



## High Performance Twisted Pair Communication PHYceiver™

### General Description

The **ICS1888** is an integrated PHY interface solution providing a complete UTP/STP to UNI (User Network Interface) solution for SONET, ATM and B-ISDN like communication over CAT-5 type cable. The ICS1888 is designed to provide high performance adaptive equalization, clock recovery and data regeneration for 155.52 Mb/s serial NRZ data streams.

The **ICS1888** is capable of receiving and transmitting 155.52 Mb/s NRZ data rates over Category 5 UTP/STP (Un-shielded Twisted Pair/ShieldedTP) cables at up to distances of 100 meters. The internal adaptive equalizer corrects for any phase or amplitude distortion.

A continuous clock source will continue to be present even in the absence of input data. All internal timing is derived from a low cost crystal or either a differential or single-ended timing source.

The **ICS1888** utilizes advanced CMOS phase-locked loop technology which combines high performance and low power at a greatly reduced cost.

### Features

- Adaptive equalization with clock recovery
- Interfaces to Category 5 STP/UTP cables
- Data regeneration and clock recovery for:  
**155.52 MHz (STS-3/OC-3)**
- Clock multiplication from either a crystal, differential or single-ended timing source
- Continuous clock in the absence of data
- No external PLL components required
- Lock/Loss status indicator output
- Loopback mode for system diagnostics
- Selectable looptiming mode
- PECL Drivers with settable sink current
- Low power CMOS technology
- Consult ICS for optional data rates and coding

### Block Diagram

