

# PC/104plus-C3 PC/104plus-ESP

## CPU

VIA C3 Low Power Processor in EBGA package – PC/104-C3  
VIA Eden ESP Processor in EBGA package – PC/104-ESP  
Provides 100 / 133 MHz FSB frequency.

## Chipset

VIA ProSavage PN133T "TwisterT" (VT8606)  
VIA "Super South" South Bridge (VT82C686B)

## System Memory

Supports PC100, PC133 SDRAM in one SoDIMM Socket in two modes:  
– Synchronous mode  
    (100 MHz FSB / 100 MHz DRAM or 133 MHz FSB / 133 MHz DRAM)  
– Pseudo-Synchronous mode  
    (100 MHz FSB / 133 MHz DRAM or 133 MHz FSB / 100 MHz DRAM)  
Supports up to 256 Mbit DRAM technology, up to 512 MB. Supports SPD.

## Graphics Controller

ProSavage4 AGP4x Graphics Core integrated in VT8606.  
Video Memory is shared with system memory.  
8/16/32 MB frame buffer selectable in BIOS setup page.  
Support for all resolutions up to 1600×1200 with 32-bit color depth  
(for CRT monitor) and 1280×1024 (for Flat Panel)

### Graphics output interfaces:

- CRT: VESA compliant CRT interface including DDC. 10-pin 1.25 mm box header connector expandable with add-on CRT Interface Module\*
- FP: 24-bit TTL Flat Panel interface for direct connecting of the Flat Panel or TMDS / LVDS encoders. 3.3V or 5V power supply for FP selectable. Provides signal for Backlight on/off control. 50-pin 0.5 mm foil cable connector for FP data and power supply.

## PC/104+ Bus

Compliant with PC/104+ Specification.  
Two variants: 1 – stackthrough and 2 – non-stackthrough.

## E-IDE PCI Controller

Integrated in VT82C686B. Supports UltraDMA-33/66/100.  
Primary Channel is available on 2 mm connector.

## On-board CompactFlash socket (in variant 2 only)

Connected to secondary IDE port as master (or slave as factory option)  
Both Type I and II of CompactFlash Cards incl. IBM Microdrive® supported

## Super I/O Controller (integrated in VT82C686B)

- First High Speed, NS16C550A compatible UART with Send/Receive 16 Byte FIFO, released in TTL level on 10-pin 1.25 mm box header connector is configurable as RS232, isolated or non isolated RS485 by using add-on Interface Modules\*
- Also can be connected touch Screen Controller Module\* for resistive touch sensor support 4-, 5- and 8-wires sensors
- Second High Speed, NS16C550A compatible UART with Send/Receive 16 Byte FIFO, released in RS232 level on 10-pin 1.25 mm box header connector is expandable with add-on Serial Interface Module\*
- IR port, IrDA 1.0, HP-SIR, ASK-IR Support (multiplexed with 2nd serial port). 4-pin 1.25 mm box header connector expandable with add-on IrDA Interface Module\*
- Multi-Mode Parallel port can optionally be set to functionality as Floppy disk interface. Two 10-pin 1.25 mm box header connectors expandable with add-on Parallel Interface Module\*
- Floppy disk controller, supports floppy disk drive through the 26-pin 1.00 mm foil cable connector for slim FDD
- Keyboard Controller with PS/2 mouse support. Two 4-pin 1.25 mm box header connectors for Keyboard & PS/2 Pointing Device expandable with add-on Keyboard & PS/2 Interface Module\*
- DS12885-style Real Time Clock with extended 256 byte CMOS RAM and Day/Month Alarm for ACPI

## ISA Bus

ISA Bus compliant with PC/104 Specification.



## PCI Bus

Support for 3 PCI Bus Master devices. 5V or 3.3V signaling level  
Compliant with PC/104+ Specification.

## Sound

SoundBlaster Pro Hardware and Direct Sound Ready AC'97 Digital Audio Controller integrated in VT82C686B.  
Standard v1.0 or v2.0 AC'97 Codec interface for single AC'97 Codec from multiple vendors. 10-pin 1.25 mm box header connector expandable with add-on AC'97 Interface Module\*

## USB

Universal Serial Bus Controller is integrated in VT82C686B.  
– Two Channel USB v.1.1 and Intel Universal HCI v.1.1 compatible.  
– Legacy keyboard and PS/2 mouse support.  
Two 4-pin 1.25mm box header connectors for add-on USB Interface Module\*

## Ethernet

On-board 10/100 Mbit/s Fast Ethernet Controller RTL8100BL.  
Ethernet Activity and Link LED outputs. Supports Wake-On-LAN.  
4-pin 1.25 mm box conn. expandable with add-on LAN Interface Module\*

## BIOS Setup

BIOS Setup setting is backed-up in on-board EEPROM.

## Watchdog

Generates a system RESET. Software Enable/Disable.  
Timeout interval can be set to 68.6 ms / 141.8 ms / 288.3 ms / 581.3 ms.

## Feature Interfaces

External buttons: Reset, ATX Power on/off on 4-pin 1.25 mm box conn.  
Outputs: Speaker shared on 10-pin, and LED indicators (Disk Activity, Ethernet Activity and Link) on 4-pin 1.25 mm box header connectors

## Power Supply Consumption (typical)

**PC/104plus-C3-800 – 800 MHz CPU, 128 MB RAM**  
3A @ +5.0V +/-5% voltage

**PC/104plus-ESP4000 – 400 MHz CPU, 128 MB RAM**  
1.8A @ +5.0V +/-5% voltage

150mA @ +5.0V +/-5% standby; +3V Li cell for RTC/CMOS backup

## Power input

Screw terminal block, AT +12V, -12V, +5V, GND - or -  
- optionally 10-pin 1.25 mm box header connector for add-on DC-to-ATX Power Adapter Module\*

## Environment Specification:

Operating temperature: 0 to +70 °C  
Operating humidity: 5 % to 95 % at +40 °C (non condensing)

## Mechanical Specification

Size: 90×96 mm , according to PC/104+ Specification.

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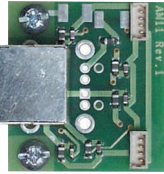
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\* Interface Modules  
are option on request

# EMI/EMV optimized Interface Modules

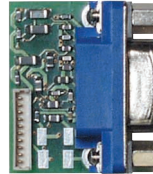
## PS/2 Interface Module

- Single/dual miniDIN6 assembly option
- Fused power supply
  - EMI filters
- Dimensions: 32 × 30 mm



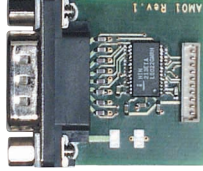
## CRT Interface Module

- CRT interface
- VESA DDC support including fused power supply
- EMI filters, ESD protection
- Dimensions: 31 × 20 mm



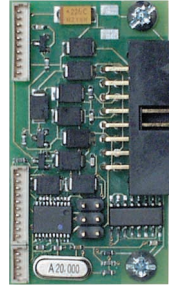
## TTL-to-RS232 Interface Module

- Input: UART signals in TTL levels
  - 15kV ESD protection
  - EMI filters
- Dimensions: 31 × 30 mm



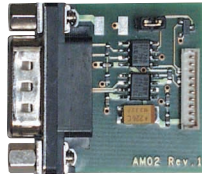
## Touch Screen Controller Module

- 4-, 5- and 8-wire resistive touch screen
- RS232 or PS/2 interface configurable
- ESD protection
- Dimensions: 53 × 30 mm



## TTL-to-RS485 Interface Module

- Input: UART signals in TTL levels
- Half/full duplex mode selectable
- Optionally 15kV ESD protection
- Dimensions: 31 × 30 mm



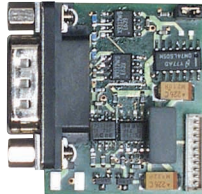
## LAN Interface Module

- RJ-45 LAN connector
- Dimensions: 32 × 28 mm



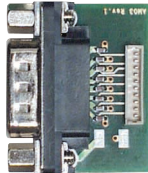
## TTL-to-RS485i Interface Module

- Input: UART signals in TTL levels
  - Isolated RS485 (1kV isolation)
- Half/full duplex mode selectable
- Optionally 15kV ESD protection
- Dimensions: 36 × 30 mm



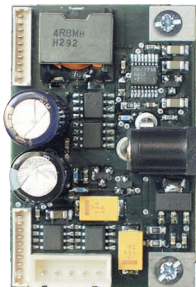
## Serial Interface Module

- Input: UART signals as RS232
  - EMI filters
- Dimensions: 31 × 20 mm



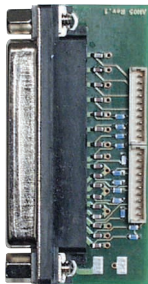
## DC-to-ATX Power Adapter Module

- +12V input voltage (from AC adapter)
- ATX-like behavior (power rails controlled by the system)
- +5V voltage up to 5A
- +12V voltage up to 1A
- +5V standby voltage up to 150mA
- -12V voltage
- JST header with +12V voltage up to 6A and enable signal for backlight converter (controlled by the system)
- Dimensions: 53 × 35 mm



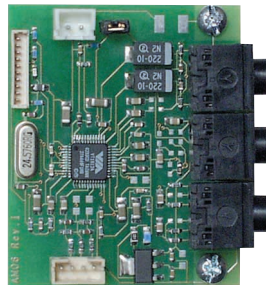
## Parallel Interface Module

- EMI filters
- Dimensions: 53 × 20 mm



## AC'97 Codec Interface Module

- AC'97 2.2 compliant audio codec
- Input: AC'97 interface (+ PC Speaker signal)
- Headphone amplifier
- Line-in input (3.5mm stereo jack)
- Microphone input (3.5mm jack)
- Headphone output or optionally line-out (3.5mm stereo jack)
- S/PDIF output (2-pin JST header)
- CD-ROM audio input (4-pin 2.0mm JST header)
- Dimensions: 53 × 44 mm



## Dual USB Interface Module

- EMI filters
- Dimensions: 32 × 20 mm



## Standardized Cables for Modules

- Either 10 wire cable or 4 wire cable is used for all interfaces to connect
  - 80 mm, 150 mm and 250 mm standard lengths of both cable types (any other length at customer request)

