AHP-1070

TI OMAP 600 MHz
Processor
Fanless Touch Panel PC
With 7” 16:9 WVGA TFT LCD
Slim Design

AHP-1070 Manual 1st Ed.
November 2010

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Packing List

Before you begin operating your PC, please make sure that the following materials are enclosed:

- AHP-1070 Fanless Touch Panel PC
- Mounting bracket, screws and sponge
- CD-ROM for manual (in PDF format) and Windows CE SDK

If any of these items should be missing or damaged, please contact your distributor or sales representative immediately.

Safety & Warranty

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a firm surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.

d. The equipment does not work well, or you cannot get it to work according to the user's manual.

e. The equipment has been dropped and damaged.

f. The equipment has obvious signs of breakage.

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

FCC

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:
There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Below Table for China RoHS Requirements
产品中有毒有害物质或元素名称及含量

AAEON Panel PC/ Workstation

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其电子组件	×	○	○	○	○	○
外部信号连接器及线材	×	○	○	○	○	○
外壳	×	○	○	○	○	○
中央处理器与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
液晶模块	×	○	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○

O：表示该有毒有害物质在该部件所有均质材料中的含量均在 **SJ/T 11363-2006** 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 **SJ/T 11363-2006** 标准规定的限量要求。

备注：
一、此产品所标示之环保使用期限，系指在一般正常使用状况下。
二、上述部件物质中央处理器、内存、硬盘、光驱、触控模块为选购品。

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Chapter

1

General Information

1.1 Introduction

The AHP-1070 operator panel is an onboard TI OMAP 600MHz processor computer that is designed to serve as a human machine interface (HMI). It is an ARM Core system with 7” 16:9 WVGA TFT LCD display, onboard Ethernet controller and multi-COM port interfaces. With a built-in 256MB ROM onboard and SD card expansion, the AHP-1070 is as compact and user friendly as a multi-function computer. In addition, its "fit anywhere" design makes it very flexible and is able to be used in many different kinds of installations. It can be wallmount, panelmount or mounted on DIN Rail.

For system integrators, this simple, complete, compact and highly integrated system let you easily build an operator panel into your applications. Common industrial applications include factory automation systems, precision machinery, and production process control. It is also suitable for many non-industrial applications, including vending machine, and car park automation. Our operator panel is a reliable, cost-effective solution to your application's processing requirements.

1.2 Specification

System

• CPU	TI OMAP 600 MHz Processor
• Memory	Onboard 128M DDR RAM
• Touch Screen	4-wire Touch Window
• Expansion	PCIe Mini Card x 2 (USB only)
• Front I/O	Power LED
• Rear I/O	N/A
• Bottom I/O	USB x 2 USB Client x 1 RS-232 x 1 RS-232/422/485 x 1 LAN x 1 VGA x 1 Power input x 1 Power button x 1
• Ethernet	Davicom DM9000AEP 10/100Base-TX RJ-45 connector x 1
• Storage Disk Drive	Onboard 256MB ROM, SD socket x 1
• OS Support	Windows CE 6.0, Linux

Mechanical

• Construction	Plastic (ASB) front bezel + Aluminum chassis
• Front Panel Color	Patone 5425C
• Mounting	Wallmount/ VESA mount/ Desktop
• Cutout Size	7.6” x 5.67” (193mm x 144mm)
• Dimension	8.9” (W) x 6.1” (H) x 1.77” (D) (225mm x 156mm x 45mm)
• Carton Dimension	11.4” (W) x 7.5” (H) x 9.1” (D) (290mm x 190mm x 230mm)
• Gross Weight	4.4 lb (2 kg)
• Net Weight	1.54 lb (0.7 kg)

Environmental

• Operating Temperature	32°F~122°F (0°C~50°C)
• Storage Temperature	-4°F ~140°F (-20°C ~60°C)
• Storage Humidity	5% to 90%@40 °C, non-condensing
• Vibration	3 GRMS/ 5~500Hz/ Operation—With SD
• Shock	20G peak acceleration (11 msec. duration)
• EMC	CE/FCC Class A

- Power Supply DC 12V

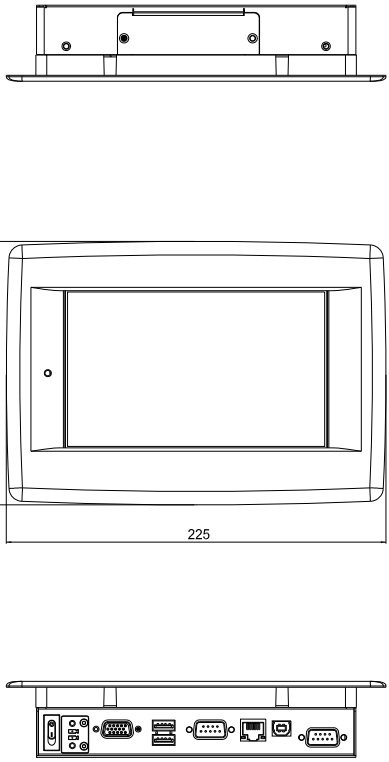
LCD

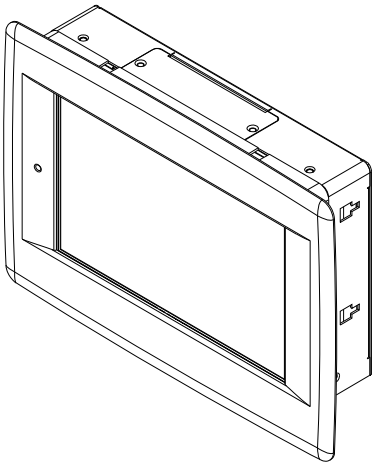
- Display Type 7” WVGA, LED backlight
- Response Time (sec) 10
- Max. Colors 262K
- Luminance 350 cd/m^2 (TYP.)
- Contrast Ratio 250:1
- Viewing Angle 140^o (H) x 120^o (V)
- Backlight MTBF (hrs) 30,000

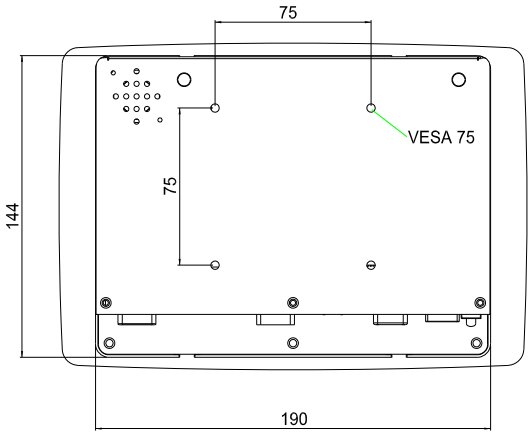
Touch screen

- Type 4-wire, analog resistive
- Resolution 2048x2048
- Light Transmission >80%
- Lifetime 10 million activations
- OS Support Windows CE. 6.0

1.3 Dimension






75
VESA 75
75
144
190

Chapter

2

Hardware Installation

2.1 Panelmount Installation

The display panel can be mounted into the wall. You will need the screws along with the mounting brackets, which be packed in the accessory box. Follow the steps below:

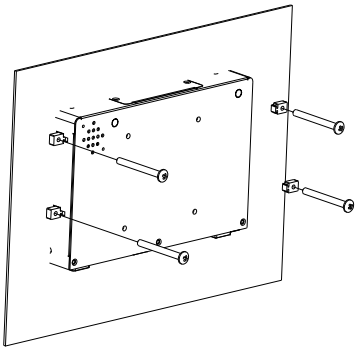
Before you start to follow the instructions, please place the display panel into the wall. See the following illustration on the left.

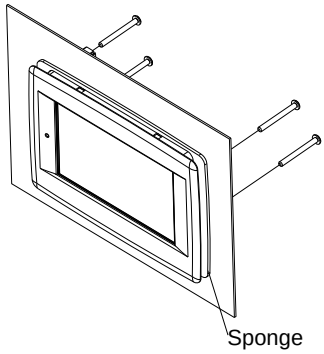
Step 1: Place the mounting brackets and plug the screw.

Step 2: Aim the mounting set at the hole on the monitor.

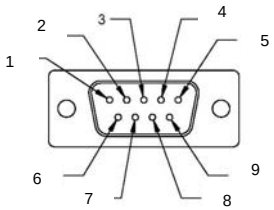
Step 3: Fix the monitor with the mounting set by screwing it.

Step 4: You've completed the preliminary when the mounting set is tightened. Next, repeat the steps and tighten all mounting set around the monitor until the monitor is firmly mounting on the wall.



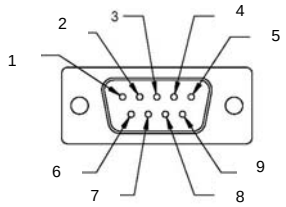


2.2 COM2 RS-232/422/485 Connector (DSUB-9 MALE)



Pin	Signal	Pin	Signal
1	DCD (422TXD-/485DATA-)	2	RX (422RXD+)
3	TX (422TXD+/485DATA+)	4	DTR (422RXD-)
5	GND	6	NC
7	RTS	8	CTS
9	NC/+3.3Volt/+5Volt		

2.3 COM3 RS-232 Connector (DSUB-9 MALE)



Pin	Signal	Pin	Signal
1	DCD	2	RX
3	TX	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

Chapter

3

Software Installation Guide

3.1 Introduction

AHP-1070 is preloaded with Windows CE 6.0. After applying with power, the system will boot directly to Windows CE.

3.2 Permanent Storage

The system comes with an on board NAND Flash for permanent storage. It is mounted under “/NAND Flash” folder. The storage space is around 200MB. User requires to put all permanent data in “/NAND Flash” folder.

All other places in the file system are ram image. Any modification on the files of this image will be lost after any power fail.

3.3 Boot Up Execution File

The system will look for a boot script file under “\NAND Flash\autoexec.exe” during boot up process.

If this file exists, the system will launch this application at boot.

3.4 Hive Based Registry

The Windows CE 6.0 Image in AHP-1070 uses hive-based registry, which stores registry data in files. These files are stored in permanent storage under “\NAND Flash”.

3.5 Demo Applications

AHP-1070 CD-ROM includes sample applications to controls the GPIO and Watchdog.

GPIO:

To control GPIO pins on CN4, a sample application with source code guides user to develop custom applications using GPIO pins. A readme file is provided with the source code.

Watchdog:

To utilize watchdog timer function on AHP-1070, a sample application with source code guides user to develop custom applications using GPIO pins. A readme file is provided with the source code.

3.6 SDK installation

AHP-1070 CD-ROM includes SDK for user to build custom applications. This enables the support for Visual Studio 2005 and .NET Compact Framework 3.5. Users building their own applications on AHP-1070 require installing this SDK.
Follow the installation guide in the “SDK” folder in CDROM.