



MODEL:
IOVU-210AR-RK39

**10.1" RISC-Based Panel PC with P-CAP Touchscreen,
Rockchip RK3399 On-board SoC, Wi-Fi, Bluetooth, Camera,
USB, SOS Key, GbE with PoE, Android 7.1, RoHS Compliant**

User Manual

Revision

Date	Version	Changes
August 12, 2019	1.01	Modified RS-232 pinouts of the RS-232/422/485 connector in Table 3-8.
November 8, 2018	1.00	Initial release

Copyright

COPYRIGHT NOTICE

The information in this document is subject to change without prior notice in order to improve reliability, design and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

TRADEMARKS

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

Manual Conventions



WARNING

Warnings appear where overlooked details may cause damage to the equipment or result in personal injury. Warnings should be taken seriously.



CAUTION

Cautionary messages should be heeded to help reduce the chance of losing data or damaging the product.



NOTE

These messages inform the reader of essential but non-critical information. These messages should be read carefully as any directions or instructions contained therein can help avoid making mistakes.

Table of Contents

1 INTRODUCTION.....	1
1.1 OVERVIEW.....	2
1.2 FEATURES.....	2
1.3 FRONT PANEL.....	3
1.4 REAR PANEL.....	4
1.5 SYSTEM SPECIFICATIONS.....	5
1.6 DIMENSIONS.....	7
2 UNPACKING.....	8
2.1 PACKING LIST.....	9
2.2 OPTIONAL ITEM.....	10
3 INSTALLATION.....	11
3.1 ANTI-STATIC PRECAUTIONS.....	12
3.2 INSTALLATION PRECAUTIONS.....	12
3.3 EXTERNAL I/O CONNECTORS.....	13
3.3.1 <i>Digital I/O Connectors</i>	13
3.3.2 <i>Digital I/O Terminal Block</i>	13
3.3.3 <i>I²C Connectors</i>	14
3.3.4 <i>microSD Card Slot</i>	14
3.3.5 <i>RJ-45 LAN Connectors</i>	15
3.3.5.1 LAN1 Connector with PoE.....	15
3.3.5.2 LAN2 Connector.....	15
3.3.6 <i>RS-232 Serial Interface</i>	16
3.3.7 <i>RS-232/422/485 Serial Interface</i>	17
3.3.8 <i>USB Connectors</i>	17
3.4 MOUNTING THE SYSTEM.....	18
3.4.1 <i>Wall Mounting</i>	18
3.4.1.1 <i>Wall Mount Bracket Dimensions</i>	20
3.4.2 <i>In-Wall Mounting</i>	20

3.4.2.1 In-Wall Mounting Box Dimensions	23
3.5 POWER-ON PROCEDURE.....	24
3.6 AVAILABLE DRIVERS	25
3.6.1 Driver Download	25
3.7 SYSTEM MAINTENANCE	27
4 ANDROID OS	28
4.1 HOME SCREEN	29
4.1.1 Adding a Home Screen.....	29
4.1.2 Switching between Home Screens.....	30
4.1.3 Favorites Tray.....	30
4.1.4 Adding Shortcuts.....	31
4.1.5 Arranging the Home Screen.....	33
4.2 NAVIGATION BUTTONS.....	34
4.3 STATUS BAR.....	35
A REGULATORY COMPLIANCE	37
B SAFETY PRECAUTIONS	42
B.1 SAFETY PRECAUTIONS.....	43
B.1.1 General Safety Precautions	43
B.1.2 Anti-static Precautions	44
B.1.3 Product Disposal.....	45
B.2 MAINTENANCE AND CLEANING PRECAUTIONS	45
B.2.1 Maintenance and Cleaning.....	45
B.2.2 Cleaning Tools.....	46
C HAZARDOUS MATERIALS DISCLOSURE	47

List of Figures

Figure 1-1: IOVU-210AR-RK39 Panel PC	2
Figure 1-2: Front Panel	3
Figure 1-3: Rear Panel.....	4
Figure 1-4: Dimensions (Unit: mm).....	7
Figure 3-1: microSD Card Slot	14
Figure 3-2: LAN2 Connector.....	16
Figure 3-3: USB Connectors.....	17
Figure 3-4: Wall Mounting Bracket Installation	18
Figure 3-5: Secure Mounting Screws	19
Figure 3-6: Mounting Panel PC	19
Figure 3-7: Wall Mount Bracket Dimensions (Unit: mm)	20
Figure 3-8: Drill Holes for Securing In-Wall Mounting Box	21
Figure 3-9: Secure Mounting Screws	22
Figure 3-10: Mounting Panel PC	22
Figure 3-11: In-Wall Mounting Box Dimensions (Unit: mm).....	23
Figure 3-12: Power Input Jack.....	24
Figure 3-13: IEL Resource Download Center.....	25
Figure 4-1: Adding a Home Screen.....	29
Figure 4-2: Multiple Home Screens.....	30
Figure 4-3: Favorites Tray.....	30
Figure 4-4: All Apps/WIDGETS Page	32
Figure 4-5: Trash an Item on Home Screen	33
Figure 4-6: Navigation Buttons	34
Figure 4-7: Status Bar	35
Figure 4-8: Notification List and System Status.....	36

List of Tables

Table 1-1: Technical Specifications.....	6
Table 2-1: Packing List.....	10
Table 2-2: Optional Item.....	10
Table 3-1: DIO Connector (DIO2, DIO3) Pinouts.....	13
Table 3-2: DIO Terminal Block (DIO1) Pinouts	13
Table 3-3: I ² C Connector (I2C) Pinouts.....	14
Table 3-4: LAN1 Connector Pinouts	15
Table 3-5: LAN2 Connector Pinouts	15
Table 3-6: LAN2 Ethernet Connector LEDs	16
Table 3-7: RS-232 Connector (UART2) Pinouts.....	16
Table 3-8: RS-232/422/485 Terminal Block (UART1) Pinouts.....	17
Table 4-1: Navigation Buttons.....	34

Chapter

1

Introduction

1.1 Overview



Figure 1-1: IOVU-210AR-RK39 Panel PC

The IOVU-210AR-RK39 is a 10.1" RISC-based panel PC with Android 7.1 OS. At the heart of the system is the Rockchip RK3399 on-board SoC, offering low power in a powerful package. The IOVU-210AR-RK39 provides rich input capabilities utilizing the projected capacitive touchscreen. Other peripherals include RFID reader, digital I/O, one USB 2.0 port, one USB 3.1 Gen 1 port, one RS-232 port, one RS-232/422/485 port and one GbE LAN port with PoE support.

1.2 Features

The IOVU-210AR-RK39 features the following:

- Fanless design
- Rockchip RK3399 on-board SoC
- On-board 1866 MHz 2 GB LPDDR3 memory
- 16 GB eMMC NAND flash
- Projected capacitive touchscreen
- Equips with Wi-Fi 802.11a/b/g/n/ac and Bluetooth v4.1
- SOS button for calling help in emergency
- Volume up and volume down keys
- 4-bit and 2-bit digital I/O

IOVU-210AR-RK39 Panel PC

- Three I²C sensor connectors via Grove connectors
- One RS-232/422/485 port and one RS-232 port
- Two GbE ports, one with PoE support
- One USB 3.1 Gen 1 (5Gb/s) port and one USB 2.0 port
- Android 7.1 OS pre-installed
- RoHS compliant

1.3 Front Panel

The front panel of the IOVU-210AR-RK39 contains a 10.1" LCD with projected capacitive touchscreen, 5-megapixel camera, an SOS key, two volume keys, a power indicator and an RFID indicator.

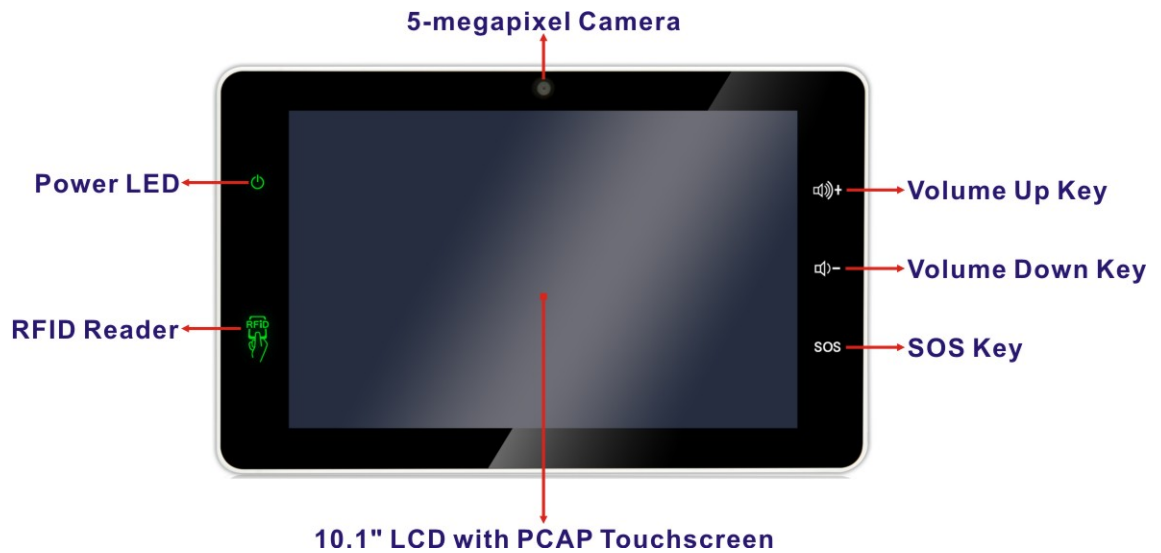


Figure 1-2: Front Panel

The states of the LED indicators located on the front panel are listed below.

 Power LED	Off	The system is turned off.
	Green	The system is turned on.
 RFID LED	Off	RFID reader is off
	Green	RFID reader is on

1.4 Rear Panel

The rear panel contains several I/O interfaces as shown below. The detailed information of each connector is listed in **Section 3.3**.

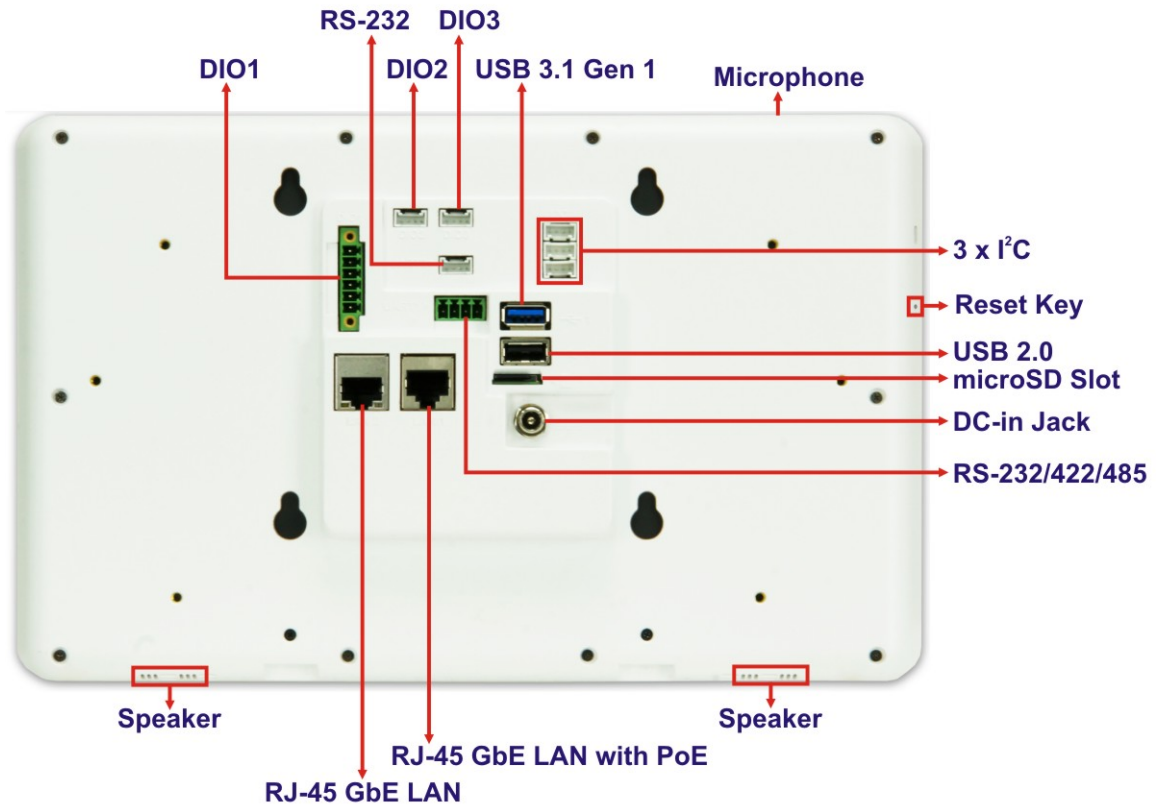


Figure 1-3: Rear Panel



NOTE:

When both DC-in and PoE are connected to the device, the connection with higher voltage will be the main power source.

IOVU-210AR-RK39 Panel PC

1.5 System Specifications

The IOVU-210AR-RK39 technical specifications are listed below.

System	
CPU	Rockchip RK3399 on-board SoC (dual-core Cortex-A72 + quad-core Cortex-A53, 64-bit)
Memory	2 GB 1866 MHz LPDDR3L on-board memory
Storage	16 GB eMMC NAND flash One microSD card slot (rear panel)
Audio	2 x Speaker (1.5 W) 1 x Digital microphone
Camera	5-megapixel front-facing camera
Thermal Solution	Fanless
Watchdog Timer	Yes
Real-time Clock	Battery backup RTC
OS	Android 7.1
Display	
LCD Size	10.1"
Max. Resolution	800 x 1280
Brightness (cd/m²)	250 (typ.)
Contrast Ratio	800:1 (typ.)
Pixel Pitch (mm)	0.0564 (H) x 0.1692 (V)
Viewing Angle	85/85/85/85 degree
Touchscreen	Projected capacitive touchscreen
Communication	
Wireless LAN	802.11a/b/g/n/ac
Bluetooth	Bluetooth v4.1
RFID	13.56 MHz ISO4443 A/B, read-write capable, ISO 14443A (MIFARE), ISO 14443B (FeliCa)
Power	
Power Input	9 V ~ 30 V DC DC input: ϕ 2.5/5.5mm DC jack PoE: IEEE 802.3 at standard (power device)

Physical Character	
Construction Material	PC+ABS plastic
Color	White
Mounting	Wall mounting, in-wall mounting
Dimensions (W x H x D)	282.5 mm x 176.4 mm x 26.8 mm
Operation Temperature	-10°C ~ 50°C (14°F ~ 122°F) with air flow
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Humidity	10% ~ 95%, non-condensing
Weight (Net)	0.85 kg
Certifications	CE, FCC Class B
Connectors, Buttons and Indicators	
External I/O	1 x USB 3.1 Gen 1 (5Gb/s) Type-A port 1 x USB 2.0 Type-A port 1 x RJ-45 GbE port with PoE (by RTL8211E) 1 x RJ-45 GbE port (by RTL8211E) 1 x RS-232/422/485 port via 4-pin terminal block (COM1) 1 x RS-232 port via Grove connector (COM2) 1 x Digital I/O via 6-pin terminal block (4-bit, 2 in + 2 out) 2 x Digital I/O via Grove connector (2-bit, 1 in + 1 out) 3 x I ² C sensor connector via Grove connector
Internal I/O	2 x UART pin header with 3 V 2 x USB 2.0 pin header
Button	1 x Reset button 2 x Volume key (up, down) 1 x SOS key
LED Indicators	1 x Power 1 x RFID

Table 1-1: Technical Specifications

IOVU-210AR-RK39 Panel PC

1.6 Dimensions

The dimensions of the IOVU-210AR-RK39 are shown below.

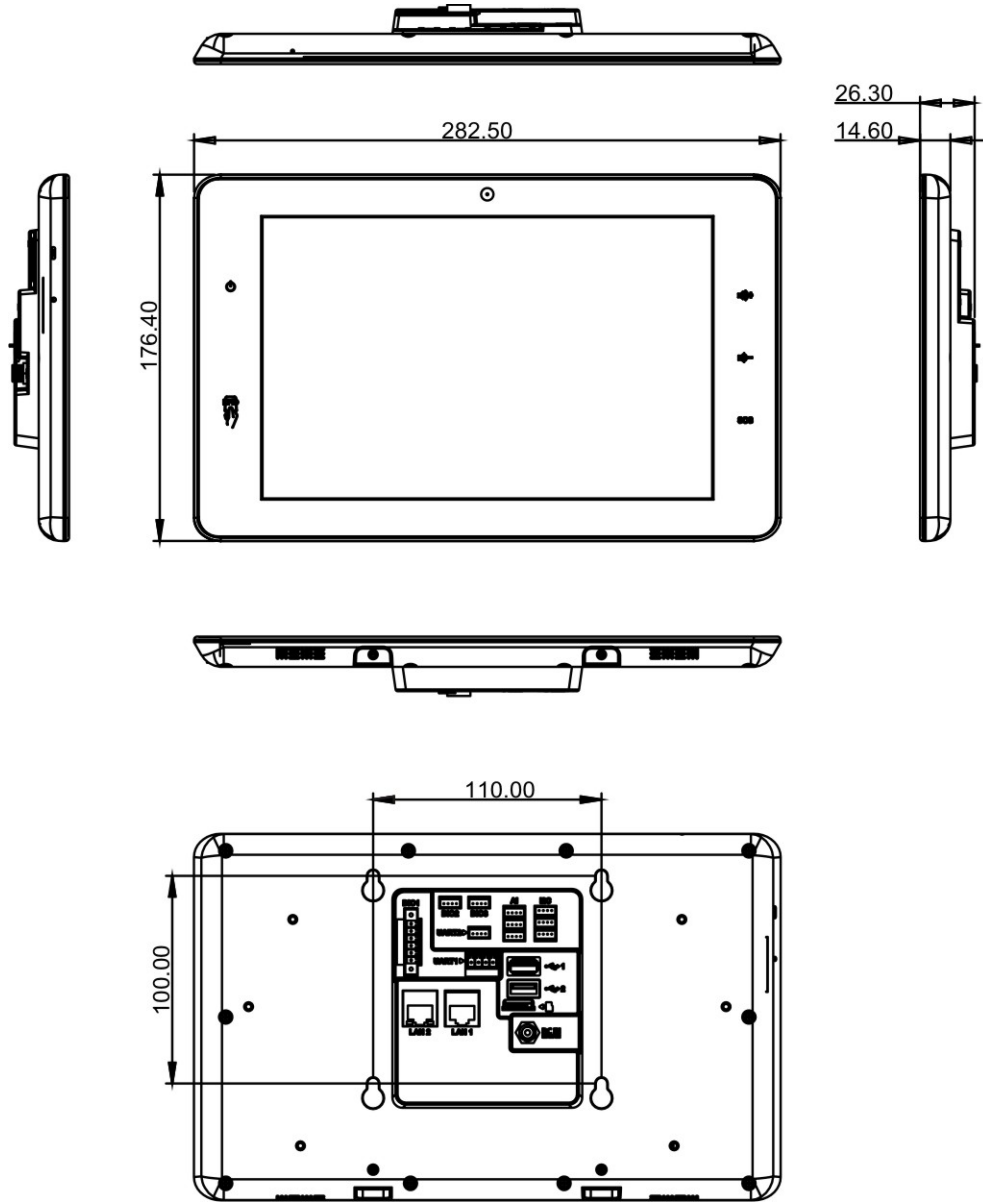


Figure 1-4: Dimensions (Unit: mm)

Chapter

2

Unpacking

IOVU-210AR-RK39 Panel PC

To unpack the panel PC, follow the steps below:



WARNING!

The front side LCD screen has a protective plastic cover stuck to the screen. Only remove the plastic cover after the system has been properly installed. This ensures the screen is protected during the installation process.

Step 1: Carefully cut the tape sealing the box. Only cut deep enough to break the tape.

Step 2: Open the box.

Step 3: Lift the IOVU-210AR-RK39 out of the box.

Step 4: Make sure all the components listed in the packing list are present.


2.1 Packing List



NOTE:

If any of the components listed in the checklist below are missing, do not proceed with the installation. Contact the IEI reseller or vendor the IOVU-210AR-RK39 was purchased from or contact an IEI sales representative directly by sending an email to sales@ieiworld.com.

The IOVU-210AR-RK39 is shipped with the following components:

Quantity	Item	Image
1	IOVU-210AR-RK39 panel PC	






Quantity	Item	Image
1	Wall mount bracket	
4	M4*6 screw for wall mounting	
2	M2.5*4 screw for wall mounting	
1	4-pin terminal block	
1	6-pin terminal block	

Table 2-1: Packing List

2.2 Optional Item

The following is optional component which may be separately purchased:



Item	Image
90V~264V AC input, 12V/60W DC power adapter (P/N: 63040-010060-120-RS)	
In-wall mounting box (P/N: 41320-0490E4-00-RS)	

Table 2-2: Optional Item

Chapter

3

Installation

3.1 Anti-static Precautions

**WARNING:**

Failure to take ESD precautions during the maintenance of the IOVU-210AR-RK39 may result in permanent damage to the IOVU-210AR-RK39 and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the IOVU-210AR-RK39. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the IOVU-210AR-RK39 is accessed internally, or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- **Wear an anti-static wristband:** - Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- **Self-grounding:** - Before handling the board touch any grounded conducting material. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- **Use an anti-static pad:** - When configuring the IOVU-210AR-RK39, place it on an anti-static pad. This reduces the possibility of ESD damaging the IOVU-210AR-RK39.
- **Only handle the edges of the PCB:** - When handling the PCB, hold the PCB by the edges.

3.2 Installation Precautions

When installing the flat panel PC, please follow the precautions listed below:

- **Power turned off:** When installing the flat panel PC, make sure the power is off. Failing to turn off the power may cause severe injury to the body and/or damage to the system.
- **Certified Engineers:** Only certified engineers should install and modify onboard functionalities.

IOVU-210AR-RK39 Panel PC

- **Anti-static Discharge:** If a user open the rear panel of the flat panel PC, to configure the jumpers or plug in added peripheral devices, ground themselves first and wear an anti-static wristband.

3.3 External I/O Connectors

This section provides an overview of the external I/O connectors of the IOVU-210AR-RK39.

3.3.1 Digital I/O Connectors

The IOVU-210AR-RK39 has two digital I/O connectors in Grove interface. The pinouts are shown below.

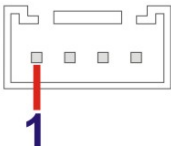
Pin	Description	
1	GND	
2	DIO_3V3	
3	DIO_D5/D7	
4	DIO_D6/D8	

Table 3-1: DIO Connector (DIO2, DIO3) Pinouts

3.3.2 Digital I/O Terminal Block

The IOVU-210AR-RK39 has one 6-pin digital I/O terminal block. The pinouts are shown below.

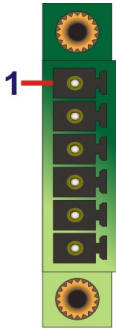
Pin	Description	
1	VIO_3V3 (DIO1)	
2	VIO_3V3 (DIO2)	
3	GND	
4	VIO_3V3 (DIO3)	
5	VIO_3V3 (DIO4)	
6	GND	

Table 3-2: DIO Terminal Block (DIO1) Pinouts

3.3.3 I²C Connectors

The IOVU-210AR-RK39 has three I²C connectors in Grove interface. The pinouts are shown below.

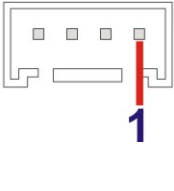
Pin	Description	
1	GND	
2	IOT_3V3	
3	SDA1_3V3	
4	SCL1_3V3	

Table 3-3: I²C Connector (I2C) Pinouts

3.3.4 microSD Card Slot

The system comes with a push-push microSD card slot for installation of a microSD card.

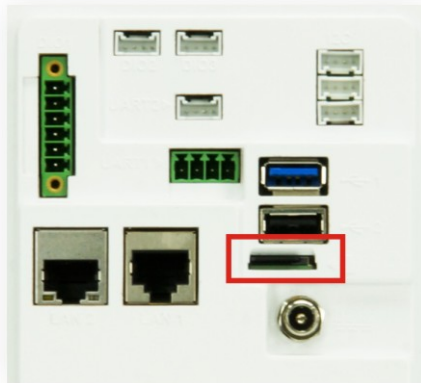


Figure 3-1: microSD Card Slot

IOVU-210AR-RK39 Panel PC

3.3.5 RJ-45 LAN Connectors

There are two RJ-45 LAN connectors that allow connection to external network, and the LAN1 connector also supports PoE function.

3.3.5.1 LAN1 Connector with PoE

The LAN1 connector enables connection to an external network and supports PoE. The LAN1 connector pinouts are shown below.

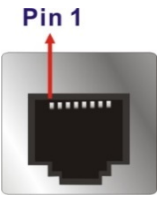
Pin	Description	
1	LAN1_MDX0+	
2	LAN1_MDX0-	
3	LAN1_MDX1+	
4	LAN1_MDIX2+	
5	LAN1_MDX2-	
6	LAN1_MDX1-	
7	LAN1_MDIX3+	
8	LAN1_MDX3-	

Table 3-4: LAN1 Connector Pinouts

3.3.5.2 LAN2 Connector

The LAN2 connector pinouts are shown below.

Pin	Description
1	LAN1_MD0+
2	LAN1_MD0-
3	LAN1_MD1+
4	LAN1_MD1-
5	LAN1_MD2+
6	LAN1_MD2-
7	LAN1_MD3+
8	LAN1_MD3-

Table 3-5: LAN2 Connector Pinouts

The LAN2 connector has two status LEDs, one orange and one green. The orange LED indicates the port speed and the green LED indicates activity on the port (**Table 3-6**).

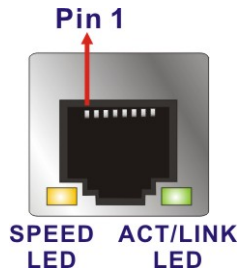


Figure 3-2: LAN2 Connector

SPEED LED		LINK LED	
Status	Description	Status	Description
Green	10/100 Mbps	Green	On: Linked
Orange	1000 Mbps		Flashing: Activity

Table 3-6: LAN2 Ethernet Connector LEDs

3.3.6 RS-232 Serial Interface

The IOVU-210AR-RK39 has one RS-232 connector in Grove interface. The pinouts are shown below.

Pin	Description	
1	GND	
2	VIO_3V3	
3	RS232_TXD1	
4	RS232_RXD1	

Table 3-7: RS-232 Connector (UART2) Pinouts

IOVU-210AR-RK39 Panel PC

3.3.7 RS-232/422/485 Serial Interface

The system has a 4-pin RS-232/422/485 terminal block. Its pinouts are shown below.

Pin	RS-232	RS-422	RS-485
1	DCD	TX-	DATA-
2	RXD	TX+	DATA+
3	TXD	RX+	N/A
4	DTR	RX-	N/A

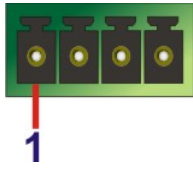


Table 3-8: RS-232/422/485 Terminal Block (UART1) Pinouts

3.3.8 USB Connectors

The external USB Series "A" receptacle connectors provide easier and quicker access to external USB devices.

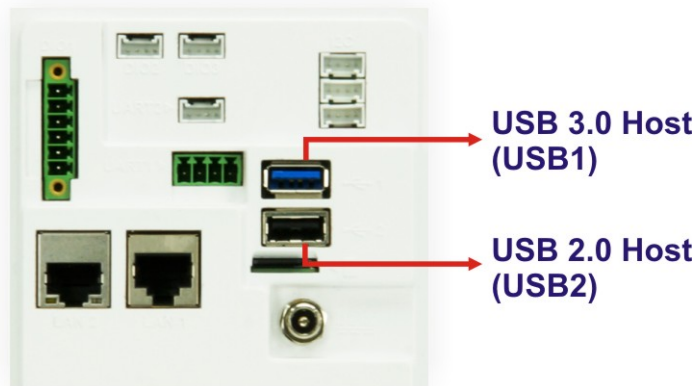


Figure 3-3: USB Connectors

3.4 Mounting the System

3.4.1 Wall Mounting

To mount the IOVU-210AR-RK39 onto a wall, please follow the steps below.

Step 1: Select a location on the wall for the wall-mounting bracket. Carefully mark the locations of the screw holes of the wall mounting bracket on the mounting area.

Drill the pilot holes at the marked locations (**Figure 3-4 ①**).

Step 2: Secure the mounting bracket to the wall by inserting the retention screws into the four pilot holes and tightening them (**Figure 3-4 ②**).

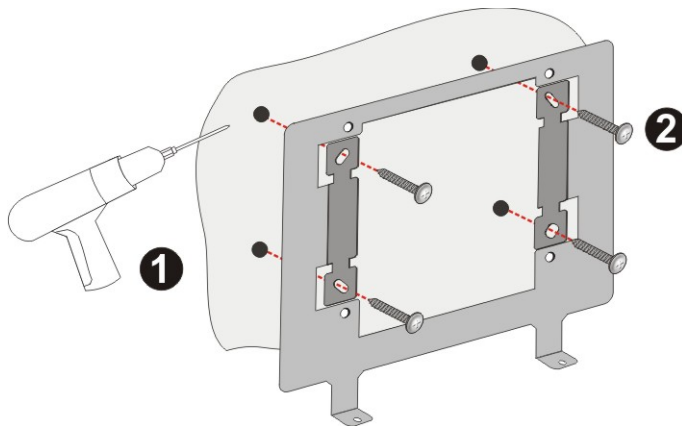


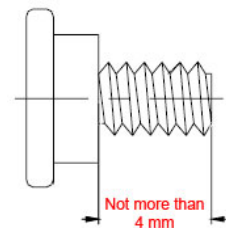
Figure 3-4: Wall Mounting Bracket Installation

Step 3: Insert the four mounting screws (M4*6) came with the panel PC into the four screw holes on the mounting bracket and tighten until the screw shank is secured (**Figure 3-5**).



CAUTION:

Please use the M4 screws provided in the package for the mounting screws. If the screw is missing, the thread depth of the replacement screw should be not more than 4 mm.



IOVU-210AR-RK39 Panel PC

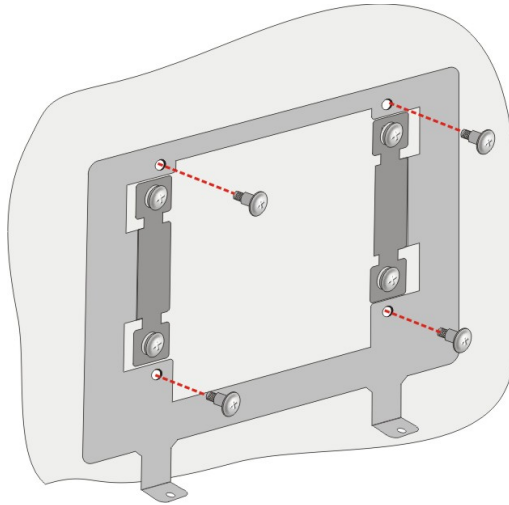


Figure 3-5: Secure Mounting Screws

Step 4: Align the mounting holes on the rear of the panel PC with the mounting screws.

Step 5: Carefully attach the panel PC to the mounting screws and gently pull the panel PC downwards until the panel PC rests securely on screws. Ensure that all four of the slotted holes fit snugly into their respective mounting screws (Figure 3-6 ①).

Step 6: Secure the panel PC by installing the two retention screws (M3*4) came with the panel PC into the screw hole on the bottom of the bracket (Figure 3-6 ②).

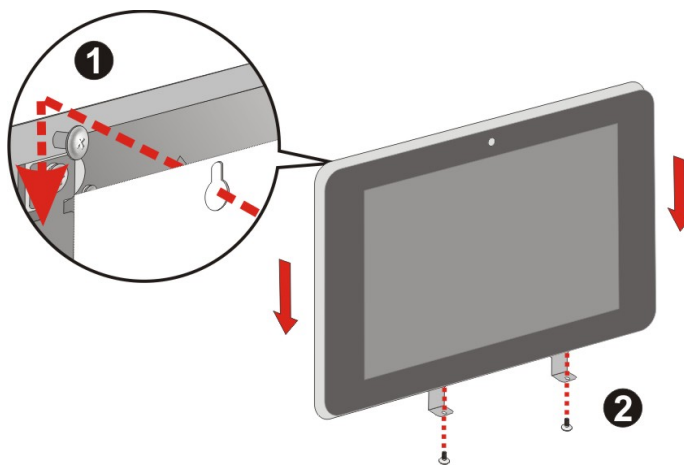


Figure 3-6: Mounting Panel PC

3.4.1.1 Wall Mount Bracket Dimensions

The dimensions of the wall mount bracket shipped with the system are shown below.

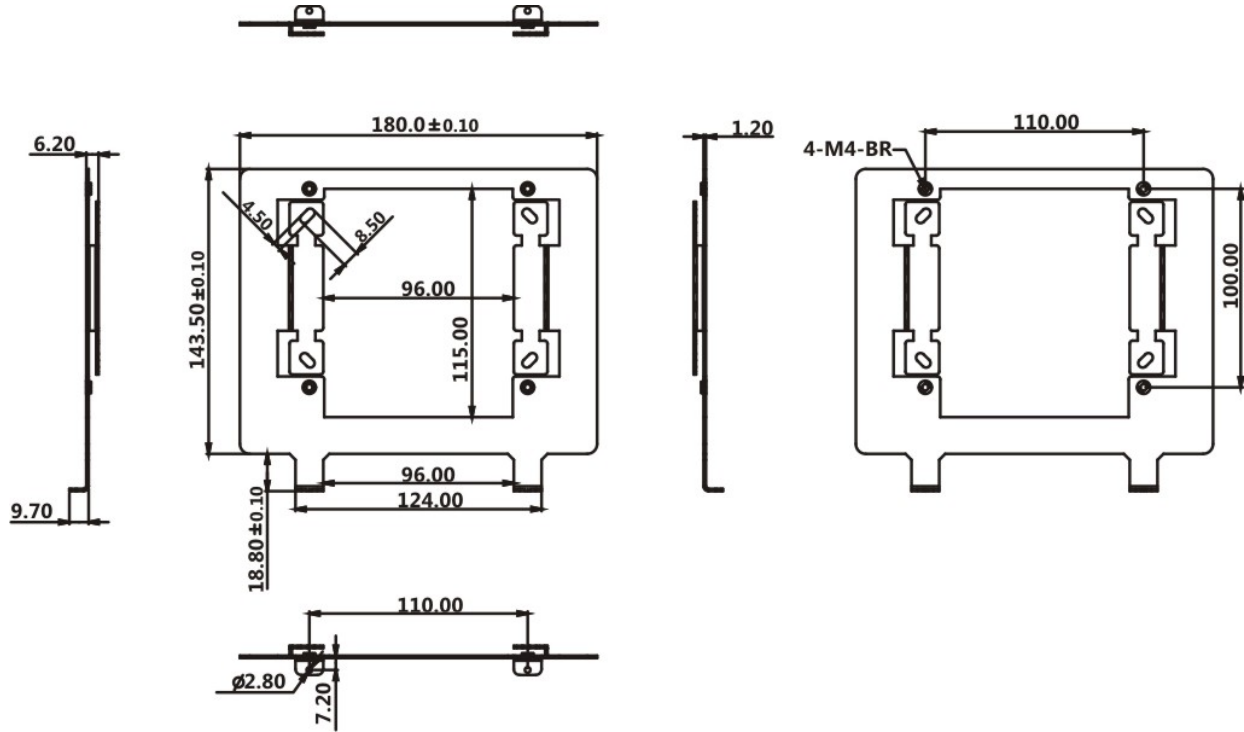


Figure 3-7: Wall Mount Bracket Dimensions (Unit: mm)

3.4.2 In-Wall Mounting

To mount the IOVU-210AR-RK39 into a wall using the optional in-wall mounting box, please follow the steps below.

- Step 1:** When constructing the building, leave a section from the wall that corresponds to the dimensions of the in-wall mounting box.
- Step 2:** Carefully mark the locations of the screw holes of the in-wall mounting box on the mounting area. Drill the pilot holes at the marked locations. (**Figure 3-8**).

IOVU-210AR-RK39 Panel PC

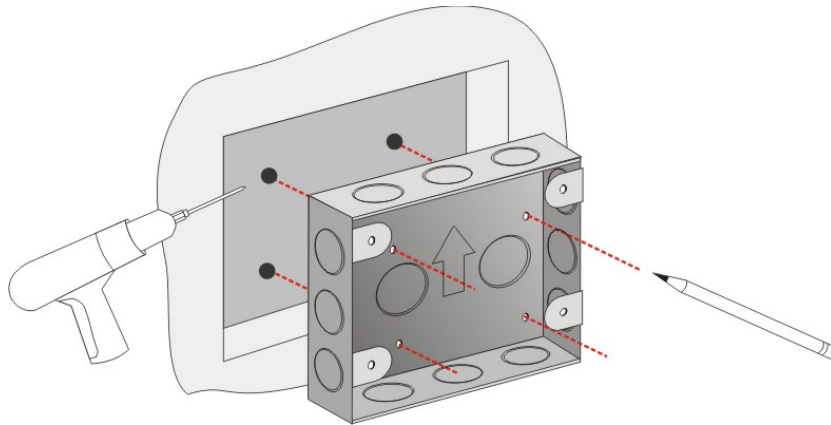


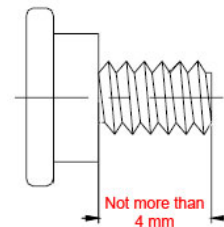
Figure 3-8: Drill Holes for Securing In-Wall Mounting Box

- Step 3:** Secure the mounting bracket to the in-wall mounting box by inserting the retention screws into the four pilot holes and tightening them (**Figure 3-9 ①**).
- Step 4:** Insert the four mounting screws (M4*6) came with the panel PC into the four screw holes on the mounting bracket and tighten until the screw shank is secured (**Figure 3-9 ②**).



CAUTION:

Please use the M4 screws provided in the package for the mounting screws. If the screw is missing, the thread depth of the replacement screw should be not more than 4 mm.



- Step 5:** Slide the in-wall mounting box into the wall. Secure the box to the wall with retention screws (**Figure 3-9 ③**).

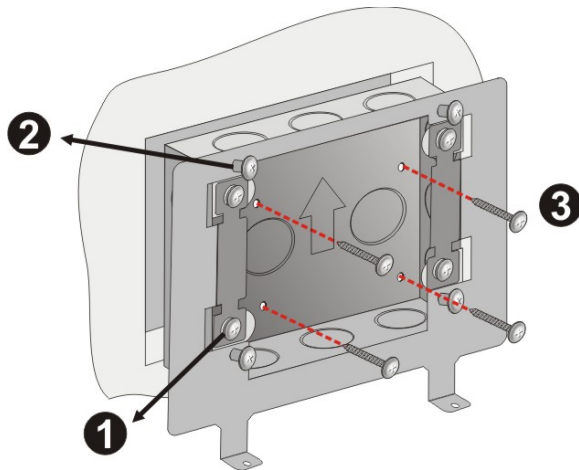


Figure 3-9: Secure Mounting Screws

Step 6: Align the mounting holes on the rear of the panel PC with the bracket mounting screws.

Step 7: Carefully attach the panel PC to the mounting screws and gently pull the panel PC downwards until the panel PC rests securely on screws. Ensure that all four of the slotted holes fit snugly into their respective mounting screws (Figure 3-10 ①).

Step 8: Secure the panel PC by installing the two screws (M3*4) came with the panel PC into the two screw holes on the bottom of the bracket. (Figure 3-10 ②).

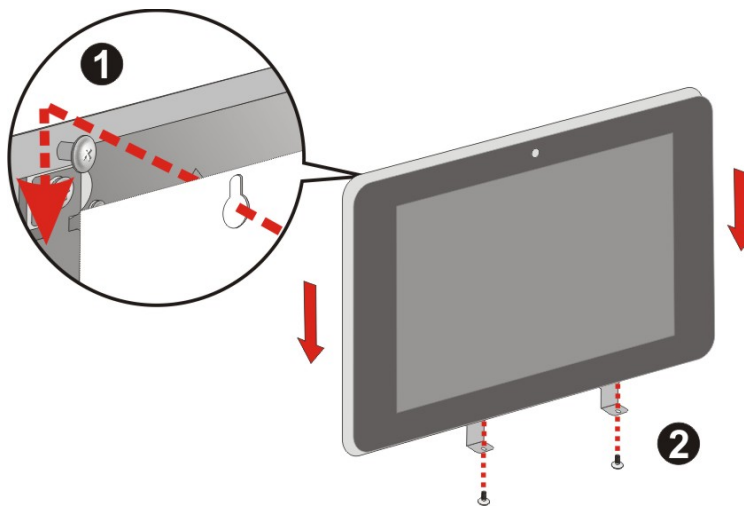


Figure 3-10: Mounting Panel PC

IOVU-210AR-RK39 Panel PC

3.4.2.1 In-Wall Mounting Box Dimensions

The dimensions of the optional in-wall mounting box are shown below.

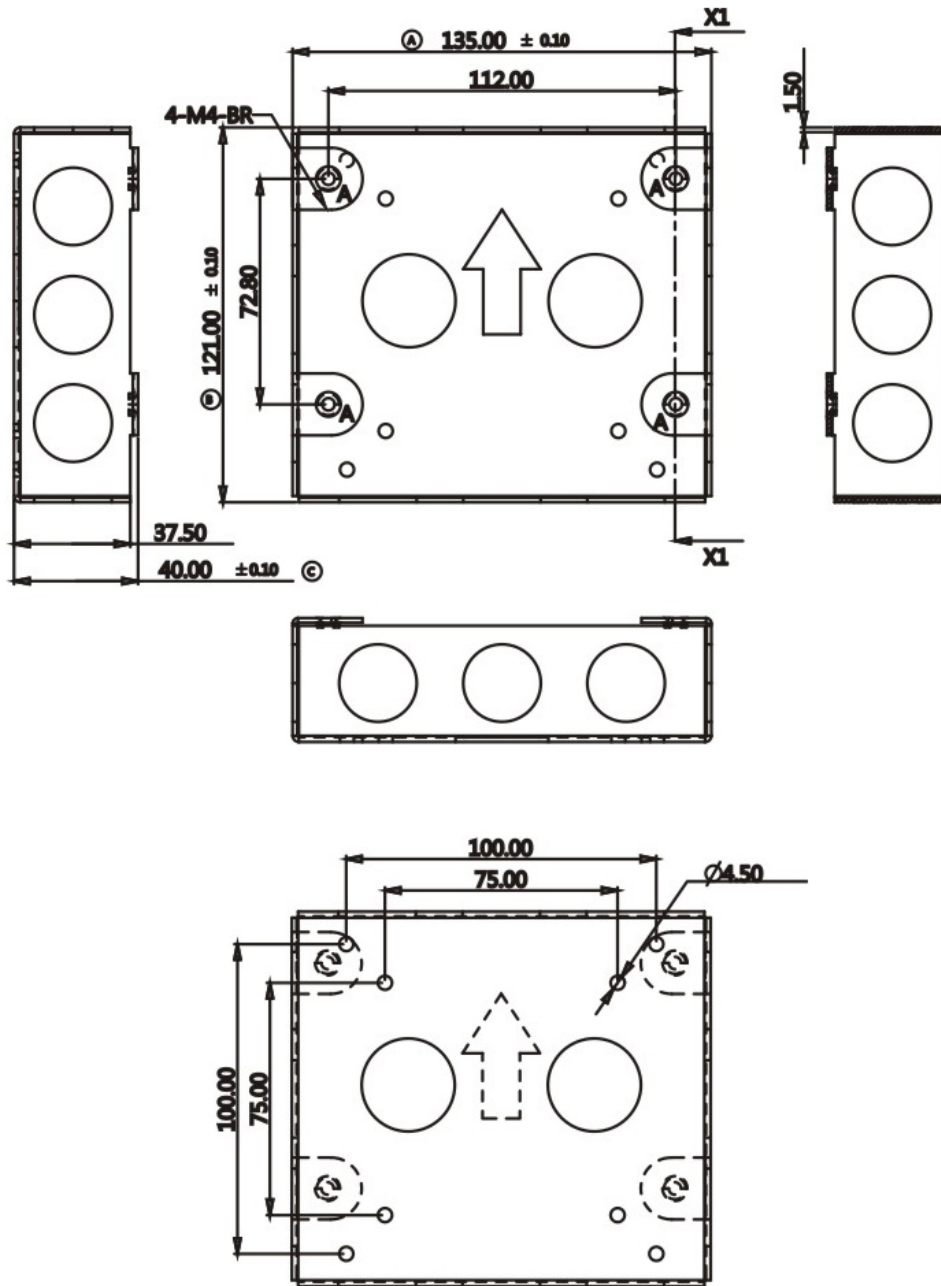


Figure 3-11: In-Wall Mounting Box Dimensions (Unit: mm)

3.5 Power-On Procedure

**WARNING:**

Make sure a power supply with the correct input voltage is being fed into the system. Incorrect voltages applied to the system may cause damage to the internal electronic components and may also cause injury to the user.

The IOVU-210AR-RK39 supports 9 V ~ 30 V DC power input. To power-on, connect the IOVU-210AR-RK39 power input jack to a power source. Once connected, the system will automatically turn on and the power LED on the front panel will light up in green.

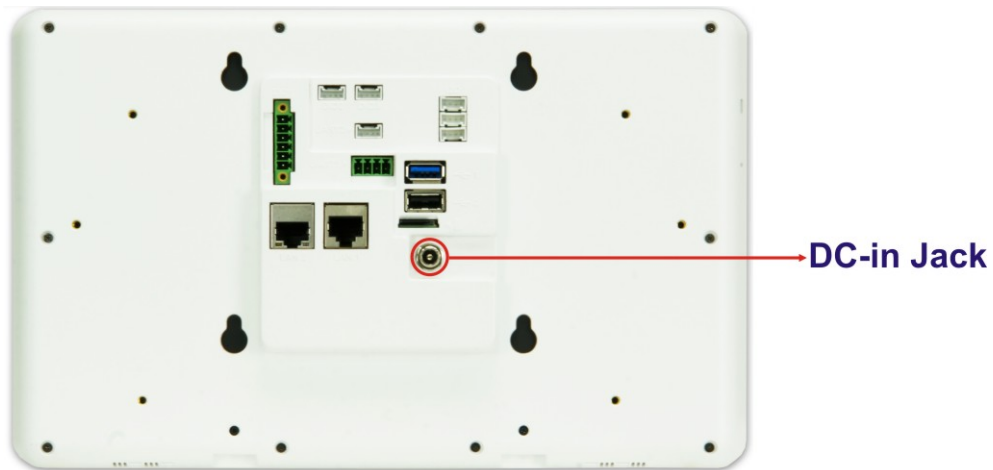


Figure 3-12: Power Input Jack

IOVU-210AR-RK39 Panel PC

3.6 Available Drivers

All the drivers for the IOVU-210AR-RK39 are available on IEI Resource Download Center (<https://download.ieiworld.com>). Type IOVU-210AR-RK39 and press Enter to find all the relevant software, utilities, and documentation.

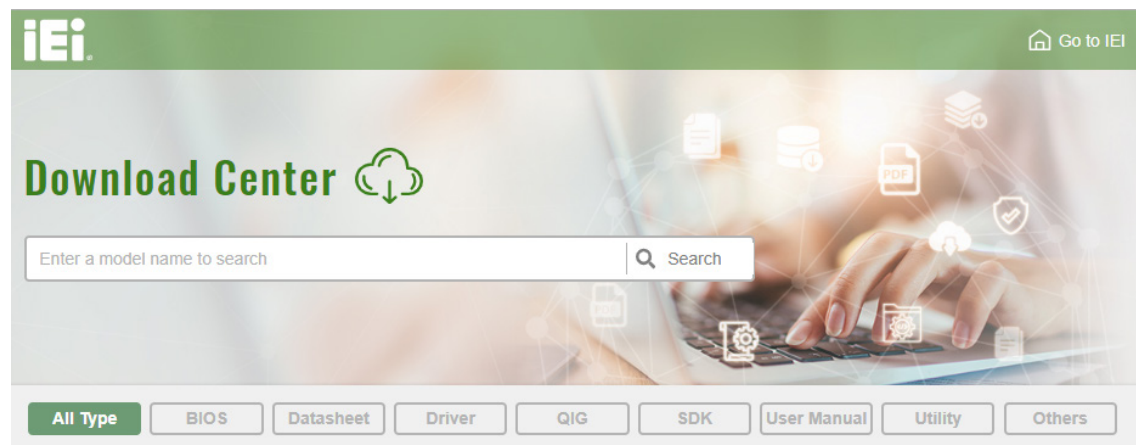
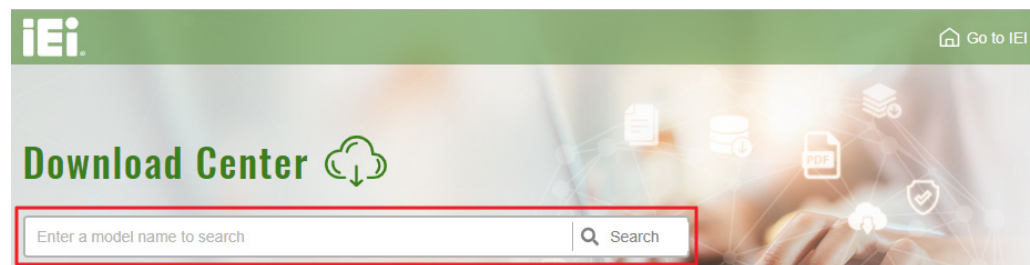


Figure 3-13: IEI Resource Download Center

3.6.1 Driver Download

To download drivers from IEI Resource Download Center, follow the steps below.

Step 1: Go to <https://download.ieiworld.com>. Type IOVU-210AR-RK39 and press Enter.



Step 2: All product-related software, utilities, and documentation will be listed. You can choose **Driver** to filter the result.

All Type BIOS Datasheet **Driver** QIG SDK User Manual Utility Others

WAFER-BT-i1 Product Info ▶

Embedded Computer ▶ Single Board Computer ▶ Embedded Board
3.5" SBC with Intel® 22nm Atom™/Celeron® on-board SoC

File Name	Published	Version	File Checksum
7B000-001033-RS V2.3.iso (2.23 GB)	2017/10/03	2.30	3B2DB1F792779A93A8F50DDBC3943E30

Step 3: Click the driver file name on the page and you will be prompted with the following window. You can download the entire ISO file (❶), or click the small arrow to find an individual driver and click the file name to download (❷).

7B000-001168-RS_V1.4.iso X

❶ [Click here to download entire ISO file. \(2.99 GB\)](#)

* Download individual file *

- Docs
 - 1.Chipset
 - ❷ 10.1.1.12.zip (2.7 MB)
 - 2.VGA
 - 3.Audio
 - 4.Lan
 - 5.USB 3.0
 - 6.Serial IO
 - 7.TXE
 - 8.Manual

IOVU-210AR-RK39 Panel PC

3.7 System Maintenance

If the components of the IOVU-210AR-RK39 fail, they must be replaced. Please contact the system reseller or vendor to purchase the replacement parts.



NOTE:

A user cannot replace a motherboard. If the motherboard fails it must be shipped back to IEI to be replaced. Please contact the system vendor, reseller or an IEI sales person directly.

Chapter

4

Android OS

IOVU-210AR-RK39 Panel PC

The IOVU-210AR-RK39 comes with Android OS pre-installed. This chapter introduces the user interface and basic functions of Android OS installed in the IOVU-210AR-RK39.

4.1 Home Screen

Android OS supports multiple home screens allowing users to customize the screen with widgets, apps and shortcuts. The following sections describe the basic technique to manage the home screen.

4.1.1 Adding a Home Screen

To add a home screen, touch and hold an app/widget icon. The following screen appears, indicating that a new home screen is available. Drag and release the icon to the new home screen.

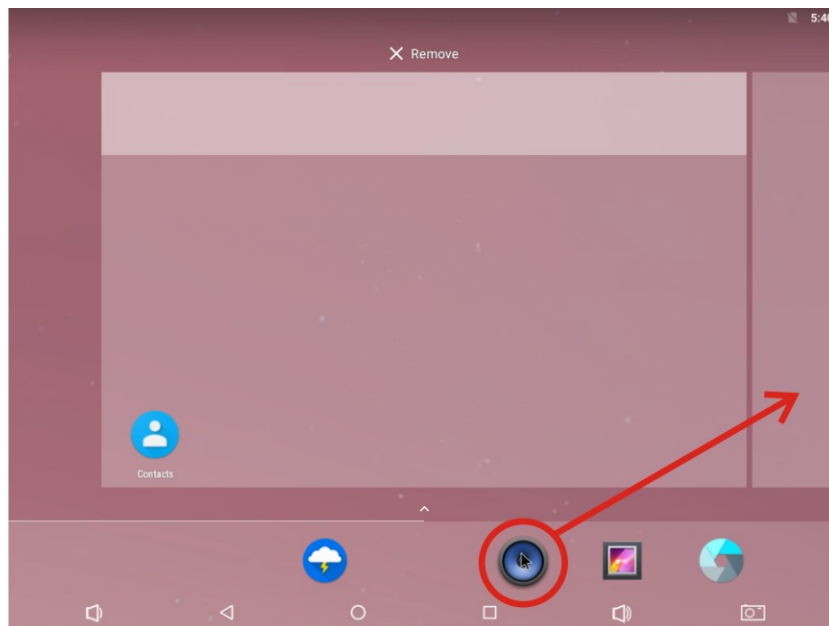


Figure 4-1: Adding a Home Screen

4.1.2 Switching between Home Screens

Swipe right or left to switch between home screens.

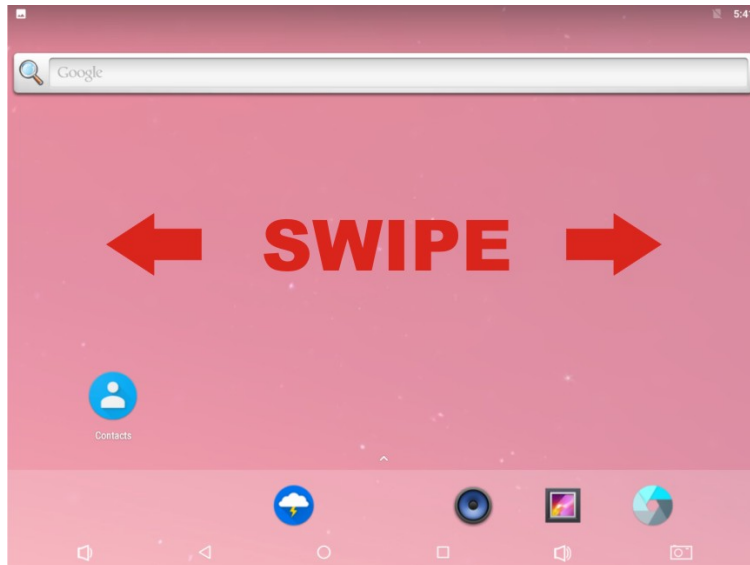


Figure 4-2: Multiple Home Screens

4.1.3 Favorites Tray

The Favorites tray at the bottom of each home screen allows users to keep the most important or frequently used shortcuts.

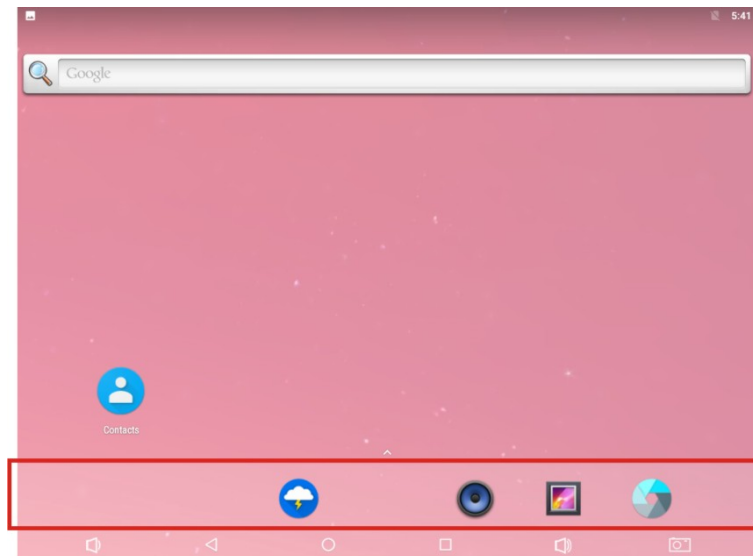



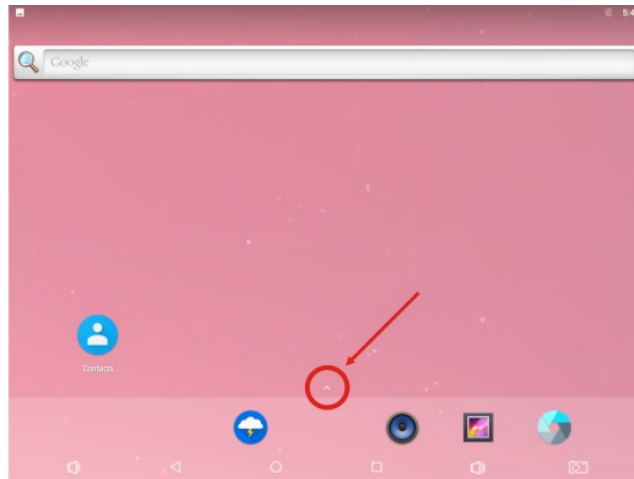
Figure 4-3: Favorites Tray

IOVU-210AR-RK39 Panel PC

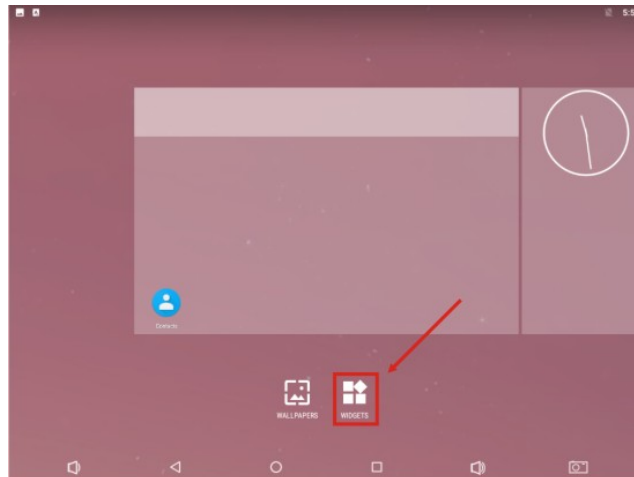
4.1.4 Adding Shortcuts

To add app or widget shortcuts on the home screen, follow the steps below.

Step 1: To add an app shortcut, tap the up arrow  on the home screen to access the All Apps page.



To add a widget shortcut, touch and hold the background of a home screen, then tap **WIDGETS**.



Step 2: Touch and hold an app icon or a widget, and drag it to the home screen.

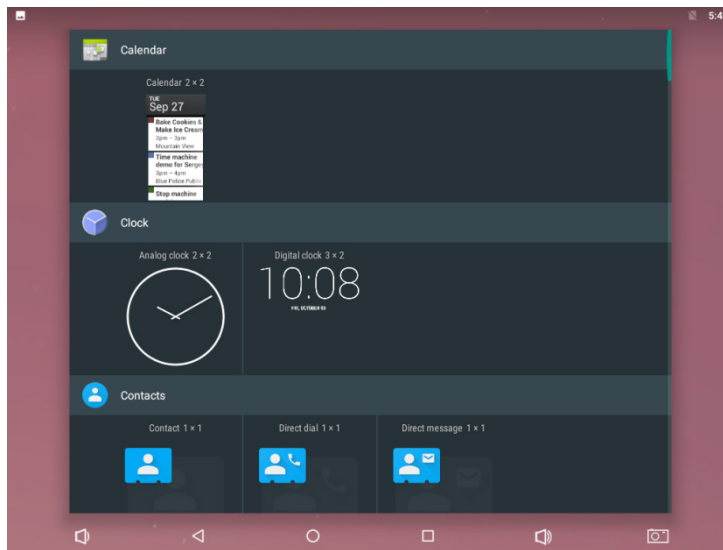
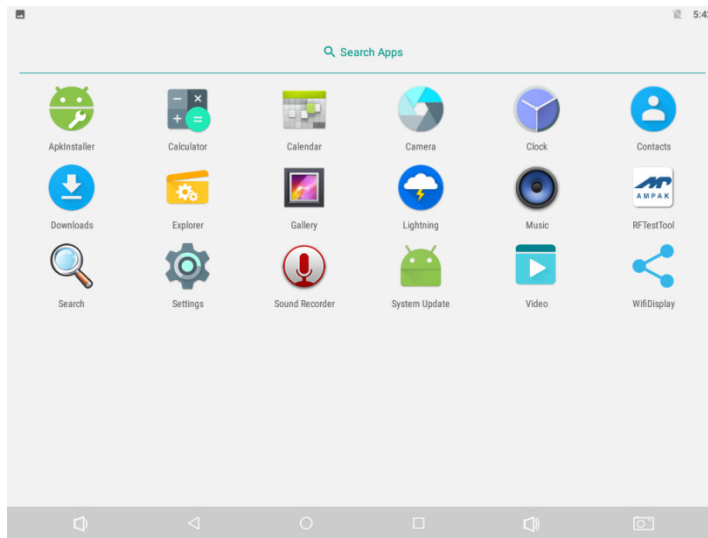


Figure 4-4: All Apps/WIDGETS Page

IOVU-210AR-RK39 Panel PC

4.1.5 Arranging the Home Screen

The items on the home screen can be moved and deleted. Touch and hold an item on the home screen and drag it where you want. To trash the item on the screen, drag it to the Remove icon. Release the icon when it turns gray.

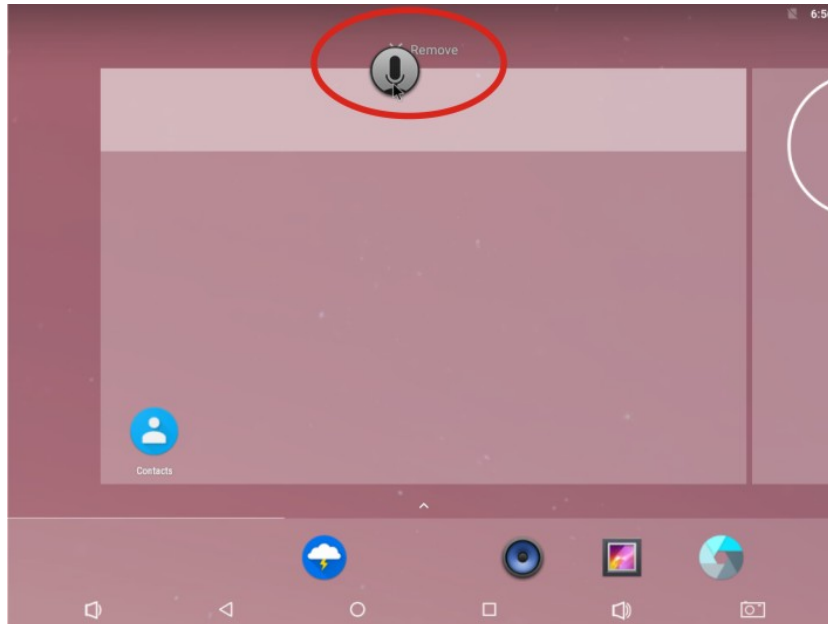


Figure 4-5: Trash an Item on Home Screen

4.2 Navigation Buttons

The navigation buttons shown in **Figure 4-8** can always be found at the bottom of every screen.

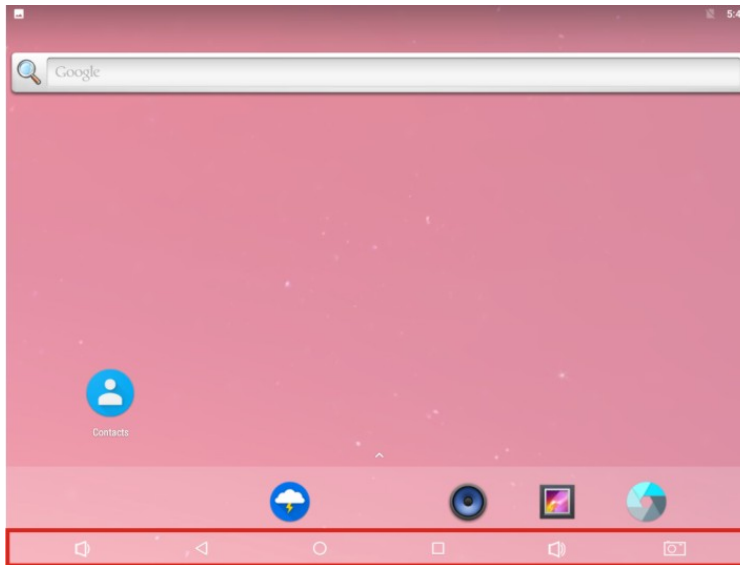


Figure 4-6: Navigation Buttons







Buttons	Description
	Tap to turn the volume down.
	Tap to return to the previous screen.
	Tap to return to the home screen.
	Tap to display all the recently used applications.
	Tap to turn the volume up.
	Tap to take a screenshot.

Table 4-1: Navigation Buttons

IOVU-210AR-RK39 Panel PC

4.3 Status Bar

The status bar on the top of the screen (**Figure 4-9**) displays system status, such as battery level or signal strength.

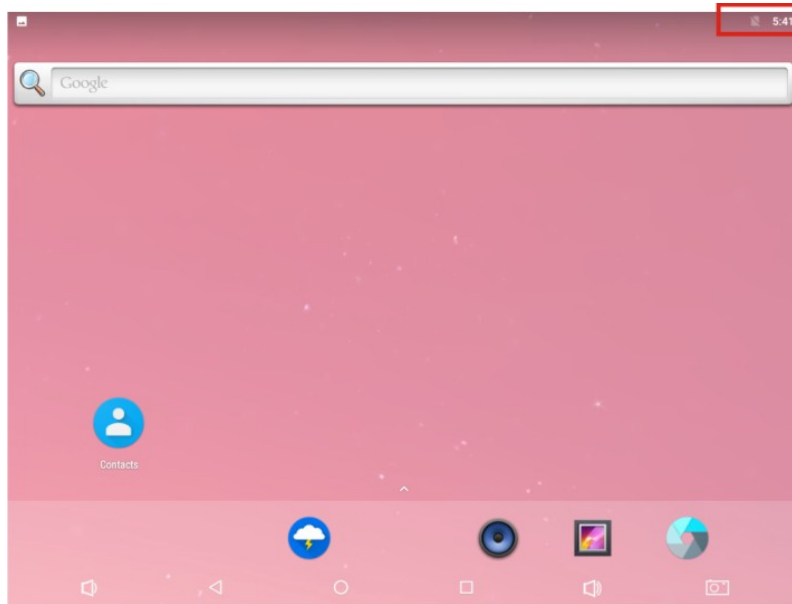
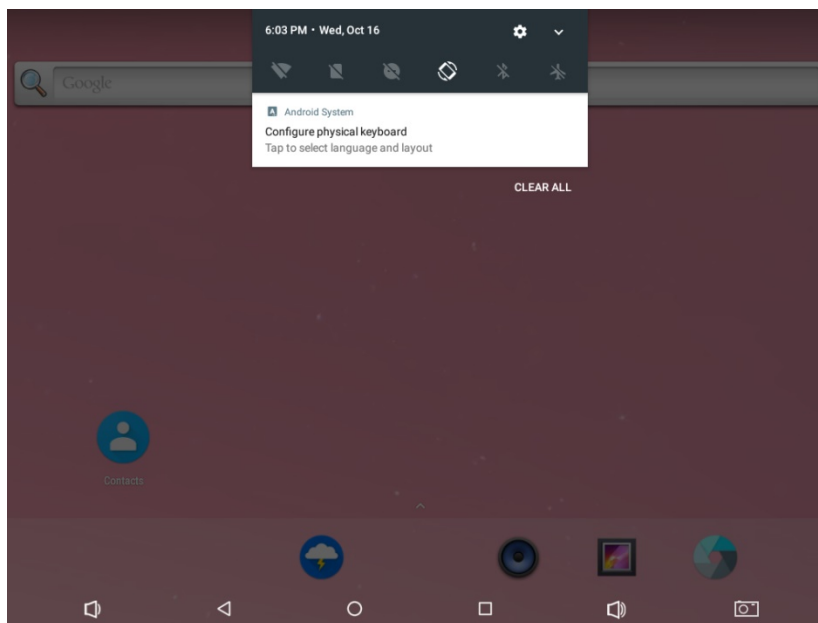


Figure 4-7: Status Bar

Swipe down from the status bar to view notification and status details (**Figure 4-10**).



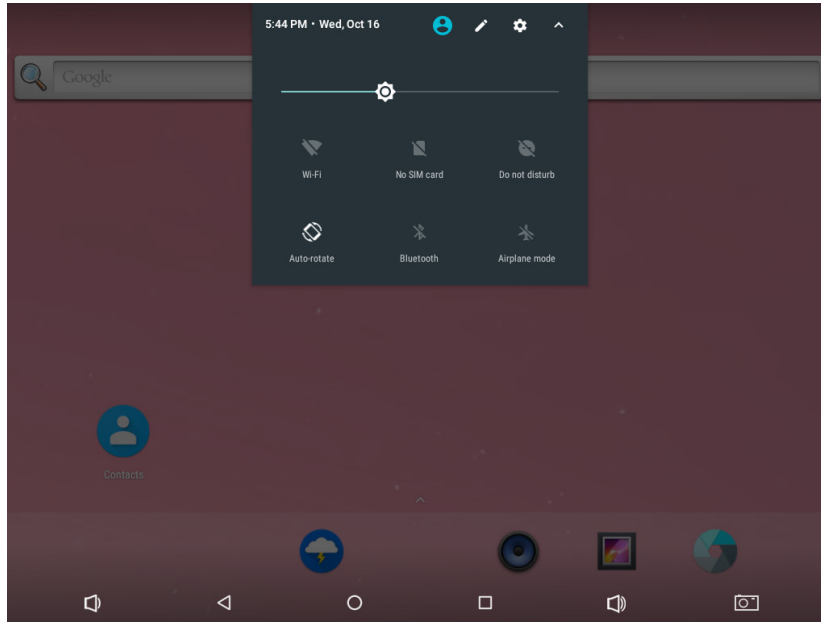


Figure 4-8: Notification List and System Status

Appendix

A

Regulatory Compliance

DECLARATION OF CONFORMITY

This equipment is in conformity with the following EU directives:

- EMC Directive 2014/30/EU
- Low-Voltage Directive 2014/35/EU
- RoHS II Directive 2015/863/EU

If the user modifies and/or install other devices in the equipment, the CE conformity declaration may no longer apply.

If this equipment has telecommunications functionality, it also complies with the requirements of the R&TTE Directive 1999/5/EC.

English

IEI Integration Corp declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Български [Bulgarian]

IEI Integration Corp. декларира, че този оборудване е в съответствие със съществените изисквания и другите приложими правила на Директива 1999/5/EC.

Česky [Czech]

IEI Integration Corp tímto prohlašuje, že tento zařizení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk [Danish]

IEI Integration Corp erklærer herved, at følgende udstyr overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

Deutsch [German]

IEI Integration Corp, erklärt dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.

Eesti [Estonian]

IEI Integration Corp deklareerib seadme seadme vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

IOVU-210AR-RK39 Panel PC

Español [Spanish]

IEI Integration Corp declara que el equipo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Ελληνική [Greek]

IEI Integration Corp ΔΗΛΩΝΕΙ ΟΤΙ ΕΞΟΠΛΙΣΜΟΣ ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.

Français [French]

IEI Integration Corp déclare que l'appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Italiano [Italian]

IEI Integration Corp dichiara che questo apparecchio è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latviski [Latvian]

IEI Integration Corp deklarē, ka iekārta atbilst būtiskajām prasībām un citiem ar to saistītajiem noteikumiem Direktīvas 1999/5/EK.

Lietuvių [Lithuanian]

IEI Integration Corp deklaruoja, kad šis įranga atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Nederlands [Dutch]

IEI Integration Corp dat het toestel toestel in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Malti [Maltese]

IEI Integration Corp jiddikjara li dan prodott jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

Magyar [Hungarian]

IEI Integration Corp nyilatkozom, hogy a berendezés megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.

Polski [Polish]

IEI Integration Corp oświadcza, że wyrobu jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

Português [Portuguese]

IEI Integration Corp declara que este equipamento está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Româna [Romanian]

IEI Integration Corp declară că acest echipament este în conformitate cu cerințele esențiale și cu celelalte prevederi relevante ale Directivei 1999/5/CE.

Slovensko [Slovenian]

IEI Integration Corp izjavlja, da je ta opreme v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.

Slovensky [Slovak]

IEI Integration Corp týmto vyhlasuje, že zariadenia spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Suomi [Finnish]

IEI Integration Corp vakuuttaa täten että laitteet on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska [Swedish]

IEI Integration Corp förklarar att denna utrustningstyp står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

FCC WARNING

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Federal Communication Commission Interference Statement

This equipment has been assembled with components that comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Appendix

B

Safety Precautions

IOVU-210AR-RK39 Panel PC



WARNING:

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the IOVU-210AR-RK39.

B.1 Safety Precautions

Please follow the safety precautions outlined in the sections that follow:

B.1.1 General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- **Follow the electrostatic precautions** outlined below whenever the IOVU-210AR-RK39 is opened.
- **Make sure the power is turned off and the power cord is disconnected** whenever the IOVU-210AR-RK39 is being installed, moved or modified.
- **Do not apply voltage levels that exceed the specified voltage range.** Doing so may cause fire and/or an electrical shock.
- **Electric shocks can occur** if the IOVU-210AR-RK39 chassis is opened when the IOVU-210AR-RK39 is running.
- **Do not drop or insert any objects** into the ventilation openings of the IOVU-210AR-RK39.
- **If considerable amounts of dust, water, or fluids enter the IOVU-210AR-RK39**, turn off the power supply immediately, unplug the power cord, and contact the IOVU-210AR-RK39 vendor.
- **DO NOT:**
 - Drop the IOVU-210AR-RK39 against a hard surface.
 - Strike or exert excessive force onto the LCD panel.
 - Touch any of the LCD panels with a sharp object
 - In a site where the ambient temperature exceeds the rated temperature

B.1.2 Anti-static Precautions



WARNING:

Failure to take ESD precautions during the installation of the IOVU-210AR-RK39 may result in permanent damage to the IOVU-210AR-RK39 and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the IOVU-210AR-RK39. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the IOVU-210AR-RK39 is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband:*** Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- ***Self-grounding:*** Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad:*** When configuring or working with an electrical component, place it on an anti-static pad. This reduces the possibility of ESD damage.
- ***Only handle the edges of the electrical component:*** When handling the electrical component, hold the electrical component by its edges.

IOVU-210AR-RK39 Panel PC

B.1.3 Product Disposal

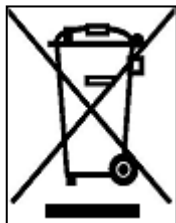


CAUTION:

Risk of explosion if battery is replaced by an incorrect type. Only certified engineers should replace the on-board battery.

Dispose of used batteries according to instructions and local regulations.

- Outside the European Union - If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union:



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

B.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the IOVU-210AR-RK39, please follow the guidelines below.

B.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the IOVU-210AR-RK39, please read the details below.

- Never spray or squirt liquids directly onto any other components. To clean the LCD panel, gently wipe it with a piece of soft dry cloth or a slightly moistened cloth.
- The interior of the IOVU-210AR-RK39 does not require cleaning. Keep fluids away from the IOVU-210AR-RK39 interior.
- Be cautious of all small removable components when vacuuming the IOVU-210AR-RK39.
- Turn the IOVU-210AR-RK39 off before cleaning the IOVU-210AR-RK39.
- Never drop any objects or liquids through the openings of the IOVU-210AR-RK39.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the IOVU-210AR-RK39.
- Avoid eating, drinking and smoking within vicinity of the IOVU-210AR-RK39.

B.2.2 Cleaning Tools

Some components in the IOVU-210AR-RK39 may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the IOVU-210AR-RK39.

- **Cloth** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the IOVU-210AR-RK39.
- **Water or rubbing alcohol** – A cloth moistened with water or rubbing alcohol can be used to clean the IOVU-210AR-RK39.
- **Using solvents** – The use of solvents is not recommended when cleaning the IOVU-210AR-RK39 as they may damage the plastic parts.
- **Vacuum cleaner** – Using a vacuum specifically designed for computers is one of the best methods of cleaning the IOVU-210AR-RK39. Dust and dirt can restrict the airflow in the IOVU-210AR-RK39 and cause its circuitry to corrode.
- **Cotton swabs** - Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- **Foam swabs** - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

Appendix

C

Hazardous Materials Disclosure

The details provided in this appendix are to ensure that the product is compliant with the Peoples Republic of China (China) RoHS standards. The table below acknowledges the presences of small quantities of certain materials in the product, and is applicable to China RoHS only.

A label will be placed on each product to indicate the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Please refer to below table.

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	O	O	O	O	O	O
Display	O	O	O	O	O	O
Printed Circuit Board	O	O	O	O	O	O
Metal Fasteners	O	O	O	O	O	O
Cable Assembly	O	O	O	O	O	O
Fan Assembly	O	O	O	O	O	O
Power Supply Assemblies	O	O	O	O	O	O
Battery	O	O	O	O	O	O

O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in SJ/T11363-2006 (now replaced by GB/T 26572-2011).

X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006 (now replaced by GB/T 26572-2011).

IOVU-210AR-RK39 Panel PC

此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	O	O	O	O	O	O
显示	O	O	O	O	O	O
印刷电路板	O	O	O	O	O	O
金属螺帽	O	O	O	O	O	O
电缆组装	O	O	O	O	O	O
风扇组装	O	O	O	O	O	O
电力供应组装	O	O	O	O	O	O
电池	O	O	O	O	O	O

O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 (现由 GB/T 26572-2011 取代) 标准规定的限量要求以下。

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 (现由 GB/T 26572-2011 取代) 标准规定的限量要求。