

# Am7996

IEEE-802.3/Ethernet/Cheapernet Transceiver

T-75-49

## PRELIMINARY

### DISTINCTIVE CHARACTERISTICS

- Compatible with Ethernet Version 2 and IEEE-802.3 10Base5 (Type A) and 10Base2 (Type B) specifications
- Pin-selectable SQE Test (Heartbeat) option
- Internal Jabber Controller prevents excessive transmission time
- Noise rejection filter ensures only valid data is transmitted onto network
- Collision detection on both transmit and receive data
- Collision detect threshold levels adjustable for other networking applications

### GENERAL DESCRIPTION

The Am7996 IEEE-802.3/Ethernet/Cheapernet Transceiver supports Ethernet Version 2, IEEE-802.3 (Type A), and IEEE-802.3 (Type B - Cheapernet) transceiver applications. Transmit, receive, and collision detect functions at the coaxial media interface to the Data Terminal Equipment (DTE) are all performed by this single device.

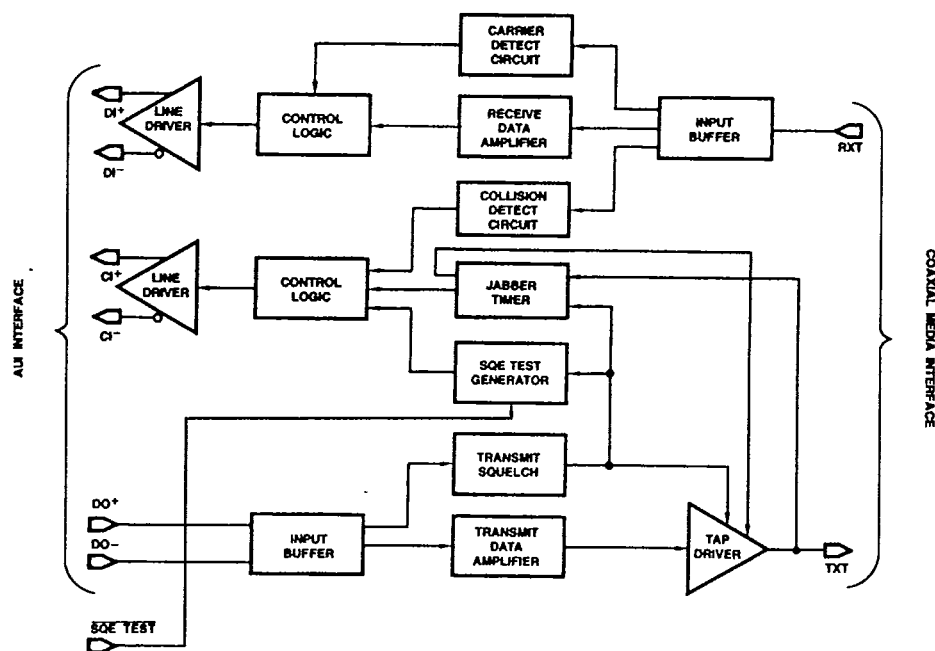
In an IEEE-802.3 (Type A)/Ethernet application, the Am7996 interfaces the coaxial (0.4" diameter) media to the DTE through an isolating pulse transformer and the 78- $\Omega$  Attachment Unit Interface (AUI) cable. In IEEE-802.3 Type B - Cheapernet applications, the Am7996 typically resides inside the DTE with its signals to the DTE isolated and the coaxial (0.2" diameter) media directly connected to the

DTE. Transceiver power and ground in both applications are isolated from that of the DTE.

The Am7996's Tap Driver provides controlled skew and current drive for data signalling onto the media. The Jabber Controller prevents the node from transmitting excessively. While transmitting, collisions on the media are detected if one or more additional stations are transmitting.

The Am7996 features an optional SQE Test function that provides a signal on the *CI* pair at the end of every transmission. The SQE Test indicates the operational status of the *CI* pair to the DTE. It can also serve as an acknowledgement to the node that packet transmission onto the coax was completed.

### BLOCK DIAGRAM



BD005820

To receive complete data sheet,  
order publication number at right

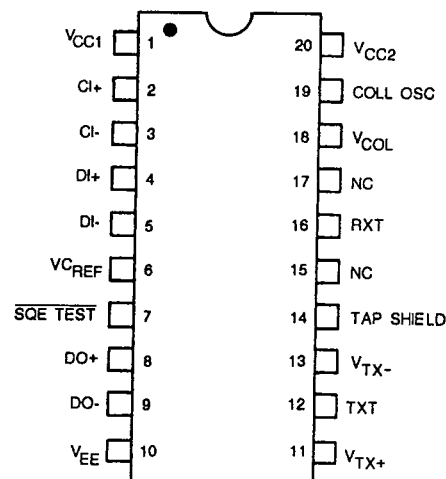
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Publication #	Rev.	Amendment
07506	C	/0
Issue Date: March 1989		

### RELATED PRODUCTS

Part No.	Description
Am7990	Local Area Network Controller for Ethernet (LANCE)
Am7992B	Serial Interface Adapter (SIA)
Am79C900	Integrated Local Area Communications Controller

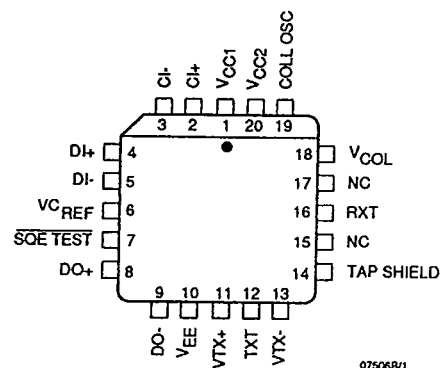
### CONNECTION DIAGRAM



CD009070

Note: Pin 1 is marked for orientation.  
NC = No Connection

### PLCC



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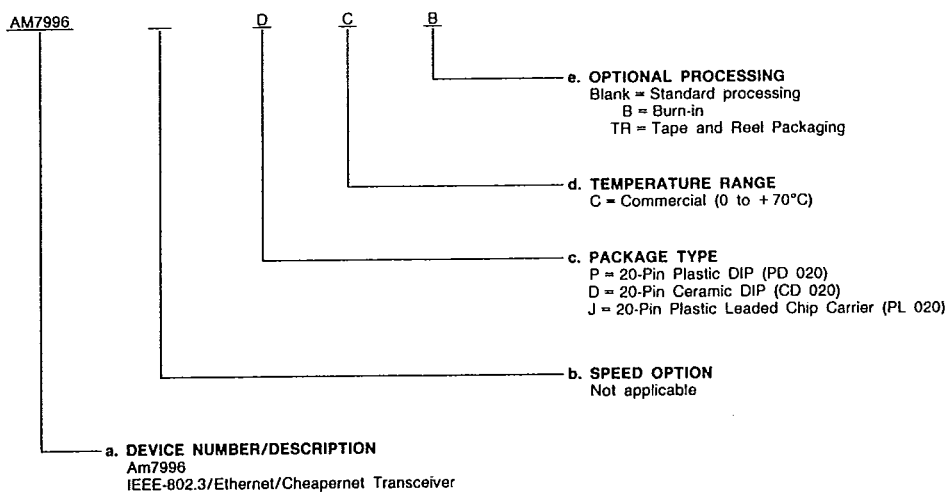
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## ORDERING INFORMATION

## Standard Products

AMD 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	
AM7996	PC, PCB, DC, DCB, JC, JCB, JCTR

## Valid Combinations

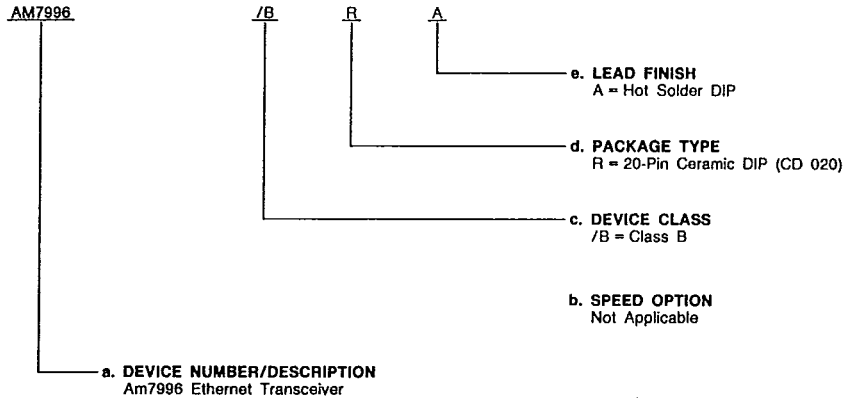
Valid combinations list configurations planned to be supported in volume for this device. Consult the local AMD sales office to confirm availability of specific valid combinations, to check on newly released valid combinations, and to obtain additional data on AMD's standard military grade products.

ORDERING INFORMATION (Cont'd.)

APL Products

AMD products for Aerospace and Defense applications are available in several packages and operating ranges. APL (Approved Products List) products are fully compliant with MIL-STD-883C requirements. The order number (Valid Combination) for APL products is formed by a combination of:

- a. Device Number
- b. Speed Option (if applicable)
- c. Device Class
- d. Package Type
- e. Lead Finish



Valid Combinations	
AM7996	/BRA

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 or to check for newly released valid combinations.

Group A Tests

Group A tests consist of Subgroups  
1, 2, 3, 7, 8, 9, 10, 11.

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