

MIO-5373 3.5" MI/O-Compact SBC, 8th Gen. Intel® Core™ U-series (i7/i5/i3/Celeron®), DDR4, eMMC, HDMI, DP, 48-bit LVDS, 2 GbE, M.2 B-key 2280, DC-in 12-24V, iManager Startup Manual

Packing List

Before you begin installing your board, please make sure that the following items have been shipped:

- 1 x MIO-5373 SBC
- 1 x Startup Manual (P/N: 2046537300)
- 1 x SATA Cable 30cm (P/N: 1700006291)
- 1 x SATA Power Cable 35cm (P/N: 1700018785)
- 1 x Audio JACK*3 Cable 20cm (P/N: 1700019584)
- 1 x COM RS-232 Cable 20cm (P/N: 1700030404-01)
- 1 x MIO-5373 Heatsink for 0 ~ 60°C (P/N: 1960091427N001)
- 1 x Mini Jumper (P/N: 9689000002)

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

- Note1:** For detailed contents of MIO-5373, please refer to information on the support website: <http://support.advantech.com.tw/>
- Note2:** Adobe Reader is required to view any PDF file. Adobe Reader can be downloaded at: <http://get.adobe.com/tw/reader/otherversions/> (Adobe is the trademark of Adobe Systems Incorporated)

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

For technical support and service, please visit our support website at:

<http://support.advantech.com.tw/>

This manual is for MIO-5373.

Part No. 2046537300
Printed in China

1st Edition
February 2020

Specifications

General

- **CPU:**
 - Intel® Core™ i7-8665UE (Quad-Core, 1.70GHz)
 - Intel® Core™ i5-8365UE (Quad-Core, 1.60GHz)
 - Intel® Core™ i3-8145UE (Dual-Core, 2.20GHz)
- **System Memory:** Dual Channel/SODIMM DDR4-2400MT/s, up to 32GB
- **BIOS:** AMI EFI 256Mbit
- **Watchdog Timer:** 65536 level, 0~65535 sec
- **TPM 2.0**
- **iManager 3.0:** Yes
- **Expansion Interface:**
 - M.2:
 - 1 x M.2 E-key 2230
 - 1 x M.2 B-key 2280 (SATA or NVMe PCIe x2), 3042 LTE module (support USB2.0 only), optional M-key 2280 NVMe PCIe x4.
 - MI/O Extension connector: 4 PCIe x1, 1 PCIe x4, USB2.0, LPC, SMBus, Line-out, 12V/5V Power supply
- **Battery:** Lithium 3V/ 210mAh
- **Audio:** Supports High Definition Audio (HD), line-in, line-out, Mic-in

Display

- **Controller:** Intel® WHL-U SoC integrated, HDMI display output ALC-888S for 48-bit LVDS display output
- **Maximum Resolution:**
 - LCD:
 - LVDS Dual Channel 48-bit up to 1920 x 1200
 - Option eDP1.4 up to 4096x2304@60Hz
 - HDMI/DP:
 - 1 Port HDMI1.4 up to 4096x2160@30/24Hz
 - 1 Port DP1.2 up to 4096x2306@60Hz
- **Multiple Display:** Triple simultaneous displays by 48-bit LVDS/eDP+HDMI+DP

Ethernet Interface

- **Speed:** 10/100/1000 Mbps
- **Controller:** GbE1 - Intel i219, GbE2 - Intel i210-AT
- **Connector:** RJ45 x2

Specifications (Cont.)

I/O

- **Internal I/O:** 2 x SATA 6Gb/s, 2 x USB2.0, 1 x RS232/422/485, 16-bit GPIO, Inverter, SMBus, I2C*, HD Audio, LVDS, System FAN
- **Rear I/O:** 4 x USB3.1, HDMI, DP, 2 x RJ-45, 1 x RS232/422/485, 1 x DC-Jack(*optional)
- **MI/O Expansion:** 4 PCIe1, 1 PCIe4, USB2.0, LPC, SMBus, Line-out, 12V/5V Power supply
- **Power Connector Type:**
Default support 2 x 2 pin ATX power connector, DC Jack is supported by request

Mechanical and Environmental

- **Dimensions (L x W):** 146 x 102 mm (5.7 x 4 inches)
- **Power Supply Type:** ACPI support for ATX only
- **Power Requirement:** Vin: 12V-24V +/- 10%
- **Power Consumption:**
 - Max:
 - i7-8665UE: 61.9 W (12V)
 - i7-8665UE: 66.15W (24V)
 - i5-8365UE: TBD
 - i3-8145UE: TBD
 - Typical: Idle mode in Windows 10
 - i7-8665UE: 7.42 W (12V)
 - i7-8665UE: 6.61 W (24V)
 - i5-8365UE: TBD
 - i3-8145UE: TBD
- **Operating Temperature:** 0~60°C (32~140°F)
- **Weight:** 0.67 kg (reference weight of total package)

Jumpers and Connectors

The board has a number of connectors and jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

Jumpers	
Label	Function
J1	AT/ATX mode selection
J2	RI# 5V/12V selection pin for CN9
J3	Panel Voltage Selection
J4	LVDS JEIDA and VESA mode Selection
SW1	Clear CMOS

Jumpers and Connectors (Cont.)

Connector

Label	Function
CN1	DDR4 SODIMM 260P/H5.2mm
CN2	DDR4 SODIMM 260P/H9.2mm
CN3	DC input Connector
CN5	RTC Battery Connector
CN8	Power/LED/Case Open/Buzzer Connector
CN9	COM port Connector (RS232+RS422+RS485)
CN10	COM port Connector (RS232+RS422+RS485)
CN11	RJ45 Connector (2 port)
CN12	Inverter Connector
CN13	LVDS Connector
CN14	eDP Connector
CN15	HDMI and DP++ Connector
CN16	Key E Connector
CN17	Key B and Key M(option) Connector
CN20	SIM card Connector
CN22	USB3.1 Connector (2 ports)
CN23	USB3.1 Connector (2 ports)
CN24	Internal USB Connector
CN25	HDD Power Connector
CN26	HDD Connector
CN27	HDD Connector
CN28	GPIO/RS232 Connector
CN29	Audio Connector
CN30	GPIO/RS232 Connector
CN30A1	MIOe Connector
CN31	I2C Bus Connector
CN32	System FAN Connector
CN35	CANBus Connector
CN36	SMBus Connector
CN37	DC input Connector (Adapter)

Jumpers and Connectors (Cont.)

J1: ATX/AT Mode Selection

Function	Jumper Setting
AT Mode (Default)	
ATX Mode	

Pin	Signal Pin Definition
1	AT_DET#
2	GND

J2: RI# 5V/12V selection pin for CN9

Function	Jumper Setting
COM(CN9) voltage setting: +V5	
COM(CN9) voltage setting: +V12	
Panel Voltage Setting: RI# (Default)	

Pin	Signal Pin Definition
1	+V5
2	CN9_RI#
3	COM_RI#
4	CN9_RI#
5	+V12
6	CN9_RI#

J3: Panel Voltage Selection

Function	Jumper Setting
Panel Voltage Setting: +V3.3(Default)	
Panel Voltage Setting: +V5	
Panel Voltage Setting: +V12	

Pin	Signal Pin Definition
1	+V3.3
2	NC
3	+V_CH7511B_LCD
4	+V12
5	+V5
6	NC

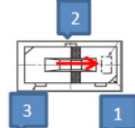
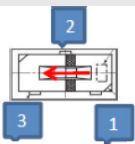
Jumpers and Connectors (Cont.)

J4: LVDS JEIDA and VESA mode Selection

Function	Jumper Setting
JEIDA mode Setting: +V3.3	
VESA mode Setting: GND (Default)	

Pin	Signal Pin Definition
1	LVDS1_VCON
2	LVDS1_VCC
3	GND
4	NC

SW1: Clear CMOS

Function	Jumper Setting
Keep COMS Data (Default)	
Clear CMOS Date	

Pin	Signal Pin Definition
1	RTC_a_RST#
2	RTC_RST#
3	GND

Caution

Caution! The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.



Connector Locations

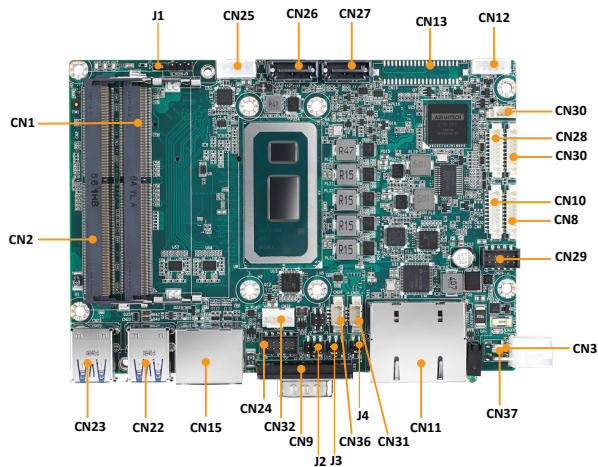


Figure 1: MIO-5373 Connector Locations (Top Side)

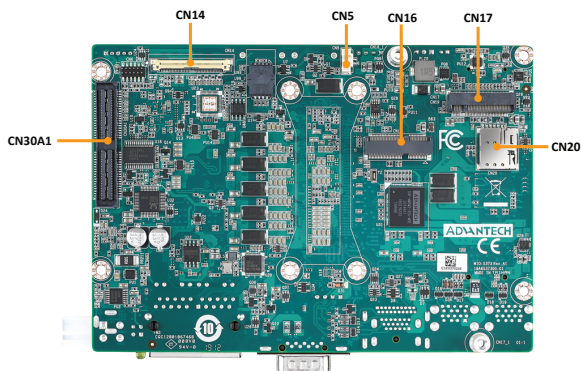


Figure 2: MIO-5373 Connector Locations (Bottom Side)



Figure 3: MIO-5373 Connector Locations (Coastline)

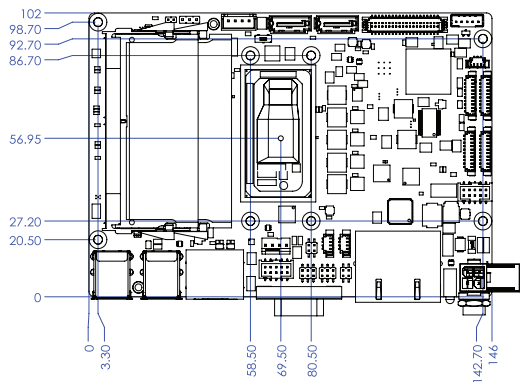


Figure 4: MIO-5373 Mechanical Drawing (Top Side)

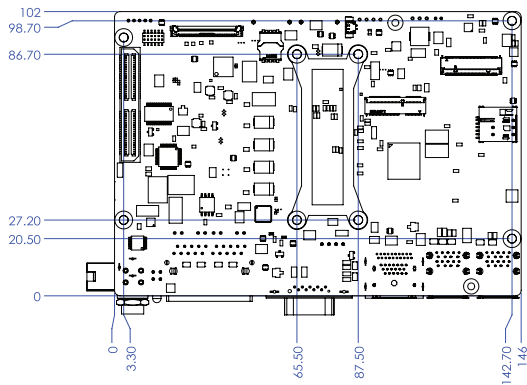


Figure 5: MIO-5373 Mechanical Drawing (Bottom Side)

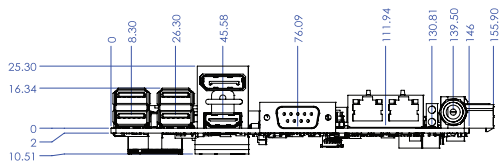


Figure 6: MIO-5373 Mechanical Drawing (Coastline)

Mechanical Drawing (Cont.)

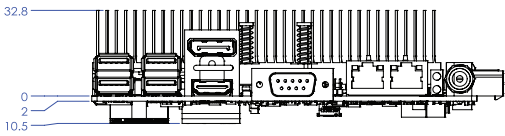
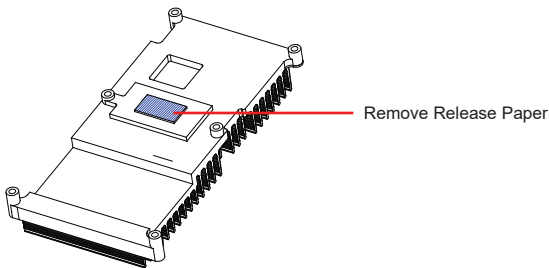


Figure 7: MIO-5373 Mechanical Drawing (with Heatsink)

Quick Installation Guide

- 1. There is a Heatsink in the white box, please take it and remove the release paper from the thermal pads.



- 2. There are eight screws, six studs and two nuts inside the white box, please install the heatsink into place as per illustration and assembly sequence below:

