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UNO-2173A/AF

Intel Atom Fanless Box PC with 1 x LAN, 2 x COM, Mini-PCIe

User Manual

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Product Warranty

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for one year from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

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Step 2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.

Step 3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.

Step 4. Carefully pack the defective product, a fully completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.

Step 5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

Step 1. Visit the Advantech web site at **www.advantech.com/support** where you can find the latest information about the product.

Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (OS, version, software, etc.)
- A complete description of the problem
- The exact wording of any error messages

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage. To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the CPU card or other cards while the PC is on. Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
15. The power cord or plug is damaged.
16. Liquid has penetrated into the equipment.
17. The equipment has been exposed to moisture.
18. The equipment does not work well, or you cannot get it to work according to the user's manual.
19. The equipment has been dropped and damaged.
20. The equipment has obvious signs of breakage.
21. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 70° C (158° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.
22. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFAC-

TURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

23. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

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CHAPTER 1

Overview

This chapter provides an overview of UNO-2173A/AF's specifications.

Sections include:

- Introduction
- Hardware specification
- Safety precautions
- Chassis dimensions

Chapter 1 Overview

1.1 Introduction

UNO-2173A/AF is an embedded Application Ready Platform (ARP) that can shorten your development time and offers rich networking interfaces to fulfill extensive needs in different projects. Advantech's Universal Network Controller is designed to be a total solution for network enabled Application Ready Platforms.

Leveraging field-approved and worldwide approved real-time OS technology, Advantech's UNO-2000 series provides a Windows CE .NET and Windows XP Embedded ready solution, and supports several standard networking interfaces, such as Ethernet, Wireless LAN, RS-232/422/485 and so on. Because of its openness, great expansion capability and reliable design (fanless and diskless), the UNO-2000 series are ideal embedded platforms for implementing custom applications for diversified applications.

UNO-2173A/AF has been certified by Energy Star., recognizing its extreme low power consumption and high energy utilization. To build a low-carbon society everyone needs to do thier best. By selecting the UNO-2173A/AF for your project, you have made a good contribution for this planet.

1.2 Hardware Specifications

General

- **Certifications** Energy Star, CE, FCC class A, UL, CCC
- **Dimensions (W x D x H)** 255 x 152 x 59 mm (10" x 6.0" x 2.3")
- **Enclosure** Aluminum +SECC
- **Mounting** Wallmount, DIN-rail, VESA
- **Industrial Grounding** Isolation between chassis and power ground
- **Power Consumption** 15 W (Typical)
- **Power Requirements** 9 ~ 36 VDC (Min. 36 W), ATX
- **Weight** 2.5 kg
- **OS Support** Windows XPe/XP/CE 5.0 & 6.0, Linux
- **System Design** Fanless design with no internal cabling

System Hardware

- **CPU** Intel Atom 1.6 GHz (N270)
- **Memory** 1GB 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 front-accessible type I/II Compact Flash slot
  HDD: 1 x built-in 2.5" SATA HDD/SSD bracket
- **Display** DB15 VGA connector, 1600 x 1200 @ 85 Hz
- **Watchdog Timer** Programmable 256 levels timer interval, from 1 to 255 sec
- **Expansion Slot** 1 x Mini-PCIe

I/O Interface

- **Serial Ports** 2 x RS-232
- **Serial Port Speed** 50 ~ 115.2 kbps
- **LAN** 1 x 10/100/1000 Base-T RJ-45 ports
  (Built-in boot ROM in flash BIOS)
- **USB Ports** 2 x USB 2.0

Environment

- **Humidity** 95% @ 40° C (non-condensing)
- **Operating Temperature** IEC 68 2-2 with 100% CPU/ I/O loading
  -20 ~ 70° C (-4 ~ 158° F)
  With no airflow: Up to 60° C
- **Ingress Protection** IP40
- **Shock Protection** IEC 68 2-27CF: 50 G @ wallmount, 11 ms
  HDD: 20 G @ wall mount, half sine, 11 ms
- **Vibration Protection** IEC 68 2-64 (Random 1 Oct./min, 1hr/axis.)
  CompactFlash: 5 Grms @ 5 ~ 500 Hz,
  HDD: 1 Grms @ 5 ~ 500 Hz

Rear I/O (UNO-2173AF Only)

- **Display** LVDS with backlight control
- **USB Ports** 2 x USB 2.0 ports
- **Audio** 5.1 channel HD audio
- **LAN** 1 x 10/100/1000 Base-T RJ-45 ports
- **Serial Ports** 1 x RS-422/485 serial port
- **Serial Port Speed** 50 ~ 115.2 kbps

Reserved Functions

- **Battery Backup SRAM*** 1MB
- **Printer Port*** 1 x printer port pin head

*Note: This function is reserved for projects

1.3 Safety Precautions

The following sections tell how to make each connection. In most cases, you will simply need to connect a standard cable.

Warning!



Always disconnect the power cord from your chassis whenever you are working on it. Do not connect while the power is on. A sudden rush of power can damage sensitive electronic components. Only experienced electronics personnel should open the chassis.

Caution! *Always ground yourself to remove any static electric charge before touching UNO-2173A/AF. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag.*

1.4 Chassis Dimensions

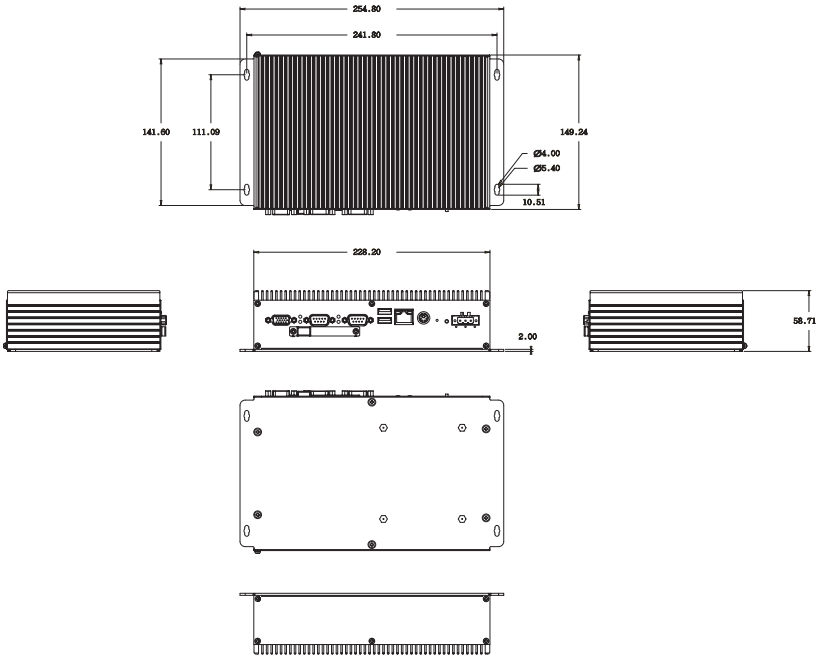


Figure 1.1: UNO-2173A Chassis Dimensions

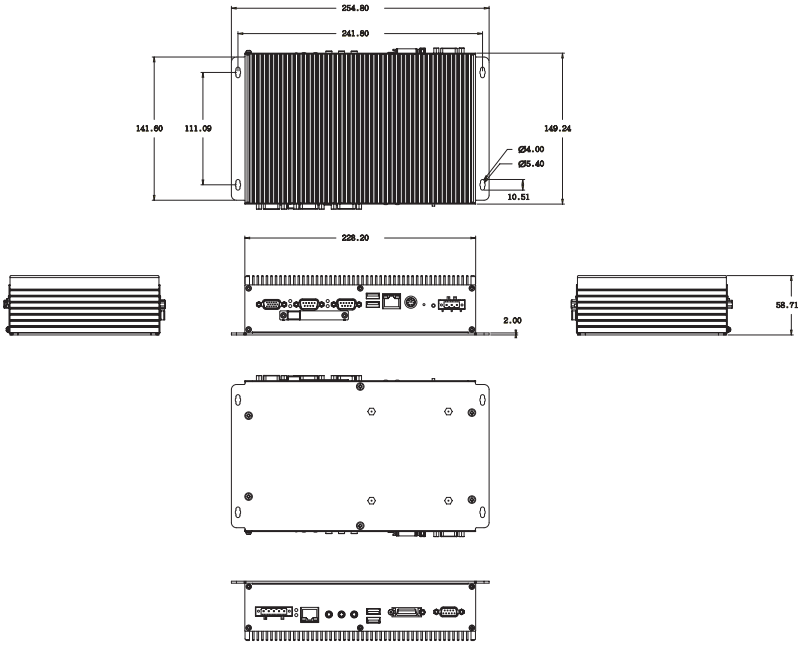


Figure 1.2: UNO-2173AF Chassis Dimensions

1.5 Accessories

Please refer below for the accessory list:

- 3-pin connector for power wiring (Advantech P/N : 1652003206)
- 5-pin connector for COM3 RS-422/485 (UNO-2173AF only, Advantech P/N : 1652000177)
- SATA signal cable (Advantech P/N : 1700006812)
- SATA power cable (Advantech P/N : 1700004712)
- 10 PCS jumper (Advantech P/N : 1653302122)
- Keyboard/Mouse Y cable (Advantech P/N : 1700060202)
- Driver DVD
- Warranty card

If anything is missing or damaged, contact your distributor or sales representative immediately.

CHAPTER 2

Hardware Functionality

This chapter shows how to setup the UNO-2173A/AF's hardware functions, including connecting peripherals, setting switches and indicators.

Sections include:

- Peripherals
- RS-232 Interface
- RS-422/485 Interface
- LAN / Ethernet Connector
- Power Connector
- PS/2 Mouse and Keyboard Connector
- USB Connector
- VGA Display Connector
- Battery Backup SRAM
- Reset Button

Chapter 2 Hardware Functionality

2.1 Introduction

The following two figures show the connectors on UNO-2173A/AF. The following sections give you detailed information about function of each peripheral.

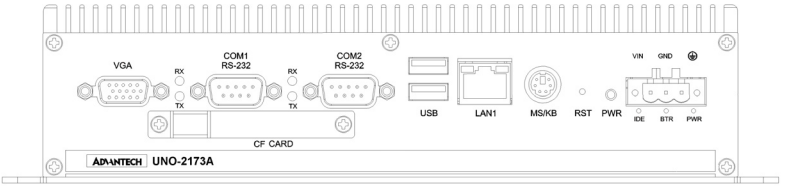


Figure 2.1: Front panel of UNO-2173A/AF

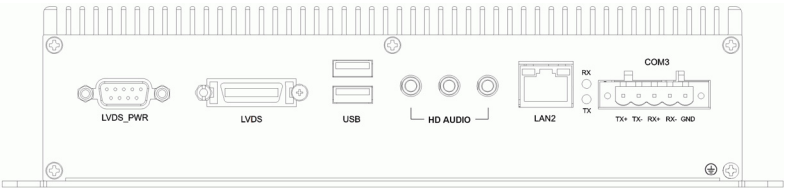


Figure 2.2: Rear panel of UNO-2173AF

2.2 RS-232 Interface (COM1~COM2)

The UNO-2173A/AF offers two standard RS-232 serial communication interface ports: COM1 and COM2. Please refer to A.3 for their pin assignments.

IRQ and Address Setting

The IRQ and I/O address range of COM1 and COM2 are listed below:

COM1: 3F8H, IRQ4

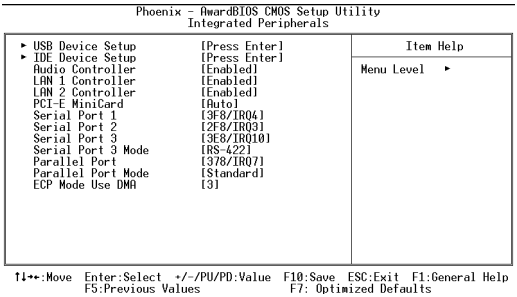
COM2: 2F8H, IRQ3

2.3 RS-422/485 Interface (UNO-2173AF)

The UNO-2173AF offers one RS-422/485 serial communication interface ports: COM3. Please refer to Appendix A.4 for their pin assignments. The default setting of COM3 is RS-422.

2.3.1 RS-422/485 Selection

The mode of UNO-2173AF COM3 can be selected in the BIOS. Please enter the BIOS setting screen and select the "Integrated Peripherals", then the follow screen would be shown. In the screen you can configure the resource and the mode.



2.3.2 Automatic Data Flow Control Function for RS-485

In RS-485 mode, UNO-2173AF automatically detects the direction of incoming data and switches its transmission direction accordingly. So no handshaking signal (e.g. RTS signal) is necessary. This lets you conveniently build an RS-485 network with just two wires. More importantly, application software previously written for half duplex RS-232 environments can be maintained without modification.

2.3.3 Termination Resistor (SW3)

The onboard termination resistor (120 ohm) for COM3 can be used for long distance transmission or device matching. (Default Open.)

Table 2.1: Terminal Resistor for COM3		
SW3		Status
DIP1	ON	Add termial resistor on Tx+/Tx- of RS-422 or Data+/Data- of RS-485
	OFF	Open (default)
DIP2	ON	Add termial resistor on Rx+/Rx- of RS-422
	OFF	Open (default)

2.4 LAN: Ethernet Connector

UNO-2173A is equipped with one Giga LAN controller and UNO-2173AF has two. The controller chip used in both model is RTL8111C Ethernet controller that is fully compliant with IEEE 802.3u 10/100Base-T CSMA/CD standards and IEEE 802.3ab specification for 1000Mbps Ethernet. The Ethernet port provides a standard RJ-45 jack on board, and LED indicators on the front side to show its Link (Green LED) and Active (Yellow LED) status.

2.5 Power Connector

The UNO-2173A/AF comes with a Phoenix connector that carries 9~36 VDC external power input, and features reversed wiring protection. Therefore, it will not cause any damage to the system by reversed wiring of ground line and power line. Please refer to Appendix A.5

2.6 PS/2 Keyboard and Mouse Connector

The UNO-2173A/AF provides a PS/2 keyboard and mouse connector. A 6-pin mini-DIN connector is located on the rear panel. The UNO-2173A/AF comes with an adapter to convert from the 6-pin mini-DIN connector to two 6-pin mini-DIN connectors for PS/2 keyboard and PS/2 mouse connection.

2.7 USB Connector

The USB interface supports Plug and Play, which enables you to connect or disconnect a device whenever you want, without turning off the computer.UNO-2173A provides two and UNO-2173AF provides four connectors of USB interfaces, which gives complete Plug & Play and hot swapping for up to 127 external devices. The USB interface complies with USB EHCI, Rev. 2.0 compliant. The USB interface can be disabled in the system BIOS setup. Please refer to Appendix A.7 for its pin assignments.

2.8 VGA Display Connector

The UNO-2173A/AF provides a VGA controller (Intel 945GSE GME, for a high resolution VGA interface. It supports up to 2048 x 1536 @ 75 Hz maximum resolution

2.9 Battery Backup SRAM (Reserved)

UNO-2173A/AF reserves 1 MB of battery backed SRAM for projects. This ensures that you have a safe place to store critical data. You can now write software applications without being concerned that system crashes will erase critical data from the memory. Please contact Advantech if this is function is required in your project.

There is a BTRY LED in the front panel of the UNO-2173A/AF, please replace the lithium battery with a new one if the BTRY LED is activated.

2.9.1 Lithium Battery Specification

- **Type:** BR2032 (Using CR2032 is NOT recommended)
- **Output voltage:** 3 V_{DC}
- **Location:** BH2, please refer to below figure

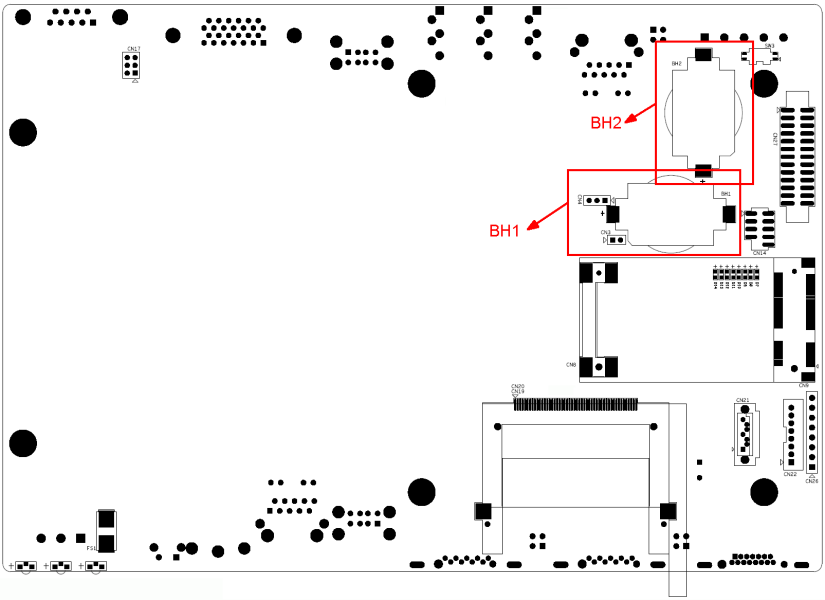


Figure 2.3: Lithium Battery Location

Note: BH2 is for SRAM and BH1 is for Real Time Clock

2.10 Power Button / Power Management

Press the "PWR" button to power on or power off UNO-2173A/AF (ATX type). UNO-2173A/AF supports the ACPI (Advanced Configuration and Power Interface). Besides power on/off, it support multiple suspend modes, such as Power on Suspend (S1), Suspend to RAM (S3), Suspend to Disk (S4). In S3 and S4 suspend mode, the power consumption can be less than 2W which meet criteria of Energy Star.

2.11 Reset Button

Press the "Reset" button to activate the hardware reset function.

2.12 HD Audio (UNO-2173AF)

UNO-2173AF is equipped with ALC888-GR which is a High Definition Audio Codec. UNO-2173AF provides 3 phone jack connector for 5.1 channel output. Please configure the function through provided software utility.

2.13 PCI Express Mini Card Socket

UNO-2173A/AF supports one socket for PCI Express mini Card. This interface is mainly target on the wireless application such as WLAN and GPRS. User can install the card easily by the optional kit, please refer to Chapter 3.2 for the details.

2.14 LVDS (UNO-2173AF)

UNO-2173AF provides the interface of LVDS (Low Voltage Differential Signal) as another option for display purpose. It supports 18 and 36 bits pixel color depth and resolution up to 1600 x 1200 (UXGA). For the backlight control, user can connect the PWM type LCD inverter to the LVDS_PWR. It can provide PWM signal to inverter to control the brightness of LCD backlight.

For the power line of the backlight, UNO-2173AF support +12V @ 1.2A and +5V @ 1A. It should be normally OK for 12" and 15" LCD panel.

The related pin definition is on Appendix A.9, please refer to the table for the necessary cable wiring. If our service is required for the project, please don't hesitate to contact us.

CHAPTER 3

Initial Setup

This chapter introduces how to initialize the UNO-2173A/AF.

Sections include:

- Inserting a CompactFlash Card
- Chassis Grounding
- Conneting Power
- Connecting a Hard Disk
- BIOS Setup and System Assignments

Chapter 3 Initial Setup

3.1 Inserting a CompactFlash Card

1. Remove the power cord.
2. Unscrew the two screws of CF cover in the front panel.
3. Plug a CompactFlash card with your OS and application program into a CompactFlash card slot on board.
4. Screw back the CF cover to ensure IP40 protection.

Note: The CompactFlash is allocated as "the Secondary IDE Master" by default.

User can change it to "Primary IDE Master" by BIOS setting. Please enter BIOS and select "Integrated Peripherals > IDE Device Setup > IDE Configuration > Enhanced Mode"

3.2 Chassis Grounding

UNO-2173A/AF provides good EMI protection and a stable grounding base. There is an easy-to-connect chassis grounding point for you to use.

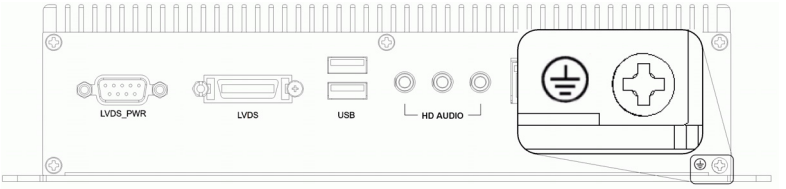


Figure 3.1: Chassis Grounding Connection

Please also note that system ground and chassis ground are separated in UNO-2173A/AF

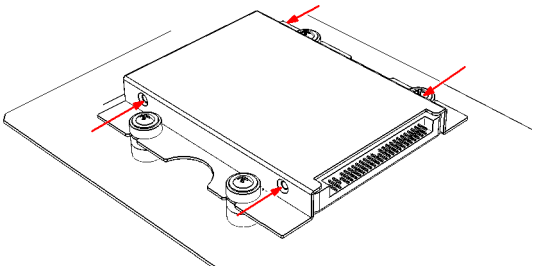
3.3 Connecting Power

Connect the UNO-2173A/AF to a 9~36 VDC power source. The power source can either be from a power adapter or an in-house power source.

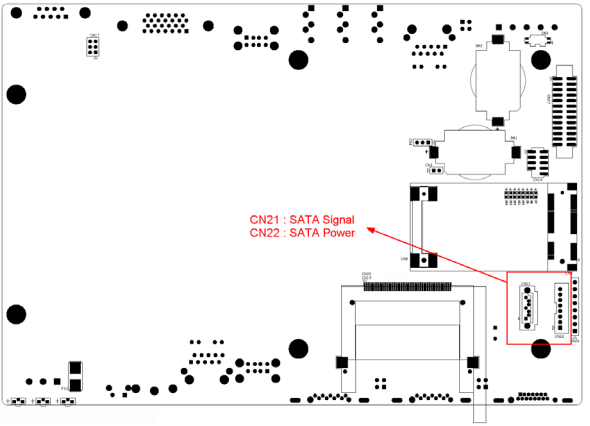
3.4 Installing a Hard Disk

The procedure for installing a hard disk into the UNO-2173A/AF is below. Please follow these steps carefully.

1. Remove the power cord.
2. Unscrew the six screws from the bottom panel.
3. Install the HDD on the HDD bracket.



4. Connect the SATA signal cable to CN21 and connect SATA power cable to CN 22, then connect the other side of the cable to the SATA hard disk.



5. Screw back the bottom panel with the six screws.

3.5 Installing a Wireless LAN Card and Antenna

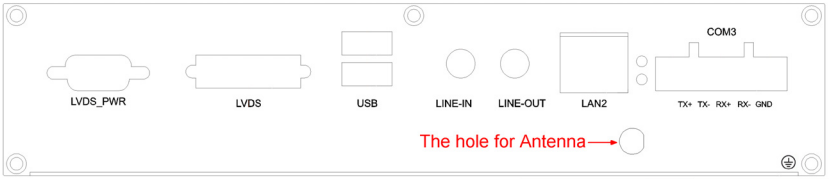
Please contact Advantech to prepare the following optional kit:

Rear Panel for Antenna.

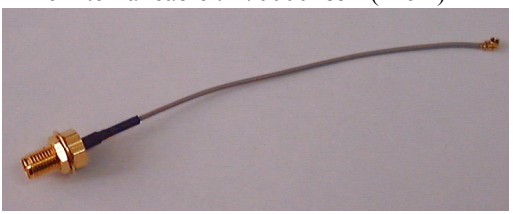
- 1960032715N040 for UNO-2173A



- 1960032715N020 for UNO-2173AF



- The internal cable : 1700001854 (11cm)



Wireless Module (PCI Express mini card)

- One of the suggested module is 968EMW0006 which is a verified Wireless IEEE 802.11b/g/n module

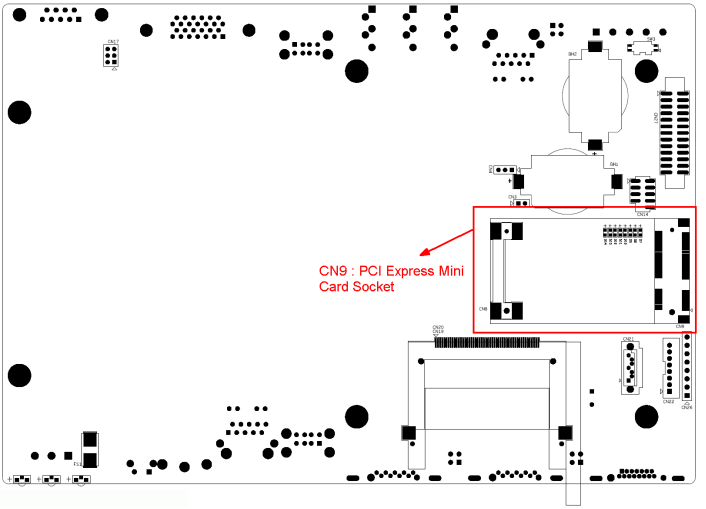
Antenna

- Please select the necessary specification according to your application.
- One of the suggested antenna is 1750003222 (18 cm) which is a verified 802.11b/g 5dBi Dipole Antenna

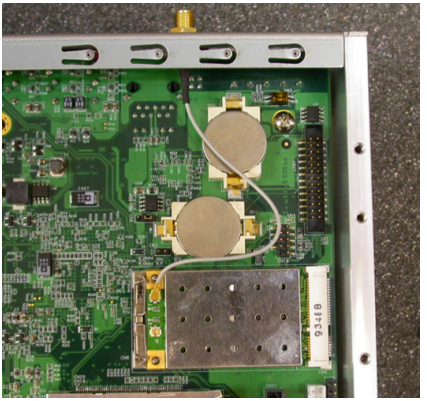


Then follow the below steps for the installation:

1. Unscrew the bottom panel and open it.
2. Install the internal cable 1700001854 on the prepared rear panel with the hole of antenna (1960032715N040 or 1960032715N020).
3. Replace the original rear panel with the panel assembled in step 2.
4. Plug the Wireless module onto the PCI Express mini card socket (CN9)



5. Connect the internal cable with the module.



6. Screw back the bottom panel.
7. Assemble the antenna on the SMA connector.

3.6 BIOS Setup

Press "DEL" in the boot-up screen to enter the BIOS setup utility. Please follow the instruction on the screen to do the necessary settings.

Please note that you can try to “Load Optimized Defaults” from the BIOS Setup manual if the UNO-2173A/AF does not work properly.

Appendix A

System Settings and Pin Assignments

Appendix A System Settings and Pin Assignments

A.1 System I/O Address and Interrupt Assignment

Table A.1: UNO-2173A/AF System I/O Ports

Address Range	Device
000-01F	DMA controller (slave)
020-03F	Interrupt controller 1, (master)
040-05F	8254 timer/counter
060-06F	8042 (keyboard controller)
070-07F	Real-time clock, non-maskable interrupt (NMI)mask
080-09F	DMA page register,
0A0-0BF	Interrupt controller 2 (slave)
0C0-0DF	DMA controller (master)
0F0	Clear math co-processor
0F1	Reset math co-processor
0F8-0FF	Math co-processor
170-177	Secondary IDE channel
1F0-1F7	Primary IDE channel
2F8-2FF	Serial port 2
378-37F	Parallel printer port 1 (reserved)
3E8-3EF	Serial port 3 (UNO-2173AF)
3F8-3FF	Serial port 1

Table A.2: UNO-2173A/AF Interrupt Assignment

Interrupt No.	Interrupt Source
NMI	Parity error detected
IRQ 0	Interval timer
IRQ 1	Keyboard
IRQ 2	Interrupt from controller 2 (cascade)
IRQ 3	COM2
IRQ 4	COM1
IRQ 6	Diskette controller (FDC)
IRQ 7	Parallel port 1 (print port)
IRQ 8	Real-time clock
IRQ 10	COM3
IRQ 12	PS/2 mouse
IRQ 13	INT from co-processor
IRQ 14	Primary IDE
IRQ 15	Secondary IDE

A.2 Board Connectors and Jumpers

There are several connectors and jumpers on the UNO-2173A/AF board. The following sections tell you how to configure the UNO-2173A/AF hardware setting. Figure A-1 shows the locations of UNO-2173A/AF's connectors and jumpers.

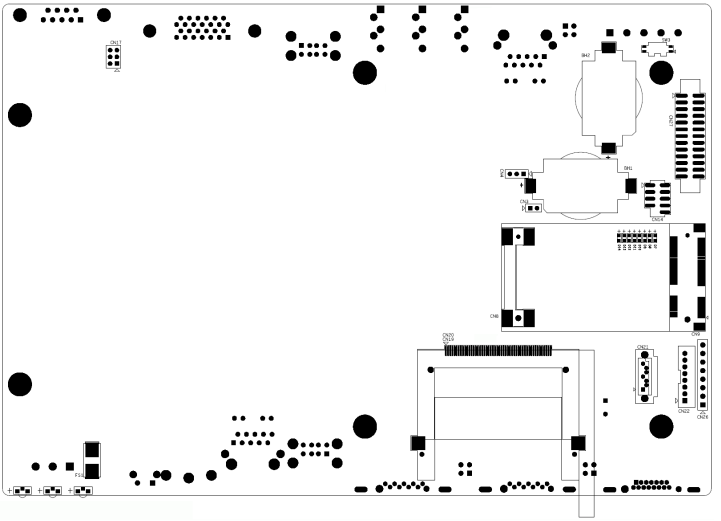


Figure A.1: Connector & Jumper Locations (front)

Table A.3: UNO-2173A/AF Connectors and Jumpers

Label	Function
FS1	Fuse for input DC power
CN3	Clear CMOS
CN8 CN9	PCI Express mini Card Socket
CN14	USBx2 pin-head (reserved)
CN17	LVDS power setting
CN21	SATA signal connector
CN22	SATA power connector
CN27	Print port (reserved)
SW3	Switch for terminal resistor of COM3
BH1	Battery for RTC
BH2	Battery for SRAM (reserved)

A.3 RS-232 Standard Serial Port (COM1~COM2)

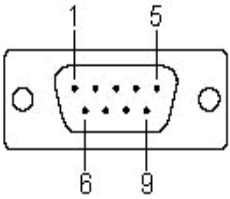


Table A.4: RS-232 standard serial port pin assignments

Pin	RS-232 Signal Name
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

A.4 RS-422/485 Serial Port (UNO-2173AF)

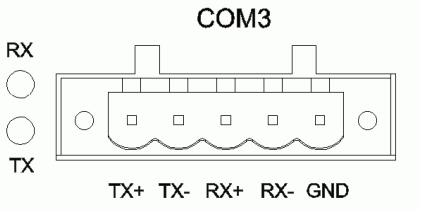


Table A.5: RS-422/485 serial port pin assignments

Pin	RS-422	RS-485
1	TX+	Data+
2	TX-	Data-
3	RX+	
4	RX-	
5	GND	

A.5 Power Connector (PWR)

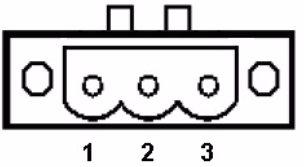


Table A.6: Power connector pin assignments

Pin	
1	V+ (9~36V_{DC})
2	V-
3	Field Ground

A.6 PS/2 Keyboard and Mouse Connector

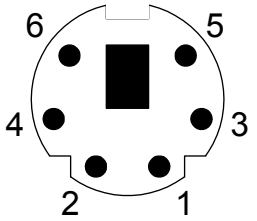


Table A.7: Keyboard and Mouse connector pin assignments

Pin	Signal Name
1	KB DATA
2	MS DATA
3	GND
4	VCC
5	KB Clock
6	MS Clock

A.7 USB Connector

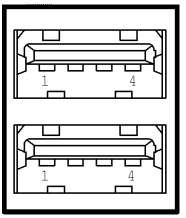


Table A.8: USB connector pin assignments

Pin	Signal Name	Cable Color
1	VCC	Red
2	DATA+	White
3	DATA-	Green
4	GND	Black

A.8 VGA Display Connector

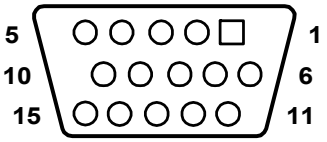
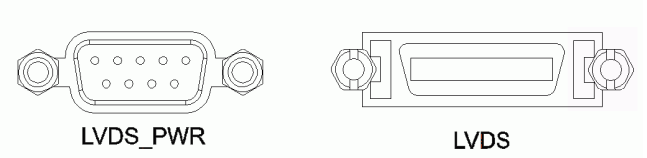


Table A.9: VGA adaptor cable pin assignment

Pin	Signal Name
1	Red
2	Green
3	Blue
4	NC
5	GND
6	GND
7	GND
8	GND
9	NC
10	GND
11	NC
12	NC
13	H-SYNC
14	V-SYNC
15	NC

A.9 LVDS and LVDS_PWR (UNO-2173AF)



A.9.1 LVDS

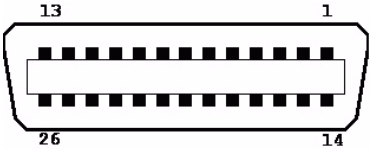


Table A.10: LVDS pin definitions

Pin	Signal	Pin	Signal
1	LVDS1_Z_CLK+	14	LVDS1_Z_CLK-
2	GND	15	LVDS0_Z_D0-
3	LVDS0_Z_D0+	16	LVDS0_Z_D1-
4	LVDS0_Z_D1+	17	LVDS0_Z_D2-
5	LVDS0_Z_D2+	18	LVDS0_Z_CLK-
6	LVDS0_Z_CLK+	19	GND
7	VDD_DSUB	20	VDD_DSUB
8	GND	21	NC
9	NC	22	LVDS1_Z_D0-
10	LVDS1_Z_D0+	23	LVDS1_Z_D1-
11	LVDS1_Z_D1+	24	LVDS1_Z_D2-
12	LVDS1_Z_D2+	25	NC
13	NC	26	GND

A.9.2 LVDS Power Setting (CN17)

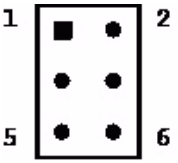
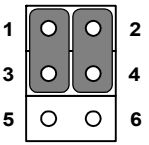
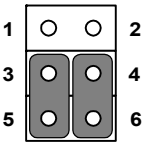


Table A.11: CN17 Configuration

Configuration	Function
	VDD_DSUB (Pin 7 and Pin 20) of LVDS pin is +5V
	VDD_DSUB (Pin 7 and Pin 20) of LVDS pin is +3.3V

A.9.3 LVDS_PWR (Backlight Control)

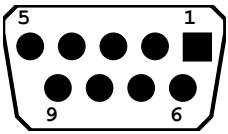


Table A.12: LVDS_PWR pin definition

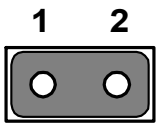
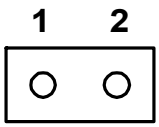
Pin	Signal
1	+12V (1.2A)
2	GND
3	INVERTER ENABLE
4	BRIGHTNESS (PWM)
5	+5V (1A)
6	LVDS_DDC_CLK
7	LVDS_DDC_DATE
8	GND
9	NC

A.10 Clear CMOS (CN3)

This jumper is used to erase CMOS data and reset system BIOS information. Follow the procedures below to clear the CMOS.

1. Turn off the system.
2. Close jumper CN3 (1-2) to clear CMOS .
3, Remove jumper CN3(1-2)
3. Turn on the system. The CMOS is now cleared.
4. Turn on the system. The BIOS is reset to its default setting.

Table A.13: CN3 Clear CMOS

Configuration	Function
	Clear CMOS
	Normal (Default)

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