



ETHERNET CONTROLLERS PRODUCT MATRIX

PCnet™ FAMILY



Product Name	PCnet™-PRO	PCnet™-FAST III	PCnet™-FAST+	PCnet™-PCI II	PCnet™-ISA II**	PCnet™-Home
Part Number	Am79C976	Am79C973 / Am79C975	Am79C972	Am79C970A	Am79C961A	Am79C978A
Bus Interface	PCI	PCI	PCI	PCI	ISA	PCI
Data Bus Width	32 bit	32 bit	32 bit	32 bit	16 bit	32 bit
Plug-n-Play Support	✓	✓	✓	✓	✓	✓
3.3V/5V PCI Bus Support	✓	✓	✓	✓	✓	✓
PCI Subsystem Vendor ID Support	✓	✓	✓	✓	✓	✓
PCI Power Management (PME) Pin	✓	✓	✓	✓	✓	✓
Full Duplex	✓	✓	✓	✓	✓	✓
Flow Control	✓	✓	✓	✓	✓	✓
VLANS	Supported in Software– Hardware Assist	Supported in Software	Supported in Software	Supported in Software	Supported in Software	Supported in Software
Bandwidth	10/20 Mbps 100/200 Mbps	10/20 Mbps 100/200 Mbps	10/20 Mbps 100/200 Mbps	10/20 Mbps	10/20 Mbps	1 Mbps Home PNA 10/20 Mbps Ethernet
Integrated DMA Engine	✓	✓	✓	✓	✓	✓
Buffer Size	Programmable sizes, up to 4 MByte with external SSRAM	Programmable 12 kByte on chip	Programmable 12 kByte on chip	RX: 256 Byte TX: 272 Byte	RX: 128 Byte TX: 136 Byte	Programmable 12 kByte on chip
Expansion Memory Support	Boot ROM or Flash	Boot ROM or Flash	Boot ROM or Flash	Boot ROM	Boot ROM or Flash	Boot ROM or Flash
Integrated Encoder/Decoder	✓	✓	✓	✓	✓	✓
Media Transceiver	10BASE-T 10BASE 2 / 5 / F 100BASE TX / FX	Integrated Integrated	Supported by MII Supported by GPSI Supported by MII	Integrated Supported by AUI	Integrated Supported by AUI	Integrated Supported by MII
Power Management	Magic Packet™ Technology OnNow/ACPI Support PCI Bus Power Management	✓ ✓ ✓	✓ ✓ ✓	✓	✓	✓ ✓ ✓
Clock Source	External 25Mhz Crystal	External 25Mhz Crystal	Integrated 20Mhz Oscillator	External 20Mhz Crystal	External 20Mhz Crystal	External 20Mhz crystal or External 60Mhz oscillator
Power Supply	3.3V	3.3V 210 mA	3.3V 100 mA	5.0V 90 mA	5.0 V 75 mA	3.3V 300 mA
Full Active current				200 µA(Awake=0) 10 mA(Awake=1)	200 µA(Awake=0) 10 mA(Awake=1)	
Sleep Mode current		150 mA(CLK=0Mhz) 180 mA(CLK=33Mhz)	10 mA(Awake=1) 25 mA(CLK=0Mhz) 55 mA(CLK=33Mhz)	47 mA(CLK=0Mhz) 80 mA(CLK=33Mhz)	28 mA(CLK=0Mhz) 50 mA(CLK=33Mhz)	
Magic Packet™ current						
Packaging/Pin Count	PQFP/ 208	PQFP/ 160 TQFP/ 176	PQFP/ 160 TQFP/ 176	PQFP/ 132 TQFP/ 144	PQFP/ 132 TQFP/ 144	TQFP/ 144 PQFP/ 160
Industrial Temperature (-40°C to +85°C)	✓	✓	✓	✓	✓	✓
Little/Big Endian	Programmable	Programmable	Programmable	Programmable	Little	Programmable
GPSI	✓	✓	✓	✓	✓	✓
JTAG Support	✓	✓	✓	✓	✓	✓
RTOS Support	Windows NT®e Windows® CE LynxOS (Lynx Real-Time Systems) Nucleus NET(Accelerated Tech.,Inc.) pSOS (Integrated Systems, Inc.) QNX (QNX Software Systems Ltd) Vx Works (WindRiver Systems) LINUX TNT(Phar Lap Software, Inc.) USNET(US Software) KwikNet (Kadak Products Ltd) FUSION (Pacific Softworks Corp)	Planned Planned Planned ✓ ✓ ✓ ✓ ✓ Planned	Planned ✓ ✓ ✓ ✓ ✓ Planned	Planned ✓ ✓ ✓ Planned	Planned ✓ ✓ ✓ ✓ ✓ Planned	Planned ✓ ✓ ✓ ✓ ✓ Planned
Evaluation Kit*	PCnet-PRO-KT	PCnet-FASTIII-KT	PCnet-FASTPLUS-KT	PCnet-PCI II-KT/2	PCnet-ISAIL-KT/2	PCnet-HOME-KT

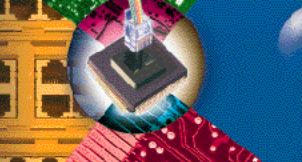
NOS Software Support

AMD provides an extensive suite of software drivers which support the ENTIRE family of PCnet controllers. This software is provided free of charge for unlimited, royalty-free distribution with your PCnet controller-based product.

<i>Microsoft</i> Windows NT 3.1, 3.5, 4.0 Windows 95 Windows 98 Windows 2000 WW 3.1.3.11 LAN Manager 2.x	<i>Novell</i> NetWare® 3.1x, 4.x, 5.x IntraNetwork 1.0	<i>SCO</i> UnixWare 7 UnixWare 2.0 (DLP) UNIX 3.2.4 (ODT 3.0) UNIX OpenServer 5.0	<i>IBM</i> LAN Server 2.0, 3.x, 4.0 OS/2 Warp	<i>SunSoft and other</i> SunSoft PCNFS 5.x SunSoft Solaris 2.x Artsoft LANtastic 6.0 Banyan Vines 5.5x Client DOS FTP Packet Driver
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*Embedded Design Guide Kit, 20397B

** Shared Memory Driver support for PCnet-ISA II is available for non-bus mastering applications.



ETHERNET CONTROLLERS PRODUCT MATRIX



Product Name	C-LANCE	MACE™
Part Number	Am79C90	Am79C940
Bus Interface	Generic Strobed/ Demultiplexed	Generic Strobed/ Demultiplexed
Data Bus Width	16/8 bit	16/8 bit
Full Duplex		↙
Bandwidth	10 Mbps	10/20 Mbps
Integrated DMA Engine	↙	
Buffer Size	RX: 64 Byte TX: 48 Byte	RX: 128 Byte TX: 136 Byte
Expansion Memory Support		
Integrated Encoder/Decoder		↙
Media Transceiver	10BASE-T 10BASE 2 / 5 / F	Integrated Supported by AUI
Power Supply	5.0V Full Active current 100µA(Awake=0) Sleep Mode current 10 mA(Awake=1)	5.0V 75 mA 100 µA(Awake=0) 10mA(Awake=1)
Packaging/Pin Count	PLCC / 68 PDIP/ 48	PQFP/ 100 TQFP / 80 PLCC / 84
Industrial Temperature		↙
Little/Big Endian	Programmable	Programmable
GPSP	↙	↙
JTAG Support		↙
RTOS Support		
LynxOS	↙	
Nucleus NET	↙	↙
pSOS	↙	
QNX	↙	↙
Vx Works	↙	
LINUX	↙	
TNT	↙	
USNET	↙	
Evaluation Kit*	C-LANCE -AT-KT/2	MACE-ISA-KT

* Embedded Design Guide Kit, 20397B

GLOSSARY

ACPI (Advanced Configuration Power Interface) A foundation technology and industry initiative that enables the operating system to intelligently control the amount of power used by each device attached to the computer. Generally specifies power management for motherboard devices and the BIOS.

AUI (Attachment Unit Interface) Provides an IEEE 802.3 compliant interface to a remote MAU or an on-board transceiver. Used with coax cable.

Boot ROM A read-only memory chip allowing a workstation to communicate with the file server and to read a boot program from the server. Stations can thus operate on the network without having a disk drive.

DMA (Direct Memory Access) A fast method of moving data from a peripheral device directly to system memory using specialized circuitry or a dedicated microprocessor and bypassing the CPU.

Driver A software program that interfaces operating systems to the LAN hardware or controller.

Endian Big-endian is a format for storage or transmission of binary data in which the most significant bit (or byte) is placed leftmost in the structure. The reverse convention, termed little endian, places the least significant bit on the left.

Full duplex The ability to transmit and receive at the same time.

GPSP (General Purpose Serial Interface). Allows direct access to/from the MAC if an external encoding/decoding scheme is desired.

JTAG (Joint Test Action Group) IEEE 1149.1-compatible boundary scan access port for printed circuit board-level continuity and diagnostic testing of the device in which all digital input, output, and input/output pins are tested.

LAN (Local Area Network) A computer communication system limited to no more than a few miles and using high-speed connections (2 to 100 Mbps).

MAU (Medium Attachment Unit) A transceiver that provides the electrical and mechanical interface to the actual medium. Attaches to the AUI port of an Ethernet adapter.

MII (Media Independent Interface) An IEEE 802.3 standard for interfacing to external transceivers. Can be used with a variety of physical layers (10BASE-TX, 10BASE-T4, 10BASE-T, etc.)

NOS (Network Operating System) Software that runs in the file server and controls the operation of a network. It allows users to communicate and share files and other resources from multiple users. It provides the user interface to the LAN, and it communicates with the LAN hardware or network interface card.

OnNow An industry initiative, championed by Microsoft, that defines a comprehensive, system-wide approach to system and device power management. OnNow is a term for a PC that is always on but appears off and responds immediately to user or other requests and events.

Physical layer The lowest layer of the OSI model. Consists of network wiring and cable and the interface hardware that sends and receives signals over the network.

RTOS (Real-Time Operating System) Operating system software designed for use in a realtime computer system, generally an embedded application.

Server Any computer on a network that makes file, print, or communications services available to other network stations.

AMD HAS BEEN A LEADING SUPPLIER OF ETHERNET ICs FOR MORE THAN 10 YEARS.

AMD is the no.1 supplier of Ethernet Controllers. In the mid 80's, AMD was the first to offer a complete Ethernet chip set, in the early 90's, the first to offer a single-chip controller, and in the mid 90's, the first to offer Ethernet controllers with AMD's patented Magic Packet™ technology for remote PC wake-up and power-on.

AMD SERVES THE MARKET WITH LEADING EDGE INNOVATION.

With Magic Packet technology, AMD pioneered power management for PC LAN's. Building on this foundation, AMD has co-authored the OnNow power management specification for networking devices, furthering our leadership position in this industry initiative. And, with our extensive expertise and experience in helping implement customers' designs, you might say we wrote the book on networked PC power management.

AMD'S SOLUTIONS ARE COMPLETE FOR QUICK TIME TO MARKET AND LOW DEVELOPMENT COST.

AMD offers a complete suite of software drivers and utilities as well as FCC approved licensable turnkey-designs to support the PCnet family of Ethernet controllers.

AMD DOES NOT COMPETE WITH ITS CUSTOMERS.

AMD will continue supplying Ethernet ICs with no intention to migrate to board-level solutions.

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