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The Perfect Fit for Imperfect Environments
Optimizing features, size & cost

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Aries PC/104-Plus SBC
PC/104-Plus SBC with Intel E3800 CPU & On-Board Data Acquisition
The Best PC/104 Bay Trail SBC in the World

Top Side
Bottom Side (heat spreader removed to show components)

Description
The Aries PC/104-Plus single board computer from Diamond Systems uses the Intel “Bay Trail” E3800 series processor to deliver an unmatched combination of performance, price and power consumption. Paired with real-world features, Aries provides a complete solution for most embedded applications in a single board, saving you space, time, and money.

Aries goes beyond the standard processor and I/O features found on other Bay Trail SBCs to provide rugged performance along with a professional-quality data acquisition circuit supported by industry-leading software. The full rectangular shape of Aries provides more PCB area and coastline to support the extreme level of IO offered by the board.

Features
- 1.5GHz Intel dual core E3845 or 1.4GHz Intel dual core E3825 1.4GHz processor
- 2 or 4GB memory soldered on board
- Dual independent displays, selectable from VGA, LVDS LCD, and DisplayPort / HDMI Port
- A broad range of system I/O, including 4 multiprotocol serial ports, 3 USB ports, 2 10/100/1000 Ethernet ports, and 1 SATA port
- Integrated HD Audio
- PCIe On-Plus and PCIe MiniCard / mSATA sockets
- System I/O: Conduction cooling for improved reliability and high-temperature performance
- Rugged construction throughout for shock and vibration immunity
- Compact 4.5” x 4.0” size
- -40°C to +85°C operation off the shelf
- Operating systems support for Windows 7 / XP and Linux 2.6 / 3.2 kernels

Overview
I/O Features  |  Rugged Features  |  Data Acquisition  |  Specifications
---|---|---|---
Choice of quad core E3845 1.5GHz or dual core E3825 1.4GHz processor | 2 or 4GB memory soldered on board | Dual independent displays, selectable from VGA, LVDS LCD, and HDMI / DisplayPort | A broad range of system I/O, including 4 multiprotocol serial ports, 3 USB ports, 2 10/100/1000 Ethernet ports, and 1 SATA port
Integrated HD Audio | PCIe On-Plus and PCIe MiniCard / mSATA sockets | System I/O: Conduction cooling for improved reliability and high-temperature performance | Rugged construction throughout for shock and vibration immunity
Compact 4.5” x 4.0” size | -40°C to +85°C operation off the shelf | Operating systems support for Windows 7 / XP and Linux 2.6 / 3.2 kernels

Block Diagram

Aries SBC Block Diagram

Display Features
Aries supports dual simultaneous independent displays, selecting from VGA, LVDS LCD, and either HDMI or DisplayPort. (Both HDMI and DisplayPort are supported on board, however only one of these can be used at a time.)

The LVDS connection is a dual channel 24-bit. The maximum resolution of VGA, LVDS LCD, and HDMI / DisplayPort is 2560 x 1600. The HDMI maximum resolution is 1920 x 1080.

Backlight power and control are provided on board. LCD backlight is powered by a 3.3V regulator, and backlight power is jumper selectable between 3.3V and 5V. (You must be provided by the system power supply and is routed through the board from the input power connector to the backlight connector.)

I/O Expansion
Aries provides both a PC/104-Plus expansion socket and a combination PCIe MiniCard / mSATA module socket. The combination socket auto-selects for either PCIe or mSATA depending on the type of module installed. Aries offers Diamond's complete line of PC/104-Plus expansion sockets.

The SBC also supports the installation of a SATA disk-on-module with a mounting hole for increased ruggedness. A jumper provides power directly to the module through the single SATA connection; no separate power cable is required. Both the SATA-SSHD and PCIe MiniCard sockets can be used simultaneously, affording a highly compact and feature-rich embedded computing solution only one “board” high.

Available Models
Four standard models are available depending on your need for performance and data acquisition. Other configurations are available by special order with a minimum order quantity.

Table: Aries PC/104-Plus SBC Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor / Speed</th>
<th>Memory</th>
<th>Data Acquisition</th>
</tr>
</thead>
</table>

Specifications
- Aries PC/104-Plus SBC
- Processor: Intel E3800 “Bay Trail” processor family
- Memory: 2 or 4GB soldered on board
- Data Acquisition: Dual independent displays, selectable from VGA, LVDS LCD, and DisplayPort / HDMI Port
- I/O expansion: PCIe On-Plus and PCIe MiniCard / mSATA sockets
- Operating systems support for Windows 7 / XP and Linux 2.6 / 3.2 kernels
- Industrial temperature range of -40°C to +85°C
- Conduction cooling for improved reliability and high-temperature performance
- Compact 4.5” x 4.0” size

Download
- Aries WE7 BSP User Manual (pdf, 3.3MB)
- Aries User Manual (pdf, 1.6MB)
- Aries 64-bit IO Driver for Windows 7 (0.0KB)
- Aries 64-bit Ethernet Driver for Windows 7 (2.3MB)
- Aries 32-bit IO Driver for Windows 7 (3.0MB)
- Aries 32-bit Ethernet Driver for Windows 7 (1.2MB)
- Aries 64-bit Graphics Driver for Windows 7 (5.1MB)
- Aries 64-bit Ethernet Driver for Windows 7 (8.6MB)
- Aries Linux BSP User Manual (pdf, 1.7MB)
- Aries WE7 BSP User Manual (pdf, 1.7MB)
- Aries Universal Driver User Manual (pdf, 1.4MB)
- Aries 32-bit ETP File (zip, 46.4MB)
- Aries Audio Driver for Windows (zip, 252.2MB)
- Aries 32-bit Ethernet Driver for Windows 7 (zip, 21.1MB)
- Aries 32-bit Ethernet Driver for Windows 8 (zip, 9.0MB)
- Aries 64-bit Ethernet Driver for Windows 8 (zip, 28.6MB)
- Aries 32-bit Graphics Driver for Windows 7 (zip, 16.7MB)
- Aries Ethernet Driver for Linux (zip, 266.5KB)
- Aries 64-bit Ethernet Driver for Windows 7 (zip, 16.0MB)
- Aries Drivers for Windows 8.1 (zip, 145.5MB)
- Aries Chipset Drivers for Windows (zip, 2.5MB)
- Aries 64-bit Graphics Driver for Windows 7 (zip, 11.0MB)
- Aries 64-bit IO Driver for Windows 7 (zip, 9.1MB)
- Aries USB3.0 Driver for Windows 7 (zip, 5.2MB)
- Aries 32-bit IO Driver for Windows 7 (zip, 5.2MB)
- Aries LCD Configuration Utility (zip, 1.1MB)
Development Kits

Aries Development Kits, DK-ARS-LNX or DK-ARS-WE7, are available with all the components you need to get started on your embedded design. Each kit contains an Aries SBC with 1.91GHz E3845 CPU, 4GB DRAM, integrated data acquisition, 32GB MLC SATA DOM flashdisk with bootable operating system, cable kit (CK-ARS-01), and Quick Start Guide.

Aries Cable Kit

The Aries cable kit, CK-ARS-01, includes cables for all I/O connectors except LCD, HDMI, and DisplayPort.

Cables and accessories

available models:

FDSM-64G-XT SATA DOM MLC Flashdisk, 64GB, extended temperature

Get An Online Quote

Aries PC/104-Plus SBC

available models:

ARS3845-4GA Aries SBC, 1.91GHz E3845 CPU, 4GB DDR3 SDRAM, analog I/O & digital I/O
ARS3845-4GN Aries SBC, 1.91GHz E3845 CPU, 4GB DDR3 SDRAM, digital I/O
ARS3826-2GA Aries SBC, 1.46GHz E3826 CPU, 2GB DDR3 SDRAM, analog I/O & digital I/O
ARS3826-2GN Aries SBC, 1.46GHz E3826 CPU, 2GB DDR3 SDRAM, digital I/O
DK-A RS-WE7 Aries Development Kit with ARS3845-4GA SBC, cables and Windows Embedded 7 OS
DK-A RS-LNX Aries Development Kit with ARS3845-4GA SBC, cables and Linux OS
SDK-A RS-WE7 Aries Windows Embedded 7 Software Development Kit
SDK-A RS-LNX Aries Linux Software Development Kit
CK-A RS-01 Aries Cable Kit
ACC-HS104-12.7 Heat Sink Accessory

Please login or signup for an online quote request.
FDMS-32G-XT SATA DOM MLC Flashdisk, 32GB, extended temperature
FDMS-8G-XT mSATA SLC Flashdisk, 8GB, extended temperature
FDSS-64G-XT SATA DOM SLC Flashdisk, 64GB, extended temperature
FDSS-32G-XT SATA DOM SLC Flashdisk, 32GB, extended temperature
FDMM-64G-XT mSATA MLC Flashdisk, 64GB, extended temperature
FDMM-32G-XT mSATA MLC Flashdisk, 32GB, extended temperature
FDMM-16G-XT mSATA MLC Flashdisk, 16GB, extended temperature
FDMS-64G-XT mSATA SLC Flashdisk, 64GB, extended temperature
FDMS-32G-XT mSATA SLC Flashdisk, 32GB, extended temperature
FDMS-16G-XT mSATA SLC Flashdisk, 16GB, extended temperature

Please login or signup for an online quote request.

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Our company network supports you worldwide with offices in Germany, Great Britain, Turkey and the USA. For more information please contact:

**DATA DISPLAY GROUP**

A FORTEC GROUP MEMBER

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
<th>Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distec GmbH</td>
<td>Augsburger Str. 2b, 82110 Germering, Germany</td>
<td>+49 (0)89 / 89 43 63-0</td>
<td>+49 (0)89 / 89 43 63-131</td>
<td><a href="mailto:info@datadisplay-group.de">info@datadisplay-group.de</a></td>
<td><a href="http://www.datadisplay-group.de">www.datadisplay-group.de</a></td>
</tr>
<tr>
<td>FORTEC Elektronik AG</td>
<td>Lechwiesenstr. 9, 86899 Landsberg am Lech, Germany</td>
<td>+49 (0)8191 / 911 72-0</td>
<td>+49 (0)8191 / 217 70</td>
<td><a href="mailto:sales@fortecag.de">sales@fortecag.de</a></td>
<td><a href="http://www.fortecag.de">www.fortecag.de</a></td>
</tr>
<tr>
<td>Display Technology Ltd.</td>
<td>5 The Oaks Business Village, Revenge Road, Lordswood, Chatham, Kent, ME5 8LF, United Kingdom</td>
<td>+44 (0)1634 / 67 27 55</td>
<td>+44 (0)1634 / 67 27 54</td>
<td><a href="mailto:info@displaytechnology.co.uk">info@displaytechnology.co.uk</a></td>
<td><a href="http://www.datadisplay-group.com">www.datadisplay-group.com</a></td>
</tr>
<tr>
<td>Apollo Display Technologies, Corp.</td>
<td>87 Raynor Avenue, Unit 1Ronkonkoma, NY 11779, United States of America</td>
<td>+1 631 / 580-43 60</td>
<td>+1 631 / 580-43 70</td>
<td><a href="mailto:info@apollodisplays.com">info@apollodisplays.com</a></td>
<td><a href="http://www.apollodisplays.com">www.apollodisplays.com</a></td>
</tr>
</tbody>
</table>

**Sales Partner:**

**DATA DISPLAY BİLİŞİM TEKNOJİLERİ İÇ VE DIŞ TİCARET LIMITED ŞİRKETİ**

Barbaros Mh. Ak Zambak Sk. A Blok D:143
34376 Ataşehir / İstanbul, Turkey
Phone: +90 (0)216 / 688 04 68
Fax: +90 (0)216 / 688 04 69
E-Mail: info@data-display.com.tr
Internet: www.data-display.com.tr