

## 3.3V 10/100BASE-TX/FX Physical Layer Transceiver

### Description

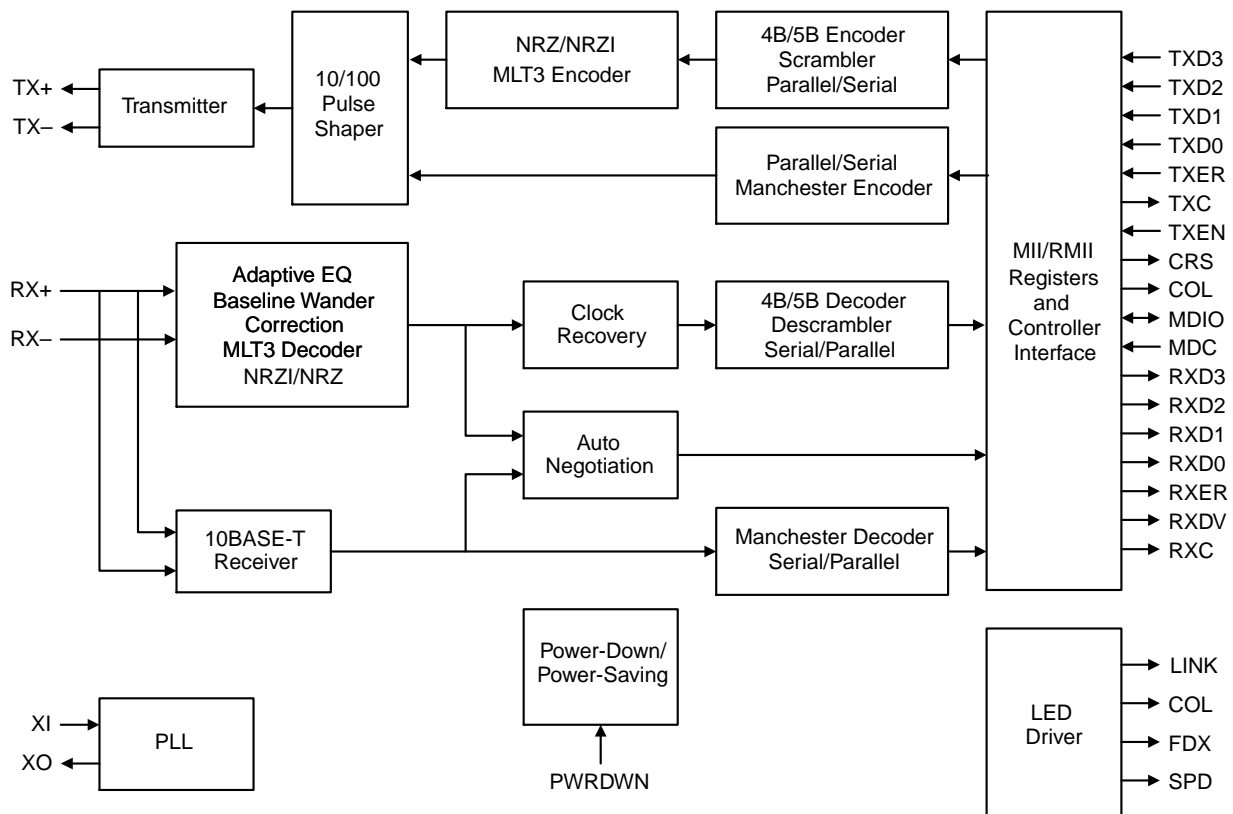
The KS8721BL/SL is a 10BASE-T, 100BASE-TX, and 100BASE-FX physical layer transceiver providing MII/RMII interfaces to MACs and switches. Using a unique mixed-signal design that extends signaling distance while reducing power consumption, the KS8721BL/SL represents Micrel's fourth generation single-port Fast Ethernet PHY.

Micrel's architecture dissipates an ultra-low 275mW in power, including transmit output drivers. This translates to increased reliability while enabling deployment in today's power-sensitive applications. Multiple power-down modes, accessed via configuration pins or registers, allow further levels of power saving through manual selection or automatic detection of cable energy.

The KS8721BL/SL automatically configures itself for 100Mbps or 10Mbps and full- or half-duplex operation, using an on-chip auto-negotiation algorithm. Combined with Auto MDI/MDIX for automatic correction and detection of crossover and straight-through cables, the KS8721BL/SL provides an easy-to-use, high performance solution for 10BASE-T, 100BASE-TX, and 100BASE-FX applications.

For additional information, contact your local Micrel Field Application Engineer or salesperson.

### Block Diagram

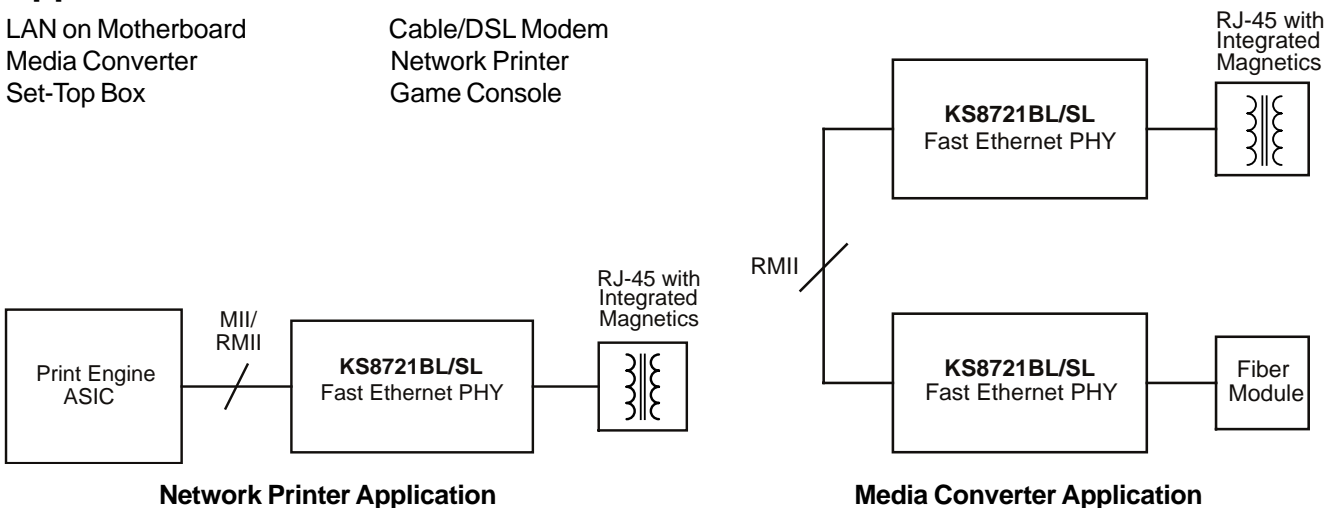


Features	Benefits
• Single chip 10BASE-T, 100BASE-TX, and 100BASE-FX physical layer solution	• Supports back-to-back operation for copper-to-fiber media converter applications.
• Fully compliant to IEEE802.3u standards	• Designed to operate with link partners at all speeds.
• Low-power CMOS design, power consumption	• Increased reliability, greater range of power-sensitive < 275mW (including output driver current) applications.
• Supports media independent interface (MII) and reduced MII (RMII)	• Flexible switch/MAC interfacing options. Optimized pin count interfaces lower cost through reduced trace/simplified routing.
• Delivers robust operation (130 meters+)	• Operation over the widest variety of cabling plants.
• Furnishes Auto MDI/MDI-X	• Automatic detection and correction for straight-through or crossover cables.
• Offers both power-down and power-saving modes	• Automatically shuts down upon cable removal extending battery life for mobile applications.
• Single 3.3V power supply	• Easy migration from earlier KS8721B/BT family members.
• Configurable through MII serial management ports or via external control pins	• Programmable in environments with and without CPU.
• Available in lead-free and industrial temperature versions	• Environmentally friendly and rugged.
• Offered in flexible package options	• KS8721BL in 48-pin LQFP for space-constrained and KS8721SL in mainstream 48-pin SSOP.

## Applications

LAN on Motherboard  
Media Converter  
Set-Top Box

Cable/DSL Modem  
Network Printer  
Game Console



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