WPC-765/WPC-765E

Mini PC

USER'S MANUAL

P/N: 205G000WPC7650, V1.0

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Version Change History

Date	Version	Description	Remark
2014/01/21	1.0	First release	Cosa Huang

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FCC Class B

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 residential environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with this user manual, it may cause harmful interference to radio communications.

Note that even when this equipment is installed and used in accordance with this user manual, there is still no guarantee that interference will not occur. If this equipment is believed to be causing harmful interference to radio or television reception, this can be determined by turning the equipment on and off. If interference is occurring, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Warning:

Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.

To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

Do not modify this equipment without authorization of the manufacturer.

Safety Instructions

Intended use

The WPC-765/765E is intended to serve as a mini PC which is designed for general purpose for hospital environment. It shall not be used for life-supporting system.

Greeting & Setup

Thank you for purchasing the WPC-765/WPC-765E unit. We wish that this unit will be durable and reliable in providing your medical application needs. Please follow the instructions below to ensure the unit continues to have high performance.

Unpacking

After opening the carton, there will be a mini PC 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 of the open frame unit may be dangerous. Please remember to follow the instructions below to insure your safety during the installation and operating process.

Transporting & Placement of unit

- 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 mini PC 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.

- 3. Having two or more people transporting the display unit is recommended. In addition, when installing the unit by suspending it also requires two or more people.
- 4. 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.
- 5. 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 mini PC 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. 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.
- Do not have liquids seep into the internal areas of the mini PC 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 mini PC unit in the presence of high moisture areas.
- 5. Do not install the mini PC 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 mini PC 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. Please use a dry soft cloth to clean the unit.
- 4. Take a dry cloth and wipe the unit dry. Remember to avoid having liquids seep into the internal components and areas of the mini PC unit.

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.
- Do not attempt to repair the mini PC 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. To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- 4. 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 operating unit.
 - (e) If the power cord or plug is damaged.
 - (f) When the functions of the unit are dysfunctional.
- 5. When replacement parts are needed for the mini PC unit, make sure service technicians use 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.

\triangle	ISO 7000-0434: Caution, consult ACCOMPANYING DOCUMENTS.
[]i	ISO 7000-1641: Follow operating instructions or Consult instructions for use.
G	IEC 60417 -5009: STAND-BY.
	IEC 60417-5031: Direct current.
	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, or if applicable, follow any agreements made between yourself. The mark on electrical and electronic products only applies to the current European Union Member States.

When networking with electrical devices, the operator is responsible for ensuring that the resulting system meets the requirements set forth by the following standards:

- EN 60601-1 (IEC 60601-1)

Medical electrical equipment

Part 1: General requirements for safety

- EN 60601-1-1 (IEC 60601-1-1)

Medical electrical equipment

Part 1-1: General requirements for safety Collateral standard: Safety requirements for Medical electrical systems

- EN 60601-1-2 (IEC 60601-1-2)

Medical electrical equipment Part 1-2: General requirements for safety

Collateral standard: Electromagnetic compatibility;

Requirements and tests

Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical



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With Respect To Electric Shock, Fire And Mechanical Hazard Only In Accordance With ANSI/AAMI ES60601-1. CAN/CSA C22.2 No. 60601-1

equipment.) Furthermore all configurations shall comply with the system standard IEC 60601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 60601-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment. If in doubt, consult the technical services department or your local representative.

Caution:

DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20°C (-4°F) OR ABOVE 60°C (140°F). THIS MAY DAMAGE THE EQUIPMENT.

The user is not to touch SIP/SOPs and the patient at the same time.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB (A).

- A) Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle marked "Hospital Only" or "Hospital Grade".
- B) Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.
- C) Caution: This adapter Sinpro MPU101-105 is a forming part of the medical device

Contact information:

3F, No.14, Prosperity Road II, Science-Based Industrial Park, Hsinchu, Taiwan 300, R.O.C

TEL: (886) 3 5780000

E-Mail: Sales@wincomm.com.tw

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Introduction

Product Description

The WPC-765 / WPC-765E Mini PC are based on Intel 3rd generation Core i processor which can deliver faster graphic with higher CPU performance. It accommodates one 2.5" SATA III hard disk drive and up to 8GB DDR3 SODIMM.

Fanless solution, integrated multimedia functions and extensive expansion options make them the perfect platform upon which to build comprehensive lifestyle computing applications.

The WPC-765/WPC-765E is compact, Giga LAN and selectable WLAN network compatible PC with full safety and medical approval and features to control a dedicated system with a wide variety of applications. Combining the WPC-765/WPC-765E into your system can achieve both cost-saving and efficient improvements.

Common applications include Surgical, Radiology, PACS (Picture Archiving Communication Systems), LIS (Lab Information Systems) and Electronic Medical Record. The WPC-765 / WPC-765E are definitely your perfect choices.

Package list

Before you begin installing your Medical Station, please make sure that the following items have been shipped:

- The WPC-765 or WPC-765E Mini PC unit
- One DVD containing user manual, chipset drivers
- Power Adapter x 1 (Mf:Sinpro, type/model: MPU101-105)
- Power cord Hospital grade used(US type), or other type in UK, EU...etc.

Features

- Intel 3rd Generation (Iv y Bridge) Core i7/i5/i3 CPU
- True Fanless design for 0°C~40°C operating temp
- Medical 60601-1 3rd edition certification
- Rugged SECC/aluminum metal enclosure
- Rich COM ports for control applications
- Mini PCI-e sockets for WLAN & other add-on expansions
- 16 GB maximum memory for dual channel DDR3 SODIMM
- Flexible customization for specific application requests

Specifications

Hardware Specifications

CPU Support	Support Ivy bridge Intel® Core™ i7 i5/i3 rPGA Socket Type Processor (35W max.) - Core™ i7-3632QM (6M Cache, 2.20 GHz) - Core™ i5-3210M (3M Cache, 2.50 GHz) - Core™ i3-3110M (3M Cache, 2.40 GHz)
Chipset	Intel® HM76 PCH
BIOS	4Mb AMI Flash BIOS
VGA	Intel® integrated HD Graphics 4000 by Ivy bridge CPU
Audio	Realtek ALC262 Audio Codec, 2+2 watts power amplifier
LAN	Marvell 88E8071 Giga LAN x 2
Memory	Two 1066/1333/1600 MHz DDR3 SODIMM socket support dual Channel, non-ECC, up to 16GB
IO	EC
Serial ATA	SATA3, 300 MB/s transfer rate x 1
WDT	Generates system reset; 256 segments, 0, 1, 2255 sec/min.

Storage

HDD 2.5" SATA HDD drive bay x 1

Expansion slots

PCI-E	PCI-E x 16 expansion slot x 1 (Generation 3.0)
Mini-PCIe	52 pin card-edge type compatible to PCI Express*Base specification 2.0 x 1 +3.3V loaded 0.75A+0.25A=1A +1.5V loaded 0.375A

External I/O

USB	USB 2.0 x 2, USB 3.0 x 2
СОМ	RS232 x 5, RS232/RS422/RS485 x 1
LAN	RJ-45 x 2 (Gigabit Ethernet)
Audio	3.5mm phone jack connector * 2 (line-out, and mic-in)

Video	DVI-D x 1 , or DVI-D x1 + CRT x1 (option, via Y
output	cable)

Power Adapter

Power	Close
MFR	Sinpro
Туре	MPU101-105
Input Voltage	AC 100 ~240 V, 1.25 - 0.5A @47 ~63 Hz
Output Voltage	DC 12V @8.33A
MTBF	100,000 hrs operation at 25 ${\mathcal C}$

Mechanical Specifications

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Architecture	Aluminum heatsink and SECC with black coating	
Color	Black	
Mounting / Holder	Bracket mounting mechanism	
Dimension (WxHxD)	WPC-765 : 294.6 * 188 * 61 mm WPC-765E : 294.6 * 188 * 96.2 mm	
Net Weight	WPC-765: 3kg (w/o power adapter) WPC-765E: 3.8kg (w/o power adapter)	
Packing Filler	PE	

Environmental Specifications

Temperature	Operating: 0°C to 40°C (32°F ~104°F) Storage, Transportation: -20°C to 60°C (-4°F ~140°F)	
Humidity	Operating: 10% to 90%@ 40°C, non-condensing Storage, Transportation: 10% to 90%, non-condensing	
Vibration	Operating: 15g/0.53 oz, 11 ms, half sine wave Non-operating: 50g/1.76 oz, 11 ms, half sine wave	
Shock	Operating: 5 ~ 17 Hz , Amplitude: 0.117 ~ 500Hz , Acceleration: 1.0G Non-operating:10~55Hz/0.15g, 55~500Hz/2.0g	
Altitudes	Operational: up to 3000 m (9842 feet) Shipping: up to 12192 m (40000 feet)	

	700 – 1060 hPa (Operation)
Pressure	186 – 1060 hPa (Storage)
	186 – 1060 hPa (Transportation)

Guidance and manufacturer's declaration – electromagnetic emissions

The model WPC-765/WPC-765E is intended for use in the electromagnetic environment specified below. The customer or the user of the model WPC-765/WPC-765E should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11		The model WPC-765/WPC-765E uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11		The model WPC-765/WPC-765E is suitable for use in all establishments,
Harmonic emissions IEC 61000-3-2		including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used
Voltage fluctuations/ flicker emissions IEC 61000-3-3		for domestic purposes.

Recommended separation distances between portable and mobile RF communications equipment and the model WPC-765/WPC-765E

The model WPC-765/WPC-765E is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the model WPC-765/WPC-765E can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model WPC-765/WPC-765E as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter	Separation distance according to frequency of transmitter		
W	150 kHz to 80 MHz d = 1,2√ P	80 MHz to 800 MHz d = 1,2√ P	800 MHz to 2,5 GHz d = 2,3√ P
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distanced in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Guidance and manufacturer's declaration – electromagnetic immunity

The model WPC-765/WPC-765E is intended for use in the electromagnetic environment specified below. The customer or the user of the model WPC-765/WPC-765E should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.

Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the model WPC-765/WPC-765Erequire s continued operation during power mains interruptions, it is recommended that the model WPC-765/WPC-765E be powered from an uninterruptible power supply or a battery.

Power	3 A/m	3 A/m	Power frequency magnetic
frequency			fields should be at levels
(50/60 Hz)			characteristic of a typical
magnetic field			location in a typical
magnotio noid			commercial or hospital
IFO			environment.
IEC			
61000-4-8			

NOTE UT is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration - electromagnetic immunity

The model WPC-765/WPC-765E is intended for use in the electromagnetic environment specified below. The customer or the user of the model WPC-765/WPC-765E should assure that it is used in such an environment.

Immunity	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3		Vrms V/m	Portable and mobile RF communications equipment should be used no closer to any part of the model WPC-765/WPC-765E, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b Interference may occur in the vicinity of equipment marked
			with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the model WPC-765/WPC-765E is used exceeds the applicable RF compliance level above, the model WPC-765/WPC-765E should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the model WPC-765/WPC-765E.
 Over the frequency range 150 kHz to 80 MHz, field strengths should be less than V/m.

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Cleaning/Disinfecting

Steps:

- 1. Wipe the WPC-765/WPC-765E with a dry clean cloth.
- 2. Prepare agent per manufacturer's instructions or hospital protocol.

Cautions:

- Do not immerse or rinse the WPC-765/WPC-765E and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation.
- Do not spray cleaning agent on the chassis.
- Do not use disinfectants that contain phenol.
- Do not autoclave or clean the WPC-765/WPC-765E or its peripherals with strong aromatic, chlorinated, ketone, ether, or Esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

Getting Started

System Set Up

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

- (1). You can fix the system to a mounting fixture using the screw holes on the sides of the system.
- (2). Make any required external connections such as the display, keyboard, and LAN.
- (3). Plug the appropriate end of the power cord into the power connector on the rear of the system and the plug to an electrical outlet.
- (4). **Waiting for 3 seconds** then press the power switch on the system once to turn on the system power.
- (5). If necessary, run the BIOS SETUP programs to configure the system.

Caution:

In order to boot up system from USB-CD/DVD drive, please connect USB-CD/DVD drive, turn on computer power, keep on pressing "F11" key, go into BIOS quick boot menu, select "USB-CD ROM", WAIT FOR 20 SECONDS, then press enter, system OS will boot up from USB-CD/DVD drive directly.

Dimension

(Mount Screw type: M4)

WPC-765

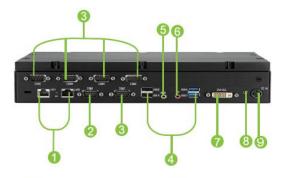
WPC-765E (Mount Screw type: M4)

System View

Front View & I/O parts (WPC-765)







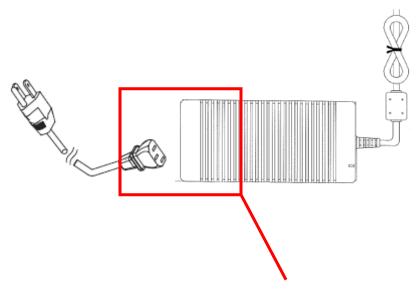
- 1 LAN x 2
- 6 Microphone-in
- 8 RS232 x 5
- Reset
- 4 USB x 4 (USB 2.0/3.0) 9 DC-in
- 6 Line out

Front View & I/O parts (WPC-765E)





Disconnect Device



Unplug the power cord from the power adapter jack to disconnect the device.

B. Scrap Computer Recycling

If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform us as soon as possible for the suitable solution. For the computers that are no longer useful or work well, please contact with worldwide distributors for recycling.

The worldwide distributors show on the following website: http://www.wincomm.com.tw/contact.aspx

Note:

Follow the national requirement to dispose unit