AUTIC SYSTEM MARINE PC

Installation and User Manual

Disclaimer

Only qualified personnel can take care of installing and repairing these products. Autic System AS does not take responsibility for products where the seal is broken by the customer. Claims for errors or omissions with the item must be carried out without undue delay. Autic System AS liability is limited to repair or replacement of the products. Autic System AS is not responsible for replacement costs or other consequential damages.

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Revisions

Rev. No.	Date	Description
Rev. 1	August 2013	Original
Rev. 2	March 2014	Corrections and additions have been made on pages 9, 10, 13, 20, 22, 24, 29, 32, 36 and 46-47.
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Contents

1 About the Autic Marine PC Product Series

Autic System provides a series of Panel PCs, Box/Mini PC and Monitors approved for use in industrial and marine applications. All products got a construction to operate without any moving parts as ventilation fan and hard disk drive. We do give flexibility to select Panel PC with all functions included or Box/Mini PC with external monitor(s). All parts are based on the same base of hardware. Products are approved for Marine use by DNV 2,4 and IEC 60945.

1. Touch-screen Panel PCs with screen sizes from 8,4" to 24"
2. Box PC with identical Motherboard as the Panel PC series.
3. Touch-screen Monitor's with screen sizes from 8,4" to 24"

This manual covers the Panel PC, Box/Mini PC and Monitors.

2 Autic Panel PC
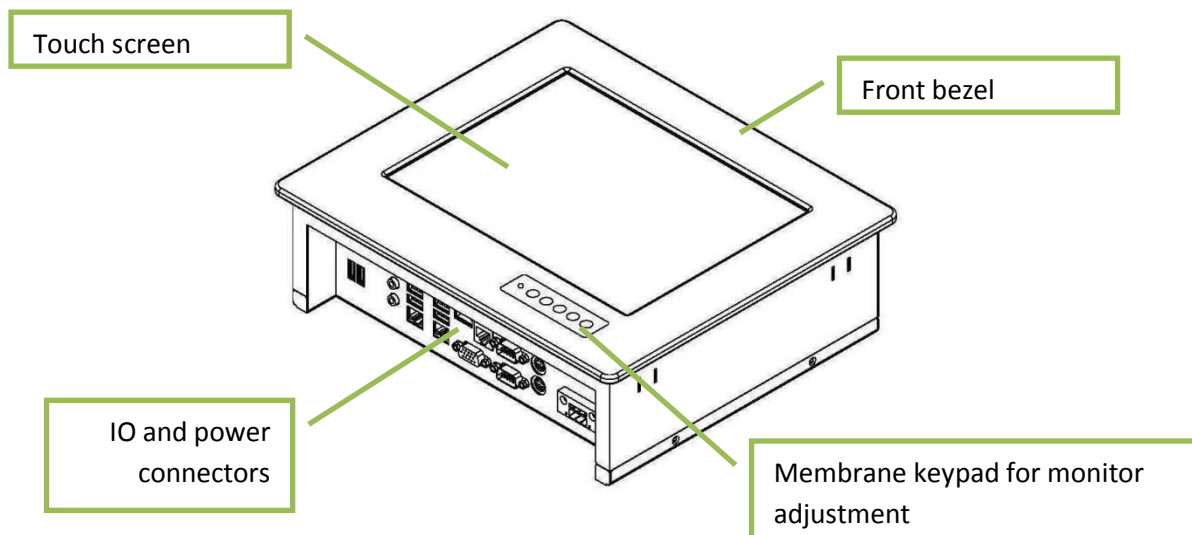
APPC series is a series Panel PCs designed for Autic System for optimal solution of HMI functionality to marine and industrial markets. Sturdy design based on MIL-specified components. Powerful CPU based on Intel Atom N2700 processor provides maximum performance based on known platform. Intel SGS545 PowerVR graphics processor for quick screen refresh. Multitouch allows screen operation with both hands. The PC provides practical functionality such as easy access to the hard drive and connectors for redundant power supplies.

2.1 Range of Panel PC products

DNV 2.4 and IEC60945 approved.

	Screen size	Screen resolution	Display brigthness	Colors	RS-232	RS-232 RS-485 RS-422	USB (2.0)	PCI	Power consumption
Display format 4:3									
APPC-8427T-AL-FL	8"	800x600	500 nit LED	262K	3	1	6	0	30 W
APPC-10427T-AL-FL	10.4 "	800x600	300 nit CCFL	262K	5	1	6	0	40 W
APPC-10427T-AL-FL-XG	10.4 "	1024x768	300 nit LED	262K	5	1	6	0	40 W
APPC-1227T-AL-FL	12"	800x600	300 nit CCFL	16.7M	5	1	6	0	40 W
APPC-1227T-AL-FL-XG	12"	1024x768	420 nit LED	16.7M	5	1	6	0	40 W
APPC-1527PT-AL-FL	15"	1024x768	300 nit CCFL	16.7M	5	1	6	1	50 W
APPC-1727PT-AL-FL	17"	1280x1024	300 nit CCFL	16.7M	5	1	6	1	60 W
APPC-1927PT-AL-FL	19"	1280x1024	300 nit CCFL	16,7M	5	1	6	1	70 W
Display format 16:9									
APPC-11627T-AL-FL	11,6"	1366x768	200 nit LED	262K	2	1	4	0	40 W
APPC-15627T-AL-FL	15,6"	1920x1080	300 nit LED	262K	5	1	6	1	50 W
APPC-2227PT-AL-FL	22"	1920x1080	300 nit CCFL	16.7M	5	1	6	1	75 W
APPC-2427PT-AL-FL	24"	1920x1080	300 nit LED	16.7M	5	1	6	1	80 W

2.1.1 Product Identification

Product description: APPC-2427PT-AL-FL

T	Touch screen
P	PCI slot
AL	Aluminum front Bezel
FL	Fan-less
MK	Membrane keypad for monitor adjustment. Located at the front bezel.
8N/10N	Sun readable. LED backlight (800 – 1000 nit)

Serial number: 1927T-AMK-10N-DC-SSD60G-1304022-C

T	Touch Screen
AMK	Aluminum bezel with membrane keypad
10N	Display brightness. 10N=10 nits, 8N=8 nits, 5N= 5 nits
DC	DC power supply built-in
SSD60G	60GB SSD, 250GB HDD etc.
1304022	13 = 2013; 04 = April, 022 = 22th unit of this serial number
C	Mechanical version C

2.2 Specifications Panel PC

All models are fitted as standard with 4 GB of RAM, 2 LAN ports, mini PCIe slot, resistive touch screen, 120 GB SSD drive. Power supplied by 9 to 32 VDC. Adapter 100 – 240 VAC to 12 VDC included in the delivery. HDMI / VGA output for additional monitor.

PCI slot and number of serial ports depend on the size of the Panel PC.

Optional equipment
Membrane keypad in front for backlight dimming and display adjustment
2 LAN port (Total 4 ports).
Sun readable monitor
2 Opto Isolates PCI-slot based serial ports RS-232C or RS-422/485. (DNV approved)
Technical Data

Front panel protection	IP65
Rear panel protection	IP22
Power supply	+24 VDC (9-32 VDC).
Power adapter (Model according to consumption)	100 – 240 VAC to 12 VDC
Power consumption	30 to 80 W
Ambient temperature. Vertical mounting	0° to +60°C
Ambient temperature. Horizontal mounting	0° to +50°C
Storage temperature	-20°to+80°C
Relative humidity	5-85% non-condensing
Approvals	CE/ FCC/Rohs
Marine certification	DNV 2.4 and IEC60945

2.3 Connectors
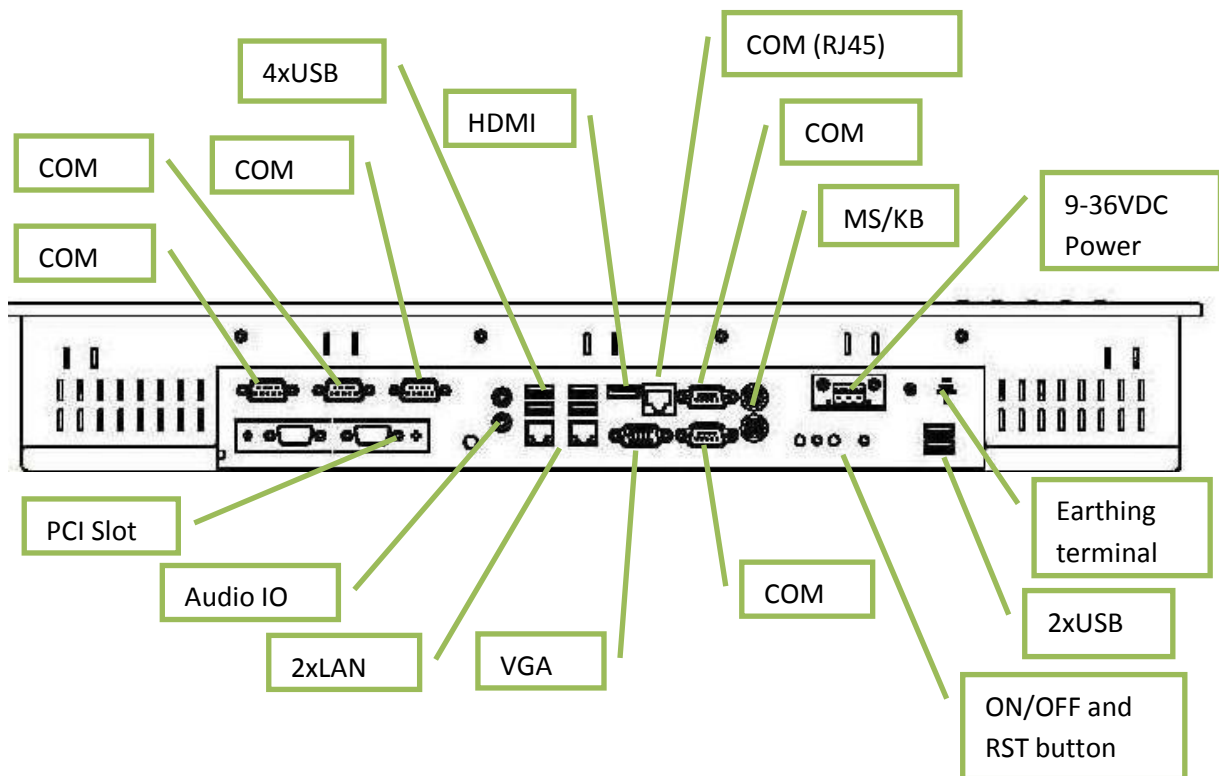
2.3.1 COM 2, 4, 5, 6 D-sub 9-Pin RS-232

RS-232

Pin no	Signal	Signal Name	Signal direction
1	DCD	Data Carrier Detect	Input
2	RD	Receive Data	Input
3	TD	Transmit Data	Output
4	DTR	Data Terminal Ready	Output
5	SG	Signal Ground	–
6	DSR	Data Set Ready	Input
7	RTS	Request To Send	Output
8	CTS	Clear To Send	Input
9	RI	Ring Indicator	Input

D-sub 9-pin Male

2.3.2 COM1 D-sub 9-Pin RS-232/485/422

D-sub 9-pin Male

RS422 pin assignment
Pin 1: TX+
Pin 2: RX+
Pin 3: TX-
Pin 4: RX-

RS485 pin assignment
Pin 1: TX+
Pin 3: TX-

NOTE! Selection of RS232, RS422 or RS485 port is done from Bios setting under Super IO Configuration as described in Chapter 6.3.5.

2.3.3 COM3 RJ45 RS-232

RJ-45 COM Port C

(8-pin COM Port C)

(see p.10 No. 11)

LAN

LAN_P8   LAN_P1
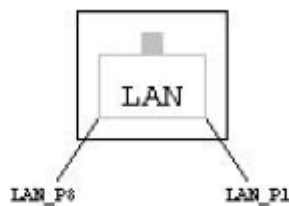
1: DCD#
2: RXD
3: TXD
4: DTR#
5: GND
6: DSR#
7: RTS#
8: CTS#

2.3.4 Ethernet

Ethernet

Pin no	Signal	Signal direction
1	Tx+	Output
2	Tx–	Output
3	Rx+	Input
6	Rx–	Input
4,5,7,8	GND	

2.3.5 USB

USB

Pin no	Signal	Signal direction
1	VBUS	–
2	D–	In/Output
3	D+	In/Output
4	GND	–

Host

Frame connected to chassis.

The Panel PC has galvanic isolation against the 24 VDC feed. There is no galvanic isolation between the communication ports for RS-232, RS-422/485 and USB.

The Ethernet connection has galvanic isolation.

2.4 Installing the Panel PC

2.4.1 Package contents

The Panel PC is shipped in adapted dual layer cardboard packaging with polystyrene protection. Standard delivery:

- The Panel PC
- Power cable with connector
- Power adapter 100 – 240 VAC to 12 VDC
- Sealing for panel mounting
- Quik mounting kit
- CD with drivers for Ethernet and Touch screen
- When specified, a CD with computer operating system is included

2.5 Mechanical Installation

Panel PC should be installed in vertical position to prevent overheating.
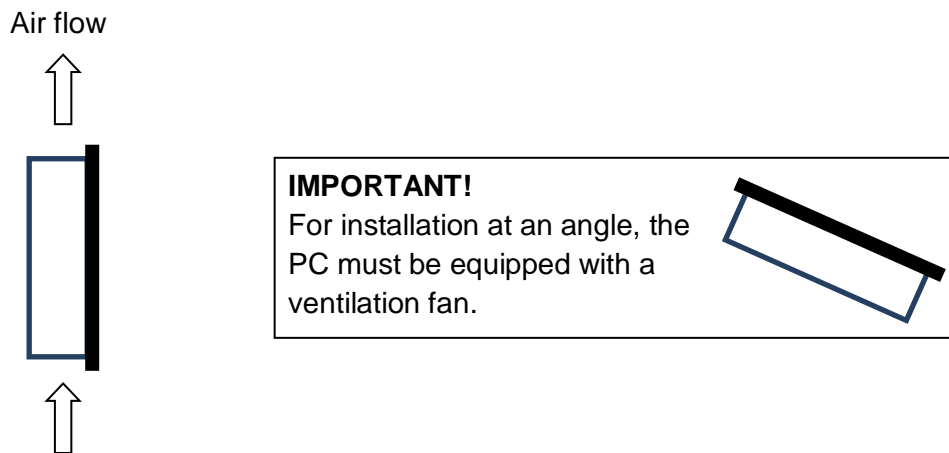
Air flow

IMPORTANT!
For installation at an angle, the PC must be equipped with a ventilation fan.

For product dimensions and cutout dimensions, please refer to Chapter 5. Make the cutout according cutout dimension for the selected model.

2.5.1 Compass Safety Distance

The monitor is certified according to DNV 2.4 and IEC60945 for bridge installation. Minimum distance to steering and emergency compass is 1 (one) meter. Distance to standard compass is 1.45 meter.

2.5.2 Installation Methods

There are four methods for installation. Quick mounting is standard.

- Quick mounting fittings.

- 10 screws with nuts behind front bezel.

- 4 screws through holes in the front bezel. Suitable when there is no access from rear. This mounting is optional.

- Prepared for Vesa standard bracket at rear side.
  Various sizes according to size of Panel PC.

	VESA 50/75/100/200X100/200X200mm
	Fastening holes in monitor back plate.
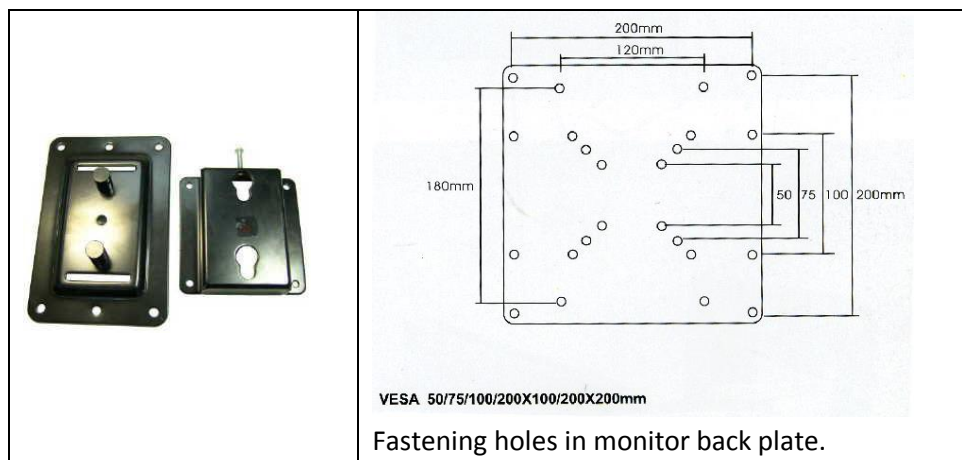
2.6 Electrical Installation

The Panel PC is certified for the connection to earthed power supply according to EN60950. There are two power connectors allowing the use of two individual power sources to obtain redundancy. One power connector can be used for single input. Operating voltage is from 9 to 36 VDC. Be aware of the current consumption for wire dimension when using low supply voltage. Total power consumption can be up to 80 W.

The power input has got polarity protection should + and – be interchanged during installation.

- Data cables connected to the unit should to be of the shield type.
- We recommend that the shield shall be earthed on both sides.
- We recommend using min. 4 mm² earthing wire.
- Isolate PCB ground (0 V) from chassis ground (earth).
- Signal ground (0 V) is isolated from chassis ground.

9-36VDC Power

9-36VDC Power

Earthing terminal
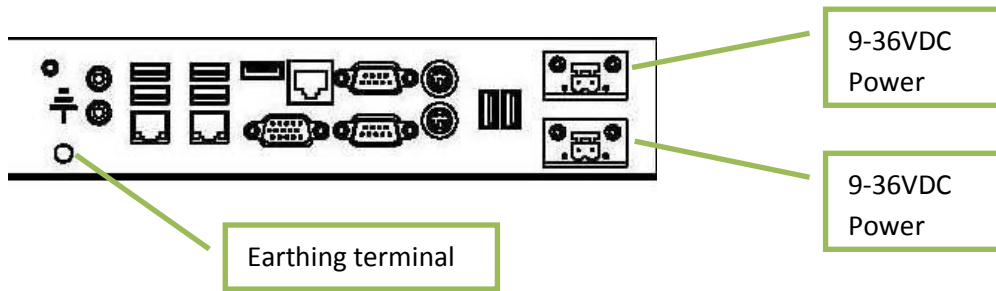
NOTE! Make sure the power is off when connecting and disconnecting the connectors.

2.6.1 Verification

Please observe the following during installation and startup.

1) Be accurate when mounting the sealing tape between the front bezel and the panel.

2) Cover the ventilation holes with a piece of paper to prevent metal shavings from entering the unit. Remove again after installation to ensure good ventilation.

3) Ground the unit according to installation instruction.

4) Make sure the polarity is correct for power connection before connecting to power outlet.

5) Keep signal cable and high voltage cable separated.

6) After power on, make sure that the system performs a normal startup of the OS.

7) The system may be delivered with a 30 day trial version of Windows OS. Make sure you have a valid OS.

2.7 Using the Panel PC

2.7.1 On-Off and Reset Buttons

The On-Off button is at the rear side of the Panel PC. This button shuts down the system in a proper way. We recommend strongly to first shut down the system via application software or operating system.

IMPORTANT!
Do not use the Reset button for normal restart! This button makes a hard reset of the system, and may cause abnormal behavior for the operating system.

Restore on AC/Power Loss

From the UEFI and Bios Setting Advanced option allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers. Enter UEFI and Bios Setting by F2 when power on.

2.7.2 Monitor Adjustment, High brightness

Power indicator and membrane keypad for Panel PC with High Brightness display (Sun readable).

For bridge solutions with dimming according to IEC 62288, Sun readable (SR) option must be selected. For operation in other locations on the ship, standard screen brightness can be selected.

MENU
1) Press the menu key once, you will see the menu with options on the screen.

2) Under menu, press menu key again, you will be able to select brightness, contrast, and volume, etc.

UP & DOWN
1) Under menu, you can use these 2 keys to increase and decrease setting.

2) These buttons are directly dedicated to control the display brightness.

3) Adjustment of Dimming value brighter or darker.
(256 levels for Sun readable display.)

AUTO
1) Press AUTO key to auto adjust/centralize the picture on the display.

2) Under Menu, AUTO key functions as "exit" to get out of menu.

On-Off
Switch off the Display part of the Panel PC.
The Panel PC is still running when the Display is off.
Display ON/OFF function can be disabled from factory.

2.7.3 Monitor Adjustment, Standard Brightness

Membrane keypad for Panel PC with standard display.

These buttons control the speaker volume.

These buttons control the display brightness.

Adjustment of Dimming value brighter or darker.

(16 levels for standard display.)

Brightness for this display is not dimmable down to 1 nit as specified in IEC 60945 for use on Bridge

Switches off the display part of the Panel PC.

The Panel PC is still running when the display is off.

Display ON/OFF function can be disabled from factory.

3   Autic Box PC

2x Lan ports
3x COM ports

IO and Power connectors

PCI slot
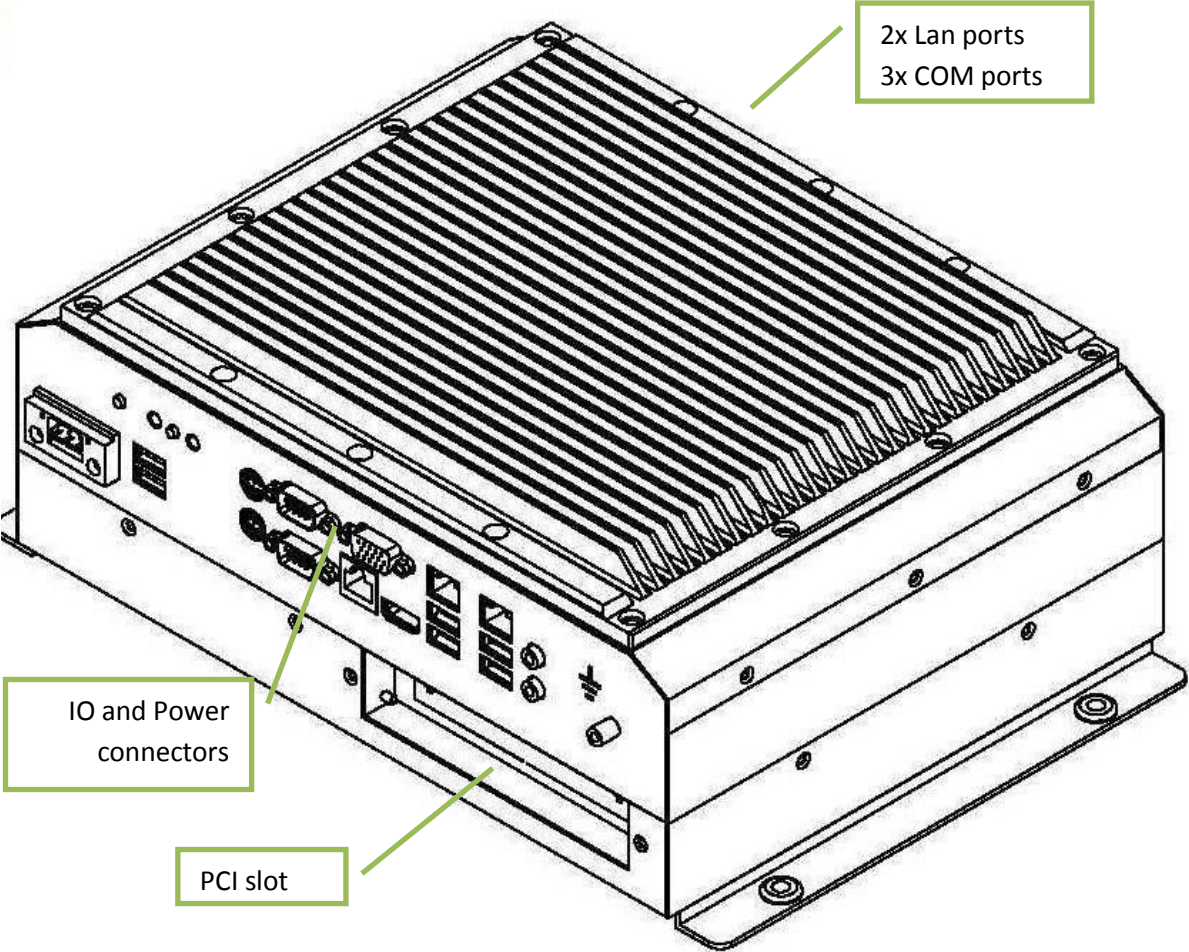
The AMPC-2700 is a Box (or Mini) PC intended for marine and industrial use. Sturdy design based on MIL-specified components. Powerful CPU based on Intel Atom N2700 processor provides maximum performance based on known platform. Intel SGS545 PowerVR graphics processor for quick screen refresh. The PC is delivered with practical functionality such as easy access to the hard drive and redundant power supply connectors.

3.1 Range of products

	LAN	RS-232-C	RS-232, RS-485, RS-422	USB (2.0)	Mini PCIe	PCI	Power consumption
AMPC-2700	4	5	1	6	1	1	25 W

3.1.1 Product Identification

AMPC-2700 Box/Mini PC.

3.2 Specifications Box/Mini PC

As standard fitted with 4 GB of RAM, 4 LAN ports, mini PCIe slot, 120 GB SSD drive. Power supplied by 9 to 32 VDC. Adapter 100 - 240 VAC to 12 VDC included in the delivery.

3.2.1 Technical data

IP protection	IP22
Power supply	+24 VDC (9-32 VDC).
Power adapter (Model according to consumption)	110 – 240 VAC to 12 VDC
Power consumption	25 W
Ambient temperature. Vertical mounting	0° to +60°C
Ambient temperature. Horizontal mounting	0° to +50°C
Storage temperature	-20° to +80°C
Relative humidity	5-85% non-condensing
Approvals	CE/ FCC/Rohs
Marine certification	DNV 2.4 and IEC60945

3.3 Connectors

ON/OFF and RST button

COM

COM (RJ45)

COM3 (RJ45)

COM

2xLAN

MS/KB

Audio IO

9-36VDC Power

Earthing terminal

COM

2xUSB

PCI Slot

4xUSB

VGA

HDMI

2xLAN

COM   COM   COM

3.3.1 COM2,4,5, 6 D-sub 9-Pin RS-232

RS-232

D-sub
9-pin Male

Pin no	Signal	Signal Name	Signal direction
1	DCD	Data Carrier Detect	Input
2	RD	Receive Data	Input
3	TD	Transmit Data	Output
4	DTR	Data Terminal Ready	Output
5	SG	Signal Ground	—
6	DSR	Data Set Ready	Input
7	RTS	Request To Send	Output
8	CTS	Clear To Send	Input
9	RI	Ring Indicator	Input

3.3.2 COM1 D-sub 9-Pin RS-232/485/422

D-sub
9-pin Male

RS422 pin assignment
Pin 1: TX+
Pin 2: RX+
Pin 3: TX-
Pin 4: RX-

RS485 pin assignment
Pin 1: TX+
Pin 3: TX-

NOTE! Selection of RS232, RS422 or RS485 port is done from Bios setting under Super IO Configuration as described in Chapter 6.3.5.

3.3.3 COM3 RJ45 RS-232

RJ-45 COM Port C

(8-pin COM Port C)

(see p.10 No. 11)

LAN

LAN_P8   LAN_P1
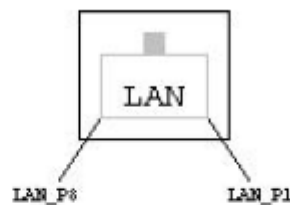
1: DCD#
2: RXD
3: TXD
4: DTR#
5: GND
6: DSR#
7: RTS#
8: CTS#

3.3.4 Ethernet

Pin no	Signal	Signal direction
1	Tx+	Output
2	Tx−	Output
3	Rx+	Input
6	Rx−	Input
4,5,7,8	GND	

3.3.5 USB

Pin no	Signal	Signal direction
1	VBUS	−
2	D−	In/Output
3	D+	In/Output
4	GND	−

Frame connected to chassis.

The Box/Mini PC has galvanic isolation against the 24VDC feed. There is no galvanic isolation between the communication ports for RS-232, RS-422/485 and USB.

Ethernet connection has galvanic isolation.

3.4 Installing the Box/Mini PC

3.4.1 Package contents

The Box/Mini PC is shipped in adapted dual layer cardboard packaging with polystyrene protection. Standard delivery includes:

- Box/Mini PC
- Power cable with connector
- Power adapter 100- 240 VAC to 12 VDC.
- CD with drivers for Ethernet
- When specified, computer Operating System is included on CD.

3.5 Mechanical Installation

We recommend vertical mounting of the Box/Mini PC for optimal ventilation for the heatsink.
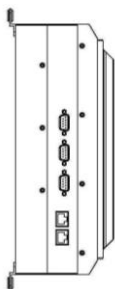
For product dimensions, please refer to Chapter 5.

3.5.1 Compass Safety Distance

The Box/Mini PC is certified according to DNV 2.4 and IEC60945 for bridge installation. Minimum distance to steering and emergency compass is 1 (one) meter. Distance to standard compass is 1,45 meter.

3.6 Electrical Installation

The Box/Mini PC is certified for the connection to grounded power supply according to EN60950. There are two power connectors enabling the use of two separate power sources to obtain redundancy. Single power connector can be used. Operation voltage is from 9 to 36 VDC. Be aware of the current consumption for wire dimension when using low supply voltage. Total power consumption can be up to 80 W.

The power input has got polarity protection if + and – should be interchanged during installation.

- Data cables connected to the unit should to be of the shield type.
- We recommend that the shield shall be earthed on both sides.
- We recommend using earthing wire min. 4 mm².
- Isolate PCB ground (0 V) from chassis ground (earth).
- Signal ground (0 V) is isolated from chassis ground.

9-36 VDC Power

9-36 VDC Power

Earth
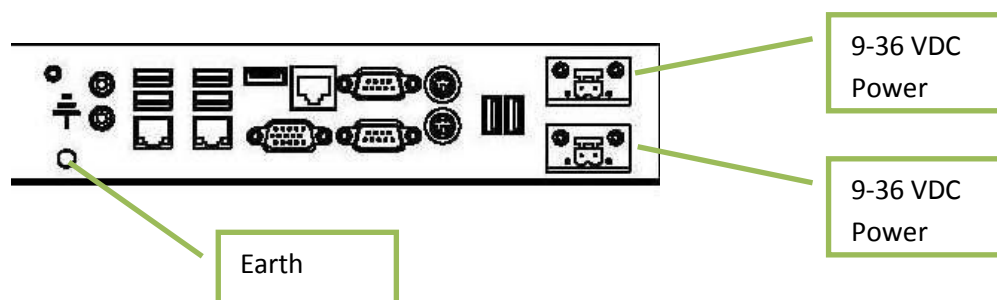
3.6.1 Verification

Please observe the following during installation and startup.

1) Cover the ventilation holes with a piece of paper to prevent metal shavings from entering the unit. Remove again after installation to ensure good ventilation.

2) Ground the unit according to installation instruction.

3) Make sure the polarity is correct for power connection before connecting to power outlet.

4) Keep signal cable and high voltage cable separated.

5) After power on, make sure that the system performs a normal startup of the OS.

6) The system may be delivered with a 30 day trial version of Windows OS. Make sure you have a valid OS.

3.7 Using the Box/Mini PC

3.7.1 On-Off and Reset Buttons

The On-Off switch is at the rear side of the Box/Mini PC. This button does shut down the system in a proper way. We recommend strongly to first shut down the system via application software or operating system.

IMPORTANT!
Do not use the Reset button for normal restart! This button makes a hard reset of the system, and may cause abnormal behavior for the operating system.

Restore on AC/Power Loss

From the UEFI and Bios Setting Advanced option allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers. Enter UEFI and Bios Setting by F2 when power on.

4 Autic Marine Monitors

Touch screen

Front bezel

IO and power connectors

Membrane keypad for monitor adjustment
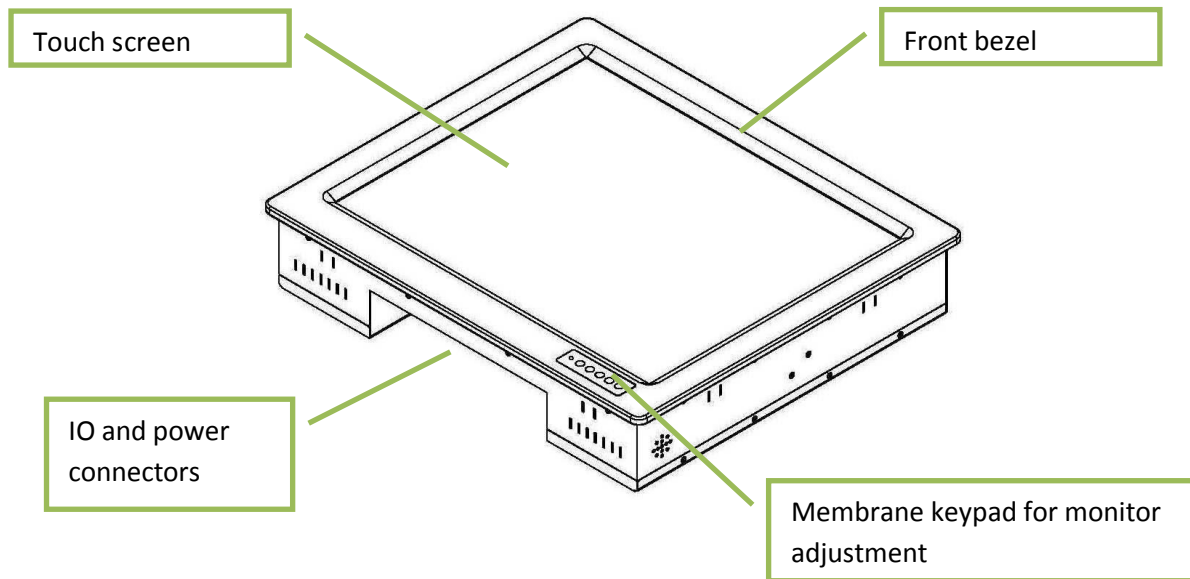
AMON is a series of monitors designed for Autic System for optimal solution of HMI functionality to marine and industrial markets. Sturdy design based on MIL-specified components. Multitouch allows screen operation with both hands. Monitors are delivered with practical functionality such as redundant power connections.

4.1 Range of Products

DNV 2.4 and IEC60945 approved.

	Display size	Display Resolution	Brigthness	Colors	Touch	Power Consumption
Display format 4:3						
AMON-84T-AL	8,4"	800x600	500 nit LED	262K	Single	10 W
AMON-104T-AL	10,4 "	800x600	300 nit CCFL	262K	Single	15 W
AMON-104T-AL-XG	10,4 "	1024x768	300 nit LED	262K	Single	15 W
AMON-120T-AL	12"	800x600	300 nit CCFL	16.7M	Single	25 W
AMON-120T-AL-XG	12"	1024x768	320o nit CCFL	16.7M	Single	25 W
AMON-150PT-AL	15"	1024x768	300 nit CCFL	16.7M	Multi	30 W
AMON-170PT-AL	17"	1280x1024	300 nit CCFL	16.7M	Multi	30 W
AMON-190PT-AL	19"	1280x1024	300 nit CCFL	16.7M	Multi	50 W
Display format 16:9						
AMON-116T-AL	11,6"	1366x768	200 nit LED	262K	Single	25 W
AMON-156T-AL	15,6"	1920x1080	300 nit LED	262K	Single	30 W
AMON-220PT-AL	21,5"	1920x1080	300 nit CCFL	16.7M	Multi	50 W
AMON-240PT-AL	23,6"	1920x1080	300 nit LED	16.7M	Multi	55 W

4.1.1 Product Identification

AMON-2427PT-AL-FL-MK

T	Touch Screen
L	Aluminium front bezel
MK	Membrane keypad for monitor adjustment. Located at the front bezel.
8N/10N	Sun Readable. LED backligth (800 – 1000 nit)

4.2 Specification Monitors

All models are fitted as standard with resistive touch screen. Power supplied by 9 to 32 VDC. Adapter 100 – 240 VAC to 12 VDC included in the delivery. Selected models from 15" are standardized with Multi Touch screen. VDI and VGA input. USB input for touch screen.

Adjustment of dimming value brighter or darker (16 levels for standard display).
Brightness is dimmable according to IEC 60945 for use on bridge.

4.2.1 Technical Data

Front panel protection	IP65
Rear panel protection	IP22
Power supply	+24 VDC (9-32VDC).
Power adapter (Model according to consumption)	100 – 240 VAC to 12 VDC
Power consumption	10 to 55 W
Ambient temperature. Vertical mounting	0° to +60°C
Ambient temperature. Horizontal mounting	0° to +50°C
Storage temperature	-20° to +80°C
Relative humidity	5 - 85% non-condensing
Approvals	CE/ FCC/Rohs
Marine certification	DNV 2.4 and IEC60945
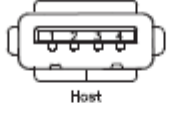
4.3 Monitor Connectors

Example drawing. Variation due to Model

| VGA | VDI | ON/OFF and Reset button |

| Audio input | Earthing terminal | 9-36VDC Power |

| USB for Touch |
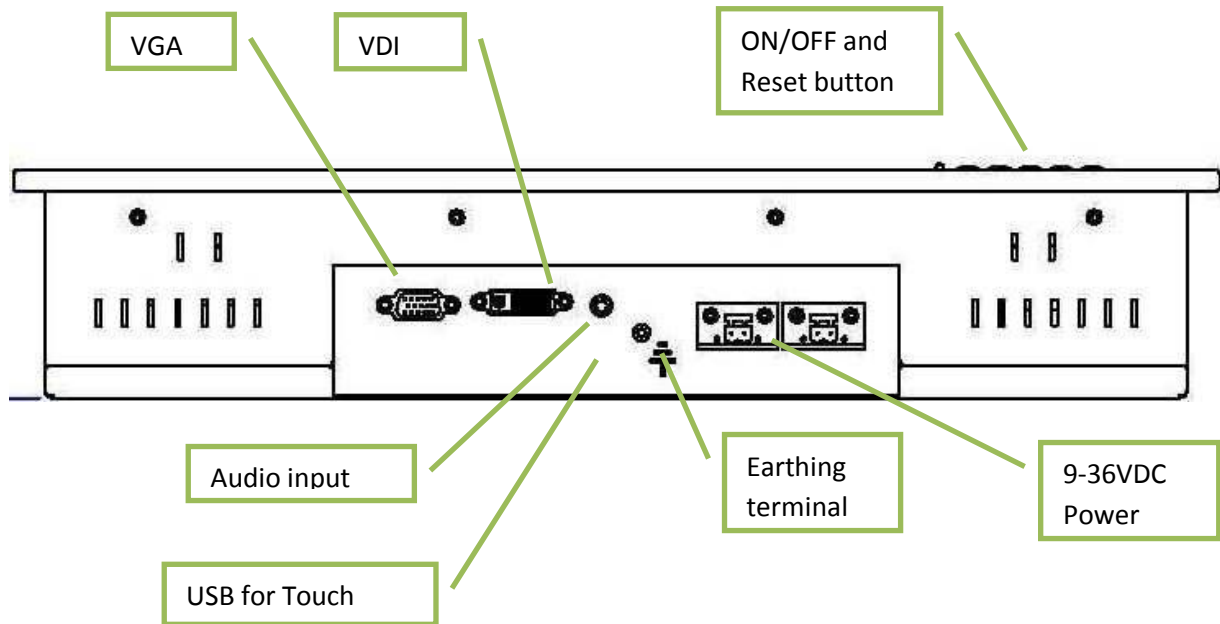
4.3.1 USB Pin Configuration

USB

Pin no	Signal	Signal direction
1	VBUS	–
2	D–	In/Output
3	D+	In/Output
4	GND	–

Frame connected to chassis.

4.4 Installing the Monitor

The monitor can be installed vertically, horizontally or at an angle. If installing at an horizontally or at an angle, make sure there is sufficient ventilation around the unit!
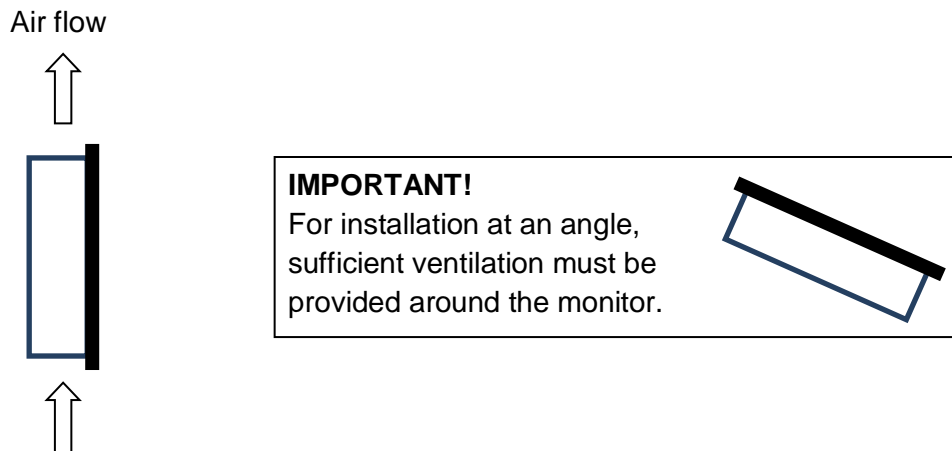
Air flow

IMPORTANT!
For installation at an angle, sufficient ventilation must be provided around the monitor.

For product dimensions and cutout dimensions, please refer to Chapter 5. Make the cutout according to dimensions for the selected model.

4.4.1 Compass Safety Distance

The Monitor is certified according to DNV 2.4 and IEC60945 for bridge installation. Minimum distance to steering and emergency compass is 1 (one) meter. Distance to standard compass is 1,45 meter.

4.4.2 Package Contents

The Monitor is shipped in adapted dual layer cardboard packaging with polystyrene protection. Standard delivery:

- The monitor
- VGA cable
- USB cable for touch
- Power cable with connector
- Power adapter 100/200 VAC to 12VDC
- Sealing for panel mounting
- CD with drivers for touch screen

4.5 Mechanical Installation of the Monitor

Make the cutout according cutout dimension for the selected model.
There are four methods for installation. Quick mounting is the standard method.

- Quick mounting fittings

- 10 screws with nuts behind front bezel.

- 4 screws through holes in the front bezel. Suitable when there is no access from rear. This
mounting is optional.

- Prepared for Vesa standard bracket at rear side.
  Various sizes according to size of Panel PC.

VESA 50/75/100/200X100/200X200mm
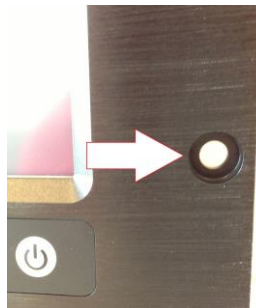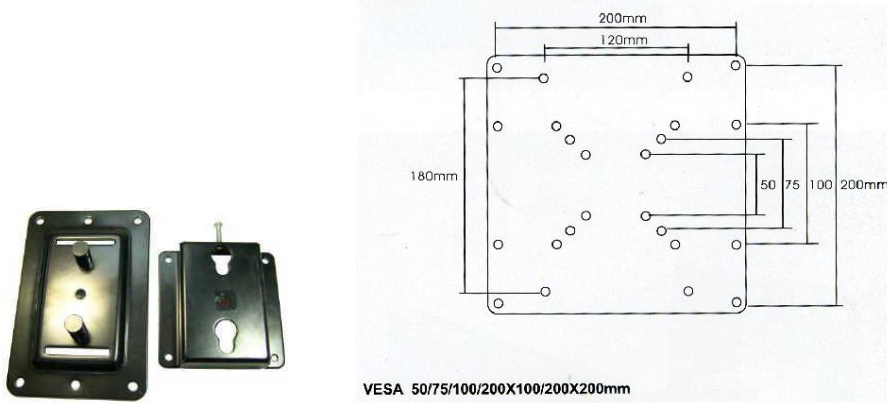
4.6 Electrical Installation

The Monitor is certified for the connection to grounded power supply according to EN60950. There are two power connectors to be able to use of two individual power sources to obtain redundancy. 1 power connector can be used for single input. Operation Voltage is from 9 to 36 VDC. Be aware of the current consumption for wire dimension when using low supply voltage. Total power consumption can be up to 80 watt.

The power input has got polarity protection should + and – be interchanged during installation.

- Data cables connected to the unit should to be of the shield type.
- We recommend that the shield shall be earthed on both sides.
- We recommend use eathing wire min. 4 mm².
- Isolate PCB ground (0 V) from chassis ground (earth).
- Signal ground (0 V) is isolated from chassis ground.

9-36VDC Power

9-36VDC Power

Ground

4.6.1 Verification

Please observe the following during installation and startup.

1) Be accurate when mounting the sealing tape between the front bezel and the panel.

2) Cover the ventilation holes with a piece of paper to prevent metal shavings from entering the unit. Remove again after installation to ensure good ventilation.

3) Ground the unit according to installation instruction.

4) Make sure the polarity is correct for power connection before connecting to power outlet.

5) Keep signal cable and high voltage cable separated.

6) After power on, make sure that the system performs a normal startup of the OS.

7) The system may be delivered with a 30 day trial version of Windows OS. Make sure you have a valid OS.

4.6.2 Installing Options

IMPORTANT!

Please observe that by installing in the computer any options not supplied by Autic, such as additional memory chips, you will do so at your own risk, and the warranty of the product will no longer be valid.

4.7 Using the Monitors

4.7.1 High-Brightness Monitor Adjustments

Membrane keypad on monitors with High Brightness display. (Sun readable, for use on the bridge.)

For bridge solutions with dimming according to IEC 62288, Sun readable (SR) option must be selected. For operation in other locations on the ship, standard screen brightness can be selected.

MENU

1) Press menu key once, you will see the menu with options on the screen.

2) Under menu, press menu key again, you will be able to select brightness, contrast, and volume, etc.

UP & DOWN

1) Under menu, you can use these 2 keys to increase and decrease setting.

2) These buttons are directly dedicated to control the display brightness.
Adjustment of dimming value brighter or darker.
(256 levels for Sun readable display)

AUTO

1) Press AUTO key to auto adjust/centralize the picture on the display.

2) Under menu, AUTO key functions as "exit" to leave the menu.

ON/OFF

Switch off the high-brightness monitor.

Note that the monitor ON/OFF function can be disabled from factory. This must be specified when ordering the monitor.

4.7.2 Standard-Brightness Monitor Adjustments

Membrane keypad for monitors with standard display (for use in engine room or similar).

These buttons adjust the speaker volume.

These buttons control the display brightness.
Adjustment of dimming value brighter or darker.
(16 levels for standard display)
Brightness for this display is not dimmable down to 1 nit as specified in IEC 60945 for use on bridge.

Switch off the standard-brightness monitor.

Note that the monitor ON/OFF function can be disabled from factory. This must be specified when ordering the monitor.

5 Product Dimensions

5.1 Panel PC Dimensions
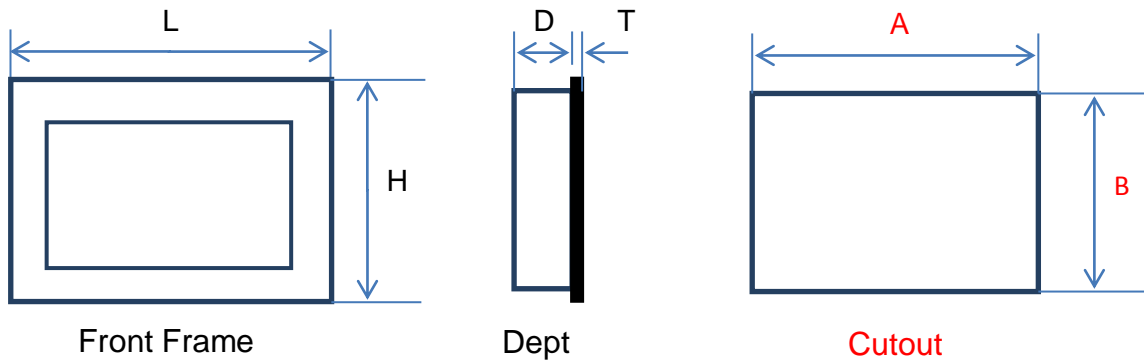
Front Frame   Dept   Cutout

(Cutout dimension are product dimensions plus 3 mm.)

Product dimensions in mm						Cutout	
	L	H	D	T	Weight	A	B
4:3 models							
APPC-8427T-AL-FL	255	224	97	6	3 kg	237	207
APPC-10427T-AL-FL	305	260	90	6	4 kg	287	243
APPC-10427T-AL-FL-XGA	305	260	90	6	4 kg	287	243
APPC-1227T-AL-FL	333	285	89	6	5 kg	316	268
APPC-1227T-AL-FL-XGA	333	285	89	6	5 kg	316	268
APPC-1527PT-AL-FL	395	325	76	6	6 kg	378	309
APPC-1727PT-AL-FL	418	368	79	8	7 kg	401	351
APPC-1927PT-AL-FL	454	392	80	8	8 kg	433	375
16:9 models							
APPC-11627T-AL-FL	345	252	86	6	5 kg	328	235
APPC-15627T-AL-FL	415	280	71	6	6 kg	398	263
APPC-2227PT-AL-FL	550	360	78	8	9 kg	533	343
APPC-2427PT-AL-FL	600	380	77	6	10 kg	582	363

Panel PC 4:3 models

APPC-8427T-AL-FL
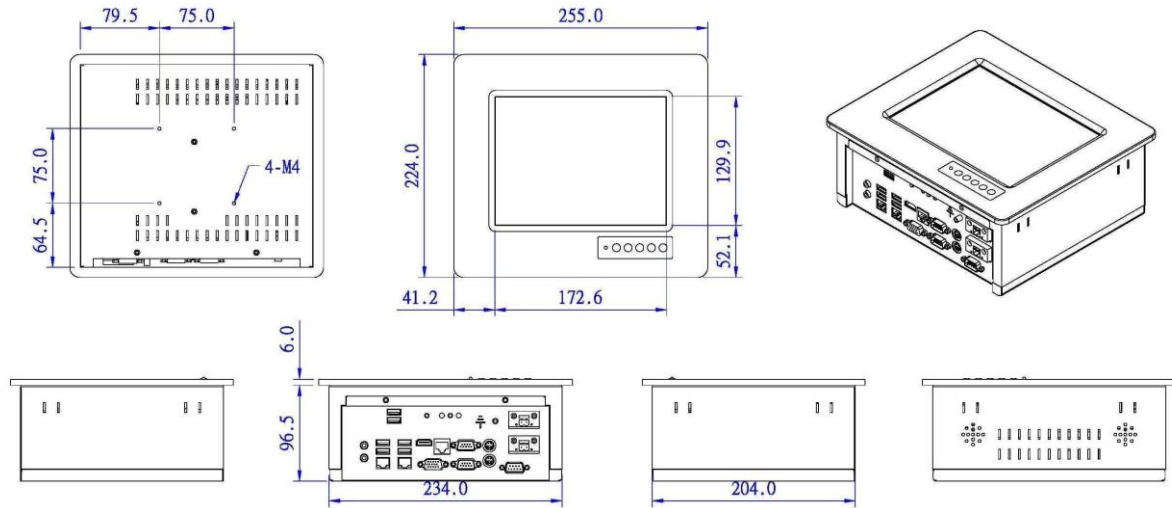
APPC-10427T-AL-FL / APPC-10427T-AL-FL-XG
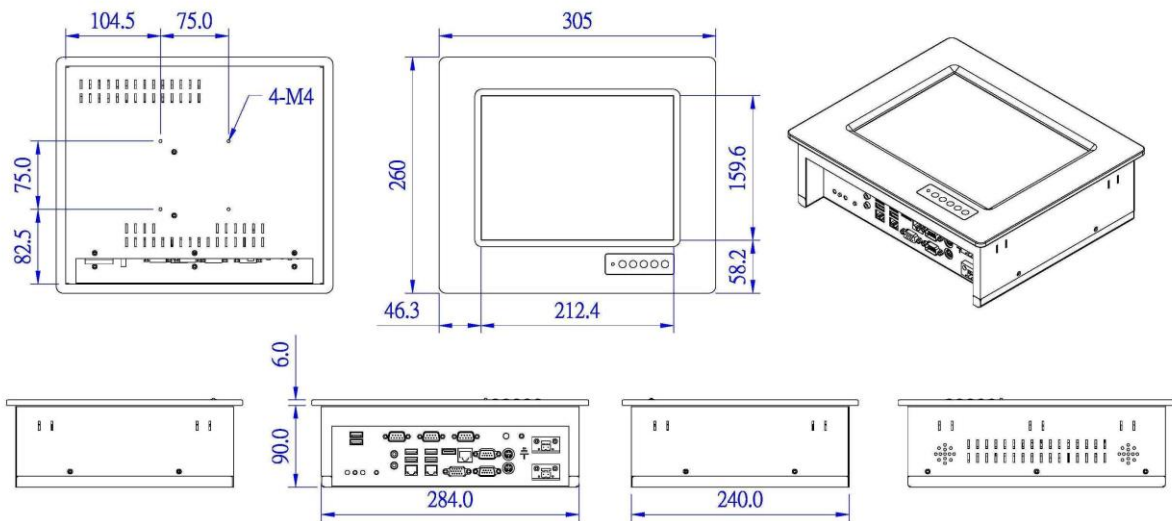
APPC-1227T-AL-FL / APPC-1227T-AL-FL-XG
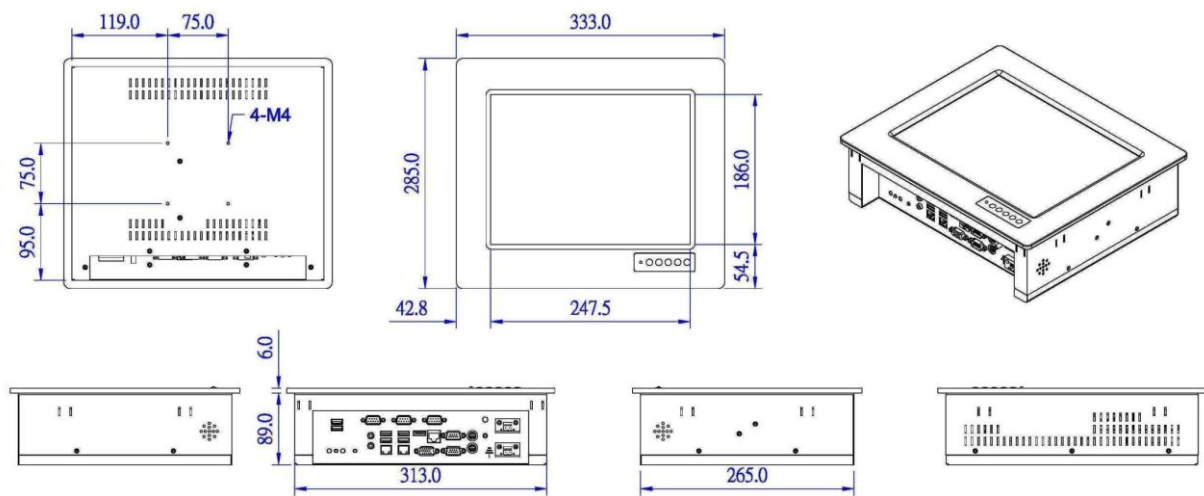
APPC-1527PT-AL-FL
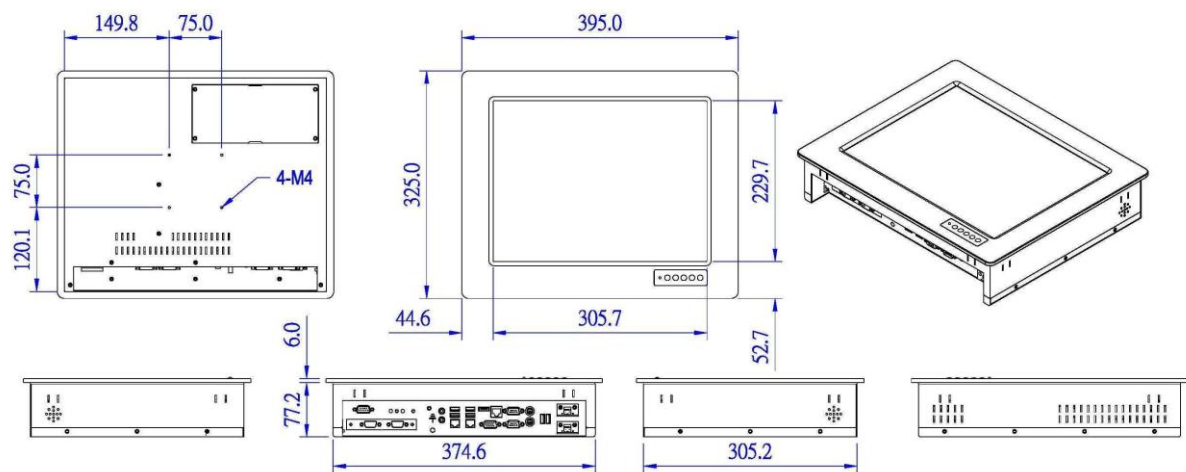
APPC-1727PT-AL-FL
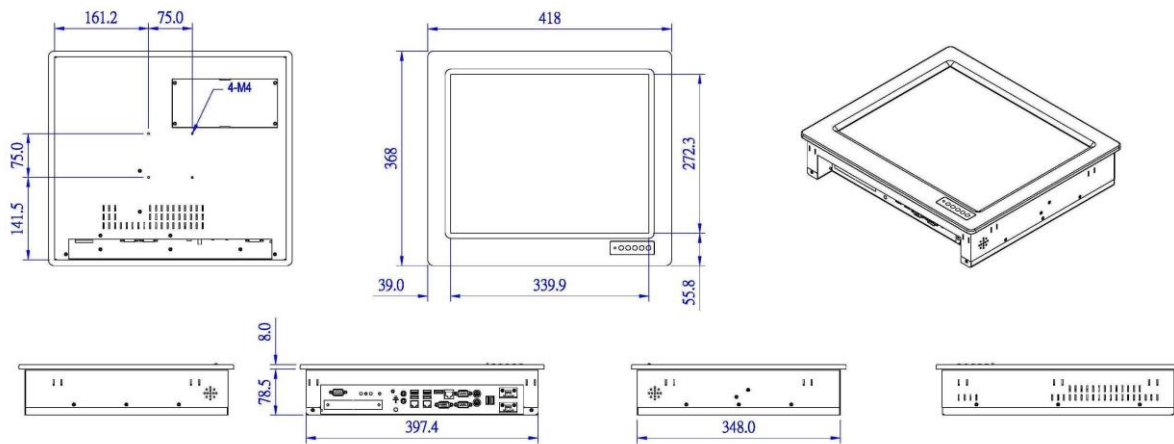
APPC-1927PT-AL-FL
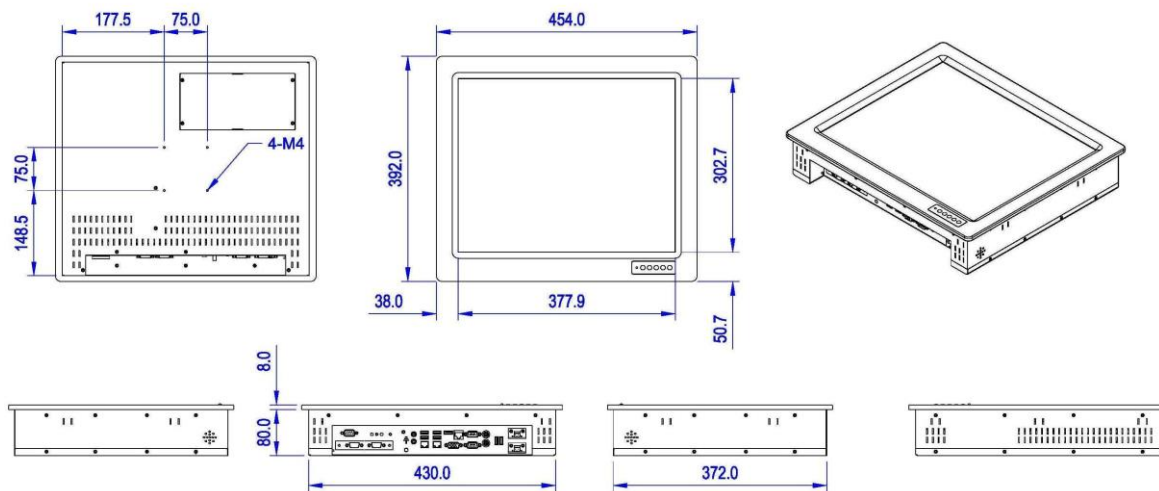
Panel PC 16:9 models

APPC-11627T-AL-FL
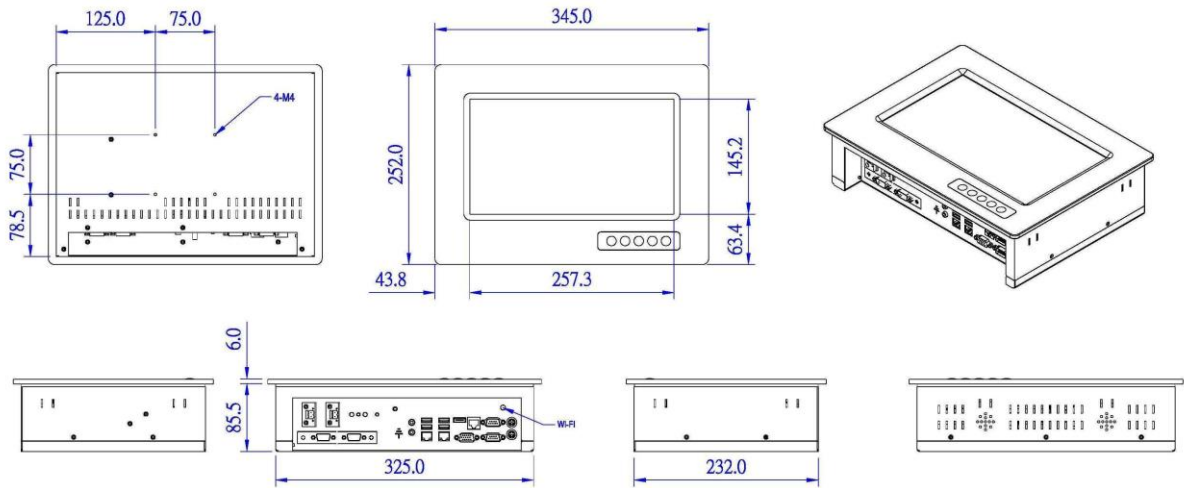
APPC-15627T-AL-FL
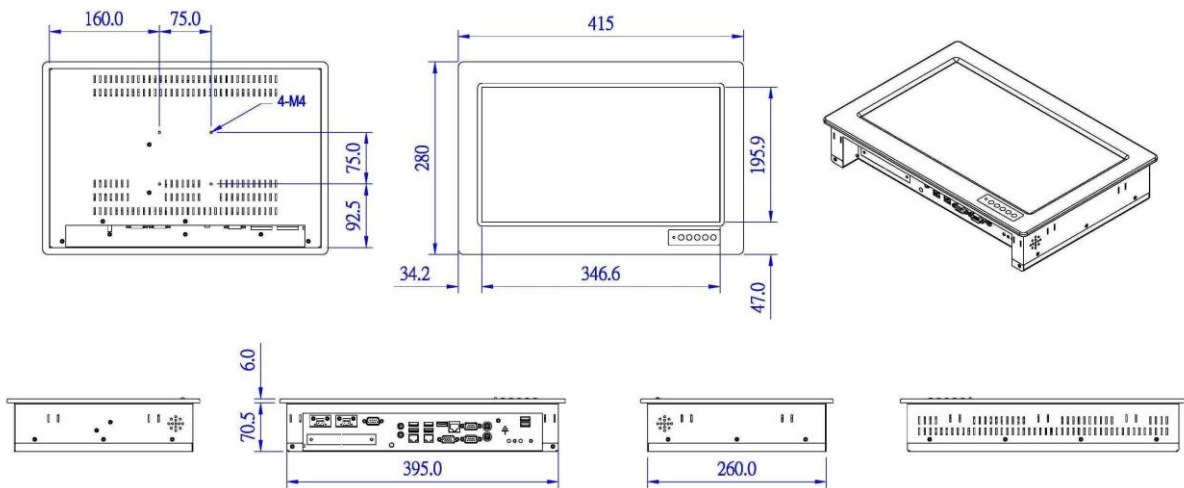
APPC-2227PT-AL-FL
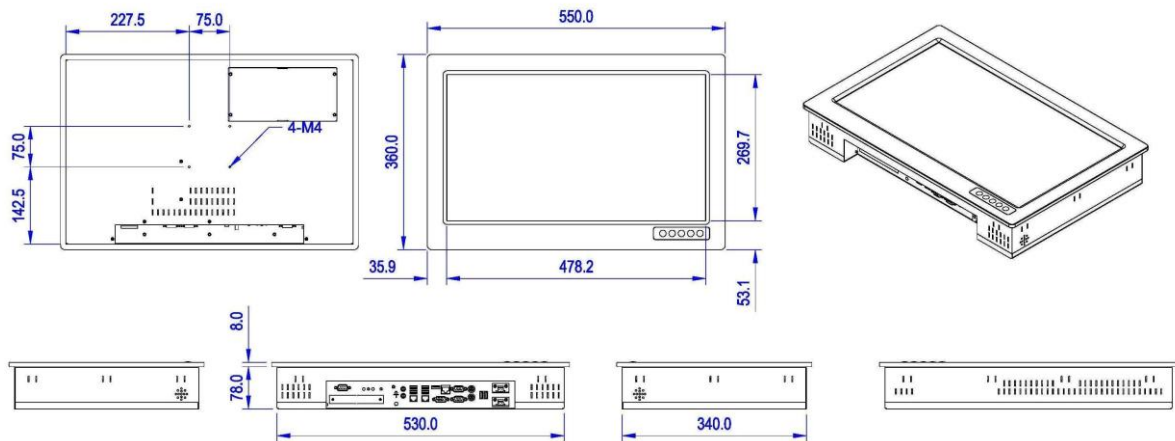
APPC-2427PT-AL-FL
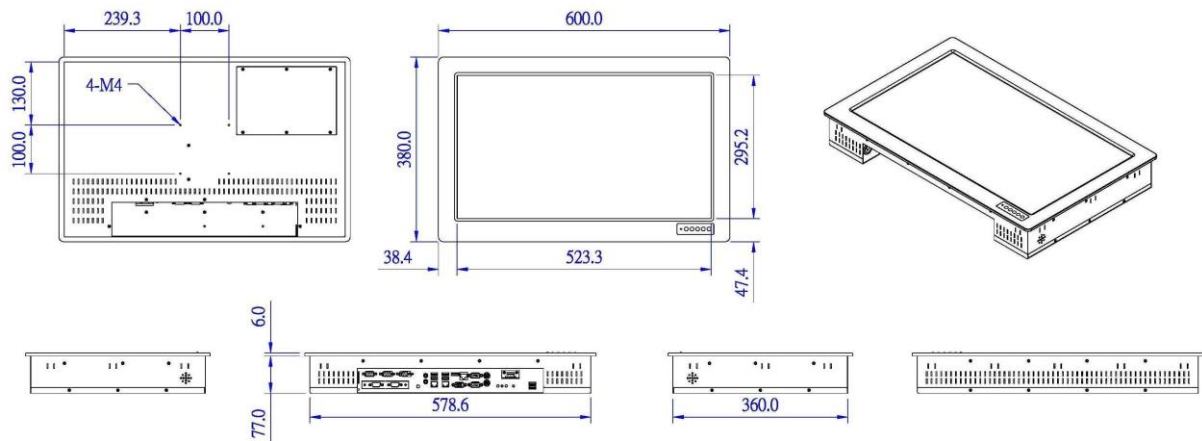
5.2 Box/Mini PC Dimension

AMPC-2700
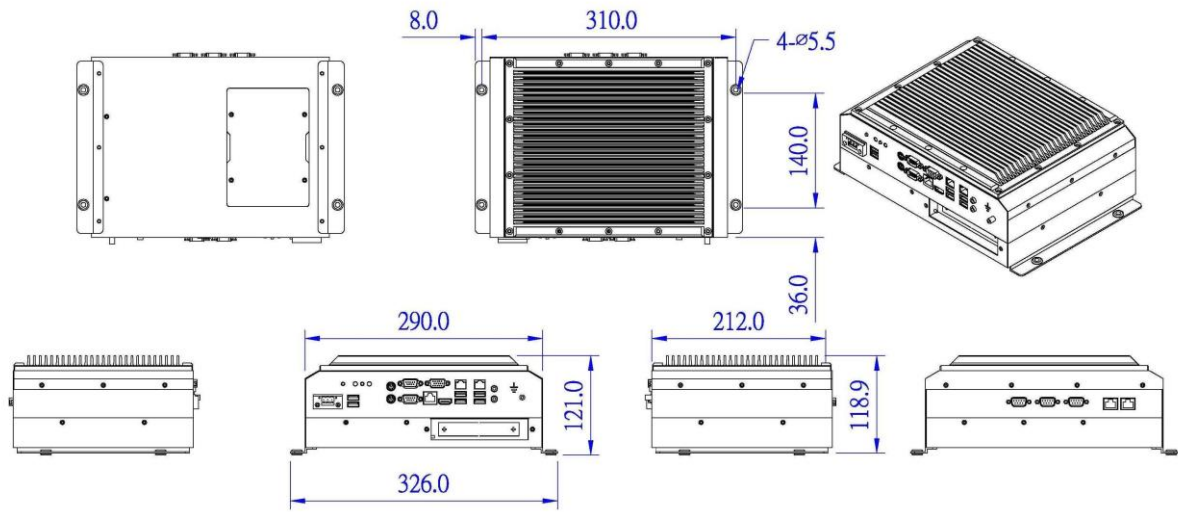
5.3 Monitor Dimensions

Front Frame   Dept   Cutout
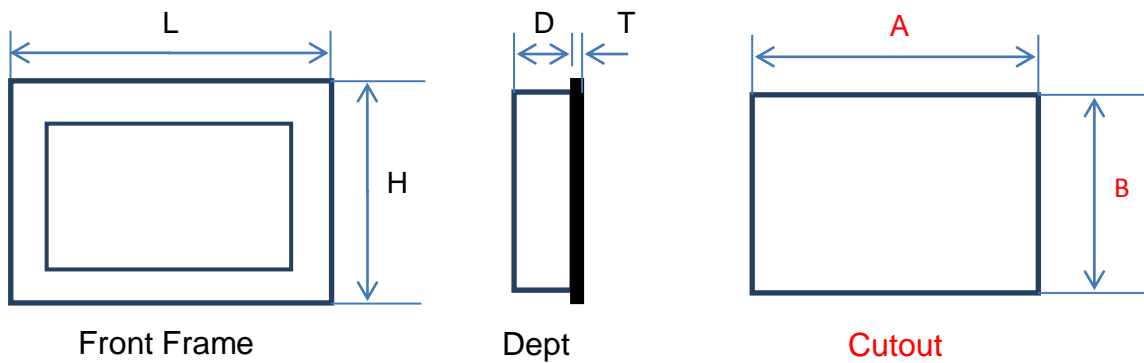
Monitors have the same physical dimension as the Panel PC models except the depth (D) of the product.
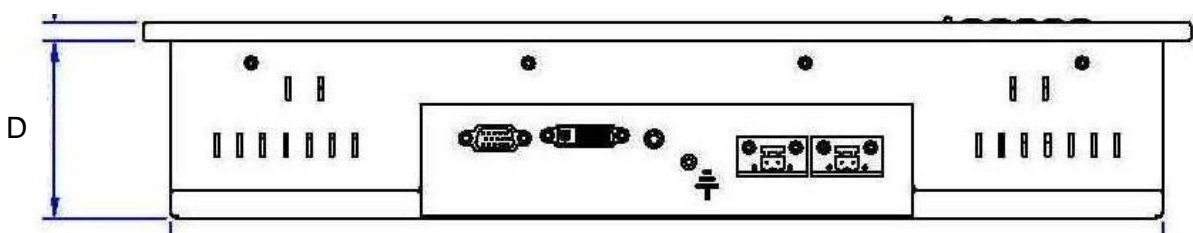
(Cutout dimension are product dimensions plus 3 mm.)

Product dimensions in mm						Cutout	
	L	H	D	T	Weight	A	B
4:3 models							
AMON-84T-AL	255	224	70	6	2 kg	237	207
AMON-104T-AL	305	260	73	6	3 kg	287	243
AMON-104T-AL-XG	305	260	73	6	3 kg	287	243
AMON-120T-AL	333	285	72	6	4 kg	316	268
AMON-120T-AL-XG	333	285	72	6	4 kg	316	268
AMON-150T-AL	395	325	76	6	5 kg	378	309
AMON-170T-AL	418	368	77	8	6 kg	401	351
AMON-190T-AL	454	392	78	8	8 kg	433	375
16:9 models							
AMON-116T-AL	345	252	68	6	4 kg	328	235
AMON-156T-AL	415	280	65	6	5 kg	398	263
AMON-220T-AL	550	360	78	8	8.5 kg	533	343
AMON-240T-AL	600	380	64	8	9.5 kg	582	363

6 UEFI and Bios Setting

6.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer.

1) Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines.

2) If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis.

3) You may also restart by turning the system off and then back on.

WARNING! Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

6.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main   To set up the system time/date information

OC Tweaker   To set up overclocking features

Advanced   To set up the advanced UEFI features

H/W Monitor To display current hardware status

Boot   To set up the default system device to locate and load the Operating System

Security   To set up the security features

Exit   To exit the current screen or the UEFI SETUP UTILITY

Use <← > key or <→> key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

6.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<F1>	To display the General Help Screen
<F7>	Discard changes
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	To jump to the Exit Screen or exit the current screen

6.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.

```
         Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
  Main  Advanced  H/W Monitor  Boot  Security  Exit

  UEFI Version      : IMB-140 L0.17            Choose the system default
  Processor Type    : Intel(R) Atom(TM) CPU D2700  @ 2.13GHz   language
  Processor Speed   : 2133MHz
  Microcode Update  : 30661/10C
  Cache Size        : 1024KB

  Total Memory      : 2048MB
  DDR3_A1           : None
  DDR3_A2           : 2048MB (DDR3-1066)

  System Language                [English]

  System Date                    [Thu 02/09/2012]
  System Time                    [03:54:56]       ↔: Select Screen
                                                  ↑↓: Select Item
                                                  Enter: Select
                                                  +/-: Change Option
                                                  F1: General Help
                                                  F7: Discard Changes
                                                  F9: Load UEFI Defaults
                                                  F10: Save and Exit
                                                  F12: Print Screen
                                                  ESC: Exit



         Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

6.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Chipset Configuration, Storage Configuration, Super IO Configuration, ACPI Configuration, USB Configuration and Voltage Configuration.

```
            Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
    Main  Advanced  H/W Monitor  Boot  Security  Exit

▶ CPU Configuration                              CPU Configuration Parameters
▶ Chipset Configuration
▶ Storage Configuration
▶ Super IO Configuration
▶ ACPI Configuration
▶ USB Configuration
▶ Voltage Control

   UEFI Update Utility

▶ Instant Flash


                                                 ↔: Select Screen
                                                 ↑↓ Select Item
                                                 Enter: Select
                                                 +/-: Change Option
                                                 F1: General Help
                                                 F7: Discard Changes
                                                 F9: Load UEFI Defaults
                                                 F10: Save and Exit
                                                 F12: Print Screen
                                                 ESC: Exit



            Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

WARNING! Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

6.3.1 CPU Configuration

```
              Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
      Advanced

  CPU Configuration                                       XD can prevent certain classes
                                                          of malicious buffer overflow
  Processor Speed               2133 MHz                  attacks when combined with a
  Actual Ratio                  16                        supporting OS (Windows Server
                                                          2003 SP1, Windows XP SP2, SuSE
  Hyper-Threading               [Enabled]                 Linux 9.2, RedHat Enterprise 3
  No-Execute Memory Protection  [Disabled]                Update 3.)




                                                          ↔: Select Screen
                                                          ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Option
                                                          F1: General Help
                                                          F7: Discard Changes
                                                          F9: Load UEFI Defaults
                                                          F10: Save and Exit
                                                          F12: Print Screen
                                                          ESC: Exit



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```

Intel Hyper Threading Technology

To enable this feature, it requires a computer system with an Intel processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Windows 7. Set to [Enabled] if using Windows 7.

No-Execute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with "No Execute (NX) Memory Protection" can prevent data pages from being used by malicious software to execute code.

6.3.2 Chipset Configuration

```
              Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
      Advanced

  Chipset Configuration                                   Set Panel Type by Jumper or
                                                          UEFI Setup.
  Set Panel Type by             [UEFI Setup]
  Panel Type Selection          [1366x768/18-bit/1-...]

  ACPI HPET table               [Enabled]

  Restore on AC/Power Loss      [Power Off]

  Onboard HD Audio              [Enabled]
    Front Panel                 [Auto]

  Onboard LAN1                  [Enabled]                 ↔: Select Screen
  Onboard LAN2                  [Enabled]                 ↑↓: Select Item
                                                          Enter: Select
                                                          +/-: Change Option
                                                          F1: General Help
                                                          F7: Discard Changes
                                                          F9: Load UEFI Defaults
                                                          F10: Save and Exit
                                                          F12: Print Screen
                                                          ESC: Exit



              Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

Set Panel Type by

Use this to configure Set Panel Type. The default value is [UEFI Setup].

Panel Type Selection

Use this to select panel type. The default value is [1366x768/18-bit/1-ch/ LED].

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® certification.

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

Front Panel

Select [Auto] or [Disabled] for the onboard HD Audio Front Panel.

Onboard LAN1

This allows you to enable or disable the "Onboard LAN1" feature.

Onboard LAN2

This allows you to enable or disable the "Onboard LAN2" feature.

6.3.3 Storage Configuration

```
              Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
      Advanced

     Storage Configuration                              Select a configuration for
                                                        SATAII Controller.
     Onboard SATAII Mode              [IDE]
     Hard Disk S.M.A.R.T             [Disabled]
     Onboard CF                       [Enabled]

   ▶ SATA2_1   : ST380817AS
   ▶ SATA2_2   : Not Detected
   ▶ Onboard CF: Not Detected


                                                        ↔: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Option
                                                        F1: General Help
                                                        F7: Discard Changes
                                                        F9: Load UEFI Defaults
                                                        F10: Save and Exit
                                                        F12: Print Screen
                                                        ESC: Exit



              Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

Onboard SATAII Mode

Use this to select SATA2 mode. Configuration options: [IDE Mode], [AHCI Mode] and [Disabled]. The default value is [IDE Mode].

WARNING! AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

Onboard CF

This allows users to enable/disable the onboard IDE controller for CF. The default value is [Enabled].

6.3.4 Super IO Configuration

```
                Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
        Advanced

   Super IO Configuration                              Set Parameters of COM1

 ▶ COM1 Configuration
 ▶ COM2 Configuration
 ▶ COM3 Configuration
 ▶ COM4 Configuration
 ▶ COM5 Configuration
 ▶ COM6 Configuration
 ▶ LPT1 Port Configuration

   WDT Timeout Reset                [Disabled]

                                                     ↔: Select Screen
                                                     ↑↓: Select Item
                                                     Enter: Select
                                                     +/-: Change Option
                                                     F1: General Help
                                                     F7: Discard Changes
                                                     F9: Load UEFI Defaults
                                                     F10: Save and Exit
                                                     F12: Print Screen
                                                     ESC: Exit




                Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

COM1 Configuration

Use this to set parameters of COM1.

COM2 Configuration

Use this to set parameters of COM2.

COM3 Configuration

Use this to set parameters of COM3.

COM4 Configuration

Use this to set parameters of COM4.

COM5 Configuration

Use this to set parameters of COM5.

COM6 Configuration

Use this to set parameters of COM6.

LPT1 Port Configuration

Use this set parameters of the onboard parallel port.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

6.3.5 Changing from RS232 to RS422/485

1) Connect a keyboard to the Panel PC or Mini PC.

2) Power on the Panel PC/Mini PC and press **F2** to enter BIOS.

3) Select Advanced of main items, and you will see the picture below. Then, select Super IO Configuration and press Enter.
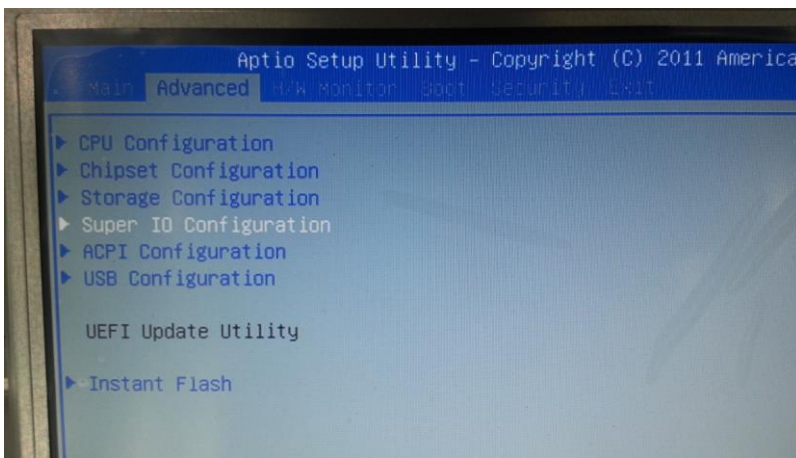
4) Select COM1 Configuration.
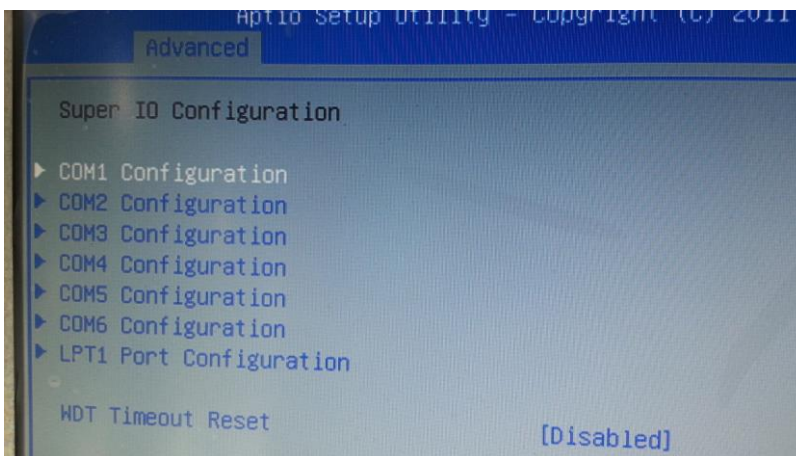
5) Move down to Type Select and press Enter.
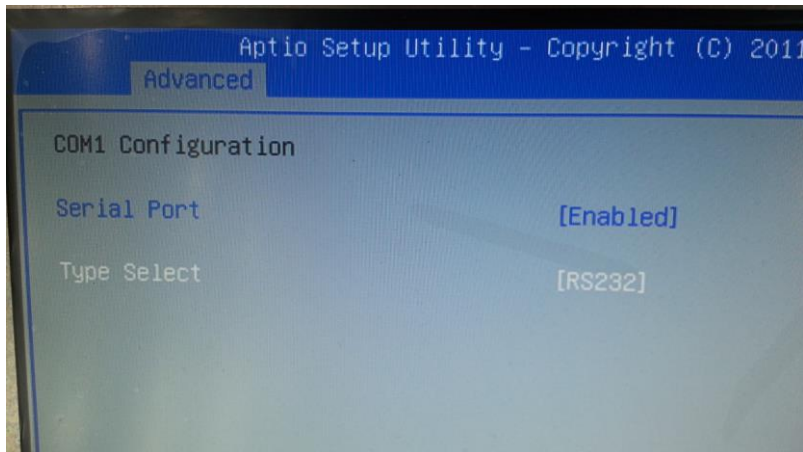
6) Select the type you want and press Enter.
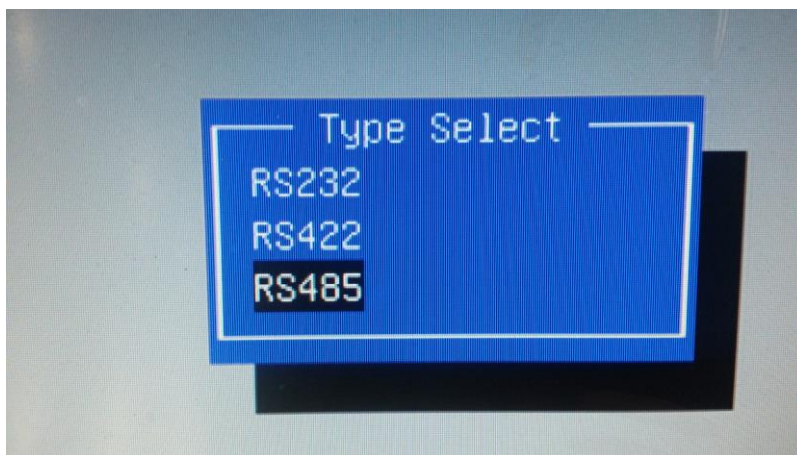
7) Press **F10** and Save.

6.3.6 ACPI Configuration
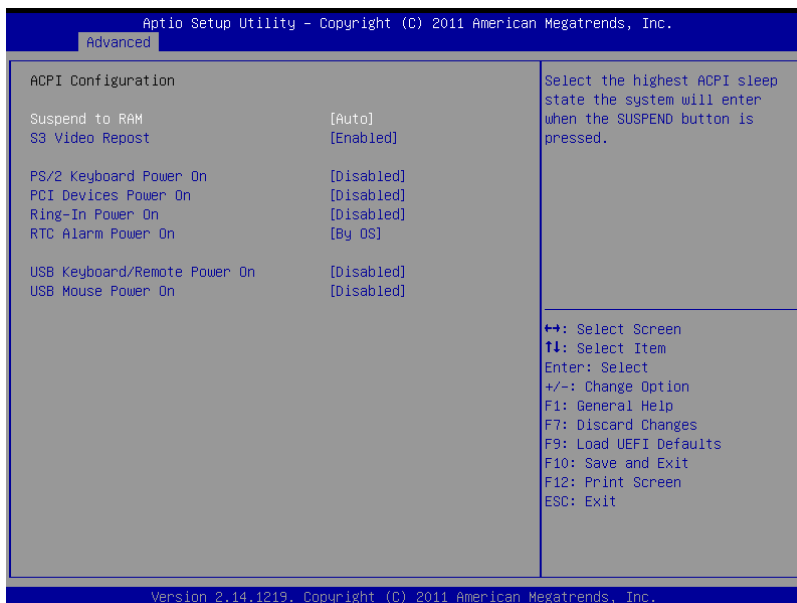
Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to- RAM feature. Select [Auto] will enable this feature if the OS supports it.

S3 Video Repost

Use this to enable/disable S3 Video Repost. The default value is [Enabled].

PS/2 Keyboard Power On

Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

PCI Devices Power On

Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode.

Ring-In Power On

Use this item to enable or disable Ring-In signals to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

USB Keyboard/Remote Power On

Use this item to enable or disable USB Keyboard/Remote to power on the system.

USB Mouse Power On

Use this item to enable or disable USB Mouse to power on the system.

6.3.7 USB Configuration


```
          Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
   Advanced

   USB Configuration                                    To enable or disable USB 2.0
                                                        Controller.
   USB 2.0 Controller              [Enabled]
   Legacy USB Support              [Enabled]
   USB Mouse Wheel Support         [Disabled]




                                                        ↔: Select Screen
                                                        ↑↓: Select Item
                                                        Enter: Select
                                                        +/-: Change Option
                                                        F1: General Help
                                                        F7: Discard Changes
                                                        F9: Load UEFI Defaults
                                                        F10: Save and Exit
                                                        F12: Print Screen
                                                        ESC: Exit



          Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

USB 2.0 Controller

Use this item to enable or disable the use of USB 2.0 controller.

Legacy USB Support

Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [UEFI Setup Only]. The default value is [Enabled].

1) **[Enabled]** – Enables support for legacy USB.

2) **[Auto]** – Enables legacy support if USB devices are connected.

3) **[Disabled]** – USB devices are not allowed to use under legacy OS and UEFI setup when [Disabled] is selected. If you have USB compatibility issue, it is recommended to select [Disabled] to enter OS.

4) **[UEFI Setup Only]** – USB devices are allowed to use only under UEFI setup and Windows / Linux OS.

USB Mouse Wheel Support

Use this option to enable or disable USB Mouse Wheel Support. The default value is [Disabled].

6.3.8 Voltage Configuration

```
              Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
          Advanced

       Voltage Control                                   Min = 1.30V
                                                         Max = 2.05V
       DRAM Voltage                    [Auto]



                                                         ↔: Select Screen
                                                         ↑↓: Select Item
                                                         Enter: Select
                                                         +/-: Change Option
                                                         F1: General Help
                                                         F7: Discard Changes
                                                         F9: Load UEFI Defaults
                                                         F10: Save and Exit
                                                         F12: Print Screen
                                                         ESC: Exit


              Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```
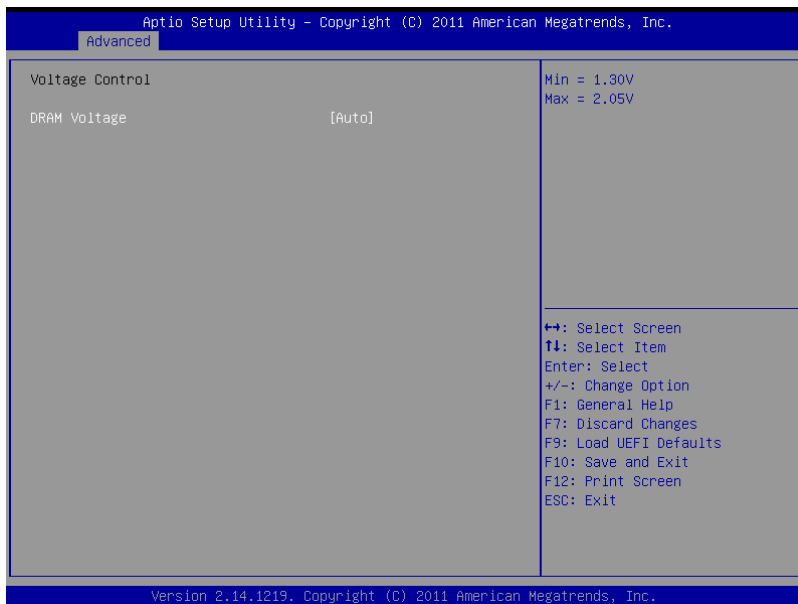
DRAM Voltage

Use this to select DRAM Voltage. The default value is [Auto].

6.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.

```
          Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
     Main  Advanced  H/W Monitor  Boot  Security  Exit

    Hardware Health Event Monitoring              Quiet Fan Function Control

    CPU Temperature              : 42 ˚C
    M/B Temperature              : 52 ˚C

    CPU_FAN1 Speed               : 5273 RPM
    CHA_FAN1 Speed               : N/A

    Vcore                        : +1.192 V
    + 3.30V                      : +3.296 V
    + 5.00V                      : +5.016 V
    + 12.00V                     : +12.091 V

                                                  ↔: Select Screen
                                                  ↑↓: Select Item
    CPU_FAN1 Setting             [Full On]        Enter: Select
    CHA_FAN1 Setting             [Full On]        +/-: Change Option
                                                  F1: General Help
                                                  F7: Discard Changes
                                                  F9: Load UEFI Defaults
                                                  F10: Save and Exit
                                                  F12: Print Screen
                                                  ESC: Exit

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```

CPU_FAN1 Setting

This allows you to set CPU_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

CHA_FAN1 Setting

This allows you to set CHA_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

6.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.

```
          Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
     Main  Advanced  H/W Monitor  Boot  Security  Exit

    Boot Option Priorities                        Sets the system boot order
    Boot Option #1             [SATA  PM: ST380817...]

    Hard Drive BBS Priorities

    Setup Prompt Timeout        1
    Bootup Num-Lock             [On]

    Boot From Onboard LAN       [Disabled]

                                                  ↔: Select Screen
                                                  ↑↓: Select Item
                                                  Enter: Select
                                                  +/-: Change Option
                                                  F1: General Help
                                                  F7: Discard Changes
                                                  F9: Load UEFI Defaults
                                                  F10: Save and Exit
                                                  F12: Print Screen
                                                  ESC: Exit

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```

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key. 65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

6.6 Security Screen

In this section, you may set, change or clear the supervisor/user password for the system.

```
              Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
        Main  Advanced  H/W Monitor  Boot  Security  Exit

    Supervisor Password              Not Installed          Install or Change the Password.
    User Password                    Not Installed

    Supervisor Password
    User Password




                                                            ↔: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Option
                                                            F1: General Help
                                                            F7: Discard Changes
                                                            F9: Load UEFI Defaults
                                                            F10: Save and Exit
                                                            F12: Print Screen
                                                            ESC: Exit


              Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

6.7 Exit Screen

```
              Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
        Main  Advanced  H/W Monitor  Boot  Security  Exit

    Save Changes and Exit                                   Exit system setup after saving
    Discard Changes and Exit                                the changes.
    Discard Changes
    Load UEFI Defaults                                      F10 key can be used for this
                                                            operation.
    Launch EFI Shell from filesystem device




                                                            ↔: Select Screen
                                                            ↑↓: Select Item
                                                            Enter: Select
                                                            +/-: Change Option
                                                            F1: General Help
                                                            F7: Discard Changes
                                                            F9: Load UEFI Defaults
                                                            F10: Save and Exit
                                                            F12: Print Screen
                                                            ESC: Exit


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```

Save Changes and Exit

When you select this option, it will pop-out the following message, "Save configuration changes and exit setup?" Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, "Discard changes and exit setup?" Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, "Discard changes?" Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.

7 Operating System

7.1 Customer Specified or Trial Version

The computer can be delivered with a customer specified operating system installed. Our standard operating systems are Windows 7, Windows XP or Linux. If no operating system is specified when ordering, a 30-day trial version of Windows 7 is installed.

IMPORTANT!
Please note that the trial version of Windows 7 stops working after 30 days of operation!

7.2 Shutting Down Properly

Shut down the computer in a proper way. If not, the operating system or application software may get interrupted and lose data. Do not switch the power supplies off to shut down the computer, follow the proper shut-down procedure from the operating system.
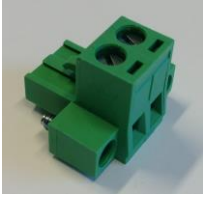
8 Service

All service for these products must be done by Autic System AS.

8.1 Return of products to Autic System.

Return equipment for service by registering the products via RMA registration at www.autic.no / Support / Returskjema (Return Form).

8.2 Accessories

Part name	Illustration	Comment
Power Adapter		Specify product Id when ordering.
Quick Mounting Kit		Set of 10 pcs.
Power Connector		Set of 2 pcs..
USB Touch Cable		For monitor to Box/Mini PC
Audio Cable		For monitor to Box/Mini PC