

8-Port 10/100 Integrated Switch with PHY and Frame Buffers

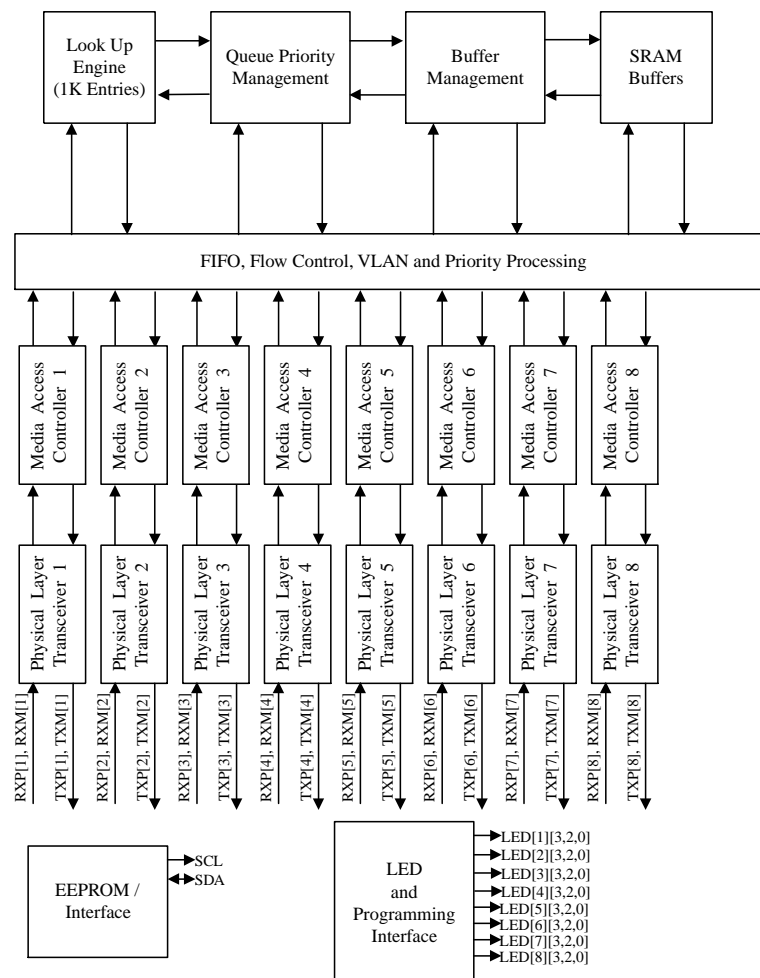
The KS8997 contains eight 10/100 physical layer transceivers, eight MAC (Media Access Control) units with an integrated Layer 2 switch. The device runs as an eight port integrated switch.

The KS8997 is designed to reside in an unmanaged design not requiring processor intervention. This is achieved through I/O strapping or EEPROM programming at system reset time.

On the media side, the KS8997 supports 10BaseT and 100BaseTX through auto-negotiation as specified by the IEEE 802.3 committee.

Physical signal transmission and reception are enhanced through use of analog circuitry that makes the design more efficient and allows for lower power consumption and smaller chip die size.

Block Diagram

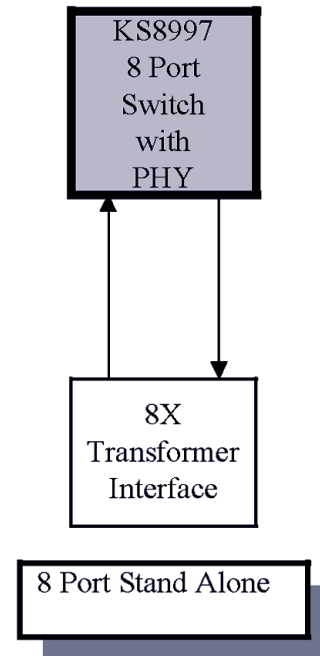


Features

- 8-port 10/100 integrated switch with 8 physical layer transceivers
- SRAM on chip for frame buffering
- 2.0Gbps high performance memory bandwidth
- 10BaseT and 100BaseTX modes of operation
- Superior analog technology for reduced power and die size
- Single 2.0V power supply with options for 2.5V and 3.3V I/O
- 900mA (1.80W) including physical transmit drivers
- Supports port-based VLAN
- Supports DiffServ priority, 802.1p-based priority or port-based priority
- Indicators for link, activity, full/half duplex and speed
- Unmanaged operation via strapping or EEPROM at system reset time
- Hardware-based 10/100, full/half, flow control and auto negotiation
- Wire speed reception and transmission
- Integrated address look-up engine, supports 1K absolute MAC addresses
- Automatic address learning, address aging and address migration
- Broadcast storm protection
- Full duplex IEEE 802.3x flow control
- Half duplex back pressure flow control
- Comprehensive LED support
- Supports MDI/MDI-X auto crossover
- Available in 128-pin PQFP package

System Level Applications

The KS8997 can be configured to fit in an eight port 10/100 application. The major benefits of using the KS8997 are the lower power consumption, unmanaged operation, flexible configuration, built in frame buffering, VLAN abilities and traffic priority control. An application is depicted below.



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