



**CORTINA**

**Product Brief**

**Cortina Systems® LXT9785 and LXT9785E 8-Port 10/100 Transceivers**

**Product Description**

Demand for high-performance network applications requiring lower power is growing rapidly in today's marketplace. Cortina Systems, Inc. (Cortina™) continues the commitment to its Ethernet product family with the Cortina Systems® LXT9785 and LXT9785E 8-Port 10/100 PHY transceivers (LXT9785 and LXT9785E transceivers). The LXT9785 simplifies multi-port switch design through low power, previous-generation register compatibility, and multiple interfaces. The LXT9785 transceiver complies with applicable requirements of IEEE 802.3\* standards and demonstrates superior Ethernet performance with operation using cable length of up to 200 meters.

The LXT9785 and LXT9785E transceivers are identical except for IP telephony features included in the LXT9785E transceiver. The LXT9785E transceiver is an enhanced version of the LXT9785 transceiver that detects data terminal equipment (DTE) and is capable of being powered remotely from a VoIP-enabled switch over a category 5 cable. The switch system can use the information collected by the LXT9785E transceiver to apply power over the cable whenever a link partner such as an IP telephone requires it. The LXT9785E transceiver offers an easy-to-use solution for equipment manufacturers designing VoIP systems that need to be as robust as typical PBX-based telephone systems.

**Low-Power Fast Ethernet Applications**

- Ethernet switches
  - VoIP enabled Ethernet switches (LXT9785E transceiver)
- Storage area network equipment

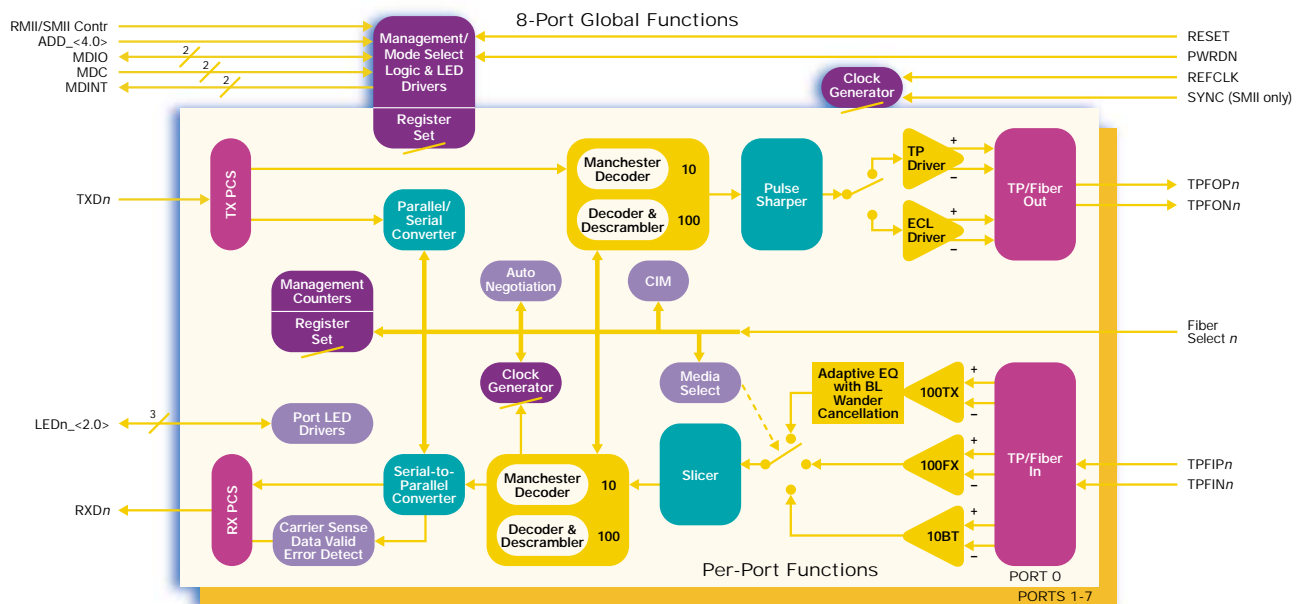
**The Cortina Advantage**

Cortina brings knowledge and expertise to meeting the need for a low-power transceiver with network management features that:

- Provide three interfaces in one device: RMII, SMII, and SS-SMII
- Utilize auto MDI/MDIX to make network installation easier through automatic cable configuration
- Sectionalize the management data input/output (MDIO) interface which enables the PHY to operate with x4 and x8 MAC architectures

**Carrier Class Ethernet (LXT9785 transceiver only)**

Carrier Class Ethernet products from Cortina support operation over the entire extended temperature range while providing features that increase reliability. Each device has an operation lifetime of at least 10 years with less than 100 failures per billion hours.



**LXT9785 and LXT9785E Transceivers Block Diagram**

Features	Benefits
<ul style="list-style-type: none"> <li>• Eight independent IEEE 802.3*-compliant 10/100 ports <ul style="list-style-type: none"> <li>- 10BASE-T</li> <li>- 100BASE-TX (FX)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Simplifies designs and reduces board space</li> </ul>
<ul style="list-style-type: none"> <li>• DTE discovery enables IP telephones to be powered remotely via a category five cable (LXT9785E transceiver)</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminates the need for a power supply to the phone</li> <li>• Increases reliability of VoIP phone systems</li> </ul>
<ul style="list-style-type: none"> <li>• Very low power - 250 mW per port typical</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces system cost and power</li> </ul>
<ul style="list-style-type: none"> <li>• 2.5 V operation</li> </ul>	<ul style="list-style-type: none"> <li>• Enables system design using a single voltage</li> </ul>
<ul style="list-style-type: none"> <li>• Multiple interfaces <ul style="list-style-type: none"> <li>- Reduced MII</li> <li>- Serial MII</li> <li>- SS-SMII</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Provides system design flexibility <ul style="list-style-type: none"> <li>- Familiar interface</li> <li>- Lowest pin-count interface</li> <li>- Easy-to-use interface in high-port-count designs</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Robust baseline wander correction</li> </ul>	<ul style="list-style-type: none"> <li>• Offers consistent error-free line performance</li> </ul>
<ul style="list-style-type: none"> <li>• Auto MDI/MDIX</li> </ul>	<ul style="list-style-type: none"> <li>• Enables automatic correction of crossed cables</li> </ul>
<ul style="list-style-type: none"> <li>• 10/100 Mbps full-duplex operation</li> </ul>	<ul style="list-style-type: none"> <li>• Provides simultaneous data transmit/receive</li> </ul>
<ul style="list-style-type: none"> <li>• Sectionalization into 1x8 or 2x4 configurations</li> </ul>	<ul style="list-style-type: none"> <li>• Allows flexibility with (x4, x8, x12) MACs and ASICs</li> </ul>
<ul style="list-style-type: none"> <li>• Register compatibility with LXT9781, LXT9782</li> </ul>	<ul style="list-style-type: none"> <li>• Minimizes software changes to improve time-to-market</li> </ul>
<ul style="list-style-type: none"> <li>• Configurable via MDIO port or external control pins</li> </ul>	<ul style="list-style-type: none"> <li>• Enables operation in managed and unmanaged applications</li> </ul>
<ul style="list-style-type: none"> <li>• JTAG boundary scan</li> </ul>	<ul style="list-style-type: none"> <li>• Helps improve manufacturing reliability</li> </ul>
<ul style="list-style-type: none"> <li>• Compatible with 2.5 V I/O and 3.3 V I/O</li> </ul>	<ul style="list-style-type: none"> <li>• Provides flexible operation with several generations of MAC/switch products</li> </ul>
<ul style="list-style-type: none"> <li>• Integration of input termination resistors</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces external components, providing lower system cost</li> </ul>
<ul style="list-style-type: none"> <li>• Carrier Class Ethernet support for the LXT9785 transceiver offers extended temperature (-40 °C to +85 °C) performance and additional features</li> </ul>	<ul style="list-style-type: none"> <li>• Enables operation in harsh environments</li> </ul>

## Cortina in Communications

Cortina is a leading supplier of intelligent communication solutions through continuous innovations in advanced port processing and intelligent port connectivity to the Core, Metro, Access and Enterprise Market Segments. With our state-of-the-art high speed analog digital integration, we deliver a wide suite of products that address our customers'

performance, density and flexibility needs enabling faster time-to-market, longer time-in-market, and increased revenue opportunities. Working closely with our customers to understand their system requirements and anticipate their needs, we are creating the foundation ingredients for new generations of services.

\*Other names and brands may be claimed as the property of others.



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