Panel PC
MediaLine xx-I

**12.1", 15" Intel Core i
Multimedia panel PC**

Perfect
Industrial IT

Service Manual

Version 1310, October 2013

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, 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 onto an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, This device must accept any interference received, including interference that may cause undesired operation.

Important Safety Precautions

Before getting started, read these instructions and save them for later reference.

1. To access any internal components of the system, confirm the system power is turned off and make sure all the system fans already stop turning.
2. Turn off the computer before cleaning. Clean with a damp or dry cloth only. Do not spray any liquid cleaner on screen.
3. The power socket used to plug in the power cord must be located near the system and easily accessible. Do not use outlets on the same circuit of the systems that regularly switched on and off.
4. Make sure the voltage of the power source is correct before connecting the system to the power outlet.
5. If the system is sharing an extension cord with other devices, make sure the total ampere rating of the devices plugged into the extension cord does not exceed the cord's ampere rating.
6. Do not expose the power cord, power outlet and extension cord to moisture.
7. Install the system on a reliable surface to prevent damage caused by dropping.
8. Disconnect the power cord from the system before any installation. Make sure both the system and the external devices are turned off. The sudden surge of power may ruin any sensitive components. Also make sure the system is properly grounded.
9. During installation of any internal components, be sure to ground yourself to keep from any static charge. Most electronic components are sensitive to the static electric charge. Use a grounding wrist strap and place all electronic components in any static-shielded devices.
10. The openings on the system cabinet are for the cabin ventilation to prevent the system from overheating. DO NOT COVER THE OPENINGS.
11. The brightness of the flat panel display will decrease with use. However, hours of use will vary depending on the application environment.
12. Avoid using sharp objects to operate the touch panel. Scratches on the touch panel may cause mal-calibration or non-function to the touch panel.
13. The LCD panel display is not subject to shock or vibration. When assembling the computer, make sure it is securely installed.

Table of Contents

CHAPTER 1

1.   INTRODUCTION

This chapter provides background information and detailed specifications on the MediaLine. Sections in this chapter include:

1.1. Unpacking the MediaLine

After unpacking the carton, you will see the MediaLine unit. Remove all the EPE. These packing materials are used to protect the components from damage during transportation. It is strongly recommended that they are kept for future transportation use.

Make sure that all of the items listed below are in the accessory box.

- Utilities & drivers CD diskette   x 1
- Power adaptor   x 1
- Power cord   x 1

If any of the above items is missing, contact your dealer.

1.2. WHAT IS COVERED IN THIS MANUAL

This service manual provides service information for the MediaLine Panel. It is designed to help trained service personnel to locate and fix failing parts on the MediaLine if required. Only service technicians are allowed to open the system for service. You do not need to read everything in this handbook to service the system.

1.3. RUNNING THE BIOS SETUP

If you are a commercial user, the MediaLine system should have been properly set up and configured by your dealer. Please notice that an error setting in BIOS may cause system boot failure or device malfunction.

1.4. OPERATING SYSTEM AND DRIVER INSTALLATION

The MediaLine system is not equipped with an operating system when delivered from the original manufacturer. If you are a commercial user, the system is likely to have been pre-installed with a proper operating system and software drivers by your dealer or system integrator.

If the system is not pre-installed with any system OS and drivers or you intend to install your preferred ones, there are several ways to load OS and software into the system:

1. From USB data-retrieval devices
2. From the supplied DVD-ROM
3. Over Ethernet from a LAN

Recent releases of operating systems always include setup programs that load automatically and guide you through the installation. You can also refer to your OS user manual for instructions on formatting or partitioning the hard disk drive before any software installation.

The MediaLine system provides the following utility drivers stored in the DVD-ROM diskette or utilities diskettes;

- ✧ Ethernet utilities
- ✧ VGA utilities
- ✧ Audio drivers
- ✧ Touch screen drivers
- ✧ Other device drivers

1.5. Identifying the System

Before getting started, take a moment to familiarize yourself with the system and the I/O arrangement of the MediaLine.

1.5.1. Front View

When the MediaLine is put upright, its front view appears as below.

1.5.2. Rear View

1.5.3. I/O Outlets

When you turn around the MediaLine system, you will find the power switch and all the I/O ports are located at the bottom of the panel PC.
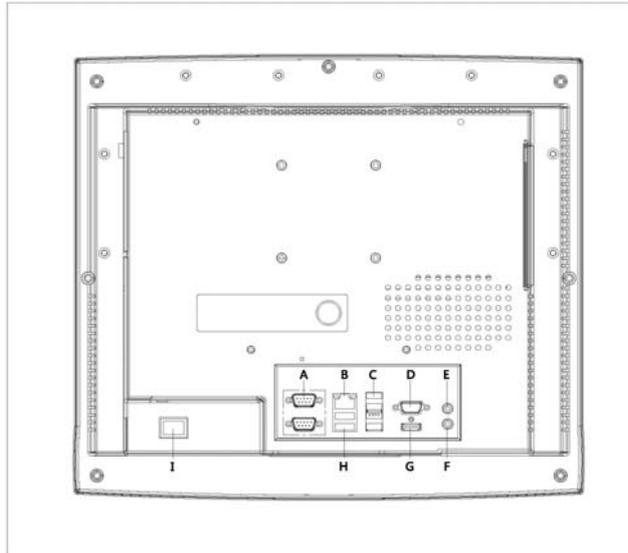
A. COM x2
B. LAN
C. USB 2.0 x4
D. VGA
E. Audio out
F. MIC
G. Digital Display
H. USB 3.0 x2
I. Power Switch

1.5.4. 45^0 to 90^0 Free Standing

The sleek and sturdy pedestal assembled with the two cable covers enables the MediaLine system to endure the long-time operation in any public sectors. By swiveling the knob on the pedestal and pulling the base up and down, the angle can be tilted from 45^0 to 90^0.
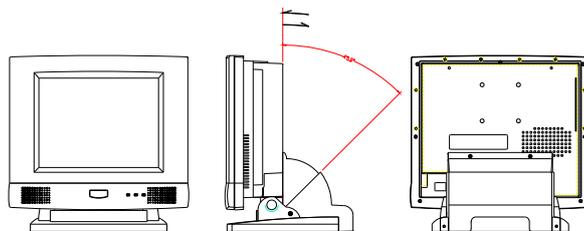
1.6. Specifications
System

- ◆ **CPU**
  - ✧ Intel® 2nd & 3rd Generation Core^{TM} i7/i5/i3 QC/DC Processor
- ◆ **System Chipset:**
  - ✧ Intel H77 or Q77
- ◆ **System Memory**:
  - ✧ 2 x 240 pin DDR3 up to 8GB
- ◆ **Display Module**
  - ✧ MediaLine xx-12: 12.1" TFT LCD, 800 x 600
  - ✧ MediaLine xx-15: 15" TFT LCD, 1024 x 768
- ◆ **Standard I/Os**
  - ✧ Serial ports x2
  - ✧ USB 2.0 interface x4, USB 3.0 x2
  - ✧ VGA interface x 1 (DB15 connector, support extension display function)
  - ✧ Digital Display Port x 1
- ◆ **Audio**
  - ✧ Speaker x 2
  - ✧ Speaker-out, MIC-in
- ◆ **Ethernet**
  - ✧ 10/100/1000 Base-T with RJ-45
  - ✧ Supports Wake-on-LAN
- ◆ **Power Supply**
  - ✧ 200W, 100~240V @50~60Hz

Peripheral & Storage Devices

- ◆ **Touchscreen**
  - ✧ Resistive touch panel
- ◆ **Drive Bay**
  - ✧ 2.5" HDD SATA Interface
- ◆ **Optional Device**
  - ✧ Wireless LAN
- ◆ **Expansion**
  - ✧ PCIe x2
  - ✧ PCI x2 (option)

1.7. MEDIALINE xx-15 DIMENSIONS
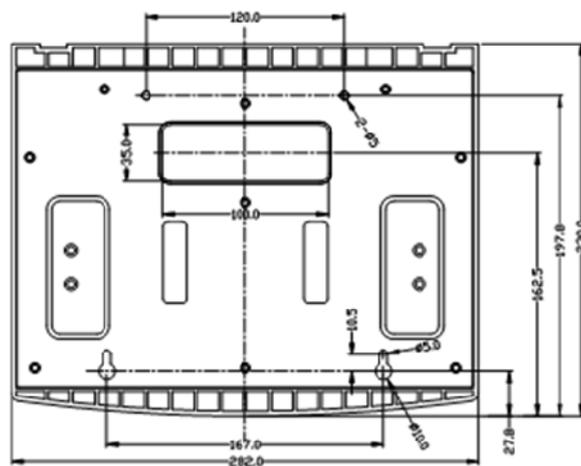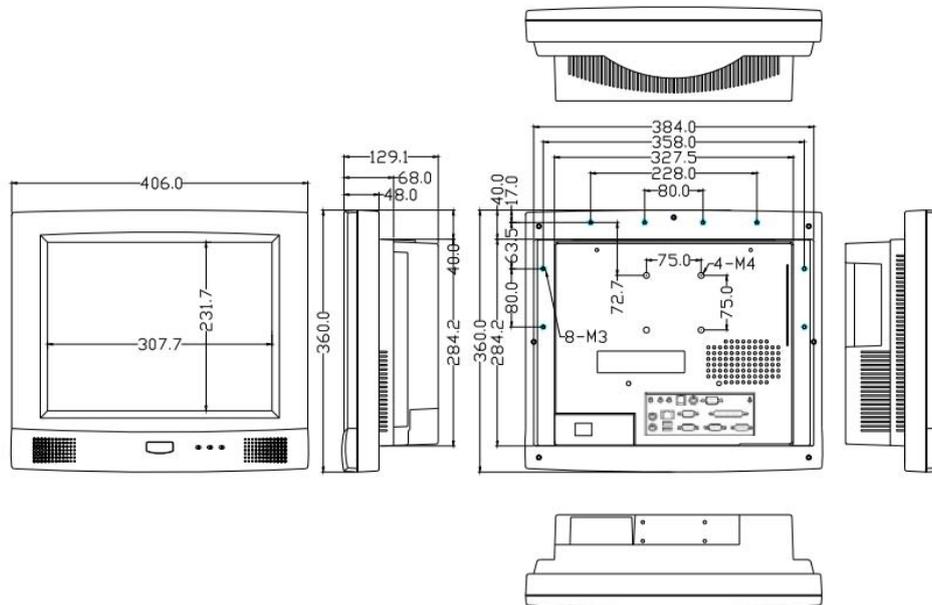
MediaLine pedestal base avocado holes

Chapter 2

2. INSTALLING DRIVERS AND SOFTWARE
2.1. Chipset drivers utility

> *You must install the Intel chipset before installing other drivers.*
>
> **IMPORTANT**

Refer to the following to install the chipset drivers

1. For Windows XP, locate the installation file on the CD:

    \\Drivers\Motherboard\PC67H\Windows XP-32bit\Chipset\

2. For Windows 7, make sure it is 32 bits or 64 bits, then locate the installation file on the CD:

    \\Drivers\Motherboard\PC67H\Windows7\Windows7-32bit (64bit)\Chipset

3. Double-click **INF_allOS_9..3.0.1026**

4. Follow the onscreen instructions to complete the installation.

5. For USB 3.0, locate the installation file on the CD:
    \\Drivers\Motherboard\PC67H\ Windows7-32bit (64bit)\USB3.0

2.2. LAN drivers

Refer to the following to install the LAN drivers.

1. For Windows XP, locate the installation file on the CD:
    \\Drivers\Motherboard\PC67H\Windows XP\LAN\

2. For Windows 7, make sure it is 32 bits or 64 bits, then locate the installation file on the CD: \\Drivers\Motherboard\PC67H\Windows7\Windows7-32bit (64bit)\LAN

3. Double-click **SETUP**

4. Follow the onscreen instructions to complete the installation.

2.3. Audio drivers

Refer to the following to install the drivers.

1. For Windows XP, locate the installation file on the CD:
    \\Drivers\Motherboard\PC67H\Windows XP\Audio\

2. For Windows 7, make sure it is 32 bits or 64 bits, then locate the installation file on the CD: \\Drivers\Motherboard\PC67H\Windows7\Windows7-32bit (64bit)\Audio

3. Follow the onscreen instructions to complete the installation2. For Win 7, double-click **Vista_Win7_Win8_R270**. Then following screen appears.

4. For Win XP, double-click **WDM_R270**. Then following screen appears.

2.4. VGA drivers

Refer to the following to install the VGA drivers

1. For Windows XP, locate the installation file on the CD: \\Drivers\Motherboard\PC67H\Windows XP\VGA\

2. For Windows 7, make sure it is 32 bits or 64 bits, then locate the installation file on the CD:

   \\Drivers\Motherboard\PC67H\Windows7\Windows7-32bit (64bit)\VGA

3. For Win 7 32bit, execute "setup" on **GFX_Win7_8_32_9.17.10.2932**.

4. For Win7 64bit, execute "setup" on **GFX_Win7_8_64_9.17.10.2932**.

5. For Win XP, execute "setup" on **GFX_XP32_6.14.10.5436**.

6. Follow the onscreen instructions to complete the installation.

2.5. Touch screen drivers

Refer to the following to install the touch screen drivers.

2.5.1. ELO Touch

1. Locate the installation file on the CD: \\Drivers\Touch screen driver\Elo Resistive & SAW Touch

2. Select the drivers by OS.

3. Follow the onscreen instructions to complete the installation

2.5.2. Taiwan brand Touch

1. Locate the installation file on the CD: \\Drivers\Touch screen driver\Taiwan brand Resistive Touch

2. Select the drivers by OS.

3. Follow the onscreen instructions to complete the installation

Chapter 3

3.   Locating the Problem

Refer to this section to locate the problem with the MediaLine. The following topics are described.

3.1. General checkout guidelines

Use the following procedure to troubleshoot problems:

- Identify as many symptoms as possible in detail.

- Verify symptoms by recreating them.

- Follow the corrective procedures in order.

- If you replace an FRU and the symptom remains, reinstall the original FRU before going to the next step. Do not replace non-defective FRU.

3.2. Power system checkout

Power system problems can result from a faulty AC adapter, or undetermined problems (such as loose connections). Refer to the following to check the AC adapter.

3.3. LCD symptoms

SYMPTOM	CORRECTIVE PROCEDURE	
LCD panel not display properly	1	Reseat the LCD cable.
	2	Reseat the inverter cables.
	3	Replace the inverter cables.
	4	Replace the Inverter.

3.4. Touch screen symptoms

SYMPTOM	CORRECTIVE PROCEDURE	
Touch screen does not function	1	Install and run the touch screen calibration program from the Touchkit driver CD.
	2	Reseat the touch screen cables.
	3	Replace the controller.

3.5. Power symptoms

SYMPTOM	CORRECTIVE PROCEDURE	
Power shuts down unexpectedly	**1**	Reseat the power AC cable.
Cannot turn the system on	**2**	Check the mainboard power connector.
	3	Check CPU settings.
	4	Check DRAM settings.
	5	Check the power button cable.
	6	Replace the power supply.

3.6. Network symptoms

SYMPTOM	CORRECTIVE PROCEDURE	
Cannot access LAN	**1**	Confirm that the hub/switch is working correctly.
	2	Reseat the RJ-45 cable.
	3	Confirm the RJ-45 LEDs are on.
	4	Reinstall the Ethernet driver.
	5	Replace the mainboard.

3.7. USB symptoms

SYMPTOM	CORRECTIVE PROCEDURE	
USB ports do not function	**1**	Check the ports are detected in Windows Device Manager.
	2	Reseat the USB device.
	3	Reinstall the USB device driver.
	4	Replace the USB device.

3.8. Boot symptoms

SYMPTOM	CORRECTIVE PROCEDURE	
System continually reboots on power up	**1**	Restore the BIOS defaults.
	2	Remove all I/O device drivers and then reinstall them.
	3	Reseat the SATA cable.
	4	Reseat memory.

Chapter 4

4. Replacing Field Replaceable Units (FRUs)
4.1. Safety and precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous. Follow these guidelines to avoid damage to the computer or injury to yourself.

- Always disconnect the unit from the power outlet.

- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.

- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

⚠ CAUTION	*Only qualified personnel should perform repairs on the MediaLine. Damage due to unauthorized servicing is not covered by the warranty.*

⚠ CAUTION	*If the LCD breaks and fluid gets onto your hands or into your eyes, immediately wash with water and seek medical attention.*

⚠ CAUTION	*Under no circumstances touch the inverter card while power is connected to the MediaLine. Unplug the power cord before attempting to replace any FRU.*

⚠ CAUTION	*To prevent static damage to components, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.*

⚠ CAUTION	*Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress the circuit board. Do not hold components such as a processor by its pins; hold it by the edges.*

4.2. Before You Begin

Make sure you have a stable, clean working environment. Dust and dirt can get into MediaLine components and cause a malfunction. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

Most of the electrical and mechanical connections can be disconnected by using your fingers. It is recommended that you do not use needle-nosed pliers to disconnect connectors as these can damage the soft metal or plastic parts of the connectors.

> ⚠️
> **CAUTION**
>
> ***To prevent scratching the case of the MediaLine, make sure the worktop surface is clean and flat.***
> ***If you need to put the display facing down, be sure to use a foam mat.***

4.3. Replacing Parts

Take note of the following when replacing parts:

- If you replace an FRU and the symptom remains, reinstall the original FRU before going to the next step. Do not replace non-defective FRUs.

- When replacing a failing part, other parts that have to be removed before the failing part are listed at the top of the page.

- The arrows in the following procedures show the direction of movement to remove/replace a part, or to turn a screw or key to release a device.

- To replace a part, reverse the removal procedure.

4.3.1. Stand

1. Remove 2 screws on the cable management cover **2.** Remove 4 screws on the hinge . **3.** Then, separate the panel PC with stand.	
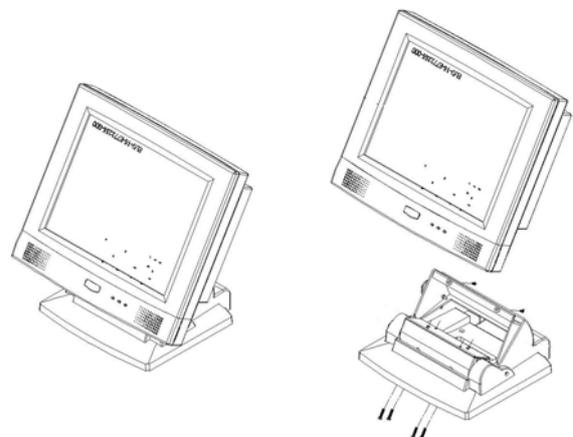
4.3.2. Panel PC explore diagram
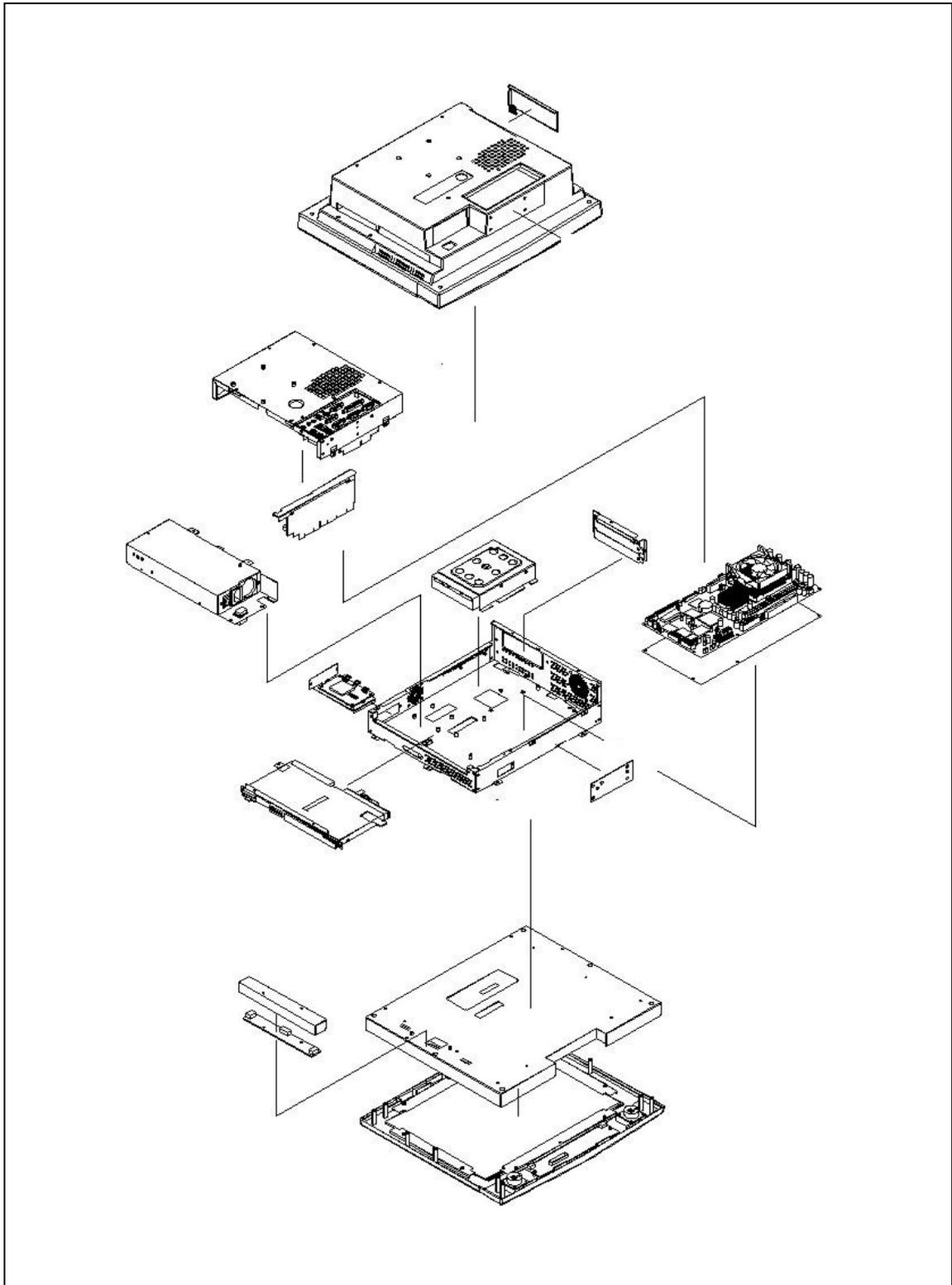
4.3.3. Touch screen module

1. Remove 4 touch screen holders. Each has 2 screws on it. **2.** Remove the touch screen sensor	
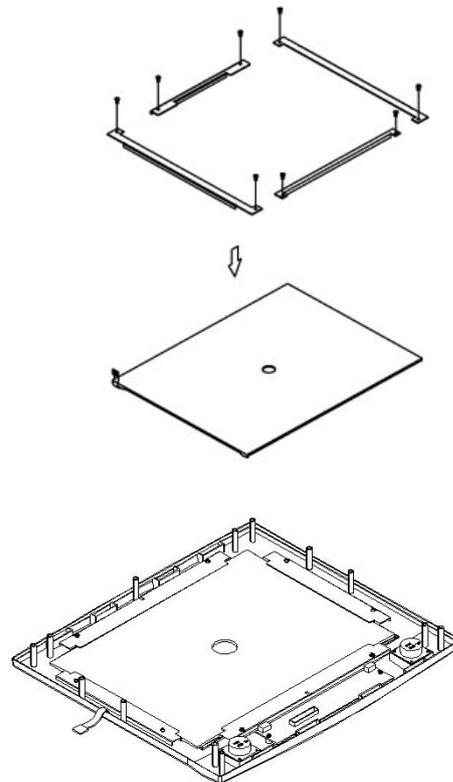
4.3.4. LCD module

1. Disconnect the all cables on the motherboards. **2.** Remove the 4 screws and separate LCD with LCD fixtures **3.** Remove 2 screws on each side and separate LCD with LCD fixtures	
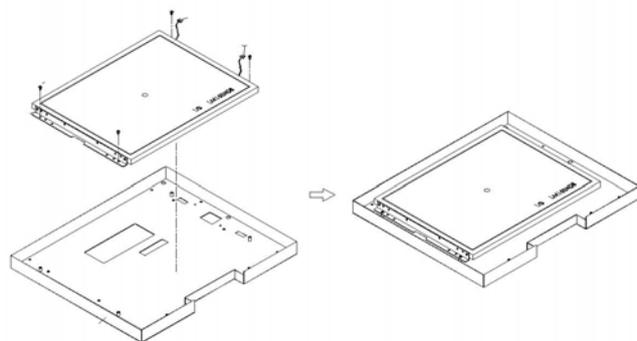
4.3.5. Back cover

1. Remove 7 screws.

2. Take off the back cover.
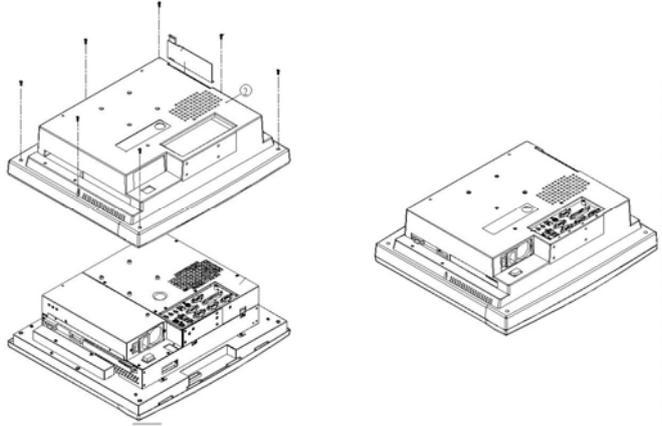
4.3.6. Mother board
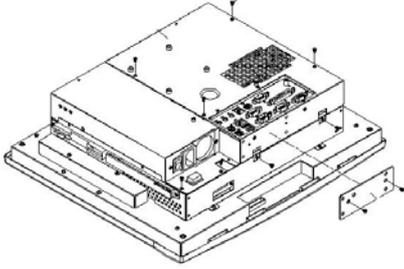
1. Remove 9 screws.	
2. Remove the metal back cover	
3. Remove riser card and power supply	
4. Then, the mother board, HDD..etc can be accessed.	
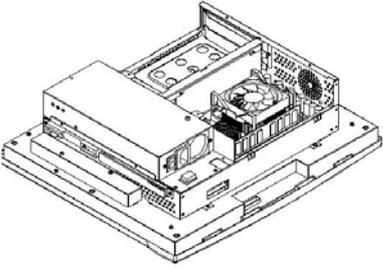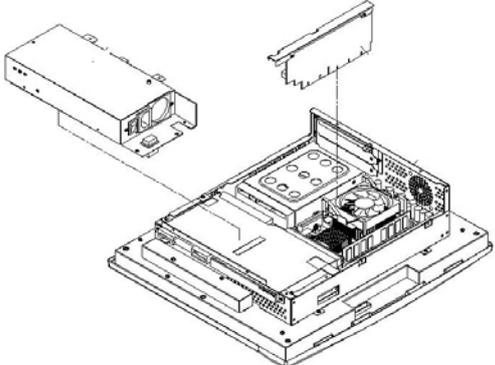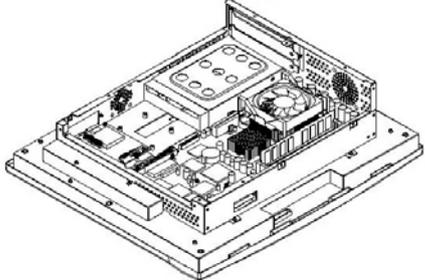
4.3.7. Power supply

1. Open MediaLine back cover **2.** Remove Expansion riser card **3.** Remove 4 screws and separate the power supply	
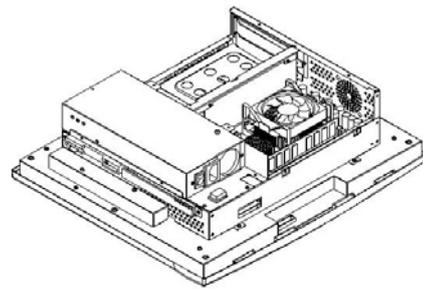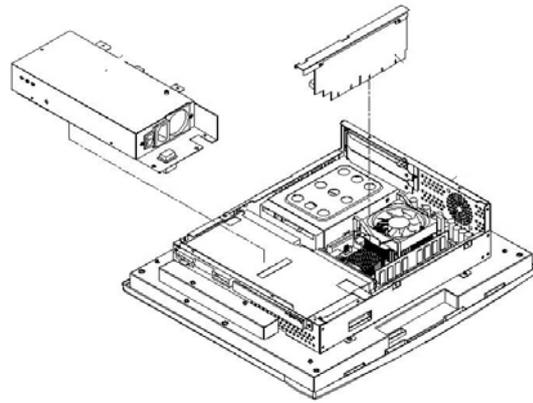
CHAPTER 5

5. PC79 MOTHER BOARD
5.1. LOCATING JUMPERS & CONNECTORS

GPIO CONNECTOR

GPIO CONNECTOR

COM4 RI Select

COM3 RI Select

AT Power Function

COM4 Connector

COM3 Connector

Mini PCI-E

Inverter Connector

Internal Speaker

Internal USB Prot

Panel Type Select

Front Panel Connector

Clear COMS

LVDS Port

ATX Power 20 Pin Connector

Internal USB 3.0 Prot

SATA1

SATA3

SATA2

SATA4

Internal Power Button

CPU FAN

IO-013 Slot

Mini 4P Power Connector

DDR III Slot

CPU Socket

PCI Riser Slot

System FAN1

ATX Power 4 Pin Connector

System FAN2

COM1 RI Select

COM2 RI Select

LAN Port

VGA Port

COM2

Header Phone

Mic-in

COM1

USB 3.0 Port

USB Port

HDMI Port

5.1.1. JUMPERS & JUMPER SETTING

The table below lists the function of each jumper. The related jumper settings are shown in the coming sections.

Jumper	Description
JP1	COM3 pin 9 power selection
JP2	COM4 pin 9 power selection
JP3	Clear CMOS
JP4	AT Power Function
SW1	Panel Type Select

JP1,JP2：SERIAL PORT 1 PIN9 FUNCTION SELECT

The Serial port power selection is selected via jumper setting

RI	5V	12V
1-2	3-4	5-6

JP3：CLEAR CMOS

1-2	Normal
2-3	Clear CMOS

JP4：AT POWER FUNCTION

1-2	AT Power Function
2-3	ATX Power Function(Normal)

SW1 ：PANEL TYPE SELECT

Panel Type	SW1				LVDS Resolution	Backlight
	1	2	3	4		
0	ON	ON	ON	ON	640x480 18Bit	
1	OFF	ON	ON	ON	800x600 18Bit	
2	ON	OFF	ON	ON	1024x768 18Bit	
3	OFF	OFF	ON	ON	1024x768 24Bit	
4	ON	ON	OFF	ON	1280x1024 48Bit	
5	OFF	ON	OFF	ON	1280x1024 48Bit	Backlight Invert
6	ON	OFF	OFF	ON	1600x1200 48Bit	
7	OFF	OFF	OFF	ON	1920x1200 48Bit	
8	ON	ON	ON	OFF	1024x600 18Bit	Backlight Invert
9	OFF	ON	ON	OFF	1280x800 18Bit	Backlight Invert
10	ON	OFF	ON	OFF	1366x768 24Bit	Backlight Invert
11	OFF	OFF	ON	OFF	1366x768 24Bit	
12	ON	ON	OFF	OFF	1680x1050 48Bit	
13	OFF	ON	OFF	OFF	1920x1080 48Bit	Open LDI
14	ON	OFF	OFF	OFF	1920x1080 48Bit	Backlight Invert
15	OFF	OFF	OFF	OFF	1920x1080 48Bit	

5.1.2. IO-013 JUMPER SETTING

Jumper	Description
JP1	COM1 pin 9 power selection
JP2	COM2 pin 9 power selection

JP1,JP2：SERIAL PORT 1 PIN9 FUNCTION SELECT

The Serial port power selection is selected via jumper setting

RI	5V	12V
1-2	3-4	5-6

5.1.3. CONNECTORS

The table below lists the function of each connector on the PC67. Their corresponding pin assignments will be shown in the following sections.

Connector	Description
CN1	Mini 4P Power Connector
CN2	LCD Inverter connector
CN3	LPC Interface (For Debug)
CN4	Reserve for Update System BIOS
CN5,CN6,CN7	Internal USB Port
CN8	Internal USB 3.0 Port
CN9	GPIO Connector
CN10	Internal Power Connector
CN11	Front Panel Function Connector
CN12	Internal Speaker Connecot
ATX1	ATX +12V power connector
ATX2	ATX power connector
COM3,COM4	Internal Serial port 3~4
EISA1	For PCI Riser Slot
FAN1,FAN2	System FAN connector
FAN3	CPU FAN connector
IO1	For IO-013 Slot
LVDS1	LCD connector
PCIE1	Mini PCI-E Slot
SATA1~4	SATA1~4 connector

5.2. AMI BIOS Setup

The BIOS Setup Utility enables you to configure the following items：

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The BIOS setup program is stored in ROM, which can be accessed by pressing <DEL> key on the keyboard immediately when the system is powered on.

In order to retain the specified setup information when the system power is turned off, the system setup information is stored in a battery-backed CMOS RAM. The battery is to ensure the settings will not be erased when the computer is turned off or reset. When the computer is powered on again, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the power on self test (POST). If any error or mismatch occurs, an error message will be shown on the screen and the computer will be prompted to run the setup program.

If you are a commercial user, the MediaLine xx-I system should have been properly set up and configured by your dealer. Please notice that an error setting in BIOS may cause system boot failure or device malfunction.