Highly Integrated Single Board Computer

Altair is a high performance, highly integrated small form factor SBC in the EmbeddedXpress (EMX) form factor. Altair incorporates a wealth of standard PC-style I/O plus on-board digital I/O. It accepts both EMX and PCIe MiniCard add-on I/O modules.

High Performance, Low Power Advantage

The SBC’s Intel Atom E-Series CPU offers an excellent balance of performance, power consumption, and cost, making Altair an ideal choice for a wide variety of high-performance embedded computing applications.

Optimized for Real World Applications

Altair was designed to meet the needs of real-world applications. The SBC integrates an optimal selection of features for its size, power, and cost budgets, yielding maximum functionality and performance within a compact SBC. Latest generation connectivity such as SATA, Gigabit Ethernet, and PCI Express ensures long lifetime and top performance. EMX and PCIe MiniCard expandability provides access to high-speed I/O.

Intelligent Thermal Solution

The heat-generating CPU and chipset are located on the bottom side of the SBC, and a conduction cooled bottom-mounted heatspreader dissipates heat efficiently to the system enclosure. This configuration leaves the SBC’s top side free for easy access to memory, on-board I/O, and expansion sockets.

Software Support

Altair is compatible with Linux, Windows Embedded Standard 7, and Windows Embedded CE. All necessary drivers are provided with the product.

Development Kit

The Altair Development Kit (DK-ALT-LNX) provides all the components you need for fast and efficient embedded development. The kit includes an Altair SBC, USB flashdisk with Linux pre-loaded, cable kit, power adapter cable, and software CD.
### Altair: EMX SBC with Atom E-Series CPU

#### SPECIFICATIONS

**Processor**
Intel Atom E680T at 1.6GHz (also available with 1.3GHz E660T or 600MHz E620T CPUs)

**Cooling**
Heatspreader, fanless

**Memory**
1GB or 2GB soldered DDR2 DRAM on-board

**Display options**
LVDS flat panel & VGA interfaces Optional DVI

**LVDS backlight power**
+5V or +12V jumper selectable

**USB ports**
4 USB 2.0

**Serial ports**
1 RS-232/422/485, 3 RS-232

**Networking**
1 Gigabit Ethernet

**Mass storage**
1 SATA port support for USB flashdisk up to 8GB

**CAN**
1 CAN port

**Keyboard / Mouse**
USB

**System Controller**
10 GPIO, 4 PWM, A/D, wake on timer

**Watchdog Timer**
Programmable

**Audio**
ALC262 Codec HD audio with Stereo line-in, line-out, microphone

**Expansion buses**
EMX stackable 1 PCIe MiniCard socket

**Input power**
5VDC ±5%

**Power consumption**
tbd

**Operating temp.**
-40°C to +85°C (-40°F to +185°F)

**Form Factor / Dimensions**
EMX Basic form factor 4.92" x 3.74" (125mm x 95mm)

**Weight**
tbd

**RoHS**
Compliant

#### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT1600-2G-XT</td>
<td>Altair SBC, 1.6GHz Atom E680T CPU, 2GB DDR2 DRAM on-board</td>
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<tr>
<td>ALT1600-1G-XT</td>
<td>Altair SBC, 1.6GHz Atom E680T CPU, 1GB DDR2 DRAM on-board</td>
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<tr>
<td>ALT1300-2G-XT</td>
<td>Altair SBC, 1.3GHz Atom E660T CPU, 2GB DDR2 DRAM on-board (special order option)</td>
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<td>ALT1300-1G-XT</td>
<td>Altair SBC, 1.3GHz Atom E660T CPU, 1GB DDR2 DRAM on-board (special order option)</td>
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<tr>
<td>FDU-1G-XT</td>
<td>1GB USB flashdisk</td>
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<tr>
<td>FDU-2G-XT</td>
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<tr>
<td>DK-ALT-LNX</td>
<td>Altair Development Kit with ALT1600-1G-XT SBC, USB flashdisk, cables and Linux software</td>
</tr>
<tr>
<td>DK-ALT-WE7</td>
<td>Altair Development Kit with ALT1600-1G-XT SBC, USB flashdisk, cables and Windows Embedded 7 software</td>
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<td>C-ALT-KIT</td>
<td>Altair Cable Kit for all on-board I/O</td>
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</table>

The Altair SBC’s bottom-mounted heat spreader leaves the entire top side free, enabling easy installation of add-on I/O modules.

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