



integration with integrity

2907630

15" Medical Panel PC

Version 1.0

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Chapter 1

General Information

1.1 Getting Started

This section will have you up and running smoothly.

1.2 Packing List

Panel PC

Accessory
Package

- 1 x Power Cord (French Cord set)
- 1 x Power Cord (American Cord set)
- 1 x Quick Installation Guide
- 1 x Driver CD
- 1 x Power Adapter
- 1 x Earphone Hook Bracket

- 1 x screws kit

Before up and running, please make sure the package contains all of above accessories.

If any of the above items is damaged or missing, contact your vendor immediately.

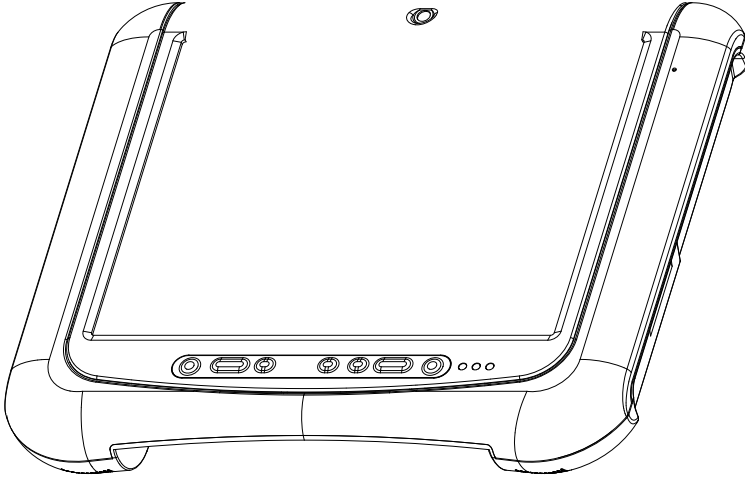
1.4 Specifications

Model Name		
System	CPU	Supports Intel Celeron M ULV 423 1.06GHz (Fanless) or Intel Core™ 2 Duo processor, up to T7400 2.16GHz, 4MB L2 Unified, FSB667/533MHz CPU
	Graphics Controller	Intel GMA950 Video Controller, up to 192MB shared memory
	Memory	2 x 200-pin SO-DIMM Socket, up to 4GB Dual Channel DDRII 667/533/400MHz SDRAM
	Chipset	Intel 945GME + ICH7M
	I/O Chips	Fintek F81216D + 1 x EC controller
	BIOS	AMI PnP Flash BIOS
	AUDIO	HD Audio supports MIC-In/ Line-out Two internal speakers (1.5W), MIC built-in
	LAN Controller	One Realtek 8111B 1000 base-T PCIe Gigabit LAN
	IDE Interface	1 x IDE for CD-ROM or DVD combo
	Serial ATA	1 x SATA 300MB/s HDD transfer rate
	USB DOM	4G/ 8G (optional)
	Bluetooth	1 x Bluetooth module by USB interface
	Battery	7200mAh Li-battery pack built-in
	Expansion bus	1 x PCIe Mini-card (USB or PCIe Interface)
	I/O	Serial Port
USB Port		4 x USB 2.0 compliant ports
KB/MS		1 x PS/2 Keyboard and Mouse Mini-DIN connector
LAN		1 x RJ-45 connector
Audio		1 x Line-out, One MIC-In
VGA		1 x D-sub 15-pin female connector
DVI		1 x DVI connector
WiFi		1 x Wireless LAN 802.11b/g/n
RJ-11		1 x RJ-11 for Input, 1 x RJ-11 for Output
Smart Card Reader		1 x Smart Card Reader (By USB interface)
Switches & Indicators	Function Key	8 programmable button (F1 ~ F8)
	Power Button	On/Off Switch
	Battery Status	Battery LED (Red/Yellow)
	Power Status	Power LED (Red/Blue)
	IDE Status	IDE LED (Red/Green)

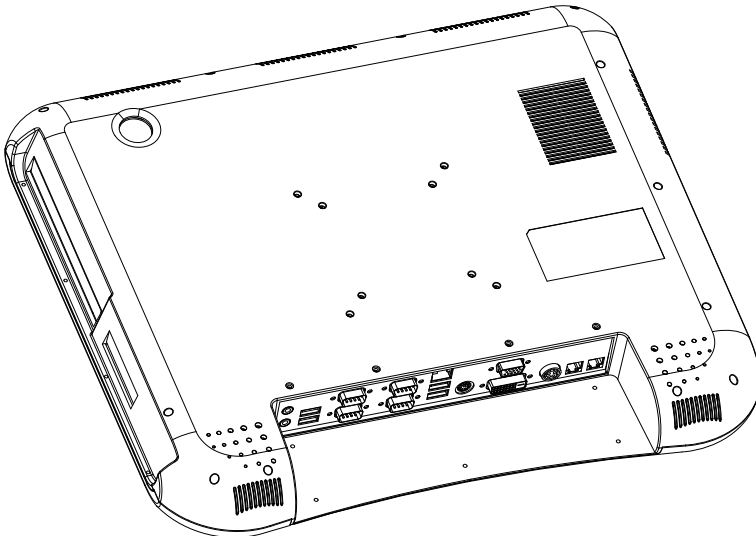
LCD Display	Size/ Type	15" TFT Color/ 1CH 18-bit LVDS
	Max. Resolution	1024 (H) x 768 (V), XGA
	Pixel Pitch	0.297mm x 0.297mm
	Max. Color	262,144 color
	Viewing Angle	120
	Contrast Ratio	500:1
	Luminance (cd/m ²)	350
	LCD MTBF	50,000 hours
	Back Light MTBF	50,000 hours
Touch Screen	Type	Analog Resistive
	Resolution	Continuous
	Light Transmission	80%
	Controller Interface	USB Interface
	Power Consumption	5V/200mA
	Driver Supported	Windows/Linux
	Durability	30 Million
Storage	HDD/ Type	1 x 2.5" HDD bay
	Slim-ROM	1 x Slim Type CD-ROM driver
Power Adapter (MPU100-107)	AC Input	100-240VAC (Full-range)
	Frequency	47 ~ 63Hz
	DC Output	100W (Max.), 5A@20V
	Input Current (rms)	1.25A@115VAC, 0.5A@230VAC Max.
	Efficiency	88%@full load, 230VAC, Max.
Mechanical & Environment	Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)
	Storage Humidity	5% to 95% non-condensing
	Vibration	17 to 500Hz, 1G PTP
	Shock	10G/peak (11m sec)
	Construction	Plastic
	Mounting	VESA-75 compatible or VESA 100
	Dimension (LxHxD)	410 x 60 x 350 mm (15.76" x 2.36" x 13.78")

1.5 Overview

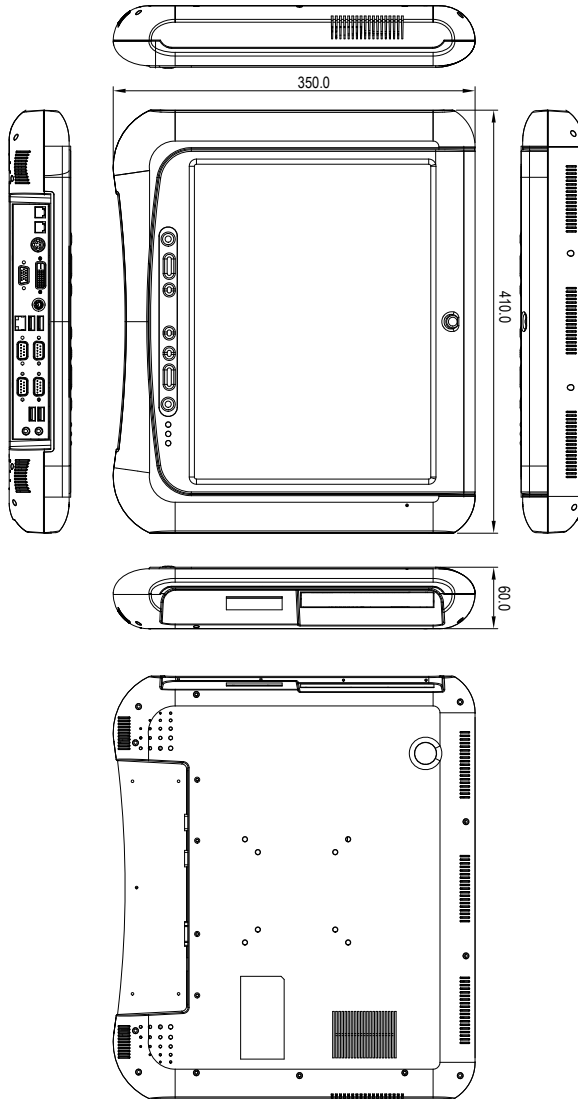
Front view



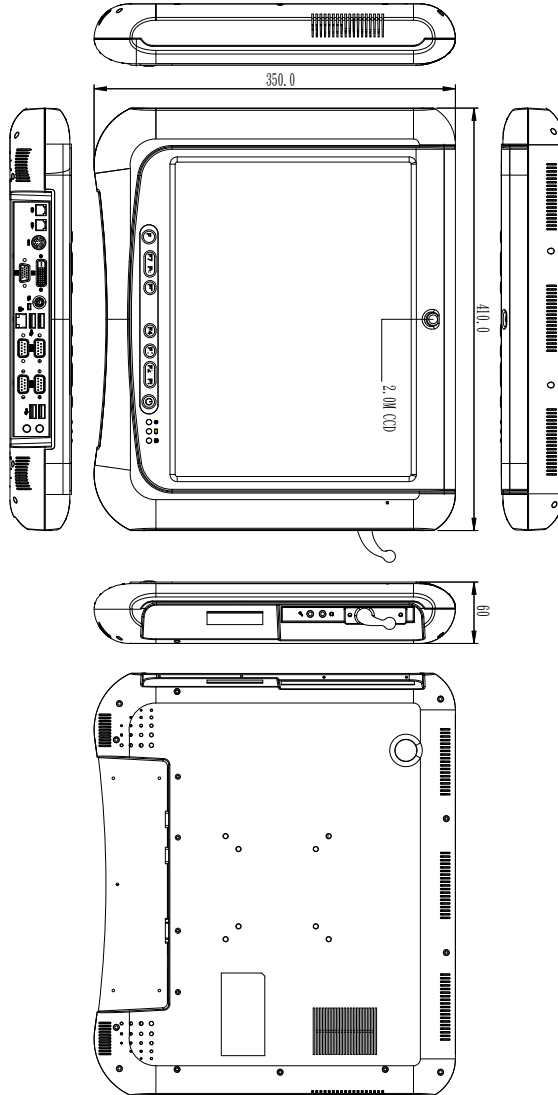
Rear view



1.6 Dimensions



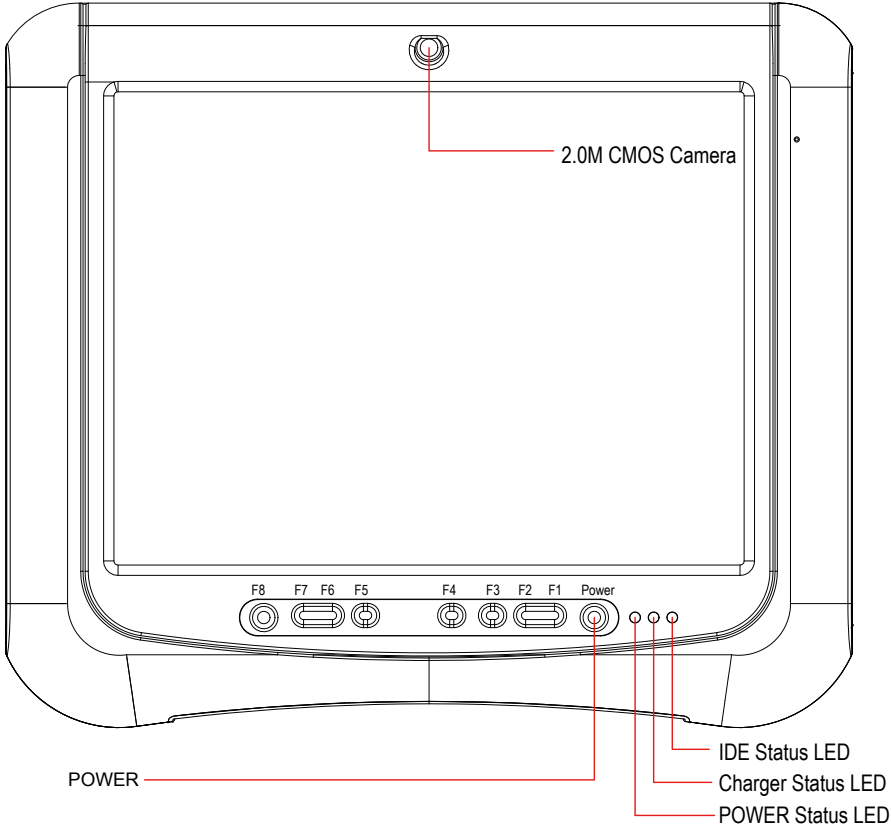
General Information



1.7 Location of Switches and Indicators

The front panel contains indicators, switches, CMOS camera, OSD, Power switch, HDD LED, Battery status LED and Power On/Off LED indicators.

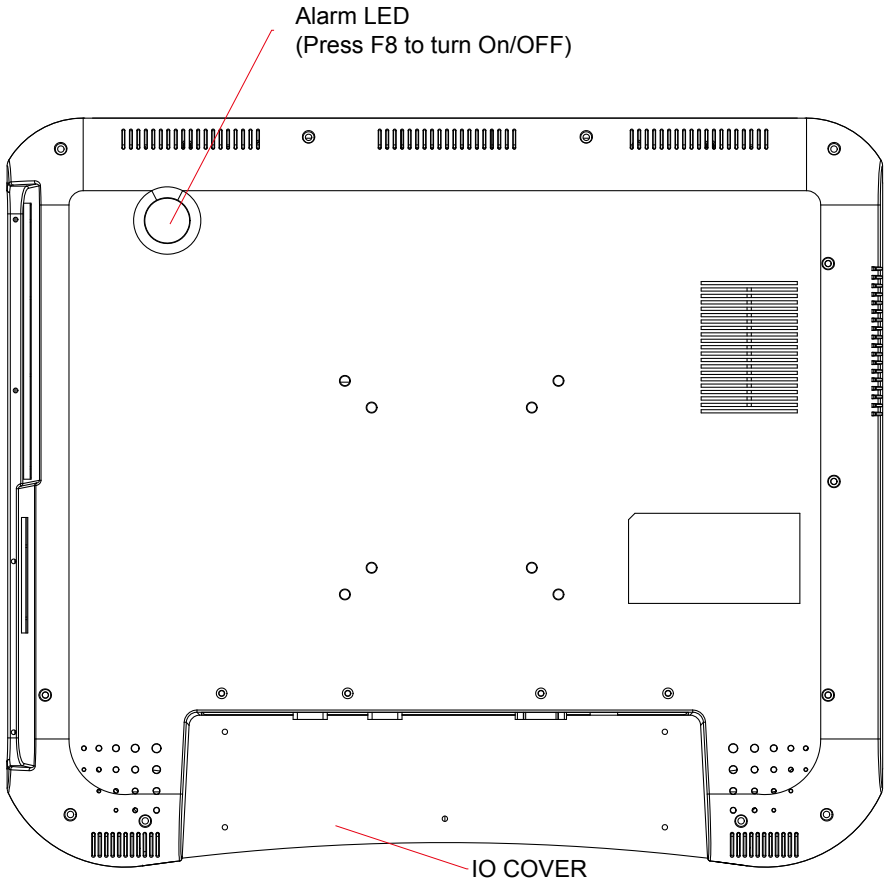
Front side



Rear side

The rear side contains alarm LED indicator that press F8 to turn On/OFF.
The function key F8 can programme the alarm LED to always ON or blink.

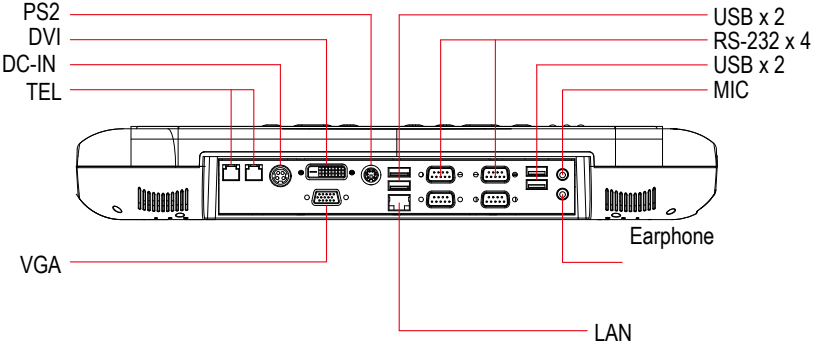
If you need any technical documentations to program function keys, please do not hesitate to call or e-mail our customer service.



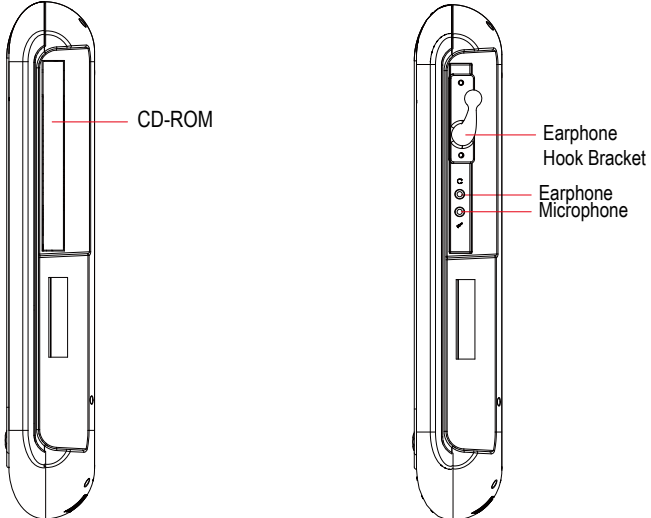
1.8 Location of I/O ports

Before starting to install software on your new Penal PC please spend some time to find out the exact location of connectors.

Bottom side



Right side

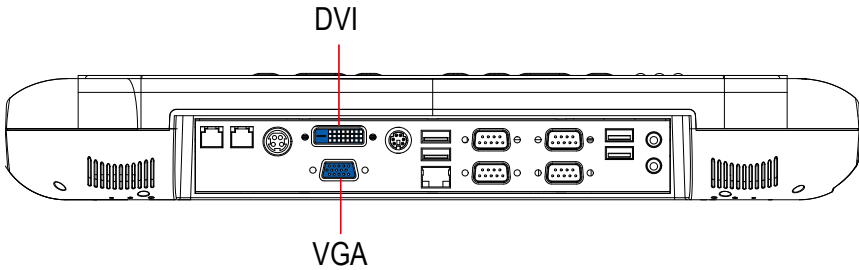


1.9 Connecting Peripherals

The user can use the I/O interfaces located at the backside of the chassis to connect external peripheral devices, such as a mouse, a keyboard, a monitor, serial devices or parallel printer etc. Before connection make sure that the computer and the peripheral devices are turned off.

1.9.1 Connecting an external CRT

It has a 15-pin analog RGB interface connector and a DVI connector located at the bottom side of the chassis for connection a secondary display. The system can support simultaneous display on both its LCD display and on the external CRT display. Note that the preferred resolution is 1024 x 768 because this is what the LCD Panel needs to operate full screen.



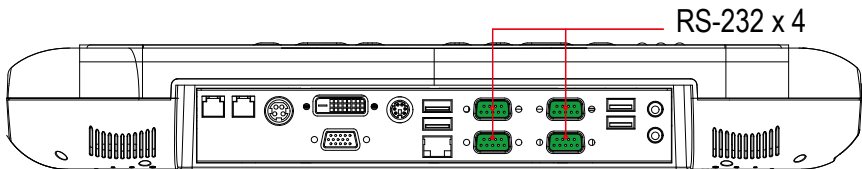
1.9.2 External Serial Ports (COM1/2/3/4)

The logic board supports four onboard serial ports, all COM ports supports RS-232.

The external COM1, COM2, COM3 and COM4 are all D-SUB 9-pin male connectors.

To connect any serial device, follow the steps below:

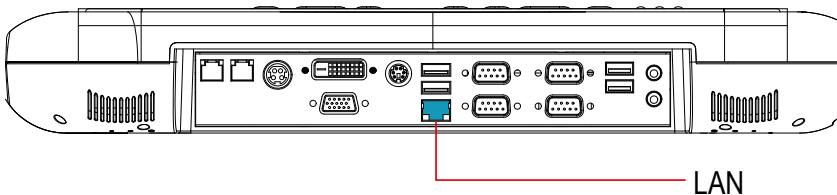
1. Turn off the Medical Panel PC system and the serial devices.
2. Attach the interface cable of the serial device to the 9-pin D-SUB serial connector. Be sure to fasten the retaining screws.
3. Turn on the computer and the attached serial devices.
4. Refer to the serial device's manual for instruction to configure the operation environment to recognize the new attached devices.
5. If the serial device needs specified IRQ or address, you may need to run the CMOS setup to change the hardware device setup.



1.9.3 LAN Port

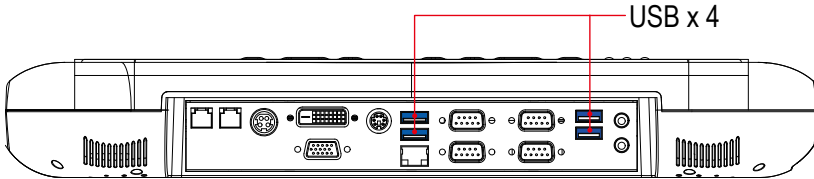
provides one Realtek 8 111B 10/100/1000 Base-T Ethernet (RJ-45) interface. For network connection, follow the instructions below;

1. Turn off the Medical Panel PC system and the Ethernet hubs.
2. Plug in one end of cable of a 10/100/1000 Base-T hub to the system's RJ-45 jack.



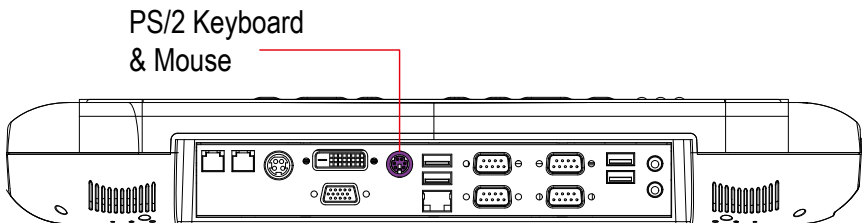
1.9.4 USB Ports

Device provides four external USB ports to connect to external USB devices. USB ports and devices are hot plug capable. Therefore any USB device can be connected at all time without the need to power down your system. Note that for many of these devices you will first have to install proper device drivers before they can be recognized by the system.



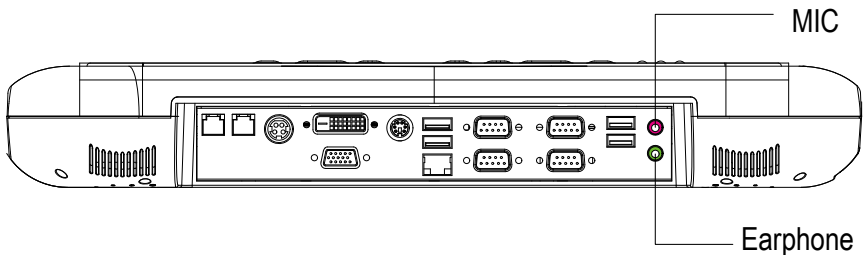
1.9.5 PS/2 Keyboard/Mouse

It provides one PS/2 keyboard/mouse connector located at the bottom side. If the user would like to use AT keyboard, then an adapter to connect the PS/2 Keyboard to AT Keyboard is needed.



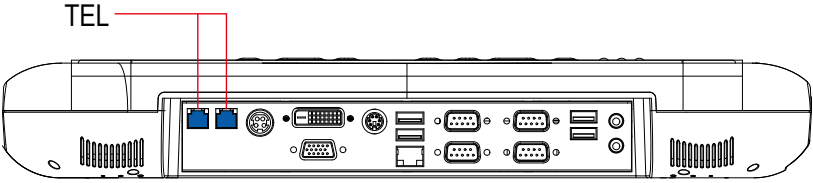
1.9.6 Audio Line-Out/ MIC-In

provides two Audio jacks for Line-Out and MIC-In located at the bottom side.



1.9.7 TEL Port

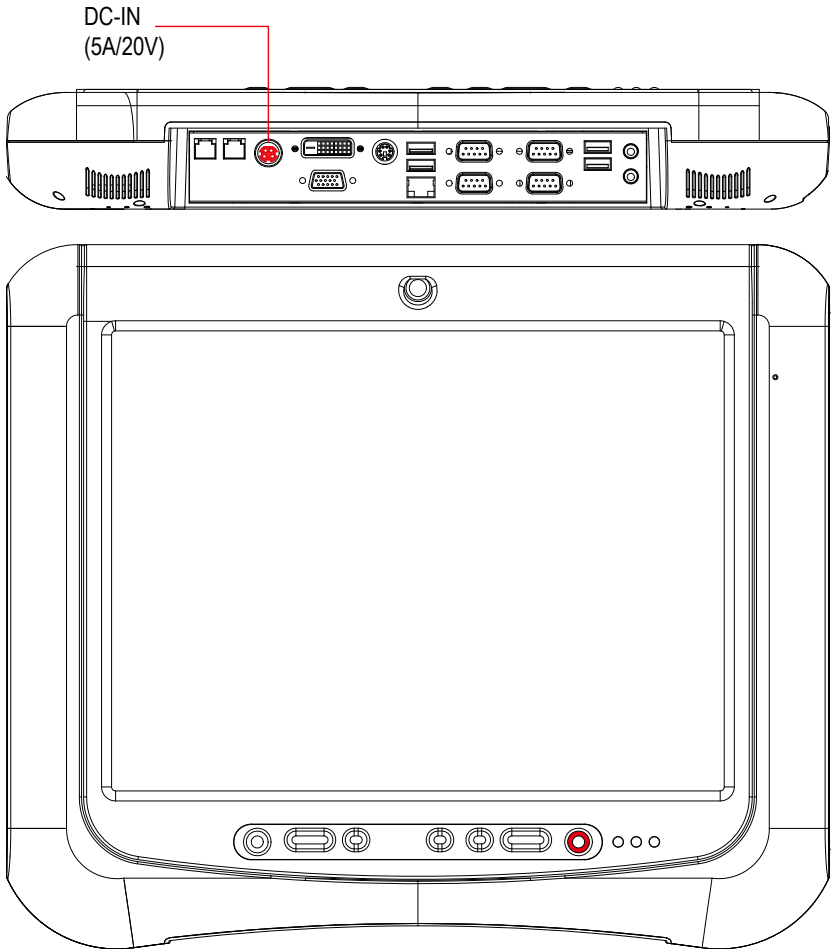
provides two RJ-11 line connectors (bypass only) for a standard telephone cable.



1.9.8 DC Power Input and Power Switch

One end of the power cable is fitted with a standard power connector that connects to any normal wall outlet (types differ per country). To connect the system to power, follow the following instructions :

1. Make the system power switched off.
2. Plug the circular connector firmly into the circular socket on the bottom side.
3. Connect the Mini-DIN.
4. For operation, power up the system.



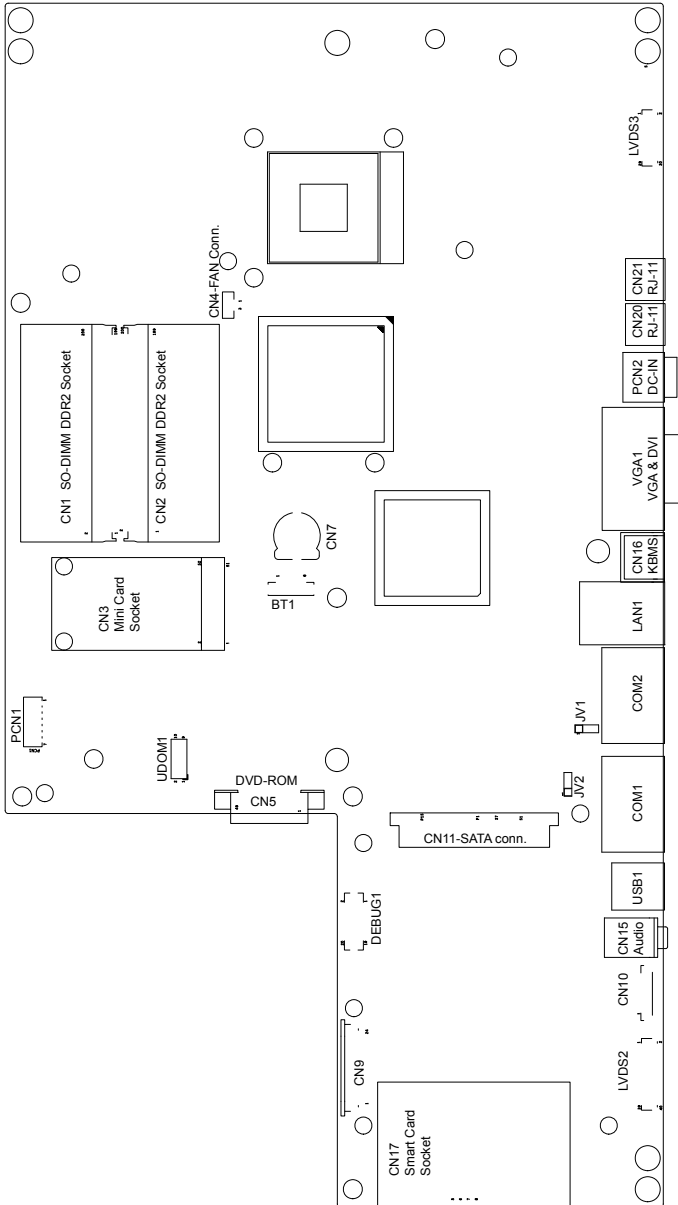
Chapter 2

Board Installation

2.1 Board Specifications

Product Name	GAI
Processor	Supports Intel Celeron M ULV 423 1.06GHz (Fanless) or Intel Core™ 2 Duo processor, up to T7400 2.16GHz, 4MB L2 Unified, FSB667/533MHz CPU
Chipset	Intel 945GME + Intel ICH7M
System Memory	2 x 200-pin DDRII SO-DIMM socket Up to 4GB
VGA/LCD Controller	Integrated with Intel® Graphics Media Accelerator (GMA950) CRT and LVDS support (dual mode independent display)
Ethernet	1 x Realtek 8111B 10/100/1000Mbps Fast Ethernet
I/O Chips	ITE-8512E
BIOS	AMI PnP Flash BIOS
Audio	HD Codec, MIC-in/Line-out
IDE	1 x IDE DVD-ROM drive
Serial ATA	1 x Serial ATA 300MB/s HDD transfer rate
Serial Port	4 x Serial Port COM1, 3: Supports +5V power pin
KBMS	Standard PS/2 Keyboard and Mouse
Universal Serial Bus	4 x USB 2.0 compliant
VGA	LVDS / DVI/ CRT
Expansion Interface	1 x MiniCard socket
RTC	Real Time Clock
Power Input Connector	DC-in +20V/5A (AC power adapter)
Operation Temp.	0°C ~ 40°C (32°F ~ 104°F)

2.2 Jumpers and Connectors location



2.3 Jumper / Connector Quick Reference

I/O Connectors

Label	Function
VGA1	CRT & DVI Display
LAN1	RJ-45 LAN Ethernet Connector USB Port 1, 2
COM1 ~ COM4	RS-232 Serial Ports
CN5	DVD-ROM connector (IDE1)
CN9	Keyboard matrix interface connector
CN15	MIC-in, Line-out phone jack
CN16	PS/2 Keyboard and Mouse
CN20, CN21	Telephone RJ-11 connectors
PCN2	DC-IN connector
USB1	USB Port 3, 4

Jumpers

Label	Function
JV1, JV2	COM port special +5V Voltage Select

Connectors

CN1, CN2	200-pin SO-DIMM DDRII socket
CN3	Mini Card socket
CN4	FAN power connector
CN10	Audio Interface Port
CN11	Serial ATA connector
CN17	Smart Card socket
LVDS2	LED indicators & hot key connector
LVDS3	LVDS connector
UDOM1	USB port connector

CN5: DVD-ROM Connector

Connector type: Right angle 2x25-pin connector

Pin	Description	Pin	Description
1	CD-L	2	CD-R
3	CD_GND	4	GND
5	IDE RESET	6	DATA8
7	DATA7	8	DATA9
9	DATA6	10	DATA10
11	DATA5	12	DATA11
13	DATA4	14	DATA12
15	DATA3	16	DATA13
17	DATA2	18	DATA14
19	DATA1	20	DATA15
21	DATA0	22	REQ
23	GND	24	IO READ
25	IO WRITE	26	GND
27	IO READY	28	DACK
29	IRQ15	30	IOCS16
31	ADDR1	32	CD_DET
33	ADDR0	34	ADDR2
35	CS1#	36	CS3#
37	IDEACTP	38	+5V
39	+5V	40	+5V
41	+5V	42	+5V
43	GND	44	GND
45	GND	46	GND
47	M_S_SET	48	GND
49	NC	50	NC

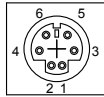
CN15: Audio Connector

The CN15 composed of Earphone and Microphone jacks.



CN16: Mini-DIN Keyboard & Mouse Connector

Pin	Description
1	KB Data
2	MS Data
3	GND
4	+5V
5	KB Clock
6	MS Clock

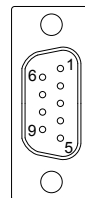


Note: KBM1 supports PS/2 keyboard directly, and PS/2 mouse supported with the additional PS/2 1-to-2 cable.

COM1~4: RS-232 Connectors

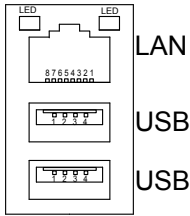
Connector type: D-Sub 9-pin male.

Pin	Description	Pin	Description
1	DCD#	6	DSR#
2	RXD	7	RTS#
3	TXD	8	CTS#
4	DTR#	9	RI#
5	GND		



LAN1: 1 x RJ-45 + 2 x USB

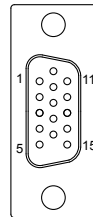
LAN1 supports one Ethernet and two USB 2.0 connectors w/ 480MB/s.
Connector type: RJ-45 + double stack USB type A.



VGA1: CRT Connector

Connector type: D-Sub 15-pin female.

Pin	Description	Pin	Description
1	RED	9	+5V
2	GREEN	10	GND
3	BLUE	11	N/C
4	N/C	12	VDDAT
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	VDCLK
8	GND		

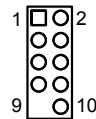


UDOM1: USB Connector

The board supports one header UDOM1 that can connect high-speed (Data transfers at 480MB/s), full-speed (Data transfers at 12MB/s) or low-speed (Data transfers at 1.5MB/s) USB devices.

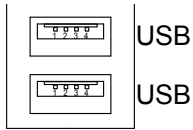
Connector type: 2.00mm 2x5 pin header

Pin	Description	Pin	Description
1	+5V	2	N/C
3	USBD-	4	N/C
5	USBD+	6	N/C
7	GND	8	N/C
9	N/C (Key)	10	N/C



USB1: USB ports

Connector type: double stack USB type A.



LVDS2: LED & Hot key Connector

Pin	Description	Pin	Description
1	+3.3V	2	+3.3V
3	PWR_LED#	4	DTV_SW
5	CHG_LED#	6	DTV_UP_SW
7	BATTLO_LED#	8	DTV_DWN_SW
9	TMODE_LED#	10	SOUND_UP_SW
11	SUS_LED#	12	SOUND_DWN_SW
13	CD_LED#	14	SKYPE_SW
15	SATA_LED#	16	PWR_SW
17	INT_MIC	18	GND
19	GND	20	GND
21	SPKL1+	22	VREF
23	SPKL1-	24	BTLED
25	SPKR-	26	FUNCTION1
27	SPKR+	28	FUNCTION2
29	+5V	30	+3.3V
31	CCD_VCC	32	USB_DATA5+
33	USB_DATA7+	34	USB_DATA5-
35	USB_DATA7-	36	GND
37	GND	38	+5V
39	GND	40	GND

LVDS3: LVDS LCD Connectors

Pin	Description	Pin	Description
2	VDD	1	VDD
4	TX1CLK+	3	TX2CLK+
6	TX1CLK-	5	TX2CLK-
8	GND	7	GND
10	TX1D0+	9	TX2D0+
12	TX1D0-	11	TX2D0-
14	GND	13	GND
16	TX1D1+	15	TX2D1+
18	TX1D1-	17	TX2D1-
20	PNLSW1	19	PNLSW2
22	TX1D2+	21	TX2D2+
24	TX1D2-	23	TX2D2-
26	GND	25	GND
28	BKLTEN	27	BRIGHTADJ
30	+12V	29	+12V

PCN2: DC Power Input

Pin	Description
1	+20V
2	+20V
3	GND
4	GND



Connector type: Mini DIN.

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support your products, projects and business.



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