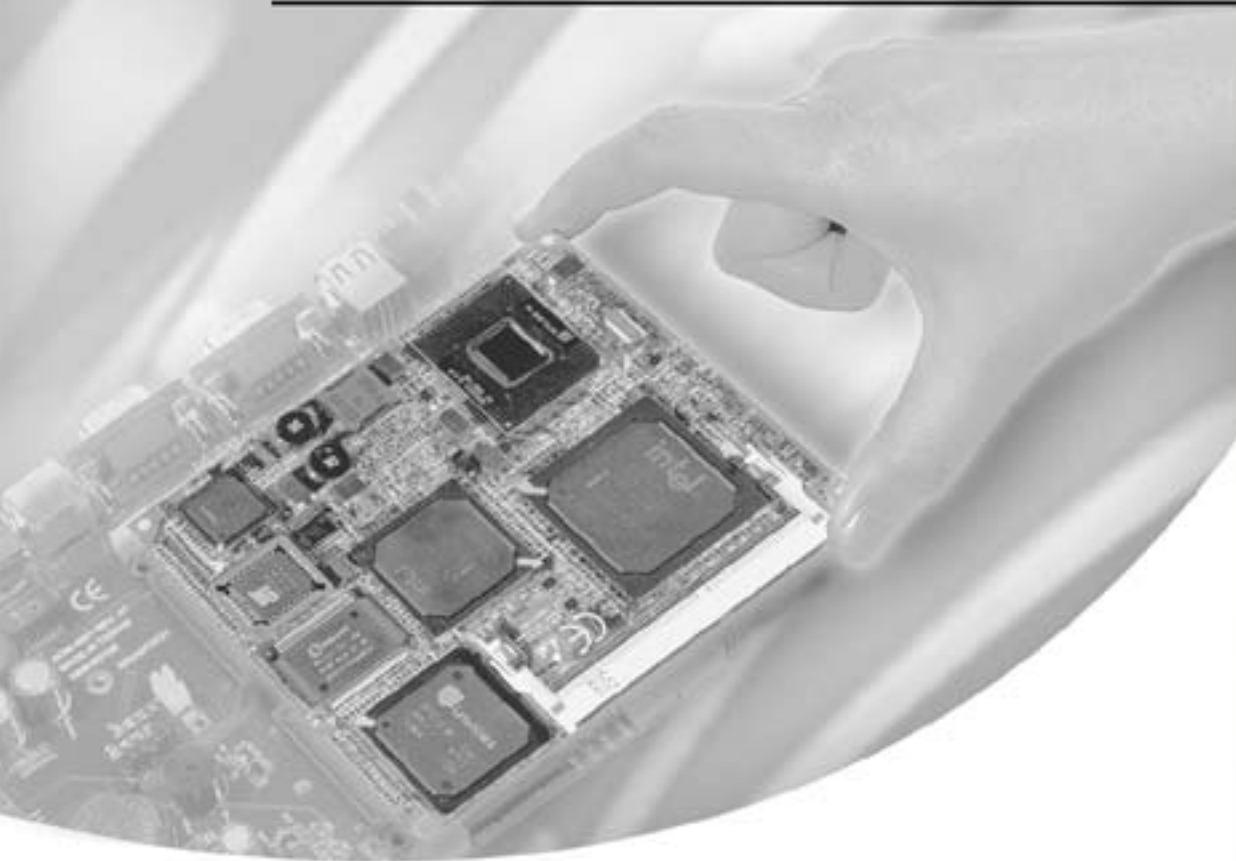


# System On Module

# 1



| SOM-ETX // Module |                                                                     |      |
|-------------------|---------------------------------------------------------------------|------|
| SOM-5580          | Intel® Pentium® M SOM-ETX // Module with CPU, VGA/LVDS, Audio & LAN | 1-5  |
| SOM-ETX Module    |                                                                     |      |
| SOM-4481          | Intel® Pentium® M SOM-ETX // Module with CPU, VGA/LVDS, Audio & LAN | 1-7  |
| SOM-4475          | Intel®-VIA SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio, LAN          | 1-9  |
| SOM-4472          | VIA SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio, LAN & TV-out        | 1-11 |
| SOM-4470          | Pentium® III SOM-ETX w/VGA, LCD, Audio, Video & LAN                 | 1-13 |
| SOM-4451          | SIS SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio & LAN                | 1-15 |
| SOM-4450          | AMD SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio, LAN & TV-out        | 1-17 |
| SOM-144 Module    |                                                                     |      |
| SOM-2367          | Transmeta SOM-144 Module w/CPU, Audio & LAN with DDR SDRAM support  | 1-19 |
| SOM-2366          | Transmeta SOM-144 Module w/CPU, 128 MB RAM, Audio & LAN             | 1-21 |
| SOM-2353          | SOM-144 Module w/CPU, VGA/LCD, Audio, SSD & LAN                     | 1-23 |
| SOM-DB5500        | SOM-ETX // Development Board                                        | 1-25 |
| SOM-DB4400        | SOM-EXT Development Board                                           | 1-27 |
| SOM-DB2300        | SOM-144 Development Board                                           | 1-28 |

# System On Module

**Reduce Development Time  
and Increase Profit**

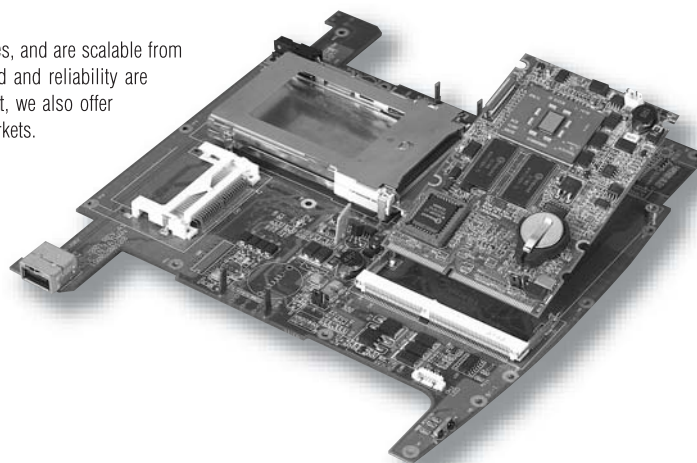
## X86-based System On Module

Advantech's exciting new System On Module™ (SOM) series of products and services are revolutionizing the embedded application market. Designed to provide CPU platform needs for constantly changing and evolving embedded computing products, the SOM series answers many of the market's current and future demands. Advantech's System On Module™ is a series of complete CPU system modules that mount onto easily designed application-specific customer solution boards. Three powerful product lines of x86-based System On Module are available, 1st is the compact and powerful SOM-144 line and the 2nd is our high integration SOM-ETX line & the last is the high-performance SOM-ETX II product line. SOM products allow ODM embedded integrators to focus on their applications, since the state-of-the-art computing platform is provided for them.



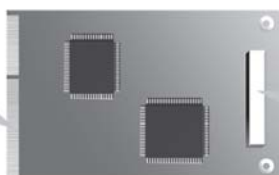
## SOM-144 Modules

Advantech provides a series of SOM-144 Modules with various CPU classes, and are scalable from Transmeta or Geode™ performance to meet applications where size, speed and reliability are necessities. Designed to help customers bring their products to market fast, we also offer various options of customer solution boards tailored for different vertical markets.



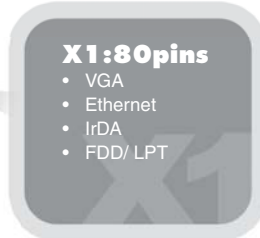
### X2: 144pins

- PCI Bus
- IDE
- USB
- AC97
- Keyboard
- Mouse
- COMs



### X1: 80pins

- VGA
- Ethernet
- IrDA
- FDD/ LPT



## SOM-144 Solutions Satisfy Customers' Needs

Advantech is coming out with a wide range of System On Module™ products that cover our customers' needs. Our first SOM solution will be the SOM-144 series. SOM-144 products have compressed many features usually found on larger control boards, into the space of a 2.5" HDD (68 mm x 100 mm). The SOM-144 series offer a variety of platforms and processor choices. The SOM-2353 has the well-proven Geode™ GX1-300 MHz processor that gives fanless, low power 586-level performance. The SOM-2366 uses the Transmeta™ TM5800 800 MHz processor, also ideal for power conscious applications that need high performance operation. The SOM-2367 is the similar to SOM-2366, but it also provides the DDR SO-DIMM socket for memory expansion. All these System On Module™ products can be immediately used with their own development board.

# SOM-ETX Series Modules

1  
System on Module Solutions

2  
Single Board Computers and Accessories

3  
PC/104 Modules

4  
Slot CPU Cards and Accessories

5  
AIMB/POS Control Boards

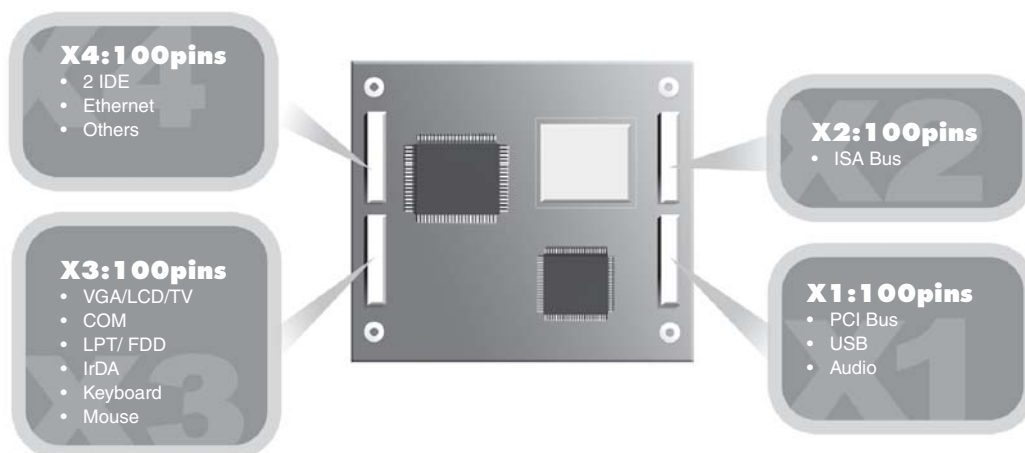
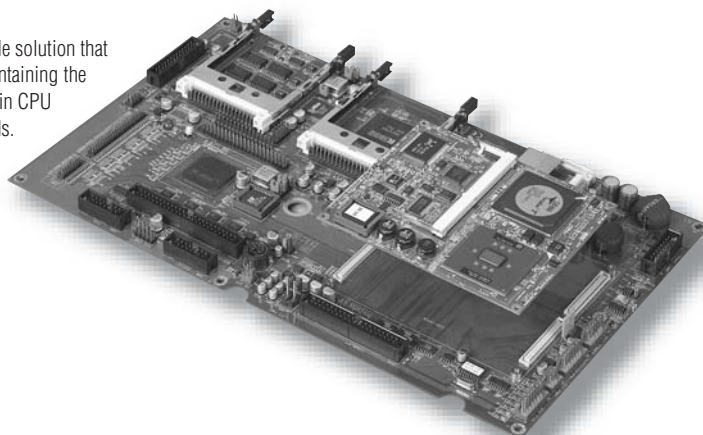
6  
Internet Security Platforms

7  
Embedded Software

8  
Appl.

## Geode™/Celeron®/Pentium® M and Pentium® III/VIA/SiS

Advantech's SOM-ETX form factor System on Module™ series provides a scalable solution that meets customers' advanced CPU and application development needs. Still maintaining the SOM concept of an application-specific customer solution board utilizing a plug-in CPU module, the SOM-ETX line has great I/O capacity and meets both ISA and PCI needs. With a wide range of processor choices, SOM-ETX gives application engineers powerful CPU platform choices, streamlining the product development process and reducing time to market.

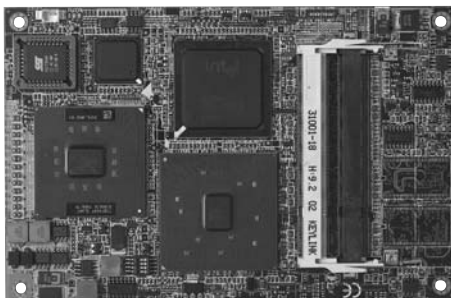
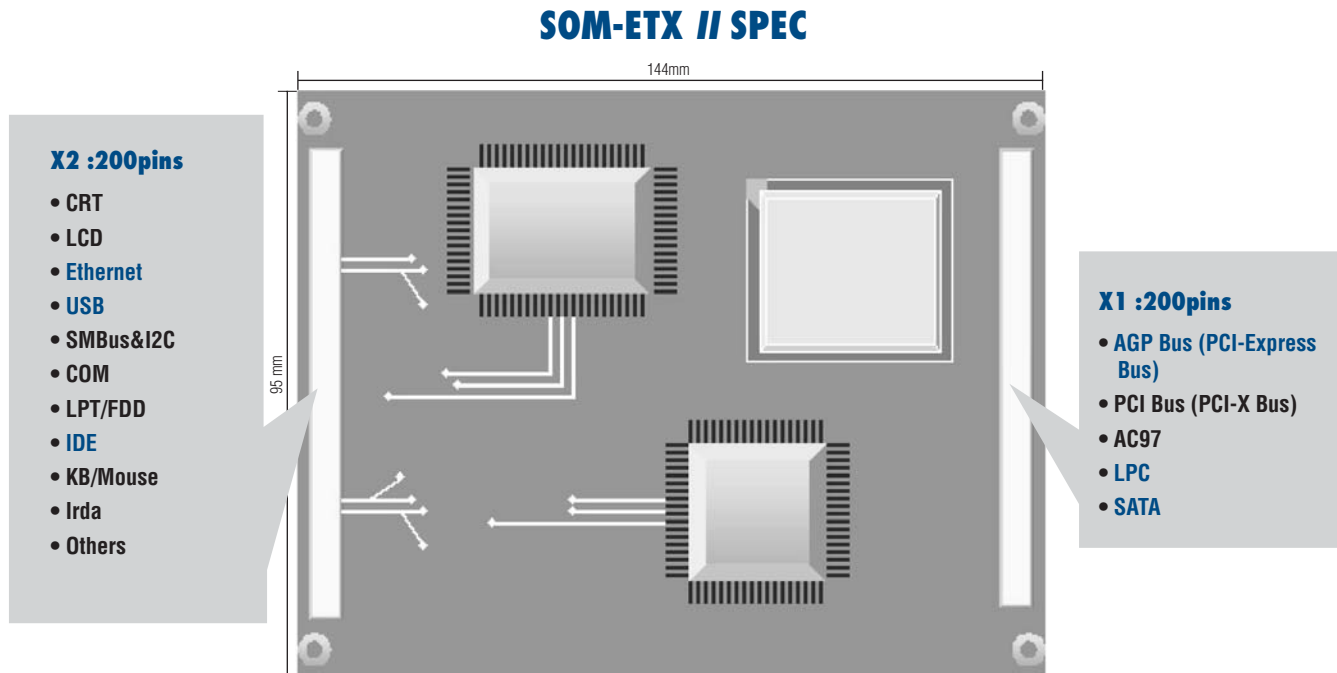


## SOM-ETX Combines Muscle and Flexibility

Advantech's ETX CPU modules give customers tremendous power and flexibility. The SOM-4470/4473/4475/4481 brings a powerful Pentium® M, Pentium® III/Celeron™ fanless processor to the Advantech SOM line, which is able to handle the most intensive data and graphics applications. The SOM-4450 incorporates a low power fanless GX1-300 processor that is becoming the processor of choice for embedded system integrators. The SOM-4451 with SiS SoC technology provides a much simpler on CPU board design. The small size (95 mm x 114 mm) and use of four high capacity connectors based on the SOM-ETX form factor, allow the SOM-ETX modules to be easily and securely mounted on a customized application (customer solution) board. This design and multiple processor choices give customers good performance options, eliminates CPU integration worries and allows fast application support for the most dynamic embedded needs.

# SOM-ETX // Series Modules

SOM-ETX // form factor System on Module Series provide a scalable high performance and easy to integrate solution that can meet customer's application needs. Still maintaining the SOM concept of an application-specific customer solution board utilizing a plug-in CPU module, the SOM-ETX // line provides advanced I/O capacity and also flexible interfaces such like AGP & PCI for easing the specific design needs of solution boards.



## SOM-ETX // Gives Performance and Integration

Advantech's SOM-ETX // CPU modules provide customers extreme performance and flexible integration. The SOM-5580 has a powerful Pentium M processor which gives strong core computing power to meet the most intensive data and graphics applications. The AGP interface offers more overall graphics capability. With a 3.5" HDD (95 mm x 144 mm) size and two high capacity B2B connectors allows SOM-ETX // CPU modules to be easily and securely mounted on a customized application board. This design and full I/O interface can help customers eliminate most integration worries and give fast application support for the most dynamic embedded needs.

**Note 1:** AGP bus is available on Type A of SOM-ETX //

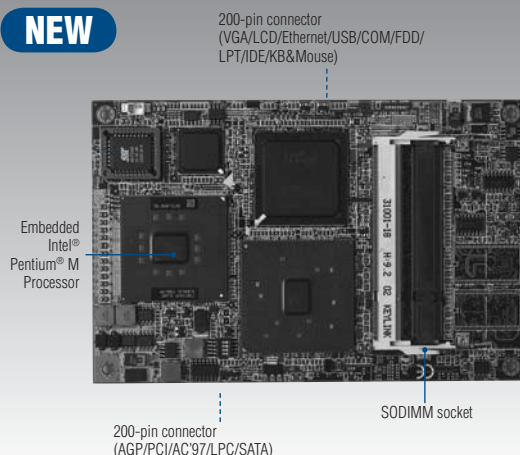
**Note 2:** PCI-X bus is available on Type B of SOM-ETX //

**Note 3:** PCI-Express bus is available on Type C of SOM-ETX //

# SOM-5580 Series

Intel® Pentium® M SOM-ETX //  
Module with CPU, VGA/LVDS,  
Audio & LAN

**NEW**



## Specifications

- **CPU** Embedded Intel® Pentium® M or Dothan Processor 1.6 GHz/1.1 GHz w/64KB primary cache memory
- **System Memory** 2 x 200 pin SO-DIMM sockets, support ECC Double DataRate (DDR) 128 MB to 1 GB, accept 128/256/512/1000 MB DR200/266/333 DRAM.
- **2nd Cache Memory** 1 MB on the Pentium M processor or 2 MB on the Dothan processor
- **System Chipset** Intel 855GME GMCH/ ICH4 Chipset 400 MHz PSB
- **BIOS** AWARD 4 Mbit Flash BIOS
- **WatchDog Timer** 255 levels timer interval, from 1 to 255 sec or min setup by software, jumperless selection, generates system reset
- **Expansion Interface** Support PCI & AGP interface

### I/O

- **MIO** 2 x EIDE (UDMA 100), 1x LPT/FDD (shared), 1 x K/B, 1 x Mouse, 2 x RS232,
- **IrDA** 115 Kbps, IrDA 1.1 compliant.
- **USB** 6 USB 2.0 compliant ports
- **GPIO** 8-bit general Purpose Input/ Output

### Ethernet

- **Chipset** Intel 82562EZ, 82540EM (Gigabit)
- **Ethernet Interface** IEEE 802.3u 100Base-T and IEEE 802.3z/ab 1000Base-T compatible Built-in boot ROM in Flash BIOS

### Display

- **Chipset** Intel 855GME, supports a single 1.5 V accelerated graphics port interface,
- **Memory Size** Optimized shared memory architecture, supports 1 MB/8 MB frame buffer using system memory
- **Resolution**
  - \* CRT Display mode Pixel resolution up to 1600 x 1200 at 85 Hz and 2048 x 1536 at 75 Hz
  - \* LCD Display mode Dual channel LVDS panel supports up to UXGA panel resolution with frequency range from 25 MHz to 112 MHz

## Features

- Embedded Intel® Pentium® M 1.1 G, 1.6 G processor
- Supports ECC DDR Memory
- With Vcore 2 phase design for more stable system
- Supports 1000Base-T Ethernet (SOM-5580F-U0A1)
- Supports 6 ports host USB 2.0
- Supports up to dual channel LVDS panels

## Mechanical and Environmental

- **Dimensions (L x W)** 95 x 144 (3.74 x 5.67)
- **Power Supply Voltage** +5 V power only.
- **Power Requirement** Max: +5 V @ 7 A, Typical: +5 V @ 5.6 A (Pentium M 1.6 G, 256 MB DDR 300)  
Max: +5 V @ 4 A, Typical: +5 V @ 2.8 A (Pentium M 1.1 G, 256 MB DDR 300)
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Operating Humidity** 0% ~ 90% relative humidity, non-condensing
- **Weight** 0.45 kg (weight of total package)

## Packing List

- SOM-5580 SOM-ETX II Module
- Utility CD
- Heat sink

## Ordering information

### Standard:

- **SOM-5580F-S0A1** Pentium® M 1.1G w/ CPU/VGA/LCD/Audio/LAN
- **SOM-5580F-U0A1** Same as SOM-5580F-S0A1 w/Pentium M 1.6 G & Giga LAN
- **SOM-DB5500-00A1** Development Board for SOM-ETX // Rev. A1
- **SOM-DB5500G-00A1** Development Board for SOM-ETX // (Giga LAN) Rev. A1

**1**  
System on Module Solutions

**2**  
Single Board Computers and Accessories

**3**  
PC/104 Modules

**4**  
Slot CPU Cards and Accessories

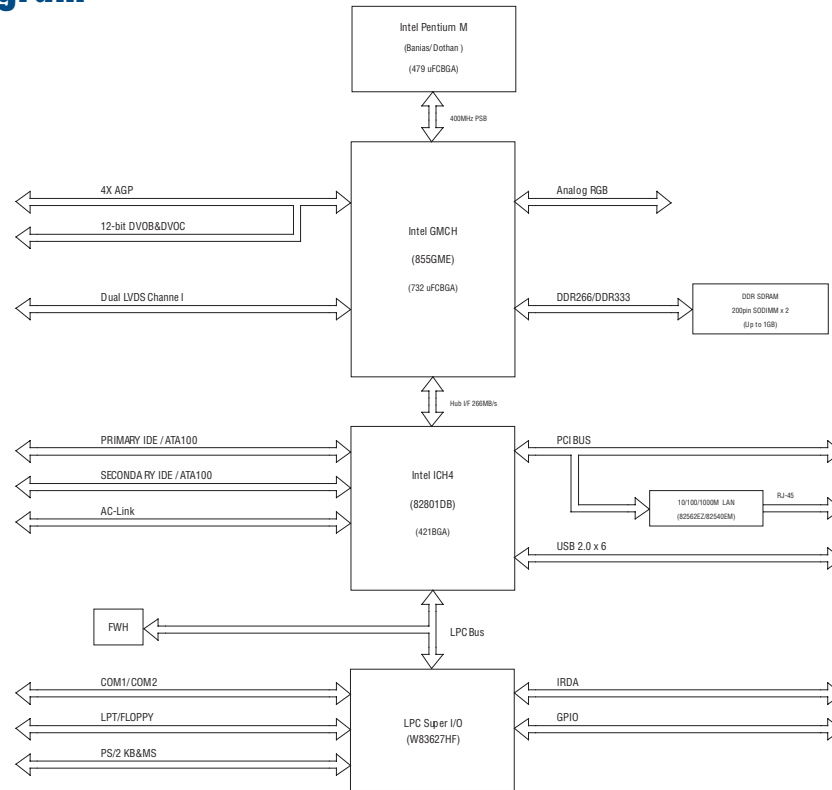
**5**  
AIMB/POS Control Boards

**6**  
Internet Security Platforms

**7**  
Embedded Software

**8**  
Appl.

## Board Diagram



# SOM-4481 Series

Intel® Pentium® M SOM-ETX //  
Module with CPU, VGA/LVDS,  
Audio & LAN

1

System on Module Solutions

2

Single Board Computers and Accessories

3

PC/104 Modules

4

Slot CPU Cards and Accessories

5

AIMB/POS Control Boards

6

Internet Security Platforms

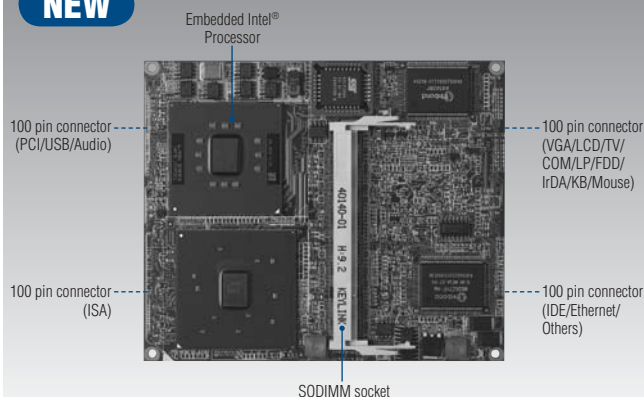
7

Embedded Software

8

Appl.

NEW



## Specifications

- **CPU** Embedded Intel® Pentium® M or Celeron M processor w/64KB primary cache memory
- **System Memory** 2 x 200 pin SO-DIMM sockets, support ECC Double DataRate (DDR) 128 MB to 1 GB, accept 128/256/512/1000 MB DR200/266/333 DRAM.
- **2nd Cache Memory** 1 MB on the Pentium M processor or 512 KB on the Celeron M processor
- **System Chipset** Intel 855GME GMCH/ ICH4 Chipset 400 MHz PSB
- **BIOS** AWARD 4 Mbit Flash BIOS
- **WatchDog Timer** 255 levels timer interval, from 1 to 255 sec or min setup by software, jumperless selection, generates system reset
- **Expansion Interface** Support PCI & ISA interface

## I/O

- **MIO** 2 x EIDE (UDMA 66), 1x LPT/FDD (shared), 1 x K/B, 1 x Mouse, 2 x RS232,
- **IrDA** 115 Kbps, IrDA 1.1 compliant.
- **USB** 4 USB 2.0 compliant ports

## Ethernet

- **Chipset** Intel 82551QM
- **Ethernet Interface** IEEE 802.3u 100Base-T compatible Built-in boot ROM in Flash BIOS

## Display

- **Chipset** Intel 855GME, supports a single 1.5 V accelerated graphics port interface,
- **Memory Size** Optimized shared memory architecture, supports 1 MB/8 MB frame buffer using system memory
- **Resolution**
  - \* CRT Display mode Pixel resolution up to 1600 x 1200 at 85 Hz and 2048 x 1536 at 75 Hz
  - \* LCD Display mode Dual channel LVDS panel supports up to UXGA panel resolution with frequency range from 25 MHz to 112 MHz

## Features

- Embedded Intel® Pentium® M/ Celeron M processor
- Supports ECC DDR Memory
- With Vcore 2 phase design for more stable system
- Supports 4 ports host USB 2.0
- Supports up to dual channel LVDS panels

## Mechanical and Environmental

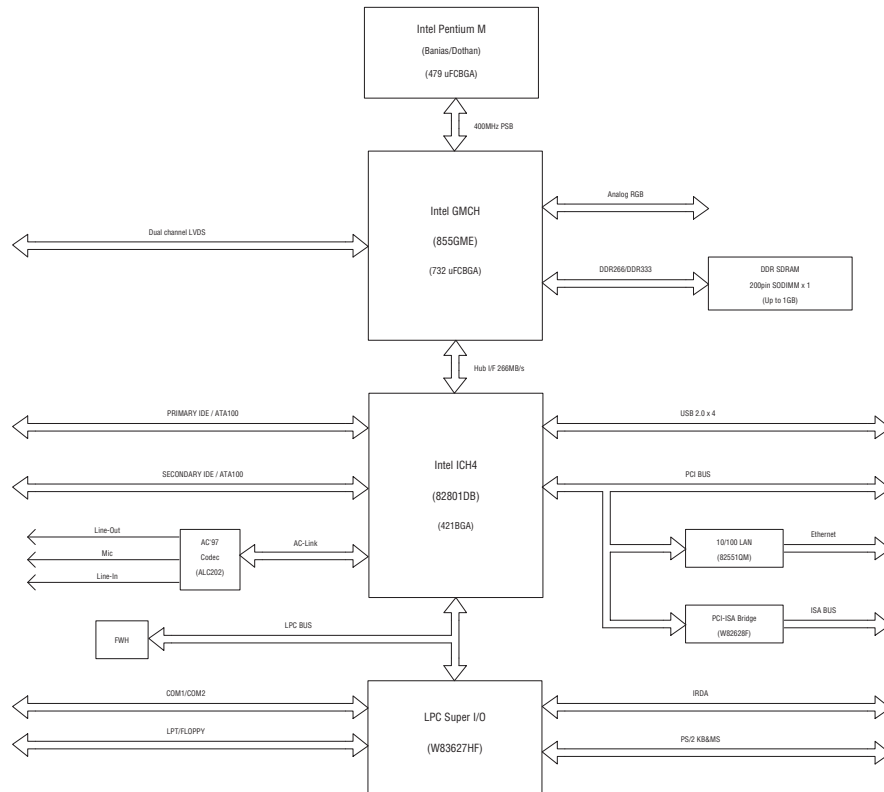
- **Dimensions (L x W)** 95 x 114 (3.74" x 4.5")
- **Power Supply Voltage** +5 V power only
- **Power Requirement** Max: +5 V @ 4 A, Typical: +5 V @ 2.8 A (Pentium M 1.1 G, 256 MB DDR 300)
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Operating Humidity** 0% ~ 90% relative humidity, non-condensing

## Ordering information

### Standard:

- **SOM-4481F-S0A1** Pentium® M 1.1G w/ CPU/VGA/LCD/Audio/LAN
- **SOM-4481F-M0A1** Same as SOM-5580F-S0A1 w/Celeron M 600MHz
- **SOM-DB4400-00A2** SOM-ETX Development Board Rev. A2

## Board Diagram



# SOM-4475 Series

Intel®-VIA SOM-ETX Module w/  
CPU, VGA, LCD/LVDS, Audio, LAN

**1**  
System on Module Solutions

**2**  
Single Board Computers and Accessories

**3**  
PC/104 Modules

**4**  
Slot CPU Cards and Accessories

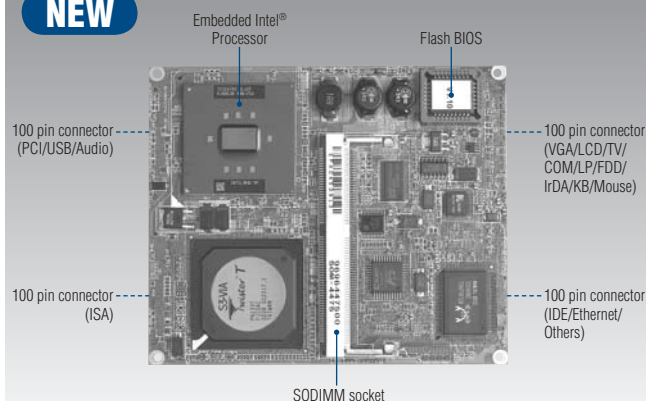
**5**  
AIMB/POS Control Boards

**6**  
Internet Security Platforms

**7**  
Embedded Software

**8**  
Appl.

**NEW**



## Specifications

- **CPU** LV Intel® Pentium® III-933 MHz/ ULV Celeron-650 & 400 MHz
- **System Memory** SDRAM SO-DIMM x 1, Max. 512 MB (optional 1 GB)
- **2nd Cache Memory** 512KB on PIII and 256KB on Celeron CPU
- **System Chipset** VIA 8606 (Twister T)/ 82C686
- **BIOS** AWARD 256 KB Flash BIOS
- **Watchdog timer** 1 - 62 sec, system reset

### I/O

- **MIO** 2 x EIDE (Ultra DMA66), 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
- **IrDA** 115 Kbps, IrDA 1.1 compliant
- **Audio** VT 82C686 supports AC'97 2.0 compliant, Mic in, Line in, Line out
- **USB** 4 USB ports, USB 1.1 compliant

### Ethernet

- **Chipset** RTL 8139
- **Ethernet Interface** IEEE 802.3u 100BASE-T Fast Ethernet  
Built-in boot ROM

## Features

- Embedded LV Intel® Pentium® III/ULV Celeron® processor
- Fanless, 0 ~ 60° C operation (SOM-4475F-J0A1 & SOM-4475FL-J0A1)
- ETX form factor
- Powerful multimedia capability
- 18-bit LCD/ 2-channel LVDS interface

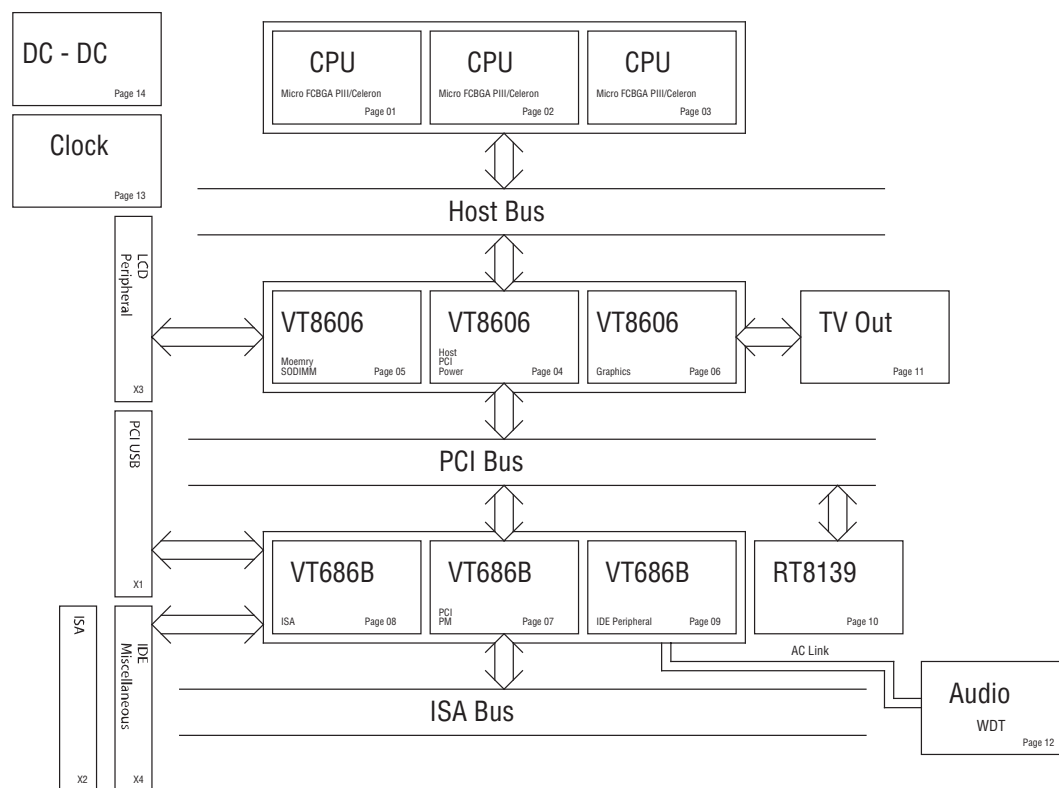
### Display

- **Chipset** VIA Twister chip with Integrated S3 Savage4 2D/3D/ Video Accelerator
- **Memory Size** 8/16/32/64 MB frame buffer using system memory
- **Resolution** CRT Mode: 1280 x 1024 @ 16 bpp (60 Hz), 1024 x 768 @ 16 bpp (85 Hz)  
LCD/Simultaneous Mode: 1280 x 1024 @ 16 bpp (60 Hz), 1024 x 768 @ 16 bpp (60 Hz)
- **LCD Interface** 4X AGP VGA/LCD interface.Support 18-bit TFT panels up to XGA resolution
- **LVDS Interface** 2 Channel (2x 18-bit) LVDS interface

### Mechanical and Environmental

- **Dimensions (L x W)** 95 x 114 mm (3.7" x 4.5")
- **Power Supply Voltage** + 5 V  $\pm$  5%
- **Power Requirements** Max:4.6 V @ 5 V  
Typical 3.41 A @ 5 V (PIII 933 MHz + 256 MB DRAM)  
Typical 2.95 A @ 5 V (Celeron 650 MHz + 256 MB DRAM)  
Typical 2.44 A @ 5 V (Celeron 400 MHz + 256 MB DRAM)
- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Operating Humidity** 0% ~ 90% relative humidity, non-condensing system

## Board Diagram



## Ordering Information

### Standard

- **SOM-4475F-R0A1** SOM-ETX w/Intel PIII 933 MHz/VGA/LCD/LAN/Audio
- **SOM-4475F-M0A1** SOM-ETX w/Intel Celeron 650 MHz/VGA/LCD/LAN/Audio
- **SOM-4475F-J0A1** SOM-ETX w/Intel Celeron 400 MHz/VGA/LCD/LAN/Audio
- **SOM-4475FL-R0A1** SOM-ETX w/Intel PIII 933 MHz/VGA/LVDS/LAN/Audio
- **SOM-4475FL-M0A1** SOM-ETX w/Intel Celeron 650 MHz/VGA/LVDS/LAN/Audio
- **SOM-4475FL-J0A1** SOM-ETX w/Intel Celeron 400 MHz/VGA/LVDS/LAN/Audio
- **SOM-DK4475F-C01** Windows CE3.0 Development Kit for SOM-4475F
- **SOM-DK4475F-042** Windows CE.NET 4.2 Development Kit for SOM-4475F
- **SOM-DB4400-00A2** SOM-ETX Development Board Rev. A2

### Optional

- **SOM-FANKIT-1000** Fan Kit for SOM-ETX Module

# SOM-4472

VIA SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio, LAN & TV-out

1  
System on Module Solutions

2  
Single Board Computers and Accessories

3  
PC/104 Modules

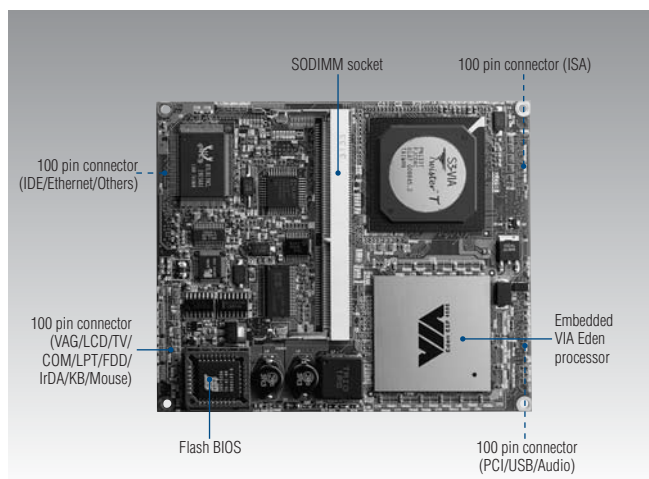
4  
Slot CPU Cards and Accessories

5  
AIMB/POS Control Boards

6  
Internet Security Platforms

7  
Embedded Software

8  
Appl.



## Specifications

- **CPU** VIA low power Eden Processor
- **System Memory** SDRAM SO-DIMM x 1, Max. 512 MB (optional 1 GB)
- **2nd Cache Memory** 64 KB on CPU
- **System Chipset** VIA 8606 (Twister T)/ 82C686
- **BIOS** AWARD 256 KB Flash BIOS
- **Watchdog Timer** 1 - 62 sec, system reset
- **Expansion Interface** PCI/ISA bus

### I/O

- **MIO** 2 x EIDE (Ultra DMA66), 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
- **IrDA** 115 Kbps, IrDA 1.1 compliant
- **Audio** VT 82C686 supports AC'97 2.0 compliant, Mic in, Line in, Line out
- **USB** 4 USB ports, USB 1.1 compliant

### Ethernet

- **Chipset** RTL 8139
- **Ethernet interface** IEEE 802.3u 100BASE -T Fast Ethernet  
Built-in boot ROM

## Features

- Embedded VIA Eden processor
- Fanless, 0 ~ 60° C operation (SOM-4472F-J0A2 & SOM-4472FL-J0A2)
- ETX form factor
- Powerful multimedia capability
- 18-bit LCD/ 2-channel LVDS interface

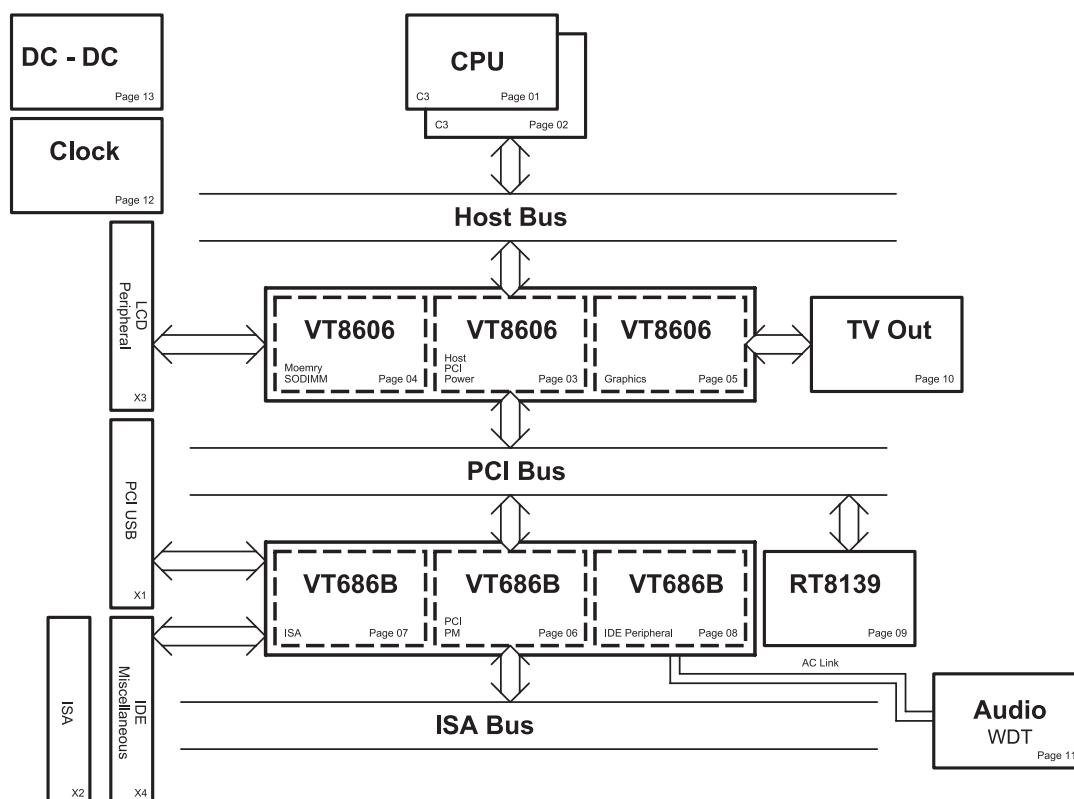
### Display

- **Chipset** VIA Twister chip with Integrated S3 Savage4 2D/3D/ Video Accelerator
- **Memory Size** 8/16/32/64 MB frame buffer using system memory
- **Resolution** CRT Mode:  
1280 x 1024 @ 16 bpp (60 Hz),  
1024 x 768 @ 16 bpp (85 Hz)  
LCD/Simultaneous Mode:  
1280 x 1024 @ 16 bpp (60 Hz),  
1024 x 768 @ 16 bpp (60 Hz)
- **LCD Interface** 4x AGP VGA/LCD interface. supports 18-bit TFT panels up to XGA resolution
- **LVDS Interface** 2 Channel (2 x 18-bit) LVDS interface
- **TV-out** Supports both NTSC/PAL

### Mechanical and Environmental

- **Dimensions (L x W)** 95 x 114 mm ( 3.7" x 4.5")
- **Power Supply Voltage** +5 V  $\pm$  5%
- **Power Requirements** Max. : 5 V @ 4.5 A  
Typical: 5 V @ 2.78 A (w/Eden400 + 256 MB RAM)  
Typical: 5 V @ 3.0 A (w/Eden667 + 256 MB RAM)
- **Operating Temperature** 0~60° C (32~140° F)
- **Operating Humidity** 0%~90% relative humidity, noncondensing

## Board Diagram



## Ordering Information

### Standard

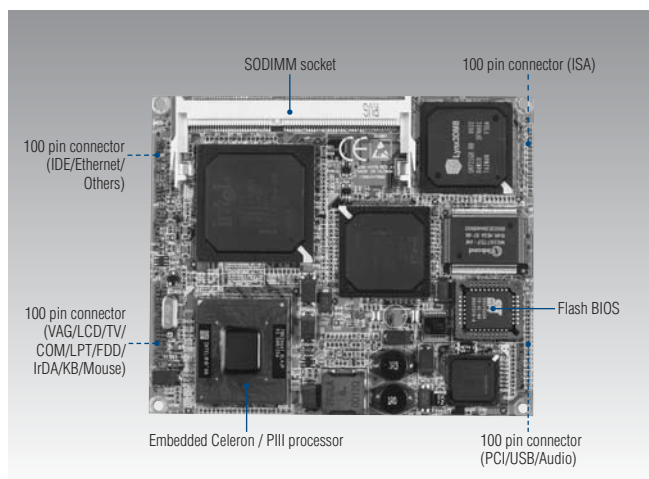
- **SOM-4472F-M0A2** SOM-ETX w/VIA Eden 667 MHz/VGA/LCD/LAN/Audio/TV-out
- **SOM-4472F-J0A2** SOM-ETX w/VIA Eden 400 MHz/VGA/LCD/LAN/Audio/TV-out
- **SOM-4472FL-M0A2** SOM-ETX w/VIA Eden 667 MHz/VGA/LVDS/LAN/Audio/TV-out
- **SOM-4472FL-J0A2** SOM-ETX w/VIA Eden 400 MHz/VGA/LVDS/LAN/Audio/TV-out
- **SOM-DK4472F-042** Windows CE4.2 Development Kit for SOM-4472F
- **SOM-DB4400-00A2** SOM-ETX Development Board Rev. A2

### Optional

- **SOM-FANKIT-1000** Fan Kit for SOM-ETX Module.

# SOM-4470

Pentium® III SOM-ETX w/VGA, LCD,  
Audio, Video & LAN



## System

- **CPU** Embedded Intel® low power Celeron-400/Pentium® III-500/700
- **System Memory** SDRAM SODIMM x 1, Max. 256 MB (optional 512 MB)
- **2nd Cache Memory** 128 KB on the Celeron processor, 256 KB on the Pentium® III processor
- **Chipset** Intel® 440 BX
- **BIOS** AWARD 256 KB Flash BIOS
- **Watchdog Timer** 1 - 62 sec, system reset
- **Expansion Interface** PCI/ISA

## I/O

- **MIO** 2 x EIDE (Ultra DMA33), 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
- **IrDA** 115 Kbps, IrDA 1.1 compliant
- **Audio** ESS ES1989 supports 2.0 compliant, Mic in, Line in, CD Audio in, Line out, Speaker out
- **USB** 2 USB ports, USB 1.1 compliant

## Ethernet

- **Chipset** Intel® 82559ER
- **Ethernet Interface** IEEE 802.3u 100BASE-T Fast Ethernet

## Features

- Embedded Intel® low power Pentium® III/Celeron™ processor
- Fanless, 0 ~ 60° C operation
- ETX form factor
- Supports wake-on-LAN
- Supports 24-bit LCD display

## Display

- **Chipset** 2x AGP SMI Lynx 721 chip, 3D Engine
- **Memory Size** 4 MB
- **Resolution** CRT Mode:  
1280 x 1024 @ 16 bpp (60 Hz),  
1024 x 768 @ 16 bpp (85 Hz)  
LCD/Simultaneous Mode:  
1280 x 1024 @ 16 bpp (60 Hz),  
1024 x 768 @ 16 bpp (60 Hz)
- **LCD Interface** 2x AGP VGA/LCD interface Supports 18-bit TFT/DSTN panels up to XGA resolution
- **TV-out** Supports both NTSC/PAL

## Mechanical and Environmental

- **Dimensions (LxW)** 95 x 114 mm (3.7" x 4.5")
- **Power Supply Voltage** +5 V ± 5%.
- **Power Requirements** Max. : 5 V @ 4.5 A  
Typical: 5 V @ 4.1 A (w/Pentium III 700 + 64 MB RAM)  
5 V @ 3.6 A (w/Pentium III 500 + 64 MB RAM)  
5 V @ 3.1 A (w/Celeron 400 + 64 MB RAM)
- **Operating Temperature** 0~60° C (32~140° F), fanless operation
- **Operating Humidity** 0% ~ 90% relative humidity, non-condensing

1

System on Module Solutions

2

Single Board Computers and Accessories

3

PC/104 Modules

4

Slot CPU Cards and Accessories

5

AIMB/POS Control Boards

6

Internet Security Platforms

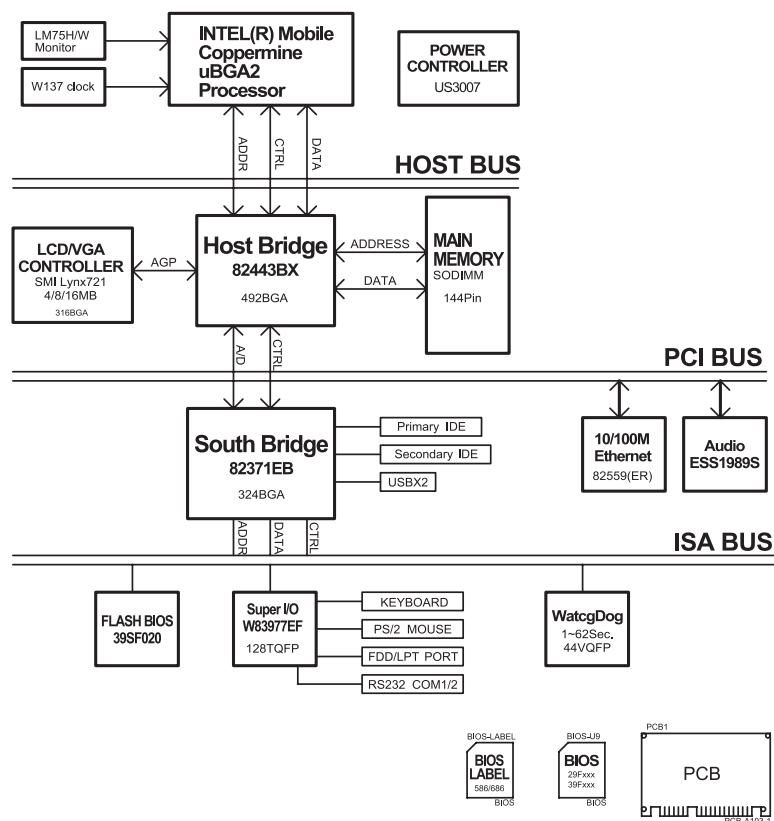
7

Embedded Software

8

Appl.

## Board Diagram



## Ordering Information

### Standard

- **SOM-4470F-J0A1** Intel® SOM-ETX Module w/ Celeron-400, VGA/LCD, Audio, LAN & TV-out
- **SOM-4470F-P4A1** Intel® SOM-ETX Module w/ PIII-700, VGA/LCD, Audio, LAN & TV-out
- **SOM-4470F-L4A1** Same as SOM-4470F-P4A1, but w/Pentium® III 500 CPU
- **SOM-DK4470F-042** Windows® CE .NET 4.2 Development Kit for SOM-4470F
- **SOM-DB4400-00A2** SOM-ETX Development Board

### Optional

- **SOM-FANKIT-1000** Fan kit for SOM-ETX module

# SOM-4451

## SiS SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio & LAN

**1**  
System on Module Solutions

**2**  
Single Board Computers and Accessories

**3**  
PC/104 Modules

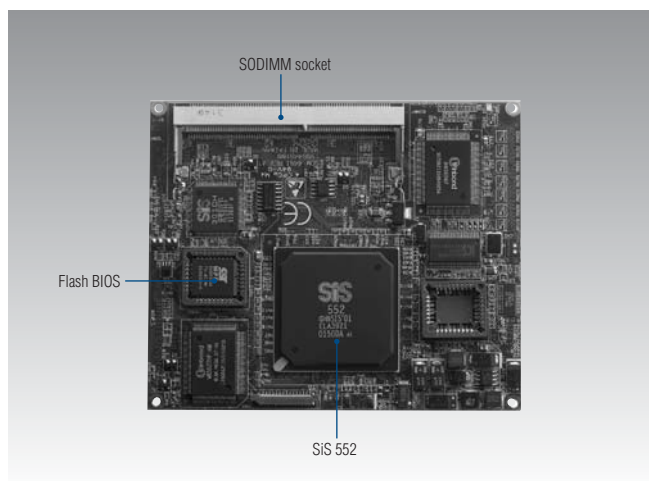
**4**  
Slot CPU Cards and Accessories

**5**  
AIMB/POS Control Boards

**6**  
Internet Security Platforms

**7**  
Embedded Software

**8**  
Appl.



### System

- **CPU** Embedded low power SiS 552 200 MHz processor
- **System Memory** SDRAM SODIMM x 1, Max. 256 MB (optional 512MB)
- **System Chipset** SiS 552 (on-chip)
- **BIOS** AWARD 256 KB Flash BIOS
- **Watchdog Timer** 1-62 sec, system reset
- **Expansion Interface** PCI/ISA

### I/O

- **MIO** 1 x EIDE (Ultra DMA66), 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
- **IrDA** 115 Kbps, IrDA 1.0 compliant
- **Audio** SiS 552, AC'97 2.0 compliant
- **USB** 2 USB ports, USB 1.1 compliant

### Ethernet

- **Chipset** RTL 8139C
- **Ethernet Interface** IEEE 802.3u 100BASE-T Fast Ethernet  
Built-in boot ROM

### Features

- Compact and powerful
- 10/100 Mbps Ethernet
- 18-bit LCD interface
- AC'97 V 2.0 Audio
- MPEG-2 decoder build-in for DVD playback

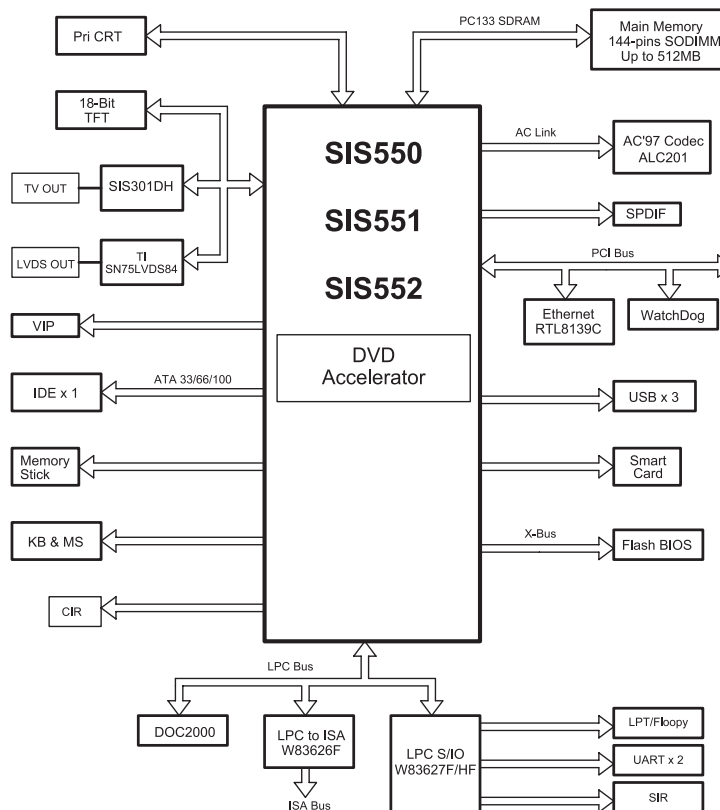
### Display

- **Chipset** SiS 552
- **Memory Size** Supports 32/64 MB frame buffer with system memory
- **Resolution** CRT Mode: 1024 x 768 @ 16 bpp (60 Hz)  
LCD/Simultaneous Mode: 1024 x 768 @ 16 bpp (60 Hz)
- **LCD Interface** Supports 18-bit TFT LCD up to XGA resolution
- **LVDS** 18-bit ANSI EIA/TIA-644, over 10 meters transmission (SOM-4451FL-D0A1)
- **TV-out(optional)** Supports both NTSC/PAL, S-video & Composite video

### Mechanical and Environmental

- **Dimensions (LxW)** 95 x114 mm (3.7" x 4.5")
- **Power Supply Voltage** +5 V  $\pm$  5%
- **Power Requirements** Max. : 5 V @ 2.5 A  
Typical : 5 V @ 1.92 A (w/128 MB RAM)
- **Operating Temperature** 0~60° C (32~140° F), fanless operation
- **Operating Humidity** 0%~90% relative humidity, noncondensing

## Board Diagram



## Ordering Information

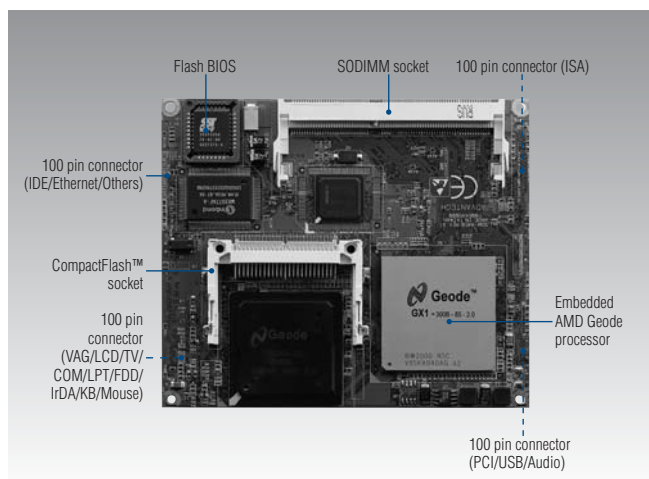
- **SOM-4451F-D0A1** SiS SOM-ETX Module w/ SiS 552, VGA, LCD, Audio & LAN
- **SOM-4451FL-D0A1** SiS SOM-ETX Module w/ SiS 552, VGA, LVDS, Audio & LAN
- **SOM-DB4400-00A2** SOM-ETX Development board Rev. A2

### Optional

- **SOM-FANKIT-1000** Fan kit for SOM-ETX

# SOM-4450

**AMD SOM-ETX Module w/CPU, VGA, LCD/LVDS, Audio, LAN & TV-out**



## Specifications

- **CPU** Embedded AMD Geode processor GX1-300 MHz processor
- **System Memory** SDRAM SODIMM x 1, Max. 256 MB
- **System Chipset** AMD CX 5530
- **BIOS** AWARD 256 KB Flash BIOS
- **SSD** Supports CompactFlash™ card
- **Watchdog Timer** 1-62 Sec, System reset
- **Expansion Interface** PCI/ISA

### I/O

- **MIO** 2 x EIDE (Ultra DMA33), 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
- **IrDA** 115 Kbps, IrDA 1.0 compliant
- **Audio** AMD CX 5530, AC'97 2.0 compliant
- **USB** 2 USB ports, USB 1.1 compliant

### Ethernet

- **Chipset** RTL 8139C (optional Intel® 82559ER)
- **Ethernet Interface** IEEE 802.3u 100BASE-T Fast Ethernet  
Built-in boot ROM (RTL 8139C)

## Features

- Compact and powerful
- 10/100 Mbps Ethernet
- 18-bit LCD/1 channel LVDS interface
- AC'97 V 2.0 Audio
- Less than 8 watts of power consumption

### Display

- **Chipset** AMD CX 5530
- **Memory Size** 1-4 MB UMA share memory
- **Resolution** CRT Mode: 1024 x 768 @ 24 bpp (60 Hz)  
LCD/Simultaneous Mode: 1024 x 768 @ 16 bpp (60 Hz)
- **LCD Interface** 18-bit TFT panels up to XGA resolution
- **LVDS** 18-bit ANSI EIA/TIA-644, over 10 meters transmission (SOM-4450FL-G0A1)
- **TV-out** Supports both NTSC/PAL

### Mechanical and Environmental

- **Dimensions(L x W)** 95 x 114 mm (3.7" x 5.4")
- **Power Supply Voltage** +5 V ± 5%
- **Power Requirements** Max. : 5 V @ 4 A  
Typical : 5 V @ 1.5 A
- **Operating Temperature** 0 ~ 60° C (32~140° F), fanless operation
- **Operating Humidity** 0% ~ 90% relative humidity, noncondensing

**1**  
System on Module Solutions

**2**  
Single Board Computers and Accessories

**3**  
PC/104 Modules

**4**  
Slot CPU Cards and Accessories

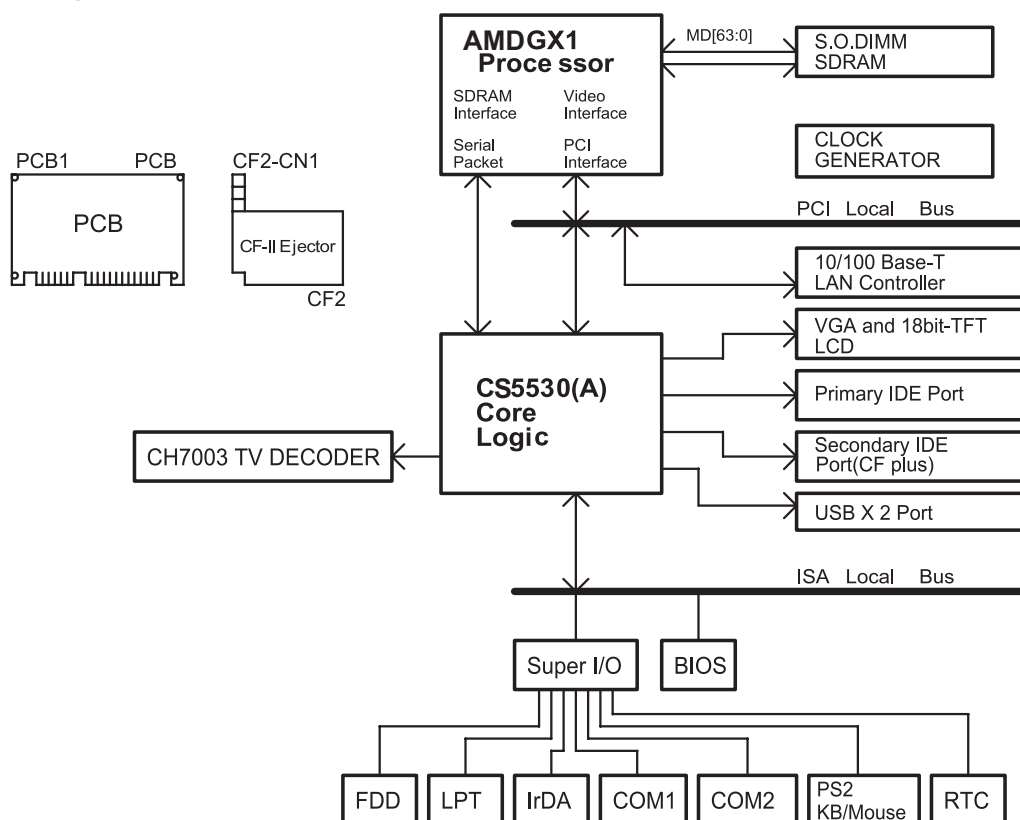
**5**  
AIMB/POS Control Boards

**6**  
Internet Security Platforms

**7**  
Embedded Software

**8**  
Appl.

## Board Diagram



## Ordering Information

- **SOM-4450F-G0A1** SOM-ETX Module w/GX1-300, VGA/LCD, Audio, LAN & TV-out
- **SOM-4450FL-G0A1** NS SOM-ETX Module w/GX1-300, VGA/LVDS, Audio, LAN & TV-out
- **SOM-DK4450F-C01** Windows® CE Development Kit for SOM-4450F
- **SOM-DB4400-00A2** SOM-ETX Development board Rev. A2

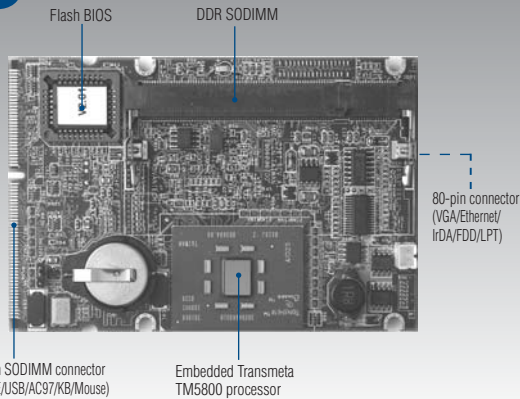
### Optional

- **SOM-FANKIT-1000** Fan kit for SOM-ETX

# SOM-2367

Transmeta SOM-144 Module w/CPU,  
Audio & LAN with DDR SDRAM support

**NEW**



## Specifications

- **CPU** Onboard Transmeta TM5800-800 processor
  - **System Memory** DDR SDRAM SO-DIMM x 1 (Max. 512 MB)
  - **BIOS** Award 2 Mbit Flash BIOS
  - **Extending BUS I/F** 144-pin SODIMM socket provides PCI
  - **Battery** Lithium 3 V/196 mA
- I/O**
- **MIO** 1 x EIDE, 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
  - **USB** 2 USB ports, USB 1.1 compliant
  - **IrDA** 115 Kbps Serial infrared(SIR) port
  - **Audio** AC'97

## Features

- Transmeta TM5800 on board (800 MHz)
- Supports DDR SDRAM (Max 512 MB)
- USB & AC'97
- Two RS-232, IDE, LPT, FDD

## Ethernet

- **Chipset** RTL8139C (optional Intel® 82551ER)
- **Interface** IEEE 802.3u 100BASE-T Fast Ethernet compatible

## Mechanical and Environmental

- **Dimensions (L x W)** 68 x100 mm (3.4"x3.9")
- **Power supply Voltage** +5 V  $\pm$  5%  
Max: 5 V @ 3 A  
Typical: 5 V @ 1.5 A
- **Operating temperature** 0 ~ 60° C (32~140° F)
- **Operating Humidity** 0% ~ 90% Relative Humidity, noncondensing
- **Weight** 0.05 kg (0.11lb)

**1**

System on Module Solutions

**2**

Single Board Computers and Accessories

**3**

PC/104 Modules

**4**

Slot CPU Cards and Accessories

**5**

AIMB/POS Control Boards

**6**

Internet Security Platforms

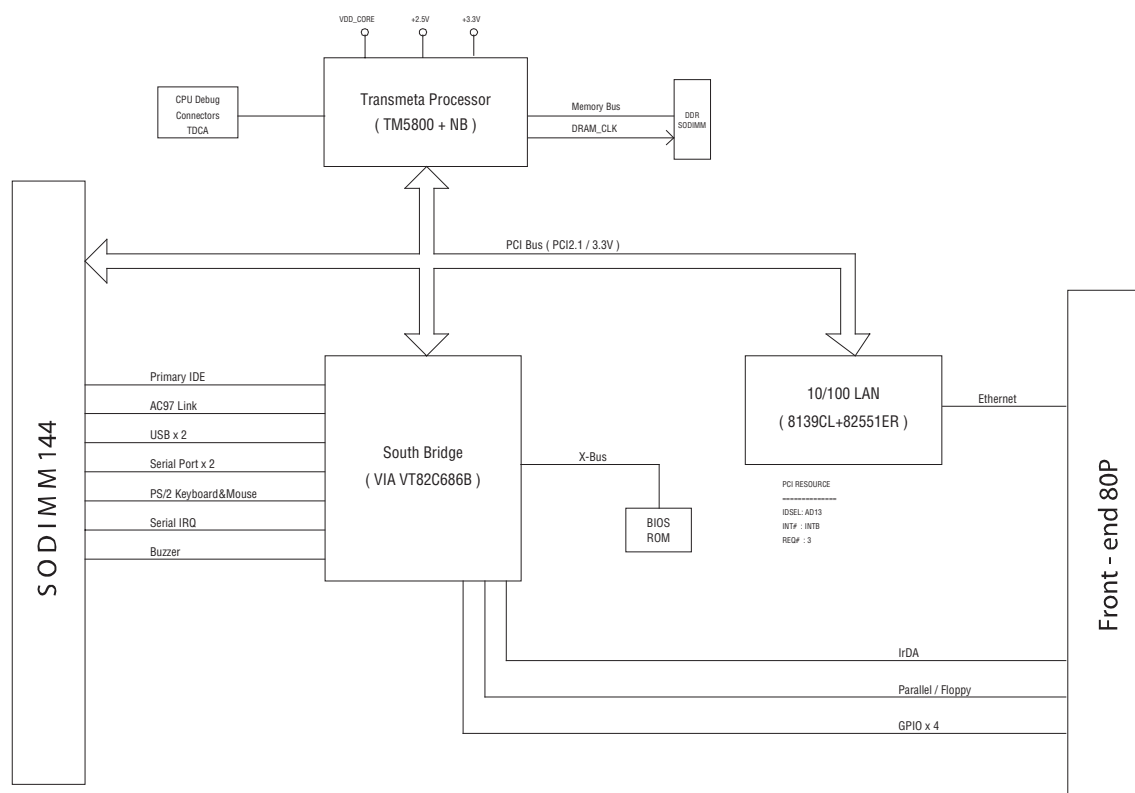
**7**

Embedded Software

**8**

Appl.

## Board Diagram



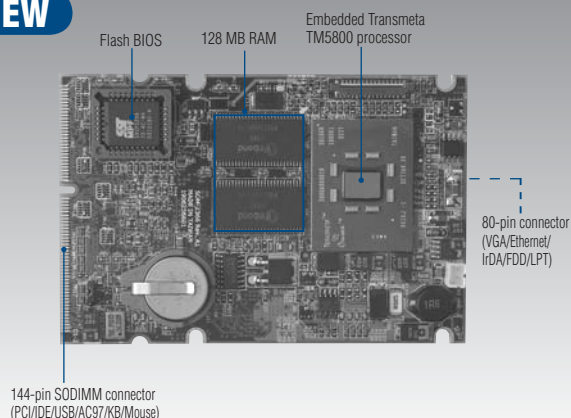
## Ordering Information

- **SOM-2367N-Q0A1** Transmeta SOM-144 Module w/TM5800-800 CPU, Audio & LAN
- **SOM-2367L-Q0A1** Transmeta SOM-144 Module w/TM5800-800 CPU & Audio
- **SOM-DB2300** SOM-144 Development Board

# SOM-2366

Transmeta SOM-144 Module w/CPU,  
128 MB RAM, Audio & LAN

**NEW**



## Specifications

- **CPU** On-board Transmeta TM5800-800 processor
  - **System Memory** 128 MB SDRAM on-board
  - **BIOS** Award 2 Mbit Flash BIOS
  - **Extending BUS I/F** 144-pin SODIMM socket provides PCI
  - **Battery** Lithium 3 V/196 mAh
- I/O**
- **MIO** 1 x EIDE, 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
  - **USB** 2 USB ports, USB 1.1 compliant
  - **IrDA** 115 Kbps Serial infrared (SIR) port
  - **Audio** AC'97

## Features

- Transmeta TM5800 on board (800 MHz)
- 128 MB SDRAM on board
- USB & AC'97
- Two RS-232, IDE, LPT, FDD

## Ethernet

- **Chipset** RTL8139C (optional Intel® 82551ER)
- **Interface** IEEE 802.3u 100BASE-T Fast Ethernet compatible

## Mechanical and Environmental

- **Dimensions (L x W)** 68 x 100 mm (3.4" x 3.9")
- **Power supply Voltage** +5 V  $\pm$  5%  
Max: 5 V @ 3 A  
Typical: 5 V @ 1.5 A
- **Operating temperature** 0 ~ 60° C (32~140° F)
- **Operating Humidity** 0% ~ 90% Relative Humidity, noncondensing
- **Weight** 0.05 kg (0.11lb)

**1**

System on Module Solutions

**2**

Single Board Computers and Accessories

**3**

PC/104 Modules

**4**

Slot CPU Cards and Accessories

**5**

AIMB/POS Control Boards

**6**

Internet Security Platforms

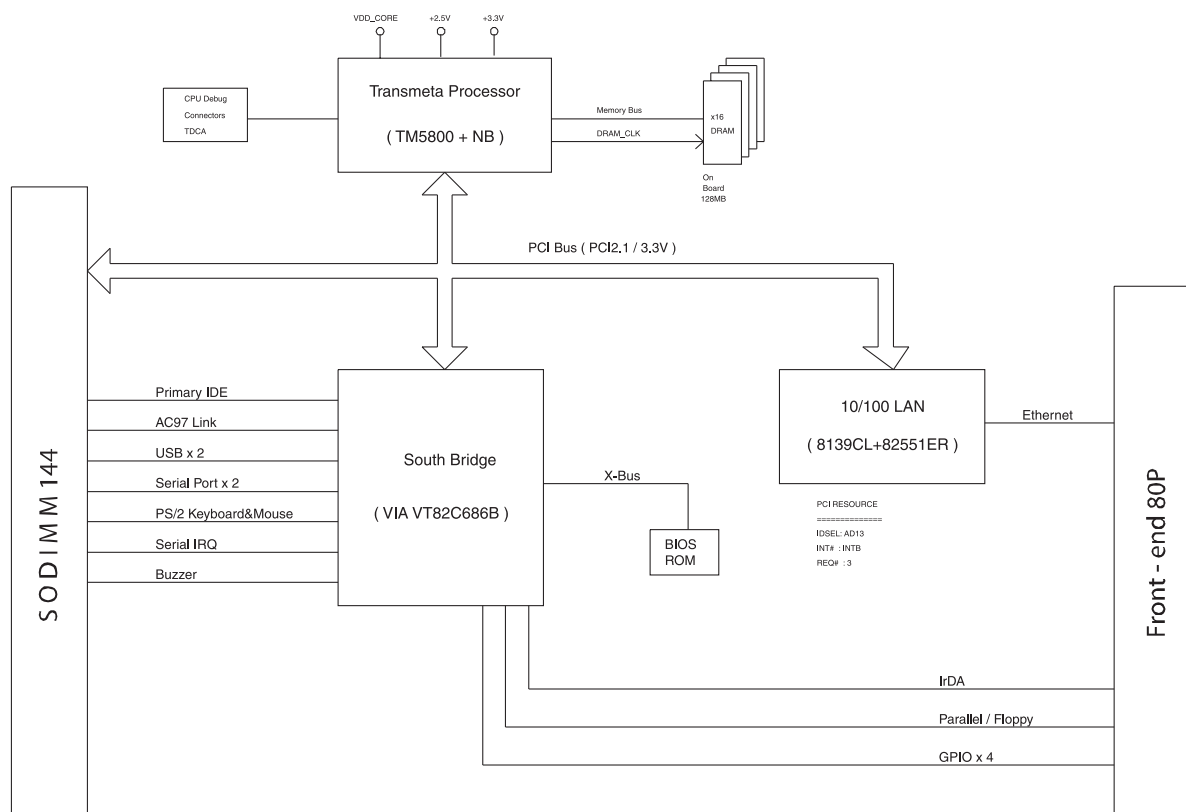
**7**

Embedded Software

**8**

Appl.

## Board Diagram



## Ordering Information

- **SOM-2366N-QEA1** Transmeta SOM-144 Module w/TM5800-800 CPU, 128 MB RAM, Audio & LAN
- **SOM-2366L-QEA1** Transmeta SOM-144 Module w/TM5800-800 CPU, 128 MB RAM & Audio
- **SOM-DB2300** SOM-144 Development Board

# SOM-2353

**SOM-144 Module w/CPU, VGA/LCD, Audio, SSD & LAN**

**1**  
System on Module Solutions

**2**  
Single Board Computers and Accessories

**3**  
PC/104 Modules

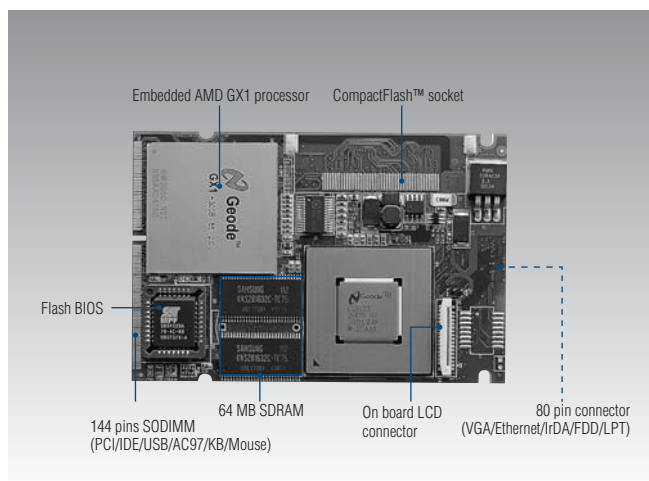
**4**  
Slot CPU Cards and Accessories

**5**  
AIMB/POS Control Boards

**6**  
Internet Security Platforms

**7**  
Embedded Software

**8**  
Appl.



## Specifications

- **CPU** On-board AMD Geode GX1-300MHz processor
- **System Memory** 64 MB SDRAM on board, up to 128 MB
- **Chipset** AMD CS 5530
- **BIOS** AWARD 256 KB Flash BIOS
- **SSD** Supports CompactFlash™ card
- **Expansion Interface** 144-pin SODIMM socket provides PCI
- **Battery** Lithium 3 V/196 mAh

### I/O

- **MIO** 1 x EIDE (Ultra DMA33), 1 x FDD/LPT, 1 x K/B, 1 x Mouse, 2 x RS-232
- **IrDA** 115 Kbps, IrDA 1.0 compliant
- **Audio** AC'97 2.0 compliant
- **USB** 2 USB ports, USB 1.1 compliant

### Ethernet

- **Chipset** RTL8139C
- **Ethernat Interface** IEEE 802.3u 100 BASE-T Fast Ethernat  
Built-in boot ROM(RTL8139C)

## Features

- Compact and powerful
- 18-bit LCD interface
- AC'97 V 2.0 Audio
- Less than 8 watts of power consumption

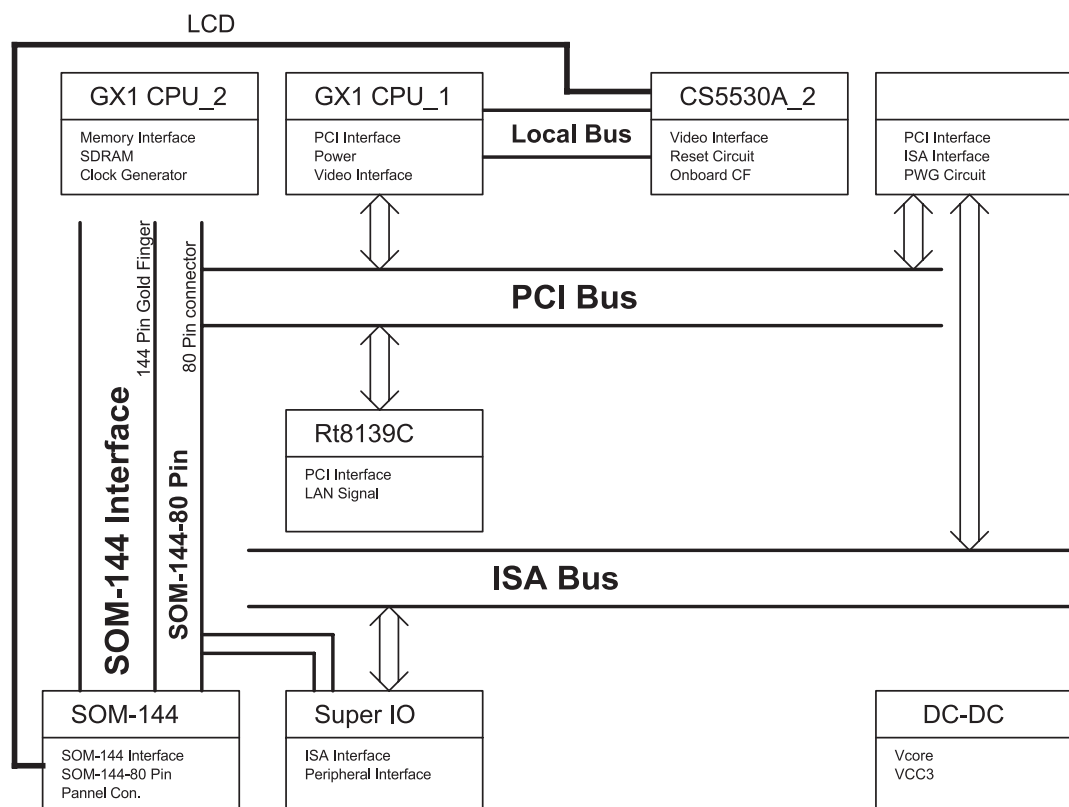
### Display

- **Chipset** AMD CS 5530
- **Memory Size** 1- 4 MB UMA share memory
- **Resolution** CRT Mode: 1024 x 768 @ 24 bpp (60 Hz)  
LCD/Simultaneous Mode: 1024 x 768 @ 16 bpp (60 Hz)
- **LCD Interface** 18-bit TFT panels up to XGA resolution

### Mechanical and Environmental

- **Dimensions(LxW)** 68 x 100 mm (3.4"x 3.9")
- **Power Supply Voltage** +5V ±5%
- **Power Requirements** Max. : 5 V @ 4 A  
Typical : 5 V @ 1.5 A
- **Operating Temperature** 0~60° C (32~140° F), fanless operation
- **Operating Humidity** 0%~90% relative humidity, noncondensing

## Board Diagram

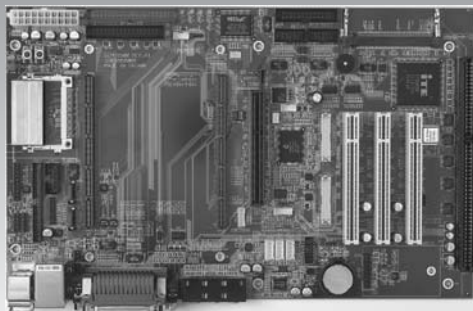


## Ordering Information

- **SOM-2353F-GDA1** AMD SOM-144 Module w/GX1-300, 64MB RAM, VGA/LCD, Audio, SSD & LAN
- **SOM-2353P-GDA1** AMD SOM-144 Module w/GX1-300, 64MB RAM, VGA/LCD & Audio
- **SOM-DK2353F-C01** Windows® CE 3.0 Development Kit for SOM-2353F
- **SOM-DB2300** SOM-144 Development Board

# SOM-DB5500

## SOM-ETX // Development Board



CE FCC

### Specifications

- **Extensions** One AGP bus, three PCI bus and one ISA bus
- **Display** DB-15 VGA connector, LCD connector.
- **Communication** DB-9 COM1, three 10-pin COM2/3/4 box header, RJ45 Ethernet connector
- **MIO** EIDE/FDD/LPT/Keyboard/Mouse/USB/Audio/SSD/miniPCI interface
- **Size/weight** 304.8 x 190.5 mm (12"x 7.5", 0.37kg (0.81lb))

### Features

- Offers standard PC environment
- PCI/ISA expansion interface
- Reference design and prototype platform
- ATX form factor

### Ordering Information

- **SOM-DB5500-00A1** Development Board for SOM-ETX II Rev. A1
- **SOM-DB5500G-00A1** Development Board for SOM-ETX II (Giga LAN) Rev. A1

1

System on Module Solutions

2

Single Board Computers and Accessories

3

PC/104 Modules

4

Slot CPU Cards and Accessories

5

AIMB/POS Control Boards

6

Internet Security Platforms

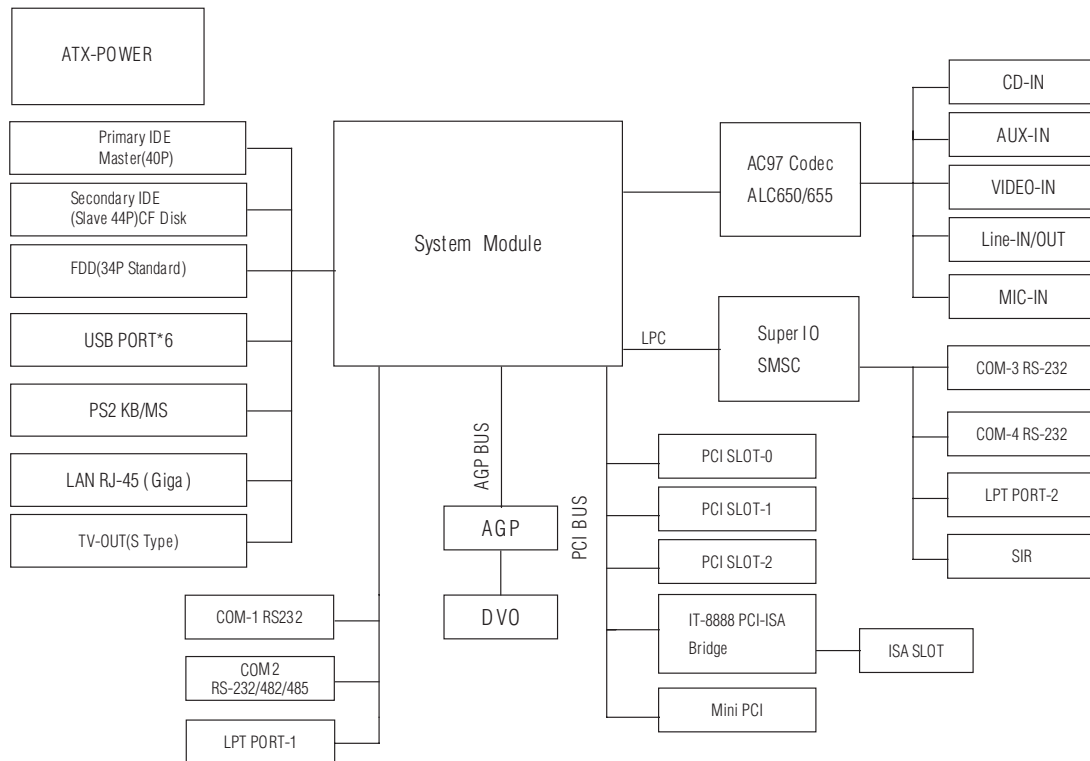
7

Embedded Software

8

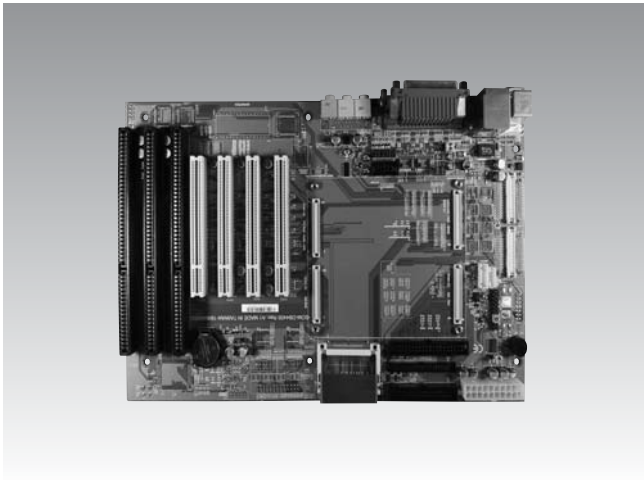
Appl.

## Board Diagram



# SOM-DB4400

## SOM-ETX Development Board



CE FCC

### Specifications

- **Extended** Four PCI bus and Three ISA bus
- **Display** DB-15 VGA connector, LCD connector
- **Communications** DB-9 COM1 connector, 10-pin COM2 box header, RJ-45 Ethernet connector
- **MIO** EIDE/FDD/LPT/Keyboard/Mouse /USB/Audio/TV-out/SSD interface
- **Size/Weight** 304.8 x 190.5 mm (12" x 7.5"), 0.37 kg (0.81 lb)

### Packing List

- **TV-out cable** (p/n: 1703050307)

### Features

- Offers standard PC environment
- PCI/ISA expansion interface
- Reference design and prototype platform
- ATX form factor

### Ordering Information

- **SOM-DB4400-00A2** Development Board for SOM-ETX

1

System on Module Solutions

2

Single Board Computers and Accessories

3

PC/104 Modules

4

Slot CPU Cards and Accessories

5

AIMB/POS Control Boards

6

Internet Security Platforms

7

Embedded Software

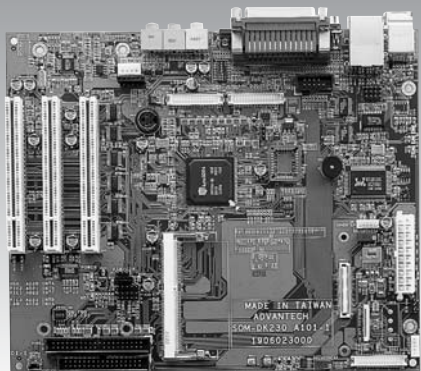
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Appx

# SOM-DB2300

## SOM-144 Development Board

**NEW**



CE FCC

### Specifications

- **Extended** Three PCI bus slots
- **Display** DB-15 VGA connector, LCD connector
- **Communications** DB-9 COM1 connector, 10-pin COM2 box header, RJ-45 Ethernet connector
- **MIO** EIDE/FDD/LPT/Keyboard/Mouse/USB/Audio/TV-out interface
- **Size/Weight** 229 x 191 mm (9.0" x 7.6"), 0.35 kg (0.77 lb)

### Features

- Seamless SOM 144 System On Module support
- 3 PCI bus slots

### Ordering Information

- **SOM-DB2300** Development Board for SOM 144/PCI