



# DM9161BEP Product Brief

## 10/100 Mbps Fast Ethernet Physical Layer Single Chip Transceiver

July, 2007 Rev.1.0

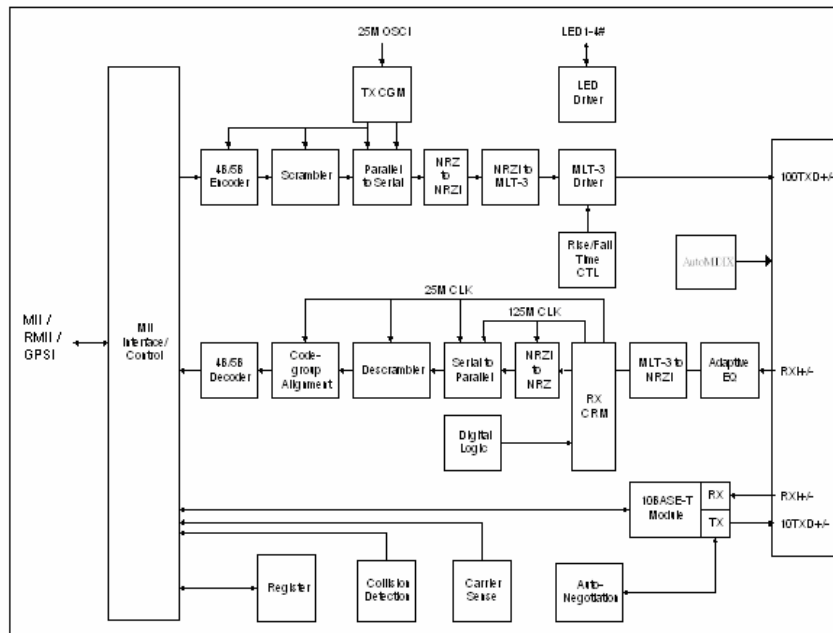
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The DM9161B is a physical layer, single-chip, and low power transceiver for 100BASE-TX and 10BASE-T operations. On the media side, it provides a direct interface either to Unshielded Twisted Pair Category 5 Cable (UTP5) for 100BASE-TX Fast Ethernet, or UTP5/UTP3 Cable for 10BASE-T Ethernet. Through the Media Independent Interface (MII), the DM9161B connects to the Medium Access Control (MAC) layer, ensuring a high interoperability from different vendors.

The DM9161B uses a low power and high performance advanced CMOS process. It contains the entire physical layer functions of 100BASE-TX as defined by IEEE802.3u, including the Physical Coding Sub layer (PCS), Physical Medium Attachment (PMA), Twisted Pair Physical Medium Dependent Sub layer (TP-PMD), 10BASE-TX Encoder/Decoder (ENC/DEC), and Twisted Pair Media Access Unit (TPMAU).

The DM9161B provides a strong support for the auto-negotiation function, utilizing automatic media speed and protocol selection. Furthermore, due to the built-in wave shaping filter, the DM9161B needs no external filter to transport signals to the media in 100BASE-TX or 10BASE-T Ethernet operation.

## Block Diagram



## Specifications

- Fully comply with IEEE 802.3 / IEEE 802.3u 10Base-T/ 100Base-TX, ANSI X3T12 TP-PMD 1995 standard
- Support HP MDI/MDI-X auto crossover function (HP Auto-MDIX)
- Support Auto-Negotiation function, compliant with IEEE 802.3u
- Fully integrated Physical layer transceiver On-chip filtering with direct interface to magnetic transformer
- Selectable repeater or node mode
- Selectable MII or RMII (Reduced MII) mode for 100Base-TX and 10Base-TX. Selectable MII or GPSI (7-Wired) mode for 10Base-T
- Selectable full-duplex or half-duplex operation

- MII management interface with mask able interrupt output capability
- Provide Loopback mode for easy system diagnostics
- LED status outputs indicate Link/ Activity, Speed10/100 and Full-duplex/Collision. Support Dual-LED optional control
- Single low power Supply of 3.3V with an advanced CMOS technology
- Very Low Power consumption modes:
  - Power Reduced mode (cable detection)
  - Power Down mode
  - Selectable TX drivers for 1:1 or 1.25:1 transformers for additional power reduction. 1: 1 transformers only when HP Auto-MDIX Enable.
- Compatible with 3.3V and 5.0V tolerant I/Os
- Pin to pin Compatible with DM9161A.
- DSP architecture PHY Transceiver.
- 48-pin LQFP 0,18um process

## Application

- VoIP CPE (ATA, IP Phone, Video Phone)
- IP STB, IPC, Internet Radio
- IP CAM, DVR, Router...

## Ordering Information

Part Number	Pin Count	Package
DM9161BEP	48	LQFP (Pb-free)

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