WMP-22T-PIS

Medical Panel PC

USER'S MANUAL

V1.0

Version Change History

Date	Version	Description	Remark
2023/11/20	1.0	First release	

Acknowledgments

- Intel® Celeron processor is registered trademarks of Intel® Corporation.

- IBM, PC/AT, PS/2 are trademarks of International Business Machines Corporation.

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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 18 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.
Avertissement:
Tous les changements ou modifications apportés à l'équipement qui ne sont pas expressément approuvés par l'autorité de normalisation compétente peuvent annuler votre droit d'utiliser l'équipement.

Pour éviter tout risque de choc électrique, cet équipement ne doit être connecté qu'à un réseau d'alimentation avec terre de protection.
Ne modifiez pas cet équipement sans l'autorisation du fabricant.

Warnung:
Jegliche Änderungen oder Modifikationen an diesem Gerät, die nicht

ausdrücklich durch die relevante Behörde zugelassen sind, lassen Ihre Berechtigung zum Betrieb des Gerätes erlöschen.

Zur Vermeidung von Stromschlaggefahr darf dieses Gerät nur an eine Stromversorgung mit Schutzerde angeschlossen werden.
Nehmen Sie ohne Zustimmung des Herstellers keine Modifikationen an diesem Gerät vor.

Safety Instructions

Intended use
The WMP-22T-PIS is intended to serve as a medical monitor which is designed for general purpose for hospital environment. It shall not be used for life-supporting system.

Intended User profile
The equipment is intended for infant or adults by profession Health care professionals.

Greeting & Setup
Thank you for purchasing the WMP-22T-PIS 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 medical panel 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

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 medical panel 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 medical panel 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. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.

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

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

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

8. 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.

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

10. The medical panel PC unit uses voltage between 100-240VAC. Connect the unit to a power source with the same numerical value as 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 medical panel 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 medical panel PC unit in the presence of high moisture areas.

5. Do not install the medical panel 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 medical panel 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.

Operating principle

■ A Medical Panel PC has four main components: the arithmetic logic unit (ALU), the control unit, the memory, and the input and output devices (collectively termed I/O). These parts are interconnected by buses, often made of groups of wires.

■ The control unit, ALU, and registers are collectively known as a central processing unit (CPU).

■ Inside each of these parts are thousands to trillions of small electrical circuits which can be turned off or on by means of an electronic switch. Each circuit represents a bit (binary digit) of information so that when the circuit is on it represents a "1", and when off it represents a "0" (in positive logic representation). The circuits are arranged in logic gates so that one or more of the circuits may control the state of one or more of the other circuits.

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 medical panel PC unit.

5. Cleaning unit each time before use.

Error message / Troubleshooting

No power	1. Connect the power cord to the computer, and then plug it into an AC outlet. 2. Turn on the computer.

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 medical panel 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 medical panel 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.

⚠	ISO 7000-0434: Caution
👁📖	ISO 7010-M002: Refer to instruction manual/ booklet. NOTE: On ME EQUIPMENT "Follow instruction for use".
⏻	IEC 60417 -5009: STAND-BY.
🏭 YYYY-MM	Date of Manufacture
🗑	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 60601-1-2 (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 equipment.) 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.

This equipment shall not be used in life support systems.
The user is not to touch SIP/SOPs and the patient at the same time.
Caution – Use suitable mounting apparatus to avoid risk of injury.
Caution - Risk of explosion if battery is replaced by an incorrect type.
Dispose of used batteries according to the instructions.
(If battery pack is not used for 1 month, it is recommended to remove the battery pack from equipment.)

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) Only use the power cord with following specification: 18AWG min., type SJT, 125V/10A, UL/CSA listed, length: Max. 3m, hospital grade if for USA/Canada market.

Mise en garde:

NE LAISSEZ PAS CET ÉQUIPEMENT DANS UN ENVIRONNEMENT NON CONTRÔLÉ OERE LA TEMPÉRATURE DE STOCKAGE EST INFÉRIEURE À -20 ° C (-4 ° F) OU SUPÉRIEURE À 60 ° C (140 ° F). CELA POURRAIT ENDOMMAGER L'ÉQUIPEMENT.

Cet équipement ne doit pas être utilisé dans les systèmes de survie. L'utilisateur ne doit pas toucher les SIP / SOP et le patient en même temps.

Attention - Utilisez un appareil de montage approprié pour éviter tout risque de blessure.

Attention - Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez les piles usagées conformément aux instructions. (Si la batterie n'est pas utilisée pendant 1 mois, il est recommandé de retirer la batterie de l'équipement.)

Le niveau de pression acoustique au poste de l'opérateur selon CEI 704-1: 1982 n'est pas supérieur à 70 dB (A).

A) La fiabilité de la mise à la terre ne peut être obtenue que lorsque l'équipement est connecté à une prise équivalente marquée «Hospital Only» ou «Hospital Grade».

B) Utilisez un cordon d'alimentation qui correspond à la tension de la prise de courant, qui a été approuvée et conforme aux normes de sécurité de votre pays.

C) Utilisez uniquement le cordon d'alimentation avec les spécifications

suivantes: 18AWG min., type SJT, 125V / 10A, UL / CSA répertorié, longueur: Max. 3m, qualité hospitalière si pour le marché américain / canadien.

Achtung:
LASSEN SIE DIESES GERÄT NICHT IN EINER UNKONTROLLIERTEN UMGEBUNG, IN DER DIE LAGERTEMPERATUR WENIGER ALS -20 °C ODER MEHR ALS 60 °C BETRÄGT. ANDERNFALLS KÖNNTE DAS GERÄT BESCHÄDIGT WERDEN.

Dieses Gerät darf nicht in lebenserhaltenden Systemen genutzt werden. Der Anwender darf SIP/SOPs und Patienten nicht gleichzeitig berühren. Achtung – Nutzen Sie zur Vermeidung von Verletzungen eine geeignete Montagevorrichtung.
Achtung - Explosionsgefahr, falls der Akku durch einen falschen Typ ersetzt wird. Entsorgen Sie verbrauchte Akkus entsprechend den Anweisungen.
(Falls der Akku voraussichtlich 1 Monat nicht genutzt wird, sollten Sie ihn aus dem Gerät entfernen.)

Der Schalldruckpegel an der Position des Bedieners entsprechend IEC 704-1:1982 beträgt nicht mehr als 70 dB(A).
A) Die Zuverlässigkeit der Erdung kann nur erzielt werden, wenn das Gerät an eine äquivalente Steckdose mit der Kennzeichnung „Nur Krankenhaus" oder „Krankenhaustauglich" angeschlossen ist.
B) Verwenden Sie ein Netzkabel, das mit der Spannung der Steckdose übereinstimmt. Es muss zugelassen sein und dem Sicherheitsstandard Ihres jeweiligen Landes entsprechen.
C) Verwenden Sie das Netzkabel nur mit folgenden Spezifikationen: 18AWG min., Typ SJT, 125V/10A, UL/CSA gelistet, Länge: Max. 3m, Krankenhausqualität, wenn für den USA/Kanada-Markt.

Contact & Manufacturer information:
Wincomm Corporation
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TEL: (886) 3 5780000
E-Mail: sales_support@wincomm.com.tw

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Table of Contents

Introduction

Product Description

The WMP-22T-PIS Medical Panel PC is based on 12th generation Core i CPU (Socket LGA1200) processor, it accommodates one M.2 M.Key 2280 PCIe X 4 SSD and Two up to 64GB DDR5 SODIMM.

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

The WMP-22T-PIS includes all the features of a powerful computer into a slim and attractive chassis.

The WMP-22T-PIS 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 WMP-22T-PIS into your system can achieve both cost-saving and efficient improvements.

Common applications include LIS (Lab Information Systems) and Electronic Medical Record. The WMP-22T-PIS 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 WMP-22T-PIS Medical Panel PC unit
- User's manual, chipset drivers
- Power cord – Hospital grade used (US type), or other type in UK, EU…etc.
- Screw x 8 (VESA 100 mm use)

Features

- *Anti-bacteria Aluminum housing*

- *23.8" full HD (1920X1080) AHVA Diagnostic Panel*

- *High performance intel 12th generation Core i CPU (H series), 35W max.*

- *Supports Dual Channel DDR5 SODIMM up to 64GB*

- *P.cap Multi-Touch Screen*

- *Fast booting with M.2 M.Key 2280 PCIe X 4 SSD (Support NVMe SSD) as drive disk*

- *Supports PCI-E x4*

- *IP65 at front side, IP54 when I/O cover attached at rear side.*

- *Fanless solution*

- *Optional 4K capture card*

- *LAN/COM 4KV isolated module (optional order configuration)*

- *Optional DICOM part 14 compliance solution. (optional order configuration)*

- *Support RAID 0,1*

Specifications

Hardware Specifications

Display	22" 250 nits 1920x1080 TFT LCD
CPU Support	*FCBGA1744 12th generation Intel® Core i7/i5/i3 and Celeron processor (35W max.)*
Disk Drive Space	M.2 M.Key 2280 PCIe X 4 SSD (Support NVMe SSD),3.3Vdc, 3A max. Optional 2.5" SATA3 SSD or HDD drive bay x 1
Expansion	One M.2 Type E slot (optional connect to WiFI module); *PCI-E x8 expansion slot x 1* (optional connected to Capture card board, for Standard version used only);
Button	Power // Audio adjustment (+)(-) // brightness (+)(-) // LCD on/off // Clean me(auto release after 1 minute)
I/O	**Standard version** Standard version USB 3.2 gen II x 4 RS232/RS422/RS485 x 1, RS232 x 1 LAN RJ-45 x 2 (Gigabit Ethernet) Video output: DP 1.4a/DP++ x1, HDMI 2.0b x 1 Video input: HDMI x 1 (without audio) **Isolated version** USB 3.2 gen II x 4 LAN RJ-45 x 2 (Gigabit Ethernet) Video output: DP 1.4a/DP++ x1, HDMI 2.0b x 1 Video input: HDMI x 1 (without audio) Isolated 4KV RS232/RS422/RS485 x 1 (The isolated ports verified through Dielectric test 4000Vac only) Isolated 4KV LAN RJ-45 x 1 (Gigabit Ethernet)

LCD Specifications

Model Name	WMP-22T-PIS
Display Type	21.5" LED
Max. Resolution	*1920 x 1080*
Contrast Ratio	1000 : 1 (Typ)
Pixel Pitch (um)	247.95 (per one triad) × 247.95
Luminance (cd/m2)	250 (TYP)
Viewing Angle	178°(H)
	178°(V)

Cautions:

Continuous displaying fixed pattern may induce image sticking. It's recommended to use screen saver or moving content periodically if fixed pattern is displayed on the screen.

Précautions:

L'affichage continu d'un motif fixe peut provoquer le collage de l'image. Il est recommandé d'utiliser l'économiseur d'écran ou de déplacer régulièrement du contenu si un motif fixe est affiché à l'écran.

Achtung:

Die kontinuierliche Anzeige fester Muster kann zu eingebrannten Bildern führen. Sie sollten gelegentlich einen Bildschirmschoner oder bewegliche Inhalte nutzen, wenn feste Muster am Bildschirm angezeigt werden.

Power Supply Specifications

Power	Close-frame
MFR	Sinpro
Type	MBU250-108
System Input Rating	100-240VAC, 47-63Hz, 3-1.5A
MTBF	100,000 hrs operation at 25°C
Classification	Power by Class I certified power supply. No applied part.

Mode of operation	Continuous operation

Mechanical Specifications

Architecture	Close-frame
Front Bezel	PCT touch screen
Color	Medical-white
Mounting / Holder	VESA 100mm
Construction	Aluminum alloy body
Dimension (WxHxD)	586.5mm (H) x 375.5mm (V) x 68mm (T)
Net Weight	9.2 kg
Packing Filler	PE

Environmental Specifications

Temperature	Operating: 0~35℃(32°F ~95°F) Storage, Transportation: -20°C to 60°C (-4°F ~140°F)
Humidity	Operating: 10% to 90%@ 35°C, non-condensing Storage, Transportation: 10% to 90%, non-condensing
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：0.117 ~ 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)
Pressure	700 – 1060 hPa (Operation) 186 – 1060 hPa (Storage) 186 – 1060 hPa (Transportation)
EMI / Safety	CE / FCC / VCCI Class B / EN 60601-1

IP	IP65 at front side, IP54 when I/O cover attached at rear side.Fanless solution
Noise	Fanless

Touch Screen

P.cap touch

Type	Full flat projective capacitive touch panel
Interface	Controller with USB interface, 5V
Light Transmission	≥85%
Input life	＞10，000,0000 次/10g,

Guidance and manufacturer's declaration – electromagnetic emissions		
The model WMP-22T-PIS is intended for use in the electromagnetic environment specified below. The customer or the user of the model WMP-22T-PIS should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11		The model WMP-22T-PIS 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 WMP-22T-PIS is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2		
Voltage fluctuations/ flicker emissions IEC 61000-3-3		
Recommended separation distances between portable and mobile RF communications equipment and the model WMP-22T-PIS		

The model WMP-22T-PIS is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the model WMP-22T-PIS can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model WMP-22T-PIS as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1,2\sqrt{P}$	80 MHz to 800 MHz $d = 1,2\sqrt{P}$	800 MHz to 2.7 GHz $d = 2,3\sqrt{P}$
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 WMP-22T-PIS is intended for use in the electromagnetic environment specified below. The customer or the user of the model WMP-22T-PIS 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	±8 kV contact ±15 kV air	±8 kV contact ±15 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	0% U_T (100 % dip in U_T) for 0.5 cycle 0 % U_T (100 % dip in U_T) for 1 cycles 70 % U_T (30 % dip in U_T) for 25 cycles 0 % U_T (100 % dip in U_T) for 250 cycles	0 % U_T (100 % dip in U_T) for 0.5 cycle 0 % U_T (100 % dip in U_T) for 1 cycles 70 % U_T (30 % dip in U_T) for 25 cycles 0 % U_T (100 % dip in U_T) for 250 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of the model WMP-22T-PIS requires continued operation during power mains interruptions, it is recommended that the model WMP-22T-PIS be powered from an uninterruptible power supply or a battery.

Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE *U*T is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer's declaration – electromagnetic immunity

The model WMP-22T-PIS is intended for use in the electromagnetic environment specified below. The customer or the user of the model WMP-22T-PIS 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	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2.7 GHz	Vrms V/m	Portable and mobile RF communications equipment should be used no closer to any part of the model WMP-22T-PIS, 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 2.7 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.

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[a] 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 WMP-22T-PIS is used exceeds the applicable RF compliance level above, the model WMP-22T-PIS should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the model WMP-22T-PIS.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Cleaning/Disinfecting

Steps:

1. Wipe the WMP-22T-PIS with a dry clean cloth.

2. Operate with manufacturer's instructions or hospital protocol.

Cautions:

- Do not immerse or rinse the WMP-22T-PIS 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 WMP-22T-PIS 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.

Précautions:

● Ne plongez pas et ne rincez pas le WMP-22T-PIS et ses périphériques. Si vous renversez accidentellement du liquide sur l'appareil, débranchez l'appareil de la source d'alimentation. Contactez votre Biomed concernant la sécurité continue de l'appareil avant de le remettre en service.

● Ne vaporisez pas d'agent de nettoyage sur le châssis.

● N'utilisez pas de désinfectants contenant du phénol.

● Ne pas stériliser à l'autoclave ni nettoyer le WMP-22T-PIS ou ses périphériques avec des solvants forts aromatiques, chlorés, cétoniques, éthérés ou Esther, des outils tranchants ou des abrasifs. Ne plongez jamais les connecteurs électriques dans l'eau ou d'autres liquides.

Achtung:

- Der WMP-22T-PIS und seine Peripherie dürfen nicht in Wasser getaucht oder abgespült werden. Falls Sie versehentlich Flüssigkeiten über dem Gerät verschütten, trennen Sie das Gerät umgehend von der Stromversorgung. Wenden Sie sich zur Bestätigung der Sicherheit des Gerätes an Biomed, bevor Sie es wieder in Betrieb nehmen.

- Sprühen Sie keine Reinigungsmittel auf das Gehäuse.

- Verwenden Sie keine Desinfektionsmittel, die Phenol enthalten.Der WMP-22T-PIS und seine Peripherie dürfen nicht autoklaviert oder mit aggressiven aroma-, chlor-, keton-, ether- oder estherhaltigen Reinigungsmitteln, scharfkantigen Werkzeugen oder Scheuermitteln gereinigt werden. Tauchen Sie die elektrischen Anschlüsse niemals in Wasser oder andere Flüssigkeiten.

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, use for the system is land scape mode (I/O connector downward) only.

(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 front panel of 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.*

> *Mise en garde:*
> *Afin de démarrer le système à partir du lecteur USB-CD / DVD, veuillez connecter le lecteur USB-CD / DVD, allumez l'ordinateur, continuez à appuyer sur la touche "F11", allez dans le menu de démarrage rapide du BIOS, sélectionnez "USB-CD ROM" , ATTENDEZ 20 SECONDES, puis appuyez sur Entrée, le système d'exploitation démarrera directement à partir du lecteur USB-CD / DVD.*

> *Achtung:*
> *Zum Starten des Systems vom USB-CD/DVD-Laufwerk*
> *verbinden Sie bitte das USB-CD/DVD-Laufwerk, schalten den*
> *Computer ein, halten „F11" gedrückt, rufen das BIOS auf,*
> *navigieren zum Schnellstartmenü, wählen „USB-CD ROM",*
> *WARTEN 20 SEKUNDEN, drücken dann Enter und das*
> *Betriebssystem startet direkt vom USB-CD/DVD-Laufwerk.*

> *Notice:*
> *The installation is only to be carried out by manufacturer*
> *trained and authorized personnel.*

Dimension

<div align="center">

WMP-22T-PIS
(VESA Mount Screw type: M4, length: 10mm)

</div>
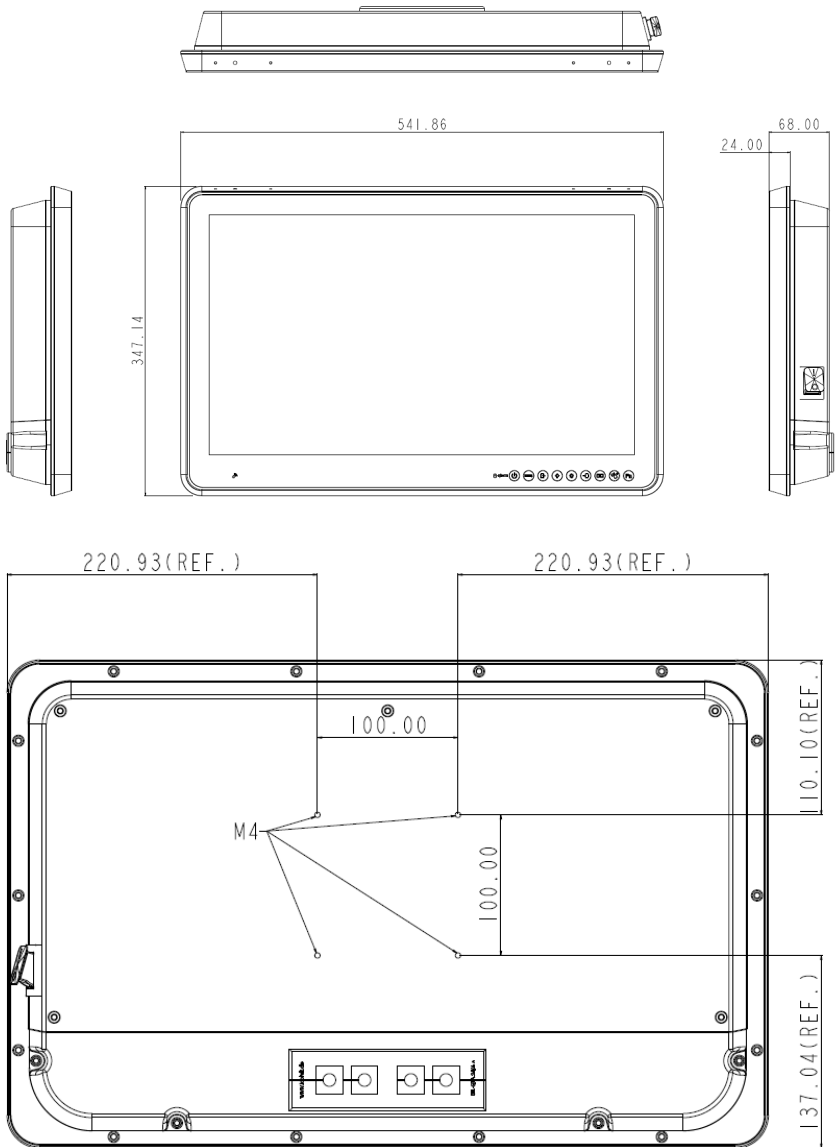
System View

Front View
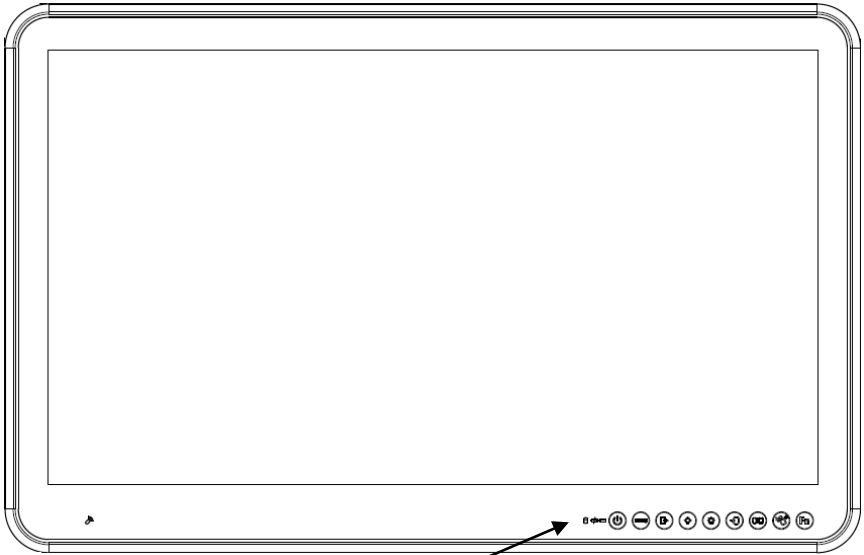
Hotkey and LED definition at front panel

Symbols	日	⟨⟩	▭										
Indicator	HDD Indicator	Battery Change Indicator	Battery Indicator	Symbols	⏻	⊖	⊡	⇧	☀	⊲	▢⊙	🔦	Fn
				Key Name	Power	Menu	Exit	Backlight Down	Backlight Up	Video in	Backlight On/Off	Clear Me	Function
		○ : No battery presents	○ : No battery presents	PC Off	○ S: Power on	○	○	○	○	○ (AG) S: PC/HDMI IN toggle	○ (AG) S: Panel of/off	○ (AG) H5: Clear Me on/off	○
	(GB) :Access HDD	(G) : Battery Charging	(B) : Active battery										
		(B) : Battery is Full	(GG) : Battery is malfunction	PC ON	(B) S: Power off H5: Force Power off	(B)	(B)	(B) S: Down 1 step H: Down repeat	(B) S: Up 1 step H: Up repeat	(B) (AG) S: PC/HDMI IN toggle	(B) (AG) S: Panel on/off	(B) (AG) H5: Clear Me on/off	(B) (AG) H3: DICOM on/off
		BB : Battery not full and not Charge											
		(GG) : Battery is malfunction		OSD ON	(B)	(G) S: Menu/Enter	(G) S: Exit	(G) S: Left/Brightness down	(G) S: Right/Brightness up	(B) (AG) S: PC/HDMI IN toggle	(B) (AG) S: Panel on/off	(B) (AG) H5: Clear Me on/off	(B) (AG) H3: DICOM on/off
				HDMI IN OSD ON	(B)	(G) S: Menu/Enter	(G) S: Exit	(G) S: Left/Brightness down	(G) S: Right/Brightness up	(B) (AG) S: PC/HDMI IN toggle	(B) (AG) S: Panel of/off	(B) (AG) H5: Clear Me on/off	○

LED color symbols			
LED Off:	○	Fast Blue Blinking:	(FB)
Blue:	(B)	Fast Green Blinking:	(FG)

WMP-22T-PIS User's manual   17

Green:	(G)	Active Green:	(AG)
Blue Blinking:	(BB)	Fast Green/Blue Toggle:	(GG)
Green Blinking:	(GB)		

Key press definition
S: short press
H: Hold key
H3: Hold key for 3 seconds
H5: Hold key for 5 seconds
H10: Hold key for 10 seconds

I/O parts
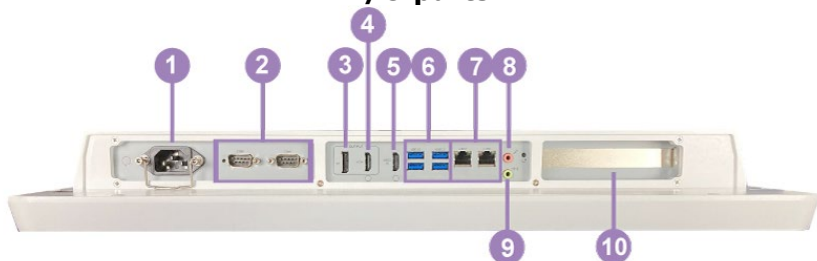
1	AC-in	**7**	LAN x 2
2	COM x 2	**8**	Microphone-in
3	DP out x 1	**9**	Line-out
4	HDMI out x 1	**10**	PCI-E expansion
5	Video-in x 1		
6	USB3.2 gen II x 4		

I/O parts (W/ ISO)
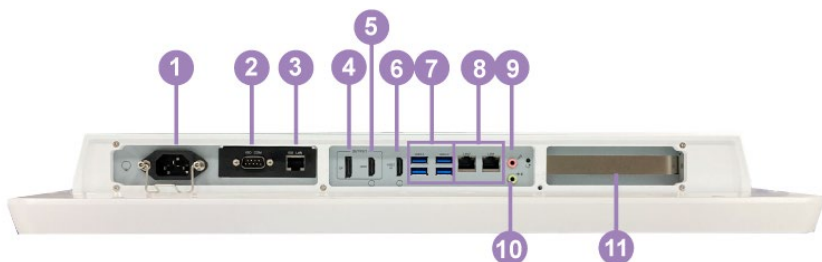
1	AC-in	**7**	USB3.2 gen II x 4
2	ISO COM x 1	**8**	LAN x 2
3	ISO LAN x 1	**9**	Microphone-in
4	DP out x 1	**10**	Line-out
5	HDMI out x 1	**11**	PCI-E expansion
6	Video-in x 1		

Disconnect Device
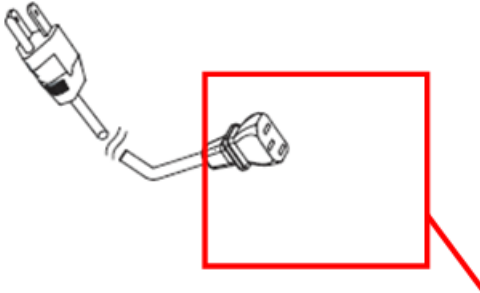
Unplug the power cord from the
WMP-22T-PIS AC inlet to disconnect the
device.

Turn off the system:

Turning off WMP-22T-PIS properly is important for system reliability.
1. On the start menu, click "Shut down" and select "OK"

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

PS1. Expected Service Life: 3.1 years
If the computer has exceeded the Expected Service Life and you want to continue using it, it is recommended to contact the manufacturer/distributors to confirm whether maintenance is required.

PS2.CAUTION:
If any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user is established.

PS3.Notice:
It is recommended to install the appropriate software, if have any question, please contact the manufacturer for further assistance. Notice: To prevent unauthorized access, it is recommended to install suitable anti-virus software or do not connect to unsafe external networks.

PS4.RTC battery:
The computer is provided with a battery- powered, real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same (CR2032) type recommended by the manufacturer. Discard used batteries according to the each nation's instructions.

PS5.Battery pack (optional kit):
It is suggest to recharge the battery pack every 6 months if it is not used.

PS6.Display operation:
The panel is only intended to be used with SIP/SOP facing downward.

BIOS Setup
BIOS Introduction
The AMI BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel processors. The BIOS provides critical low-level support for a standard device such as disk drives, serial ports and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

BIOS Setup
The AMI BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the AMI BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

Press <DEL> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

Main

```
                        Aptio Setup – AMI
   Main  Advanced  Chipset  Security  Boot  Save & Exit  MEBx

   BIOS Information
   BIOS Version                            V1.00
   Build Date and Time        07/05/2023 09:40:46
   Access Level               Administrator

   EC Information                          V1.0
   EC Build Date              Jul 05 2023 10:10

   Hotkey Information                      V1.0

   Scalar Information         N/A

   DICOM Information
   Controller                              V1.0        ↔: Select Screen
   Build Date                 Feb 03 2023 10:28        ↑↓: Select Item
   Status                     No CCM Present           Enter: Select
                                                       +/-: Change Opt.
   Battery Status             Not Present              F1: General Help
   Current                    N/A                      F2: Previous Values
   Voltage                    N/A                      F9: Optimized Defaults
   Capacity(%)                N/A                      F10: Save & Exit
   Temperature                N/A                      ESC: Exit
   Cycle Count                N/A
   State of Health(SOH)       N/A

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```

```
                        Aptio Setup – AMI
   Main  Advanced  Chipset  Security  Boot  Save & Exit  MEBx

   EC Information                          V1.0        Set the Time. Use Tab to
   EC Build Date              Jul 05 2023 10:10        switch between Time elements.

   Hotkey Information                      V1.0

   Scalar Information         N/A

   DICOM Information
   Controller                              V1.0
   Build Date                 Feb 03 2023 10:28
   Status                     No CCM Present

   Battery Status             Not Present
   Current                    N/A                      ↔: Select Screen
   Voltage                    N/A                      ↑↓: Select Item
   Capacity(%)                N/A                      Enter: Select
   Temperature                N/A                      +/-: Change Opt.
   Cycle Count                N/A                      F1: General Help
   State of Health(SOH)       N/A                      F2: Previous Values
                                                       F9: Optimized Defaults
                                                       F10: Save & Exit
   System Language            [English]                ESC: Exit

   System Date                [Wed 12/14/2022]
   System Time                [00:21:19]

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```

This section provides information on the BIOS information,Embedded controller information and Battery information

System Date
Set the system date. Use the <Tab> key to switch between data elements.

System Time
Set the system time. Use the <Tab> key to switch between time elements.

Advanced
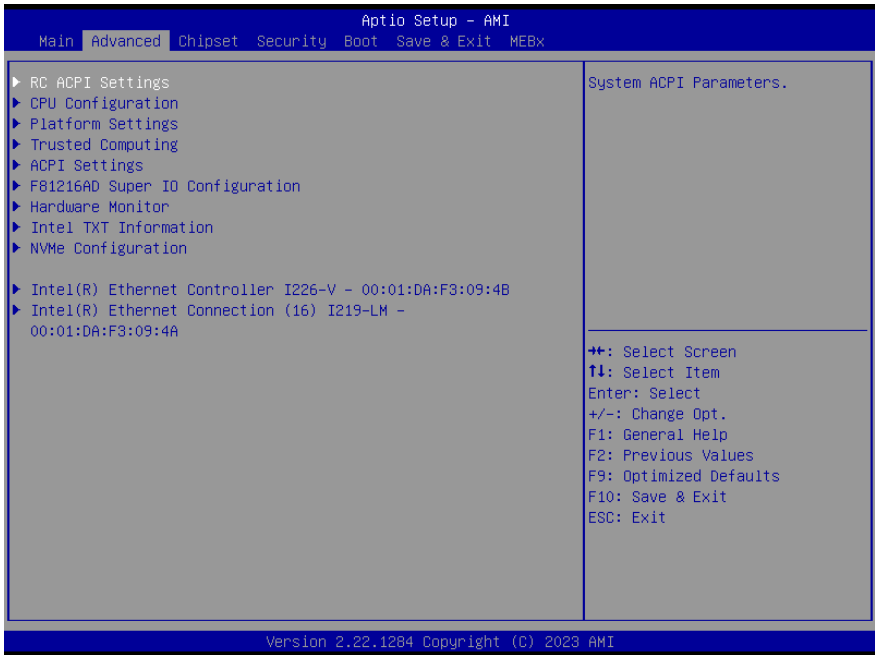
RC ACPI Settings
System ACPI Parameters.
Wake system from S5

Enable or Disable system wake on alarm event. When enabled, system will wake on the hr::min::sec specified

CPU Configuration
CPU Configuration Parameters

Platform Settings
Platform related settings.
Battery Off Time
Number of seconds of cut off battery output after system shutdowns .0~600 second(s) 0 means disable battery off function
CPU Thermal Trip Point
This value controls the temperature of the ACPI PASSIVE Trip Point - the point in which the OS will begin throttling the processor. Range: 45~100℃
OS WDT Time
Watch dog timer in minute(S) to reset system if OS hangs up. Range:1~250 minute(S) 0 means disable
WDT Timeout Action
Action when WDT time out
Lock key click time
Number of seconds to press lock key to (un) active. 1~10. Default setting is 5 Sec.
Lock status Hold Time
Number of minutes to keep lock status 0 means lick always.1~100 minutes mean lick hold time
ALS
ALS (light sensor) enable/disable
Panel Maximum Brightness
Panel Maximum Brightness Unit: NITS Range:100~2000
ALS Normalize
Unit:% Range:0~500. 100 Means 100%(eg. time1) 225 Means 225% (eg. time 2.25)

Show/hide hidden items

For debug only.

Show / hide hidden items.

Trusted Computing

Trusted Computing settings

Security Device support

Enables or disables BIOS support for security device. O.S. will not show   Security Device. TCG EFI protocol and INT1A interface will not be available.

Serial Port Configuration

System Super IO Chip Parameters..

Serial Port 1 Configuration

Set Parameters of Serial Port 1 (COMA).

Serial Port

Select an optimal settings for super IO Device.

Function

Select RS232,RS422,RS485 function

Serial Port 2 Configuration

Serial Port

Enable or Disable Serial Port (COM).

Serial Port 3 Configuration

Serial Port

Enable or Disable Serial Port (COM).

Hardware Monitor

Monitor hardware status

Intel TXT Information

Display Intel TXT information.

NVMe Configuration

NVMe Device Options Settings.

Chipset

```
  Main  Advanced  Chipset  Security  Boot  Save & Exit

▶ System Agent (SA) Configuration          System Agent (SA) Parameters
▶ PCH-IO Configuration




                                           →←: Select Screen
                                           ↑↓: Select Item
                                           Enter: Select
                                           +/-: Change Opt.
                                           F1: General Help
                                           F2: Previous Values
                                           F9: Optimized Defaults
                                           F10: Save & Exit
                                           ESC: Exit



        Version 2.18.1263. Copyright (C) 2018 American Megatrends, Inc.
```
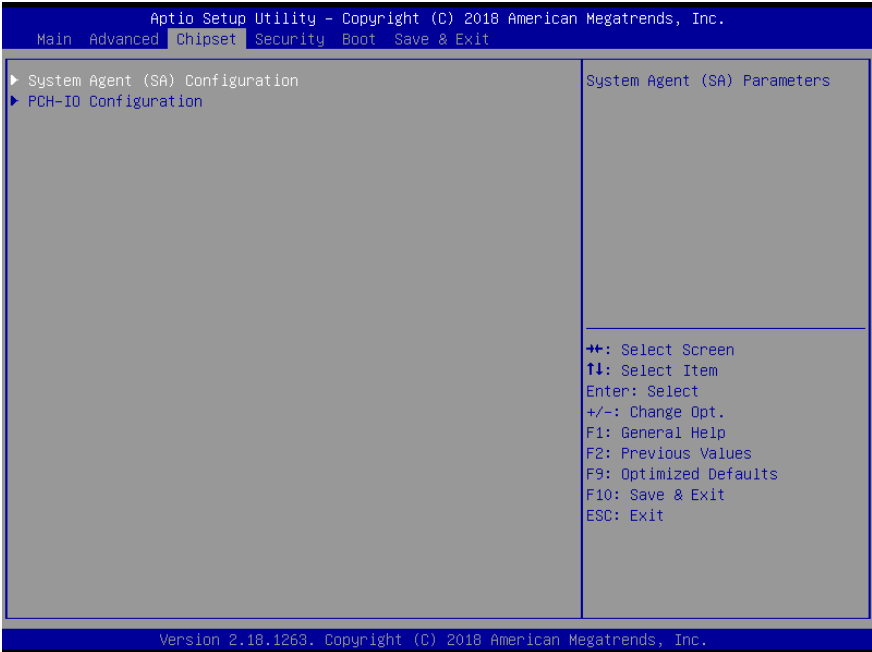
System Agent (SA) Configuration
System Agent (SA) Parameters

Memory Configuration
Memory configuration Parameters

Graphics Configuration
Primary Display
Select which of IGFX/PEG/PCI Graphics device should be Primary
Display or Select SG for Switchable GFX.
PCI Express Configuration
PCI Express Configuration settings

PCH-IO Configuration
PCI Express Configuration
PCI Express Configuration settings
PCI Express Clock Gating

PCI Express Clock Gating Enable/Disable for each root port.

SATA Configuration
SATA Device Options Settings
SATA Controller(s)
Enable/Disable SATA Device
SATA Mode Selection
Determines how SATA controller(s) operate
SATA Test Mode
Test Mode Enable/Disable (Loop Back)

LAN Wake FromDeepSx
Wake from DeepSX by the assertion of LAN_WAKE# pin
Wake on WLAN Enable
Enable/Disable PCI Express Wireless LAN to wake the system.
DeepSx Power Policies
Configure the DeepSx mode configuration.
State After G3
Specify what state to go to when powr is re-applied after a power failure (G3 state).

Security

```
                          Aptio Setup – AMI
      Main  Advanced  Chipset  Security  Boot  Save & Exit  MEBx

  ┌─────────────────────────────────────────────┬──────────────────────────┐
  │ Password Description                         │ Set Administrator Password│
  │                                              │                          │
  │ If ONLY the Administrator's password is set, │                          │
  │ then this only limits access to Setup and is │                          │
  │ only asked for when entering Setup.          │                          │
  │ If ONLY the User's password is set, then this│                          │
  │ is a power on password and must be entered to│                          │
  │ boot or enter Setup. In Setup the User will  │                          │
  │ have Administrator rights.                   │                          │
  │ The password length must be                  │                          │
  │ in the following range:                      │                          │
  │ Minimum length                  3            │                          │
  │ Maximum length                  20           │ →←: Select Screen        │
  │                                              │ ↑↓: Select Item          │
  │ Administrator Password                       │ Enter: Select            │
  │ User Password                                │ +/-: Change Opt.         │
  │                                              │ F1: General Help         │
  │                                              │ F2: Previous Values      │
  │                                              │ F9: Optimized Defaults   │
  │ HDD Security Configuration:                  │ F10: Save & Exit         │
  │▶ TS128GMTE670T                               │ ESC: Exit                │
  │                                              │                          │
  │▶ Secure Boot                                 │                          │
  │                                              │                          │
  └─────────────────────────────────────────────┴──────────────────────────┘
            Version 2.22.1284 Copyright (C) 2023 AMI
```

Administrator Password

Set Administrator Password.

User Password

Set user Password.

P3：TS128GMTE670T

HDD Security Configuration for selected drive.
Note: User Password is mandatory to enable HDD Security.
It can also be used to unlock the HDD.
If the 'set User Password ' option is hidden, do power cycle to
enable the option again

Secure Boot menu
Secure Boot

WMP-22T-PIS User's manual

Secure Boot can be enabled if 1.System running in User mode with enrolled Platform key(PK). 2. CSM function is disabled.
Secure Boot Mode
Secure Boot mode selector. 'Custom' Mode enables users to change Image Execution policy and manage Secure Boot keys.

Boot

```
                        Aptio Setup - AMI
     Main  Advanced  Chipset  Security  Boot  Save & Exit  MEBx

   Boot Configuration                                    Number of seconds to wait for
   Setup Prompt Timeout              1                   setup activation key.
   Bootup NumLock State              [Off]               65535(0xFFFF) means indefinite
                                                         waiting.
   UEFI PXE Boot                     [Disabled]
   Quiet Boot                        [Disabled]

   Boot Option Priorities
   Boot Option #1                    [UEFI: Built-in EFI
                                     Shell]
   Boot Option #2                    [UEFI:
                                     JetFlashTranscend 1GB
                                     8.07, Partition 1
                                     (JetFlashTranscend 1GB
                                     8.07)]
   Fast Boot                         [Disabled]          →←: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Opt.
                                                         F1: General Help
                                                         F2: Previous Values
                                                         F9: Optimized Defaults
                                                         F10: Save & Exit
                                                         ESC: Exit

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```
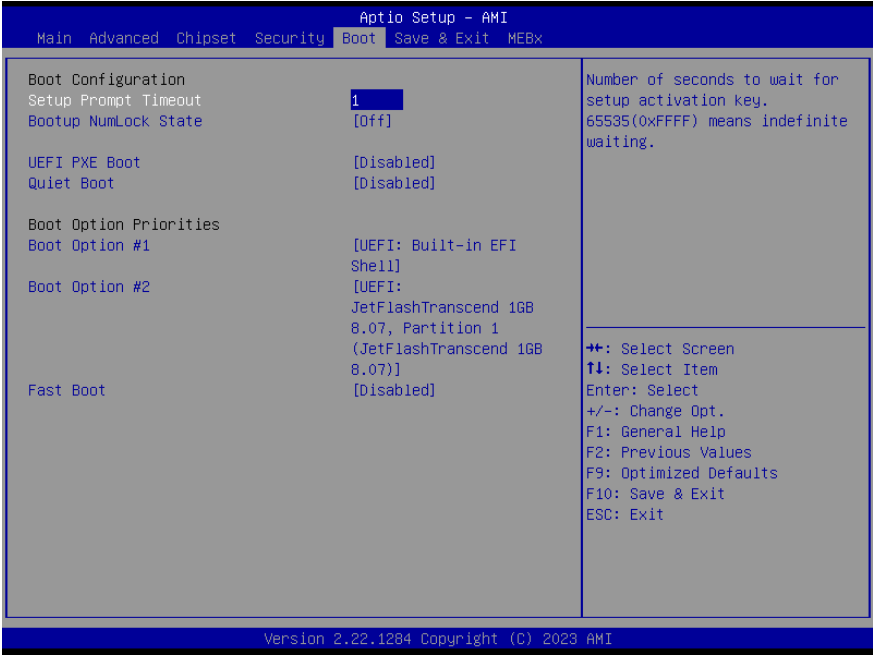
Setup Prompt Timeout
Number of seconds to wait for setup activation key.65535(0xFFFF) means indefinite waiting.
BootupNumlock State
Selects the keyboard NumLock state.
Legacy PXE Boot
Legacy PXE Network Boot Enable / Disable.
UEFI PXE Boot
UEFI PXE Network Boot Enable / Disable.
Boot Option #1

Sets the system boot order.

Boot Option #2

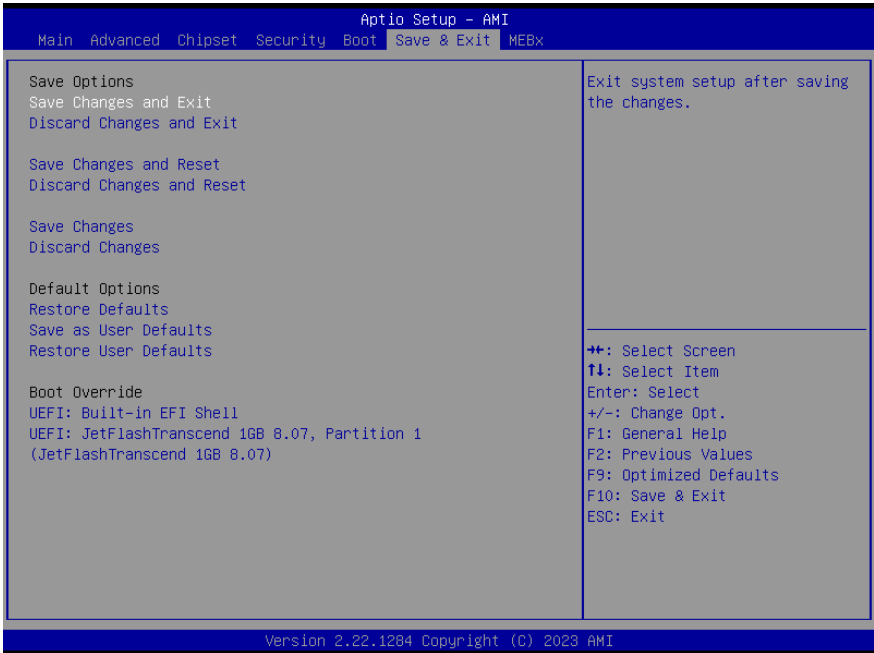Sets the system boot order.

Fast Boot

Enables or disables boot with initialization of a minimal set of devices required to launch active boot option. Has no effect for BBS boot options.

New Boot Option

Controls the placement of newly detected UEFI boot options

Save & Exit


```
                          Aptio Setup – AMI
     Main  Advanced  Chipset  Security  Boot  Save & Exit  MEBx

   Save Options                              Exit system setup after saving
   Save Changes and Exit                     the changes.
   Discard Changes and Exit

   Save Changes and Reset
   Discard Changes and Reset

   Save Changes
   Discard Changes

   Default Options
   Restore Defaults
   Save as User Defaults
   Restore User Defaults                     →←: Select Screen
                                             ↑↓: Select Item
   Boot Override                             Enter: Select
   UEFI: Built-in EFI Shell                  +/-: Change Opt.
   UEFI: JetFlashTranscend 1GB 8.07, Partition 1   F1: General Help
   (JetFlashTranscend 1GB 8.07)              F2: Previous Values
                                             F9: Optimized Defaults
                                             F10: Save & Exit
                                             ESC: Exit


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```

Save Changes and Exit

Exit system setup after saving the changes.

Discard Changes and Exit

Exit system setup without saving any changes.

Save Changes and Reset

Reset the system after saving the changes.

Discard Changes and Reset
Reset system setup without saving the changes.

Save Changes
Save the changes done so far to any of setup options.

Discard Changes
Discard the changes done so far to any of setup options.

Restore Defaults
Restore/load default values for all the setup options.
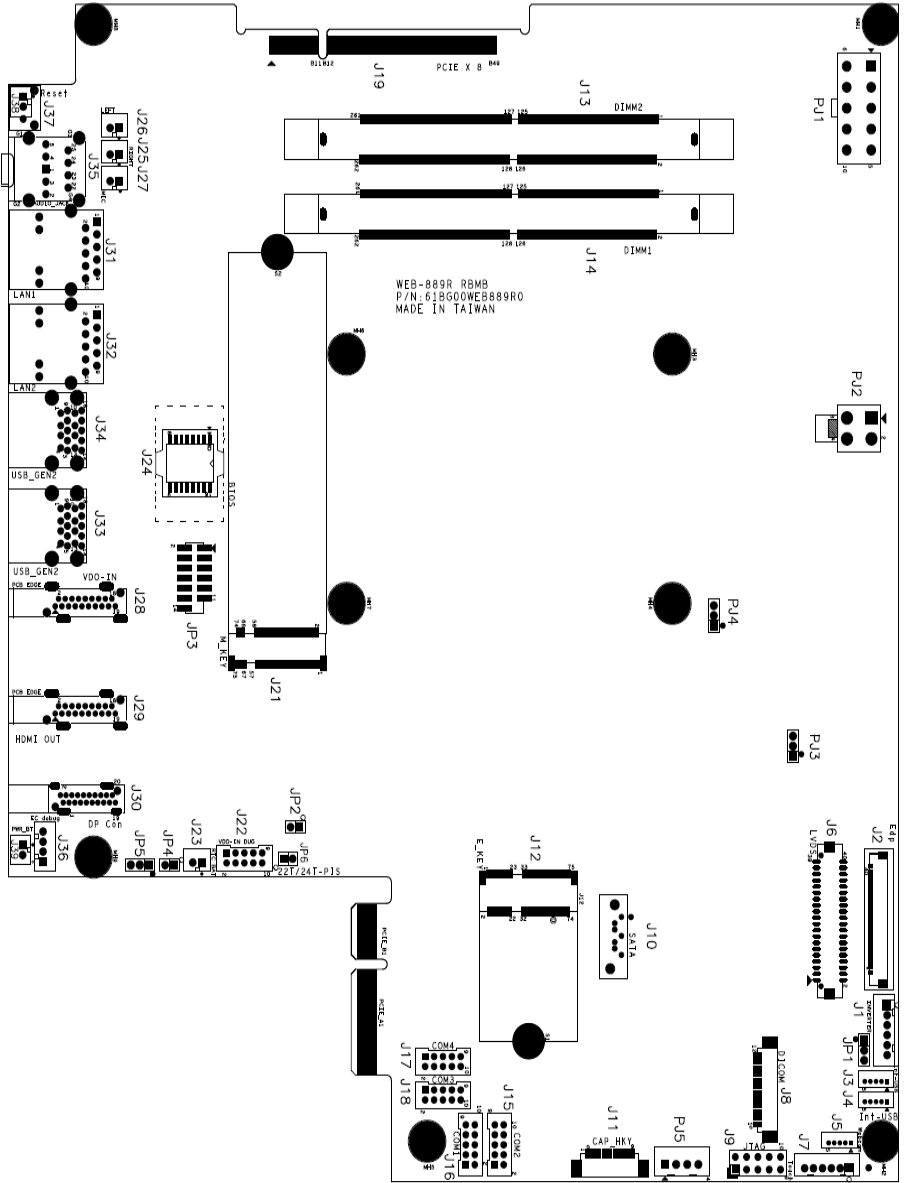
Save as User Defaults
Save the changes done so far as User Defaults.

Restore User Defaults
Restore the User Defaults to all the setup options.

Appendix

Jumper and Connector Definition Block Diagram

This appendix gives the definitions and shows the positions of jumpers, headers and connectors. All of the configuration jumpers on WMP-T series are in the proper position.

Jump Settings

●JP1 – LVDS Backlight Type

Analog Inverter	1-2
PWM Inverter	*2-3 (default)*

●JP2 – OSD_POSITION

Description	Jumper Setting
LOW	1-2
High	*NA (default)*

●JP4 – ME clear

Description	Jumper Setting
Clear ME	1-2
Normal	*NA (default)*

●JP5 – CMOS Clear

Description	Jumper Setting
Normal Open	*1-2 (default)*
CMOS Clear	2-3

●JP6 – PIS detect

Description	Jumper Setting
Normal Open	*1-2 (default)*
PIS detect	1-2 short

Connector Definition

●PJ1 – Battery Connector
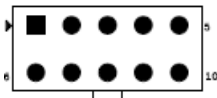
Pin #	Signal Description
1	GND
2	GND
3	BAT_CLK
4	BATT_T
5	BATT_V+

6	GND
7	GND
8	BATT_DATA
9	BATT_V+
10	BATT_V+

●PJ2 – 180W Adapter: 24V
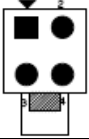
Pin #	Signal Description
1	Ground
2	Ground
3	+24V
4	+24V

●PJ3 – MP2964R PM_BUS

Pin #	Signal Description
1	I2C CLK
2	Ground
3	I2C DATA

●PJ4 – MP2940A PM_BUS

Pin #	Signal Description
1	I2C CLK
2	Ground
3	I2C DATA

●PJ5– HDD Power Connector
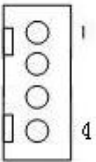
Pin #	Signal Description
1	+12VS

2	Ground
3	Ground
4	+5VS

●J1 – Inverter connect

6　1
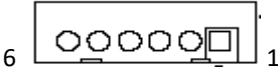
Pin #	Signal Description
1	+12V_INV
2	+12V_INV
3	Backlight Adjust
4	Backlight Enable
5	Ground
6	Ground

●J2 – eDP connector Interface
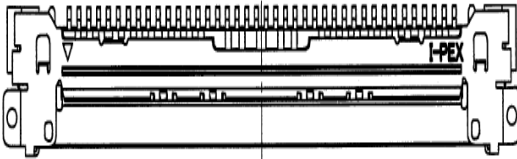
Pin #	Signal Description	Pin #	Signal Description	Pin #	Signal Description
1	NA	15	EDP_AUX_DP_R	29	Ground
2	Ground	16	EDP_AUX_DN_R	30	Ground
3	EDP_TX3_DN_R	17	Ground	31	Ground
4	EDP_TX3_DP_R	18	+VLCD	32	EDP_BKLT_EN
5	Ground	19	+VLCD	33	EDP_BKLT_CTL
6	EDP_TX2_DN_R	20	+VLCD	34	Test Point
7	EDP_TX2_DP_R	21	+VLCD	35	Test Point
8	Ground	22	NA	36	NA
9	EDP_TX1_DN_R	23	Ground	37	NA
10	EDP_TX1_DP_R	24	Ground	38	NA
11	Ground	25	Ground	39	NA
12	EDP_TX0_DN_R	26	Ground	40	NA
12	EDP_TX0_DP_R	27	EDP_HPD		
14	Ground	28	Ground		

●J3 / J4 / J5 – Internal USB 2.0 Pin Header

 1

Pin #	Signal Description
1	+5VSB
2	Data -
3	Data +
4	GND
5	GND

●J6 – LVDS Interface
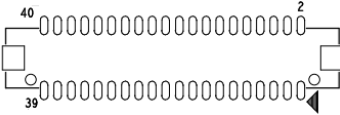
Pin #	Signal Description	Pin #	Signal Description
1	+LCD	2	+LCD
3	+LCD	4	+LCD
5	Ground	6	Ground
7	Ground	8	Ground
9	A_RxIn0-	10	B_RxIn0-
11	A_RxIn0+	12	B_RxIn0+
13	Ground	14	Ground
15	A_RxIn1-	16	B_RxIn1-
17	A_RxIn1+	18	B_RxIn1+
19	Ground	20	Ground
21	A_RxIn2-	22	B_RxIn2-
23	A_RxIn2+	24	B_RxIn2+
25	Ground	26	Ground
27	A_CKIN-	28	B_CKIN-
29	A_CKIN+	30	B_CKIN+
31	Ground	32	Ground
33	A_RxIn3-	34	B_RxIn3-
35	A_RxIn3+	36	B_RxIn3+
37	Ground	38	Ground
39	Ground	40	Ground

●J7 – Internal USB 2.0 Pin Header for Touch
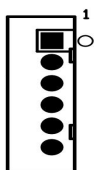
Pin #	Signal Description
1	+5VSB
2	+5VSB
3	Data -
4	Data +
5	GND
6	GND

●J8 – DICOM Connector

Pin #	Signal Description
1	ASIC_RST#
2	+3.3V_INV
3	+3.3V_INV
4	CSC_DET#
5	SCK_OUT
6	SDA_OUT
7	GND
8	SPI_PROG
9	SPI_CLK
10	SPI_DO
11	SPI_DI
12	SPI_CS

●J9 – DICOM JTAG
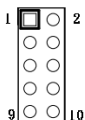
Pin #	Signal Description	Pin #	Signal Description
1	+3.3V_INV	2	GND
3	GND	4	394_C2D

5	+3.3V_INV Pull High	6	X
7	394_RST#	8	X
9	GND	10	X

●J10 – Standard SATA Connector
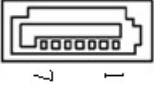
Pin #	Signal Description
1	Ground
2	Tx+
3	Tx-
4	Ground
5	Rx-
6	Rx+
7	Ground

●J11 – CAP Front Bezel Button Connector

Pin #	Signal Description
1	+5V_AWS
2	+3.3_AWS
3	KP_SCL
4	KP_SDA
5	PWR_LED#
6	KP_P_LED#
7	SATA_LED#/ M_KEY_LED/ B/M_KEY_LED
8	Ground
9	Ground

●J12 – M.2 E-KEY Socket

Pin #	Signal Description	Pin #	Signal Description
1	GND	2	+3.3V
3	USB_D+	4	+3.3V
5	USB_D-	6	LED1#(O)(OD)
7	GND	8	KEY A
9	KEY A	10	KEY A
11	KEY A	12	KEY A
13	KEY A	14	KEY A
15	KEY A	16	LED2#(O)(OD)
17	NA	18	GND
19	NA	20	NA
21	NA	22	NA
23	NA	24	KEY E
25	KEY E	26	KEY E
27	KEY E	28	KEY E
29	KEY E	30	KEY E
31	KEY E	32	NA
33	GND	34	NA
35	PETP0	36	NA
37	PETN0	38	CLINK Reset(I)(0/3.3V)
39	GND	40	CLINK DATA (I/O)
41	PERP0	42	CLINK CLK(I/O)
43	PERN0	44	COEX3(I/O)(0/1.8V)
45	GND	46	COEX2(I/O)(0/1.8V)
47	REFCLKP0	48	COEX1(I/O)(0/1.8V)
49	REFCLKN0	50	SUSCLK(32kHz)(I)(0/3.3V)
51	GND	52	PERST0#(0/3.3V)
53	CLKREQ0#(I/O)(0/3.3V)	54	BT_DISABLE2#(I)(0/3.3V)
55	PEWAKE0#(I/O)(0/3.3V)	56	W_DISABLE1#(I)(0/3.3V)
57	GND	58	NA
59	NA	60	NA
61	NA	62	NA
63	GND	64	NA
65	NA	66	NA
67	NA	68	NA

69	GND	70	NA
71	NA	72	+3.3V
73	NA	74	+3.3V
75	GND		

●J13 / J14 – DDR5 SO-DIMM Interface
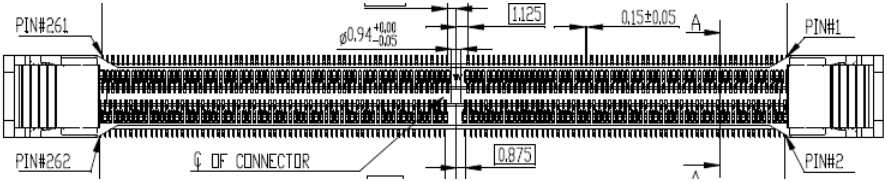
262-Pin DDR5 SODIMM Front						262-Pin DDR5 SODIMM Back					
Pin	Symbol	Pin	Symbol	Pin	Symbol	Pin	Symbol	Pin	Symbol	Pin	Symbol
1	VIN_BULK	89	V_{SS}	175	CB3_B	2	HSA	90	V_{SS}	176	CB2_B
3	VIN_BULK	91	DQ30_A	177	V_{SS}	4	HSCL	92	DQ31_A	178	V_{SS}
5	RFU	93	V_{SS}	179	DQ0_B	6	HSDA	94	V_{SS}	180	DQ1_B
7	PWR_GOOD	95	CB0_A	181	V_{SS}	8	PWR_EN	96	CB1_A	182	V_{SS}
9	V_{SS}	97	V_{SS}	183	DQ2_B	10	V_{SS}	98	V_{SS}	184	DQ3_B
11	DQ0_A	99	CB2_A	185	V_{SS}	12	DQ1_A	100	DQS4_A_c	186	V_{SS}
13	V_{SS}	101	V_{SS}	187	DM0_B_n	14	V_{SS}	102	DQS4_A_t	188	DQS0_B_c
15	DQ2_A	103	CB3_A	189	V_{SS}	16	DQ3_A	104	V_{SS}	190	DQS0_B_t
17	V_{SS}	105	V_{SS}	191	DQ4_B	18	V_{SS}	106	CS0_A_n	192	V_{SS}
19	DM0_A_n	107	CA0_A	193	V_{SS}	20	DQS0_A_c	108	ALERT_n	194	DQ5_B
21	V_{SS}	109	CA1_A	195	DQ6_B	22	DQS0_A_t	110	CS1_A_n	196	V_{SS}
23	DQ4_A	111	V_{SS}	197	V_{SS}	24	V_{SS}	112	V_{SS}	198	DQ7_B
25	V_{SS}	113	CA2_A	199	DQ8_B	26	DQ5_A	114	CA3_A	200	V_{SS}
27	DQ6_A	115	CA4_A	201	V_{SS}	28	V_{SS}	116	CA5_A	202	DQ9_B
29	V_{SS}	117	V_{SS}	203	DQ10_B	30	DQ7_A	118	V_{SS}	204	V_{SS}
31	DQ8_A	119	CA6_A	205	V_{SS}	32	V_{SS}	120	CA7_A	206	DQ11_B
33	V_{SS}	121	CA8_A	207	DQS1_B_c	34	DQ09_A	122	CA9_A	208	V_{SS}
35	DQ10_A	123	V_{SS}	209	DQS1_B_t	36	V_{SS}	124	V_{SS}	210	DM1_B_n
37	V_{SS}	125	CA10_A	211	V_{SS}	38	DQ11_A	126	CA11_A	212	V_{SS}
39	DQS1_A_c	KEY		213	DQ12_B	40	V_{SS}	KEY		214	DQ13_B
41	DQS1_A_t	127	CA12_A	215	V_{SS}	42	DM1_A_n	128	RFU	216	V_{SS}
43	V_{SS}	129	V_{SS}	217	DQ14_B	44	V_{SS}	130	V_{SS}	218	DQ15_B
45	DQ12_A	131	CK0_A_t	219	V_{SS}	46	DQ13_A	132	CK1_A_t	220	V_{SS}
47	V_{SS}	133	CK0_A_c	221	DQ16_B	48	V_{SS}	134	CK1_A_c	222	DQ17_B
49	DQ14_A	135	V_{SS}	223	V_{SS}	50	DQ15_A	136	V_{SS}	224	V_{SS}
51	V_{SS}	137	CK0_B_t	225	DQ18_B	52	V_{SS}	138	CK1_B_t	226	DQ19_B
53	DQ16_A	139	CK0_B_c	227	V_{SS}	54	DQ17_A	140	CK1_B_c	228	V_{SS}
55	V_{SS}	141	V_{SS}	229	DM2_B_n	56	V_{SS}	142	V_{SS}	230	DQS2_B_c
57	DQ18_A	143	RFU	231	V_{SS}	58	DQ19_A	144	CA12_B	232	DQS2_B_t
59	V_{SS}	145	CA11_B	233	DQ20_B	60	V_{SS}	146	CA10_B	234	V_{SS}
61	DM2_A_n	147	V_{SS}	235	V_{SS}	62	DQS2_A_c	148	V_{SS}	236	DQ21_B
63	V_{SS}	149	CA9_B	237	DQ22_B	64	DQS2_A_t	150	CA8_B	238	V_{SS}
65	DQ20_A	151	CA7_B	239	V_{SS}	66	V_{SS}	152	CA6_B	240	DQ23_B
67	V_{SS}	153	V_{SS}	241	DQ24_B	68	DQ21_A	154	V_{SS}	242	V_{SS}
69	DQ22_A	155	CA5_B	243	V_{SS}	70	V_{SS}	156	CA4_B	244	DQ25_B
71	V_{SS}	157	CA3_B	245	DQ26_B	72	DQ23_A	158	CA2_B	246	V_{SS}
73	DQ24_A	159	V_{SS}	247	V_{SS}	74	V_{SS}	160	V_{SS}	248	DQ27_B
75	V_{SS}	161	CS0_B_n	249	DQS3_B_c	76	DQ25_A	162	CA1_B	250	V_{SS}
77	DQ26_A	163	RESET_n	251	DQS3_B_t	78	V_{SS}	164	CA0_B	252	DM3_B_n
79	V_{SS}	165	CS1_B_n	253	V_{SS}	80	DQ27_A	166	V_{SS}	254	V_{SS}
81	DQS3_A_c	167	V_{SS}	255	DQ28_B	82	V_{SS}	168	CB0_B	256	DQ29_B
83	DQS3_A_t	169	DQS4_B_c	257	V_{SS}	84	DM3_A_n	170	V_{SS}	258	V_{SS}
85	V_{SS}	171	DQS4_B_t	259	DQ30_B	86	V_{SS}	172	CB1_B	260	DQ31_B
87	DQ28_A	173	V_{SS}	261	V_{SS}	88	DQ29_A	174	V_{SS}	262	V_{SS}

●JJ15 / J17 / J18 – Internal COM2,3,4 Serial Port
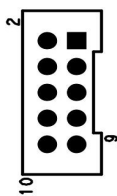
Pin #	Signal Description	Pin #	Signal Description
2	232_DSR#	1	232_DCD#
4	232_RTS#	3	232_SIN
6	232_CTS#	5	232_SOUT
8	232_RI#	7	232_DTR#
10	NA / +5VS	9	GND

●J16 – Internal COM1 Serial Port
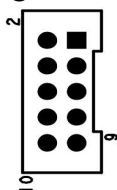
Pin #	Signal Description		
	RS-232	RS-422	RS-485
1	232_DCD#	TX D-	DATA-
2	232_DSR#	--	--
3	232_SIN	TX D+	DATA+
4	232_RTS#	--	--
5	232_SOUT	RX D+	--
6	232_CTS#	--	--
7	232_DTR#	RX D-	--
8	232_RI#	--	--
9	GND	GND	GND
10	NC / +5VS	NC / +5VS	NC / +5VS

●J19 – PCIE x 8 Connector

Pin #	Side B	Side A	Pin #	Side B	Side A
1	+12VS	RSVD	17	RSVD	RXN0
2	+12VS	+12VS	18	GND	GND

3	RSVD	+12VS		19	TXP1	RSVD
4	GND	GND		20	TXN1	GND
5	SMBCLK	RSVD		21	GND	RXP1
6	SMBDATA	RSVD		22	GND	RXN1
7	GND	RSVD		23	TXP2	GND
8	+3.3VS_PCIE	RSVD		24	TXN2	GND
9	RSVD	+3.3VS_PCIE		25	GND	RXP2
10	+3.3VSB	+3.3VS_PCIE		26	GND	RXN2
11	PCIE_WAKE#	PLT_RST#		27	TXP3	GND
12	PCIE_CLKRQ#	GND		28	TXN3	GND
13	GND	CLKP		29	GND	RXP3
14	TXP0	CLKN		30	RSVD	RXN3
15	TXN0	GND		31	RSVD	GND
16	GND	RXP0		32	GND	RSVD

●JJ21 – M.2 B_M-KEY Socket
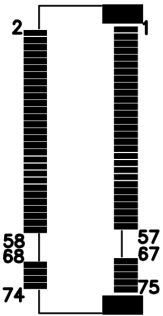
Pin #	Signal Description	Pin #	Signal Description
1	GND	2	+3.3V
3	GND	4	+3.3V
5	PERN3	6	NA
7	PERP3	8	NA
9	GND	10	Test Print
11	PETN3	12	**B-key**
13	**B-key**	14	**B-key**
15	**B-key**	16	**B-key**
17	**B-key**	18	**B-key**
19	**B-key**	20	**B-key**
21	GND	22	NA
23	PETN2	24	NA
25	PETP2	26	NA

27	GND	28	NA
29	PERN1	30	NA
31	PERP1	32	NA
33	GND	34	NA
35	PETN1	36	NA
37	PETP1	38	DEVSLP
39	GND	40	NA
41	PERN0/SATA_B+	42	NA
43	PERP0/SATA_B-	44	NA
45	GND	46	NA
47	PETN0/SATA_A-	48	NA
49	PETP0/SATA_A+	50	PERST#
51	GND	52	CLKREQ#
53	REFCLKN	54	PEWAKE#
55	REFCLKP	56	NA
57	GND	58	**M-key**
59	**M-key**	60	**M-key**
61	**M-key**	62	**M-key**
63	**M-key**	64	**M-key**
65	**M-key**	66	**M-key**
67	NA	68	SUSCLK (32kHz)
69	PEDET	70	+3.3V
71	GND	72	+3.3V
73	GND	74	+3.3V
75	GND		

●J22 – Video In dug con
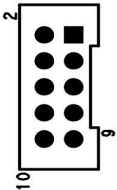
Pin #	Signal Description	Pin #	Signal Description
2	LEFT_KEY#	1	MENU_KEY#
4	RIGHT_KEY#	3	POWER_KEY#
6	NA	5	UP_KEY#
8	NA	7	DOWN_KEY#
10	GND	9	AUTO_KEY#

●J23 – Battery CON

WMP-22T-PIS User's manual

Pin #	Signal Description
1	CR2032 power 3V
2	GND

●J24 –BIOS SOCKET
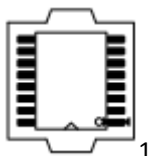
Pin #	Signal Description	Pin #	Signal Description
1	DNU/SIO3	16	SCLK
2	VCC	15	SI/SIO0
3	RESET#	14	NC
4	NC	13	NC
5	NC	12	NC
6	NC	11	NC
7	CS#	10	GND
8	SO/SIO1	9	WP#/SIO2

●J25, J26 – RIGHT / LEFT CH for Speaker.

Pin #	Signal Description	
	J26 (LEFT CH)	J25 (RIGHT CH)
1	LOUT+	ROUT+
2	LOUT-	ROUT-

●J27– Internal MIC

Pin #	Signal Description
1	MIC_R/ MIC_L
2	GND

●J28 – HDMI Input

Pin #	Signal Description	Pin #	Signal Description
1	HDMI_TMDSP2	2	GND
3	HDMI_TMDSN2	4	HDMI_TMDSP1
5	GND	6	HDMI_TMDSN1
7	HDMI_TMDSP0	8	GND
9	HDMI_TMDSN0	10	HDMI_TMDS_CLKP
11	GND	12	HDMI_TMDS_CLKN
13	HDMI_CRLS_CEC	14	HDMI_CRLS_RSV
15	HDMI_CRLS_SCL	16	HDMI_CRLS_SDA
17	GND	18	+5V_CRLS_HDMI
19	HDMI_CRLS_HPD		

●J29 – HDMI Output

Pin #	Signal Description	Pin #	Signal Description
1	HDMI_TMDSP2	2	GND
3	HDMI_TMDSN2	4	HDMI_TMDSP1
5	GND	6	HDMI_TMDSN1
7	HDMI_TMDSP0	8	GND
9	HDMI_TMDSN0	10	HDMI_TMDS_CLKP
11	GND	12	HDMI_TMDS_CLKN

13	HDMI_CRLS_CEC	14	HDMI_CRLS_RSV
15	HDMI_CRLS_SCL	16	HDMI_CRLS_SDA
17	GND	18	+5V_CRLS_HDMI
19	HDMI_CRLS_HPD		

●J30 – Display Port Interface
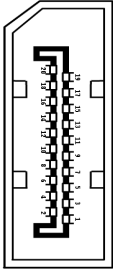
Pin #	Signal Description	Pin #	Signal Description
1	ML_LANE0+	11	GND
2	GND	12	ML_LANE3-
3	ML_LANE0-	13	DPN_AUX_EN_N
4	ML_LAN1+	14	GND
5	GND	15	DPN_AUX_P
6	ML_LAN1-	16	GND
7	ML_LANE2+	17	DPN_AUX_N
8	GND	18	Hot Plug
9	ML_LANE2-	19	GND
10	ML_LANE3+	20	DP_PWR

●J28 – EC Reset
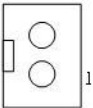
Pin #	Signal Description
1	WRST#
2	GND

●J33,J34 – R / L Speaker Connect
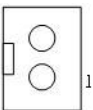
Pin #	Signal Description
1	AMP. Out +
2	AMP. Out -

●J31, J32 – Ethernet Ports
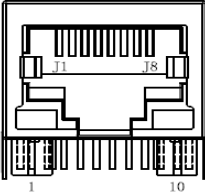
Pin #	Signal Description
1	+V3P3_LAN
2	LAN_MDI0_P
3	LAN_MDI0_N
4	LAN_MDI1_P
5	LAN_MDI1_N
6	LAN_MDI2_P
7	LAN_MDI2_N
8	LAN_MDI3_P
9	LAN_MDI3_N
10	Ground

●J33, J34 – USB3.2 Gen 2
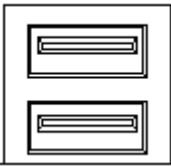
Pin #	Signal Description	Pin #	Signal Description
1	+5VSB	10	+5VSB
2	Data1-	11	Data2-
3	Data1+	12	Data2+
4	GND	13	GND
5	SSRX1-	14	SSRX2-
6	SSRX1+	15	SSRX2+
7	GND	16	GND
8	SSTX1-	17	SSTX2-

| 9 | SSTX1+ | 18 | SSTX2+ |

●J35 – Audio Earphone / MIC
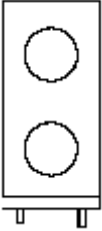
	Signal Description
UP	Line Out (stereo) Green
DOWN	Microphone (stereo) Pink

●J36 – EC Debug
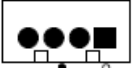
Pin #	**Signal Description**
1	+3.3VS
2	DBG_SMBCLK
3	DBG_SMBDATA
4	GND

●J37 – Reset Button
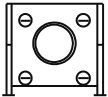
Pin #	**Signal Description**
1	SYS_RESET#
2	GND

●J39 – Power Switch connect
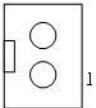
Pin #	**Signal Description**
1	Power ON
2	GND