

## 2-Port Ethernet Switch with Non-PCI Interface and 10B-FL / 100B-SX / 100B-FX Support

### Description

The KSZ8862-16MQL (or -32MQL) is the industry's first fully managed 2-port switch with a non-PCI CPU interface. It is similar to the KSZ8842-16MQL (or -32MQL) family, however port-1 supports fiber mode, while port-2 supports 10B-T / 100B-TX. It is based on a proven, 4th generation, integrated Layer 2 switch that is compliant to the IEEE 802.3u standard.

The KSZ8862-16MQL (or -32MQL) contains two 10/100 transceivers with patented mixed-signal low-power technology, two media access control (MAC) units and a direct memory access (DMA) channel, a high-speed non-blocking switch fabric, a dedicated 1K entry forwarding table, and an on-chip frame buffer memory. In fiber mode, the port-1 PHY can be configured to 100BASE-FX, 100BASE-SX, or 10BASE-FL fiber. Port-2 supports 10BASE-T and 100BASE-TX, which therefore makes the devices ideal for use in managed Media Converter

applications. An LED driver and post amplifier are also included on-chip for 10Base-FL applications, thus making for a very cost effective solution.

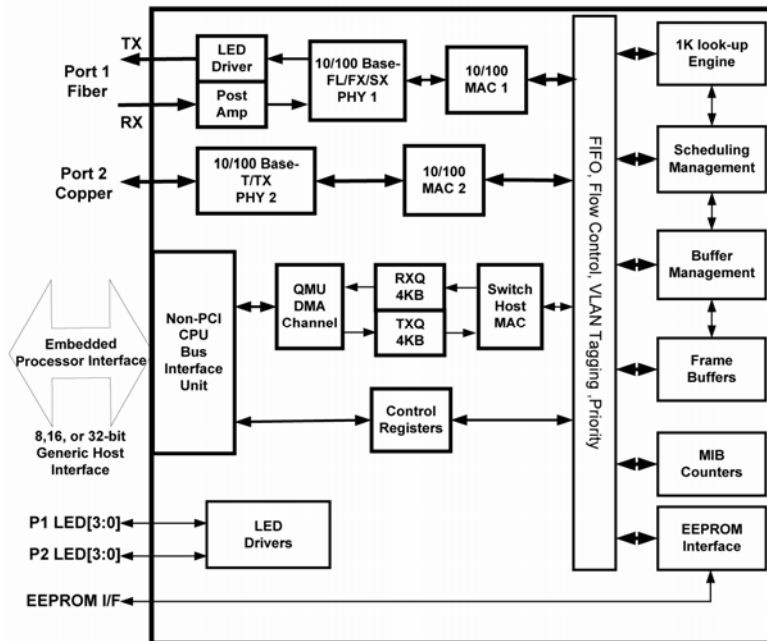
The KSZ8862-16MQL (or -32MQL) offers an extensive feature set that includes tag/port-based VLAN, QoS priority management, MAC filtering, MIB counters, and CPU control/data interfaces to effectively address both current and emerging Fast Ethernet applications.

Data sheets and support documentation can be found on Micrel's web site at [www.micrel.com](http://www.micrel.com).

### Applications

- Managed Media Converters
- Ethernet Controllers with copper & Fiber requirements
- Legacy 10B-FL applications

### Block Diagram



KSZ8862-16MQL or KSZ8862-32MQL Block Diagram

Features	Benefits
<ul style="list-style-type: none"> <li>Integrated LED driver and post amplifier</li> </ul>	<ul style="list-style-type: none"> <li>Enable usage of low cost "sugar cube" optical modules</li> </ul>
<ul style="list-style-type: none"> <li>Advanced PHY technology with LinkMD</li> </ul>	<ul style="list-style-type: none"> <li>TDR based cable diagnostic for simplified IT services</li> </ul>
<ul style="list-style-type: none"> <li>Packet prioritization support <ul style="list-style-type: none"> <li>Per-port, 802.1p and DiffServ based</li> <li>Re-mapping of 802.1p priority field per-port basis</li> <li>Four priority levels</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Enables latency critical applications to transport network traffic with minimal interruption. Per-port re-mapping enforces priority policies by overriding packet embedded priority levels.</li> <li>Triple play (voice, video, data) application ready</li> </ul>
<ul style="list-style-type: none"> <li>802.1q VLAN support for up to 16 groups. Tag/untag on a per-port basis</li> </ul>	<ul style="list-style-type: none"> <li>Secures and segregates network traffic. Full range of VLAN IDs supported.</li> </ul>
<ul style="list-style-type: none"> <li>Advanced switch features <ul style="list-style-type: none"> <li>Programmable priority based ingress and egress rate limiting</li> <li>Broadcast storm protection with % control</li> <li>802.1d Spanning Tree Protocol support</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Shape/protect traffic and enable redundancy <ul style="list-style-type: none"> <li>Allows creation of bandwidth-based tiered services, optimizes bandwidth based on applications</li> <li>Guard against denial of service attacks</li> <li>Resolve loops, permit redundancy</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Switch management <ul style="list-style-type: none"> <li>Port mirroring/monitoring/sniffing: ingress and/or egress traffic to any port or MII, 34 MIB counters per port</li> <li>IGMP snooping (IPv4) and MLD snooping (IPv6)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive remote management capability enables complete view of network activity.</li> </ul>
<ul style="list-style-type: none"> <li>Generic Bus Support <ul style="list-style-type: none"> <li>8 or 16-bit generic host bus connectivity to FPGA or microprocessors (KSZ8862-16MQL)</li> <li>32-bit generic host bus connectivity to FPGA or microprocessors (KSZ8862-32MQL)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Ability to interface with wide variety of devices <ul style="list-style-type: none"> <li>Connectivity to CPU/EEPROM for managed operation.</li> <li>On the fly configuration of switch/PHY operating parameters</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Optimized power modes <ul style="list-style-type: none"> <li>Full-chip hardware power-down, port-based software power save mode</li> <li>Lead-free packages</li> <li>Single 3.3V Supply</li> <li>Compact 128-pin PQFP</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Choose best package/power option for each environment <ul style="list-style-type: none"> <li>Avg. power consumption of &lt;400 mW. Ideal for low-power applications, increased reliability</li> <li>Environmentally friendly</li> <li>Simplified Power supply requirements</li> <li>Ability to operate in harsh environments</li> <li>Suitable for space constrained applications</li> </ul> </li> </ul>

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