



# V2101 Quick Installation Guide

First Edition, December 2009

## 1. Overview

The V2101 embedded computers are based on the Intel Atom Menlow XL x86 processor, and feature 2 serial ports, dual Gigabit LAN ports, 4 USB 2.0 hosts, and an SD socket. The V2101 Series offers both VGA and LVDS outputs, making it particularly well-suited for industrial applications, such as SCADA and factory automation.

## 2. Package Checklist

Before installing the V2101, verify that the package contains the following items:

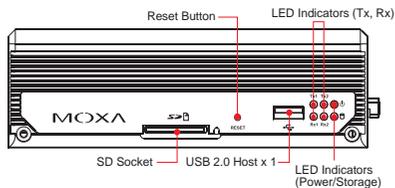
- V2101 embedded computer
- Terminal block to power jack converter
- DIN-Rail Mounting Kit
- Wall Mounting Kit
- Quick Installation Guide
- Document & Software CD or DVD

**NOTE: Please notify your sales representative if any of the above items are missing or damaged.**

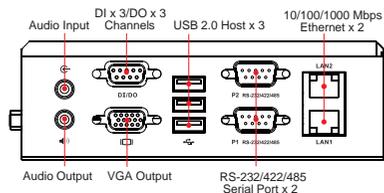
## 3. V2101 Panel Layout

The following figures show the panel layouts of the V2101.

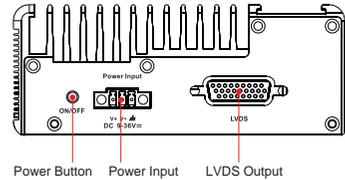
### Front View



### Rear View



### Side View



### LED Indicators

The following table describes the LED indicators located on the front panel of the V2101.

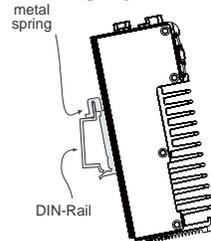
LED Name	LED Color	LED Function
Power	Green	Power is on and functioning normally
	Off	Power is off or power error exists
Storage	Yellow	SD card is detected
	Off	SD card is not detected
LAN	Green	100 Mbps Ethernet mode
	Yellow	1000 Mbps (Gigabit) Ethernet mode
	Off	No activity or 10 Mbps Ethernet mode
Tx1, Tx2 (P1-P2)	Green	Serial ports P1-P2 transmitting data
	Off	Serial ports P1-P2 not transmitting data
Rx1, Rx2 (P1-P2)	Yellow	Serial ports P1-P2 receiving data
	Off	Serial ports P1-P2 not receiving data

## 4. Installing the V2101

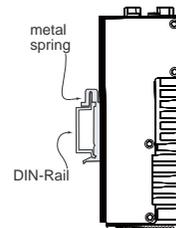
### DIN-Rail Mounting

Use the screws to attach the aluminum DIN-Rail plate on the back of the V2101. Make sure that the stiff metal spring is at the top.

**STEP 1:** Insert the top of the DIN-Rail into the slot just below the stiff metal spring.



**STEP 2:** The DIN-Rail attachment unit will snap into place as shown below.

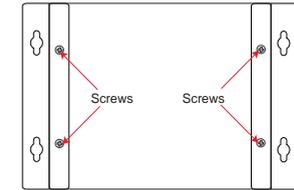


To remove the V2101 from the DIN-Rail, simply reverse Steps 1 and 2.

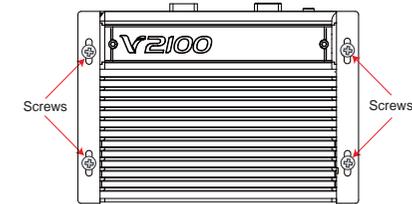
### Wall or Cabinet Mounting

The V2101 comes with two metal brackets for attaching it to a wall or the inside of a cabinet.

**Step 1:** Use two screws for each bracket and attach the bracket to the rear of the V2101.



**Step 2:** Use four screws per side to attach the V2101 to a wall or cabinet.



### VESA Mounting

The V2101 also provides VESA mounting installation with the 75mm x 75 mm configuration. Use the four screw holes on the back of the V2101 to attach VESA mounting equipment.

## 5. Connector Description

### Power Connector

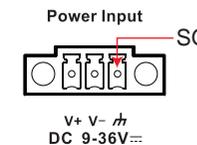
Connect the 12 to 36 VDC LPS or Class 2 power line to the V2101's terminal block. If the power is supplied properly, the Power LED will light up. The OS is ready when the Ready LED glows a solid green.

### Grounding the V2101

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power.

### ATTENTION

This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.



**SG:** The Shielded Ground (sometimes called Protected Ground) contact is the right most of the 3-pin power terminal block connector when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.

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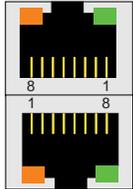
### VGA and LVDS Outputs

The V2101 comes with a D-Sub 15-pin female connector on the rear panel to connect a VGA CRT monitor. It also comes with a 26-pin LVDS connector on the side panel to connect a panel with an LVDS cable.

### Ethernet Ports

The 10/100/1000 Mbps Ethernet ports use RJ45 connectors.

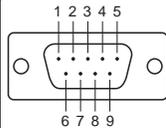
Pin	10/100 Mbps	1000 Mbps
1	ETx+	TRD(0)+
2	ETx-	TRD(0)-
3	ERx+	TRD(1)+
4	---	TRD(2)+
5	---	TRD(2)-
6	ERx-	TRD(1)-
7	---	TRD(3)+
8	---	TRD(3)-



### Serial Ports

The serial ports use DB9 connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. The pin assignments for the ports are shown in the following table:

Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	---
2	RxD	TxDB(+)	TxDB(+)	---
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---



### SD Slot

The V2101 has an internal SD slot for storage expansion. The SD slot allows users to plug in a Secure Digital (SD) memory card compliant with the SD 1.0 standard for up to 1 GB of space, and a Secure Digital High Capacity (SDHC) memory card compliant with the SD 2.0 standard for up to 16 GB of additional memory. To install an SD card, gently remove the outer cover from the left, and then insert the SD card into the socket.

### USB Hosts

The V2101 has 4 USB 2.0 full speed hosts (OHCI) that use a type A connector. One USB port is located on the front panel, while the remaining ports are on the rear panel. The port supports keyboard and mouse, and can also be used to connect a FlashDisk for storing large amounts of data.

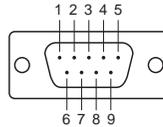
### Audio Interface

The V2101 comes with an audio input and an audio output, allowing users to connect a speaker or an earphone.

### DI/DO

The V2101 comes with 3-ch digital input and 3-ch digital output in a DB9 connector.

Pin	Signal
1	COM
2	DO 1
3	N/A
4	DI 1
5	GND
6	DO 0
7	DO 2
8	DI 0
9	DI 2



### Reset Button

Press the “Reset Button” on the front panel of the V2101, the system will reboot automatically. The Ready LED will blink on and off for the first 5 seconds, and then maintain a steady glow once the system has rebooted.

### Real-time Clock

The V2101’s real-time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team.

### ATTENTION

There is a risk of explosion if the battery is replaced by an incorrect type of battery.

## 6. Powering on the V2101

To power on the V2101, connect the “terminal block to power jack converter” to the V2101’s DC terminal block (located on the side panel), and then connect the power adaptor. Press the Power Button to turn on the computer. Note that the Shielded Ground wire should be connected to the top pin of the terminal block. It takes about 30 seconds for the system to boot up. Once the system is ready, the Power LED will light up.

## 7. Connecting the V2101 to a PC

Power on the V2101 computer after connecting a monitor, keyboard, and mouse, and verifying that the power source is ready. Once the operating system boots up, the first step is to configure the Ethernet interface. The factory default settings for the V2101’s LANs are show below. (V2101-XPE uses DHCP)

	Default IP Address	Netmask
LAN 1	192.168.3.127	255.255.255.0
LAN 2	192.168.4.127	255.255.255.0

## 8. Configuring the Ethernet Interface

### Linux users should follow these steps:

If you use the console cable to configure Network settings for the first time, use the following commands to edit the interfaces file:

```
#ifdown -a
//Disable LAN1~LAN2 interface first, before you
reconfigure the LAN settings. LAN1 = eth0, LAN2 = eth1//
#vi /etc/network/interfaces
//check the LAN interface first//
```

After the boot setting of the LAN interface has been modified, use the following commands to activate the LAN settings immediately:

```
#sync; ifup -a
```

### WinCE 6.0 users should follow these steps:

**Step 1:** Go to [Start] → [Settings] → [Network and Dial-Up Connections]. You will see two network interfaces.

**Step 2:** Right-Click the LAN interface to be configured and click [property]. A configuration window will pop-up.

**Step 3:** Click **OK** after inputting the proper IP address and netmask.

### WinXPE users should follow these steps:

**Step 1:** Go to [Start] → [Network Connections].

**Step 2:** Right-click **Network Connections**, click **Properties**. Next, select **Internet Protocol (TCP/IP)**, and then click **Properties**.

**Step 3:** Click **OK** after inputting the proper IP address and netmask.

**NOTE:** Refer to the User’s Manual for other configuration information.

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