

NVC-8202

**19" 2U Network Value-added
Application Motherboard with Chassis**

Version: A1

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Safety Instructions

1. Please read the User Manual carefully before using your NVC-8202.
2. Before inserting, removing or re-configuring motherboard or expansion card, first disconnect the computer and peripherals from their power sources;
3. Before removing boards or computer, first turn off all power sources and disconnect the power cord from power source;
4. When adding or removing boards, first disconnect the computer and peripherals from their power sources;
5. Before you connect or unplug any signal cable, make sure all power cords are unplugged in advance;
6. To avoid power on/off computer frequently, wait at least 30 seconds after turning off the computer before re-starting the computer;
7. Static electricity can harm system boards. Perform service at an ESD workstation and follow proper ESD procedure to reduce the risk of damage to components;
8. If there's no ESD workstation, you can take the following steps to prevent damage from electrostatic discharge (ESD):
 - a) Wear a grounded wrist strap against your skin to eliminate static on your body;

- b) Always touch the metal chassis or frame before you touch any components in the chassis;
 - c) Keep part of your body in contact with the metal chassis to dissipate the static charge while handling components;
 - d) Avoid all unnecessary movements;
 - e) Handle components and boards with care. Do not touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket;
 - f) Place the components on a grounded, static-free surface. Use a conductive foam pad if available but not the component wrapper;
 - g) Do not let the components slide on the operating platform;
9. Use cross head screwdriver to operate. A magnetic screwdriver is recommended (magnet to collect screws); Do not leave any tools or screws inside the chassis;
10. Ensure abundant cooling and streamline ventilation.

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Chapter 1

Product Introduction

Overview

NVC-8202 is a 19" 2U rack-mount, value-added application motherboard with chassis based on self-innovation principle; it adopts excellent heat dispersion, high-quality steel chassis, compact and rugged architecture; it supports network expansion module, which is convenient for removing and replacement; it employs 300W ATX pluggable redundant power supply; all of the above features make it ideal for network communication processing application.

Ordering Information

Model	Description
NVC-8202	19" 2U network rack-mount value-added application motherboard with chassis

Configurations

- Chassis: 19"2U rack-mount chassis
- Fan: 3 x D8020 fan
- Power Supply: P2U-6300P ATX
- Motherboard: NVA-1712V2NA motherboard for standard configuration
- I/O Board: CPC-5S01
- LED Panel: NVC-8201-LED

Main Performance

Environmental and Mechanical Dimensions

- Dimensions: 482.60mm (W) x 540.60mm(D) x 88.10mm(H);
- Operating Temperature: -10 ℃~50 ℃;
- Relative Humidity: 5%~95% (40 ℃, non-condensing);
- Storage Temperature: -20 ℃~60 ℃

Heat Dispersion

It adopts 3 x fan with excellent heat-dispersion performance.

EMC

- Limits of radio disturbance comply with GB9254-1998 class A;
- Immunity complies with GB/T17618-1998.

Reliability

- MTBF \geq 20000h;
- MTTR \leq 0.5h.

Safety

Meets basic requirements of GB4943

Mechanical Adaptability

Climatic environment adaptability complies with level 2 requirements of GB/T9813 4.8.1

Requirements of Transportation and Storage

- **Transportation:**

Well-packaged products are suitable for transportation by trucks, ships, and planes. During transportation, products should not be put in open cabin or carriage. When transshipping en route, products should not be stored in the open without protection from the atmospheric conditions. Products should not be transported together with inflammable, explosive and corrosive substances and are not allowed to be exposed to rain, snow and liquid substances and mechanical force

- **Storage:**

Products should be stored in package box when it is not used. And warehouse temperature should be 0℃~40℃, and relative humidity is 20%~85%. In the warehouse, there should not be harmful gas, inflammable, explosive products, and corrosive chemical products, and strong mechanical vibration, shock and strong magnetic interference. The package box should be above ground at least 10cm height, and 50cm away from wall, thermal source, and vent.

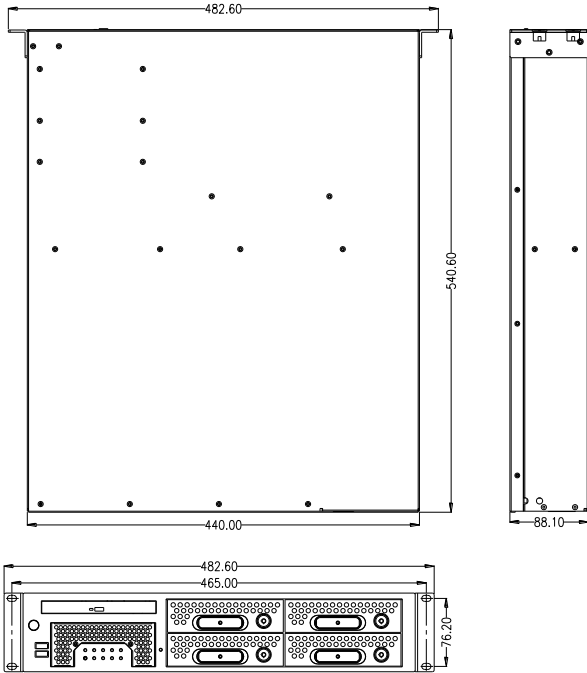
Troubleshooting

Please refer to *Common Trouble Analysis and Treatment of Industrial Control Computer* for a detailed description of the troubleshooting.

Chapter 2

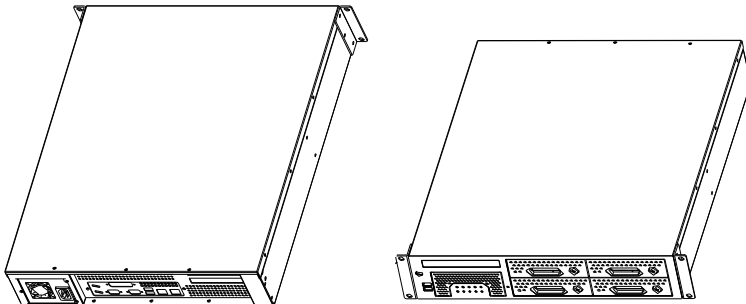
Installation of Complete PC

Dimensions

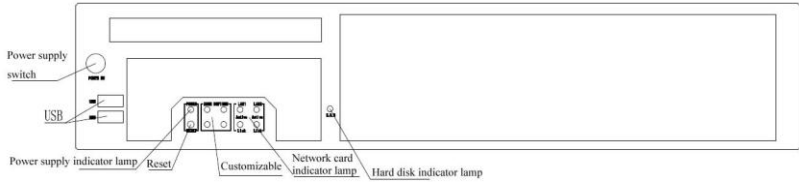


Unit: mm

Product Appearance

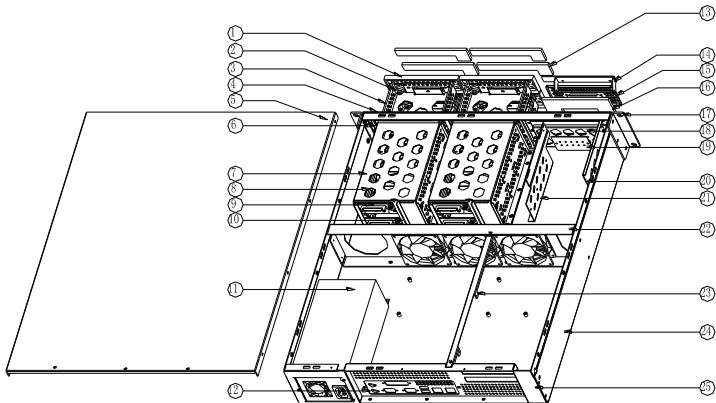


Function Outline of the Front Panel



Installation Guide

Specific LED panel and I/O board are assembled in NVC-8202 before shipment, if you want to do modification, please follow the steps as below:



Serial Number	Name	Serial Number	Name	Serial Number	Name
1	Hard disk	2	Lock	3	Hard disk
4	Chassis	5	Chassis	6	Hard disk
7	n-shape	8	F-shape	9	Hot-swap
10	PCB bracket	11	Power	12	Rear panel
13	L-shape	14	Optical	15	Dustproof
16	n-shape dustproof mash	17	Hanging bracket	18	Bracket of dustproof cover
19	LED panel	20	Bracket	21	Bracket of

22	Fan	23	Straight	24	Chassis
25	Rear cover				

1. Turn off the system working power supply and disconnect the power cable;
2. Put the chassis on a stable platform;
3. Fix the hard disk baffle inside the front panel of chassis;
4. Install the dustproof bracket and LED panel inside the front panel of chassis with screws, and then fix the right and left optical drive brackets on the bottom of chassis with screw;
5. Fix the n-shape dustproof mash, dustproof cover and optical drive baffle on front panel of chassis;
6. Assemble n-shape bracket, F-shape bracket, hot-swap hard disk converter board and hard disk PCB bracket with screws, and then fix them on the bottom of chassis with screws;
7. Assemble L-shape dustproof mash, hard disk panel, lock, hard disk bracket box and chassis panel with screws and put them into the chassis;
8. Install the fan components on the bottom of chassis with screws;
9. Install the rear cover and rear panel on rear side of the chassis with screws, and then fix the straight girder on rear cover and fan components with screws.
10. Fix the power supply on bottom of the chassis with screws, and place all cables on corresponding position according the system requirements;
11. Recheck all the installation and connection, and then start power test to check power supply via indicator lamps.

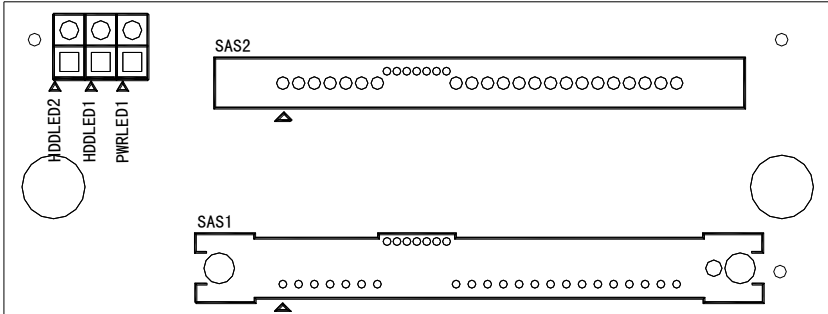
Installation Guide for Optional Optical Drive and Hard Disk

- 1) Open the chassis cover;
- 2) The left optical drive bracket and right optical drive bracket are connected with six sunk screws, before installing optical drive and hard disk, you should take off the six screws and remove the left and right brackets;
- 3) Take the optical drive baffles off from the left and right optical drive brackets;
- 4) Fix the optical drive and hard disk on corresponding holes with screws according to the position of brackets, and put them in chassis; then secure the six screws to fix the left and right optical drive brackets on bottom of chassis;
- 5) Connect the corresponding optical drive with hard disk cables, and start up the computer to make sure it can work normally;
- 6) Close the cover.

Chapter 3

Instruction of I/O Board

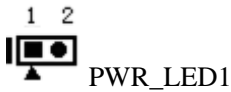
I/O Outline



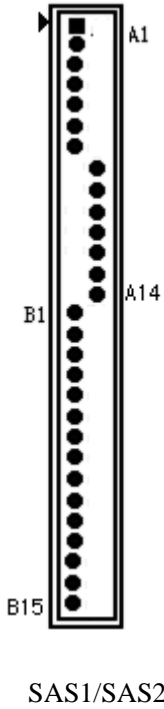
Jumper Settings



Pin	Signal Name
1	HDD_LED+
2	HDD_LED-



Pin	Signal Name
1	PWR_LED+
2	PWR_LED-

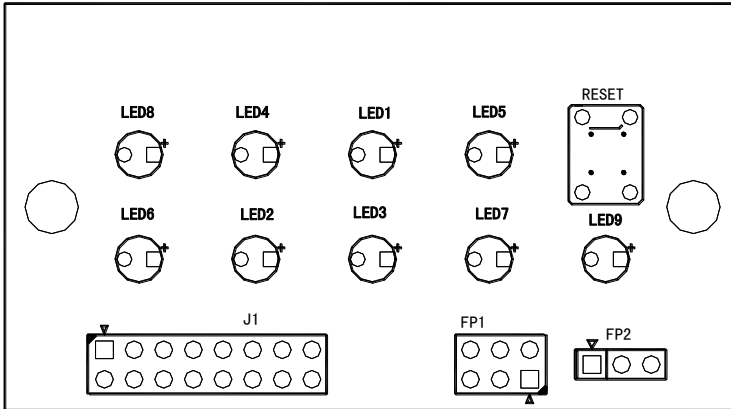


Pin	Signal Name	Pin	Signal Name
A1	GND	B1	VCC3.3
A2	SATA1TX+	B2	VCC3.3
A3	SATA1TX-	B3	VCC3.3
A4	GND	B4	GND
A5	SATA1RX-	B5	GND
A6	SATA1RX+	B6	GND
A7	GND	B7	VCC5
A8	GND	B8	VCC5
A9	SATA2TX+	B9	VCC5
A10	SATA2TX-	B10	GND
A11	GND	B11	NC
A12	SATA2RX-	B12	GND
A13	SATA2RX+	B13	VCC12
A14	GND	B14	VCC12
		B15	VCC12

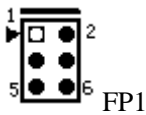
Chapter 4

Introduction of LED Panel

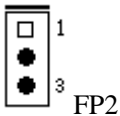
I/O Outline



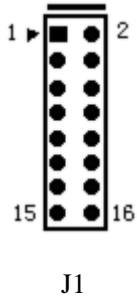
FP1, FP2 and J1 are used to connect the function buttons and LEDs on front panel.



Pin	Signal Name	Pin	Signal Name
1	Power Button-	2	Power Button+
3	GND	4	RESET
5	IDE_LED +	6	IDE_LED -



Pin	Signal Name
1	Power LED +
2	NC
3	GND



Pin	Signal Name	Pin	Signal Name
1	LAN1 Activity	2	LANLED1
3	LAN1 Link_up	4	LANLED2
5	LAN2 Activity	6	LANLED3
7	LAN2 Link_up	8	LANLED4
9	OUTPUT0	10	INPUT0
11	OUTPUT1	12	INPUT1
13	OUTPUT2	14	INPUT2
15	OUTPUT3	16	INPUT3

Chapter 5

Installation of Drivers

Regarding the installation of the driver program of the product, please refer to the CD of associated PC.

More information is available at <http://www.evoc.com>.