

LEAD-PND-2150/2360-XX Panel PC/Display

21.5"/ 23.6" Bezel-less and Fan-less P-CAP Touch HMI



User's Manual

Version 1.0

Copyright © Portwell, Inc., 2020. All rights reserved.
All other brand names are registered trademarks of their respective owners.

Table of Contents

How to Use This Manual

Chapter 1 System Overview	1
1.1 Introduction	1
1.2 Package Contents	2
1.3 Product Specification.....	3
1.4 Mechanical Dimension.....	4
1.5 System Front View	6
1.6 I/O Interfaces	7
1.6.1 I/O Rear View	7
1.6.2 I/O Pin Description	8
1.6.3 Mounting.....	11
1.7 Safety Instruction	12
1.7.1 Electrostatic Discharge (ESD).....	13
1.7.2 Grounding Method.....	13
1.7.3 FCC Statement.....	13
1.7.4 Electromagnetic Compatibility	14
Chapter 2 System Operation	15
2.1 Boot Up.....	15
2.2 Panel Saving Mode/ Wake Up	15
2.3 Power Saving Mode.....	16
2.4 Reset.....	16
2.5 Signal Switch.....	16
2.5.1 Direct Select.....	16
2.5.2 Auto Select	16
2.6 OSD Key Function	17
2.7 OSD Tree	18
2.8 OSD Command	20
Chapter 3 Important Instructions	21
3.1 Note on the Warranty.....	21
3.2 Exclusion of Accident Liability Obligation	21
3.3 Liability Limitations / Exemption from the Warranty Obligation.....	21
3.4 Declaration of Conformity	21
Chapter 4 Frequently Asked Questions	22

How to Use This Manual

The manual describes how to configure your LEAD-PND-2150/LEAD-PND-2360 HMI system to meet various operating requirements. It is divided into four chapters, with each chapter addressing a basic concept and operation of LEAD-PND.

Chapter 1: System Overview. Present what you have in the box and give you an overview of the product specifications and basic architecture for LEAD-PND.

Chapter 2: System Operation. Show how to operate LEAD-PND. This chapter includes the information about basic system operation like turn on/off, signal selection, OSD function and OSD command control.

Chapter 3: Important Instructions. Indicate some instructions which must be carefully followed when the HMI system is used.

Chapter 4: Frequent Asked Questions. Provide the answers for the most frequently asked questions.

The content of this manual is subject to change without prior notice. These changes will be incorporated in new editions of the document. The vendor may make supplement or change in the products described in this document at any time.

Portwell, Inc. clearly informs the users that this manual only encloses a general description of technical processes and instructions which may not be applicable in every single case. In cases of doubt, please contact Portwell, Inc.

© 2020 Portwell, Inc. All Rights Reserved.

Portwell, Inc.

<http://www.portwell.com.tw>

Address : No. 242, Bo-Ai Street, Shu-Lin District, New Taipei City, 238, Taiwan

TEL : +886-2-7731-8888 ; FAX : +886-2-7731-9888

Revision History

Revision	Date	Details of Change(s)
V1.0	2020/7/17	Initial Release

Chapter 1

System Overview

1.1 Introduction

Portwell LEAD-PND-2150/2360 is the 21.5" / 23.6" combination of display and panel PC adopting AllWinner® A83T CPU. LEAD-PND is designed with two sizes: 21.5" / 23.6", two voltages of DC input: 12V/ 24V and Android 6.0 for OS. LEAD-PND is designed with great flexibility for multi-purpose for customers.






LEAD-PND includes smart retail applications such as digital signage, recognition, customized advertisements/ promotions, merchandise locations, self-checkout, and delivery. Kiosk applications include point of interest, point of information in hospitality locations such as hotel or restaurant; transportation such as parking lot, train station, airport; library, exhibition hall; government infrastructure; industrial/factory automation; facility management; intralogistics or smart warehouse and much more.

LEAD-PND provides lots of features to fulfill customer's requirement. As a display, it adopts the projected capacitive multi-touch screen, 1920 x 1080 full HD display, two 3W speakers, and multi-signal input includes VGA, HDMI and DP. As a Panel PC, it equips with 1GB DDR3L and 16G eMMC on board. It also includes two USB 2.0 function, 1 micro USB for touch function and 1 Gigabit Ethernet. The amazing and bezel-free design appearance with compact size of 521.9(W) x 321.4(H) x 44.3(D) mm for 21.5" makes it ideal for the applications mentioned above.

Our LEAD-PND-2150/2360 has been certified by EN 55032 Class A & 55024, FCC Part 15 and VCCI-CISPR 32. With true flat design, its front panel provides IP65 water and dust proof to be easily cleaned. With the AllWinner® A83T CPU and Android 6.0 OS, LEAD-PND is definitely the best product for your application.

1.2 Package Contents

The LEAD-PND-2150/2360 product package covers the following items:

Essential		
✓ One LEAD-PND-2150/2360		
	Panel Size	Model name
	21.5 inch 23.6 inch	LEAD-PND-2150 LEAD-PND-2360
✓ Power Adapter (40W for AX Model or 60W for BX Model)		
		
40W Adapter		60W Adapter
✓ Three-pin Terminal for BX model only		
		
✓ VGA Cable for XV model only		
		

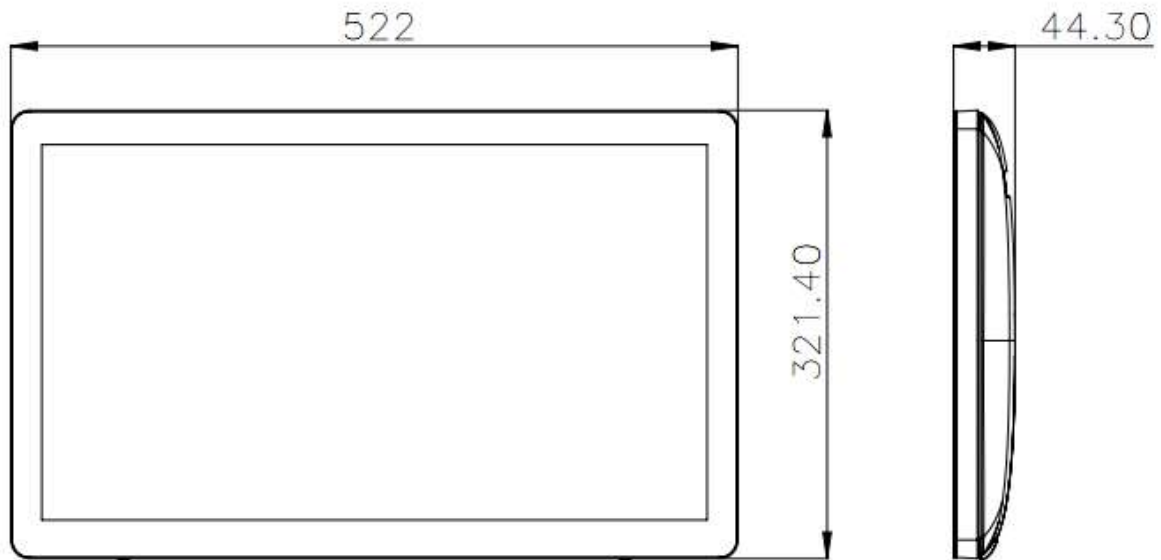
If any of these items is damaged or missing, please contact your vendor and keep all packing materials for future replacement and maintenance.

1.3 Product Specification

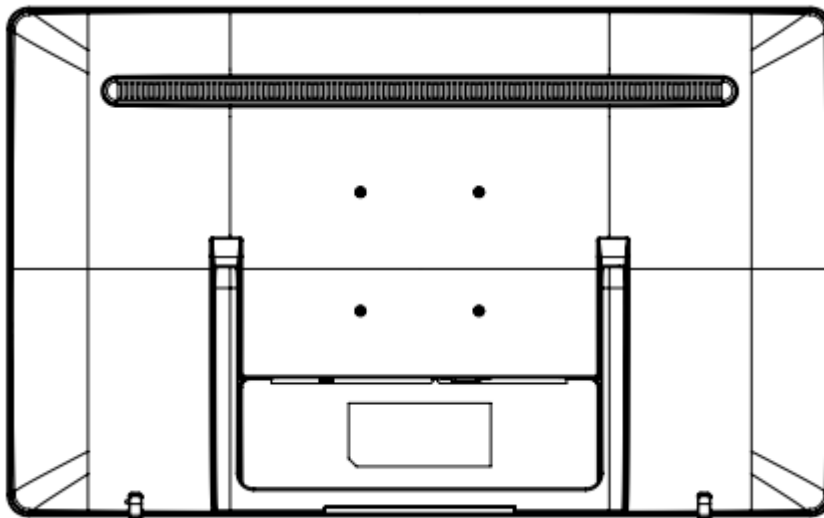
Display	
LCD Size	LEAD-PND-2150: 21.5" LEAD-PND-2360: 23.6"
Panel Type	TN
Resolution	FHD 1920 x 1080 (16:9)
Brightness	250 cd/m ²
Contrast Ratio	1000 : 1
Backlight	LED type
Touch Screen	Projected capacitive 10-point multi-touch
System	
SoC	AllWinner® A83T Octa-Core Cortex™ A7 CPU
Memory	1GB DDR3L on board
LAN Chip	Realtek® RTL8211E
Audio Code	AllWinner® AXP813
Storage Device	16G eMMC on board
OS	Android 6.0
I/O Interface	
Series Port	1x Tx/Rx for OSD function (for XC model)
Display	1x HDMI, 1x DP, 1x VGA (for XV model)
USB	2x USB 2.0, 1 x Micro USB for Touch only
Ethernet	1x Gigabit Ethernet
Audio	2x 3W speaker
OSD Key	Power/ Menu/ Right/ Left/ Auto
Power	
Power Input	12V DC Jack (AX Model)/ 24V via 3-pin terminal block connector (BX Model)
Power Supply	40W (AX Model)/60W (BX Model) AC-DC Adapter
Mechanical& Environmental	
Mounting (mm)	Standalone; VESA® Mount 75 x 75
Accessory	1 x VGA cable for XV Model
Operating Temperature	0°C ~ 50°C
Storage Temperature	-20°C ~ 60°C
Water/Dust Resistance	Front panel: IP65
Dimensions	LEAD-PND-2150: 521.9(W) x 321.4(H) x 44.3(D) mm LEAD-PND-2360: 561.9(W) x 353.4(H) x 43.0(D) mm
Certificate	CE/ FCC Part 15 Class A, VCCI Conformity

1.4 Mechanical Dimension

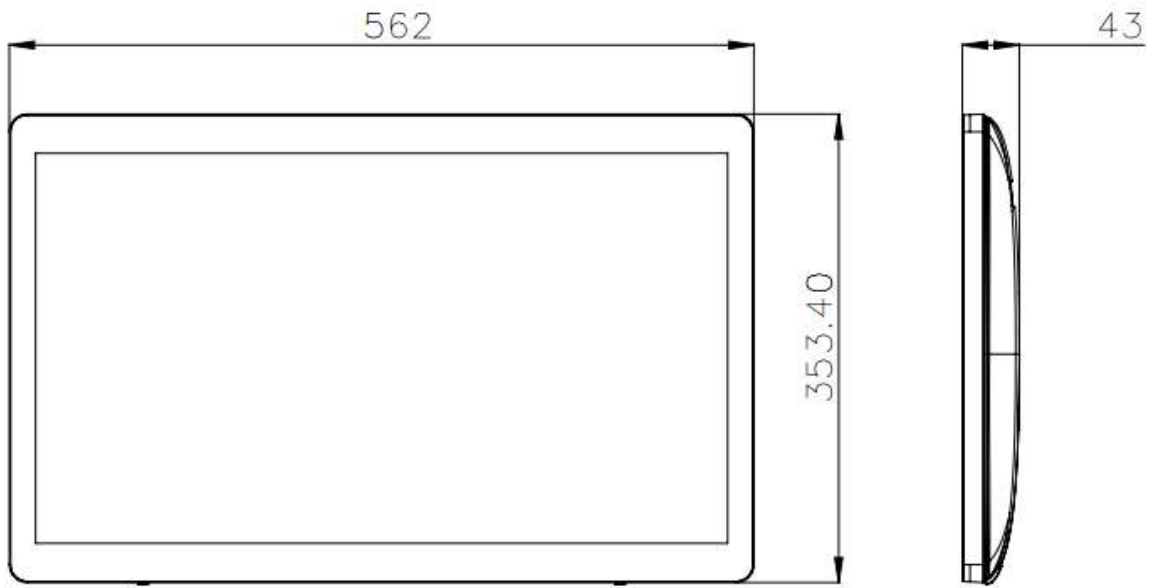
Front and side view of the LEAD-PND-2150 system (mm)



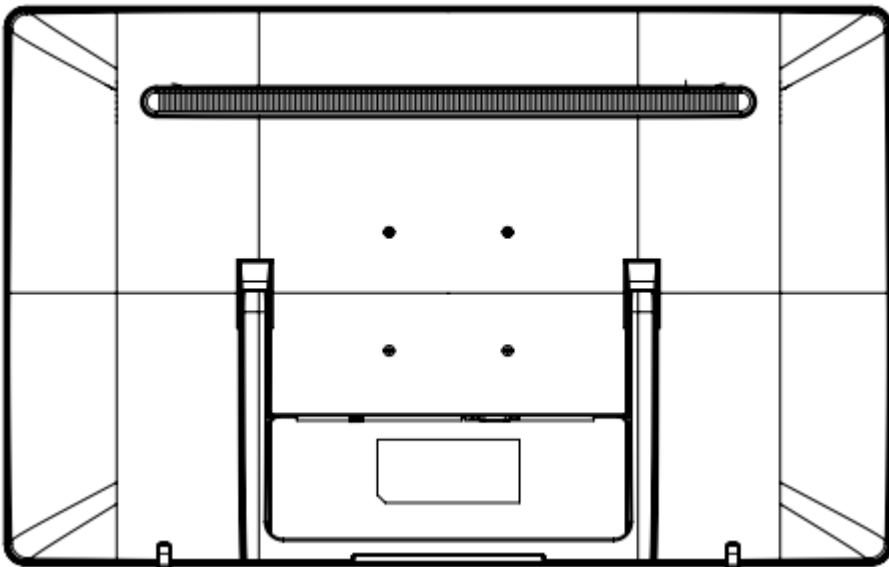
Back view of the LEAD-PND-2150 system (mm)



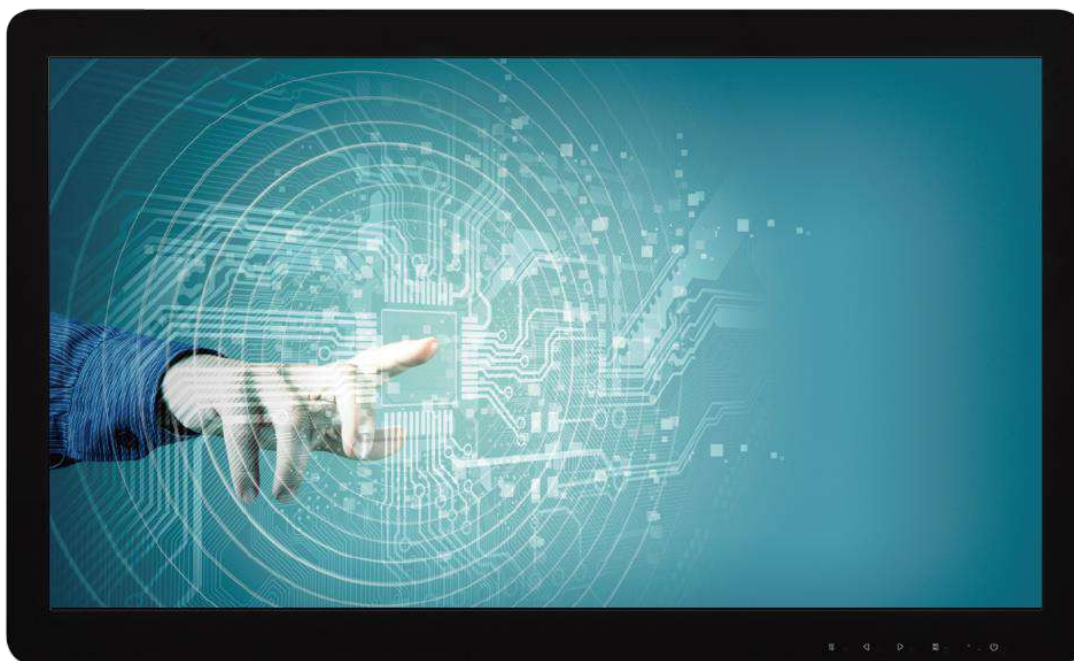
Front and side view of the LEAD-PND-2360 system (mm)



Back view of the LEAD-PND-2360 system (mm)



1.5 System Front View



TFT-LCD Display with Projective Capacitive Touch Screen:

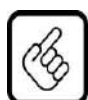
The Panel PC is built in a TFT-LCD display and designed with a projective capacitive touch screen. The surface of the display is also mechanically protected through the touch screen. The touch screen of LEAD-PND-2150/LEAD-PND-2360 can support up to 10 touch points.

Plastic Front Bezel:

Plastic front bezel with PC material meets IP65 protection.

True Flat Projective Capacitive Touch Screen:

The projective capacitive touch screen (USB interface) registers contacts of a conductive object such as fingers and allows moving the mouse pointer. Users don't need to install touch screen driver for projected capacitive multi-touch because driver is included in operating system.



Do not use a hard or a pointed object (like screw drivers or pliers) to operate the touch screen, because such an action will damage the surface of touch screen. Also do not put heavy objects on the screen to prevent damage.

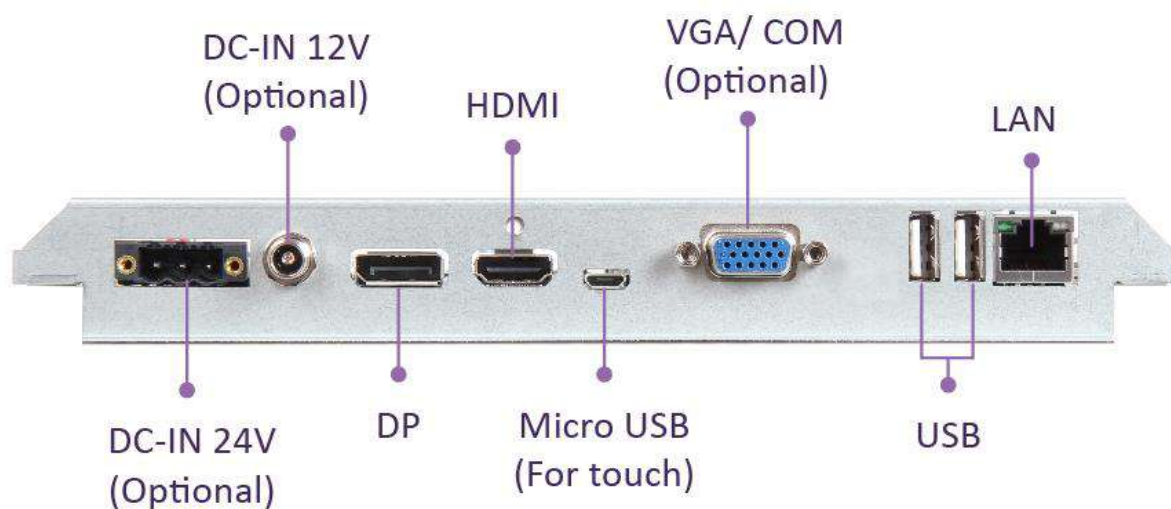


Front Panel Care and Clean

Avoid used and storage the product near or exposed to organic solvents, acid gases. Please use dry or soft clothes with neutral detergent or ethanol to clean the product.

1.6 I/O Interfaces

1.6.1 I/O Rear View



Model	Power Input (A or B)	Signal Input (V or C)
AV Model	12V	HDMI + DP +VGA
AC Model	12V	HDMI + DP +COM (Tx/Rx function for OSD)
BV Model	24V	HDMI + DP +VGA
BC Model	24V	HDMI + DP +COM (Tx/Rx function for OSD)

DC in 12V via 1-pin DC Jack/24V via 3-pin Connector:

Provide power connection of Panel PC to the main power source via DC power cable or AC/DC adapter.

DP:

DisplayPort 1.2 for display input

HDMI:

Type A HDMI 1.4 display input

VGA:

D-Sub 15 for display input

COM ports:

One connector for OSD function control with Tx/Rx

USB (Universal Serial Bus) ports:

Two USB 2.0 Connectors for USB-compatible devices

Micro USB (Universal Serial Bus) ports:

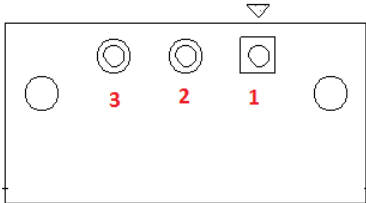
One micro USB 2.0 Connector for touch control

Gigabit Ethernet:

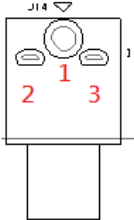
One Gigabit Ethernet (10/100/1000 Mbits/sec) LAN ports by using Realtek® RTL8211E

1.6.2 I/O Pin Description


DC-IN 24V Three-pin Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	Earth_GND	2	GND
	3	DC_PWR	4	

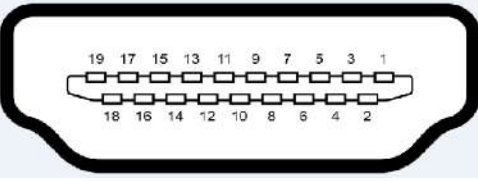
DC-IN 12V Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	12VSB	2	GND
	3	GND	4	

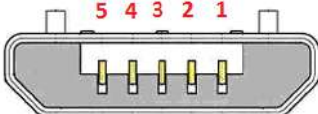
DP Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	LANE0P	2	GND
	3	LANE0N	4	LANE1P
	5	GND	6	LANE1N
	7	LANE2P	8	GND
	9	LANE2N	10	LANE3P
	11	GND	12	LANE3N
	13	GND	14	GND
	15	DP_AUX_CHP	16	DP_CABLE_DET
	17	DP_AUX_CHN	18	DP_HOT_PLUG
	19	GND	20	DP_VDD_1

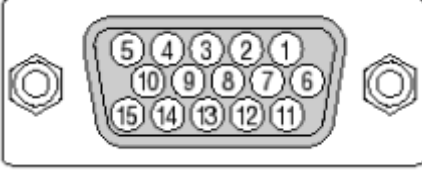
HDMI Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	HDMI_RX1_D2p	2	HDMI_RX1_CDSENSE
	3	HDMI_RX1_D2n	4	HDMI_RX1_D1p
	5	GND	6	HDMI_RX1_D1n
	7	HDMI_RX1_D0p	8	GND
	9	HDMI_RX1_D0n	10	HDMI_RX1_CLKp
	11	EX_HDMI_CN_DET	12	HDMI_RX1_CLKn
	13	NC	14	NC
	15	HDMI_RX1_SCL	16	HDMI_RX1_SDA
	17	GND	18	HDMI_RX1_5V_IN
	19	HDMI_RX1_HPD		

Micro USB Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	VBUS_D0_TPC	2	TOUCH_D0_DM_C
	3	TOUCH_D0_DP_C	4	NC
	5	GND		

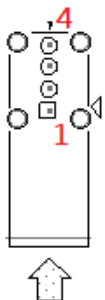
VGA Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	VGA_RED	2	VGA_GREEN
	3	VGA_BLUE	4	NC
	5	VGA_CABLE_DET	6	GND
	7	GND	8	GND
	9	W40_VGA_VCC	10	GND
	11	NC	12	VGA_TX1_SDA_S
	13	VGA_HSYNC	14	VGA_VSYNC
	15	VGA_TX1_SCL_S		

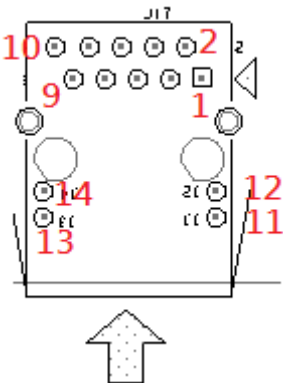
COM Connector (Tx/Rx for OSD function only)

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	N/A	2	K_UART_RX_C
	3	K_UART_TX_C	4	N/A
	5	N/A	6	N/A
	7	N/A	8	N/A
	9	N/A	10	

USB Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	W80_HUB_VDP12	2	HUB_DM6_L/ HUB_DM7_L
	3	HUB_DP6_L/ HUB_DP7_L	4	GND

LAN Connector

PCB Footprint	Pin No.	Signal Description	Pin No.	Signal Description
	1	MDI_P0	2	MDI_N0
	3	MDI_P1	4	MDI_N1
	5	TC1	6	TC2
	7	MDI_P2	8	MDI_N2
	9	MDI_P3	10	MDI_N3
	11	L1	12	L2
	13	L3	14	L4
	15	CG1	16	CG2

1.6.3 Mounting

Standalone



VESA® Mount



1.7 Safety Instruction



Caution:

This section should be carefully read and please abide by the instructions for your own safety and correct use of the unit.

The chapter also includes information on approval and interference inhibition of your unit. Please abide by the warnings and instructions on the unit and in the manual.

The LEAD-PND-2150/LEAD-PND-2360 HMI is built and tested by Portwell, Inc. in accordance with and kept the company within under perfectly safe condition. In order to retain this condition and ensure safe operation, the users must abide by the instructions and warnings

- The unit must be used in accordance with the instructions of usage.
- The electrical installations in the room must not violate the requirements of the local (country-specific) regulations.
- Pay careful attention that there are no cables, especially power cables, in areas that people can go over them.
- Only use the power cord supplied as specification. Don't use damaged power cords.
- Keep away from radio. This may affect the operation of the unit.

Hints for AC power connection via external AC/DC adapter: The main power cable of the optional external AC/DC adapter serves as disconnecting device. For this reason, the outlet of the AC power source must be located near to the device and easy to reach.

- Never place the unit under direct sunlight, near heat sources or in a humid place. Make sure the unit has proper ventilation.
- All plugs on the connection cables must be screwed or locked to the housing.
- LEAD-PND-2150/LEAD-PND-2360 HMI is designed to be used on the desk or upright with the I/O interfaces downwards.
- The unit generates heat under operation condition. Make sure it is properly ventilated. Never cover up the air intake and exhaust openings of the unit. Do not impede the fins of the heat sink.
- Be aware of the warm surface of heat sink at back side. Users should not remove the protective wear.
- Repairs may only be operated by specialists or technicians qualified and authorized by Portwell, Inc.
- Maintenance or repair on the open unit may only be operated by specialists or technicians qualified and authorized by Portwell, Inc. and familiar with the related hazards.
- When accessing internal components (which is not suggested), users must switch off the unit and disconnect it from the power source.
- Only original accessories (or suggested optional parts) approved and supplied by Portwell, Inc. may be used.

-
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
 - Assumption of safe operation no longer possible must be taken,
 - if the unit has obvious damage or
 - if the unit no longer functions.Under such cases, the unit must be shut down and secured against any unintended operation.

1.7.1 Electrostatic Discharge (ESD)

A sudden discharge of electrostatic electricity can damage electrostatic-sensitive devices or circuits. Adequate packaging and grounding techniques are essential to avoid damage. Following precautions should be taken:

1. Deliver printed circuit boards in electrostatic-safe containers such as cartons, boxes or anti-static bags.
2. Keep electrostatic-sensitive parts in their containers until they reach an electrostatic-free station.
3. Follow adequate grounding when a sensitive PCB, components, or assemblies are touched.
4. Store electrostatic-sensitive PCB's in a protective packaging or on conductive foam.

1.7.2 Grounding Method

Protect against electrostatic damage of the unit by taking the following preventative measures:

1. Cover workstations with approved anti-electrostatic material. Provide a wrist strap connected to a working bench and properly grounded tools and equipment.
2. For extra protection use anti-electrostatic mats, heel straps, or air ionizers.
3. Handle electrostatic-sensitive components, PCBs, and assemblies with care nearby the case or the edge of the board.
4. Prevent contact with pins, leads, or circuitry.
5. Switch off power and input signals before plugging and removing connectors or test equipment.
6. Keep the work area free from non-conductive materials such as ordinary plastic assembly aids and Styrofoam.
7. Use field service tools with conductivity, such as screwdrivers, pliers, and vacuum cleaners.
8. Always put drives and PCBs with the component-side down on the working bench.

1.7.3 FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection from 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 users will be required to correct the interference at his/her own expense.

1.7.4 Electromagnetic Compatibility

The system has been designed for industrial use. The most recent version of the EMC guidelines (EMC Directive 2014/30/EU) is applied following standards, CE/FCC Part 15 class A. If users modify and/or add device to the equipment (e.g. installation of add-on cards), the prerequisite for the CE conformity declaration (safety requirement) may not be applicable anymore.


Chapter 2

System Operation



In this chapter, users can find the operation description and procedure of LEAD-PND-2150/LEAD-PND-2360 including power control, signal selection and OSD operation.

2.1 Boot Up


The system will boot up automatically when first time plugging in the power. It usually takes around 30 seconds to show the Android Desktop.

If you go into Power Saving Mode with OSD POWER  key before, you can use the same key to boot up again. By double clicking the POWER key, the indicator light will turn white. Then long press the POWER key immediately for 5 seconds. The indicator light will show flashing red light at the same time. Afterwards, the system will turn on and the indicator light will be white.


2.2 Panel Saving Mode/ Wake Up

Click OSD POWER  key, the panel back light will be turned off and the indicator light will turn red. This function can be operated in both Android Desktop and external input signal. To wake up, simply touch the OSD POWER key again, the  system will return to your previous status and the indicator light will turn white.

2.3 Power Saving Mode

This mode can ONLY be operated under Android Desktop. Long press the OSD POWER  key for 5 seconds, the system will be turned off. The indicator light will turn red.


2.4 Reset


Click OSD MENU  key. In “Other” category, you can find “Reset” to reset all the OSD settings. To make sure the function works normally, please reboot the system once you reset the OSD settings.

2.5 Signal Switch



To choose which signal input you want, there are two ways for selection:

2.5.1 Direct Select

For your convenience, simply click the RIGHT  key. You can choose which signal input or Android Desktop you want.

The other way is from the OSD function. Click MENU  key then find the “Input” category. You can also choose your source here.




2.5.2 Auto Select

There are two ways for this function. Simply click OSD AUTO  key or Click MENU  key then find the “Input” category. You can also choose auto function here.

This operation is for external input source only. If there isn't any external source, the system will show "No Signal" and go into Panel Saving Mode. Once you plug in any external source and click AUTO key, the system will search the source for you. If you have more than one signal input, the system will scan in a circular way as HDMI → DP → VGA → HDMI.

2.6 OSD Key Function

In LEAD-PND, there are five OSD Keys. The following figure provides the description for your easily operation.

	POWER	For all the power control operations. Please read Chapter 2.1 to 2.3.
ME NU	MENU	The key for enter OSD function or as enter key to reach next layer or confirmation.
	RIGHT	The key to move right in OSD options. Or as the hot key for signal input in Chapter 2.5.
	LEFT	The key to move left in OSD options.
AU TO	AUTO	The key for AUTO signal selection described in Chapter 2.5. Or use as the leave key in OSD function.

2.7 OSD Tree

In this section, the following tables provide the whole functions of OSD. This includes the function description and the range where users can adjust.

Layer 1	Layer 2	Layer 3	Layer4	Layer5	Layer6	Comment	Default value			
Picture	Backlight	0				Adjust backlight	90			
		100								
	Brightness	0				Adjust brightness	50			
		100								
Contrast	0				Adjust contrast	50				
	100									
Sharpness	0				Adjust sharpness	2				
	4									
Display (HDMI, DP)	Disp Rotate	0 180				Set display screen rotate degree	0			
Display (VGA)	Auto Adjust									
	H Position	0				Adjust H Position	50			
		100								
	V Position	0				Adjust V Position				
		100								
Clock	0				Adjust Clock					
	100									
Phase	0				Adjust Phase					
	100									
Color	Panel Uniformity	On				Enable/disable panel uniformity	On			
		Off								
	Gamma	Off				Set gamma for display	Off			
		1.8								
		2.0								
		2.2								
	Temperature	9300				Set color temperature	6500			
		7500								
		6500								
		sRGB								
							R	0 255		128
		G	0 255							
		B	0 255							
	Color Effect	Standard				Set color effect	Standard			
		Game								
Movie										
Phote										
Vivid										
User		R					HUE	0		50
							SAT	100		
		Y					HUE	0		
		SAT	100							
	G	HUE	0							
		SAT	100							
C	HUE	0								
	SAT	100								
B	HUE	0								
	SAT	100								
M	HUE	0								
	SAT	100								
Hue	0				Adjust hue	50				
	100									
Saturation	0				Adjust saturation	50				
	100									

Important Instructions

Layer 1	Layer 2	Layer 3	Layer4	Layer5	Layer6	Comment	Default value					
Advance	Aspect Ratio	Full				Set aspect ratio	Full					
		16:9										
		4:3										
		5:4										
		User										
	Over Drive	Off				Enable/disable over drive	Off					
		On										
	OD Gain	0				Adjust over drive gain	50					
		100										
DDCCI	On				Enable/disable DDCCI	On						
	Off											
DCR	On				Enable/disable DCR	Off						
	Off											
Input	Auto				Select input source	PND_COM dosen't have VGA						
	VGA											
	DP											
	HDMI											
	DESKTOP											
Audio	Volume	0				Adjust audio volume	80					
		100										
	Mute	On				Enable/disable Mute	Off					
Off												
Other	Reset											
	Menu Time						10				Set OSD menu time out (10 = off time out)	15
							60					
	OSD H Position						0				Adjust OSD H Position	50
							100					
	OSD V Position						0				Adjust OSD V Position	50
							100					
	Language						English				Set OSD Language	English
							中文					
	OSD Transparency						0				Adjust OSD Transparency	0
255												
OSD Rotate	0				Set OSD rotate degree	0						
	90											
	180											
	270											

2.8 OSD Command

In Lead-PND-XC models, we provide one COM port with Tx/Rx function adopting RS-232 protocol. Please be noted that this COM port is for OSD function ONLY instead of full function of RS-232.

The following table is the command list that you can utilize:

Class	Function	Len	Cmd Code	Cmd Type	High Byte	Low Byte	Remark
Information	MODEL_NAME	8	0x01	0x67(g)	0x00	0x00	Reply Model name
	PANEL_NAME	8	0x02	0x67(g)	0x00	0x00	Reply Panel name
	FW_VERSION	8	0x03	0x67(g)	0x00	0x00	Reply FW version
	FW_RELEASEDATE	8	0x04	0x67(g)	0x00	0x00	Reply Release date
	HW_VERSION	8	0x05	0x67(g)	0x00	0x00	Reply HW version
	MONITOR_STATUS	8	0x06	0x67(g)	0x01: Power off 0x02: Normal 0x03: Power saving	0x00	Return Monitor status
System Setting	INPUT_SOURCE	8	0x10	0x73(s)	0x00: VGA 0x01: DP	0x00	Change input source
				0x67(g)	0x02: HDMI 0x03: DESKTOP		Get current source
Keypad	KEY_POWER	8	0x30	0x73(s)	0x01	0x00	Same as Power key button
	KEY_MENU	8	0x31	0x73(s)	0x01	0x00	Same as MENU key button
	KEY_RIGHT	8	0x32	0x73(s)	0x01	0x00	Same as RIGHT key button
	KEY_LEFT	8	0x33	0x73(s)	0x01	0x00	Same as LEFT key button
	KEY_EXIT	8	0x34	0x73(s)	0x01	0x00	Same as EXIT key button

The following is the protocol along with the command:

Byte	Symbol	Description	Remark
0	Header D0	0x4D: 'M'	
1	Header D1	0x45: 'A'	
2	Header D2	0x44: 'D'	
3	Cmd Code	RS232 Cmd code	
4	Cmd Type/ Result Type	0x73: 's', Set command 0x67: 'g', Get command	
		0xFF: The result is successful 0xDD: The result is failed 0x55: Can't support it	
5	Cmd Value D0	RS232 OP Value (High Byte)	
6	Cmd Value D1	RS232 OP Value (Low Byte)	
7	Command End	Check Sum	Sum of byte 1 to 7

Baud Rate = 9600

Chapter 3

Important Instructions

This chapter includes instructions which must be carefully followed when the fan-less embedded system is used.

3.1 Note on the Warranty

Due to their limited service life, parts which, by their nature, are especially subject to wear are not included in the guarantee beyond the legal stipulations.

3.2 Exclusion of Accident Liability Obligation

Portwell, Inc. shall be exempt from the statutory accident liability obligation if users fail to abide by the safety instructions.

3.3 Liability Limitations / Exemption from the Warranty Obligation

In the event of damage to the system unit caused by failure to abide by the hints in this manual and on the unit (especially the safety instructions), Portwell, Inc. shall not be required to respect the warranty even during the warranty period and shall be free from the statutory accident liability obligation.

3.4 Declaration of Conformity

EMC: CE/FCC Class A.

Operation is subject to the following two conditions:

1. This equipment may not cause harmful interference.
2. This equipment must accept any interference that may cause undesired operation.

Chapter 4

Frequently Asked Questions

Q1: What materials can be applied to clean the front of Panel PC?

Answer:

Avoid using and storing the product near or exposed to organic solvents or acid gases. Please use dry or soft clothes with neutral detergent or ethanol to clean the product.

Q2: Can I operate the touch function with gloves?

Answer:

The panel usually can support touch with gloves. However, since there are too many types of gloves, we cannot ensure it works with all of them. Please notify us with this request first and the material of your gloves, we will test it first.

Q3: Do I have power cord with me when receiving the package?

Answer:

The package will include the adapter but no power cord. This is due to the variety of types differ between countries. But if you have the need to purchase the power cord at the same time, please notify your Sales Representative. They will help you with it.

Q4: What version of Android can I have now?

Answer:

At this moment we provide Android 6.0 for users. Due to the limitation of hardware, the most advanced version would be 7.0. If you have such request, please notify your Sales Representative first, we will feed back the developing time under such requirement.

Q5: Does LEAD-PND support portrait mode?

Answer:

The panel we adopt for this product doesn't support portrait mode. One can still present LEAD-PND in portrait but in long-term this will shorten the life of panel and may affect the performance of colors.

Q6: How do I read the debug message when I test with my own developed APP?

Answer:

The motherboard of LEAD-PND remains the OTG port. This port is not presented at the rear IO but the side of the motherboard. If one really needs to utilize this port, one needs to open the rear cover to see the port. However, we STRONGLY UNLIKE this operation since this may damage the integrity of the product and affect your warranty. Also, the product is not mainly designed for APPs developers, the OTG port is for engineering test only.