



1. Features

- Fully complies with IEEE 802.3 / IEEE 802.3u 10Base-T/ 100Base-TX, ANSI X3T12 TP-PMD 1995 standards
- 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 GPSSI (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
- Lower Power consumption modes:
 - o Power Reduced mode (cable detection)
 - o Power Down mode
 - o Selectable TX drivers for 1:1 or 1.25:1 transformers for additional power reduction. 1.25: 1 transformers only when HP Auto-MDIX Disable.
- Compatible with 3.3V and 5.0V tolerant I/Os
- Pin to pin Compatible with DM9161A/B
- DSP architecture PHY Transceiver.
- 48-pin LQFP- 0.18um process

2. General Description

DAVICOM's DM9161C is a physical layer, low power, and single-chip 10BASE-T/100BASE-TX transceiver specifically designed for consumer electronics, industrial, and enterprise applications. Through using a CMOS process, the DM9161C has the advantage of ensuring both high performance and savings in power consumption.

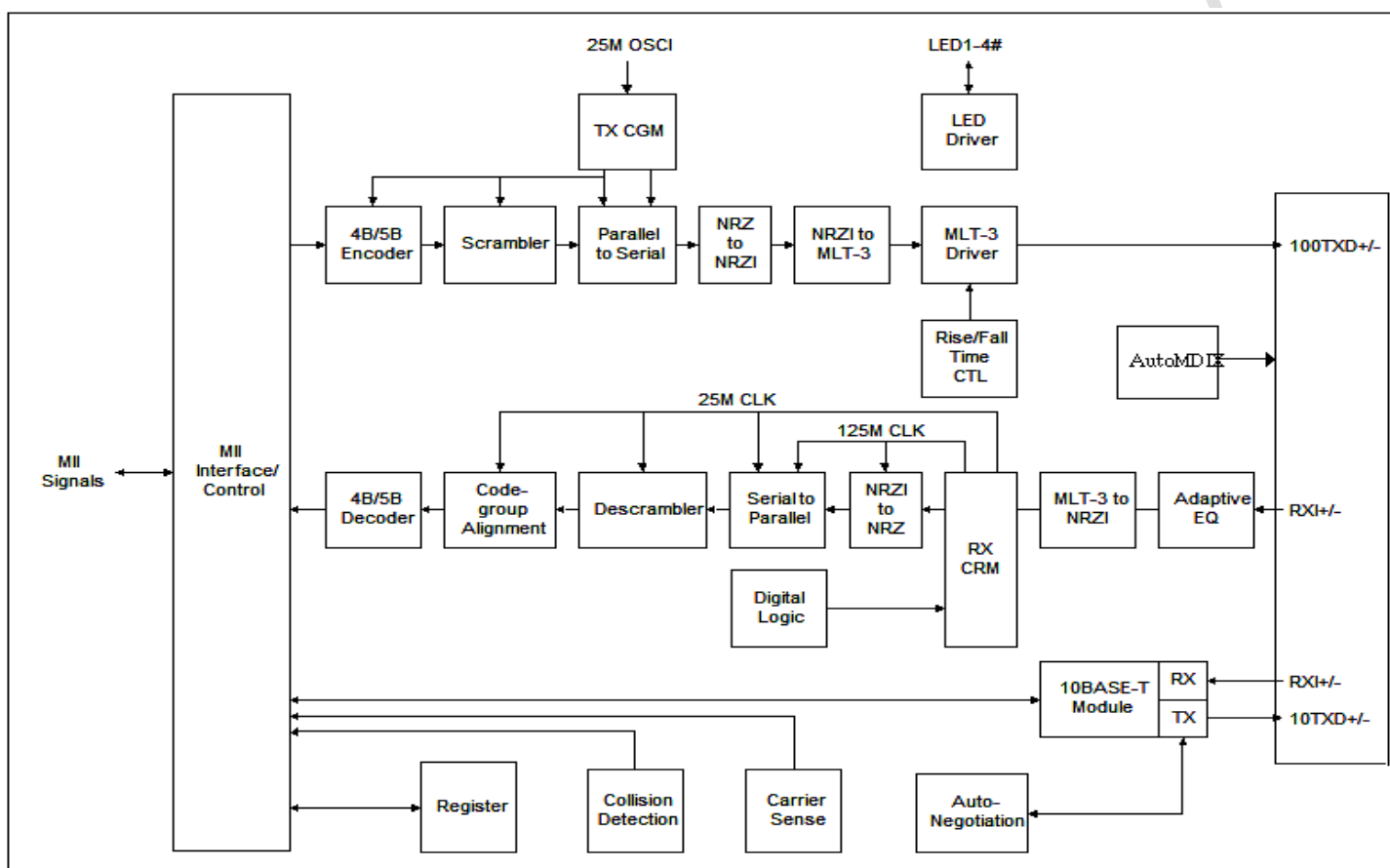
Through utilization of automatic media speed and protocol selection, the auto-negotiation function is strongly supported in the DM9161C. Then due to the built-in wave shaping filter, the DM9161C has a significant convenience of not requiring an external filter to transport signals to the media in 10BASE-T or 100BASE-TX during Ethernet operation.

Through its Media Independent Interface (MII), the DM9161C not only connects the Medium Access Control (MAC) layer, but the MII also ensure a high inter-operability and flexibility with different vendors. In media usage applications, the DM9161C provides a direct interface either to an Unshielded Twisted Pair Category 5 Cable (UTP5) for 100BASE-TX Fast Ethernet, or an UTP5/UTP3 Cable for 10BASE-T Ethernet. The DM9161C contains the entire physical layer functions of 100BASE-TX. Those physical layer functions are defined by IEEE802.3u include 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).

3. Applications

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

4. Block Diagram



5. Order Information

Part Number	Pin Count	Package
DM9161CEP	48	LQFP

DAVICOM Semiconductor, Inc.

No.6, Li-Hsin Rd.VI, Science Park, Hsin-Chu, Taiwan, R.O.C.

TEL: 886-3-5798797

FAX: 886-3-5646929

E-mail: sales@davicom.com.tw