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Products

Computer-On-Module's

CM-X270

CM-X255

CM-iGLX

CM-F82

CM-i686M

CM-i686B

CM-iVCF

CM-i886 (NFND)

CM-i586 (NFND)

PC/104+ & ATX boards

SBC-X270

SBC-X255

SBC-i686

SBC-iVCF

SBC-i886 (NFND)

ATX

Related Topics:

 - CoM Comparison
 - PC/104 Comparison
 - Linux Support
 - Evaluation Kits
 - Industrial Temperature
 - RoHS Compliance

SBC-i686 Board

Top view

Bottom view

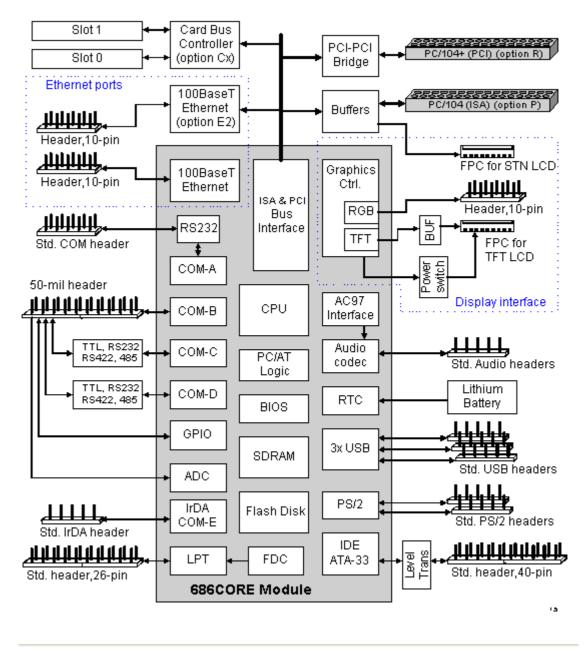**View with interface cables**

SBC-i686 Highlights

- **PC/104+ Single Board Computer implemented by combination of the CM-i686B module and SB-i686 baseboard**

- **AMD Geode CPU @ 266 MHz**

- **PCI and ISA expansion buses in PC/104+ format**

- **32 - 128 MB SDRAM**

- **1 - 512 MB Flash Disk**

- **COM1 - 4 with RS232 / RS485 / RS422 / TTL driver options**

- **IrDA, LPT, GPIO, PS/2 keyboard and mouse interfaces**

- **3 Host USB ports**

- **Hard and floppy disk interfaces**

- **Sound I/O**

- **VGA / SXGA graphics controller. Connectors for LCD panel and CRT monitor**

- **Single or dual 10/100BaseT Ethernet ports** (optional)

- **Single or Dual Card Bus / PCMCIA slots** (optional)

- **Lithium battery for RTC**

- **Small size - 96 mm x 91 mm**

The SBC-i686 is a standard PC/104+ compliant, single board computer. It is implemented by CM-i686B module providing most of the functions, and SB-i686 carrier board providing connectors and several additional functions. The rich features set of the SBC-i686 is customizable according to the price / performance targets of the user's application.

The SBC-i686 contains a PC/104+ expansion connectors which opens it to the wide range of standard peripheral cards. Furthermore, the SBC-i686 contains a PCMCIA / Card Bus controller and slots. A PCMCIA card may be inserted and secured in the slot, with no additional mechanical means. Off-the-shelf PCMCIA modules can extend the system with capabilities such as a larger solid state disk, modem, and wireless LAN.

For more information see Developer Resources page.

Block Diagram

SBC-i686 Features

"SB Option" column specifies the P/N code of SB-i686 required to have the particular feature. "
Option" column specifies the P/N code of CM-i686B required to have the particular feature. The
SBC-i686 content is the combination of features provided by the attached CM-i686B and featur
implemented on SB-i686. To have the particular feature, both CM and SB options of that featur
must be implemented.
"+" means that the feature is always available, regardless of P/N code.

Feature	Specification	SB Option	CM Opti
CPU SDRAM Flash Disk	See Features List of CM-i686B module		
COM 1	RS-232 levels, standard 10-pins header for DB-9	+	+

	cable/connector		
COM 3	Rx/Tx only, TTL levels, 50-mil header	+	+
COM 2 & 4	RS-232 / RS-485 / RS-422 / TTL level options, 50-mil header	X,Y	S
IrDA / COM5	Standard header for SIR LED module or COM 5 Tx/Rx TTL	+	+
LPT (Parallel Port)	Standard 26-pin header for DB-25 cable/connector. Shared with FDC	+	S
IDE	PIO and ATA-33 modes. Standard 40-pin header for HDD cable.	H	+
FDC	Routed through LPT header	+	S
Ethernet	One or two 10/100BaseT Ethernet ports. Realtek RTL8139 controller with MAC and PHY functions, PCI interface. 10-pins header per port. Optional interface module with transformer, RJ-45 connector and activity LEDs.	+ or E2	E
CRT Monitor	10-pins header. Optional interface module with standard HD-15 VGA connector.	+	Gx
TFT Panel	51-pos FPC connector for direct interface to certain TFT panels	L	Gx
STN Panel	24-pos FPC connector for direct interface to certain STN panels with built-in controller. (STN panels w/o built-in controller are not supported)	+	+
PS/2	Standard headers for PS/2 cable/connector	+	S
GPIO	20 lines, through 50-mil header.	+	S
ADC	Analog to Digital converters, 8-bit, 6 channels. Through 50-mil header.	+	S
PCMCIA / Card Bus	TI PCI1420 controller. Support for 16-bit PCMCIA and 32-bit CardBus standards. Single or dual PCMCIA / Card Bus slot with card guides, for cards type I, II and III.	Cx	+
USB	3 Host ports, 12 Mbps. Header for Type-A cable/ connector.	U	+
Sound I/O	Header for standard cable/connectors for Microphone (mono), Line input and Speakers (stereo)	+	A
PC104	ISA bus through standard PC/104 connector	P	+
PC104+	PCI bus through standard PC/104+ connector	R	+

Electrical, Mechanical and Environmental Specifications

Power Supply	5.0V or 3.3V (The 3.3V option is only for cards without Audio and Super-I/O chips)
Dimensions	96 mm x 91 mm x [10-22] mm. Height ranges from 10 mm to 22 mm, depending on the connectors assembled. Height specified includes the CM-i686B module.
Operation temp (case)	Commercial: 0º to 70º C Extended: -20º to 70º C Industrial: -40º to 85º C. Click for availability note
Weight	135 gram
Storage temperature	-40º to 85º C
Relative humidity	10% to 90% (operation) 05% to 95% (storage)

Shock	50G / 20 ms
Vibration	20G / 0 - 600 Hz
MTBF	> 100,000 hours

For more information see:
- [SB-i686 Reference Guide](#)
- [Developer Resources](#)

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