WLP-7821-17/19M Series

User's Manual

P/N: 205G00WLP78212, Version V1.0

Copyright Notice

Acknowledgments

Greeting & Setup

Thank you for purchasing the WLP-7821-17/19M Panel PC. We wish that this unit will be durable and reliable in providing your needs. Please follow the instructions below to ensure the unit continues to have high performance

Unpacking

After opening the carton, there will be a unit with an accessory box. Examine the contents to see if there are damages to the unit and if all accessories are present.

Setting up

Please read this manual carefully and remember to keep this manual for future reference.

Safety Instructions & Cleaning

The unit has undergone various tests in order to comply with safety standards. Inappropriate use may be dangerous. Please remember to follow the instructions below to insure your safety during the installation and operating process.

Transporting & Placement of unit

1. When moving the unit on a cart; be very cautious. Quick stops, excessive forces and uneven surfaces may cause the cart to overturn thus risking the unit to fall to the ground.

2. If the Monitor display unit does fall to the ground, immediately turn the power off and disconnect cords. Then contact a service technician for repairs. Continual use of the unit may result cause a fire or electric shock. Also, do not repair the unit on your own.

2. Having two or more people transporting the display unit is recommended. In addition, when installing the open frame by suspending it also requires two or more people.

3. Before suspending the unit, make sure the material used for suspension is sturdy and stable. If not properly suspended, the display unit may fall and cause serious injury to people standing nearby as well as to the unit itself.

4. If you wish to mount the display unit, remember to use only the mounting hardware recommended by the manufacturer.

Electrical and Power Source Related

1. This Monitor display unit must operate on a power source as shown on the specification label. If you are not sure what type of power supply used in the area, consult your dealer or local power supplier.

2. The power cords must not be damaged. Applied pressure, added heat, and tugging may damage the power cord.

3. The power cord must be routed properly when setup takes place.

We advise that this aspect measure is to prevent people from stepping on the cords or while the unit is suspended to prevent flying objects from getting tangled with the unit.

4. Do not overload the AC outlets or extension cords. Electrical shocks or fires may occur from overloading.

5. Do not touch the power source during a thunderstorm.

6. If your hands are wet, do not touch the plug.

7. Use your thumb and index finger, grip firmly on the power cord to disconnect from the electrical socket. By pulling the power cord, may result in damaging it.

8. If the unit is not going to be in use for an extended period of time, remember to disconnect the unit.

9. Connect the unit to a power source with the same numerical value as spec. label shown. Please use only the power cord provided by the dealer to ensure safety and EMC compliance.

Various Factors of Environment
1. Do not insert objects into the openings.
2. Do not have liquids seep into the internal areas of the Monitor display unit.
3. Having liquids seep in or inserting objects into the unit may result in electric shocks from taking and/or short circuiting the

internal parts.

4. Do not place the Monitor display unit in the presence of high moisture areas.

5. Do not install the Monitor display unit in a wet environment.

6. Do not place near unit near heat generating sources.

7. Do not place the unit in a location where it will come in contact with fumes or steam.

8. Remember to keep the Monitor display unit away from the presence of dust.

9. If water has flow in or seep in, immediately disconnect the open frame unit. Then contact a service technician for repairs.

Ventilation Spacing

1. Do not cover or block the openings on the top and back sides of the display unit. Inadequate ventilation may cause overheating thus reducing the lifespan of the unit.

2. Unless proper ventilation is present, do not place unit in an enclosed area; such as a built-in shelf. Keep a minimum distance of 10 cm between the display unit and wall.

Cleaning the unit

(1) Remember to turn off the power source and to unplug the cord from the outlet before cleaning the unit.

(2) Carefully dismount the unit or bring the unit down from suspension to clean.

(3) Use only a dry soft cloth or clean room wiper when cleaning the LCD panel or touch screen surface. Use a soft cloth moistened with mild detergent to clean the display housing.

(4) Remember to avoid having liquids seep into the internal components.

Servicing, Repairing, Maintenance & Safety Checks

1. If the unit is not functioning properly, observe the performance level of the display closely to determine what type of servicing is needed.

2. Do not attempt to repair the Monitor display unit on your own. Disassembling the cover exposes users' to high voltages and other dangerous conditions. Notify and request a qualified service technician for servicing the unit.

3. If any of the following situations occur turn the power source off and unplug the unit. Then contact a qualified service technician

(a) A liquid was spilled on the unit or objects have fallen into the unit.

(b) The unit is soaked with liquids.

(c) The unit is dropped or damaged.

(d) If smoke or strange odor is flowing out of the open frame unit.

(e) If the power cord or plug is damaged.

(f) When the functions of the unit are dysfunctional.

4. When part replacement is needed. Make sure service technician uses replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original parts. If unauthorized parts are used it may result in starting a fire, electrical shock and/or other dangers.

Battery Installation

Follow below instructions and notice the caution for replacing and

disposing of the RTC Lithium battery CR2032 for safety consideration.

CAUTION:

There is danger of explosion, if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction.

The specification is subject to change without notice.

Version Change History

Date	Version	Description	Remark
2011/04/29	V1.0	First release	

Table of Contents

How to Use This Manual

This manual is written for the system integrator, PC technician and knowledgeable PC end user. It describes how to configure your WLP-7821-17/19M Panel PC to meet various operating requirements. The user's manual is divided into three chapters, with each chapter addressing a basic concept and operation of the server board.

Chapter 1: System Overview - presents what you have inside the box and gives you an overview of the product specifications and basic system architecture for the WLP-7821-17/19M Panel PC.

Chapter 2: System Installation - describes how to set up the system.

Chapter 3: BIOS Setup Information - specifies the meaning of each setup parameter, how to get advanced BIOS performance and update to a new BIOS. Additionally, the POST checkpoint list will give you a guide for troubleshooting.

The contents of this manual are subject to change without prior notice. These changes will be incorporated in new editions of this manual.

System Overview

Introduction

WLP-7821-17/19M Panel PC series are based-on the features of high performance for Intel Core Dual + 945GME platform with low power consumption.

WLP-7821-17/19M Panel PC is mainly designed for industrial automation or digital signage solution with slim and true fanless feature. With GPIO connector for data collection and device control, and storage can support internal Compact Flash memory card, or one 2.5" HDD.

System Specification

System

CPU   mPGA479M socket, Supports Intel® Core™ Duo /Solo

             processors

        CPU List   T2600 CD2.16G (31W)

                   Celeron M 440 1.86G (27W)

Chipset   Intel® 945GME chipset + ICH7M

BIOS   4Mb AMI Flash BIOS

VGA   Intel® 945GME integrated VGA (GMA950)

Audio   Realtek ALC655 AC97 Audio Codec, 2+2 watts power

             amplifier

LAN   1 x Realtek RTL8111B Gigabit Ethernet

Memory   Two DDR2 SODIMM socket supports up to 4GB

I/O   ICH7M

Serial ATA   Port x 1 with 150 MB/s transfer rate x 1

WDT   1~255 seconds, software programmable

Display

Chipset   945GME integrated graphics utilizing Intel® GMA950

             technology

Memory   Up to 224MB shared with system memory

Interface   DVI-I interface (VGA via converter cable)

Panel   17 AUO G170EG01

              19   AUO G190EG01 V0

Size	17"	19"
Model	G170EG01 (V0)	G190EG01 (V0)

2

Resolution (pixel)	SXGA (1280 x 1024)	SXGA (1280 x 1024)
Aspect Ratio	5:4	5:4
Active Area (mm)	337.9 x 270.3	376.32 (H) x 301.06(V)
Pixel Pitch (mm)	0.264	0.294
Mode	Normally White	Normally White
Number of Colors	16.7M	16.7M
Color Saturation (NTSC %)	72	72
View Angle (H/V)	170 / 160	170 / 160
Brightness (cd/m²)	380 (Typ. Center point)	450 (Typ. Center point)
Contrast Ratio	1000 : 1 (Typ)	1000 : 1 (Typ)
Response Time (ms) (at 25°C)	5 (Typ)	5 (Typ)
Power Consumption (W)(typ)	25.2 W	26.71 W
Interface	2ch LVDS	2ch LVDS
Supply Voltage (V)	5	5
Backlight	CCFL	CCFL
Outline Dimensions (mm)	358.5 x 296.5 x 15.8	396.0 x 324.0 x 18.5
Weight (g)	2000 (Typ)	2400 (Typ)

on board VGA Resolution Support Mode List

Windows XP

MODE	Colors	Hertz
640*480	256	60,70,72,75,85,100,120
640*480	16-bit colors	60,70,72,75,85,100,120
640*480	32-bit colors	60,70,72,75,85,100,120
800*600	256	56, 60,70,72,75,85,100,120
800*600	16-bit colors	56, 60,70,72,75,85,100,120
800*600	32-bit colors	56, 60,70,72,75,85,100,120
848*480	256	60

848*480	16-bit colors	60
848*480	32-bit colors	60
852*480	256	60
852*480	16-bit colors	60
852*480	32-bit colors	60
1024*768	256	60,70,75,85,100,120
1024*768	16-bit colors	60,70,75,85,100,120
1024*768	32-bit colors	60,70,75,85,100,120
1152*864	256	60,75,85,100
1152*864	16-bit colors	60,75,85,100
1152*864	32-bit colors	60,75,85,100
1280*600	256	60
1280*600	16-bit colors	60
1280*600	32-bit colors	60
1280*720	256	60,75,85,100
1280*720	16-bit colors	60,75,85,100
1280*720	32-bit colors	60,75,85,100
1280*768	256	60,75,85
1280*768	16-bit colors	60,75,85
1280*768	32-bit colors	60,75,85
1280*960	256	60,75,85
1280*960	16-bit colors	60,75,85
1280*960	32-bit colors	60,75,85
1280*1024	256	60,75,85,100,120
1280*1024	16-bit colors	60,75,85,100,120
1280*1024	32-bit colors	60,75,85,100,120
1360*768	256	60
1360*768	16-bit colors	60
1360*768	32-bit colors	60
1366*768	256	60
1366*768	16-bit colors	60
1366*768	32-bit colors	60
1400*1050	256	60,75,85
1400*1050	16-bit colors	60,75,85
1400*1050	32-bit colors	60,75,85
1600*900	256	60,75,85,100,120
1600*900	16-bit colors	60,75,85,100,120
1600*900	32-bit colors	60,75,85,100,120
1600*1200	256	60,75,85,100,120
1600*1200	16-bit colors	60,75,85,100,120
1600*1200	32-bit colors	60,75,85
1856*1392	256	60,75

1856*1392	16-bit colors	60,75
1856*1392	32-bit colors	60,75
1920*1080	256	60,75,85,100
1920*1080	16-bit colors	60,75,85,100
1920*1080	32-bit colors	60,75,85,100
1920*1200	256	60,75
1920*1200	16-bit colors	60,75
1920*1200	32-bit colors	60,75
1920*1440	256	60,75,85
1920*1440	16-bit colors	60,75,85
1920*1440	32-bit colors	60,75,85
2048*1536	256	60,75
2048*1536	16-bit colors	60,75
2048*1536	32-bit colors	60,75

Touch

Resistive type

Controller   Pen mount DMC6000 through USB port (on board)

Screen   17", 5 wire

            19", 5 wire

Capacitive type

Controller   By control board through COM port (Model No.: EXII 7000

            RS232 interface control board)

Screen   17 CAP-3M ClearTek™ II 17-8561-203

            19 CAP-3M ClearTek™ II 17-8051-203

Touch Screen Application Consideration

Characteristics	Resistive 5 wire	Capacitive
Touch Resolution	2048 x 2048	4096x4096
Stylus use possible beyond finger	No Limitation, can use any stylus	Need special conductive stylus

5

Glove use possible	Any type glove	Only very thin latex glove
Light transmittance	81% ± 3%	90% above
Hardness	≧3H	Mohs 7
Response time	20 ms	3 ms
Front Panel Protection –IP65	V	V
Touch screen Life	Typically fewer than 2 million touches, Constant flexing will degrade accuracy over time	Specified to over 200 million touches Coatings can wear

Storage

HDD   2.5" SATA HDD drive bay x 1 (with anti-vibration mechanism)

CF   1 x bootable Compact Flash slot for CF type I/II storages

Expansion

Mini-PCI   1 x 32-bit Mini-PCI socket

External I/O

DVI   DVI-I digital video connector x 1

USB   USB 2.0 x 4

COM   DB-9 x 4 (RS-232 x 3, RS-232/422/485 x 1)

LAN   RJ-45 x 1 (Gigabit Ethernet)

KB/Mouse   PS/2 Keyboard & Mouse x 1

Audio   Line-in, Line-out, and Mic-in audio jacks

Mechanical & Environmental

Material   Aluminum

Color   Black/Silver

Front Panel Protection   IP65

ID design   **1. Panel mount / Chassis housing for option**

         2. Open frame

Operating Temperature   0~40℃ (Fanless, Open frame and Panel mount at airtight)

Storage Temperature   -20~60℃

Operating Humidity   10%~90%, non-condensing

Storage Humidity   10%~90%, non-condensing

Dimension

Description	WLP-7821-17-RES/CAP	WLP-7821-19-RES/CAP
Dimensions (L) x (W) x (H) Unit:mm	477.2x362x78 (panel mount) 438.2x339.5x73(openframe)	514.7x396x79.5 (panel mount) 475.7x373.5x73.5(openframe)
Weight Unit: Kg	8.8 (panel mount) 7.4 (openframe)	9.8 (panel mount) 8.0 (openframe)

Mounting   VESA mount 75/100/Panel mount /Wall mount

Kensington lock hole

Power

Power Input   DC12V~28V

Power Adaptor   AC90 ~ 264V / 47 ~ 63 Hz/ DC input 12V

Power   DC-In connector x 1

Switch   ATX power switch & RESET switch

Indicator   Power and HDD indicator (Front LED color: Power:

Green / Orange: HDD accessing)

Regulatory

FCC-A, CE (EMC/LVD), VCCI, UL/cUL

Shock

Operating: 15g/0.53 oz, 11 ms, half sine wave

Non-operating: 50g/1.76 oz, 11 ms, half sine wave

Vibration

Operating: 5 ~ 17 Hz , Amplitude：0.1"

17 ~ 500Hz , Acceleration：1.0G

Non-operating: 10~55Hz/0.15g, 55~500Hz/1.5g

Drop

Non-operating:3 Feet height free drop still survive, (test surface: concrete,
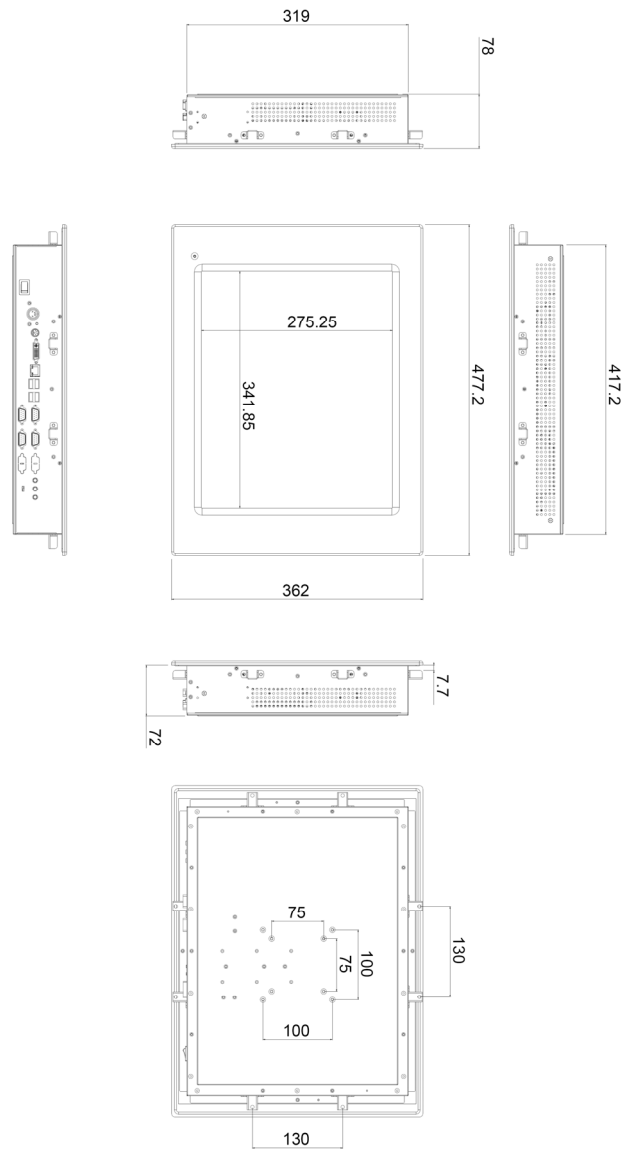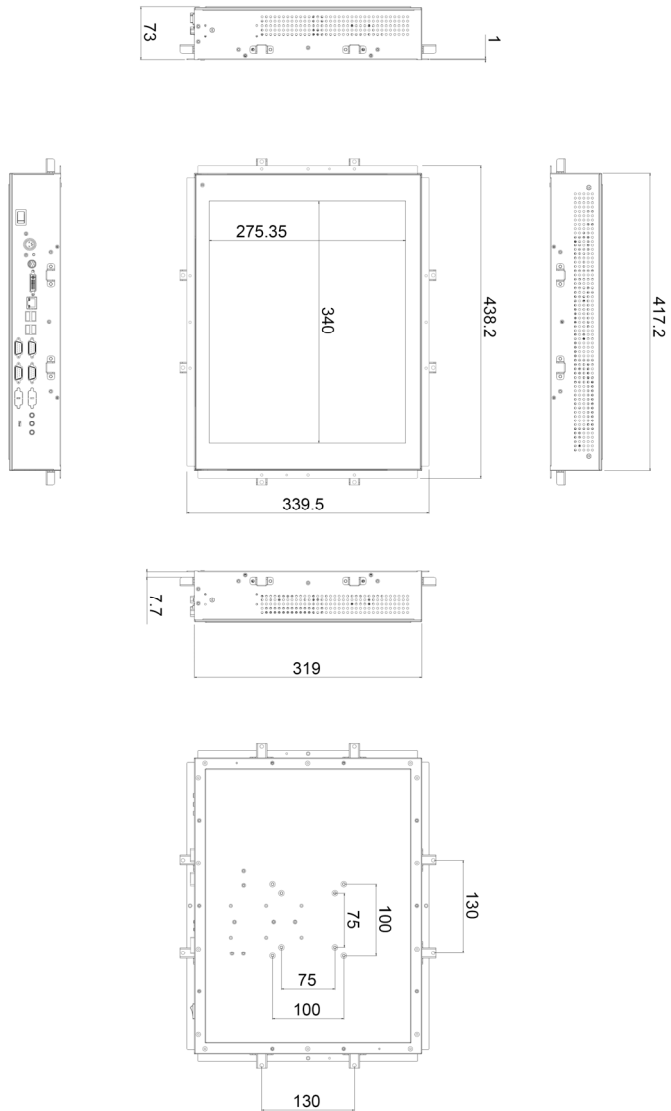   base unit only)
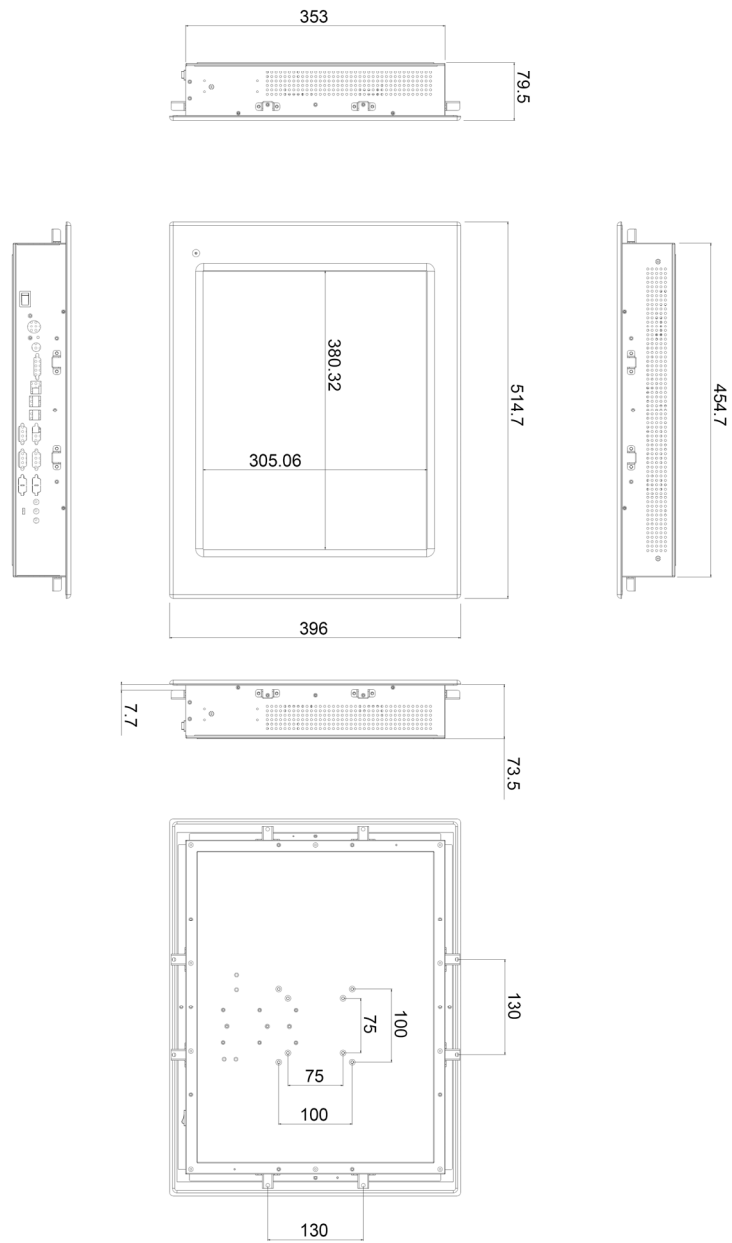
Options

Wireless LAN
SSD/CF

System View

WLP-7821-17M –RES/CAP Panel Mount Outline Drawing

WLP-7821-17M –RES/CAP Openframe Outline Drawing

WLP-7821-19M –RES/CAP Panel Mount Outline Drawing

353

79.5

380.32

305.06

514.7

454.7

396

7.7

73.5

130

100

75

75

100

130

WLP-7821-19M –RES/CAP Openframe Outline Drawing

353
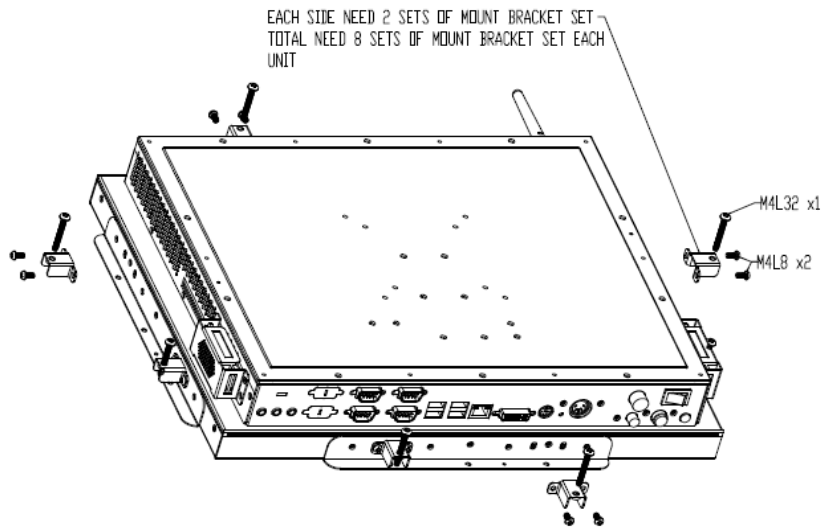
475.7

380

304.5

454.7

373.5

7.7

73.5

130

100

75

75

100

130
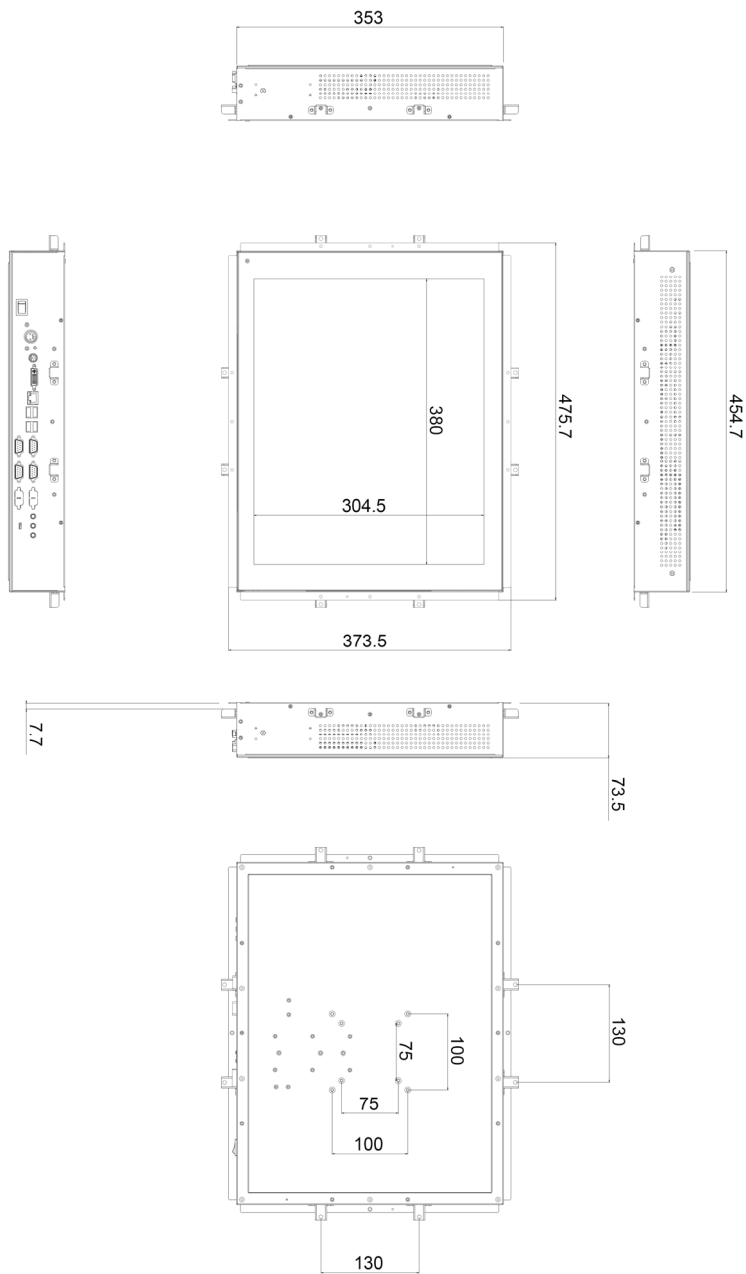
I/O connectors

Remarks: WLP-7821 series PCMCIA slot is removed

Mount Installation (For Open frame and Panel mount)

EACH SIDE NEED 2 SETS OF MOUNT BRACKET SET
TOTAL NEED 8 SETS OF MOUNT BRACKET SET EACH
UNIT

M4L32 x1

M4L8 x2

Unpacking

After unpacking the shipping carton, you should find these standard items:

■ The WLP-7821-17/19M Panel PC series

■ Accessory box including the followings:

- AC adapter x 1
- AC power cord x 1
- Y cable for PS2 keyboard and mouse x 1
- Mounting bracket x 8, screw x 16(For open frame and panel mount)
- CD-ROM for drivers, utility, Quick installation Guide and user manual

Inspect all the items. If any item is damaged or missing, notify your dealer immediately.

Getting Started

This chapter tells you how to set up the system.

Setting Up the System

The following is a summary of the steps in setting up the system for use.

> **CAUTION: Make sure that power to the system and each of the devices to be connected is switched OFF before plugging in the connectors.**

1. Make any required external connections such as the keyboard, and mouse.

2. Plug the appropriate end of the power cord into the power connector of the system. Then plug the other end of the power cord to an electrical outlet.

3. Press the power switch of the system to turn on the system's power.

4. If necessary, run the BIOS SETUP program to configure the system (see Chapter 3).

5. Install the software drivers if necessary.

Installing System Software

Recent releases of operating systems from major vendors include setup programs, which load automatically and guide you through hard disk preparation and operating system installation. The guidelines below will help you determine the steps necessary to install your operating system on the Panel PC hard drive.

NOTE: *Some distributors and system integrators may have already pre-installed system software prior to shipment of your Panel PC.*

Installing software requires an installed HDD. Software can be loaded in the WLP-7821-17/19M Panel PC using any of below methods:

1. **Method 1: Use the Ethernet**

   You can use the Ethernet port to download software from the net to the HDD that has been pre-installed in WLP-7821-17/19M Panel PC

2. **Method 2: Use the COM Port**

   By connecting another PC to the WLP-7821-17/19M Panel PC with an appropriate cable, you can use transmission software to transmit Operation System Software to the HDD that has been pre-installed in the WLP-7821-17/19M Panel PC.

3. **Method 3: Use a External CD-ROM**

   You can use the external CD-ROM to transmit the software to the HDD that has been pre-installed in the WLP-7821-17/19M Panel PC

Installing the Drivers

After installing your system software, you will be able to set up the LAN, VGA, Audio and USB functions. All drivers are stored in a CD disc, which can be found in your accessory pack.

The various drivers and utilities in the disc have their own text files that help users install the drivers and understand their functions.

BIOS Setup Information

WLP-7821-17/19M Panel PC is equipped with the AMI BIOS stored in Flash ROM. This BIOS has a built-in Setup program that allows users to modify the basic system configuration easily. This type of information is stored in CMOS RAM so that it is retained during power-off periods. When system is turned on, WLP-7821-17/19M Panel PC communicates with peripheral devices and checks its hardware resources against the configuration information stored in the CMOS memory. If any error is detected, or the CMOS parameters need to be initially defined, the diagnostic program will prompt the user to enter the SETUP program. Some errors are significant enough to abort the start-up.

Entering Setup

Turn on or reboot the computer. When the message "Hit <DEL> if you want to run SETUP" appears, press <Del> key immediately to enter BIOS setup program.

If the message disappears before you respond, but you still wish to enter Setup, please restart the system to try "COLD START" again by turning it OFF and then ON, or touch the "RESET" button. You may also restart from "WARM START" by pressing <Ctrl>, <Alt>, and <Delete> keys simultaneously. If you do not press the keys at the right time and the system will not boot, an error message will be displayed and you will again be asked to,

<div align="center">Press <F1> to Run SETUP or Resume</div>

In BIOS setup, you can use the keyboard to choose among options or modify the system parameters to match the options with your system. The table below will show you all of keystroke functions in BIOS setup.

Keys to navigate within setup menu

Key	Functions
Up Arrow	Move to the previous item
Down Arrow	Move to the next item
Left Arrow	Move to the item on the left (menu bar)
Right Arrow	Move to the item on the right (menu bar)
Enter	Go to Sub Screen Or select a field
Tab key or SHIFT-TAB	Select field
+	Increase the numeric value or make changes
-	Decrease the numeric value or make changes
Esc	Main Menu -- Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
F1	General help on Setup navigation keys
F10	Save all the CMOS changes and exit

Main Menu

Once you enter WLP-7821-17/19M Panel PC AMI BIOS CMOS Setup Utility, you should start with the Main Menu. The Main Menu allows you to select from seven setup functions and one exit choice. Use left/right arrow keys to switch among setup menus or use up/down arrow keys to move among bios options in the menu.

> **NOTE: It is strongly recommended to reload Optimal Setting, if CMOS is lost or BIOS is updated.**

Main Menu

Item	Description
AMIBIOS Version	AMIBIOS version number (Display Only)
Processor Type	Processor Manufacturer Information (Display Only)
Processor Speed	The speed of processor (Display Only)
Processor Count	Number of Physical Processors (Display Only)
System Memory Size	Amount of systm memory (Display Only)
System Time	Change the system time
System Date	Change the system date

Advanced Settings

This setup reference table includes all the Optimal, Failsafe, and Other options setting in each BIOS setup item. It is very easy to cross reference. If you want to go details, you can directly refer to item description in sub-section.

There are seven submenus in this menu: CPU Configuration, IDE configuration, Super IO configuration, Hardware Health Configuration, ACPI Configuration, APM Configuration, and USB Configuraton.

CPU Configuration

BIOS Items	Description
Manufacturer	Manufacturer of the processor (Display Only)
Brand String	the hard coded text string the is contained in the processor. (Display Only)
Frequency	the operating frequency of the processor. (Display Only)
FSB Speed	the front side bus speed of the processor. (Display Only)
Cache L1	The level one cache that is reported by the processor. (Display Only)
Cache L2	The level two cache that is reported by the processor. (Display Only)

Item	Options	Description
Max CPUID Value Limit	Disabled/Enabled	Disabled for WindowsXP
Ececute Disable Bit	Disabled/Enabled	When disabled, force the XD feature flag to always return 0
Core Multi-Processing	Disabled/Enabled	When disabled, disable one execution core
CPU TM function	Disabled/Enabled	If '**Enabled**', CPU will slow down to 25% when CPU's temperature rise to 80°C.
Vanderpool Technology	Disabled/Enabled	When enabled, a VMM can utilize the addtional hardware capabilities provided by Vanderpool Technology. Need a full reset to change its state.
Intel SpeedStep Tech.	Maximum Speed /Minimum Speed/ Automatic/ Disabled	'Maximum': CPU speed is set to maximum. 'Minimum': CPU speed is set to minimun. 'Automatic': CPU speed controlled by Operation system. 'Disabled': Default CPU speed.
Intel C State Tech.		
C1 Config.	Standard/Enhanced	Specific C –State Support Standard=Conventional C-State Enhanced=Enhanced C-State
C2 Config.	Disabled/Standard/Enhanced	Specific C –State Support Disable=C-State disable Standard=Conventional C-State Enhanced=Enhanced C-State

IDE Configuration

The items in this menu allow you to set or change the configurations for the IDE devices installed in the system. Select an item then press <Enter> if you wish to configure the item.

ATA/IDE Configuration

Disabled: disable the integrated IDE controller

Compatible: enables only the primary IDE controller

Enhance: enables only the secondary IDE controller

Legacy IDE channels: define IDE device, the optional settings are SATA Only/Reserved/SATA Primary, PATA Sec./PATA only

Primary IDE Master

Primary IDE Slave

Secondary IDE Master

Secondary IDE Slave

While entering setup, BIOS auto detects the presence of IDE devices. This displays the status of auto detection of IDE devices.

Item	Options	Description
Type	Not Installed / Auto / CD/DVD / ARMD	Select the type of device connected to the system
32Bit Data Transfer	Disabled / Enabled	Enable/Disable 32-bit Data Transfer

Hard Disk Write Protect

Disabled/Enable device write protection. This will be effective only if device is accessed through BIOS.

Configuration options: [Disabled] [Enabled]

IDE Detect Time Out (Sec)

Select the time out value for detecting ATA/ATAPI devices.

Configuration options: [0][5][10][15][20][25][30][35]

ATA(PI) 80Pin Cable Detection

Select the mechanism for detecting 80Pin ATA(PI) cable.

Configuration options: [Host & Device][Host][Device]

Super IO Configuration

Item	Options	Description
Parallel Port Address	Disabled 378 278 3BC	Allow BIOS to Select Parallel Port Base Address
Parallel Port Mode	Normal Bi-Directional ECP EPP ECP & EPP	Allow BIOS to Select Parallel port
Parallel Port IRQ	IRQ5 IRQ7	Allow BIOS to Select Parallel Port IRQ
Keyboard PowerOn	Disabled Specific Key Any Key	This option specifies how the system can be turned on by using the keyboard.

Specific Key PowerOn	-	
Mouse PowerOn	Disabled Left Button Right Button	This option specifies how the system can be turned on by using the mouse.
Serial Port1 Address	Disabled, 3F8/IRQ4 3E8/IRQ4 2E8/IRQ3	Allows BIOS to Select Serial Port1 Base Address
Serial Port2 Address	Disabled, 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3	Allows BIOS to Select Serial Port2 Base Address
Serial Port3 Address	Disabled, 3F8, 2F8, 3E8, 2E8 2F0, 2E0	Allows BIOS to Select Serial Port3 Base Address
Serial Port3 IRQ	3/4/5/7/10/11	Allow BIOS to select serial port4 IRQ
Serial Port4 Address	Disabled, 3F8, 2F8, 3E8, 2E8 2F0, 2E0	Allows BIOS to Select Serial Port4 Base Address
Serial Port4 IRQ	3/4/5/7/10/11	Allow BIOS to select serial port4 IRQ
Serial Port5 Address	Disabled, 3F8, 2F8, 3E8, 2E8 2F0, 2E0	Allows BIOS to Select Serial Port5 Base Address
Serial Port5 IRQ	3/4/5/7/10/11	Allow BIOS to select serial port5 IRQ
Serial Port6 Address	Disabled, 3F8, 2F8,	Allows BIOS to Select Serial Port5 Base

| | 3E8, 2E8
2F0, 2E0 | Address |
| Serial Port6 IRQ | 3/4/5/7/10/11 | Allow BIOS to select serial port5 IRQ |

Hardware Health Configuration

The items in this menu allow you to configure/monitor hardware health conditions.

H/W Health Funtion

Disabled: disable the hardware health conditions.

Enhance: enables the hardware health conditions.

ACPI Configuration

Section for Advanced ACPI configurations.

General ACPI Configuration

Item	Options	Description
Suspend mode	S1 (POS) / S3 (STR) / Auto	Select the ACPI state used for system suspend
Repost Video on S3 Resume	No / Yes	Determines whether to invoke VGA BIOS post on S3/STR resume

Advanced ACPI Configuration

Item	Options	Description
ACPI version features	ACPI v1.0 ACPI v2.0	Enable RSDP pointers to 64-bit fixed system

Item	Options	Description
	ACPI v3.0	description tables. Di ACPI version has some
ACPI APIC support	Disabled / Enabled	Include ACPI APIC table pointer to RSDT pointer list
AMI OEMB table	Disabled / Enabled	Include OEMB table pointer to RSDT pointer lists
Headless mode	Disabled / Enabled	Enable / Disable Headless operation mode through ACPI

Chipset ACPI Configuration

Item	Options	Description
Energy Lake Feature	Enable/Disable	
APIC ACPI SCI IRQ	Enable/Disable	Enable/Disable APIC ACPI SCI IRQ
USB Device wakeup from S3/S4	Enable/Disable	Enable/Disable USB Device wakeup from S3/S4
High Performance Event Timer	Disabled/Enabled	Disabled/Enabled High Performance Event Timer

APM Configuration

Section for Advanced Power Mangement (APM) configurations.

Item	Options	Description
Power Managment / APM	Disabled/Enabled	
Video Power Down	Disable/Suspend	Power down video

Mode		in suspend or standby mode
Hard Disk Power Down Mode	Disabled/Suspend	Power down hard disk in suspend or standby mode
Suspend Time Out	Disabled / 1,2,4,8,10,20,30,40,60 Min	Go into suspend in the specified time
Throttle Slow Clock ratio	87.5% 75% 62.5% 50% 37.5% 25% 12.5%	Select the duty cycle in throttle mode
Keyboard & PS/2 mouse	Ignore Monitor	Monitor KBC ports 60/64
System thermal	Disabled/Enabled	Disabled/Enabled thermal to generate a power management event
Power Button Mode	On/Off Suspend	Go into On/Off or Suspend when power button is pressed
Advanced Resume Events Controls		
Resume On Ring	Disabled / Enabled	Disable/Enable RI to generate a wake event
Resume On LAN	Disabled / Enabled	Disable/Enable LAN GPI to generate a wake

		event
Resume On RTC Alarm	Disabled / Enabled	Disable/Enable RTC to generate a wake event

USB Configuration

Item	Options	Description
Legacy USB Support	Disabled / Enabled/ Auto	Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected
Port 64/60 Emulation	Disabled / Enabled	Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware Oses.
USB 2.0 Controller Mode	FullSpeed HiSpeed	Configures the USB 2.0 controller in HiSPeed (480Mbps) or FullSpeed (12Mbps)
BIOS EHCI Hand-OFF	Disabled / Enabled	This is a workaround for Oses without EHCI hand-off support. This EHCI ownership change should claim by EHCI dirver
USB Beep message	Disabled / Enabled	Enables the beep during USB device enumeration

PCIPnP Settings

The PCI PnP menu items allow you to change the advanced settings for PCI/PnP devices. It is very easy to cross reference. If you want to go details, you can directly refer to item description in sub-section. Take caution when changing the settings of the PCI/PnP menu items. Incorrect field values can cause the system to malfunction.

■ **Clear NVRAM**

Clear NVRAM during System Boot.

Configuration options: [No][Yes]

■ **Plug & Play O/S**

No: Let the BIOS configure all the devices in the system.

Yes: Let the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.

Configuration options: [No][Yes]

■ **PCI Latency Timer**

Value in units of PCI clocks for PCI device latency timer register.

Configuration options: [32][64][96][128][160][192][224][248]

■ **Allocate IRQ to PCI VGA**

Yes: Assign IRQ to PCI VGA card if card requests IRQ.

No: Does not assign IRQ to PCI VGA card even if card requests an IRQ.

Configuration options: [Yes][No]

■ **Palette Snooping**

Enabled: Inform the PCI devices that an ISA graphics device is installed in the system so the card will function correctly

Configuration options: [Disabled][Enabled]

Boot Settings

The Boot menu items allow you to change the system boot options. Take caution when changing the settings of the PCI/PnP menu items. Incorrect field values can cause the system to malfunction.

■ **Boot Settings Configuration**

Configure Settings during System Boot.

Item	Options	Description
Quick Boot	Disabled / Enabled	Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system
Quiet Boot	Disables / Enabled	Disabled : Displays normal POST messages. Enabled: Displays OEM logo instead of POST messages.
AddOn ROM Display Mode	Force BIOS Keep Current	Set display mode for option ROM
Bootup Num-Lock	Off / On	Select Power-on state for Numlock
PS/2 Mouse Support	Disabled / Enabled / Auto	Select support for PS/2 Mouse
System keyboard	Absent/Present	Enalbe/Disable all

		keyboards attached to the system
Wait For 'F1' If Error	Disabled / Enabled	Wait for F1 key to be pressed if error occurs
Hit 'DEL' Message Display	Disabled / Enabled	Displays "Press DEL to run Setup" in POST
Interrupt 19 Capture	Disabled / Enabled	Enabled: Allows option ROMs to trap interrupt 19

■ **Boot device Priority**

1st Boot Device

2nd Boot Device

These items specify the boot device priority sequence from the available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu.

Configuration options: [SATA:XXXX][Network: Realtek Boot Agent] [Disabled]

■ **Hard Disk Drives**

Specifies the boot device priority sequence from available hard drives.

Security Settings

The Security menu items allow you to change the system security settings. Select an item then press <Enter> to display the configuration options.

■ **Change Supervisor Password**

Install or change the password.

■ **Change User Password**

Install or change the password.

■ **Hard Disk Security**

Primary Slave HDD User Password: The password for this Hard Disk can be set or cleared here. Power must be cycled for the disk to lock.

Chipset Settings

The Chipset menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu.

■ **NorthBridge Configuration**

Item	Options	Description
DRAM frequency	Auto / 400 MHz / 533 MHz	The value represents the performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install

		new memory that has a different performance rating.
Configure DRAM Timing by SPD	Disabled / Enabled	SPD (Serial Presence Detect) is located on the memory module. The BIOS can read information coded in SPD during system boot up.
Memory hole	Disabled/15MB-16MB	Default value is 'Disabled'. This value prevents a memory hole being reserved in system memory between 15 MB – 16 MB for ISA adapter ROMs. If '15 MB-16 MB', this value reserves the area of system memory between 15 MB – 16 MB for ISA adapter ROMs. When this area is reserved, it cannot be cached.
Internal Graphics Mode Select	Enabled, 1MB Enabled, 8MB	Select the amount of system memory used by the

		internal graphics device
		This option specifies the amount of system memory used by the Internal graphics device
Video Function Configuration		
DMVT Mode Select	Fixed Mode DVMT Mode Combo Mode	
DVMT/Fixed Memory	64MB 128MB Maximum DVMT	
Boot Display Device	Auto CRT DVI CRT+DVI	This option specifies the boot display device.

■ **SouthBridge Configuration**

Item	Options	Description
USB Functions	Disabled 2 USB ports 4 USB ports 6 USB ports 8 USB ports	
USB 2.0 Controller	Enable Disable	
SMBUS controller	Enabled Disabled	

SLP_S4# Min. Assertion Width	4 to 5 seconds	
	3 to 4 seconds	
	2 to 3 seconds	
	1 to 2 seconds	
Resort on AC Power Loss	Power off	
	Power on	
	Last State	

.

Exit Options

The Exit menu items allow you to load the optimal values for the BIOS items, and save or discard your changes to the BIOS items.

■ **Save Changes and Exit**

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. When you select this option, a confirmation window appears. Select Ok to save changes and exit.

■ **Discard Changes and Exit**

Select this option only if you do not want to save the changes that you made to the Setup program. When you select this option, a confirmation window appears. Select Ok to save changes and exit.

■ **Discard Changes**

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select Ok to discard any changes and load the previously saved values.

■ **Load Optimal Defaults**

Load optimal default values for all setup options.

Flash BIOS Utility

Utilize AMI Flash BIOS programming utility to update on-board BIOS for the future new BIOS version. Please contact your technical window to get this utility if necessary.

> **NOTE: Remark or delete any installed Memory Management Utility (such as HIMEM.SYS, EMM386.EXE, QEMM.EXE, ..., etc.) in the CONFIG.SYS files before running Flash programming utility.**

Appendix A. Jumper Setting and Connectors List

This appendix gives the definitions and shows the positions of jumpers, headers and connectors. All of the configuration jumpers on WLP-7821-17/19M Panel PC are in the proper position. The default settings shipped from factory are marked with (default).

Note: *Some of jumpers or connectors will be removed base on system configuration.*

Jumpers Location and list

In general, jumpers on the single board computer are used to select options for certain features. To select any option, cover the jumper cap over (SHORT) or remove (NC) it from the jumper pins according to the following instructions. Here NC stands for "Not Connect".
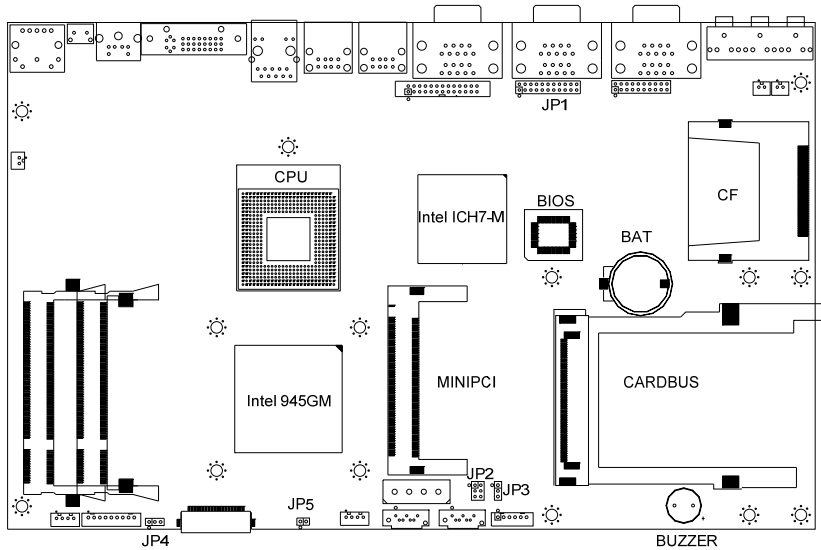
Jumper List

CONNECTOR	FUNCTION	REMARK
JP1	COM2 Function Selection	
JP2	Panel Backlight Selection	
JP3	CMOS Clear	
JP4	Panel Power Selection	
JP5	Touch Screen Configuration	

Jumper Setting

● **JP1 –COM2 Function Selection**

Description	Jumper Setting
RS-232	**5-6, 9-11, 10-12, 15-17, 16-18**
RS-422	3-4, 7-9, 8-10, 13-15, 14-16, 21-22
RS-485	1-2, 7-9, 8-10, 19-20

● **JP2 – Panel Backlight Selection**

Description	Jumper Setting
+5V	1-2
+3.3V	3-4
0V	5-6

● JP3 – CMOS Clear

Description	Jumper Setting
Normal	1-2
CMOS Clear	2-3

● JP4 – Panel Power Selection

Description	Jumper Setting
+3.3V	1-2
+5V	2-3

● JP5– Touch Screen Configuration

Description	ON(Short)	OFF(Open)
Wire	4,8	5

Connector Definitions

Connectors Location
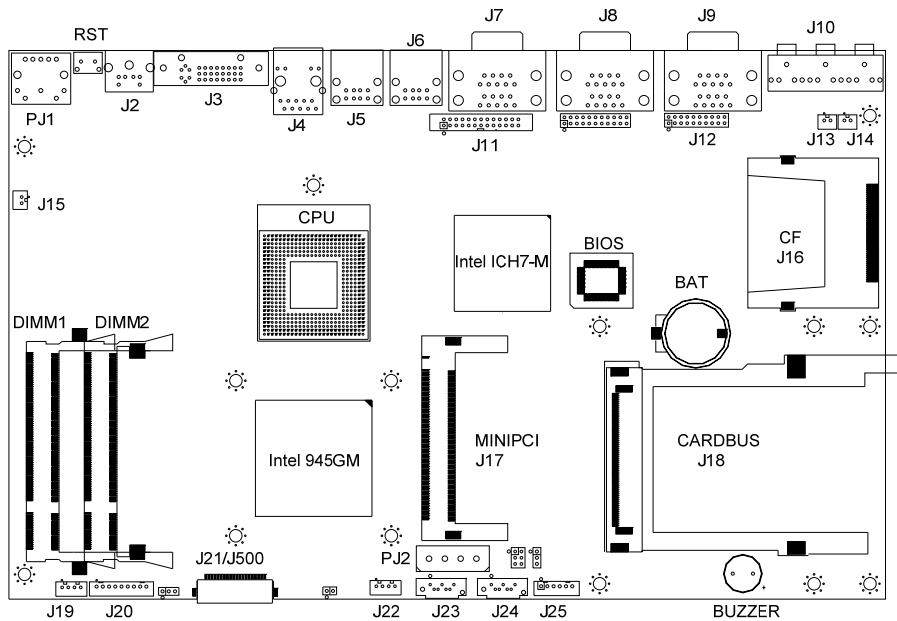

```
CAUTION:

 When connecting the power connector to the
motherboard, make sure that the system is not
connected to an electrical outlet. When connecting a
signal cable (also called ribbon cable), Pin 1 of the
cable should be aligned with Pin 1 of the connector on
the motherboard. Pin 1 side of the cable is identified
by a color, usually red, stripe. Pin 1 of the motherboard
connector is identified by the number 1 imprinted or
an additional shading on the board.
```

Connectors List

The connectors on the PCBA of WLP-7821-17/19M Panel PC are used to connect external devices such as hard disk drives, printers, keyboard, serial ports, etc. Specifically, the PCBA of WLP-7821-17/19M Panel PC has the following connectors:

| CONNECTOR	FUNCTION	REMARK
PJ1	Power Jack Connector	
PJ2	HDD Power Connector	
J1	Reset Button	
J2	KB/MS Connector	
J3	Display Interface	
J4	Ethernet Port	
J5, J6	USB Port	
J7, J8, J9	COM1~COM6	
J8	COM2	
J10	Audio Jack	
J13, J14	Passive Speaker Connector	
J15	Power Button Interface	
J16	Standard Compact Flash(IDE) Connector(Bootable)	
J17	Standard Mini-PCI Interface	
J19	Power/HDD Indicator	
J20	Touch Panel Interface	
J21, J500	LVDS Interface	
J22	Internal USB	
J23, J24	Standard SATA Interface	
J25	LCD Inverter Interface	

Note: *Some of jumpers or connectors will be removed base on system configuration.*

● PJ1 – Power Jack Connector
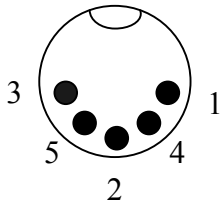
Pin #	Signal Description
1	Ground
2	Ground
3	DC In (+12V~+28V)
4	Ground
5	DC In (+12V~+28V)

● PJ2 – HDD Power Connector
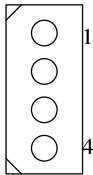
Pin #	Signal Description
1	+12V
2	Ground
3	Ground
4	+5V

● J1 – Reset Button

● J2 – KB/MS Connector
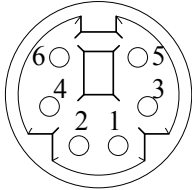
Pin #	Signal Description
1	KB data
2	MS data
3	Ground
4	+5V
5	KB clock
6	MS clock

● J3 – Display Interface

Pin #	Signal Description	Pin #	Signal Description
1	TMDS Data2-	2	TMDS Data+
3	TMDS Data2	4	NC

	Shield		
5	NC	6	DVI DDC Clock
7	DVI DDC Data	8	Analog Vertical
9	TMDS Data1-	10	TMDS Data1+
11	TMDS Data1 Shield	12	NC
13	NC	14	+5V
15	GND	16	Hot Plug Detect
17	TMDS Data0-	18	TMDS Data0+
19	TMDS Data0 Shield	20	CRT DDC Clock
21	CRT DDC Data	22	TMDS Clock Shield
23	TMDS Clock+	24	TMDS Clock-
C1	Analog Red	C2	Analog Green
C3	Analog Blue	C4	Analog Horizontal
C5	Analog GND		

● J4 – Ethernet Port
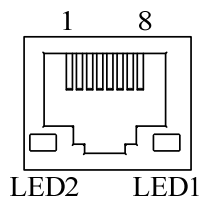
Pin #	Signal Description
1	Data0+
2	Data0-
3	Data1+
4	Data2+
5	Data2-
6	Data1-
7	Data3+
8	Data3-

LED1	LINK/ACTIVE LED
LED2	SPEED LED

● J5, J6 – USB Port

4   1
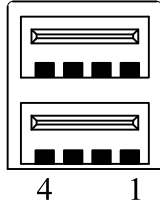
Pin #	Signal Description
1	+5V
2	Data -
3	Data +
4	Ground

● J7, J8, J9 – COM1~COM6
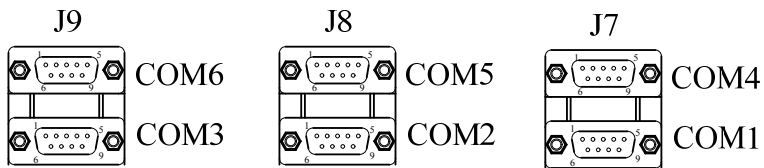
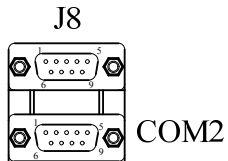

PS:Engine BOX have 6 ports,But Panel PC just have 4 ports.

   They are COM1,COM2,COM4,COM5.

Pin #	Signal Description
1	Carrier Detect
2	Receive Data

3	Transmit Data
4	Data Terminal Ready
5	Ground
6	Data Set Ready
7	Request to Send
8	Clear to Send
9	Ring Indicator

● **J8 – COM2**

J8

COM2

Pin #	Signal Description		
	RS-232	RS-422	RS-485
1	Carrier Detect	Transmit Data -	Transmit Data -
2	Receive Data	Transmit Data +	Transmit Data +
3	Transmit Data	Receive Data +	NC
4	Data Terminal Ready	Receive Data -	NC
5	Ground	NC	NC
6	Data Set Ready	NC	NC
7	Request to Send	NC	NC
8	Clear to Send	NC	NC
9	Ring Indicator	NC	NC

● J10 – Audio Jack

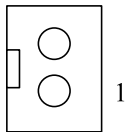| Pin #	Signal Description
1	Line Out (stereo) (color: lime)
2	Line In (stereo) (color: light blue)
3	Microphone (mono) (color: pink)

● J13, J14 – Passive Speaker Connector

J14(Right Channel)		J13(Left Channel)	
Pin #	Signal Description	Pin #	Signal Description
1	AMP. Out +	1	AMP. Out +
2	AMP. Out -	2	AMP Out -

● J15 – Power Button Interface

Pin #	Signal Description
1	+5V
2	Power on

● J16 – Standard Compact Flash(IDE) Connector(Bootable)

● J17 – Standard Mini-PCI Interface

● J19 – Power/HDD Indicator
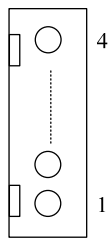
Pin #	Signal Description
1	HDD Active Indicator
2	+5V
3	+5V
4	Power indicator

● J20 – Touch Panel Interface
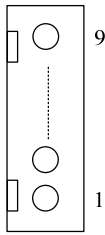
Pin #	Signal Description		
	8-wire	4-wire	5-wire
1	Right Sense	N/A	N/A
2	Left Sense	N/A	N/A
3	Bottom Sense	N/A	N/A
4	Top Sense	N/A	Sense(S)
5	Right Excite	Right	LR(X)
6	Left Excite	Left	LL(L)
7	Bottom Excite	Bottom	UR(H)
8	Top Excite	Top	UL(Y)
9	Ground	Ground	Ground

● J21, J500 – LVDS Interface

J33 (Channel 1)		J500 (Channel 2)	
Pin #	Signal Description	Pin #	Signal Description
1	+LCD (+3.3V or +5V)	1	+LCD (+3.3V or +5V)
2	+LCD (+3.3V or +5V)	2	+LCD (+3.3V or +5V)
3	Ground	3	Ground
4	Ground	4	Ground
5	RxIn0-	5	RxIn0-
6	RxIn0+	6	RxIn0+
7	Ground	7	Ground

51

8	RxIn1-	8	RxIn1-
9	RxIn1+	9	RxIn1+
10	Ground	10	Ground
11	RxIn2-	11	RxIn2-
12	RxIn2+	12	RxIn2+
13	Ground	13	Ground
14	CKIN-	14	CKIN-
15	CKIN+	15	CKIN+
16	Ground	16	Ground
17	RxIn3- (NC for 18bit)	17	RxIn3- (NC for 18bit)
18	RxIn3+(NC for 18bit)	18	RxIn3+(NC for 18bit)
19	Ground	19	Ground
20	Ground	20	Ground

● J22 – Internal USB
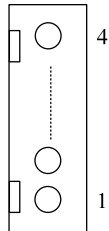
Pin #	Signal Description
1	+5V
2	Data -
3	Data +
4	Ground

● J23, J24 –Standard SATA Interface

● J25 – LCD Inverter Interface

Pin #	Signal Description
1	+12V
2	+12V
3	LCD ADJ
4	Backlight Enable
5	Ground
6	Ground