



PC/II+dx Features

- AMD DX5 133 MHz Processor
- Up to 32MB of EDO DRAM
- Super VGA & panel video w/2MB memory
- 10Base-T & AUJ Ethernet LAN
- Up to 8MB of flash storage
- M-Systems Disk-On-Chip support
- 4"x4" Form factor with ISA bus interface
- Watchdog & dual-voltage power monitors
- Up to three RS-232 serial ports
- Convenient Eurocard DIN connector

From manual IDN0024v7

Specifications

Board Form Factor & Type:

3.937 x 3.937 inch (100.0 x 100.0 mm), FR4

Basic Board Requires:

Central Processing Unit
Minimum Memory – Soldered, 4 MB
Minimum Connectors – Power and I/O as Needed

Architecture:

PC/AT

Central Processing Unit:

486DX4 RISC-Core Processor – Intel or AMD
INTEL DX4:

- 66MHz or 100MHz core speed
- 33 MHz local bus speed
- 3.3V core and 5V tolerant I/O
- 32-Bit RISC technology core
- Pipelined execution
- Integrated Floating-Point unit
- Integrated Write-Back or Write-Through Cache

AMD DX4 and DX5:

- 66 MHz, 100 MHz and 133 MHz core speed
- 33 MHz local bus speed
- 3.3V core and 5V tolerant I/O
- 105.6 million bytes/second burst bus
- 0.35- μ CMOS-process technology
- Integrated Floating-Point unit
- Integrated Write-Back or Write-Through Cache

Cache Memory:

16K of integrated on-chip Cache Memory (L1)
Unified organization, uses modified MESI protocol
High performance write-back and write-through (user options)

DMA:

(7) Channels, 128 MB addressing

Timer/Counters:

AT-compatible

ATA/IDE Hard Drives:

(2) IDE drives supported

Manual Reset:

Available on 96-pin DIN I/O Connector
Debounced, generates minimum of 130ms reset on Low to High
Initiated by pulling Manual Reset signal line Low, then High

PC Speaker Output:

Available on Peripheral I/O connector

Memory Bus & Address Bus:

32-Bit

Power Monitoring:

Dual 5% monitor – 5V rail and on-board 3.3V
Reset hold time – 130 ms minimum, 200 ms typical
Transient voltage immunity

Memory:

DRAM EDO (soldered) memory
Minimum System Memory 4 MB; Max 32 MB
DRAM – EDO, 60 ns typical

Memory Options:

4, 8, 16 or 32 MB

Keyboard:

PS/2-style Keyboard supported by 96-pin DIN interface

Mouse:

PS/2-style Mouse supported by on-board 2-pin Header

Printer/Parallel Port:

Full Bi-directional ECP/EPP Parallel Port supported

ISA Bus:

2x32 8-Bit ISA bus Interface Header
1x10 16-Bit ISA bus Interface Extension Header

Watchdog:

Dallas DS1706 Watchdog Timer/Monitor
Defaults at power-on time to software-disabled state
Software enable/disable/strobe is supported
Minimum strobe rate while enabled – 1 strobe/second
Hardware enable/disable jumper option

SCSI Bus:

Adaptec AIC6360 Fast SCSI-2 Controller
 (7) SCSI-2 devices
 Adaptec SCSI BIOS included
 Adaptec Drivers also supported
 Bootable from either SCSI or IDE drive
 Simultaneous use of both SCSI and IDE

Serial/RS232 Ports:

(1) or (2) 16C550-compatible Serial Ports 16-byte FIFOs
 Full EIA-RS232E and CCITT V.28 Transceivers included
 Output swing $\pm 9V$ with all Transmitter Outputs loaded with 3K ohms to Ground

Two-Wire Serial RS-232 Ports:

(1) BIOS-accessible RS-232 two-wire (Rxd & Txd) Serial Port
 Full EIA-RS232E and CCITT V.28 Driver & Receiver included
 Output swing $\pm 9V$ with all Transmitter Outputs loaded with 3K ohms to Ground

Video CRT & Flat Panel:

Chips and Technologies HiQ 65550 GUI Accelerator
 On-board 2 MB of 60 ns Video EDO DRAM, 512Kx32
 Complete Analog CRT Video Interface
 Complete 24-Bit Flat Panel Interface provided by on-board 36-pin Header
 Compatible 8-Bit or 16-Bit Panel Interface also provided on 96-Pin DIN Connector
 Monochrome (64 gray scale) or color
 Hi-Res Passive STN, Active Matrix TFT/MIM LCD, EL
 Simultaneous CRT / Flat Panel operation supported using on-board 36 pin interface Header
 Local bus interface – 32-Bit
 64-bit Graphics Accelerator engine (BitBLT), H/W cursor
 VGA register set compatibility
 Supports 5V and 3.3V panels from popular manufacturers such as Sharp, Optrex, Toshiba, Hitachi, Fujitsu, Samsung, NEC, Sanyo and others
 Chips and Technologies drivers included

Flash Array:

Soldered Flash EEPROM – 2, 4 or 8 MB

Flash Disk:

Socket for user-supplied M-Systems Disk-on-Chip solid-state disk
 Support for MD2000 modules (2 to 144MB capacity)
 Coexistence support for both Flash Array and Flash Disk

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) 3.5" floppy disk drives supported
 IBM System 34 double density format (MFM)
 Sony EMCA format compatible
 Standard transfer rates – 500 Kb/sec, 300 Kb/sec and 250 Kb/sec

Real-Time Clock, Alarm:

Dallas-Certified DS1685 – Y2K Real-Time Clock Controller
 Periodic Interrupt Generator – settable to period from 122 us to 500 ms
 Alarm Interrupt Generator – set to any time of day in 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

Connectors:

+5V Power Connector –
 +5V Power supplied to Board through 96-pin DIN Connector
 Optional 1x12 R/A +5V keyed Power Header, 15A rating
 +3.3V Power Connector –
 +3.3V Power generated by on-board regulator
 Optional 1x5 R/A +3.3V Power Header, keyed, 6A rating
 I/O Interface Connector –
 (1) 3x32 (.100 inch pitch) Right-Angle Connector
 Support top mounting (bottom by request)
 Support standard headers on request
 (including board stacking headers)
 ISA-bus Connectors –
 (1) 2x32 and (1) 1x10 pin and socket header
 stack-through and non stack-through
 board stacking is customer specified
 Ethernet Header –
 (1) 2x5 header
 IDE Header –
 (1) 2x22 2mm Header
 FULL VIDEO Header –
 (1) 2x18 Header
 Support full 24-bit panels
 Support either 5V or 3.3V panels
 Support Simultaneous Video CRT and Panel Modes
 All connectors are optional, except one of the I/O Interface connector or the +5V Power connector must be present

Peripheral I/O Signals:

Signal Pins – 96-Pin DIN Interface Connector
 Video CRT & Panel – 17
 Parallel (LPT1) I/O – 17
 Serial COM1 (RS-232E) – 8
 Serial COM4 (RS-232) – 2
 Floppy – 15
 Power & Ground
 Video Panel – 32
 IDE 44-pin Header – 28
 PC Speaker – 1
 SCSI – 18
 Serial COM2 (RS-232E) – 8
 Keyboard – 2
 Reset Switch – 1
 Signal Pins – Other I/O Headers
 Ethernet 10-pin Header – 10
 Mouse Header – 2

Supply Voltage:

Single supply at +5V 5%, or Dual Supplies at +5V 5% and +3.3v 5%

Supply Power Rating:

5W to 15W (excluding external peripheral requirements)

Supply Regulation:

+5V (and optional +3.3V Supply) require regulation to within 5%

Supply Rise Time:

+5V Supply maximum rise time (+3V to +5V) required within 100 ms
 +3.3V Supply maximum rise time (+3V to +5V) required within 100 ms

Supply Regulators:

Optional On-board +5V to +3.3V Switching or Linear Regulator
 On-board power monitor for both +5V and +3.3V rails

Storage Temperature:

-50C to +125C, battery excluded

Operating Temperature:

Commerical 0C to +70C standard
 Industrial -20C to +85C available on request
 Industrial -40C to +85C available on request

Operating Software:

DOS, Windows, Windows 95, Windows NT4.0

Application Software:

x86 compatible

Bios Software:

256 KB Flash EEPROM for Bios
 Bios write protection (hardware)
 Chips & Technologies 65550 VGA Driver BIOS included
 AT compatible BIOS and Architecture