



PRODUCT OVERVIEW

The Marvell® Link Street™ family of low power Fast Ethernet (FE) switches provides industry-leading functionality and price-performance ratio for the cost-sensitive Small Office/Home Office (SOHO) gateway/switching market and enterprise desktop switching market. The Link Street 88E6021 device is a 3-port Quality of Service (QoS) switch integrating a high-performance switching fabric with four priority queues, a high-speed address look-up engine, two 10/100 Ethernet PHY ports for either copper or fiber connections, one MII port, three independent Media Access Controllers (MACs), and Spanning Tree support. Other advanced features include 802.1p/IPv4/IPv6 traffic classification, 802.1Q VLAN and extensive RMON counters. The 88E6021 switch is an ideal product for wireless gateway routers, IP phones, media converters, and Multi-Tenant Unit (MTU) gateways.

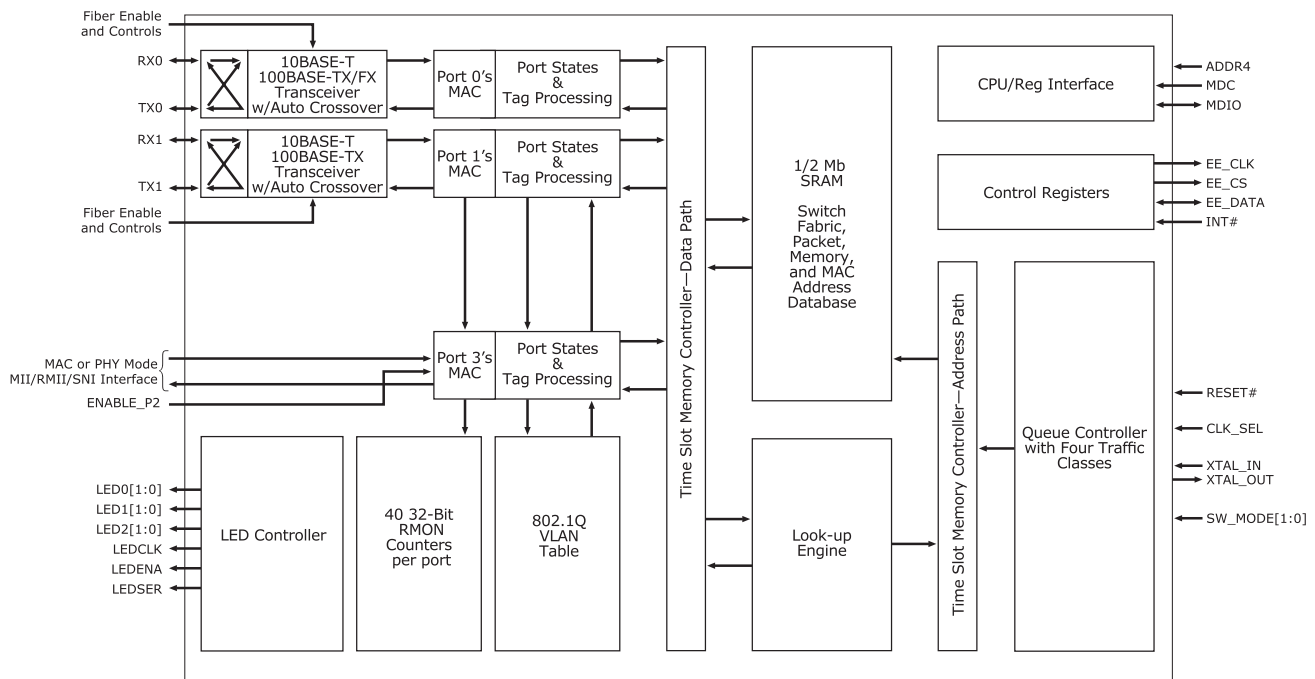


Fig 1. Link Street 88E6021 SOHO Switch Internal Block Diagram

FEATURES

- Single-chip integration of a 3-port FE QoS switch
- Two integrated 10/100 Ethernet PHY ports and one MII
 - The PHY ports can be configured as copper or fiber
 - Multi-mode MII interfaces
- Automatic MDI/MDIX crossover for 100BASE-TX and 10BASE-T ports
- High-speed switch fabric
 - Integrated 512 Kb on-chip memory
 - High-performance lookup engine with support for up to 2,048 MAC address entries with automatic learning and aging

BENEFITS

- Provides a low cost solution for SOHO wireless gateway routers, IP Phones, media converters, and MTU gateways
 - Supports both copper and fiber connections
 - Provides design flexibility for connections to CPUs or external PHYs
- Simplifies and reduces cost of networking installation
- Reduces costly phone calls to equipment manufacturers' support centers
- Provides true non-blocking switching performance
 - Reduces cost and enhances performance
 - Supports a large number of Ethernet nodes



FEATURES

- QoS support with four traffic classes
 - QoS determined by destination MAC address, port ID, IEEE 802.1p tags, IPv4 Type of Service (TOS) and Differentiated Services (DiffServ), and IPv6 traffic class
- Port VLAN and 802.1Q VLAN support
 - 802.1Q VLAN support for up to 16 VLANs
 - 802.1Q VLAN processing per port and VLAN tagging and untagging
- SNMP and traffic snooping support
 - Extensive RMON statistics counters
 - IGMP snooping (IPv4) and MLD snooping (IPv6)
- CMOS low power dissipation PAVE = less than 1W

BENEFITS

- Ideal for supporting prioritized packet streams for time critical and multimedia traffic
 - Supports the most number of traffic priority schemes in its class
- Provides Layer 2 firewall protection
 - Support both port-based membership or 802.1Q VLAN-based membership schemes
 - Supports full IEEE 802.1Q VLAN features
- Enhances manageability
 - SNMP support for better network management
 - Allows better monitoring of traffic running on the network
- Eliminates expensive heatsinks or fans and permits the use of low cost and small enclosures

APPLICATIONS

The Marvell Link Street family of products provides industry-leading functionality for low cost integrated switches. The 88E6021 switch's high integration, low power and extra port supports many applications with few additional active components in a small footprint. The flexibility of the 88E6021 device comes from its configuration options and integration. The device supports an optional EEPROM to override any desired QoS default settings. The 88E6021 switch contains PHYs, LED drivers, voltage regulator logic, QoS switch logic, and memory. The only active components required to implement a complete 88E6021 10/100 Ethernet switch are a 25 MHz crystal clock source and a low cost PNP transistor used by the 88E6021 device's voltage regulator to generate 2.5V from 3.3V.

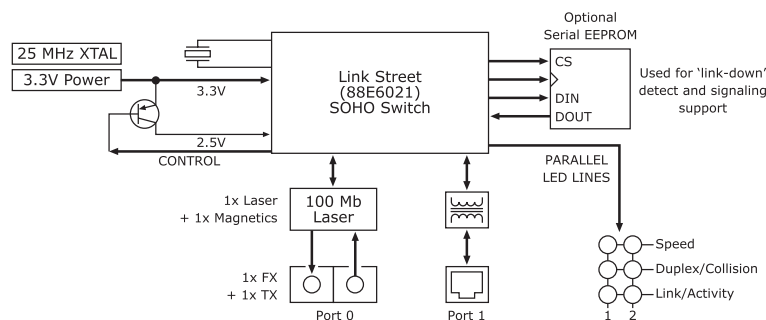


Fig 2. Media Converter Application

THE MARVELL ADVANTAGE: The Marvell Link Street 88E6021 FE switch comes with a complete set of hardware and software development tools to assist network hardware engineers with product evaluation. Marvell's worldwide field applications engineers collaborate closely with network equipment vendors to develop and deliver new competitive products to market on time. Marvell utilizes recognized world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low cost total solutions.

For more information, visit our website at www.marvell.com.



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