



## GE-PON-ONU

ONU based on GE L2 switch  
**ST-3601-FX**

### Overview

Spiktel ST-3601-FX is an Gigabit Ethernet L2 switch devised as a PON ONU providing high-speed high-capacity broadband multimedia service of up to 1 Gbps. 3601-FX can be applied to FTTB or FTTC based network users enabling high performance switching service economically by using of 1000 Mbps link speed.

3601-FX can have twenty-four 1000base-T (UTP RJ-45) ports and two optional modules that support either up to two PON ports (GPON or EPON) as well as 1000Base-T or 1000Base-X /100Base-FX (SFP) ports

Besides LAN switching functionalitis, 3601 also provides QoS and multicasting and has increased the level of security with 802.1x.

3601-FX is capable of supporting hardware-based bandwidth management and Quality of Service functionality that enable corporate users and ISPs to provide differentiated internet services in the environment of next generation network

### Features

- \* 24 ports 1000Base-T
- \* 2 Optional Slot Uplink Module(Hot-Swappable):
  - 100Base-FX, 1000Base-T, 1000Base-X
- \* Uplink Module
  - 1 port Combo : 100Base-FX/1000Base-X (SFP) or 1000Base-T (RJ-45)
  - 1 port EPON 1.25G
  - 1 port GPON 2.5G
- \* Power: 110~220 VAC / 50~60 Hz
- \* 56Gbps Non-Blocking Switch Fabric
- \* 38Mpps Throughput
- \* 128MB Main Memory, 32MB Flash Memory
- \* Max. 16K MAC Address Support for Switching
- \* 256 VLANs Support
- \* Filtering: DHCP, NetBios, NBT, Mac, IP Packet Filtering, IP-Subnetwork range blocking, Selective handling of specified IP address, Detection of IP address collision
- \* Alert when traffic/CPU load threshold reached
- \* MAC address falsification & flooding prevention (static MAC, MAC count)
- \* Multicast/broadcast flooding prevention (broadcast controlled & auto-lift after a period of time)
- \* Secure Network: DoS prevention, Warm virus Filtering
- \* IEEE 802.1p, IEEE802.1Q, IEEE802.1D
- \* Rate Limit: @ 1Mbps (100M & Gigabit port)
- \* Egress Traffic Shaping (Rate Limit) per port
- \* Ingress Traffic Policing per flow/packet
- \* VLAN, Multi VLAN, STP, RSTP, IGMP snooping & query
- \* Max. 128 ACL for QoS standards and filtering
- \* Gateway IP Address Resolution Protocol (GARP)
- \* IGMP v1/v2, IGMP Snooping, IGMP Snooping Proxy Reporting supported
- \* SNMP trap for up/down linking and system initialization
- \* TFTP, CLI, Telnet, Syslog, SNMP I/II, RMON, Port Mirroring
- \* L2 Workgroup Switch over Metro Ethernet Network
- \* ONU over PON network
- \* Dynamic and Distributed Service, Contents and Applications Delivery to the MAN
- \* Support intra-network environment for business and/or factory where power supply is not prepared.

## Specifications

### Hardware

Item	Description
System Architecture & Console	24 fixed 1000Base-T ports & 2 uplink slots (Expansion Module) (Auto-negotiation, Auto-Sensing, Auto MDI/MDIX) 2 Expansion Module: 1 Port per Module - 100Base-FX/1000Base-X (SFP) or 1000Base-T(RJ-45) - EPON module - GPON module RS-232C Serial Console Port (RJ-45 type)
Memory	128MB Main Memory 32MB Flash Memory
Physical Dimension	19 inch Rack Mount Type, 1RU 482mm(W, Rack Guide included)x44mm(H)x220mm(D)

### Environment Conditions

Power	110~220 VAC / 50~60 Hz
Power consumption	Max. 40W
Operating temperature	0*~ 50* (-20~60*)
Storage temperature	-30*~ 70*

### Performance

Switching Fabric	56Gbps non-blocking
Throughput	38Mpps wire-speed L2 Switching

### Capacity

MAC Address	Up to 16K MAC Management
VLAN	256 VLAN (VLAN ID range 1~4094) Private Edge VLAN, 8021.Q Tagged-VLAN Link Aggregation (802.3ad): 13 group, Max 8 port/group

### Services and Features

Filtering, Security & QoS	IEEE 802.1p QoS, Diff-serv support, Congestion Management Filtering: Mac address, Mac address Count limit, Netbios, NBT, TCP Sync cookies, TCP RST-UNKNOWN, Martian-Filter, DHCP, Broadcast Storm, selective handling of specified IP address, IP Packet filtering, detection of IP address collision Virus Filtering: DoS prevention, Warm virus Filtering Subscriber Traffic control by ACLs (Access Control Lists) Queue: 8, SPQ, WRR, SPQ+WFO Service differentiation for Control Packet (Ping, Telnet, SNMP, FTP, TFTP, etc)
Management	SNMP v1/v2, RMON, MIB-I/II, log flash, Subscriber (Block/unblock), Last MAC Management, Remote S/W Upgrade, Telnet, TFTP, FTP, Port Mirroring, CLI, Syslog, Access level control for administrator Radius, TACAS+
Functions	STP(802.1D), RSTP(802.1w), Self-Loop controlled DHCP relay/DHCP snooping, DHCP option 82 Storm-control (L2DLF, Broadcast, Multicast), Flood-Guard (pps control), CPU Filter(IP+TCP/UDP Port NO) NTP (Network Time protocol) Client Jumbo Frame packet support: 9022byte Stacking & IP Clustering: 8 Clustering

# GE-PON SOLUTION

<b>Multicasting Protocol</b>	IGMP v2.0, IGMP snooping, 255 snoop Table, IGMP query, IGMP Join/Leave Suppression, IGMP Fast Leave, IGMP Static Join, IGMP proxy reporting
<b>Standards</b>	
<b>IEEE Standards</b>	802.1D Spanning Tree Protocol 802.1w RSTP 802.1p Priority Control 802.1Q VLAN 802.3 10Base-T Ethernet 802.3u 100Base-X Fast Ethernet 802.3x Flow Control 802.3ad Link Aggregation 802.3z 1000Base-X Gigabit Ethernet
<b>IETF Standards</b>	RFC 768 UDP RFC 791 IP RFC 903 TCP RFC 2131 DHCP Relay RFC 2236 IGMP v2 RFC 1112 IGMP
<b>Management Standards &amp; MIB</b>	RFC 783 TFTP RFC 854 Telnet RFC 1157 SNMP v1 RFC 1213 MIB-I I RFC 1493 Bridge-MIB RFC 1757 RMON-MIB RFC 1902 SNMP v2 RFC 1907 SNMP-MIB RFC 1643 Ethernet-like Internet MIB



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