

# UNO-2174A/2178A

Intel® Atom™ N450/ D510  
Automation Computers  
with 6 x USB, 8 x COM,  
2 x Mini PCIe



## Features

- Onboard Intel Atom N450/D510 processors
- 2 x 10/100/1000Base-T RJ-45 ports, 6 x USB 2.0 ports
- Windows® CE 6.0, WES 2009, WES 7 and Advantech Linux ready solution
- Onboard system status LED indicators
- Front-accessible CF slot
- Supports Boot from LAN function
- 2 x Mini PCIe slots with 1 x SIM slot support
- Fanless design with no internal cabling
- Isolation between chassis and power ground
- Supports wide operating temperatures from -10 ~ 70°C
- IP40 ingress protection
- Windows 7 32 bit supported
- Supports plug-in cards (1 x PCI-104 and 1 x PC/104+) with additional daughterboard expansion
- Supports 8 x COM ports (UNO-2178A)
- Supports arbitrary baud rates

## Introduction

The UNO-2174A and UNO-2178A are Embedded Automation Computers equipped with Intel Atom N450/D510 CPUs, Gigabit Ethernet ports, rich I/O, and 2 x Mini PCIe socket. They also feature WLAN, 3G expansion and compatibility with Windows 7. Both products have Energy Star certification, IP40 anti-dust ingress protection and wide operating temperatures (-10 ~ 70°C), providing high performance and high versatility with low power consumption. The UNO-2174A and UNO-2178A are economic new computing platforms for manufacturing executing systems, facility automation, and industrial thin client applications. With an additional daughterboard, the UNO-2174A and UNO-2178A support 1 x PC/104+ and 1 x PCI-104 plug-in cards for further expansion.

## Specifications

### General

- Certification** Energy Star, CE, FCC Class A, UL, CCC, C-Tick Class A, BSMI
- Dimensions (W x D x H)** UNO-2174A-A23E: 255 x 152 x 50 mm (10" x 6.0" x 2.0")  
UNO-2174A-A33E: 255 x 152 x 59mm(10"x6.0"x2.3")  
UNO-2178A: 255 x 152 x 59 mm (10" x 6.0" x 2.3")
- Enclosure** Aluminum +SECC
- Mounting** DIN-rail, Wallmount, VESA
- Industrial Grounding** Isolation between chassis and power ground
- Power Consumption** UNO-2174A: 12 W (Typical)  
UNO-2178A: 16 W (Typical)
- Power Requirements** 9 ~ 36 V<sub>DC</sub> (e.g. +24 V @ 1.5 A) (Min. 36 W), ATX
- Power Suspend Mode** S3, S4
- Weight** 2.5 kg
- OS Support** Windows XP/7, WES7, WES-2009, CE 6.0, Advantech Linux, QNX
- System Design** Fanless design with no internal cabling
- Remote Management** Built-in Advantech DiagAnywhere agent on Windows CE, WES2009, WES7

### System Hardware

- CPU** UNO-2178A: Intel Atom D510 Dual Core 1.66 GHz  
UNO-2174A: Intel Atom N450 1.6 GHz /D510 1.66GHz
- Memory** 2 GB DDR2 SDRAM built-in
- Indicators** LEDs for Power, CF, LAN (Active, Status), Serial (Tx, Rx)
- Keyboard/Mouse** 1 x PS/2
- Storage** CF: 1 x rear type I/II CompactFlash® slot  
HDD: 1 x built-in 2.5" SATA HDD/SSD bracket (Not available when PCI-104 expansion is being used)
- Display** DB15 VGA connector, UNO-2174A supports up to 1400 x 1050, UNO-2178A supports up to 2048 x 1536
- Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec
- Expansion** 2 x Mini PCIe  
1 x SIM card slot
- Printer Port** 1 x Printer port (UNO-2174A)

### Daughterboard (Additional purchase required)

- Expansion Slot** PC/104+ and PCI-104 support (+5 & 3.3V power) (HDD slot is not available when PCI-104 slot is being used)  
2 x Mini PCIe card slots and 1 x SIM card slot

### I/O Interface

- Serial Ports** UNO-2174A: 2 x RS-232/485 (COM1-2),  
2 x RS-232/422/485 w/ 128kB FIFO (COM A-B)  
UNO-2178A: 2 x RS-232/485 (COM1-2),  
2 x RS-232/422/485 w/ 128kB FIFO (COM A-B),  
4 x RS-232/485 from DB25 connector (COM3-6)
- Serial Port Speed** 50-115.2 kbps (COM 1-6 in RS-232/485 mode)  
50-115.2 kbps (COM A/B in RS-232 mode, 921.6kbps peak performance)  
50-921.6 kbps (COM A/B in RS-422/485 mode)
- LAN** 2 x 10/100/1000Base-T RJ-45 ports (Built-in boot ROM in flash BIOS)
- USB Ports** 6 x USB 2.0
- Audio** Line in, Line out, Mic in (5.1 channel HD audio)

### Environment

- Humidity** 95% @ 40°C (non-condensing)
- Operating Temperature** IEC 60068-2-2 with 100% CPU/ I/O loading  
-10 ~ 70°C (14 ~ 158°F)
- Ingress Protection** IP40
- Shock Protection** IEC 60068-2-27  
CompactFlash: 50 G @ wall mount, half sine, 11 ms  
HDD: 20 G @ wall mount, half sine, 11 ms
- Vibration Protection** IEC 60068-2-64 (Random 1 Oct./min, 1hr/axis.)  
CompactFlash: 2 Grms @ 5 ~ 500 Hz,  
HDD: 1 Grms @ 5 ~ 500 Hz

## Ordering Information

- UNO-2174A-A23E** Intel Atom N450 1.6 GHz, 2 GB RAM, 4 x COM ports Automation Computer
- UNO-2178A-A33E** Intel Atom D510 1.66 GHz, 2 GB RAM, 8 x COM ports Automation Computer
- UNO-2174A-A33E** Intel Atom D510 1.66 GHz, 2GB RAM, 4 x COM ports Automation Computer

### Accessories

- UNO-FPM21-AE** UNO-2000 series VESA mount kit
- EWM-W138H01E** Mini PCIe card for WLAN
- 1750006043** Wi-Fi cable 15CM
- 1750002842** Antenna for Wi-Fi
- 9656EWMG00E** Half-size miniPCIe to miniPCIe bracket set
- PCLS-DIAGAW10** Advantech Remote Monitoring & Diagnosis Utility
- UNO-PCM23-AE** 1 x PCI-104 and 1 x PC/104+ Expansion board