

Am7961

StarLAN Coded Data Transceiver

PRELIMINARY

DISTINCTIVE CHARACTERISTICS

- Single-Chip Transceiver for StarLAN Networks (proposed IEEE 802.3 1BASE5 specification)
- Direct interface to Am7990, 82586, 82588, and 68802 LAN controllers
- Digital Receiver Noise Filter
- Manchester encoder/decoder may be disabled by an external control pin (MAN)
- External pin selects two different receiver input thresholds (± 700 mV or ± 300 mV)
- Multipoint Extension (Daisychain) Collision Detection circuit
- Transmit slew rate controlled with a single external resistor
- Optional Fault Detection Modes
 - Transmit Jabber Control
 - Abort On No Receive of carrier after transmit
 - Loopback testing capability
- Oscillator Circuit
 - Can be driven by a Crystal or External Clock
 - 8-MHz Output Clock is provided to drive LAN Controller and System Clock (no LAN Controller Crystal required)
- Fault Detection Output (PL) will drive an LED
 - Indicates that Jabber or Abort On No Receive timers have expired

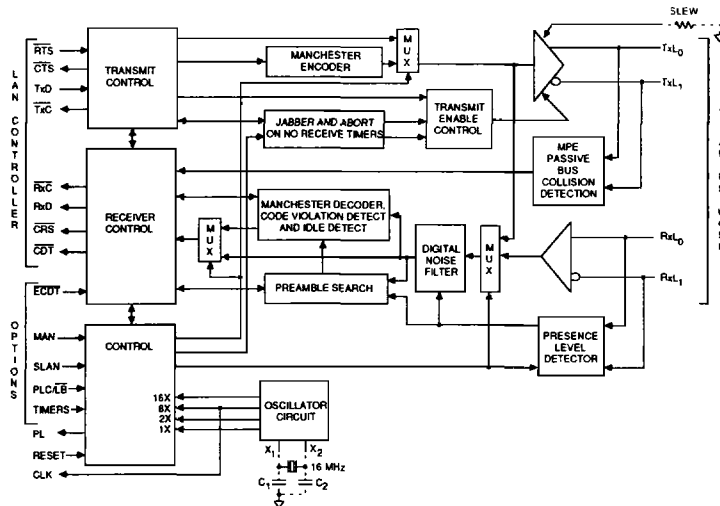
GENERAL DESCRIPTION

The Am7961 is a single-chip transceiver which meets all physical layer requirements specified by the StarLAN network standard (proposed IEEE 802.3 1BASE5 specification). This +5-V device directly interfaces to most Local Area Network (LAN) Controllers. The StarLAN Coded Data Transceiver (SCDT) has two major operating modes: Manchester encoder and decoder active, or Manchester encoder and decoder bypassed. This means the SCDT can operate with Manchester-formatted data or as a simple transceiver. In either mode, the transmit slew rate and receiver presence level may be adjusted by external control pins. The SCDT has an internal digital receive filter which

removes the need for external discrete filters. The SCDT is guaranteed to drive StarLAN transmit voltage levels of 2 V minimum and 3.65 V maximum into IEEE 802.3 1BASE5 heavy and light loads. This allows the SCDT to drive StarLAN hubs or operate in Multipoint Extension (daisy-chain) mode without a StarLAN Hub.

Used with two StarLAN isolation transformers and a LAN controller, the Am7961 is a complete solution which operates between a personal computer bus and a StarLAN network. This network is intended for office environments with either installed telephone wire or with user-installed twisted-pair wire.

BLOCK DIAGRAM



BD007150

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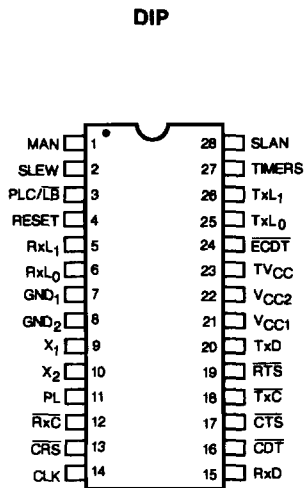
Publication # Rev. Amendment
09110 D /0
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RELATED AMD PRODUCTS

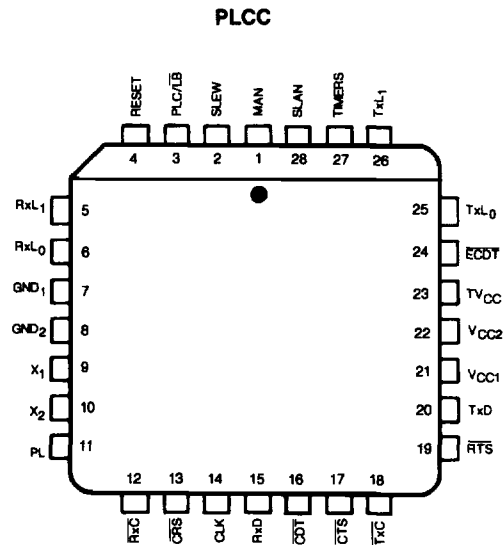
Part No.	Description
Am7960	Coded Data Transceiver
Am7990	Local Area Network Controller for Ethernet
Am7992B	Serial Interface Adapter
Am7996	Ethernet Transceiver
AmZ8530	Serial Communications Controller
Am79C900	Integrated Local Area Communications Controller

CONNECTION DIAGRAMS

Top View



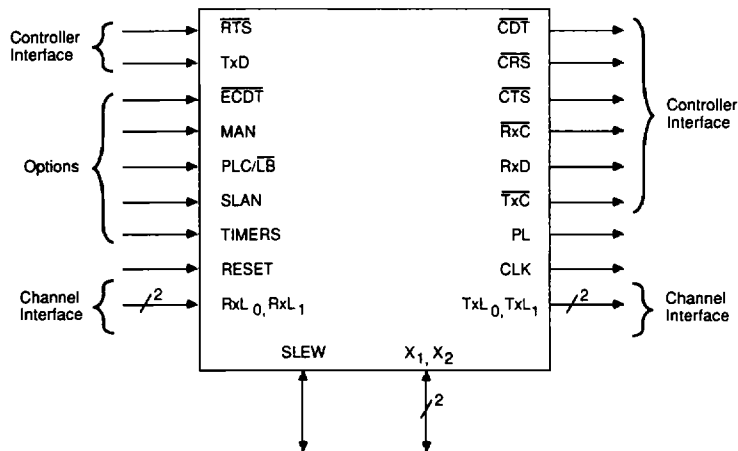
CD010571



CD010580

Note: Pin 1 is marked for orientation.

LOGIC SYMBOL



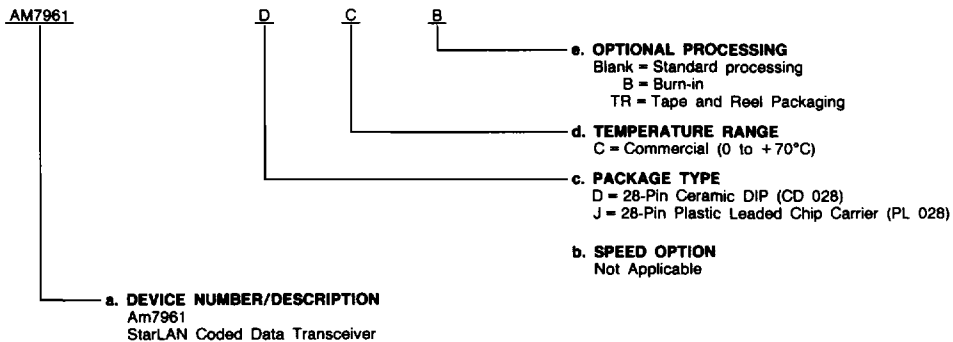
LS002980

ORDERING INFORMATION

Standard Products

AMD standard products are available in several packages and operating ranges. The order number (Valid Combination) is formed by a combination of:

- a. Device Number
- b. Speed Option (if applicable)
- c. Package Type
- d. Temperature Range
- e. Optional Processing



Valid Combinations	
AM7961	DC, DCB, JC, JCB, JCTR

Valid Combinations

Valid Combinations list configurations planned to be supported in volume for this device. Consult the local AMD sales office to confirm availability of specific valid combinations, to check on newly released combinations, and to obtain additional data on AMD's standard military grade products.