

MIC-7420 Compact Fanless System with Intel® 6th Gen Core™ i Processor

Startup Manual

Packing List

Before installing the board, please ensure that the following items have been shipped:

- | | |
|----------------------------------|---------------------|
| 1. MIC-7420 bare-bone system x 1 | |
| 2. MIC-7420 Startup manual x1 | P/N: 2001742000 |
| 3. MIC-7420 Driver CD x1 | P/N: 2061223100 |
| 4. SATA cable 7P x2 | P/N: 1700008941 |
| 5. SATA power cable 4P x1 | P/N: 1700017929 |
| 6. SATA power cable 5P x1 | P/N: 1700022322-11 |
| 7. HDD rubber x4 | P/N: 1990001365 |
| 8. 2.5" HDD bracket x4 | P/N: 1960018229N100 |
| 9. 2U rackmount ear x2 | P/N: 1960018229N100 |
| 10. Handle bracket x2 | P/N: 1961613000S00G |

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

Note: Adobe Acrobat Reader is required to view PDF files. Adobe Acrobat Reader can be downloaded at www.adobe.com/Prodindex/acrobat/readstep2.html (Acrobat is a trademark of Adobe).

Specifications

Standard Functions

- **Chip & Chipset:** Intel Core™ i7-6822EQ/i3-6100E processor with QM170 Chipset
- **BIOS:** AMI SPI 128 Mb
- **Memory:** Onboard 8GB DDR4-2133 and 1 x 260-pin DDR4 SODIMM socket, maximum capacity up to 24GB
- **Display:** Intel® HD Graphics 530, supports DirectX 12
- **Dual display mode:** 1 x DVI-I + 1 x DVI-D, supports resolutions up to 1920x1200@60Hz
- **Storage:**
 - 2 x 3.5"HDD or 2 x 2.5"HDD
 - 1 x 2260 size M.2 (M key with SATA signal only)
- **Expansion slot:**
 - 2 x PCI slot
 - 2 x PCIe x4 slot
 - 1 x Mini PCIe slot

System Specifications

- **Ethernet:** 2 x 10/100/1000Mbps
- **USB:** 2 x USB3.0, 6 x USB2.0
- **DVI:** 1 x DVI-D, 1 x DVI-I
- **Serial port:** 2 DB9 ports, supports RS-232/422/485 with 2.5KV Isolation protection
- **Audio:** 1 x Speaker out (supports 4W Amp), 1 x Mic-in
- **PS/2 :** 1 x PS/2 connector for KB/MS

Mechanical and Environment

- **Dimensions (W x H x D):** 427 x 88 x 325 mm
- **Voltage input:** AC 100-240 or DC 110V
- **Working temperature:**
 - 0~40°C with HDD & add-on card
 - 20~40°C with SSD & add-on card
 - 20~60°C with SSD only
- **Weight:** 7.7kg (16.98 lb)

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

<http://www.advantech.com>

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

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

This manual is for the MIC-7420 Series.

Part No. 2001742000

1st Edition

Printed in China

Jan 2018

Jumpers and Connectors

Jumper/Connector Setting

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

Name / Function	
JCMOS1	Clear CMOS setting
PSON1	Power on mode setting
VCCGPIO1	GPIO voltage setting
COM 1~2	Serial ports
DVI-D	DVI-Digital connector
DVI-I	DVI-Integrated connector
USB 1~2	USB3.0 connector
USB 3~8	USB2.0 connector
Audio	Audio ports

JCMOS1: Clear CMOS Setting	
Pins	Setting
1-2	Default*
2-3	Clear CMOS setting
*Default setting	



Default



Clear CMOS

PSON1: Power On Mode Setting	
Pins	Setting
1-2	AT mode
2-3	ATX mode*
*Default setting	



AT Mode



ATX Mode

VCCGPIO1: GPIO Voltage Setting	
Pins	Setting
1-3	Normal(+V5_SB)*
2-4	+V3.3_SB
3-5	+V5
4-6	+V3.3
*Default setting	



COM 1~2: Serial Ports			
	RS232	RS422	RS485
Pins	Signal Name	Signal Name	Signal Name
1	DCD	Tx-	DATA-
2	RxD	Tx+	DATA+
3	TxD	Rx+	NC
4	DTR	Rx-	NC
5	GND	GND	GND
6	DSR	NC	NC
7	RTS	NC	NC
8	CTS	NC	NC
9	RI	NC	NC



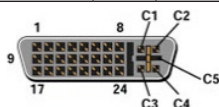
Jumpers and Connectors (Cont.)

DVI-D

Pins	Signal Name	Pins	Signal Name
1	T.M.D.S. Data2-	13	Ground
2	T.M.D.S. Data2+	14	+5V Power
3	Ground	15	Ground
4	Ground	16	Hot Plug Detect
5	Ground	17	T.M.D.S. Data0-
6	DDC Clock	18	T.M.D.S. Data0+
7	DDC Data	19	Ground
8	No Connect	20	Ground
9	T.M.D.S. Data1-	21	Ground
10	T.M.D.S. Data1+	22	Ground
11	Ground	23	T.M.D.S. Clock+
12	Ground	24	T.M.D.S. Clock-

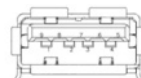
DVI-I

Pins	Signal Name	Pins	Signal Name
1	T.M.D.S. Data2-	16	Hot Plug Detect
2	T.M.D.S. Data2+	17	T.M.D.S. Data0-
3	Ground	18	T.M.D.S. Data0+
4	VGA DCC Clock	19	Ground
5	VGA DCC Data	20	Ground
6	DDC Clock	21	Ground
7	DDC Data	22	DVI Detect
8	Analog Vertical Sync	23	T.M.D.S. Clock+
9	T.M.D.S. Data1-	24	T.M.D.S. Clock-
10	T.M.D.S. Data1+	C1	Analog Red
11	Ground	C2	Analog Green
12	Ground	C3	Analog Blue
13	Ground	C4	Analog Horizontal Sync
14	+5V Power	C5	Ground
15	Ground		



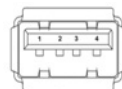
USB 1~2: USB 3.0 A Type

Pins	Signal Name	Pins	Signal Name
1	VBUS	6	StdA_SSRX+
2	D-	7	GND_DRAIN
3	D+	8	StdA_SSTX-
4	GND	9	StdA_SSTX+
5	StdA_SSRX-		



USB 3~8: USB2.0

Pins	Setting
1	+V5(VCC)
2	USB DATA-
3	USB DATA+
4	GND



Ethernet LED Definition

The system has 2 x RJ45 connectors with LEDs showing system status.

LAN1~LAN2:

LED Status:

1000M	Green (top left LED)
100M	Orange (top left LED)
10M	No lights
Connection	Green flickering (top right LED)



RJ45 Connector

Indicator LED Color Definition

The system has 3 indicator LEDs at bottom left, with LEDs showing network status.

LED Color Status

Storage device LED	Orange
Power LED	Green
Warning LED	Red

Jumpers and Connectors (Cont.)

The system has 4 indicator LEDs at right ahead, with LEDs showing network status.

LED Color Status	
Active	Green
Speed	Orange

COM LED Definition

The system has 2 COM connectors with LEDs showing network status.

COM1~2:	
LED Status:	
TX Active	Green
TX No Data	No light
RX Active	Orange
RX No Data	No light

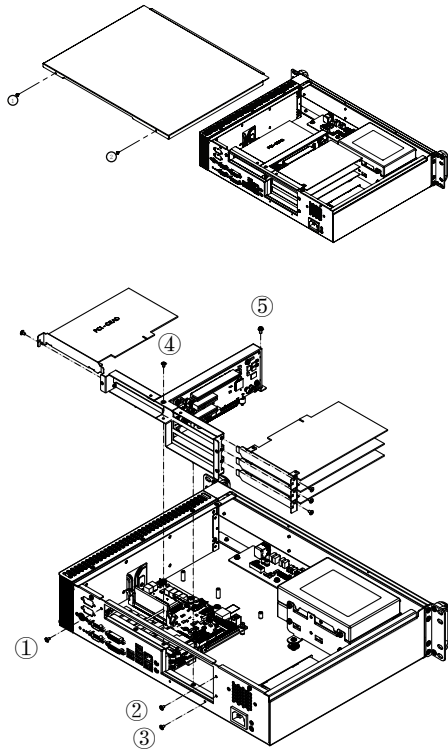
Declaration of Conformity

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference;
- 2. This device must accept any interference received, including interference that may cause undesired operation.

Add-on card Installation

- 1. Undo the two screws and open the chassis cover of MIC-7420.
- 2. Undo the five screws and uninstall the expansion card module.
- 3. Install a PCIe or PCI card into the expansion card module.
- 4. Replace the expansion card module and replace the chassis cover.



Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

1. To avoid electrical shock, always disconnect the power from the PC chassis before working on the device.
2. Disconnect the power before adjusting the configuration. A sudden rush of power when connecting a jumper or installing a card can damage sensitive electronic components.
3. Always disconnect the power cord from the chassis when making adjustments. Do not connect when the power is on. A sudden rush of power can damage sensitive electronic components. Only experienced electronics personnel should open the chassis. Always ground yourself to remove any static electric charge before touching the motherboard, backplane, or add-on cards. 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.

Caution: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

Attention: DANGER D'EXPLOSION SI LA BATTERIE EST INEXACTEMENT REMPLACÉE. REMPLACEZ SEULEMENT AVEC LA MÊME CHOSE OU LE TYPE ÉQUIVALENT RECOMMANDÉ PAR LE FABRICANT, JETTER LES BATTERIES UTILISÉES SELON LES INSTRUCTIONS DE SÉLON FABRICANT DES'.

Safety Instructions

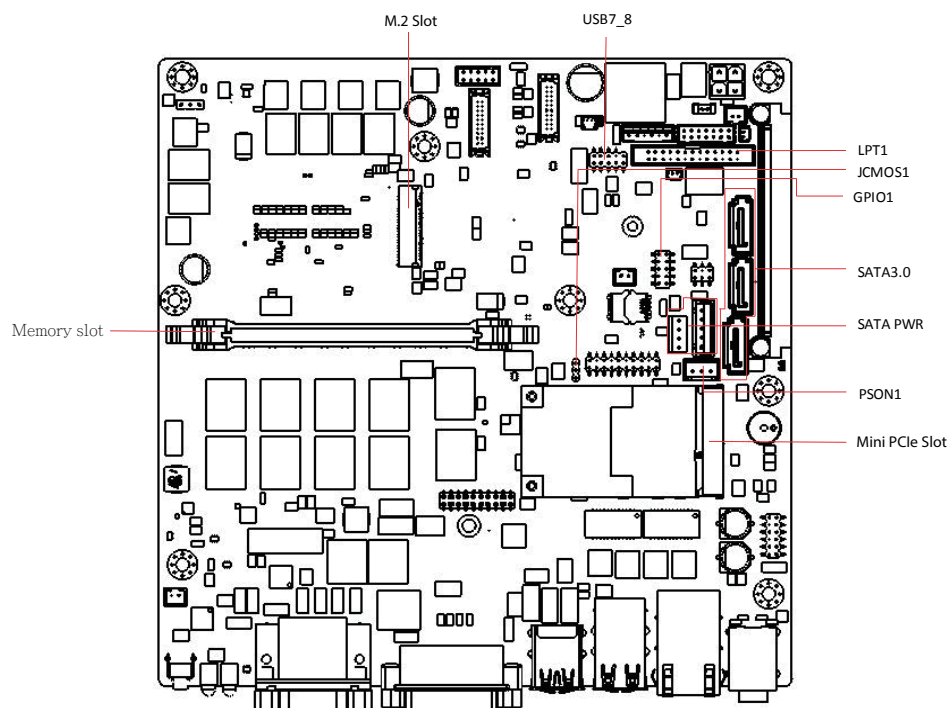
1. Read these safety instructions carefully.
2. Retain this startup manual for future reference.
3. Disconnect the equipment from all AC outlets before cleaning. Do not use liquid or spray detergents for cleaning.
4. For pluggable equipment, the power outlet must be located near the equipment and easily accessible.
5. Protect the equipment from humidity.
6. Position the equipment on a reliable surface during installation. Dropping or letting the equipment fall can cause damage.
7. Ensure the power supply voltage is correct before connecting the equipment to a power outlet.
8. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
9. All cautions and warnings on the equipment should be noted.
10. If unused for a long time, disconnect the equipment from the power source to avoid damage from transient overvoltages.
11. Never pour liquid into the equipment openings. This can cause fire or electrical shock.
12. Never open the equipment. For safety reasons, the equipment should only be opened by qualified service personnel.
13. If any of the following occurs, have the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment is malfunctioning, or does not operate according to the user manual.
 - The equipment has been dropped or damaged.
 - The equipment shows obvious signs of breakage.
14. Do not leave this equipment in an environment with a storage temperature of below -25 °C (-13 °F) or above 60 °C (140 °F). This may damage the equipment. The equipment should be kept in a controlled environment.
15. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer, and discard used batteries according to the manufacturer's instructions.
16. This equipment has been tested and found to comply with the requirements for a Class A digital device. Operation of this equipment in a residential area is likely to cause harmful interference to radio communications; in such events, users are required to correct this interference.
17. This equipment is sold without a power cord. Users are advised to purchase a CCC-certified power cord.

The sound pressure level at the operator's position does not exceed 70 dB (A) as per the IEC 704-1:1982 specifications.

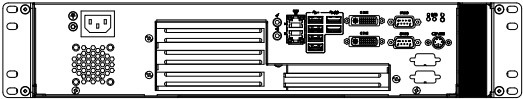
DISCLAIMER: These instructions are provided according to the IEC 704-1 standard. Advantech assumes no responsibility for the accuracy of this manual.

Board Jumper Setting Drawing

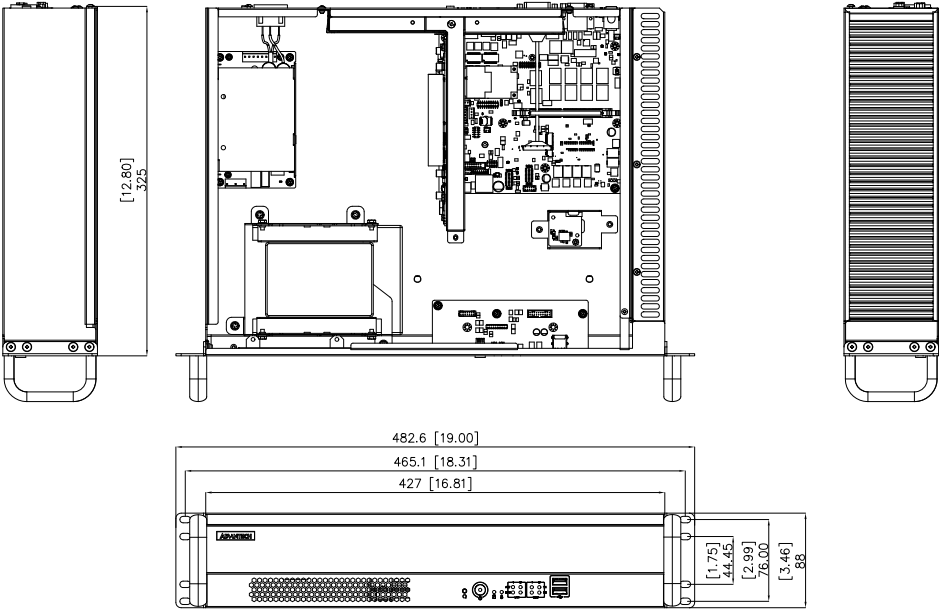
Mainboard Jumpers and Connectors Location



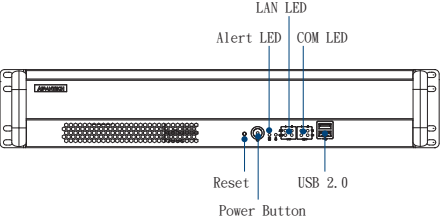
System Diagram



Unit: MM[inch]



Front Panel View



Rear IO View

