IFC-BOX-NS11

Product User Manual

Intel Pentium J3710, quad-core processor

Low power consumption fanless embedded machine

Ver：1.0

In order to protect your personal safety and avoid property damage, you must pay attention to the tips in this manual. Tips related to property damage do not carry warning triangles. Warning tips are shown below according to the risk level from high to low.

⚠warn

Indicates that failure to take appropriate action may result in irreparable damage to the machine.

⚠pay attention to

Indicates that failure to pay attention to the corresponding prompt may result in undesirable results or states.

The products/systems covered by this document are only allowed to be operated by qualified personnel who meet the requirements of the work.

Its operation must be in accordance with the accompanying documentation, especially the safety and warning instructions. Qualified personnel can detect the risks of the product/system and avoid possible hazards due to relevant training and experience.

⚠warn

Our products are only permitted for use as specified in the catalog and related technical documents. If other company products and components are to be used, approval and permission from IFC are required. Proper transportation, storage, assembly, fitting, installation, commissioning, operation, and maintenance are prerequisites for product safety and proper functioning. The required environmental conditions must be ensured. Attention should be paid to the instructions provided in the relevant documents.

disclaimer

The company reserves the right to change this manual, and will not give further notice when the product is subsequently changed. The company shall not be responsible for any direct, indirect, intentional or unintentional damage and hidden dangers caused by improper installation and use.

Before ordering products, please ask the dealer to understand in detail whether the product performance meets your needs.

Warranty Terms:

The product warranty period is three years. If the user has other requirements, the contract signed by both parties shall prevail.

Catalogue

1. product presentation

1.1 Product Overview

IFC-BOX-NS11 is a miniature low-power fanless embedded computer, which uses Intel

Pentium J3710 processor and supports Windows 7, Windows 10, Linux and other operating systems. The hard disk supports MSATA and 2.5-inch hard disk, which is very convenient to use.

The whole machine is formed by full aluminum alloy mold, with simple structure, gooddustproof, heat dissipation, anti-vibration and EMC performance, high system reliability, strong environmental adaptability.

2. Equipment connection

2.1 Precautions before connection

⚠ warn

Peripheral devices that are connected or built in shall not be connected to devices with opposite polarity.

⚠ warn

This device can only be operated on a grounded power network. It is prohibited to operate on an ungrounded or impedance grounded power network.

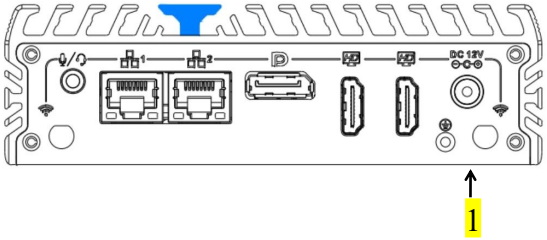
⚠ warn

The rated voltage of the equipment used must conform to the power characteristics of this product.

⚠ pay attention to

Only approved peripheral devices suitable for industrial applications can be connected. When the machine is running, hot-plug I/O modules (USB) can be connected. I/O devices without hot-plug function can only be connected after the device is disconnected from power.

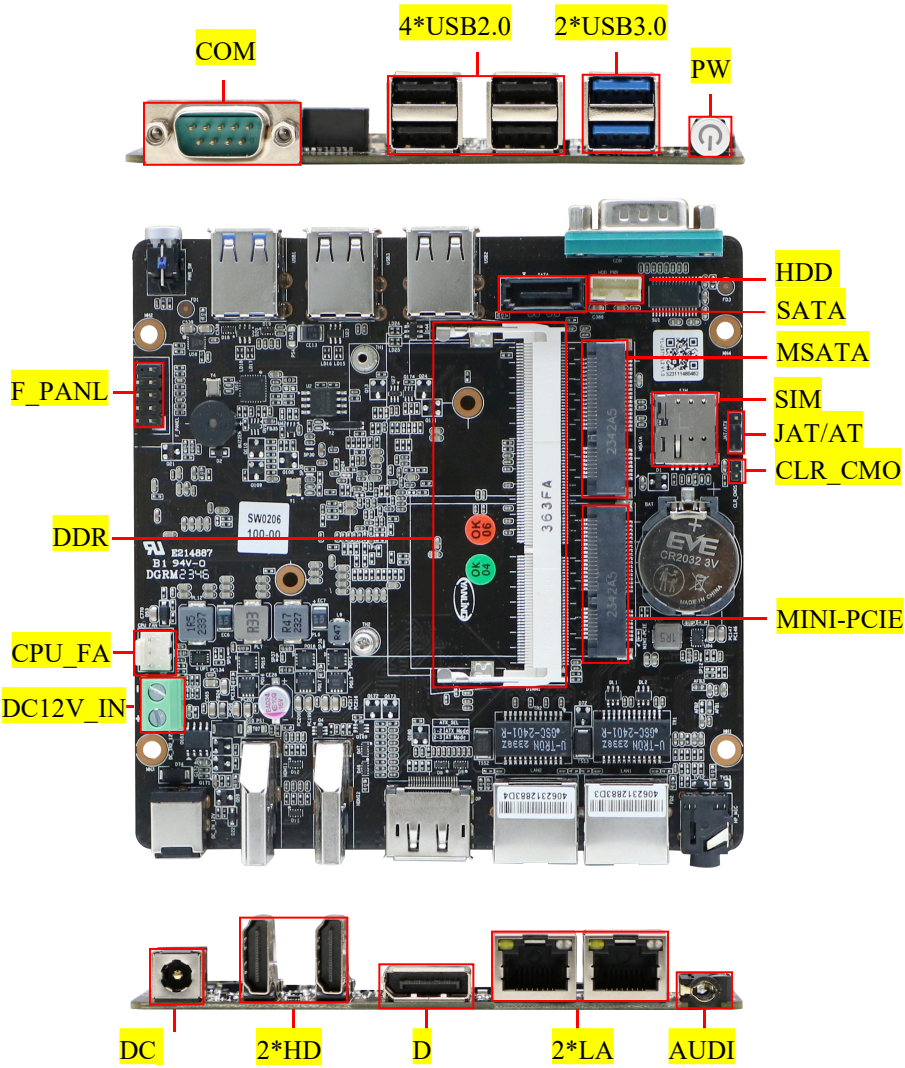
2.2 Connect the device to the power supply

The steps to connect the device to the power supply	diagrammatic sketch
Connect the DC 12V power adapter to the power input interface ①, and then press the power switch button on the front panel of the device. The device starts up and the blue power light is on.	

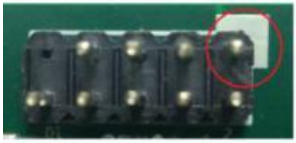
warn

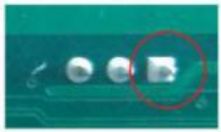
The on/off button signal will not cut off the PC power supply!

3. Definition of motherboard interface



Note: The identification method of the first pin 1PIN on the motherboard is as follows:
1 There is a white bold silk printing mark or arrow mark; 2 The pins seen on the back of the motherboard are square holes.

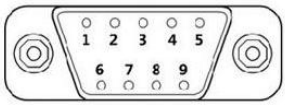




FPANEL definition

Signal name	pin	pin	Signal name
HDD LED +	1	2	PWR LED +
HDD LED -	3	4	PWR LED -
Reset SW -	5	6	Power SW +
Reset SW +	7	8	Power SW -
	9	10	

COM DB9 Pin definition

pin	RS232	
1	DCD	
2	RXD	
3	TXD	
4	DTR	
5	GND	
6	DSR	
7	RTS	
8	CTS	
9	RI	

CLR_CMOS

pin	Signal name
1-2	Clear CMOS

JAT/ATX

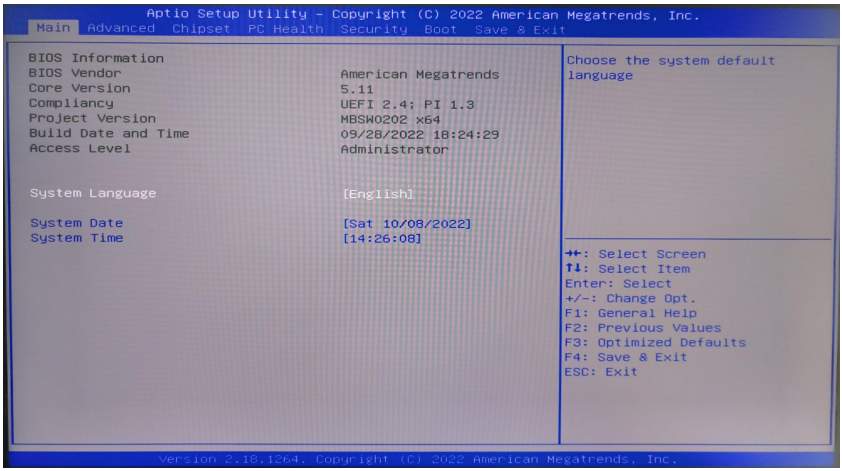
pin	Signal name
1-2	NC
2-3	AUTO-ON

4. BIOS Settings

BIOS brief introduction

BIOS (Basic Input Output System, Basic Input and Output System) stores the most critical programs for basic input and output, self-check upon startup, and system boot-up. It can read and write specific system settings from the CMOS. Its primary function is to provide the lowest-level and most direct hardware configuration and control for the computer. Since product BIOS updates and optimizations are not scheduled, the setup interface may vary slightly; the following interface is for reference only.

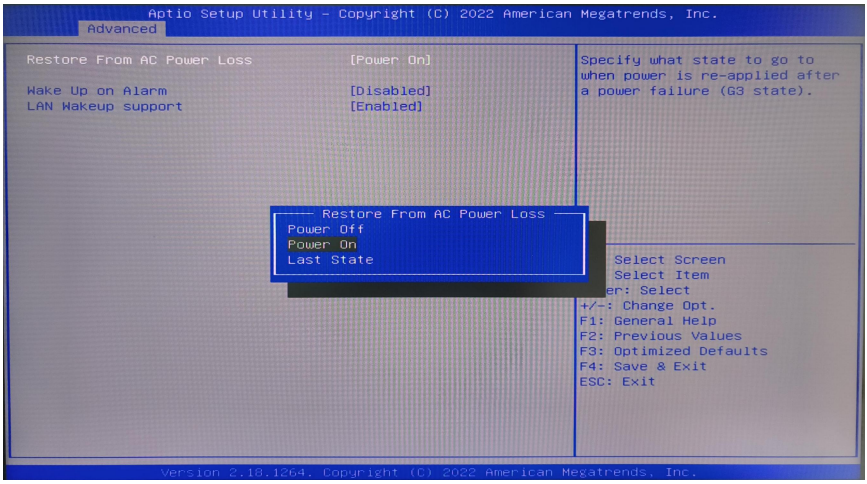
The BIOS Settings menu is divided into the following options (please consult the Railing Industrial Control customer service hotline for specific BIOS Settings):



After the device is started, press "Delete" to enter the BOIS setting interface
Main: BIOS information and date and time
Advanced: BIOS advanced menu Settings
Chipset: Chipset Settings
PC Health: PC health status
Security: Security Settings
Boot: Boot options Settings
Save & Exit: Save and exit the BIOS Settings

4.1 Power on and start the device Settings

"Advanced" to "Power Management Features" to "Restore From AC Power Loss", as shown in the figure below



Restore From AC Power Loss Function description:

Power Off: After the equipment is connected to 12V power supply, press the power button to start up;

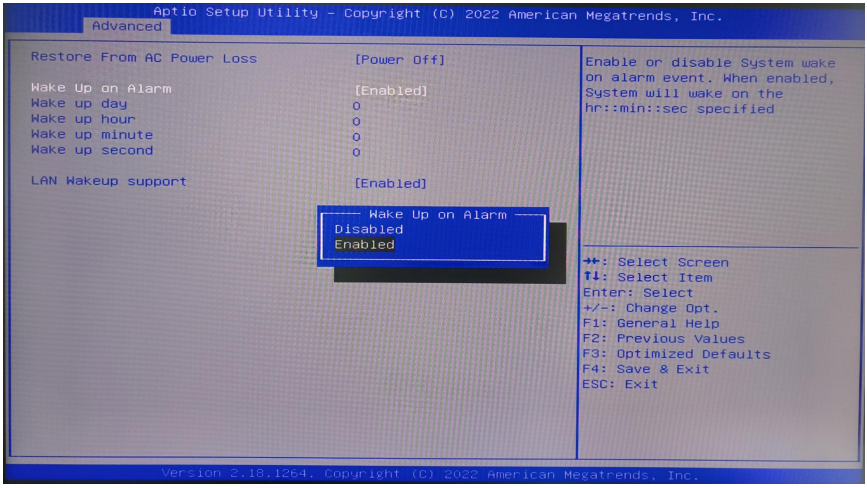
Power On: The device will automatically start up after the 12V power supply is connected;

Last State: After the equipment is connected to 12V power supply, it will be powered on according to the status value of the last equipment.

4.2 Set the timing of startup

″Advanced″ → ″Power Management Features″ → ″Wake Up on Alarm″ → ″Enabled″

See figure below



Wake Up on Alarm Function description:

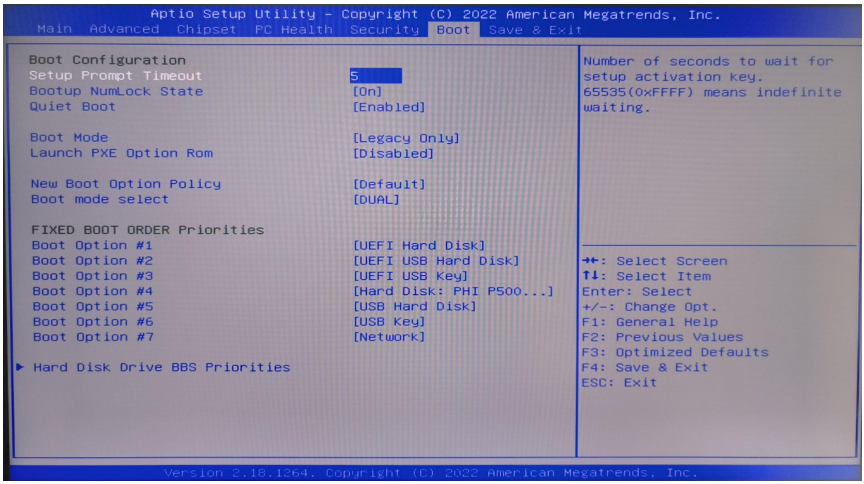
Wake up day: The wake-up time unit date, set to 0 means every day;

Wake up hour: The awakening time unit is hour;

Wake up minute: The wake-up time is measured in minutes;

Wake up second: The wake-up time unit is in seconds.

4.3 BOOT startup configuration



Boot Configuration Function description:

Setup Prompt Timeout: The duration of the LOGO waiting when the machine is turned on, with the time unit being seconds;

Bootup NumLock State: The status of the numeric lock key on the keyboard at startup;

Quiet Boot: "Enabled" turns on the boot LOGO, "Disabled" turns off the boot LOGO.

⚠warn

The setting of BIOS directly affects the performance of the computer. Setting the wrong parameters will cause damage to the computer, and even cannot be turned on. Please do not change the BIOS Settings at will, so as to avoid the machine can not be used normally.

5. Daily use and maintenance

1. When the machine is in normal use, please ensure that the machine works in a non-vibration environment to avoid damage to the hard disk and internal accessories. 1. When the machine is in normal use, please ensure that the machine works in a non-vibration environment to avoid damage to the hard disk and internal accessories.

2. When using the machine, please pay attention to the ambient temperature between-10℃ and 50℃.

3. This machine uses shell heat dissipation. In order to ensure the heat dissipation effect of the machine, we strongly recommend that you clean the surface of the machine regularly every three months, and clean the surface of the machine once a month in an environment with more dust. It is recommended to clean the surface of the machine once a month.

4. In order to ensure the efficient and reliable operation of the machine, we recommend that you regularly clean and defragment the hard disk every three months.

5. When using the internal slot of the machine, we strongly recommend that you do not plug and unplug the power supply to avoid static damage. When the machine encounters a power failure due to non-human causes, in order to ensure that the machine can work normally and reliably, we strongly recommend that you immediately disconnect the power supply of the machine, confirm the stability of the power grid before running.

6. We suggest that the machine be dedicated to a specific machine and managed by a specific person.

6. Common faults and troubleshooting methods of equipment

Hardware faults and troubleshooting methods

1. The device cannot be started

Cause of failure: power failure, motherboard failure, loose memory stick, etc.

Elimination method:

- Check whether the power adapter is working properly and whether the plug is loose.
- Check that the power indicator light on the motherboard is on.
- Reinsert the memory module and make sure it is securely installed.

2. The display has no signal

Cause of failure: Loose or damaged display cable. Elimination method:

- Check that the graphics card is securely plugged in.
- Check whether the monitor cable is loose or damaged.
- Replace the display cable and test.

Software faults and troubleshooting methods

1. The system cannot be started

Cause of failure: The operating system is damaged and the boot guide file is lost.

Elimination method:

- Use system repair tools (such as Windows startup repair).
- Use the system installation disk to reinstall the operating system.

2. Blue screen

Cause of failure: driver conflict, hardware failure, software compatibility problem.

Elimination method:

- Check recently installed software and uninstall software that may cause conflicts.

3. The system runs slowly

Cause of failure: excessive system resource usage, malicious software, and too many hard disk fragments.

Elimination method:

- Use the Task Manager to view system resource usage and terminate high-usage processes.
- Run anti-virus software to check and clean up malware.
- Run the disk defragmentation tool to defragment the hard disk.

4. The application cannot be started

Cause of failure: software damage, missing system files.

Elimination method:

- Reinstall the application that cannot be started.
- Use a system file checker tool (such as Windows's SFC command) to fix the system files.