

### Main Features

- ◆ Low Power ETX CPU Module
- ◆ On-board Intel® Celeron® M 600 MHz with 512 KB L2 Cache
- ◆ Intel® 852GM Chipset
- ◆ Supports 200/266 SO-DIMM up to 1 GB
- ◆ Intel® 82562GE 10/100 Ethernet Controller
- ◆ Realtek ALC655 CODEC, AC' 97 Audio Interface
- ◆ Supports LVDS Interface
- ◆ Supports DVO Interface

### Product Overview

The ICES 102 is an ETX CPU module with Intel® 852GM chipset supports Intel® Celeron® M or Pentium® M processor with 400 MHz FSB and one un-buffered non-ECC SO-DIMM 200/266 up to 1 GB. The Intel® 852GM chipset supports ISA, PCI, IDE, LPT, VGA, LVDS, LAN, Serial, USB DVO interfaces and more.

The ICES 102 follows the ETX standard x 1, x 2, x 3, x 4 connections between the ETX CPU module and I/O carried board, thus it is compatible with the carried boards from other brands like Kontron and Advantech. The ICES 102-C65 ETX CPU Module can easily integrated into most of the limited space projects, such as industrial automation, data acquisition and equipment computers.

### Specifications

#### CPU Support

- ◆ Intel® Celeron® M processor
- ◆ Intel® Pentium® M processor
- ◆ Supports 400 MHz FSB CPU only

#### Main Memory

- ◆ Supports one unbuffered non-ECC DDR SO-DIMM 200/266 up to 1 GB

#### Chipset

- ◆ Intel® 852GM + ICH-4 chipset

#### BIOS

- ◆ Award System BIOS
- ◆ Advanced Power Management support
- ◆ 4 Mbit flash ROM
- ◆ Supports Boot from USB-CDROM and Boot From CF Card (Industry grade bootable CF Card)

#### On-board LAN

- ◆ Intel 8256GZ 10/100 Fast Ethernet
- ◆ Supports PXE LAN boot function
- ◆ Signals down to I/O Board

#### Display

- ◆ Intel® 852GM integrated graphics solution up to 64 MB of dynamic video memory allocation drives a standard progressive scan analog monitor with pixel resolution up to 1600 x 1200 at 85 Hz
- ◆ Wide screen resolution support for 852 x 480 and 1366 x 768 resolution
- ◆ Single or dual pixel LVDS panel support
- ◆ Supports CRTs up to 1920 x 1440 x 32 bpp at 85 Hz

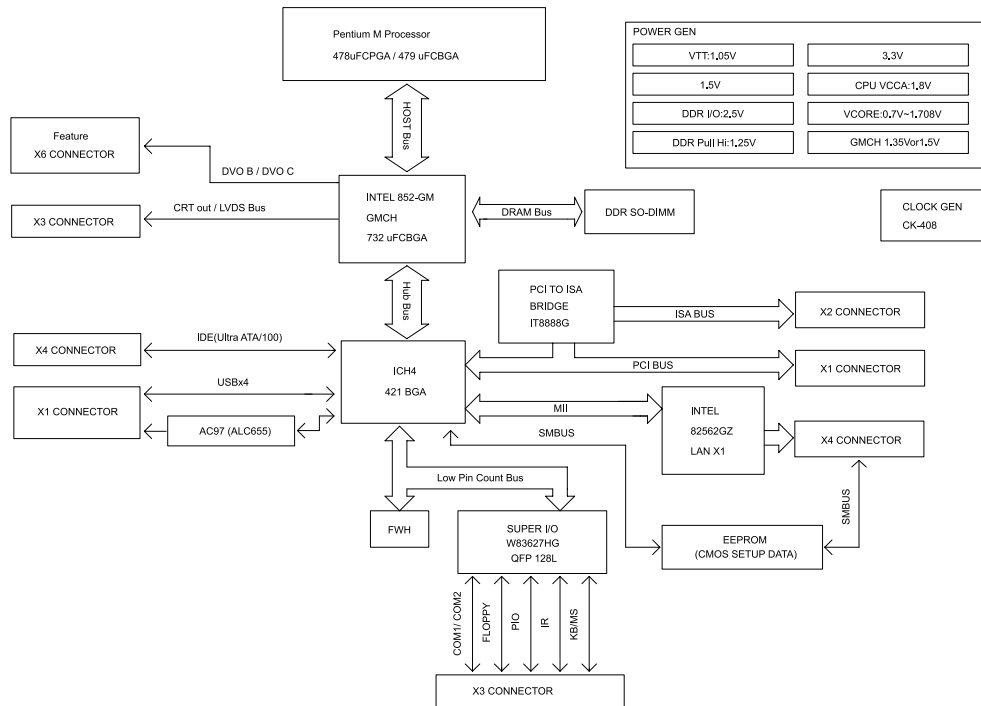
#### Super I/O

- ◆ WINBOND W83627HF

#### ETX Connector

- ◆ X1  
4 x 32-bit/33 Mhz PCI  
Realtek ALC 655 Codec - AC' 97 Audio Interface  
4 x USB 2.0
- ◆ X2  
ISA Interface (full function)
- ◆ X3  
1 x VGA  
1 x LVDS (dual pixel)  
1 x Parallel port  
1 x KB/Mouse  
COM1 and COM2  
1 x IrDA

## Block Diagram



- X4  
1 x Ethernet (10/100)  
SMBus/I2C  
2 x IDE

### On-board RTC

- On-chip RTC with battery back up
- 1 x External Li-ion battery
- Tolerance less than 2 secs (24 hours) under 25 °C environment

### Power Requirements

- +5 V power only, follows ETX power and ground pin definitions.
- Supports both AT and ATX power supplies

### Dimensions

- 95 mm (W) x 114 mm (L) (3.74" x 4.5)

### Environment

- Operating temperature: -20°C to 65°C
- Storage temperature: -25°C to 85°C
- Relative humidity: Non-operating 5% to 95%, non-condensing

### Certifications

- CE approval
- FCC Class A

## Ordering Information

- **ICES 102-373 (P/N:10K00010202X0)** RoHS Compliant  
ETX Module with Celeron® M 1 GHZ /512 KB L2, VGA/ISA/PCI/IDE/LVDS/  
Audio/COM/LPT/USB2.0/LAN Interface
- **ICES 102-C65 (P/N:10K00010201X0)** RoHS Compliant  
ETX Module with onboard Celeron® M 600 MHz processor, VGA/ISA/PCI/IDE/  
LVDS/Audio/COM/LPT/USB2.0/LAN Interface
- **ICES 102-SKT (P/N:10K00010200X0)** RoHS Compliant  
ETX Module with Pentium® M /Celeron® M CPU Socket, VGA/ISA/PCI/IDE/  
LVDS/Audio/COM/LPT/USB2.0/LAN Interface