



PC/II+p Features

- Low power AMD K6 / Pentium 266 MHz CPU
- Up to 64MB of high speed SDRAM
- Super VGA & panel video w/4MB memory
- 10Base-T & AUI Ethernet LAN
- USB 12 Mbps, one hub & two ports
- M-Systems Disk-On-Chip support
- Watchdog & dual-voltage power monitors
- PC/104 form factor and bus interface
- Two RS-232 serial ports, one parallel port
- Convenient Mass I/O connector

From manual IDN0026v4

Specifications

Board Form Factor & Type:

3.775 x 3.550 inch, PC/104 compliant; FR4

Architecture:

PC/AT - x86 compatible

Central Processing Unit:

CPGA 321-Pin Socket, for Low-Power "Socket 7" or Compatible CPU
Accepts 321-Pin CPGA Processors or 296-Pin SPGA Low-Power Processors (from Intel or AMD – see below for supported processors)
Full Socket 7 Compliance

Intel Low-Power Pentium MMX Processor (166 Mhz and 266 MHz)

Local Bus Speed – 66 MHz

Superscalar (Pipelined) Architecture

32-Bit Cpu with 64-Bit Data Bus

Dual Pipeline

Integrated Pipelined Floating-Point Unit

Integrated Pipelined MMX Unit

Cache – Separate 16 KB Write-Back Data and 16 KB Code Caches

Voltages – Core 1.9V; I/O 2.5V

Package – PPGA-296

AMD K6-2E Embedded Processor (AMD-K6/-2E/233AMZ – 233 MHz)

Local Bus Speed – 66 MHz

Superscalar (6-Stage Pipelined) Architecture

10 Parallel Execution Units, 2-Level 8192-Entry Branch Prediction,

Out-of-Order Execution, Speculative Execution, Register Renaming

Integrated Pipelined Floating-Point Unit (IEEE 754/854)

Integrated Pipelined MMX Unit

Cache – Separate 32 KB Write-Back Data and 32 KB Code Caches

Decode Cache – 20 KB

Branch-Target Cache – 8K-Entry

Package – CPGA-321

Voltage – Core 1.9V; I/O – 3.3V

Cache Memory:

L1 On-Chip Cache

32 KB or 64 KB – Separate Code/Data Organization

High performance write-back

Type of Cache and Additional Caching depends upon Processor

Timer/Counters:

AT-compatible (8254 type) timers for System Timer, Refresh Request and Speaker Output Use

DMA:

(7) Channels, 32-Bit addressing

Four 8-Bit Channels, Three 16-Bit Channels

Provides compatible DMA transfers; Type F transfers

Memory Bus & Address Bus:

64-Bit Data bus

32-Bit Address bus

Power Monitoring:

Dual 5% monitor – 5V rail and on-board 3.3V

Reset hold time – 130 ms minimum, 200 ms typical

Transient voltage immunity

Manual Reset:

Available on Mass I/O Connector

Debounced, generates minimum of 130ms reset on Low to High

Initiated by pulling Manual Reset signal line Low, then High

Memory:

SDRAM (soldered) memory

32MB or 64MB

SDRAM – 66 MHz (10 ns) typical

Printer/Parallel Port:

(1) Full ECP / EPP / PS2 / SPP / 1284-compliant Parallel Port

Supports Standard mode

Supports IBM PC/XT, PC/AT and PS2 Bi-directional mode

Supports Enhanced mode

Supports Enhanced Parallel Port (EPP) mode

Supports High Speed mode

Supports Extended Capabilities Port (ECP) mode

Includes Protection Circuit (Printer Powered Up or at higher voltage)

Serial/RS232 Ports:

(1) or (2) high performance 16550-compatible UARTs

16-byte Send/Receive FIFOs

Supports baud rates to 460K baud using 24MHz Clock Divided by 13

(1.8462 MHz reference is divided by Divisor to generate 16x Clock)

Full EIA-RS232E and CCITT V.28 Transceivers included

Output swing ±9V with all Transmitter Outputs loaded with 3K ohms to Ground

Video CRT & Flat Panel:

Intel 69030 HiQVideo Accelerator
 VGA register set compatibility and I/O accessibility
 Includes On-Chip SDRAM
 4 MB of high-speed SDRAM for video buffer
 Memory SDRAM operation at 83 MHz
 Memory SDRAM transfers up to 664 MBytes/sec
 Supports Analog CRT RGB Video Interface
 Supports 24-Bit Flat Panel Interface
 Flexible Panel Interface – TFT/MIM, DSTN, SSTN, EL, Plasma
 Supports Mono and Color
 Supports VGA, SVGA, XGA, SXGA, UXGA resolutions
 Supports Quarter VGA 32-x240, 320x200
 Supports 16:9 Aspect Ratio Panels, 1024x600
 Supports Panel Power On/Off Sequencing
 Supports HiQColor Technology
 Up to 16.7M Colors on STN LCDs and 24-bit active matrix LCDs
 256 Gray Shades
 Support for Dot Clock to 170 MHz
 Support for Flexible Display Modes
 Single View Mode – up to 1600 x 1200 x 16 bpp at 60 Hz refresh
 Dual Independent Mode - up to 1280 x 1024 x 8 bpp at 60 Hz refresh
 Supports Simultaneous CRT / Flat Panel operation
 Supports Graphics Acceleration
 64-bit Single Cycle BitBLT Engine
 Many Features
 Supports panels from popular manufacturers
 such as Sharp, Optrex, Toshiba, Hitachi, Fujitsu, Samsung,
 NEC, Sanyo and others
 Chips/Intel drivers & Option BIOS included

ATA/IDE Hard Drives:

Integrated 2-Channel Dedicated PCI IDE Ultra 33 Master Controller
 Supports up to 4 IDE devices
 Supports Ultra 33 Sync DMA mode transfers up to 33 MBytes/S
 Supports DMA Mode 2 Timing
 Supports PIO Modes up to Mode 5 Timing
 Supports Multiword DMA Mode 0,1,2 with independent timing- 4 Drives
 Supports dedicated Pins of ATA interface for Each Channel

Flash Disk:

Socket for user-supplied solid-state disk (32 Pin DIP)
 Supports M-System Disk-on-Chip®
 (up to 144 MB of flash disk memory module, user-populated)

Ethernet:

Crystal CS8900 High-performance 10Base-T and AUI controller option
 IEEE 802.3 compliant MAC engine, full duplex operation
 On-chip RAM buffers – for Transmit & Receive frames
 AUI port for 10Base-2, 10Base-5 and 10Base-F
 10Base-T filters included
 10Base-T and AUI isolation transformers are included
 10Base-T port has automatic polarity detection and correction
 Auto negotiation function
 LED for inbound/outbound frames to/from local controller included
 LED for either valid 10Base-T link present, or other general function

Floppy Disk:

Integrated Floppy Disk Controller – 2.88MB (formatted)
 Compatible to PD765A and 82077SL Architecture
 Supports two 16-byte data FIFOs
 Supports two (2) 3.5" floppy disk drives
 Supports 3.5" FDD modes – 720KB / 1.2MB / 1.44MB
 Supports 1Mbps / 500 Kbps / 300 Kbps / 250 Kbps data transfers
 Supports swappable Drives A and B

Real-Time Clock, Alarm:

Dallas-Certified DS1685 – Y2K Real-Time Clock Controller
 Periodic Interrupt Generator – settable from 122 us to 500 ms
 Alarm Interrupt Generator – settable to any time 24 hour period
 242-byte NVRAM included
 12 or 24 hour format - Daylight savings time support
 Unique 48-Bit Serial Number can be used for customer application

Watchdog:

Dallas DS1706 with Watchdog
 Hardware timer is strobed once per second or faster
 Hardware timer expiry issues system RESET
 Hardware disable function via jumper
 Software BIOS Disable, enable and strobe functions

USB:

Integrated controller supports one root hub with two USB ports
 Supports OpenHCI 1.0a specification
 Supports FS (12 Mbits/Sec) serial transfers
 Supports LS (1.5 Mbits/Sec) serial transfers
 Supports legacy keyboard and mouse software with USB keyboard and mouse

Keyboard & Mouse:

PS/2-style Keyboard and Mouse supported

Connectors:

Power Connector -
 (1) standard 1x12 right-angle header, keyed, 15 A rating
 PC/104 Connectors -
 (1) 2x32 and (1) 2x20 pin and socket header
 stack-through and non stack-through
 board stacking or other arrangements are customer specified
 Ethernet Header -
 (1) 2x10 right-angle header or customer specified
 Mass I/O Connectors -
 (1) 5x22 and (1) 5x11 IEC 2mm HM, or customer specified
 total of 5x33 2mm grid
 AMP Z-PACK 2mm HM Connector System
 Type B22 and C
 Support all variations -
 straight and right-angle
 male and female
 Support top mounting (bottom by request)
 Support 2mm headers on request (including bd stacking headers)
 IEC917 and IEC1076-4-101 compliant
 All connectors except for Power are optional

Sockets:

(1) 321-Pin CPGA ZIF P55C Socket-7 Processor Socket
 (1) 32-Pin DIP Socket for Flash Disk compatible to M-System MD2200

Peripheral I/O Signals:

Signal Pins – Mass I/O Connector, PC/104 Headers and Ethernet Header Signal Pins

Ethernet 10Base-T – 4	Ethernet AUI – 6
Ethernet LEDs – 2	Floppy Disk Bus – 15
IDE/ATA Bus – 28	Keyboard – 2
Mouse – 2	Parallel I/O – 17
PC/104 8-Bit Bus – 64	PC/104 16-bit Bus Extension – 40
Reset Switch – 1	Serial COM1 – 8
Serial COM2 – 8	Serial COM2 IR port – 2 shared
Speaker Output – 1	USB port A – 2
USB port B – 2	Video Analog (CRT) – 5
Video Panel (24-bit) – 32	Power & Ground

Supply Voltage & Regulation:

Single +5V supply requires regulation to within 5%
 Supply Max Rise Time (+3V to +5V) required within 100 ms

Operating Temperature:

Commercial 0C to +70C standard
 Industrial -20C to +85C : please call megatel for availability
 Industrial -40C to +85C : please call megatel for availability

Bios Software:

256 KB Flash EEPROM for Bios - Hardware write protection
 Chips & Technologies 65554 VGA Driver BIOS included
 AT compatible BIOS and Architecture