

GADGET PC for Embedded Applications

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Overview

Low-cost, Linux and Windows CE capable embedded PC concept with ultra small power consumption and board size. The main idea is that the Gadget PC will have only USB ports. It will power from USB ports only and it will interface through USB ports only. It will enable futuristic embedded applications that were not feasible using a regular PC (however miniature the PC may be) because of cost, size, power consumption or other reasons.

Gadget PC achieves this by eliminating all the unneeded components that make up a PC. It takes advantage of a vast number of low-cost USB peripherals that are available from many third-party sources in the PC industry.

Example Applications

- Stand-alone, solar powered, GPRS webcam
- Witness Camera
- DVR
- Event Logger
- Mail Server
- Small File Server
- Light Media Center

Specifications

Hardware

- ATMEL AT91SAM9260 (ARM9) embedded processor, 200 MHz clock, 208 QFP package to minimize PCB layer count
- 32 Megabyte DDR RAM
- 8 Megabyte Data Flash
- Built-in 4-port USB hub, USB 2.0 Full Speed support (High Speed not yet supported)
- 4 USB Host connectors: 2 connectors with dual USB each
- 1 Mini USB Device connector
- Powered by external 5 Volts through Mini USB Device Connector
- Power Options:
 - External regulated 5V Adapter (Mini USB connector)
 - Car cigarette lighter
 - Solar panel
 - Battery Pack
- All power options will power the board through the Device USB connector
- Power Consumption: Under 1 Watt
- Dimensions: 2.35" X 2.4"

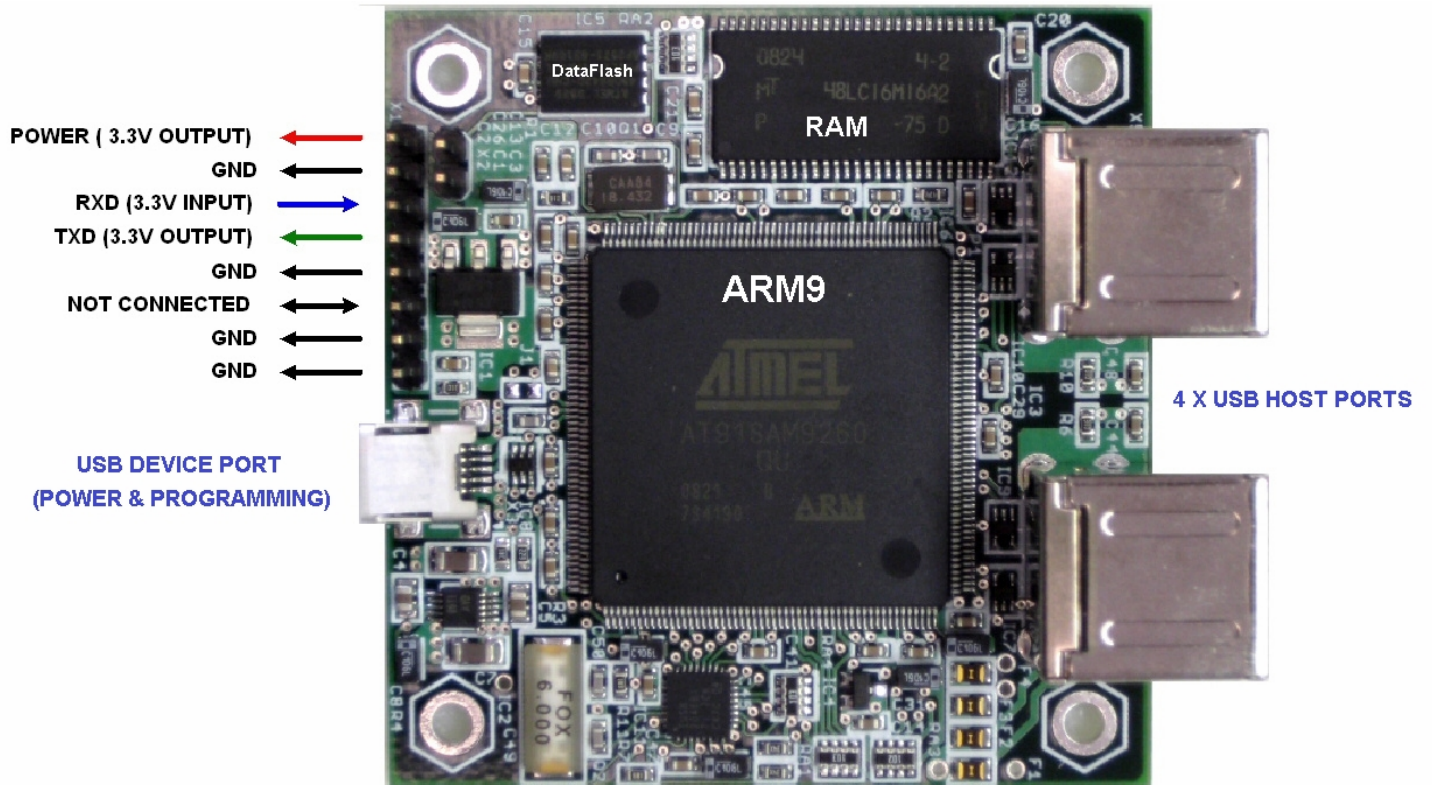
Software

- ARM9 Linux
- Debian

User Applications are downloaded through SAM-BA or copied to USB Flash Drive.

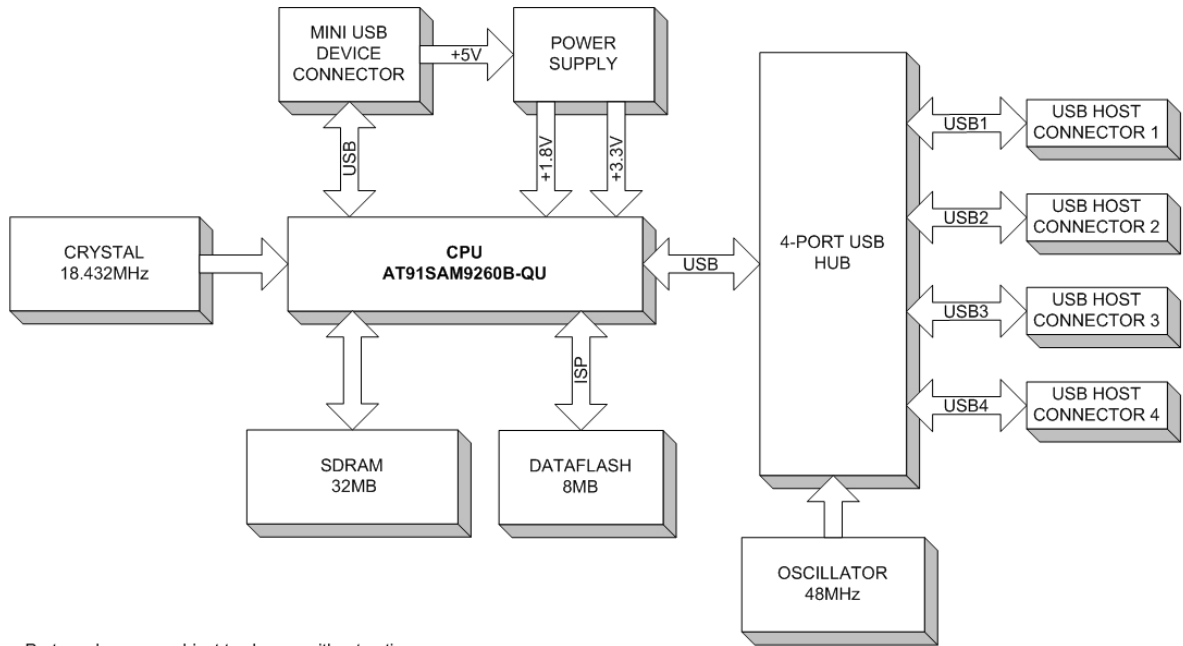
For a complete list of prepackaged/supported software, please see Supported Software document under GadgetPC Documents section on BiPOM website.

Board Overview




Functional Block Diagram

GadgetPC block diagram





Part numbers are subject to change without notice.

Supported off-the-shelf USB devices:

Device	Photo	Retail Price
RS232 Ports		\$15
Ethernet		\$39
RS485		\$30-35
VGA		\$70-80
Bluetooth		\$10
Zigbee		\$25+Maxstream

<p>Firewire</p>		<p>\$3</p>
<p>Wi-Fi</p>		<p>\$49</p>
<p>Flash Drive (512MB)</p>		<p>\$19</p>
<p>USB Modem</p>		<p>\$10-20</p>
<p>External USB Hard Drive Case</p>		<p>\$10-20</p>

USB Keyboard		\$10
USB Mouse		\$8
Webcam		\$12

Power Options:

