KS8998 – Octal 10/100 Switch with PHY

Introduction

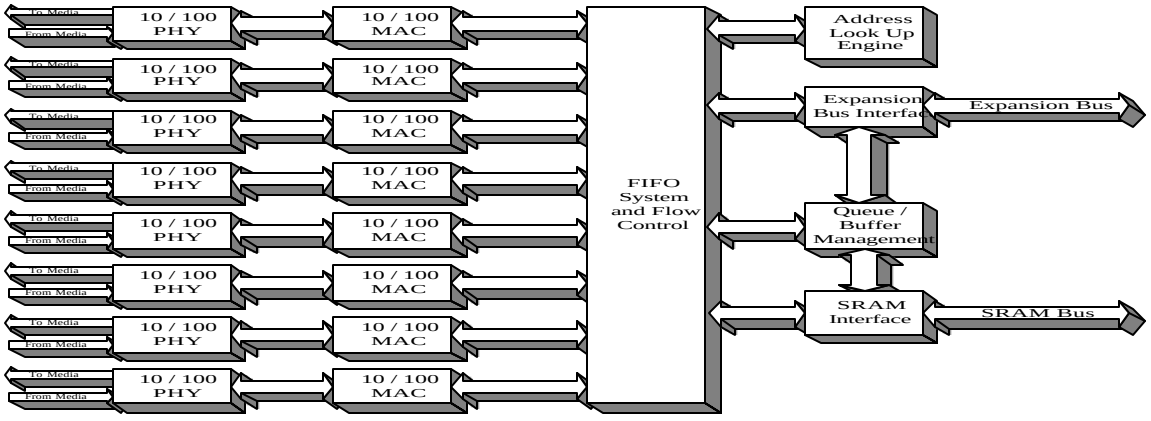
The KS8998 is an unmanaged 8-port 10/100 Fast Ethernet integrated switch controller with 8 built-in 10/100 Fast Ethernet physical layer transceivers. It has 2.4 Gbps inter-chip expansion capability. Along with the local switching feature, and 4.8 Gbps memory bandwidth for packets, up to 32 Fast Ethernet ports could be easily supported (non-blocking) with line rate traffic in a typical 30% local / 70% remote client-server environment. In the worst case scenario, the KS8998 can support up to 24 ports non-blocking.

The internal address look up engine supports absolute 4K MAC addresses. Address learning, address aging, and address migration are done automatically by hardware. In multiple-chip switch environments, all the MAC tables in the different KS8998 chips are synchronized by hardware to have the same table contents.

The KS8998 is fully 802.3 compliant and is designed for high performance. In the unmanaged mode users can select different KS8998 features simply by strapping (pull-up or pull-down) KS8998 I/O. A CPU port is also provided for more control.

Highlights

- 8 port 10/100 switch IC controller with built-in physical layer transceivers
- 4.8Gbps high performance memory bandwidth @ 75 MHz
- 2.4Gbps high performance Expansion Bus @ 75 MHz
- Supports up to 32 Fast Ethernet ports. Gigabit Ethernet support ready
- Shared buffer architecture, 512K or 1 M byte per chip.
- Supports 66/75 MHz 64Kx32, 64Kx64, 128Kx64 pipeline burst SSRAM
- Hardware based 10/100, full/half, flow control, auto negotiation, fiber mode
- Wire speed receiving and forwarding
- Supports local switching. Expansion Bus is used only when needed
- Integrated address Look-Up Engine, supports 4 K 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
- Supports port trunking and load sharing for high performance servers or inter switch links
- Dual supplies (2.5V for Switch Core; 3.3V for external SRAM interface)
- 2.7W typical power consumption, excluding TX output drive current (3.5W including TX output drive current)
- 329-pin BGA package (31 mm x 31 mm)



Kendin KS8998 Octal 10/100 Integrated Non-blocking Switch

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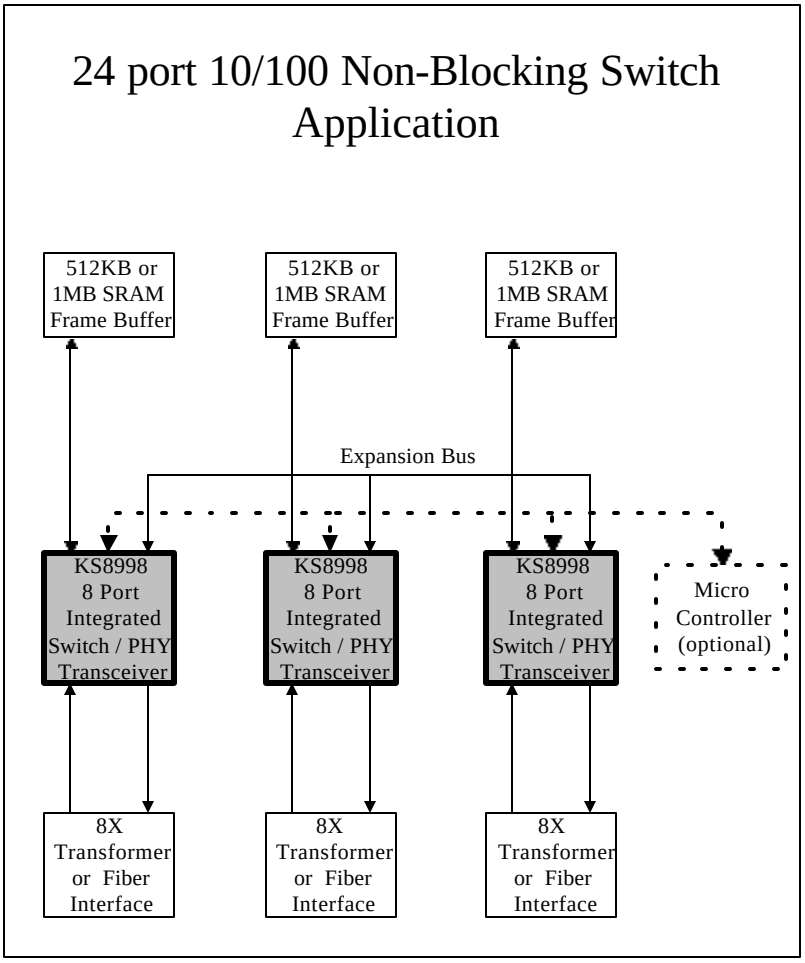
System Level Applications

The KS8998 is designed to fit into switch designs needing lower power requirements and fewer components. The KS8998 can easily displace larger and lower density components used in the past. This space and power savings can be used to provide additional ports or features in the same or reduced form factor. One example of how the KS8998 can be used is depicted below.



more information
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