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Embedded System Specialist

## SBC6300X Single Board Computer

- Atmel's AT91SAM9263, Operating frequency 200MHz
- On Board 64MB SDRAM + 128MB Nand Flash
- 8 UARTs, 2 Ethernet, USB, CAN, LCD, Touch Screen, SD, Keyboard, Audio,...
- Ready-to-Run Linux 2.6.24 and WinCE 6.0



### Hardware Features

- Dimension: 150mm x 143.5mm (expansion board)  
52mm x 52mm (CPU board [Mini6300](#);) )
- Power supply: +12V
- Working temperature: -10~70°C
- Processor: Atmel AT91SAM9263 (ARM926EJ-S core with MMU capable of 200 MHz operation)
- 64Mbyte SDRAM
- 128Mbyte Nand Flash (bootable)
- 2Kbit EEPROM
- 2 10M/100M Ethernet port
- 8 serial ports (Debug: 3-wire RS232/TTL, COM0: 5-wire RS232/TTL, COM1: 5-wire RS232/TTL, COM2: 3-wire RS232/TTL/half-duplex RS485, EXT\_COM1/2/3/4: 5-wire RS232)
- 2 USB2.0 full-speed (12 Mbits/S) Host ports
- 1 USB2.0 full-speed (12Mbits/S) Device port
- 1 2\*20-pin LCD interface
- Touch screen (4-wire resistive)
- 1 CAN2.0 interface
- 1 TWI interface
- Audio Input/Output Jacks
- 8-channel 12-bit ADC

- RTC (battery backed)
- SD/MMC card slot
- Buzzer
- 4 Buttons (two for user defined, one for Wakeup and one for Reset)
- Power switch
- 6\*6 keyboard interface
- 20-pin Panel interface (Reset & Wakeup & IO & Switch)
- 41 GPIOs (can multiplex with interfaces including ISI, 4 PWM, 1 SDIO and 1 SPI1)
- 20-pin JTAG interface

### Software Features

OS	Item	Feature	Description
Linux	BIOS	bootstrap	Nand Flash
		u-boot	Nand Flash
			Download/Update kernel and file system through Ethernet.
	Kernel and Drivers	Version	Linux2.6.24
		File system	Support ROM/CRAM/EXT2/EXT3/FAT/NFS/ JFFS2/YAFFS2
		Driver	Serial, RTC, NET, LCD, Touch Screen, Audio, USB, Buzzer, Keypad, CAN, GPIO, LED, Watchdog, SD
	Web Server	Web server	Apache
WinCE	Bootloader	firstboot	Nand Flash
		eboot	Nand Flash
			Download/update image through Ethernet
	Kernel and Drivers	Version	Eboot (Wince 6.0)
		Driver	Serial, RTC, NET, LCD, Touch Screen, USB, Buzzer, Keypad, LED, GPIO, Watchdog, CAN, Audio, ADC, SD
	EVC test program		Provide EVC test program for each driver module.

## General Description

The SBC6300X Single Board Computer from Embest is based on an Atmel **AT91SAM9263**; MCU with 32-bit ARM instruction set and complete embedded software environment. It has a flexible design with a tiny controller board **Mini6300**; mounted directly on an expansion board through two 0.8mm 100pin Free Height (FH) surface-mount connectors.

The CPU board of SBC6300X has the ARM9 processor and memory on board. The expansion board has extended features of AT91SAM9263 and offers various hardware interfaces including 8 UARTs, 2 Ethernet ports, USB Host and Device, CAN, TWI, LCD, Touch Screen, Keyboard, SD card, Jtag, Audio and etc.

Embest offers Windows CE 6.0 BSP and Linux 2.6.24 BSP for this board. Users can develop with Microsoft EVC or linux tool chain, which can get your products to market quickly.

The rich industrial bus interface resources of this sing board computer makes it ideal for embedded applications requiring wide operating temperature ranges, and flexible I/O connectivity. It can be used in many application fields, such as medical equipment, industrial field control, smart instrumentation, industrial control devices, monitoring, automotive electronics and other fields.

## Function Block Diagram

