

Product Specification

**24-Port 10/100Mbps + 2 Gigabit TP/ SFP Combo
With 12-Port PoE Managed Switch**

FGSW-2612PVM

Version 1.0

Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2009/06/08	Norman Tsai	Initial release

1. PRODUCT DESCRIPTION

Power over Ethernet

The PoE in-line power following the standard IEEE 802.3af makes the FGSW-2612PVM able to power on 12 PoE devices at the distance up to 100 meters through the 4-pair Cat 5/5e UTP wire.

Cost-effective solution with SNMP monitor for Network deployment

Not only for catering to the need of easy WEB-based management but also the centralized SNMP application to monitor the status of Switch and traffic per port, PLANET releases the cost-effective Managed Switch. The key features are as below:

- | | |
|------------------------|----------------------------------|
| ■ 802.3af PoE | ■ SNMP and 4 RMON groups |
| ■ WEB / SSL / Telnet | ■ Access Control List |
| ■ 802.1Q / Q-in-Q VLAN | ■ IGMP Snooping |
| ■ Rapid Spanning Tree | ■ 802.1X Authentication / RADIUS |

High Performance Wire-Speed Switching

The PLANET FGSW-2612PVM offers 24 10/100Mbps Fast Ethernet ports with 2 Gigabit TP/SFP combo ports (Port-25, 26). The two Gigabit TP/SFP combo ports can be either 1000Base-T for 10/100/1000Mbps or 1000Base-SX/LX through SFP (Small Factor Pluggable) interface. PLANET FGSW-2612PVM boasts a high performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as 8.8Gbps. Its two built-in GbE uplink ports also offer incredible extensibility, flexibility and connectivity to the Core switch or Servers.

Remote and Centralize Management installation

Afford the current network to grow and expand, the PLANET FGSW-2612PVM provide advanced WEB and SNMP management interface to fill this kind of demand. With its built-in Web-based management, the FGSW-2612PVM offers an easy-to-use, platform-independent management and configuration facility. The FGSW-2612PVM supports standard Simple Network Management Protocol (SNMP) and can be monitored via any standard-based management software. For efficient management, via WEB interface the FGSW-2612PVM can be programmed for basic switch management functions such as port speed configuration, Port Trunking, VLAN, Port Mirroring, Rapid Spanning Tree and Misc Configuration. Additionally, the firmware includes advanced features such as IGMP snooping, QoS (Quality of Service), broadcast storm and bandwidth control, to enhance bandwidth utilization.

Powerful Security

The PLANET FGSW-2612PVM offers comprehensive Access Control List (ACL) for enforcing security to the edge. Its protection mechanisms comprises of Port-based 802.1X user and device authentication. Moreover, the switch provides MAC filter, Static MAC and IP Security for enforcing security policies to the edge. The administrators can now construct highly secured corporate networks with considerably less time and effort than before.

2. PRODUCT FEATURES

> Physical Port

- 24-Port 10/100Mbps Fast Ethernet ports with 12-Port PoE Injector.
- 2 10/100/1000Mbps TP and SFP shared combo interfaces
- Reset button for system management
- 1 RS-232 male DB9 console interface for Switch basic management and setup

> Power over Ethernet

- Complies with IEEE 802.3af Power over Ethernet End-Span PSE
- Up to 12 IEEE 802.3af devices powered
- Support PoE Power up to 15.4 watts for each PoE ports
- Auto detect powered device (PD)
- Circuit protection prevent power interference between ports
- Remote power feeding up to 100m
- PoE Management
 - Total PoE power budget control
 - Per port PoE function enable/disable
 - PoE Port Power feeding priority
 - Per PoE port power limit
 - PD classification detection

> Layer 2 Features

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z Gigabit Ethernet standard
- Supports Auto-negotiation and Full-Duplex / Half-Duplex modes for all 10Base-T/100Base-TX and 1000Base-T ports.
- Auto-MDI/MDI-X detection for each RJ-45 port
- Prevents packet loss Flow Control:
 - IEEE 802.3x FAUSE Frame flow control for Full-Duplex mode
 - Back-Pressure Flow Control in Half-Duplex mode
- High performance of Store-and-Forward architecture, runt/CRC filtering eliminate erroneous packets to optimize the network bandwidth
- Broadcast / Multicast / Unicast storm control
- 8K MAC address table, automatic source address learning and ageing
- 2Mbit embedded memory for packet buffers
- Support VLAN
 - IEEE 802.1Q Tag-based VLAN
 - Port-Based VLAN
 - Q-in-Q tunneling
 - Up to 255 VLANs groups, out of 4094 VLAN IDs
- Support Link Aggregation
 - up to 13 trunk groups
 - up to 8 ports per trunk group with 1.6Gbps bandwidth (Full Duplex Mode)
 - IEEE 802.3ad LACP (Link Aggregation Control Protocol)

- Cisco ether-channel (Static Trunk)

- Spanning Tree Protocol

- STP, IEEE 802.1D (Classic Spanning Tree Protocol)
- RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)

- Port Mirroring to monitor the incoming or outgoing traffic on a particular port

➤ **Quality of Service**

- 4 priority queues on all switch ports

- Traffic classification:

- IEEE 802.1p CoS
- IP TOS / DSCP to 802.1p priority mapping
- Port-Based priority

- Strict priority and Weighted Round Robin (WRR) CoS policies

- Supports QoS and In/Out bandwidth control on each port

➤ **Multicast**

- Supports IGMP Snooping v1 and v2

- IGMP Snooping v2 fast leave

- Querier mode support

➤ **Security**

- IEEE 802.1x Port-Based network access control protocol

- RADIUS users access authentication

- L3 / L4 Access Control List (ACL)

- MAC Filtering and Source IP-MAC / Port-Binding

- Port Security for Source MAC address entries filtering

➤ **Management**

- Switch Management Interface

- Telnet Command Line Interface
- Web switch management
- SNMP v1, v2c switch management
- SSL switch management

- DHCP client for IP address assignment

- Built-in Trivial File Transfer Protocol (TFTP) client

- Firmware upgrade via TFTP or HTTP

- Configuration upload/download via TFTP or HTTP

- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events)

- SNMP trap for interface Link Up and Link Down notification

- Supports Ping function

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch ASIC:	VIA VT6529	X 1
10/100 PHY:	VIA VT6108S	X 3
Gigabit PHY:	Vitesse VSC8211	X4
CPU:	SAMSUNG ARM7 processor	x 1
PoE Chipset	PowerDsine PD64012	X1
FLASH:	4MB / MX29LV320DBTI-70G	X1
RAM:	16MB	X1
Power Supply:	System: 12VDC2.5A Output	X1
	PoE : 110Watts Output	X1

3.2 FUNCTION SPECIFICATION

Product	FGSW-2612PVM 24-Port 10/100Mbps + 2 Gigabit TP / SFP Managed Switch with 12-Port PoE
Hardware Specification	
10/100Mbps Copper Ports	24 10/ 100Base-TX RJ-45 Auto-MDI/MDI-X ports
1000Mbps Copper Ports	2 10/100/1000Mbps RJ-45 Auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	2 1000Base-SX/LX/BX, shared with Port-25~Port-26
Switch Architecture	Store-and-Forward
Switch Fabric	8.8Gbps / non-blocking
Switch Throughput	6.547Mpps @64Bytes
Address Table	8K entries
Share Data Buffer	512Kbytes
Maximum Frame Size	9K Bytes
Flow Control	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex
LED	Power, FAN Alarm Link/Activity (Green) PoE In-Use (Amber) 1000 LNK / ACT(Green) 10/100 LNK / ACT(Green)
Reset Button	< 5 sec: System reboot > 5 sec: Factory Default
Power over Ethernet	
PoE Standard	EEE 802.3af Power over Ethernet / PSE
PoE Power Supply Type	End-Span
PoE Power Output	Per Port 48V DC, 350mA. Max. 15.4 watts
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Budget	110 Watts

Max. number of Class 2 PD	12
Max. number of Class 3 PD	6
Layer 2 Function	
Management Interface	Console, Telnet, Web Browser, SSL, SNMPv1, v2c
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable / enable
Port Status	Display each port's speed duplex mode, link status and Flow control status Auto negotiation status, trunk status
Port Mirroring	TX / RX / Both 1 to 1 monitor
Bandwidth Control	Ingress / Egress Rate Control Allow to configure per 128Kbps
VLAN	IEEE 802.1Q Tag-based VLAN Port-based VLAN Q-in-Q tunneling Up to 255 VLANs groups, out of 4041 VLAN IDs
Link Aggregation	Supports 13 groups of 8-Port trunk, IEEE 802.3ad LACP
QoS	Traffic classification based on Port priority, 802.1p priority, DSCP/TOS field in IP Packet
IGMP Snooping	IGMP (v1/v2) Snooping, up to 256 multicast Groups
Access Control List	IP-Based ACL / MAC-Based ACL Up to 220 ACL rule entries
SNMP MIBs	RFC-1213 MIB-II RFC-2863 Interface MIB RFC-2665 EtherLike MIB RFC-1493 Bridge MIB RFC-2819 RMON MIB (Group 1, 2, 3,9) RFC-2737 Entity MIB POWER-ETHERNET-MIB
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3z 1000Base-SX/LX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control and Back pressure IEEE 802.3ad Port trunk with LACP IEEE 802.1D Spanning tree protocol IEEE 802.1w Rapid spanning tree protocol IEEE 802.1p Class of service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control IEEE 802.3af Power over Ethernet

3.3 PHYSICAL SPECIFICATIONS:

■ Dimensions:

440 x 265 x 44mm (W x D x H), 1U height

■ Weight:

3.6kg

■ Front Panel:



- **Rear Panel:**



- LED definition

System

LED	Color	Function
PWR	Green	Lights to indicate that the Switch has power.

Per 10/100Base-TX (Port-1 to Por-24), PoE (Port-1 to Por-12) interfaces

LED	Color	Function	
LNK/ACT	Green	Lights	To indicate the link through that port is successfully established.
		Blink	To indicate that the Switch is actively sending or receiving data over that port.
PoE In-Use	Orange	Lights	To indicate the port is providing 48VDC in-line power.
		Off	To indicate the connected device is not a PoE Powered Device (PD).

Per 10/100/1000Base-T port /SFP interfaces

LED	Color	Function	
1000 LNK/ACT	Green	Lights	To indicate the link through that port is successfully established with speed 1000Mbps.
		Blink	To indicate that the switch is actively sending or receiving data over that port.
		Off	If L10/100 NK/ACT LED light-> indicate that the port is operating at 10Mbps or 100Mbps. If LNK/ACT LED Off -> indicate that the port is link down.
10/100	Green	Lights	To indicate the link through that port is successfully established with speed 10Mbps or 100Mbps.

LNK/ACT		Blink	To indicate that the switch is actively sending or receiving data over that port.
		Off	If 1000 LNK/ACT LED light-> indicate that the port is operating at 1000Mbps. If 1000 LNK/ACT LED Off -> indicate that the port is link down.

3.4 ENVIRONMENTAL SPECIFICATION

Operating:

Temperature: 0°C ~ 50 Degree C, for 110 Watts Power output
Relative Humidity: 20% ~ 95% (non-condensing)

Storage:

Temperature: -40°C ~ 70 Degree C
Relative Humidity: 20% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

AC Power Input Voltage: 100 ~ 240VAC, 50 / 60Hz, Auto-sensing.
Power Consumption(System on): 110V: 11.4 Watts
220V: 11.4 Watts
Power Consumption(Full Load): 110V: 156.6 Watts max.
220V: 152.7 Watts max/

3.6 REGULATORY COMPLIANCE

FCC Class A, CE.

3.7 REALIABILITY

MTBF > 50,000 hrs @ 25 Degree C

3.8 BASIC PACKAGING

■ FGSW-2612PVM x1	X1
■ User's manual CD	X1
■ Quick installation Guide	X1
■ Power cord	X1
■ Rubber feet	X4
■ Rack ear with Screws	X2
■ RS-232 DB9 male Console cable	X1

3.9 PACKING DIMENSION

Dimension: 560 mm (W) x 335 mm (D) x 97 mm (H)
Weight: 4.2KG (Gross Weight)
(3pcs in one carton)