

MIC-3325

3U CompactPCI® Intel® Atom™ Dual Core D525/N455 Processor Blade



Features

- Dual Core Intel® Atom™ D525 processor/single core N455 processor
- Intel® I/O Controller Hub 8-Mobile (ICH8M)
- Two GB DDR3 onboard up to 800 MT/s
- Optimized CompactFlash socket on single board computer
- 2.5" SATA-II HDD on XTM second layer
- Two 10/100/1000 Mbps ports, two USB ports, one VGA port on front panel
- Two COM ports, one USB ports, one PS/2 port on 8HP second layer
- Support 5V only power input
- PICMG 2.0, R 3.0, PICMG 2.1, R 2.0 compliant



Introduction

Advantech's MIC-3325 is a 3U CompactPCI dual/single core processor blade based on the Intel® Atom™ processor D525/N455+ICH8M two-chip platform. It provides the high performance of 2 cores and 4 threads of processing power at lower cost, and with easier validation. The MIC-3325 fully utilizes the I/O features of the Intel® chipsets, including an integrated memory controller (IMC), integrated graphics processing unit (GPU) and integrated I/O (IIO) such as DMI. The low power requirements of the Intel® Atom™ processor makes operation in elevated temperature ranges possible. Breakthrough memory design puts 2GB SDRAM on board, while keeping the speed at DDR3 800MT/s. The on-board CPU and memory provide less weight and higher shock/vibration resistance than socket devices. With such benefits, the MIC-3325 can be used in mission-critical applications such as military defense, transportation, traffic control, test and measurement (T&M) as well as critical data acquisition & control applications. MIC-3325 uses the Intel® ICH8M as the PCH, which provides extensive I/O support. The Integrated Gigabit Ethernet Controller can operate at multiple speeds (10/100/1000 Mb/s) and in either full duplex or half duplex mode. A flexible 8HP extension module design provides the MIC-3325 with great flexibility and additional I/O connectivity to the customer. For more connectivity details, please contact an Advantech representative.

Specifications

| | | |
|----------------------|-----------------|---|
| Processor System | CPU | Intel Atom N455 Single Core 1.66 GHz Intel Atom D525 Dual Core 1.8 GHz |
| | Max. Speed | 1.8 GHz |
| | Chipset | Intel ICH8M @ Pine View-D Platform |
| | BIOS | SPI 2-MByte BIOS |
| | DMI | 100 MHz reference clock |
| CompactPCI Interface | J1 Connector | 32-bit PCI local bus (33MHz) |
| | J2 Connector | RTM area (VIO Power 32bit) |
| Memory | Technology | DDR3-800 SDRAM |
| | Max. Capacity | 2 GB |
| | On board/socket | On board |
| Graphics | Chipset | Integrated in Intel Atom N455/D525 |
| | Resolution | Intel Atom N455 Single Core up to 1400 x 1050 (SXGA) Intel Atom D525 Dual Core up to 2048 x 1536 |
| Ethernet | Controller | 2Xi82583V |
| | Interface | 10/100/1000 Mbps |
| | I/O Connector | RJ-45 x 1 (front panel), RJ-45 x 1 (RTM) |
| | Controller | ICH8M (MAC)+82567 (PHY) |
| | Interface | 10/100/1000 Mbps |
| Storage | I/O Connector | RJ-45 x 1 (front panel) |
| | IDE | 1 x CompactFlash Socket Type II |
| | SATA | 1 x Internal SATA connector only on 8HP version |
| Front I/O | VGA | DB15 Port |
| | Ethernet | 2 x 10/100/1000 Mbps RJ-45 connector |
| | USB 2.0 | 2 x Type A ports |
| | LEDs | Power, Hot Swap |
| | 8HP-option A | 2 x DB9 RS-232, 1 x USB Type A port, 1 x PS/2 port |

Specifications (Cont.)

| | | | |
|--------------------------|--------------------|---|------------------------------|
| RIO (J2 interface) | SATA | 1 SATA-II (internal) | |
| | VGA | 1 port (VGA switchable from front panel by jumper1) | |
| | COM | 2 ports (internal) | |
| | USB 2.0 | 2 ports | |
| | RJ-45 | 1 PCIe1 based on i82583V MAC/PHY | |
| Watchdog Timer | Supervision | 0 ~ 255s, 1s step, generate reset signal | |
| Operating System | Compatibility | Microsoft Windows XP Professional, Windows 7, Windows XPE, Redhat6.1 | |
| Power Requirement | Configuration | 4HP, w/o RIO | |
| | Consumption | 16.6 W for D525, 14.6 W for N455 (4HP with peripherals) | |
| Physical Characteristics | Dimensions (W x D) | 4HP, 160.00 x 100.00 mm (6.30" x 3.95") (PCB size) | |
| | Weight | 0.4 kg including XTM | |
| Environment | | Operating | Non-operating |
| | Temperature | 0 ~ 60° C (32 ~ 140° F) | -40 ~ 85° C (-40 ~ 185° F) |
| | Humidity | 5 to 95% @ 40°C (non condensing) | 95% @ 60° C (non-condensing) |
| | Shock | 10 G, 11ms | 30 G, 11ms |
| | Vibration | 1.06 Grms (5 ~ 100 Hz, without on-board HDD) | 2 Grms (5 ~ 500 Hz) |
| Regulatory | Conformance | FCC, Class A, CE, RoHS | |
| Compliance | Standard | PICMG 2.0 Rev. 3.0 compatible; PICMG 2.1 R2.0 CompactPCI Hot Swap Specification | |

Ordering Information

| Part Number | Description |
|-----------------|---|
| MIC-3325D-D2E | MIC-3325 with D525 CPU 2G RAM XTM dual slot |
| MIC-3325D-S2E | MIC-3325 with D525 CPU 2G RAM single slot |
| MIC-3325N-D3E | MIC-3325 w/ N455 CPU 2G RAM 8HP-2 XTM dual slot |
| MIC-3325N-S2E | MIC-3325 with N455 CPU 2G RAM single slot |
| MIC-3525-S1E | Rear I/O for MIC-3325 with VGA, LAN, USB, SATA, COM |
| MIC-3325XTM-S1E | 3U CPCI Extension Board for MIC-3325 |

Recommended Configurations

| CPU Board | Enclosure | Rear I/O Board |
|-----------|--|----------------|
| MIC-3325 | MIC-3022AE, 3U CPCI enclosure with 400W ATX PSU | MIC-3525-S1E |
| MIC-3325 | MIC-3022CE, 3U CPCI enclosure with 250W CPCI PSU | MIC-3525-S1E |

If you need other chassis or RIO, please contact your Advantech sales representative.

Optional Accessories

| Part Number | Description |
|----------------|---|
| MIC-3955A1-S1E | 3U CPCI 4-port Serial Port Controller with RS-232/422/485 |
| MIC-3955B1-S1E | 3U CPCI 4-port RS-232/422/485 to RIO 4HP |
| MIC-3955R1-D1E | 3U CPCI 4-port RS-232/422/485 RIO Board 8HP |
| MIC-3716/3-A | 3U 250kS/s, 16-bit, 16-ch multifunction Card |
| MIC-3756/3-A | 64-ch Isolated DI/O Card |
| MIC-3680/3-A | 2-port CAN Card |
| MIC-3953-AE | MIC-3953 3U PMC carrier board |
| MIC-3665-AE | CompactPCI PMC with dual copper (RJ-45) Gigabit Ethernet interfaces |