

- ▶ **VIPer830**
- ▶ **Maximum performance**  
**Minimal size**



- ▶ The most powerful in the VIPer family, Kontron's high performance VIPer830 SBC combines Intel Pentium III processor capabilities with full-featured functionality onto a half-size board format to enable use of all slots on standard PICMG-compliant passive backplanes.

- ▶ **High performance full-featured SBC**

The VIPer830 half-size SBC features a Intel Pentium III processor with on-die 256 KB L2 pipelined burst cache (full CPU core speed, ECC capable). It supports up to 256 MB memory, high performance PCI Ultra DMA/33 IDE and CompactFlash™.

It also comes with a 64-bit AGP SVGA CRT and Flat Panel controller with 2 MB SDRAM.

Onboard support for Universal Serial Bus (USB) ports, serial/parallel ports, and a floppy interface is standard. The PC/104-Plus expansion header provides access to ISA and PCI bus PC/104 peripheral modules such as LAN and video controllers.

The VIPer830 also offers an optional 10Base-T/100Base-TX Ethernet controller, and its feature-set and target applications can be extended by employing the use of Kontron's T8501 PC/104+ mezzanine which adds Ultra-2 SCSI and a second Ethernet port.

These new features enables the VIPer830 to become an ideal engine for a communications appliance.

**Features include:**

- ▶ Pentium III 600 MHz and Pentium III Low Power - 500 MHz
- ▶ Celeron™ processor 300, 566 MHz in PPGA370 Package with 128 KB L2 Cache
- ▶ Intel 440BX AGPset with 66/100 MHz FSB
- ▶ Up to 256 MB SDRAM/RSDRAM
- ▶ Ultra DMA/33 IDE (Dual) & CompactFlash™ Disk Support
- ▶ 10/100Base-TX Ethernet support
- ▶ 64-bit AGP CRT and Flat Panel Video with 2 MB SDRAM
- ▶ PC/104-Plus, ISA Passive Backplane or Stand-Alone Operation

# ▶ VIPer830 - Technical Specifications

## CPU

- Intel® Pentium III 600 MHz
- Intel® Pentium III - Low Power 500 MHz
- Celeron™ processor 300, 566 MHz in PPGA370 Package
- Celeron™ - Low Power 400 MHz
- Intel 440BX AGP set
- 66/100 MHz system/memory bus

## Bus Interface

- Front Side Bus (66/100 MHz)
- AGP bus
- PCI Bus (33 MHz)
- ISA Bus (8.33 MHz)
- PC/AT ISA bus or stand-alone operation
- PC/104-Plus VIPci compatible

## Cache

- 16/16 KB Instruction / Data Level 1
- 128/256 KB Advanced Transfer Cache (on-die, full speed L2 cache with ECC)

## Memory

- One 168-pin latching DIMM socket, 64/72-bit
- Up to 256 MB with 1, 2, 4, 8, 16 or 32M x 64/72, 66/100 MHz Synchronous
- DRAM / Registered SDRAM non ECC / ECC mode (single bit error correction, double bit detection via Intel 440BX chip set); all 256 MB cacheable

## Data Path

- 64-bit CPU bus; 32-bit AGP bus; 32-bit on PCI bus (PC/104-Plus); 16-bit on ISA bus

## Interrupts

- 11 edge sensitive and configurable
- 4 PCI level sensitive, configurable to any interrupt vector for PnP compatibility
- All ISA onboard interrupts are PnP compliant DMA Channels (ISA)
- Four 8-bit, three 16-bit
- Supports scatter / gather, Fast Type-F DMA Flash Memory
- 2 Mb (256 KB) Boot Block for BIOS field upgrade
- 4 KB Serial EEPROM for user configuration

## I/O

**I/O:** SMC FDC37C672 Super I/O

**USB Ports:** Two

**Serial Ports:** Two RS-232 (16C550) with 16 byte FIFO as COM1-4 with BIOS selectable IRQs and addressing, serial port 2 BIOS configurable RS-422/485

**Parallel Port:** One bi-directional with all IEEE 1284 protocols supported and BIOS selectable IRQs and addressing

**Floppy Disk:** Support for two drives (360 KB to 1.44 MB)

**PCI EIDE:** Two EIDE drives; PIO Mode 4, Bus Master IDE or Ultra DMA/33

**CompactFlash™ Module:** Optional bootable CompactFlash™ module interfaces to secondary IDE channel, user upgradeable, master/slave

**Ethernet:** One PCI 10Base-T/100Base-TX (Intel 82559)

## Video

- Integrated Frame Accelerated Graphics Port (AGP) 64-bit CRT/Flat Panel controller with 2 MB 83 MHz SDRAM memory (C&T 69000)
- Supports CRT with resolution up to 800 x 600, 16.8 M colors; 1024 x 768, 64K colors; or 1280 x 1024, 256 colors, non-interlaced

## Flat Panel Support

- Supports monochrome & color Plasma, EL, DSTN, SSTN, TFT/CRT panels with resolution up to 800 x 600, 16.8M colors; 1024 x 768, 64K colors; or 1280 x 1024, 256 colors, non-interlaced
- Compatible with CGA, EGA, Hercules, MDA, VGA, SVGA, XGA and SXGA

## Clock / Calendar

- Real-time clock with 256 byte battery backup CMOS RAM

## Connectors

**Faceplate:** CRT (female DB-15 slim); Ethernet (RJ-45 with link/activity indicators); PS/2 mouse and keyboard (two 6-pin mini-DIN)

**Headers:** USB (10-pin shrouded); serial ports (two 10-pin shrouded); parallel port (26-pin shrouded); floppy (34-pin shrouded); EIDE (one 40-pin shrouded); PS/2 mouse (4-pin locking); flat panel display (50-pin and 20-pin high density shrouded); CompactFlash™ Module header; CPU fan (2-pin locking); PC/104 header (104-pin); PC/104-Plus expansion header (120-pin); external power source (6-pin locking); power-down connector (2-pin locking); external battery (3-pin locking); AT keyboard, speaker, and EIDE activity LED (16-pin shrouded)

## BIOS

- Award Elite BIOS in Boot Block Flash with recovery code; save CMOS in Flash option, and boot from LAN capability
- Auto configuration, extended setup
- CC00-E000 address blocking; PnP tables
- Setup console redirection to serial port (VT100 mode) with CMOS setup access
- Software enable/disable of onboard Ethernet
- Diskless, keyboardless, and videoless operation extensions
- System, video and LAN BIOS shadowing
- Programmable bus and I/O speeds, and memory wait states
- Advanced security feature for floppy and HDD; DMI and HDD S.M.A.R.T support
- Advanced Configuration and Power Interface (ACPI 1.0), Advanced Power Management (APM 1.2), advanced thermal management (resume, overheat alarm and auto slow down), and Green support

## Supervisory

- Two-stage software programmable watchdog timer drives NMI on 1ststage, system reset on 2nd stage
- Time out from 16 msec to 4.25 min
- CPU temperature monitor/alarm; power failure/low battery detector

## OS Compatibility

- PC and MS-DOS™; Windows® 3.X; Windows® 95; Windows® 98; Windows® CE; Windows® NT 4.0, Windows® 2000; QNX™; LINUX

## Mechanical

- 181 x 122 x 36 mm at CPU / fan (7.125 x 4.80 x 1.40 in. at CPU / fan)
- Conforms to IEEE P996 PC/AT bus, PCI Rev. 2.1, & PC/104-Plus Rev. 1.0 specifications

## Power Requirements

Supply Voltage	V <sub>CC</sub> = +5V -5%		
<b>CPU:</b>	<b>300</b>	<b>566</b>	<b>500 (PIII LP)</b>
<b>ICC typ.* +5V</b>	3.69A	3.10A	2.76A
<b>ICC Susp.* +5V</b>	1.64A	1.63A	1.44A

\* Measured with 32 MB SDRAM, PCI 10/100Base-TX Ethernet, keyboard, floppy and hard disk installed.

## Environmental

Temperature:	Operating	Storage and Transit
<b>Celeron / PIII</b>	0° to 50°C/32° to 122°F (w/airflow)	-40° to +85°C/-40° to 185°F
<b>Celeron LP</b>	0° to 60°C/32° to 140°F (w/airflow)	-40° to +85°C/-40° to 185°F
<b>PIII LP</b>	0° to 60°C/32° to 140°F (w/airflow)	-40° to +85°C/-40° to 185°F
<b>Humidity (RNC):</b>	5% to 95% @ 40°C/104°F non-condensing	5% to 95% @ 40°/104°F non-condensing
<b>Altitude:</b>	4,572 m / 15,000 ft	15,240 m / 50,000 ft
<b>Shock:</b>	5 G, each axis	
<b>Vibration:</b>	1.5 G, each axis	

## Reliability

- MTBF: >75,000 hours @ 20°C / 68°F (MIL-HDBK-217F)
- USB and mouse / keyboard voltage protected by self-resetting fuses
- Unique silicon serial number accessible via software
- 2 year limited warranty

## Designed to meet or exceed:

**Safety:** UL 1950; CSA C22.2 No 950; EN 60950; IEC950  
**EMI/EMC:** FCC 47 CFR Part 15/CISPR22; CE Mark to EN55022/EN50082



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