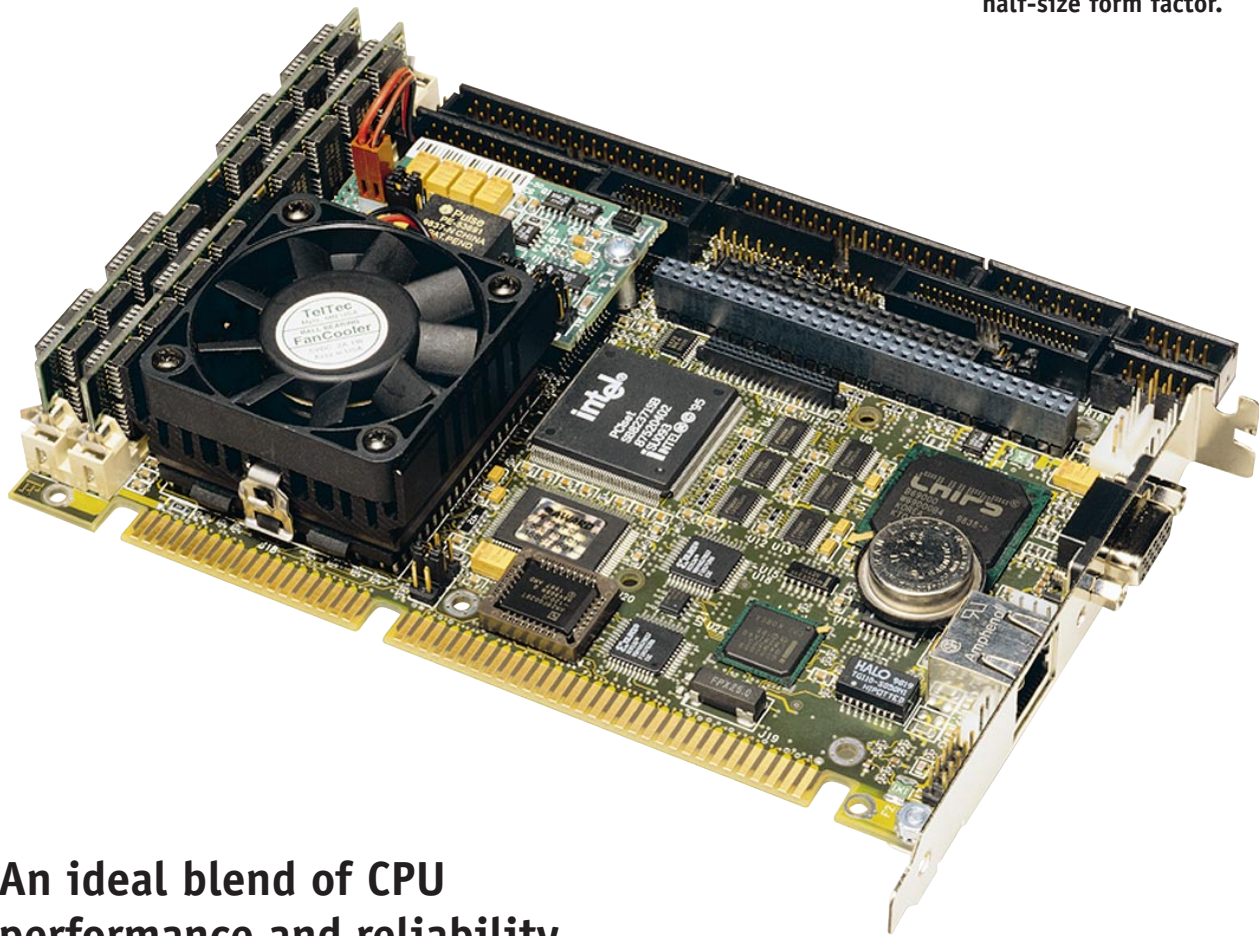# ➤ VIPer824

➤ Full featured, yet compact

➤ Kontron's Pentium®-based VIPer824 SBC provides an ideal blend of CPU performance and I/O on a reliable, compact half-size form factor.

➤ An ideal blend of CPU performance and reliability

The VIPer824 half-size ISA SBC delivers the processing power of Intel's Pentium® (including VRT) or Pentium® with MMX™ technology processor with 512 KB L2 synchronous pipelined burst cache, up to 256 MB FPM or EDO memory (parity/non-parity or ECC), high performance PCI EIDE and CompactFlash™ disk support.

It also features a Chips and Technologies (Intel 69000) PCI 64-bit CRT/Flat Panel video controller with 2 MB SDRAM.

Options include 10/100Base-TX Ethernet connectivity.

Features include:

➤ **Pentium® processor with MMX™ up to 233 MHz with 512 KB L2 Cache Intel 430HX chipset**

➤ **Up to 256 MB FPM or EDO DRAM**

➤ **PCI EIDE and CompactFlash™ Disk Support**

➤ **PCI 64-bit Flat Panel / CRT Video with 2 MB SDRAM**

➤ **10/100Base-TX Ethernet**

➤ **PC/104, ISA Passive Backplane or Stand-alone Operation**

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➤ VIPer824 - Technical Specifications

CPU
- Pentium® processor 133 VRT™ (Voltage Reduction Technology), 133 & 166 MHz; Pentium® processor with MMX™ technology 200 & 233 MHz
- Intel 82430HX chipset

Bus Interface
- PC/AT ISA bus or stand-alone operation
- 100% IBM PC/AT compatible
- PC/104 compatible
- PCI bus Rev. 2.1 (internal)

Cache
- 8/8 KB Instruction / Data Level 1
- 512 KB External 64-bit wide SPB non-blocking ECC Level 2

Memory
- Two 72-pin latching SIMM sockets, one bank (must fill)
- Up to 256 MB with 1, 2, 4, 8, 16, 32 M x 32/36, FPM or EDO DRAM (parity/non-parity and ECC support) with all 256 MB cacheable

Data Path
- 64-bit on CPU; 16-bit on ISA bus; 32-bit on PCI bus (internal)

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 FDC37C932

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 as 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: Support for two EIDE drives (master/slave configuration); PIO Mode 4, Bus Master IDE or synchronous DMA mode transfers up to 33 MB/s

CompactFlash™ Module: Optional bootable CompactFlash™ module interfaces to secondary IDE channel, user upgradeable

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

Video
- PCI 64-bit CRT/Flat Panel controller with 2 MB 83 MHz SDRAM memory (C&T69000A)
- Support monochrome & color Plasma, EL, DSTN, SSTN, TFT/CRT panels with resolution up to 800 x 600, 16.8 M colors; 1024 x 768, 64 K 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
Rear I/O Bracket: CRT (female DB-15); Ethernet (RJ-45 with link/activity indicators)
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); AT keyboard, speaker, reset, EIDE disk LED (16-pin shrouded); Flat Panel display (50-pin and 20-pin high density shrouded); CompactFlash™ Module header; V-PORT™ (26-pin header); CPU fan (2-pin locking); PC/104 header; external power source (6-pin & 5-pin locking)

BIOS
- Award Elite BIOS in Boot Block Flash with emergency recovery code; save CMOS in Flash option, and boot from LAN capability
- Auto configuration, extended setup; support for memory hole at 15-16 MB; PnP tables
- Setup console redirection to serial port (VT100 mode) with CMOS setup access
- Software enable/disable of onboard Ethernet and video
- Diskless, keyboardless and videoless operation extensions; system and video BIOS shadowing
- Programmable bus and I/O speeds, and memory wait states
- CC00-E000 address blocking
- Advanced security feature for floppy and HDD; DMI
- Advanced Power Management (APM 1.2), advanced thermal management (resume, overheat alarm and auto slow down), and Green support

Supervisory
- Watchdog timer (1.6 sec. typ.)
- 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 4.0/5.0; QNX™

Mechanical
- 181 x 122 x 32 mm at CPU / fan (7.125 x 4.80 x 1.25 in. at CPU / fan)
- Conforms to IEEE P996 PC/AT bus, PCI Rev. 2.1, and PC/104 Rev 1.0 specifications

Power Requirements

Supply Voltage	$Vcc = +5V \pm 5\%$	
Pentium MMX:	**200**	**233**
ICC typ.* +5V	3.28A	3.64A
ICC susp. +5V	1.48A	1.56A
Pentium:	**133**	**166**
ICC typ.* +5V	2.68A	2.96A
ICC susp. +5V	1.40A	1.42A
VRT:	**133**	
ICC typ.* +5V	2.44	
ICC susp. +5V	1.30	

* Measured with 16 MB DRAM, 512 KB cache, keyboard, floppy and hard disk.

Environmental

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

Reliability
- MTBF: >100,000 hours @ 20°C / 68°F (MIL-HDBK-217F)
- 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