

Features

- 3-port 10/100M Ethernet Switch integrated with two 10/100M PHYs, three MACs, a switching fabric, a packet buffer memory and a configurable MII/Rev-MII or RMII/Rev-RMII interface for the 3rd port access from external device
- **Fast Ethernet MAC/PHY**
 - IEEE 802.3 10Base-T/100Base-TX compatible
 - Supports full-duplex operation with IEEE 802.3x flow control and half duplex with backpressure
 - 10/100M PHY supports twisted pair crossover detection and auto-correction (HP Auto-MDIX)
 - Supports Wake-on-LAN by Microsoft Wakeup Frame, Magic Packet and link status change detection
- **Switching Fabric**
 - Performs non-blocking wire-speed forwarding and filtering
 - Embeds 32KB SRAM for packet buffering
 - Supports broadcast storm filtering
 - Support per queue and per port ingress and egress programmable rate limit control
 - Integrates two-way Address-Lookup engine and table for 1K MAC addresses
 - Supports Routing Table/IGMP/VLAN Table access through SPI read/write operation
 - Supports 802.1D Spanning Tree Protocol and 802.1w Rapid Spanning Tree Protocol
- **QoS**
 - Supports Quality-of-Service for port-based, 802.1p VLAN and IPv4 TOS/IPv6 COS packets with four priority queues
 - Supports RFC2475 DiffServ-based
- **VLAN**
 - Supports up to 3 VLAN groups for port-based VLAN and 16 VLAN entries for 802.1Q tag-based VLAN functions
 - Supports Double tagging 802.1Q-in-802.1Q function for WAN access
- **Security**
 - Supports ingress port security mode, incoming packets with unknown source MAC address could be dropped

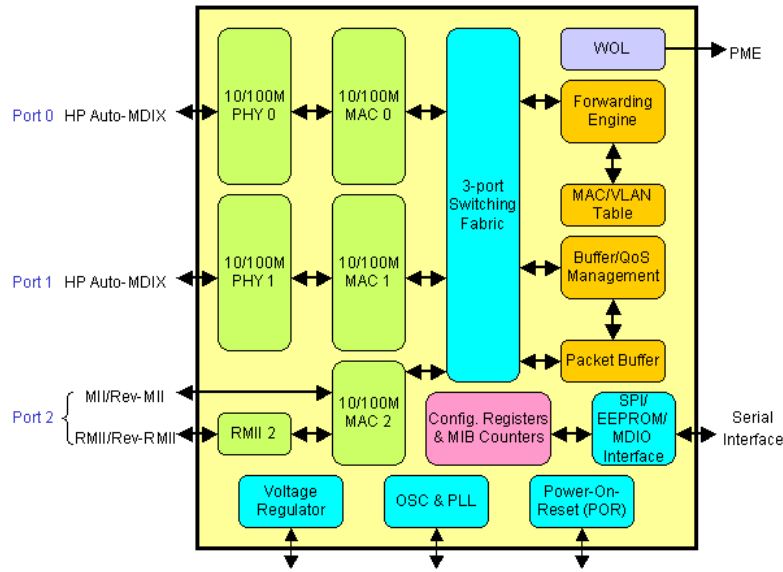
Product Brief

- Supports eight Security MAC Registrations
- Supports 802.1X port-based Authorization
- **Multicast**
 - Supports GMRP/GVRP/GARP packet snooping
 - Support IPv4 IGMP and IPv6 ICMP/MLD (Multicast Listener Discovery) Snooping
 - Supports up to 1K Multicast Group (shared with L2 MAC table)
 - Supports eight IGMP Multicast IP address snooping
- **Monitoring**
 - Supports RMON group 1,2,3,9 counter (RFC1213)
 - Supports Ethernet-like MIB counter (RFC 1643)
 - Supports Bridge MIB counter (RFC 1493)
 - Egress/Ingress Port Mirroring
 - Sniffer functions:
 - ◆ Source/Destination Port
 - ◆ DA/SA
 - ◆ VLAN ID
 - ◆ Ethernet Packet Type
 - ◆ IPv4/IPv6 Protocol
 - ◆ IPv4/IPv6 TCP/UDP Port Number
- **Optional Interfaces Supported:**
 - MII or Reverse-MII
 - RMII or Reverse-RMII
 - Optional serial EEPROM
 - SPI
- Single 3.3V power supply with options for 1.8V, 2.5V and 3.3V I/O voltage support
- Integrates an on-chip voltage regulator requiring only a single power supply of 3.3V
- Integrates an on-chip oscillator and PLL requiring only a 25MHz crystal to operate
- Integrates on-chip power-on reset circuit
- 80-pin E-PAD LQFP RoHS compliant package
- Operating temperature range: 0°C to +70°C

Product Description

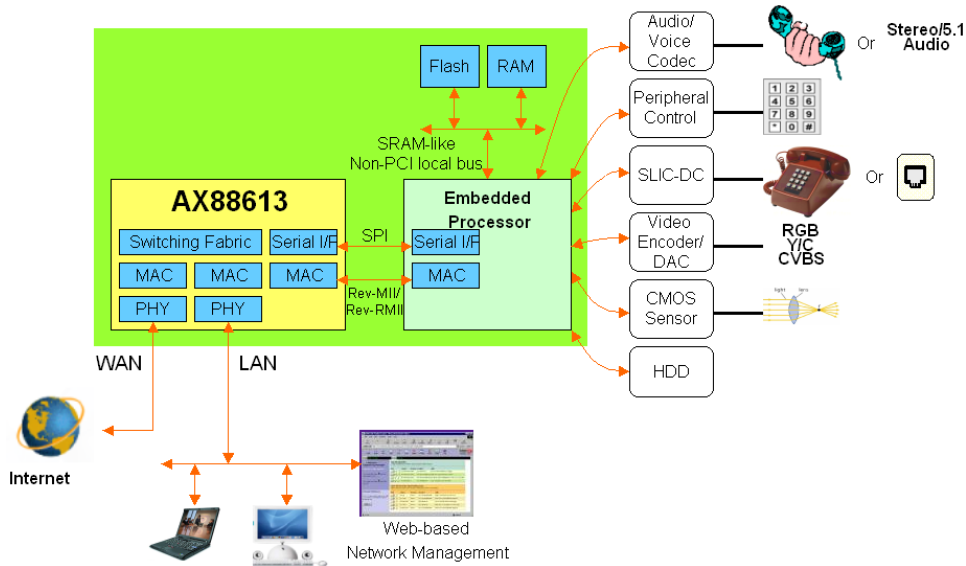
The AX88613 is a 3-port 10/100M Ethernet switch with two built-in 10/100M PHY and one configurable MII/Rev-MII or RMII/Rev-RMII interface for managed switch applications. The switch supports up to 1K MAC address, Port-based VLAN and 16 tag-based VLAN group. It also provides powerful QoS function including IPv4 TOS/IPv6 COS for voice, video, audio and data traffic classification. The switch controller provides network system manufacturers the ideal platform for building smart and cost-effective switches. The AX88613 3-port 10/100M single-chip switch controller combines the benefits of network simplicity, flexibility and high integration. Its highly integrated feature set enables network system manufacturers to build low cost, low density, high performance, non-blocking intelligent Ethernet switches.

Block Diagram



Target Applications

- 3-port Managed Switch, Residential Gateway
- VoIP Phone, Triple and Quad Play
- Media Converter/FTTx CPE, Industrial Ethernet
- Single Board Computer (SBC)
- Ethernet Traffic Generator/Analyzer and Packet Monitoring



Product Selection Guide

