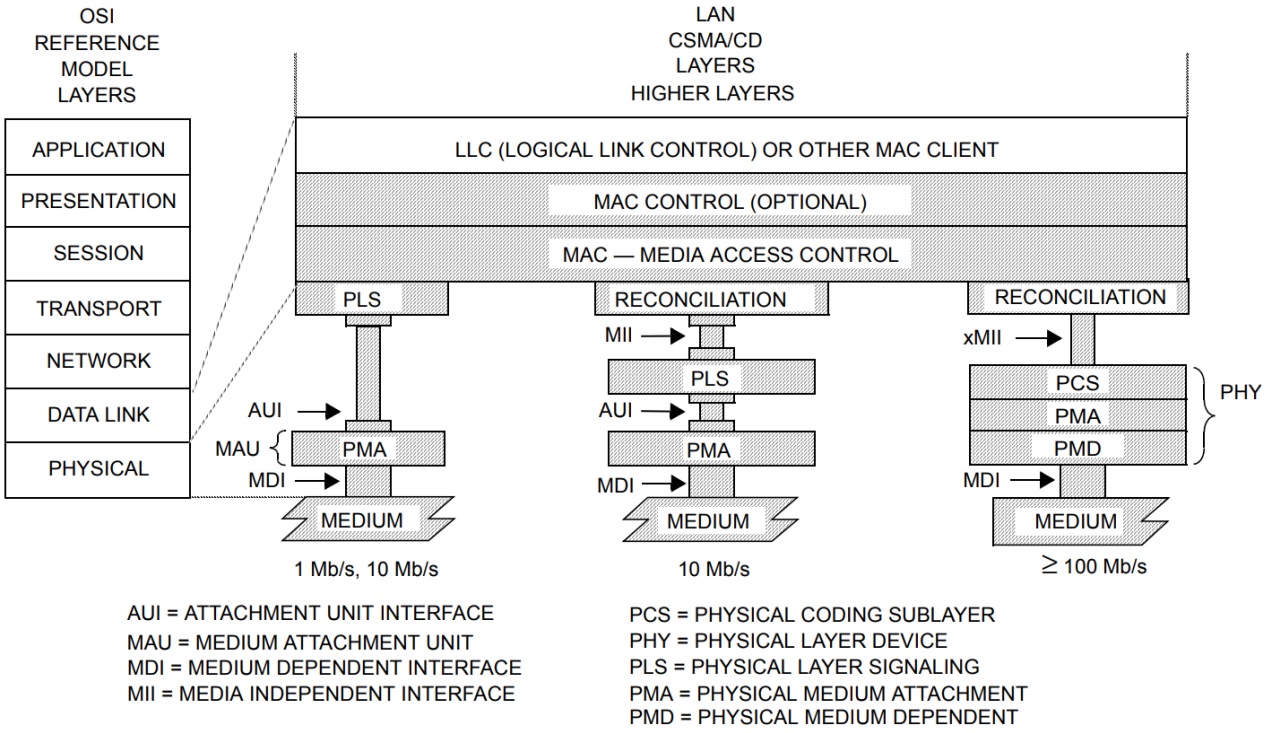
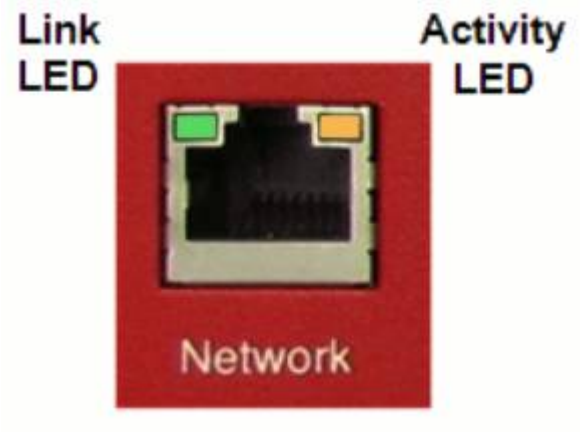
Содержание

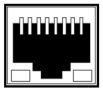
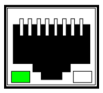
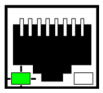
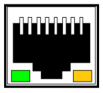
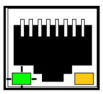
Ethernet

http://iommu.com/datasheets/ Доки



RJ45 LEDS



	**Off.** No Ethernet link present.
	**Solid Green LED.** Ethernet link present.
	**Flashing Green LED.** Passing Ethernet traffic.
	**Solid Orange LED.** Gigabit Ethernet link present.
	**Solid Orange LED with Flashing Green LED.** Gigabit Ethernet link present with passing Ethernet traffic.

Common RJ45 LED Color Meanings:

- Left LED (Link/Activity):
  - Solid Green: Valid network link detected.
  - Blinking Green/Yellow: Data is actively transmitting/receiving.
  - Off: No link or connection detected.
- Right LED (Speed):
  - Off: 10 Mbps connection.
  - Green: 100 Mbps connection.
  - Amber/Yellow: 1000 Mbps (Gigabit) connection.
- Alternative High-Speed Signaling:
  - Blue/Red: Occasionally used for 10 Gbps and above.

Medium Dependent Interfaces (MDI)

To communicate in a compatible manner, all stations shall adhere rigidly to the exact specification of physical media signals defined in the appropriate clauses in this standard, and to the procedures that define correct behavior of a station. The medium-independent aspects of the LLC sublayer and the MAC sublayer should not be taken as detracting from this point; communication in an Ethernet Local Area Network requires complete compatibility at the Physical Medium interface (that is, the physical cable interface).

Attachment Unit Interface (AUI)

Some DTEs are located some distance from their connection to the physical cable. A small amount of circuitry will exist in the Medium Attachment Unit (MAU) directly adjacent to the physical cable, while the majority of the hardware and all of the software will be placed within the DTE. The AUI is defined as a second compatibility interface. While conformance with this interface is not strictly necessary to ensure communication, it is recommended, since it allows maximum flexibility in intermixing MAUs and DTEs. The AUI may be optional or not specified for some implementations of this standard that are expected to be connected directly to the medium and so do not use a separate MAU or its interconnecting AUI cable. The PLS and PMA

are then part of a single unit, and no explicit AUI implementation is required.

Media Independent Interface (MII)

It is anticipated that some DTEs will be connected to a remote PHY, and/or to different medium dependent PHYs. The MII is defined as a third compatibility interface. While conformance with implementation of this interface is not strictly necessary to ensure communication, it is recommended, since it allows maximum flexibility in intermixing PHYs and DTEs. The MII is optional.

MAC<>PHY

MII

RMII

Gigabit Media Independent Interface (GMII)

The GMII is designed to connect a 1 Gb/s capable MAC or repeater unit to a 1 Gb/s PHY. While conformance with implementation of this interface is not strictly necessary to ensure communication, it is recommended, since it allows maximum flexibility in intermixing PHYs and DTEs at 1 Gb/s speeds. The GMII is intended for use as a chip-tochip interface. No mechanical connector is specified for use with the GMII. The GMII is optional.

RGMII

SGMII

10 Gigabit Attachment Unit Interface (XAUI)

The XAUI is designed to extend the connection between a 10 Gb/s capable MAC and a 10 Gb/s PHY. While conformance with implementation of this interface is not necessary to ensure communication, it is recommended, since it allows maximum flexibility in intermixing PHYs and DTEs at 10 Gb/s speeds. The XAUI is intended for use as a chip-to-chip interface. No mechanical connector is specified for use with the XAUI. The XAUI is optional.

10 Gigabit Media Independent Interface (XGMII)

The XGMII is designed to connect a 10 Gb/s capable MAC to a 10 Gb/s PHY. While conformance with implementation of this interface is not necessary to ensure communication, it allows maximum flexibility in intermixing PHYs and DTEs at 10 Gb/s speeds. The XGMII is intended for use as a chip-to-chip interface. No mechanical connector is specified for use with the XGMII. The XGMII is optional.

40 Gigabit Media Independent Interface (XLGMII)

The XLGMII is designed to connect a 40 Gb/s capable MAC to a 40 Gb/s PHY. While conformance with implementation of this interface is not necessary to ensure communication, it allows flexibility in intermixing PHYs and DTEs at 40 Gb/s speeds. The XLGMII is a logical interconnection intended for use as an intra-chip interface. No mechanical connector is specified

for use with the XLGMII. The XLGMII is optional.

100 Gigabit Media Independent Interface (CGMII)

The CGMII is designed to connect a 100 Gb/s capable MAC to a 100 Gb/s PHY. While conformance with implementation of this interface is not necessary to ensure communication, it allows flexibility in intermixing PHYs and DTEs at 100 Gb/s speeds. The CGMII is a logical interconnection intended for use as an intra-chip interface. No mechanical connector is specified for use with the CGMII. The CGMII is optional.

PMA Interface

40 Gigabit Attachment Unit Interface (XLAUI)

The XLAUI is a physical instantiation of the PMA service interface to extend the connection between 40 Gb/s capable PMAs. While conformance with implementation of this interface is not necessary to ensure communication, it is recommended, since it allows maximum flexibility in intermixing PHYs and DTEs at 40 Gb/s speeds. The XLAUI is intended for use as a chip-to-chip or a chip-to-module interface. No mechanical connector is specified for use with the XLAUI. The XLAUI is optional.

100 Gigabit Attachment Unit Interface (CAUI)

The CAUI is a physical instantiation of the PMA service interface to extend the connection between 100 Gb/s capable PMAs. While conformance with implementation of this interface is not necessary to ensure communication, it is recommended, since it allows maximum flexibility in intermixing PHYs and DTEs at 100 Gb/s speeds. The CAUI is intended for use as a chip-to-chip or a chip-to-module interface. No mechanical connector is specified for use with the CAUI. The CAUI is optional.

Ten-bit Interface (TBI)

The TBI is provided by the 1000BASE-X PMA sublayer as a physical instantiation of the PMA service interface. The TBI is recommended for 1000BASE-X systems, since it provides a convenient partition between the high-frequency circuitry associated with the PMA sublayer and the logic functions associated with the PCS and MAC sublayers. The TBI is intended for use as a chip-to-chip interface. No mechanical connector is specified for use with the TBI. The TBI is optional.

RTBI

10 Gigabit Sixteen-Bit Interface (XSBI)

The XSBI is provided as a physical instantiation of the PMA service interface for 10GBASE-R and 10GBASE-W PHYs. While conformance with implementation of this interface is not necessary to ensure communication, it provides a convenient partition between the high-frequency circuitry associated with the PMA sublayer and the logic functions associated with the PCS and MAC sublayers. No mechanical connector is specified for use with the XSBI. The XSBI is optional.

PMD Interface

40 Gigabit Parallel Physical Interface (XLPPI)

The XLPPI is provided as a physical instantiation of the PMD service interface for 40GBASE-SR4 and 40GBASE-LR4 PMDs. The XLPPI has four lanes. While conformance with implementation of this interface is not necessary to ensure communication, it allows flexibility in connecting the 40GBASE-SR4 or 40GBASE-LR4 PMDs. The XLPPI is intended for use as a chip-to-module interface. No mechanical connector is specified for use with the XLPPI. The XLPPI is optional.

100 Gigabit Parallel Physical Interface (CPPI)

The CPPI is provided as a physical instantiation of the PMD service interface for 100GBASE-SR10 PMDs. The CPPI has ten lanes. While conformance with implementation of this interface is not necessary to ensure communication, it allows flexibility in connecting the 100GBASE-SR10 PMDs. The CPPI is intended for use as a chip-to-module interface. No mechanical connector is specified for use with the CPPI. The CPPI is optional.

- 1Gb
- 10Gb/25Gb/40Gb/100Gb
- 10Mb
- 100Mb
- IEEE1588
- Synchronous Internet (Sync-E)