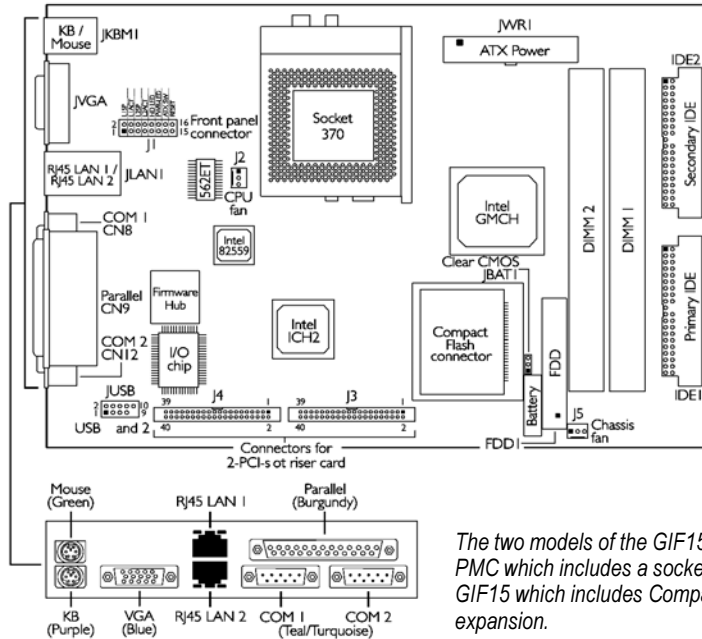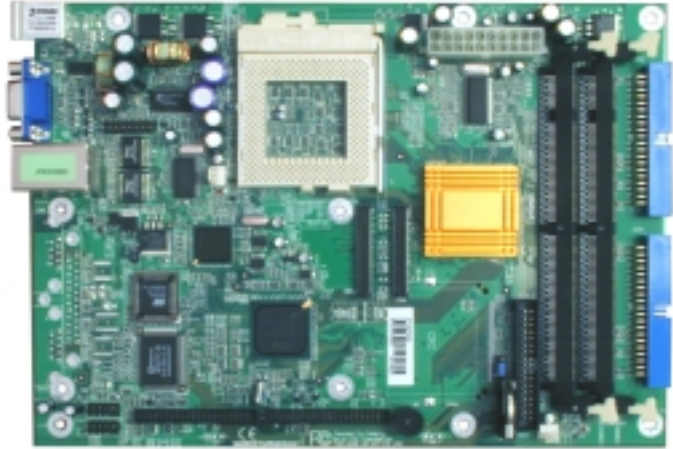# IF15 Series

REVISION CONTROLLED MOTHERBOARDS

FlexATX format. Socket 370 for Intel Pentium III and Celeron. Two Ethernet. Video. Watchdog timer. 2 PCI. Intel 815E chipset. 133 MHz fsb. PMC or Compact Flash.

Compact Flash Version

PMC Version

The two models of the GIF15 Series motherboards are illustrated. The photograph shows the GIF15-PMC which includes a socket for a PMC (PCI Mezzanine) card. The component layout drawing shows the GIF15 which includes CompactFlash socket, parallel port, and second serial port instead of PMC expansion.

FEATURES

- **Revision Control.** One of the most important features of the IF15 motherboards is that they are manufactured under strict revision-control guidelines which assure a long and stable product life. ITOX customers benefit by avoiding costly computer design changes and system re-certifications.
- **Industrial-grade components.** Designed for rigorous industrial applications where reliability and longevity are critical. Among the special features of i-grade motherboards are superior fiberglass printed circuit boards, improved heat sinks to protect voltage regulators, and longer life capacitors.
- **Watchdog timer.** A configurable watchdog timer reboots the system to restart software, if the operating system locks up.
- **Thermal protection.** Measures processor temperature and checks fan operation. Sends alarms if potentially damaging conditions arise.
- **Three expansion cards in a 1U space.** The IF15 design enables two PCI cards to fit in 1U rack mount cases. The IF15-PMC model allows a third PMC cards as well.

BENEFITS

- **High performance.** Front side bus speeds to 133 MHz. Processor speeds to 1 GHz. Intel 815E chipset. High throughput Intel Hub architecture.
- **Long and stable life cycle.** Revision control motherboards have a 3-year or longer projected availability.
- **Dependability.** ITOX industrial-grade enhancements. Watchdog timer. MTBF exceeds 98,000 hours at 45 degrees Celsius.
- **High temperature operation.** Thermal monitor and alarm plus industral-grade components permit operation at 45 degrees Celsius.

APPLICATIONS

- **Networking.** Two Ethernet.
- **Computer telephony.** Two PCI plus PMC or compact flash. See ITOX Expanding Dragon 1U platform.
- **Industrial control, medical instrumentation, network infrastructure.** Revision control for an extended product life cycle.
- **Computer clusters.** PMC convenient for system to system connectivity.

IF15 Series

MODELS AND ACCESSORIES
- **GIF15**
  Compact flash socket. Parallel port. Two DB9 serial ports.
  Standard in ITOX Expanding Dragon 1U rackmount platform.
- **GIF15-PMC**
  PMC Socket. No parallel port. One DB9 serial.
  Standard in ITOX Expanding Dragon-PMC rackmount platform.
- **ACES-IF151PCI2** Riser card. Holds two PCI expansion cards.
  Optional, but supplied with Expanding Dragon systems.

PROCESSOR
- Socket 370 FCPGA
- Intel® Pentium III FCPGA CPUs
- Intel® Celeron™ FCPGA CPUs
- Intel® Celeron™ PPGA CPUs
- Socket detects required processor voltage (1.30V to 2.05V)

CHIPSET
- Intel® 815E
- Supports 66, 100 and 133 MHz front side bus

CACHE MEMORY
- On processor: Pentium III 256 KB, Celeron 128 KB

SYSTEM MEMORY
- 32MB to 512MB using unbuffered DIMMs
- Two 168-pin DIMM sockets (25 degree angle)
- Supports x64 PC-133/PC-100 SDRAM DIMM (3.3V)

BIOS
- Award BIOS, Windows 95/98/2000 Plug and Play compatible
- 4 Mbit Flash EPROM allows BIOS upgrades
- Includes Symbios Logic SCSI BIOS, supports SCSI sequential boot-up
- Supports DMI 2.0 functions

COMPATIBILITY
- Microsoft PC'98/PC'99 compliant
- VESA Display Power Management Signaling (DPMS)
- VESA DDC2B for Plug and Play monitors
- Supports PCI 2.2 specifications

ONBOARD GRAPHICS
- Intel Dynamic Video Memory Technology (shares 1 MB system memory)
- 3D hyper pipelined architecture
- 2D hardware and motion video acceleration
- 9-bit hardware motion compensation for software MPEG2 decode
- Software DVD at 30 fps
- 2D to 1600x1200
- 3 operand Raster BitBlts
- 64x64x3 color transparent cursor
- Flat and Gouraud shading
- MIP mapping with tri-linear anisotropic filtering
- Full-color specular / Z-buffering
- Fogging atmospheric effect
- 3D pipe 2D clipping / backface culling
- Software drivers: Windows® 95/98/2000, Windows NT® 4.0

PCI IDE INTERFACE
- Supports Ultra ATA/100 hard drives
- PIO Mode 4 Enhanced IDE with data transfer to 14 MB/sec
- Bus mastering reduces CPU use during disk transfer
- Supports ATAPI CD-ROM, LS-120, and ZIP

2 ON-BOARD ETHERNET CONTROLLERS
- IEEE 802.3 10BASE-T and 100BASE-TX compatible PHY
- 1 Intel 82559 and 1 Intel 82562 Ethernet Controllers
- Full duplex support at both 10 and 100 Mbps
- Alert on LAN 1.0 for 82562

DAMAGE FREE INTELLIGENCE
- Monitor and alarm for CPU/system temperature
- Monitor and alarm for 5VSB/VBAT/1.5V/3.3V/5V/±12V voltages
- Monitor, alarm, and on/off control for processor and chassis fans
- Watchdog comparison of all monitored values
- Read back to display temperature, voltage, fan speed
- Supports Intel processor diode for processor temperature
- Supports hardware random number generator for security

ENERGY EFFICIENT DESIGN
- Supports ACPI and OS Director Power Management
- Wake-ON keyboard, mouse, LAN (82562/559 channel)
- RTC timer for power-on
- CPU stopped clock control
- Hardware supported SMI green mode
- Microsoft / Intel APM 1.2 compliant
- Soft power supported, ACPI v1.0a specification
- AC power failure recovery

CONNECTORS
GIF15 only
- 1 DB25 parallel port
- 2 DB9 serial ports
- 1 Compact Flash memory card connector

GIF15-PMC only
- 1 DB-9 serial port
- 1 Internal connector for PMC card

GIF15 and GIF15-PMC
- 2 USB ports
- 2 RJ45 10/100MHz Ethernet ports
- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 1 DB-15 video port
- 2 connectors for CPU and system fans
- Supports floppy drive to 2.88MB

EXPANSION SLOTS
- 0 to 2 PCI (using optional riser card)

PHYSICAL / PCB
- FlexATX form factor
- 9.6" (24.4 cm) x 6.8" (17.3 cm)
- 6 layer board

ENVIRONMENTAL
- Operation: 0 to 45 degrees Celsius (ambient) at 20% to 80% relative humidty (non-condensing)
- Storage: -20 to 75 degrees Celsius (ambient) at 10% to 95% relative humidity (non-condensing)
- MTBF: 98,151 hours at 45 degrees Celsius and 80,538 hours at 55 degrees Celsius (Standard Reliability Prediction method)

SAFETY
- UL
- CSA
- FCC: Class B
- CE