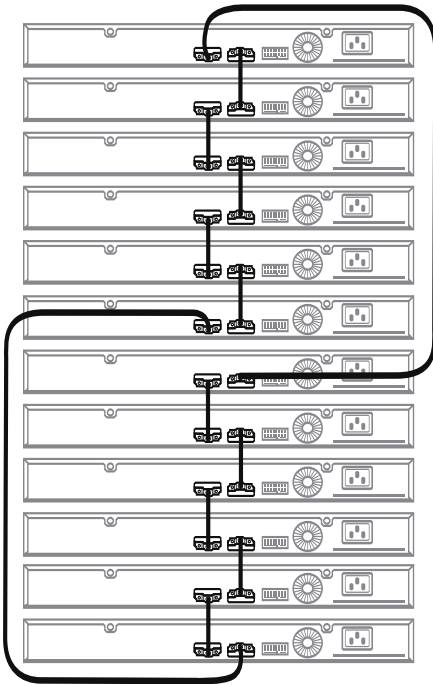
Availability

The AT-9748TS/XP supports stacking of up to 8 units in a highly resilient ring-architecture via integrated rear 10-Gbps stacking ports. Additional protection from down-time comes in the form of an optional redundant power supply, 802.3ad Link Aggregation, 802.1d Spanning Tree, 802.1w Rapid Spanning Tree and 802.1s Multiple Spanning Tree.

Small Stack Cable Configuration



Large Stack Cable Configuration



Features

QoS

Eight priority queues per port
Classification based on

- IEEE 802.1p
- MAC SA/DA
- TOS
- IP Destination address
- TCP/UDP Destination port
- DSCP

Full QoS for multimedia applications
Wirespeed Layer 2 to 3 filtering
Wirespeed Layer 2 switching
Wirespeed Layer 3 IP routing

VLANs

VLANs 4,000 VLANs (256 Dynamic)
802.1Q
GARP Support
GVRP Support

Ports

10/100/1000T Shielded RJ45
SFP bays for Fiber connections

Routing

IP RIP v1/v2
OSPF
VRRP
IP Fragmentation support
IP multi-netting
Floating static route

IP Multicast

IGMP v1/v2
IGMP Snooping
DVMRP
PIM DM
Broadcast Storm Control

Spanning Tree Support

IEEE 802.1D
IEEE 802.1W Rapid Spanning Tree
IEEE 802.1S per VLAN Multiple spanning tree

Trunking

IEEE 802.3ad link aggregation (LACP)
Static Mode Trunking
Trunk groups up to 32 groups, up to 8 ports each group

Features

Performance

176Gbps switching fabric, 131Mpps forwarding rate
MAC addresses 16,000
VLANs 4,000
VLANs (256 Dynamic)
Auto-negotiation speed and duplex
Auto-MDI/MDI-X
Trunk groups up to 32 groups, up to 8 ports each group
L3 Host IP Table up to 3,000 entries
IP Multicast Table support 256 IP multicast table
SDRAM Memory 256MB
Buffer Memory 4MB
Flash Memory 16MB

Reliability

AT-9748TS/XP MTBF: 94,000 hours

Interface Connections

48 port 10/100/1000T Shielded RJ45
SFP COMBO bays for Fiber connections

10GbE Uplink

Modular uplink bay for optional 2 x 10GbE uplink on rear panel
802.3ae Compliant
Full-duplex operation

Network Management

Web-based management
SNMP v1
SNMP v2c
SNMP v3
RMON support 4 Groups (Statistics, History, Alarms, Events)
RS232 DB9 (Female) console access for local or remote out of band management
Telnet
TFTP upgrade
Command Line Interface (CLI)
Traffic Segmentation
Bandwidth control (1Mbps increments)
Support SYSLOG
Support Port Security
Web GUI Traffic Monitoring
Web MAC address Browsing
SNTP support
Single IP Management v1.0
Port Description
CPU Utilization Monitoring
Dual Images support
SNMP Trap on MAC address Notification
Port mirroring

Configuration

Telnet Server
TFTP Client
BootP Client
DHCP Client
DHCP Relay agent
BootP Relay
DNS Relay

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Security

RADIUS Authentication
Support IEEE 802.1x Port-based Access Control
Support IEEE 802.1x MAC-based Access Control
SSH
TACACS/TACACS+ Authentication
SSL
Support Cisco-like Port Security
Access Control List support (ACL):
- 8 Profiles
- 50 Rules

Based on:

- MAC address
- VLAN
- IP address
- Protocol Type
- TCP/UDP port number
- IEEE 802.1p
- DSCP
- Port
- TCP/UDP payload

MIB Support

RFC 1213 MIB II
RFC 1493 Bridge
RFC 1757 RMON
RFC 1643 Ether-like MIB
Private MIB
RFC 2674 IEEE 802.1p
IF MIB
RFC 2233 Interface MIB
IGMP MIB
RIP MIB
RFC 1850 OSPF
RFC 2096 CIDR MIB
RFC 2096 IP Forwarding Table MIB

Physical Characteristics

Height: 4.4cm (1.7")
Width: 44cm (17.3")
Depth: 43.1cm (17.0")
Weight: 6.412kg
Mounting: 19" rack-mountable, hardware incl.

Standards & Compliance

IEEE 802.3 10T Ethernet
IEEE 802.3u 100TX Ethernet
IEEE 802.3ab 1000T Ethernet
IEEE 802.3ae 10GbE
IEEE 802.3z 1000X Ethernet
IEEE 802.3ad Link Aggregation
IEEE 802.1d Spanning Tree
IEEE 802.1p Class of Service, priority protocols
IEEE 802.1Q VLAN Tagging
IEEE 802.3x Flow Control
RFC 1112 IGMP Snooping v1
RFC 2236 IGMP Snooping v2
RFC 951 BootP
RFC 2131 DHCP
RFC 1350 TFTP
RFC 1757 RMON Groups 1, 2, 3 and 9
TACACS+
RADIUS
RIP v1 & v2
RFC 1850 OSPF
VRRP
DVMRP
PIM Dense Mode and PIM Sparse Mode
IGMPv2
GARP/GVRP

Electrical/Mechanical

Power Consumption: 143W

Power Characteristics:

Voltage: 100-240V AC auto-ranging

Frequency: 50-60Hz

Environmental Specifications

Operating Temp 0°C – 40°C (32°F – 104°F)

Storage Temp -25°C – 55°C

Relative Humidity Range 5% – 95% non-condensing

Approvals

UL 1950
FCC Class A
CSA 22.2 No. 950
EN55022 Class A
EN 60950 (TUV)
EN50082-1
CE

Country of Origin

Taiwan

Stacking Function

Ring Stacking with up to 8 AT-9748TS/XP through 2 stacking ports in the rear providing 40Gbps stacking bandwidth Management Support

Ordering Information

AT-9748TS/XP-20

48 port 10/100/1000TX stackable layer 3+ Gigabit Ethernet switch + 4 SFP Combo and 2 x 10GbE uplink option

With:

- Three power cords (US, UK, European)
- Stacking cable.
- Two year warranty

AT-XP9700

2 x 10Gb uplink module with 2 x XFP slots

AT-RPS9700-xx

2-slot Redundant PSU frame for AT-9700 Series

AT-PWR9700-xx

PSU modules for AT-RPS9700 (max 2)

AT-XPSR (10GbE XFP)

850nm, 300m, multimode fiber

AT-XPLR (10GbE XFP)

1310nm, 10km, singlemode fiber

AT-SPSX

Multimode Fiber, GbE Small Form Factor Pluggable (SFP), 500m, 850nm

AT-SPLX10

Singlemode Fiber, GbE Small Form Factor Pluggable (SFP), 10km, 1310nm

AT-SPSLX40

Singlemode Fiber, GbE Small Form Factor Pluggable (SFP), 40km, 1310nm

AT-SPLX40/1550

Singlemode Fiber, GbE Small Form Factor Pluggable (SFP), 40km, 1550nm

AT-SPZX80/xxxx

Singlemode Fiber, GbE Small Form Factor Pluggable (SFP), 80km, 1550nm

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