



CARISMA

Small foot print & Elegant

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TRADEMARK

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Specifications

Main Board

CPU

IT7000D-15 Intel® Atom™ processor D525 (1M Cache, 1.80 GHz)

Chipset

Intel® NM10 Express Chipset

System Memory

Socket-type RAM device, 204PIN SO-DIMM DDR3 RAM, up to 4GB

Graphic Memory

Shared system memory up to 256MB

LCD Panel

IT7000-15

Panel Size	15"
Maximum Resolution	1024 x 768
Brightness	250 cd/m1
Contrast Ratio	600 : 1
Response Time	8 ms
View Angles (H/V)	160 / 160
Touch Panel	Five Wires Resistive

IT7000-12

Panel Size	12.1"
Maximum Resolution	1024 x 768
Brightness	195 cd/m1
Contrast Ratio	400 : 1
Response Time	16 ms
View Angles (H/V)	90 / 65
Touch Panel	Five Wires Resistive

Storage

HDD	2.5" SATA interface
Compact Flash	Type I&II

Expansion

Mini-PCIE Socket	One
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Power

Power Adaptor	Input AC 100-240V 2.5A 50/60Hz, Output DC 12V 6.66A
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I / O

USB	Six
Serial	Four COM ports with RJ-45 Connector Pin 9 with 5V / 12V power selectable
Parallel	One LPT with adaptor cable
LAN	One
2nd VGA Output	One with optional adaptor cable
PS/2	One
Audio	One Earphone & One Microphone

Control/Indicator

Power Button	One
LED Indicators	Power (Green), HDD (Red), LAN(Orange)

Optional Peripherals

Magnetic Card Reader	ISO Track 1/2/3, USB interface
VFD customer display	20 x 2 characters, RS-232 interface
Wall mount brackets	Brackets for Wall mount

Dimensions

IT-7000D-15	358(W) X 367(L) X 173(H) mm
IT-7000D-12	293(W) X 299(L) X 173(H) mm

Environment

Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	- 20°C ~ 60°C (- 4°F ~ 140°F)
Operating Humidity	10% - 80% RH non condensing
Storage Humidity	10% - 80% RH non condensing

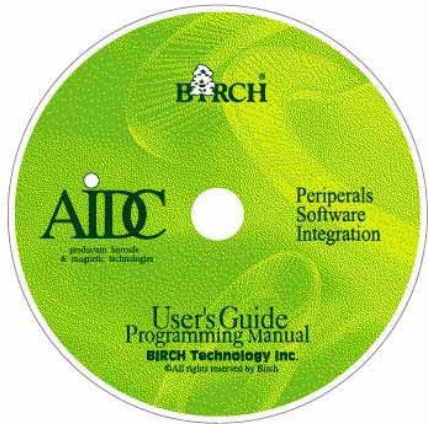
Model Number

IT7000DX – SS	Intel® Atom™ processor D525 (1M Cache, 1.80 GHz)
X : M --- Shiny Black housing	
Q --- Dull Black housing	
W – Shiny White housing	
SS: 15 --- 15" TFT LCD	
12 --- 12" TFT LCD	

Items Checklist

If any item is missing, please contact your sale agent immediately.

Take the system unit out from the carton. Remove the unit by carefully holding the foam inserts and remove slowly to protect the system. The following items should be found in the carton:



1. CD that including all driver and manual



2. The System



3. Power Adaptor



4. AC Power Cord



5. Printer Port conversion cable



6. Two RS-232 port conversion cables



7. Second Display cable



8. Metal Foot



9. Wall mount brackets (Optional)

About Your System

Please unplug the AC power of the adapter before opening any part of the system. Since the standby power is always on after the adapter is plugged in. It may cause permanent damage to your system when you open any part of it.



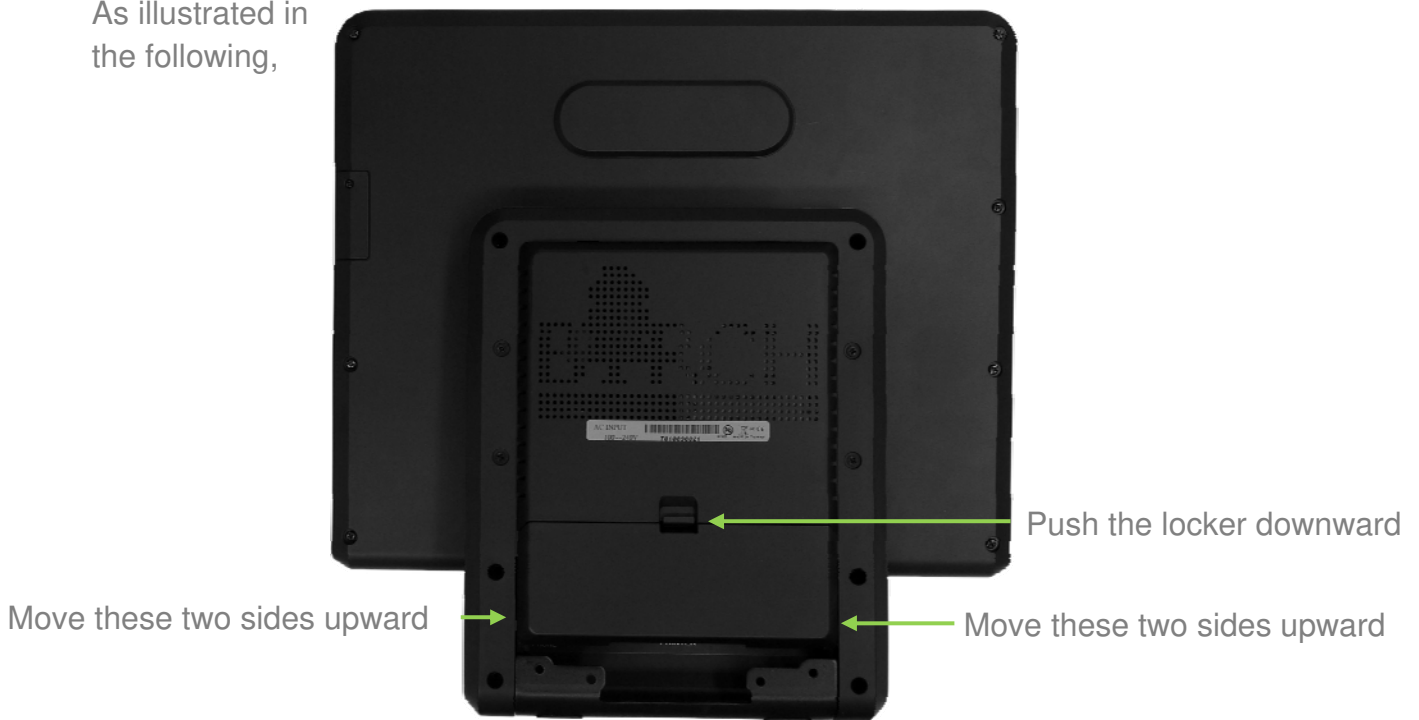
How to open the connector bezel

Please unplug the AC power of the adapter before opening any part of the system.

Since the standby power is always on after the adapter is plugged in.

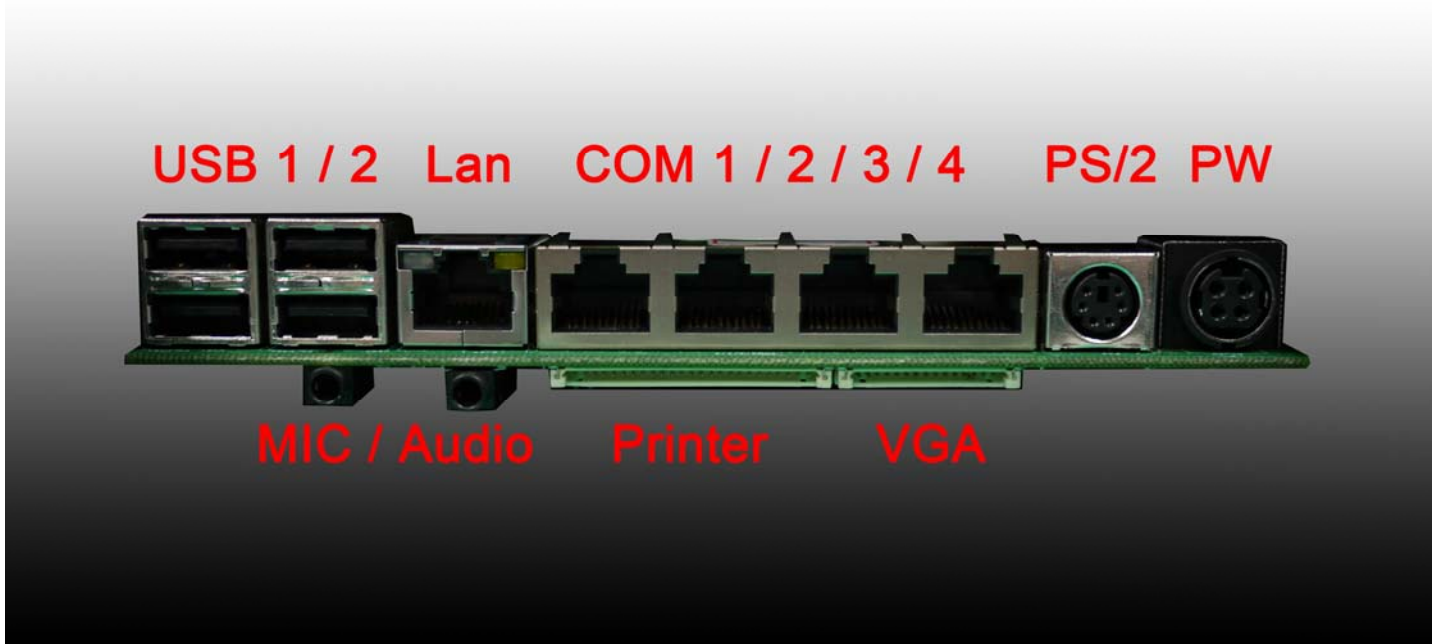
It may cause permanent damage to your system when you open any part of it.

As illustrated in the following,



The connector panel

Please notice that all Four COM ports using RJ-45 connector and two RJ-45 to DB-9 conversion cables are provided in the package.



Please notice that the Printer and VGA connectors in the second level, using JST PHD pitch 1.25 type connectors. The package includes a Printer Port adapter cable to connect to this connector and a centronic connector. The VGA, Audio adapter is optional accessory.

Setting Up Your System

Please unplug the AC power of the adapter before opening any part of the system. Since the standby power is always on after the adapter is plugged in. It may cause permanent damage to your system when you open any part of the system.

Installing Peripherals

To install the peripheral's cables, please follow the method described below. It will make the process much easier.



1. Turn the system upside down and Open the cable cover as mentioned in the former chapter.



2. Plug in the cables



3. Lock the metal foot



4. Turn the system back to normal direction and let the cables coming out from the opening of the bottom stand.
5. Then close the cable cover.

Jumper Setting and Reset the Main Board BIOS Setting

The jumper you can select COM3 to COM4 9 with 5V or 12V power. The second jumper is Clean CMOS.

1. Release the four screws in the front panel.
2. Sometime, if the CPU front panel is too tight, it is easier to use a tweezers as a hook to pull the panel out.



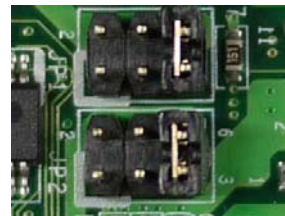


Jumper: JP1(COM4)/JP2(COM3)

Type: onboard 3 x 2-pin header

JP1/JP2	Mode
5-6	Standard COM Port
3-4	Pin9 with 12V signal
1-2	Pin9 with 5V signal

Default setting



Jumper: JRTC

Type: Onboard 3-pin jumper



Normal Operation	Mode
1-2	Clear CMOS
2-3	Normal Operation
Default setting	

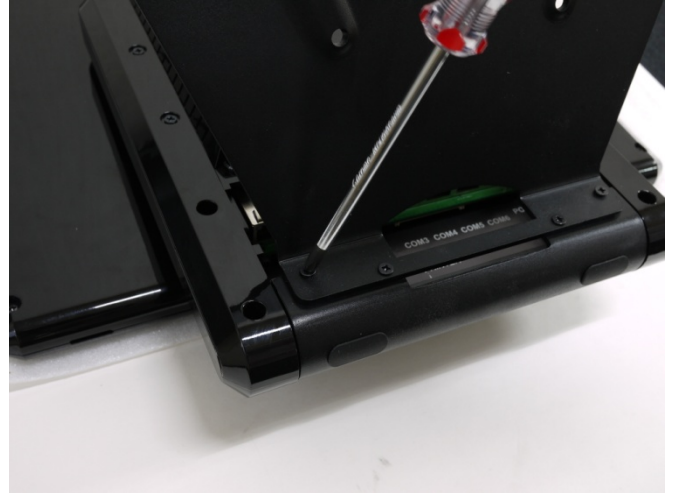


Please lock the four screws for front housing

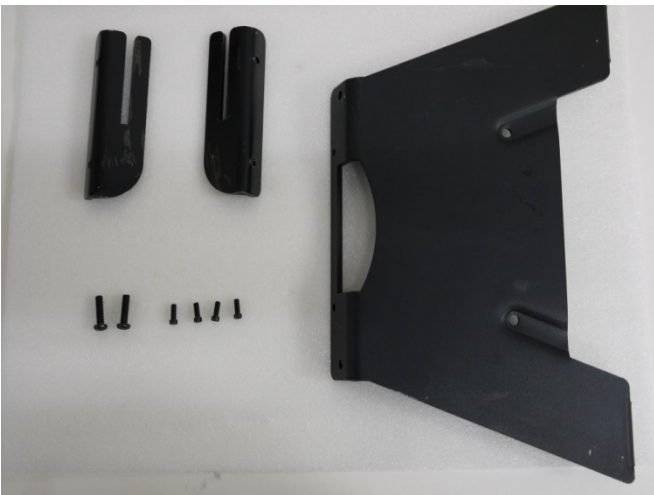
Mount CARiSMA on Wall



1. Turn the system upside down



2. Release metal foot



3. Release the screw



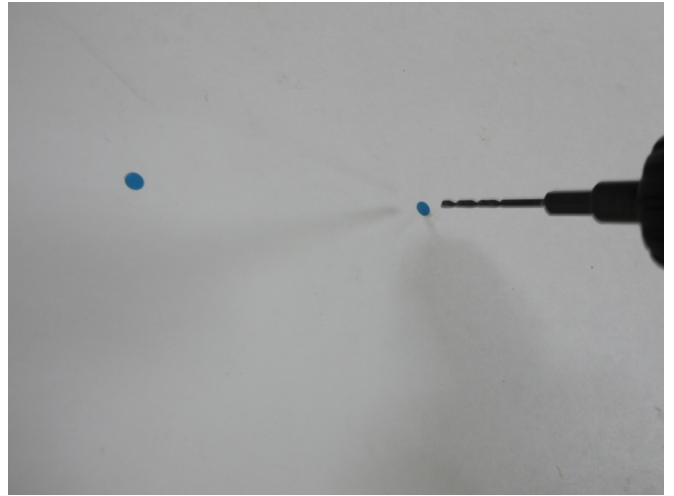
4. Lock the Wall mount by screw



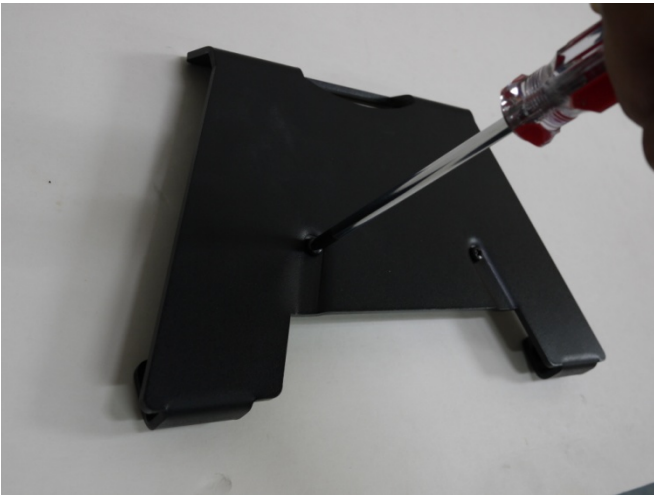
5. It is the same procedure to lock right side wall mount



5. Mark the signal



6. Drill the hole on the wall



7. Lock the metal foot on the wall



8. Insert the machine down from Upper side



9. Lock the CARiSMA by screw



Attention: Please check the screw is lower than metal foot

Installing Magnetic Card Reader (MSR)



1. Turn the system upside down



2. Open the cover of MSR cable



3. Connect the cable to MSR



4. Lock the screw to mount MSR



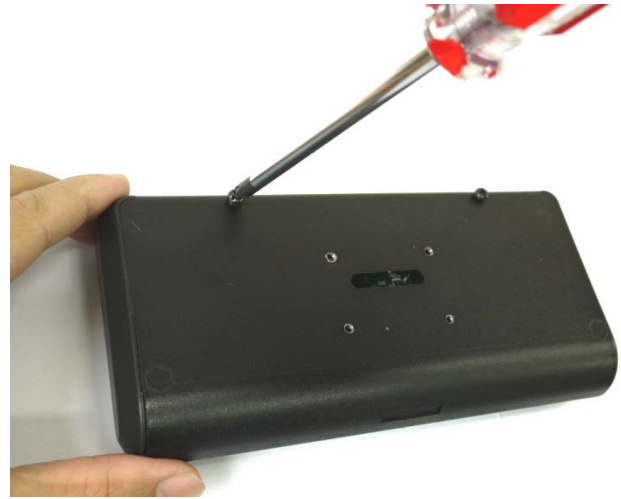
Installing Customer Display



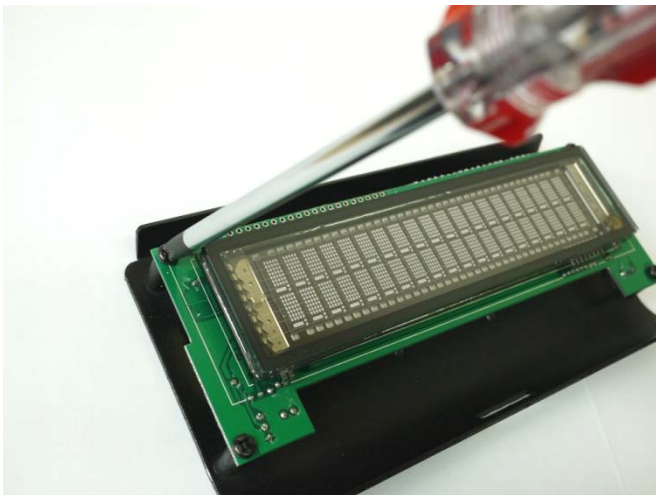
1. Release Four screw on the back of VFD module



2. Release Two screw



3. Release the screws on the VFD module



4. Release the VFD board



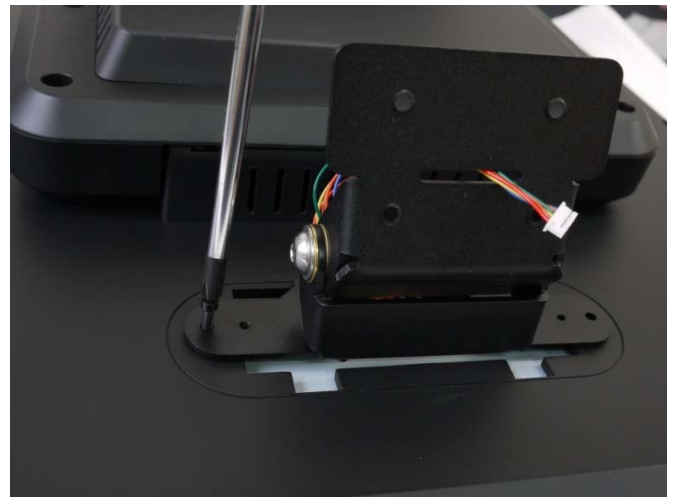
5. Turn the system upside down



6. Open the VFD cover by fingernail



7. Pass the signal line through the middle of the lower hinge mount hole



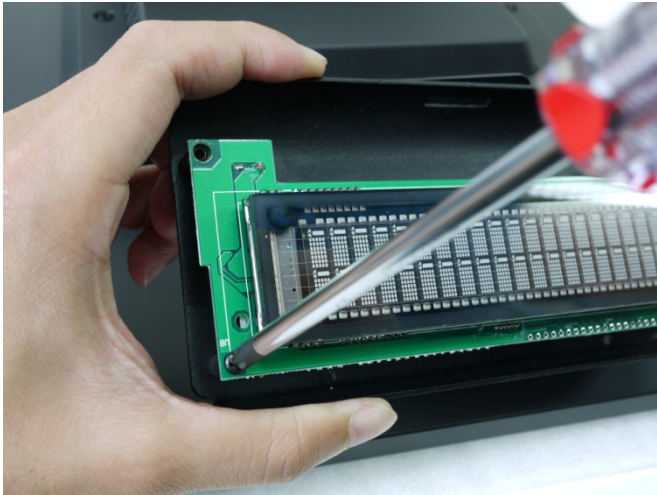
8. Pass the signal line through the middle of the upper of hinge mount hole

9. Lock the hinge mount by screw



10. Pass the signal line through the middle of the VFD base

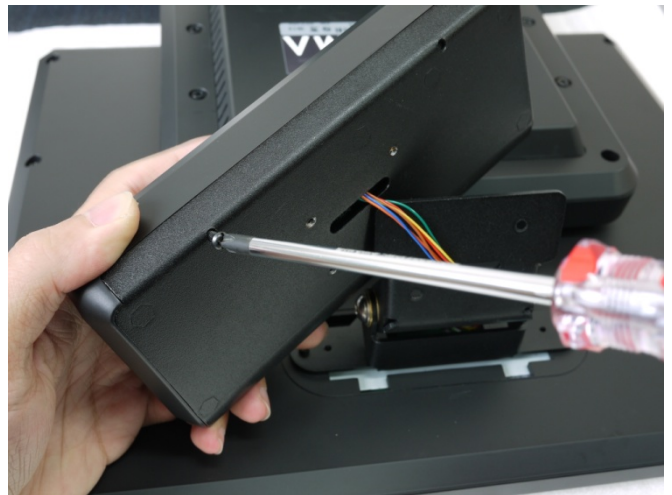
11. Connect the signal line with VFD board



12. Lock the VFD board by screws



13. Close the VFD cover



14. Lock the VFD cover with VFD base

Attention: Make sure latches are securely



15. Install hinge cover



16. Lock the hinge cover by screw

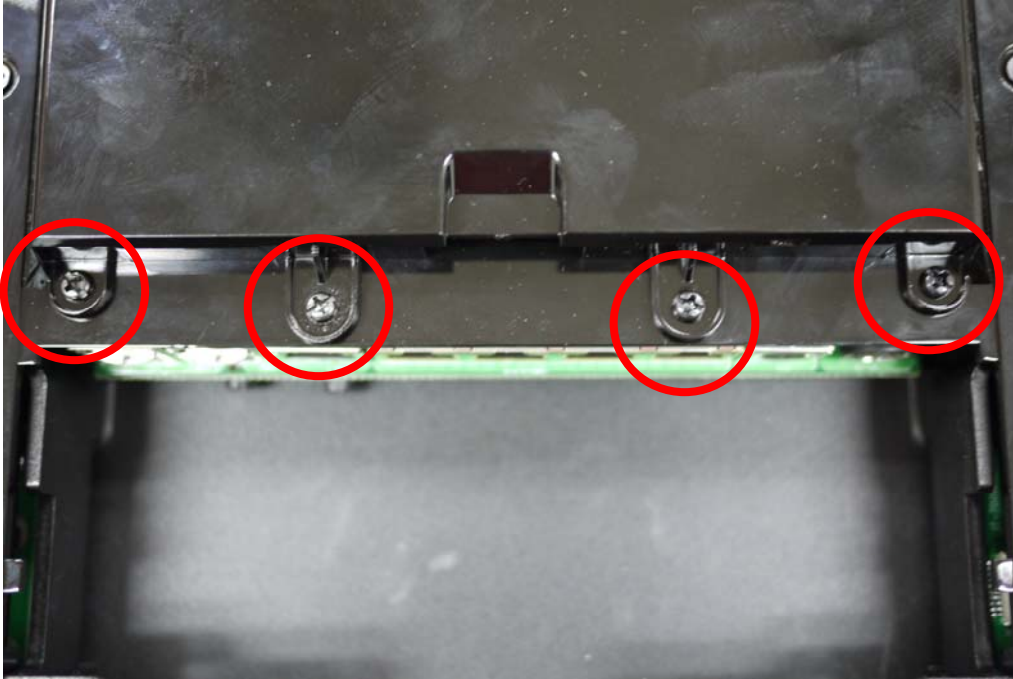


17. Lock the VFD module with hinge mount



Installing Hard Disk

Please unplug the AC power of the adapter before opening the hard disk cover. Since the standby power is always on after the adapter is plugged in. It may cause permanent damage to your system when you open any part of the system.



1. Release these two screws of the hard disk cover.

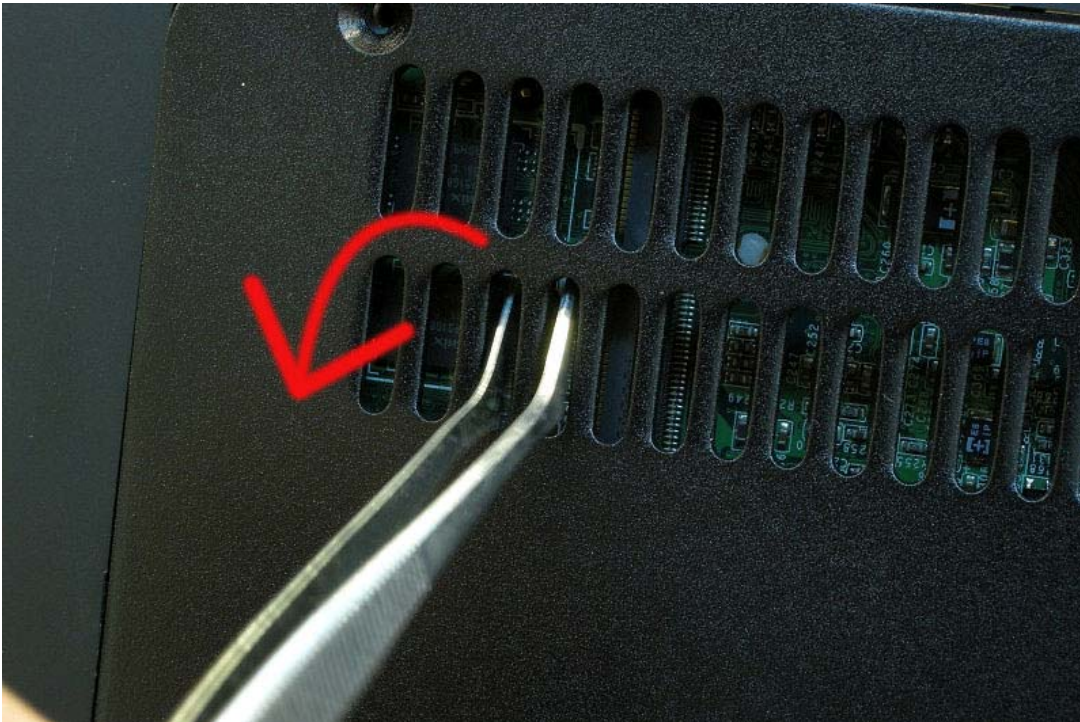


2. After remove the hard disk cover, you will find the 2.5" hard disk

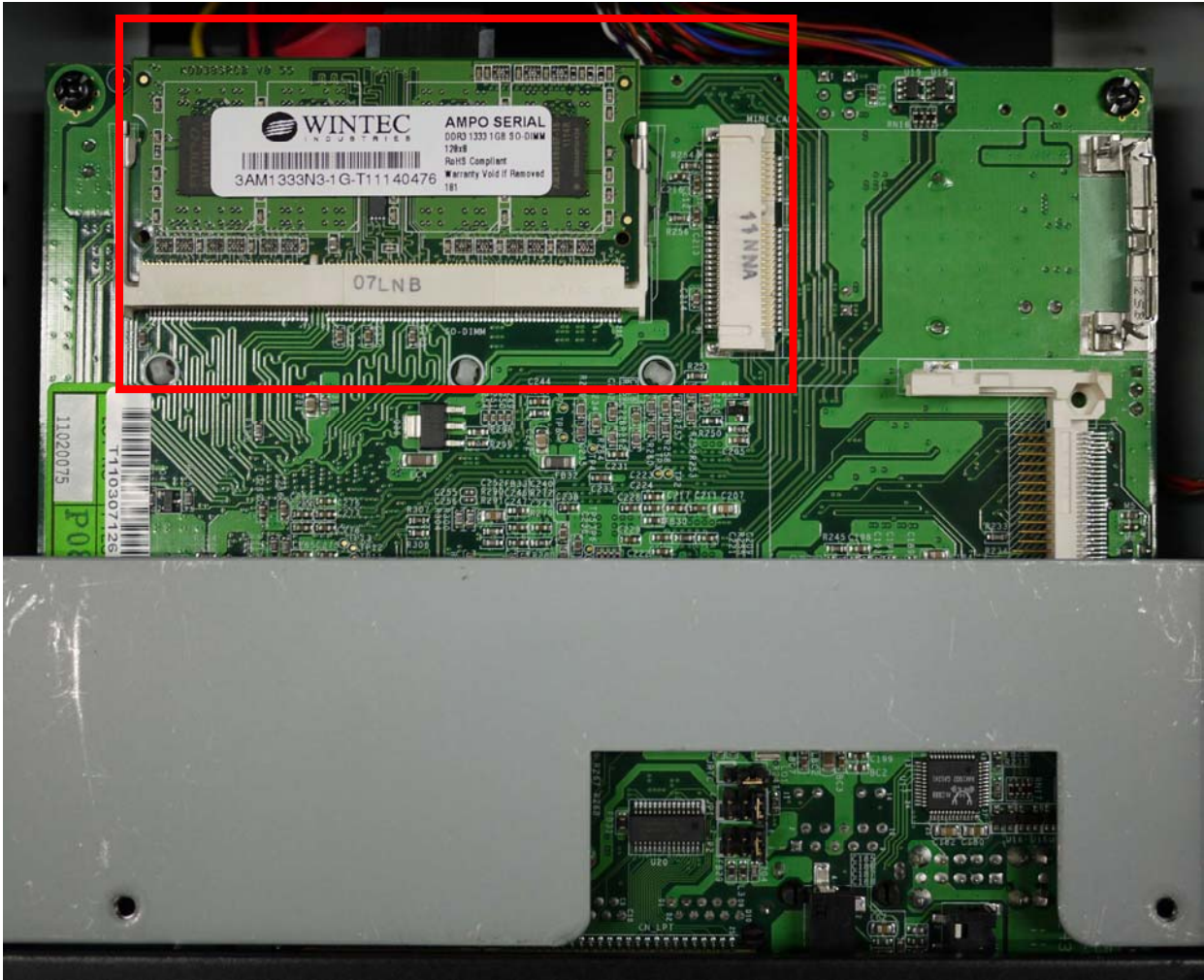
Installing RAM



1. Release the four screws in the front housing.



2. Sometime, if the CPU front panel is too tight, it is easier to use a tweezers as a hook to pull the panel out.

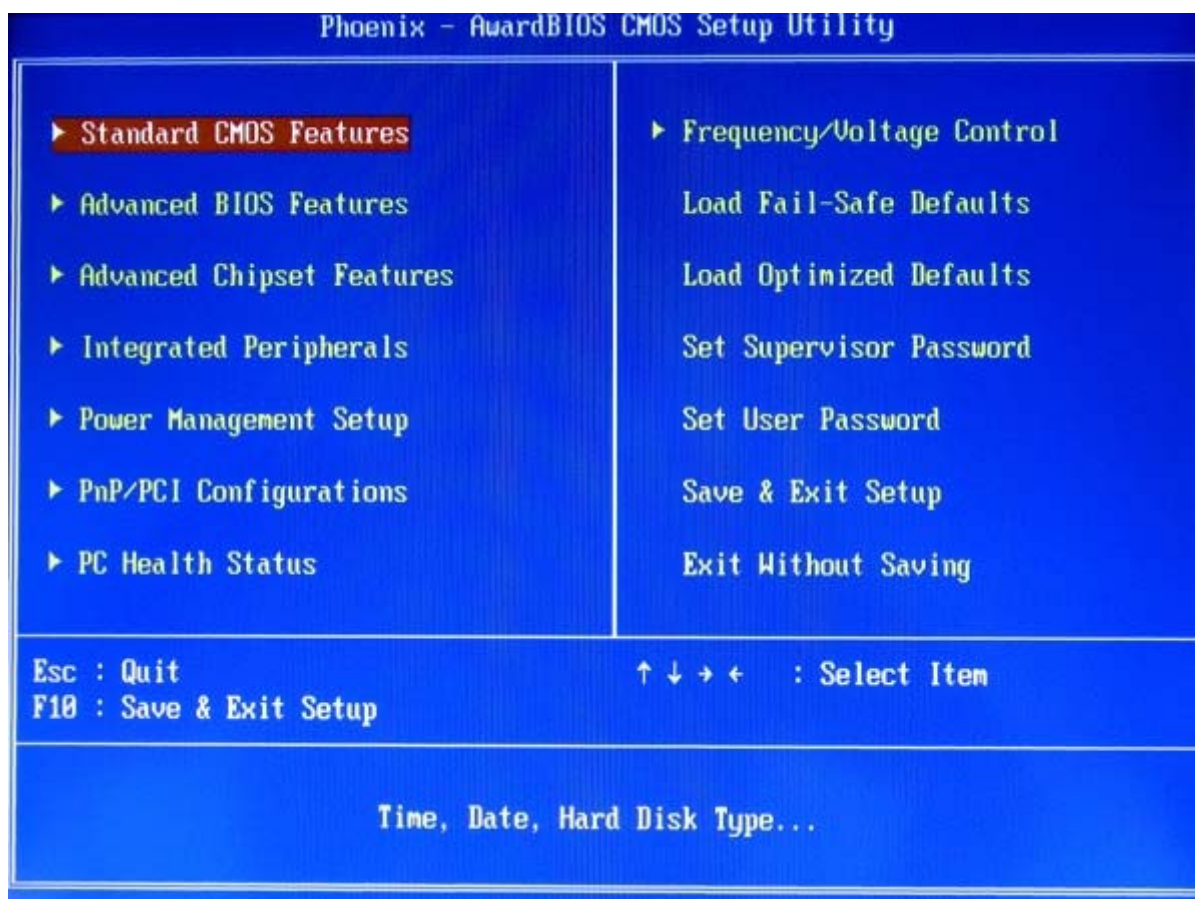


3. After changing RAM module, please lock the four screws for front housing

BIOS Setting

⚠ Important Notice

If you find the screen is completely dark when power on. Please Reset BIOS setting as described in the former chapter. After clean CMOS operation, press key many times after power on beep sound to enter BIOS setup mode then press <F10> and <Enter>. It will set BIOS to default value. Or connect a monitor to the second VGA port and enter BIOS setup mode then Load Optimized Defaults and Save &Exit Setup.



Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on the system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize the system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports Plug and Play and PCI Configuration.

PC Health Status

Displays CPU, System Temperature, Fan Speed, and System Voltages Value.

Frequency / Voltage Control

Control DIMM & PCI Clock

Load Fail-Safe Defaults

Use this menu to load the BIOS default values, i.e., factory settings for fail-safe system operations

Load Optimized Defaults

Use this menu to load the BIOS default values, i.e., factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the option to change these defaults to meet their needs.

Set Supervisor Password

Enables you to change, set, or disable the supervisor or user password.

Set User Password

Change, set, or disable the password.

It allows you to limit access to the system and to the setup, or just to the setup.

Save & exit setup

Save CMOS value changes to CMOS and exits setup.

Exit without saving

Ignores all CMOS value changes and exits setup.

For the IT7000D-15 (15" TFT), Panel Type (LVDS) should set to 1024 x 768 24 bits while the IT7000D-12 (12.1" TFT) is 1024x768 18 bits.

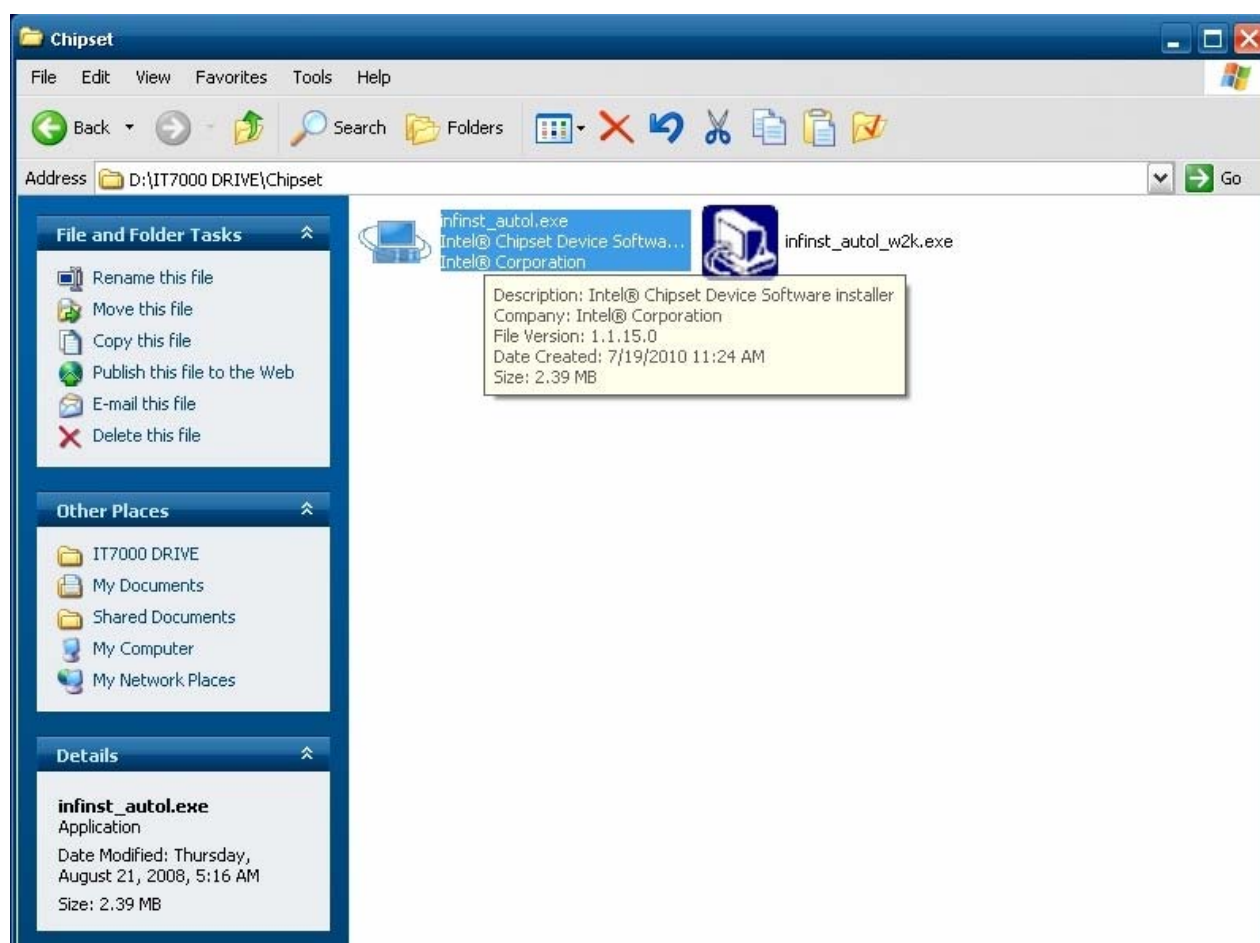
Installing the Windows Driver

- Driver List**
- Intel Chipset driver
 - Intel Extreme Graphics driver
 - Intel 82562ET LAN driver
 - Realtek AC97 codec driver
 - TouchKit Touch Screen driver

Please always install the Intel Chipset driver first and restart the Windows system before processing other driver's installation.

Chipset Driver Installation

Insert the CD comes with the system into any USB external CD-ROM, select the CD driver and change directory to "Chipset".





A. Click the “Next” button on the Welcome window



B. Click the “Yes” button on the License Agreement window



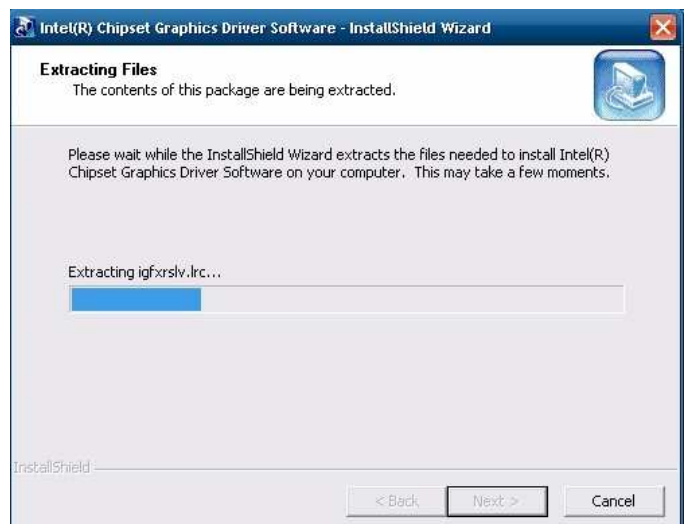
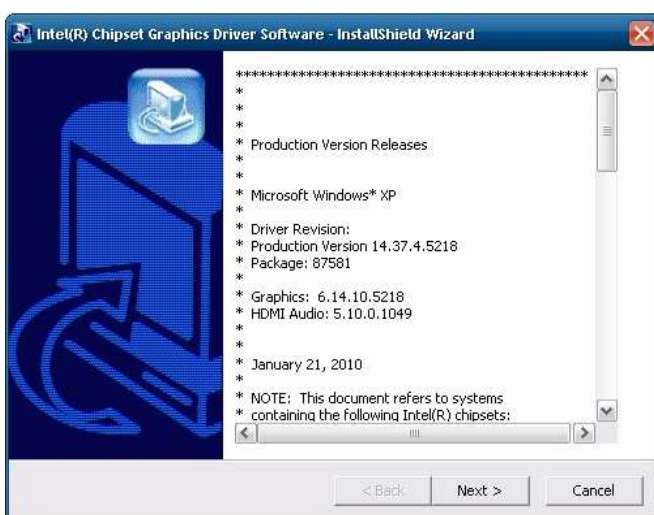
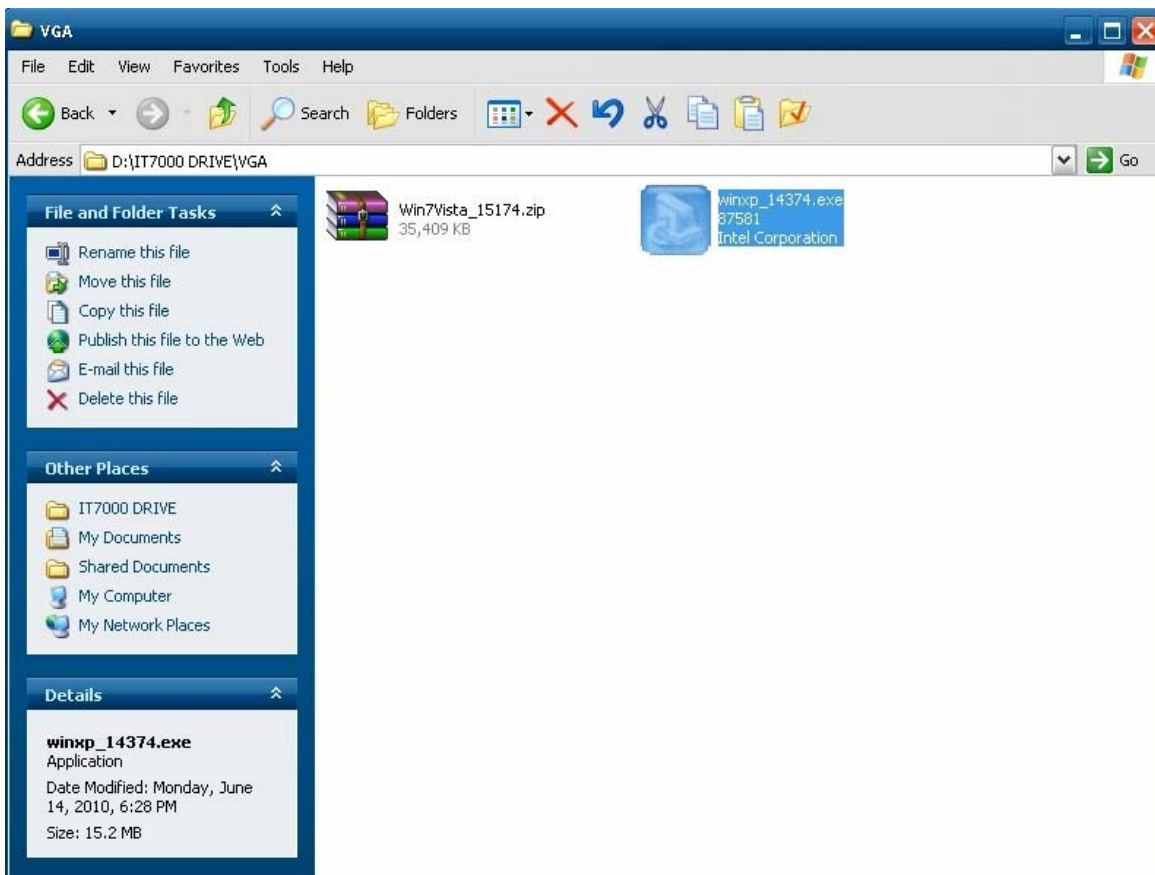
C. Click the “Next” button to continue



D. Click the “Finish” button

VGA Driver Installation

Select the CD directory to “VGA”





A. Click the “Next” button on the Welcome window



B. Click the “Yes” button on the License Agreement window



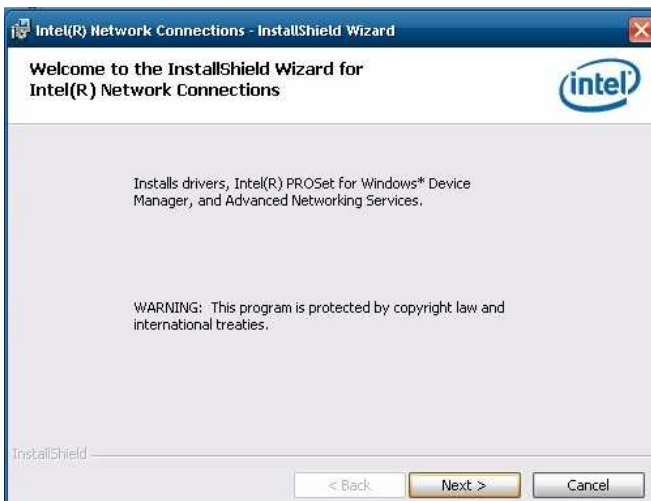
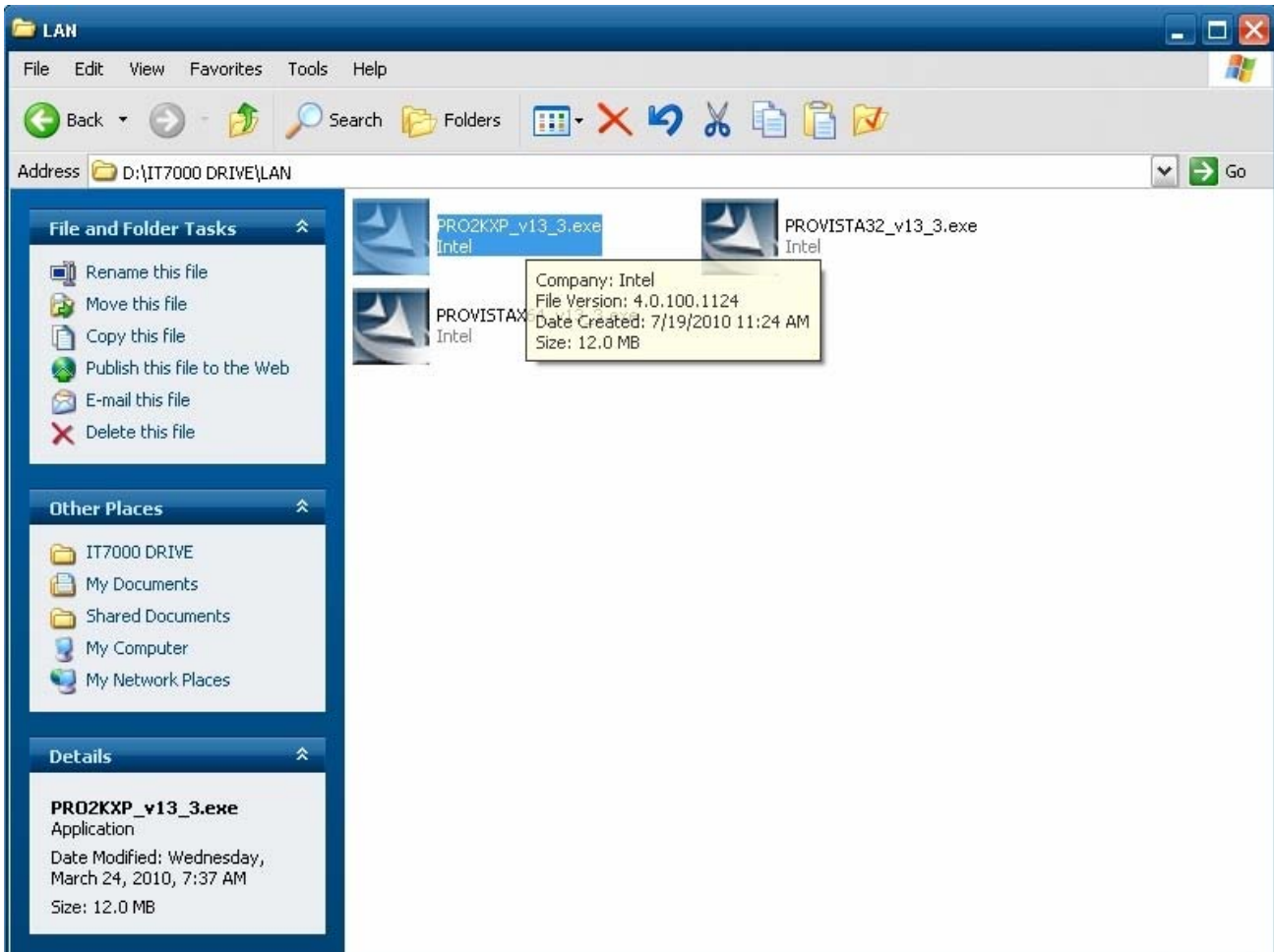
C. Click the “Next” button to continue



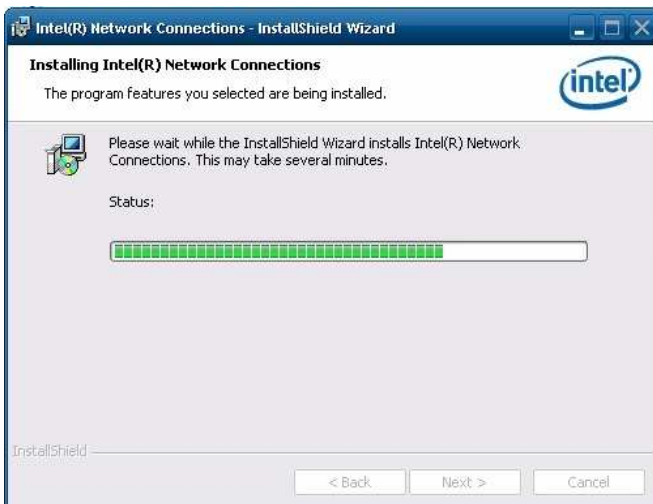
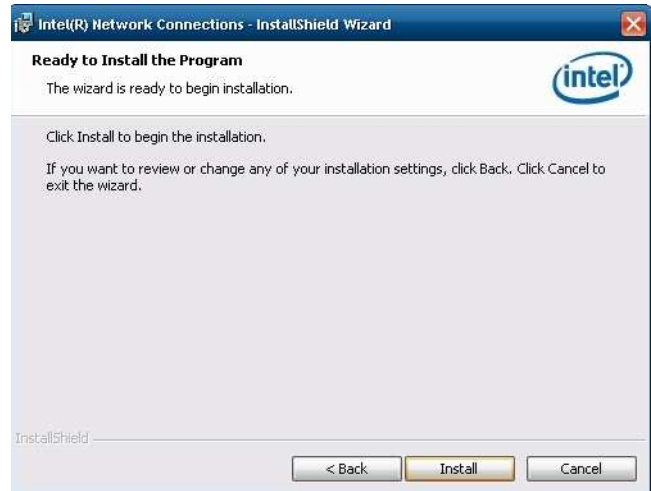
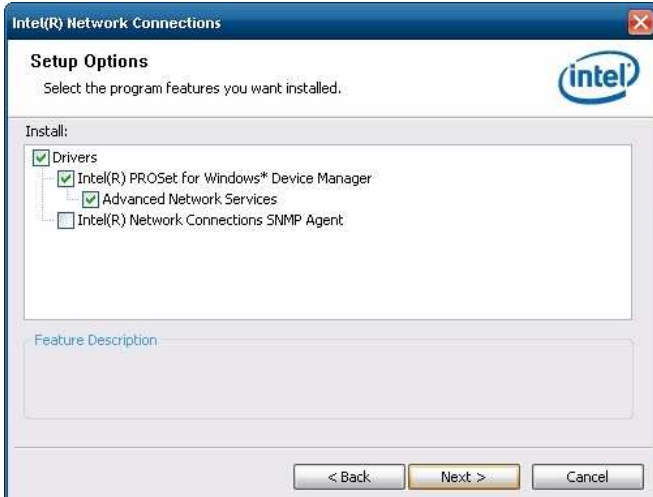
D. Click the “Finish” button

LAN Driver Installation

Select the CD directory to “LAN”



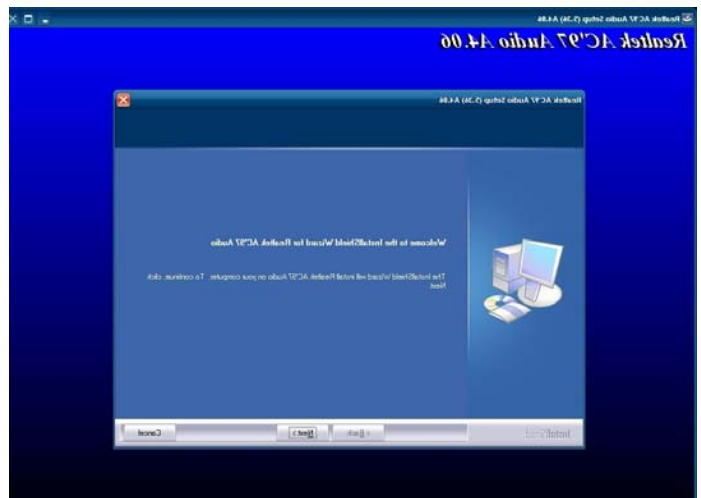
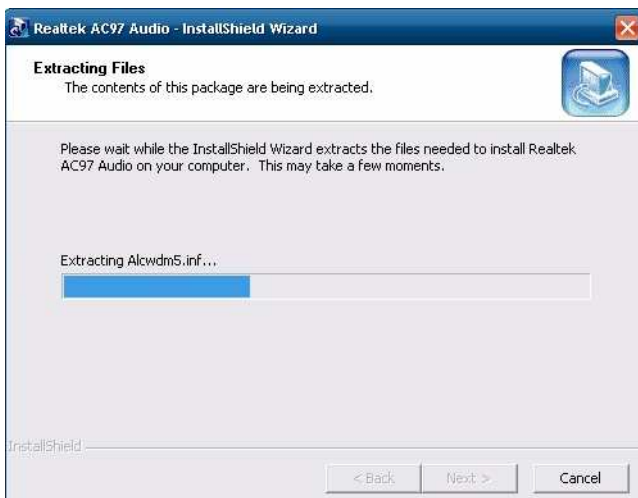
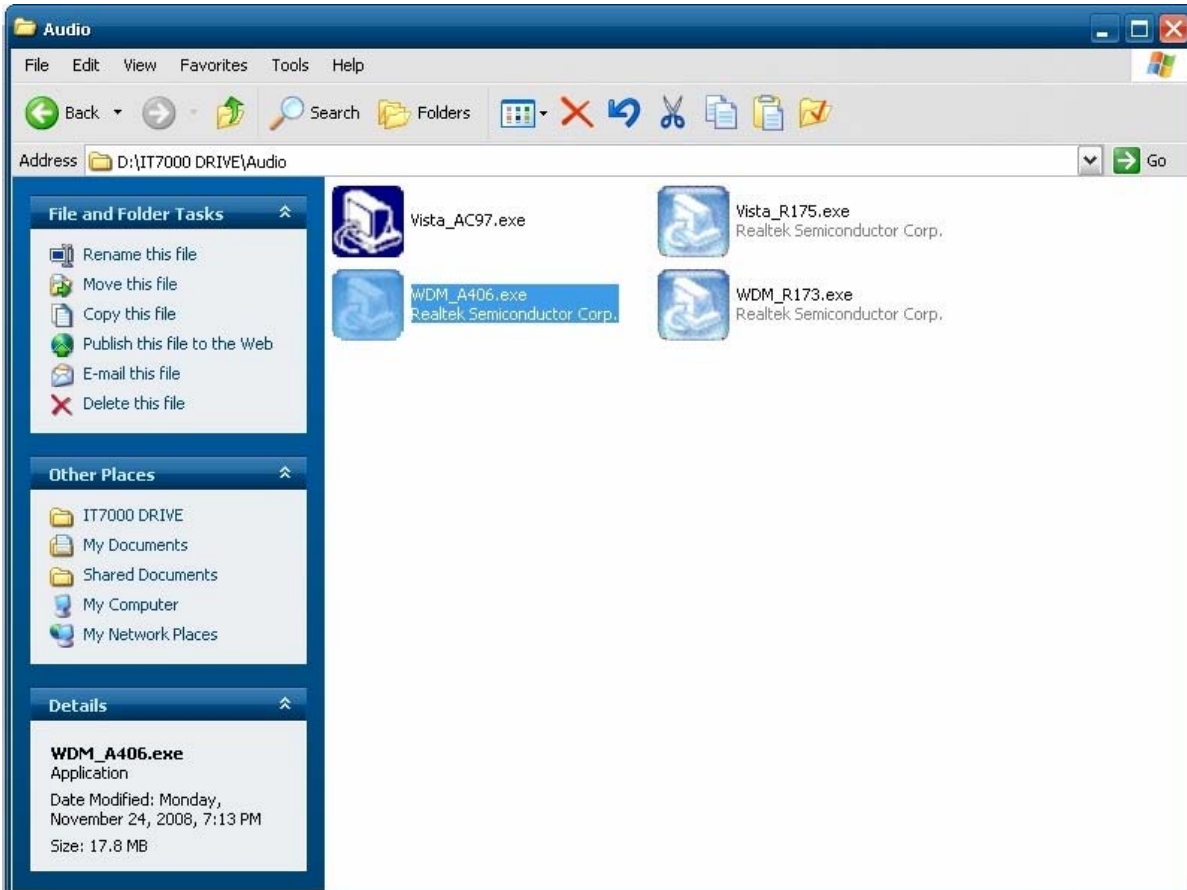
A. Click the “Next” button on the Welcome window



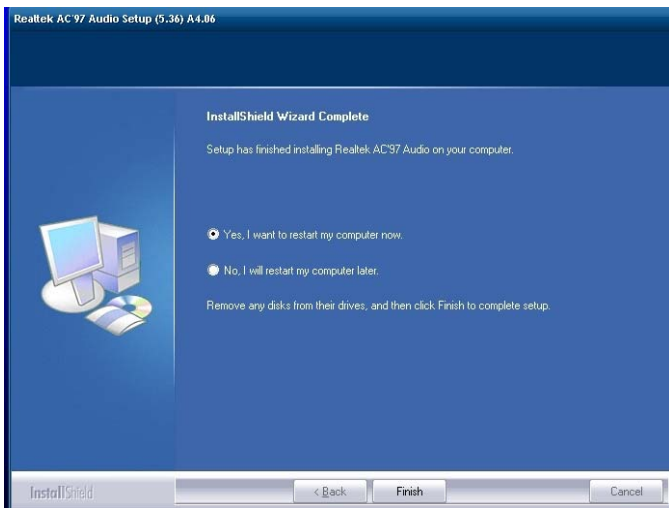
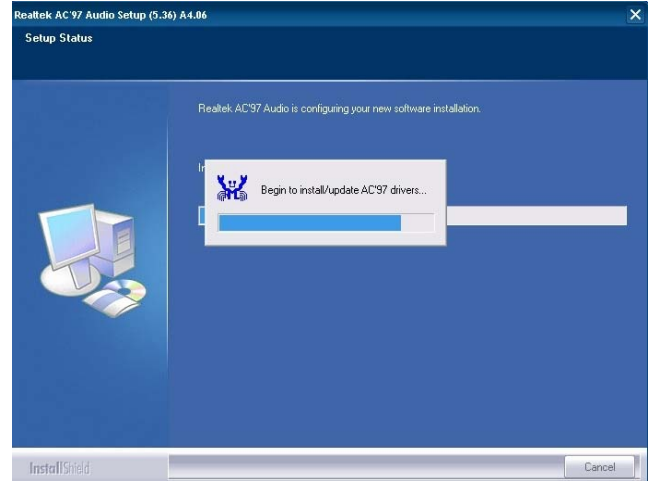
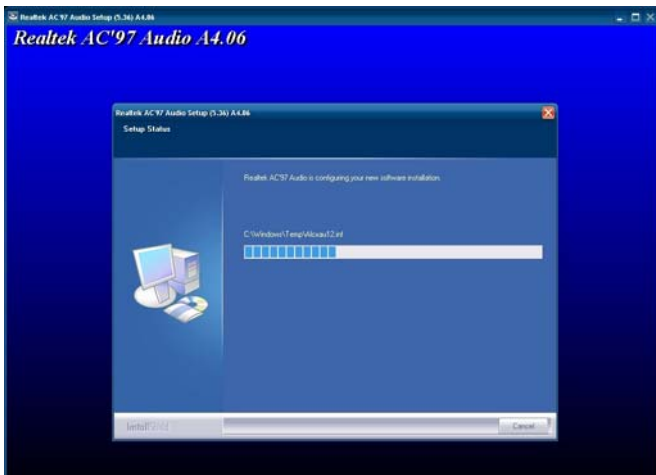
B. Click the “Finish” button

Audio Driver Installation

Select the CD directory to “Step 4 - Install Realtek AC97 codec Driver”



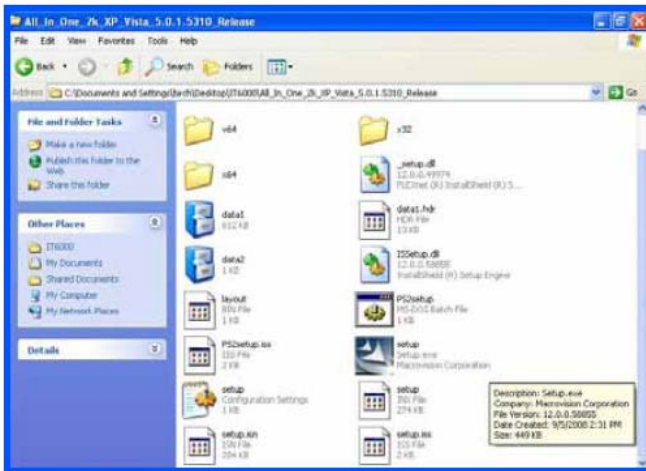
A. Click "NEXT"



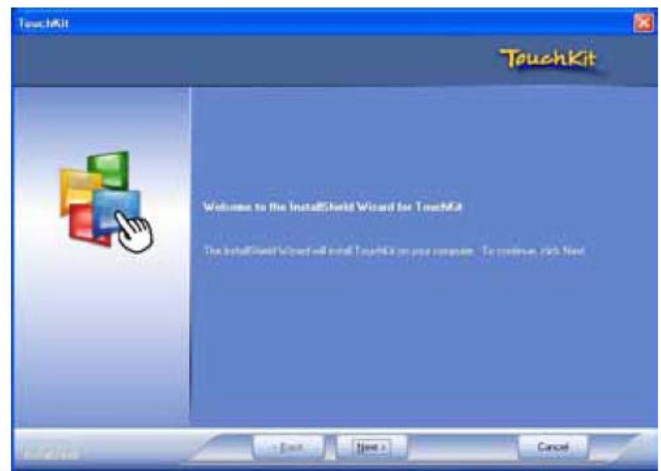
B. Click the “Finish” button

Touch Kit Touch Driver Installation

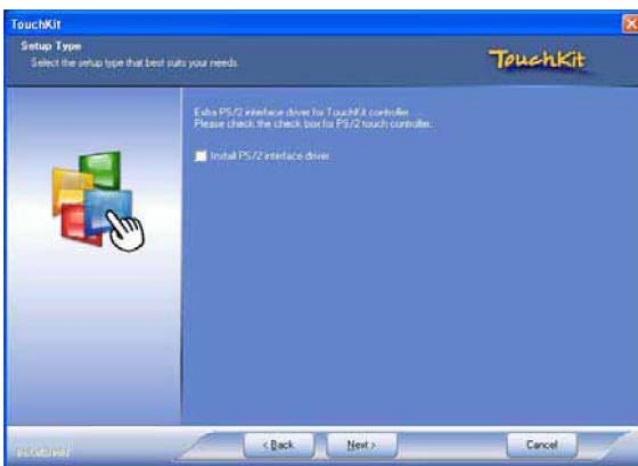
Select the CD directory to “TouchKit Driver”



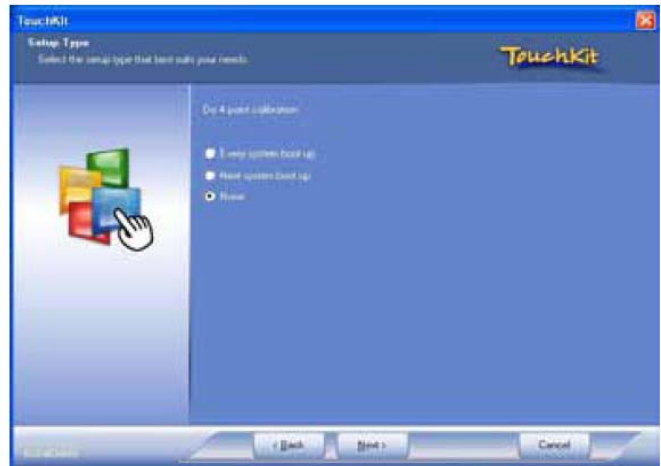
A. Double click “SETUP” on the My computer window



B. Click the “Next” button on the Welcome window



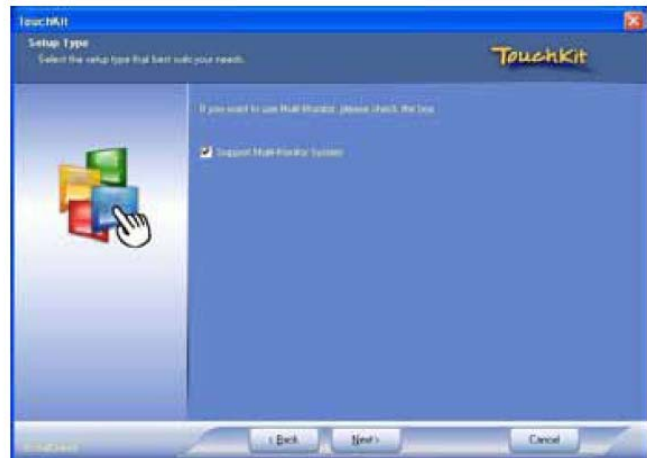
C. Click “Next” button on the “Select Type” window



D. Select “None” and Click “Next”



E. Click “OK”



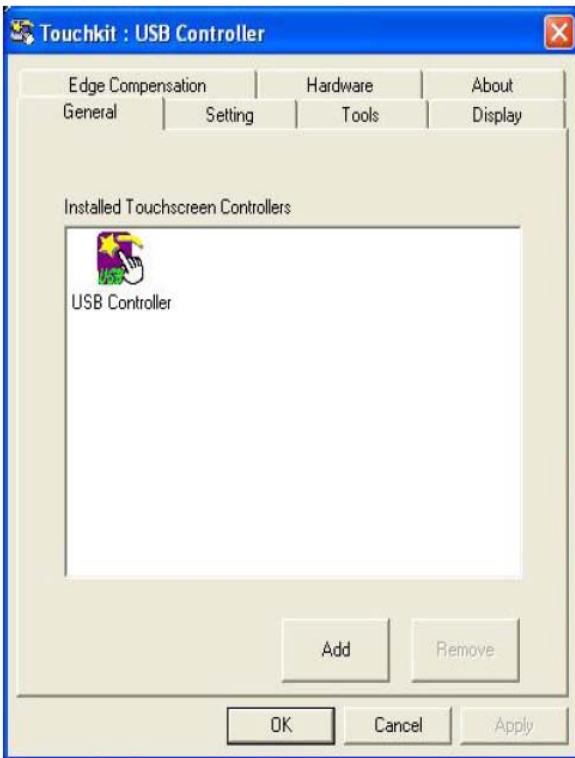
F. Select “Support Multi-Monitor System” Click “Next”



A. Double click "SETUP" on the my computer window



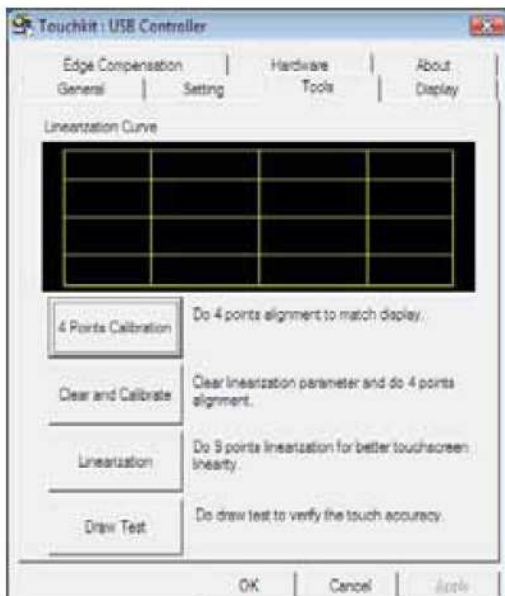
B. Click the "Next" button on the Welcome window



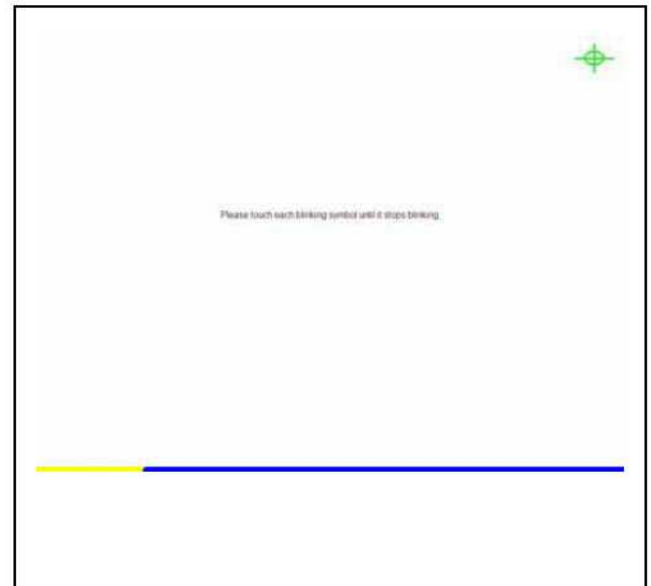
G. Install successful and restart your system

Four Points Calibration of the touch screen

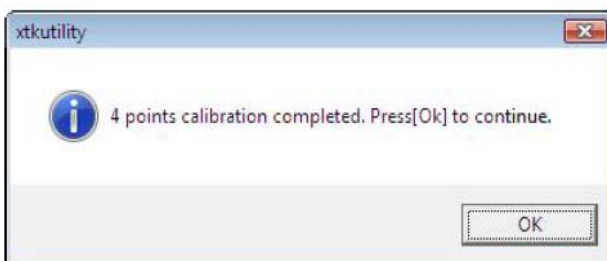
Always perform the Four Points Calibration of the TouchKit program after your first installation of the touch screen driver.



A. Select Tools then 4 Points Calibration.

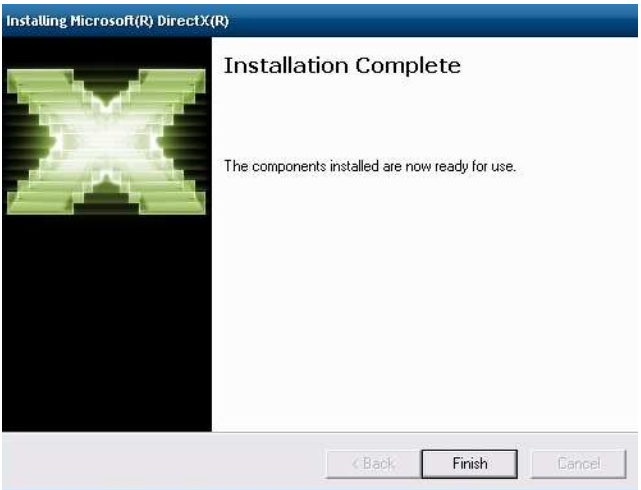
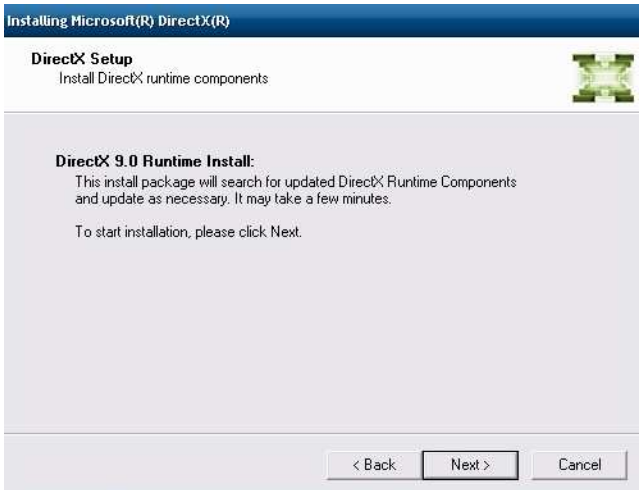
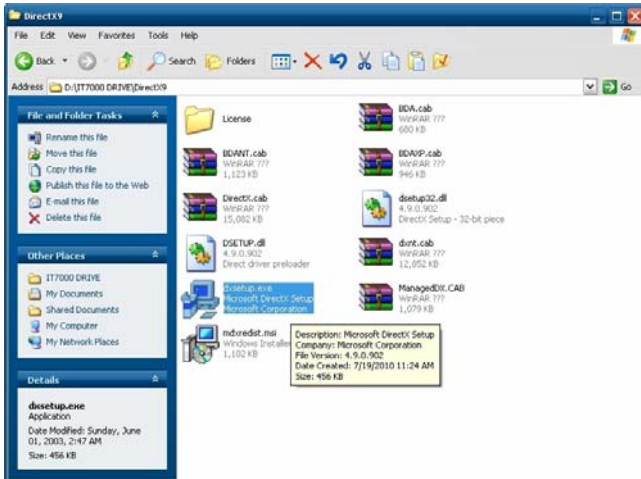


B. Press the Green Blink Cross mark.



C. Press OK to continue.

DirectX 9 Installation

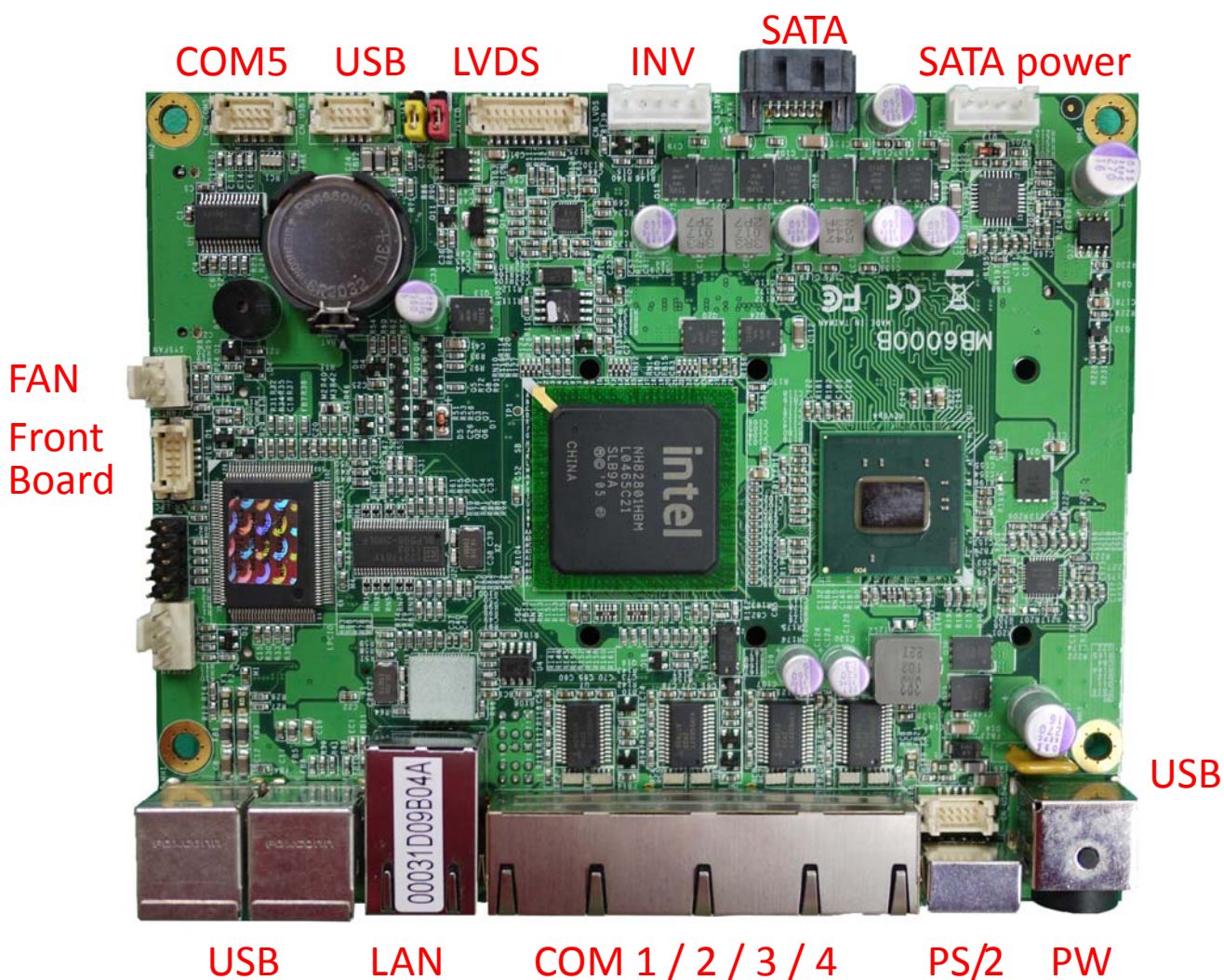


Main Board Setting

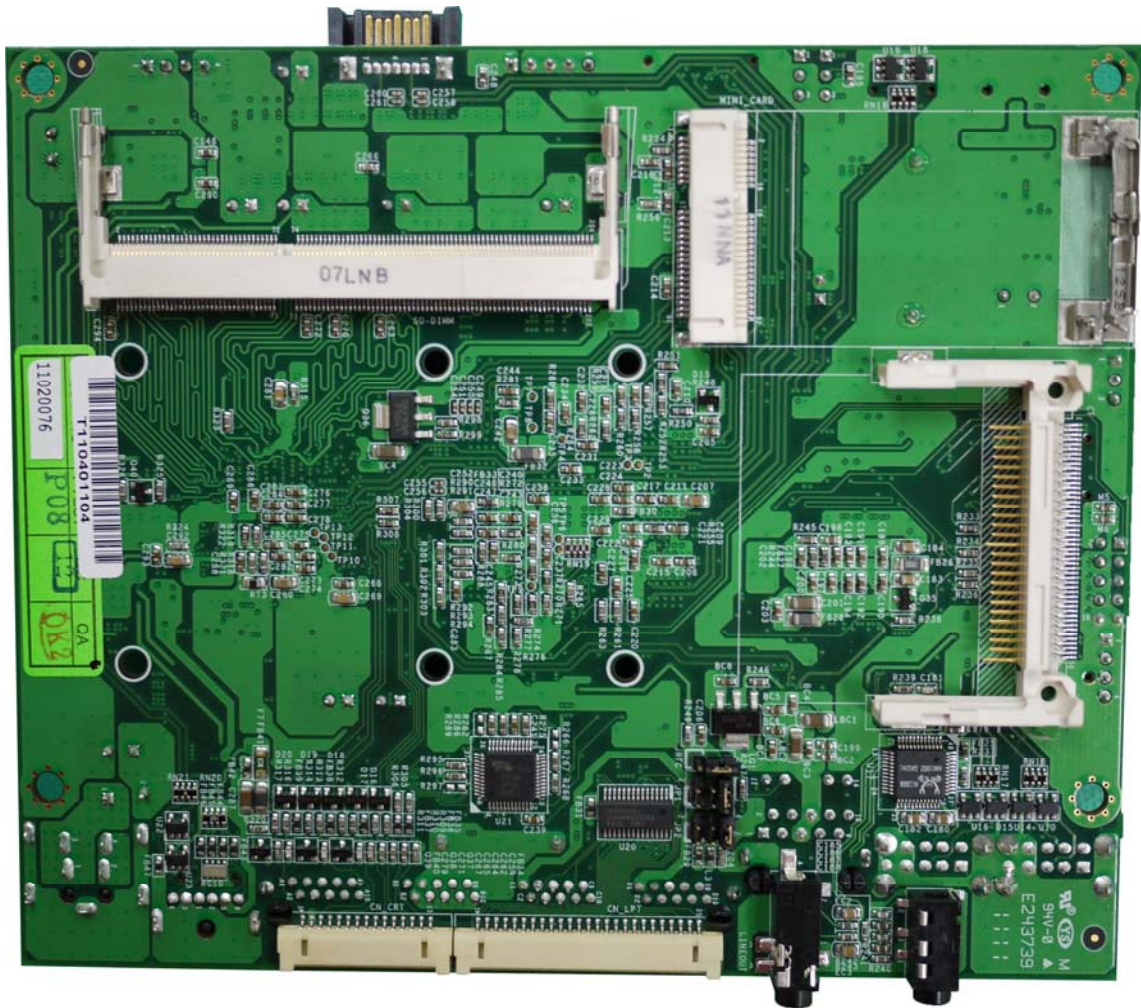
Please unplug the AC power of the adapter before opening any part of the system. Since the standby power is always on after the adapter is plugged in. It may cause permanent damage to your system when you open any part of the system.

Installing Peripherals Connectors & Jumpers settings

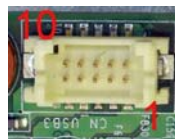
Motherboard Layout Component Side



Solder side



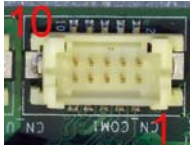
VGA LPT Audio MIC



Connector: CN_USB3/4

Type: DF13 10-pin pitch=1.25mm

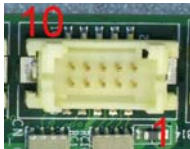
Pin	Description	Pin	Description
1	5VSB	2	5VSB
3	USB4N/6N	4	USB5N/7N
5	USB4P/6P	6	USB5P/7P
7	GND	8	GND
9	GND	10	N/C



Connector: CN_COM1

Type: DF13 10-pin pitch=1.25mm

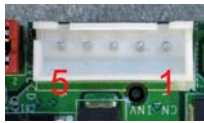
Pin	Description	Pin	Description
1	MDCD1	2	MSIN1
3	MS01	4	MDTR1
5	GND	6	MDSR1
7	MRTS1	8	MCTS1
9	+12V	10	N/C



Connector: CN_COM2

Type: DF13 10-pin pitch=1.25mm

Pin	Description	Pin	Description
1	MDCD1/2	2	MSIN1/2
3	MS01/2	4	MDTR1/2
5	GND	6	MDSR1/2
7	MRTS1/2	8	MCTS1/2
9	+5V	10	N/C

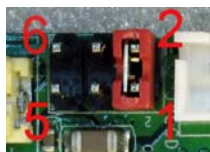


Connector: CN_INV

Type: 5-pin LVDS Power Header

Pin	Description
1	+12V
2	CTLBKL
3	GND
4	GND
5	ENABKL

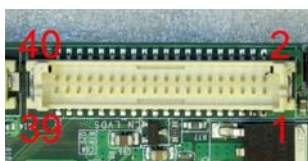
Connector: JVLCD



Type: 6-pin Power select Header

Pin	Description
1-2	LCDVCC (3.3V)
3-4	LCDVCC (5V)
5-6	LCDVCC (12V)

Connector: CN_LVDS



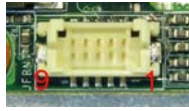
Type: onboard 40-pin connector for LVDS connector

Connector model: HIROSE DF13-40DP-1.25V

Pin	Description	Pin	Description
2	LCDVCC	1	LCDVCC
4	GND	3	GND
6	ATX0-	5	BTX0-
8	ATX0+	7	BTX0+
10	GND	9	GND
12	ATX1-	11	BTX1-
14	ATX1+	13	BTX1+
16	GND	15	GND
18	ATX2-	17	BTX2-
20	ATX2+	19	BTX2+
22	GND	21	GND
24	ACLK-	23	BTX3-
26	ACLK+	25	BTX3+
28	GND	27	GND
30	ATX3-	29	BCLK-
32	ATX3+	31	BCLK+
34	GND	33	GND
36	DDCPCLK	35	N/C
38	DDCPDATA	37	N/C

40 N/C

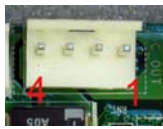
39 N/C



Connector: CN_JFRNT

Type: DF13 10-pin pitch=1.25mm

Pin	Description	Pin	Description
1	PWRBT-	2	PWRBT-
3	LANLED-	4	LANLED+
5	HDLED	6	HDLED+
7	PWRLED	8	PWRLED+
9	Reset+	10	Reset-



Connector: DC_OUT

Type: 4-pin connector for +5V/+12V output

Pin	Description	Pin	Description
1	+12V	2	Ground
3	Ground	4	+5V



Connector: CN_LPT

Type: DF14 25-pin pitch=1.25mm

Pin	Description	Pin	Description
1	-PSTB	2	AFD
3	PRD0	4	ERR
5	PRD1	6	INIT
7	PRD2	8	SLIN
9	PRD3	10	GND
11	PRD4	12	GND
13	PRD5	14	GND
15	PRD6	16	GND
17	PRD7	18	GND
19	ACK	20	GND
21	BUSY	22	GND
23	PE	24	GND



Connector: CN_CRT

Type: DF14 25-pin pitch=1.25mm

Pin	Description	Pin	Description
1	BR	2	5VSB
3	BG	4	GND
5	BB	6	N/C
7	N/C	8	CDA
9	GND	10	HSYNC
11	GND	12	VSYNC
13	GND	14	CLK
15	GND		

Customer Display Setting

Character Font Table

A. Control code set

HEX	CODE	HEX	CODE
00H	NULL	10H	DLE
01H	MD1	11H	DC1
02H	MD2	12H	DC2
03H	MD3	13H	DC3
04H	MD4	14H	DC4
05H	MD5	15H	
06H	MD6	16H	
07H	MD7	17H	
08H	BS, Md8	18H	CAN
09H	HT	19H	
0AH	LF	1AH	
0BH	HOM	1BH	ESC
0CH	CLR	1CH	
0DH	CR	1DH	
0EH	SLE1	1EH	SF1
0FH	RS,SLE2	1FH	US, SF2

B. U.S.A. font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20h	[Dot matrix font for 20h]															
30h	[Dot matrix font for 30h]															
40h	[Dot matrix font for 40h]															
50h	[Dot matrix font for 50h]															
60h	[Dot matrix font for 60h]															
70h	[Dot matrix font for 70h]															

C. International character selection
ASCII CODE

Hex. Value	International	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
30H	USA	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
31H	FRANCE	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
32H	GERMANY	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
33H	U.K.	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
34H	DENMARK I	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
35H	SWEDEN	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
36H	ITALY	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
37H	SPAIN	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
38H	JAPAN	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
39H	NORWAY	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
3AH	DENMARK II	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
3BH	SLAVONIC	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë
3CH	RUSSIA	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë

3DH: Standard Europe international font set

	D	I	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80h	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
90h	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
A0h	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
B0h	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ
C0h	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0h	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E0h	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0h	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

3EH: Multilingual international font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
90h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
A0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
B0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
D0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
E0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
F0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

3FH: Portuguese international font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
90h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
A0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
B0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
D0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
E0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
F0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

40H: Canadian French international font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
80h	À Á Â Ã	Ä Å Æ Ç	È É Ê Ë	Ì Í Î Ï	Ñ Ò Ó	Ô Õ Ö ×	Ø Ù Ú	Û Ü	Ý Þ	ß à	á â	ã	ä å	æ ç	è é	ê ë	ì
90h	í î	ï ð	ñ ò	ó	ô õ	ö ×	ø ù	ú	û ü	ý þ	ÿ	à	á	â	ã	ä	å
A0h	æ ç	è é	ê ë	ì	í	î	ï	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù
B0h	ú	û	ü	ý	þ	ÿ	à	á	â	ã	ä	å	æ	ç	è	é	ê
C0h	ë	ì	í	î	ï	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù	ú	û
D0h	ü	ý	þ	ÿ	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì
E0h	í	î	ï	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù	ú	û	ü	ý
F0h	þ	ÿ	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î

41H: NORDIC international font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
80h	À Á Â Ã	Ä Å Æ Ç	È É Ê Ë	Ì Í Î Ï	Ñ Ò Ó	Ô Õ Ö ×	Ø Ù Ú	Û Ü	Ý Þ	ß à	á	â	ã	ä	å	æ	ç
90h	è é	ê ë	ì	í	î	ï	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù	ú
A0h	û	ü	ý	þ	ÿ	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë
B0h	ì	í	î	ï	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù	ú	û	ü
C0h	ý	þ	ÿ	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í
D0h	î	ï	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù	ú	û	ü	ý	þ
E0h	ÿ	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0h	ð	ñ	ò	ó	ô	õ	ö	×	ø	ù	ú	û	ü	ý	þ	ÿ	à

42H: RUSSIA font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
90h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
A0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
B0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
D0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
E0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
F0h	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

43H: SLAVONIC Font set

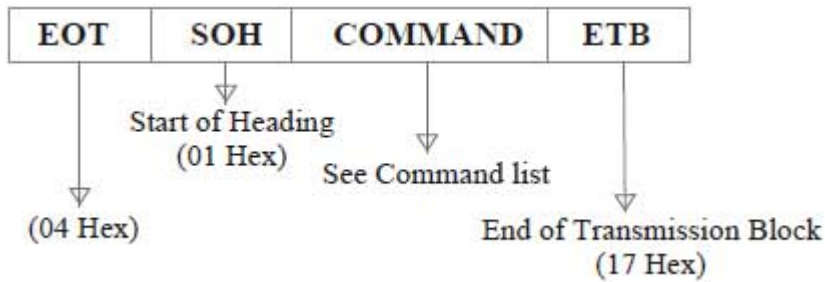
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80h	0000	0001	0002	0003	0004	0005	0006	0007	0008	0009	000A	000B	000C	000D	000E	000F
90h	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	001A	001B	001C	001D	001E	001F
A0h	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	002A	002B	002C	002D	002E	002F
B0h	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	003A	003B	003C	003D	003E	003F
C0h	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	004A	004B	004C	004D	004E	004F
D0h	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	005A	005B	005C	005D	005E	005F
E0h	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	006A	006B	006C	006D	006E	006F

44H: Katakana font set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80h	0070	0071	0072	0073	0074	0075	0076	0077	0078	0079	007A	007B	007C	007D	007E	007F
90h	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	008A	008B	008C	008D	008E	008F
A0h	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	009A	009B	009C	009D	009E	009F
B0h	00A0	00A1	00A2	00A3	00A4	00A5	00A6	00A7	00A8	00A9	00AA	00AB	00AC	00AD	00AE	00AF
C0h	00B0	00B1	00B2	00B3	00B4	00B5	00B6	00B7	00B8	00B9	00BA	00BB	00BC	00BD	00BE	00BF
D0h	00C0	00C1	00C2	00C3	00C4	00C5	00C6	00C7	00C8	00C9	00CA	00CB	00CC	00CD	00CE	00CF
E0h	00D0	00D1	00D2	00D3	00D4	00D5	00D6	00D7	00D8	00D9	00DA	00DB	00DC	00DD	00DE	00DF
F0h	00E0	00E1	00E2	00E3	00E4	00E5	00E6	00E7	00E8	00E9	00EA	00EB	00EC	00ED	00EE	00EF

System Commands

Command Format



Command List

A. Set Baud Rate

COMMAND: B

COMPUTER:EOT SOH 'B' 'BAUD RATE' 'N' ETB

ASCII (04H) (01H)(42H) (31H~37H)(4EH)(17H)
 Byte 1 1 1 1 1 1
 DISPLAY: ACK (or NACK if failed)
 ASCII (06H) (15H)
 Byte 1 1

Note: Baud rates
 31H: 9600
 32H: 4800
 33H: 2400
 34H: 1200
 35H: 600
 36H: 300
 37H:19200

B. Select international code table

COMMAND: I
 COMPUTER:EOT SOH 'T' 'CHAR' ETB
 ASCII(04H)(01H)(49H)(30H~44H)(17H)
 Byte 1 1 1 1 1
 DISPLAY: ACK (or NACK if failed)
 ASCII (06H) (15H)
 Byte 1 1

Note : International Character Code

30H : U. S. A.	3BH : Slavonic
31H : France	3CH : Russia
32H : Germany	3DH : Standard Europe International font set
33H : U. K.	3EH : Multilingual International font set
34H : Denmark I	3FH : Portuguese International font set
35H : Sweden	40H : Canadian French International font set
36H : Italian	41H : Nordic International font set
37H : Spain	42H : Russia font set
38H : Japan	43H : Slavonic font set
39H : Norway	44H : Katakana font set
3AH : Denmark II	

C. Save the current view message

(Save Demo view data)

COMMAND: S
 COMPUTER:EOT SOH 'S' 'Layer' ETB

```

ASCII(04H)(01H)(53H)(31H~33H)(17H)
Byte 1 1 1 1 1
DISPLAY: ACK (or NACK if failed)
ASCII (06H) (15H)
Byte 1 1

```

Note : 31H: Layer 1 / 32H: Layer 2 / 33H: Layer 3

D. Set cursor position

```

COMMAND: P
COMPUTER: EOT SOH 'P' 'Position' ETB
ASCII (04H) (01H) (50H) (31H~58H) (17H)
Byte 1 1 1 1 1
DISPLAY: ACK (or NACK if failed)
ASCII (06H) (15H)
Byte 1 1

```

Note: The cursor can be set to the position from 1 to 40
Position 1 means the upper left corner position.
Position 20 means the upper right corner position.
Position 21 means the lower left corner position.
Position 40 means the lower right corner position.

E. Clear display range

```

COMMAND: C
COMPUTER: EOT SOH 'C' 'START' 'END' ETB
ASCII (04H)(01H)(43H)(31H~58H)(31H~58H)(17H)
Byte 1 1 1 1 1
DISPLAY: ACK (or NACK if failed)
ASCII (06H) (15H)
Byte 1 1

```

Note: Some part of the current view messages can be cleared by this COMMAND. It can start clearing between position 1 and position 40.

F. Display the saved DEMO message

```

COMMAND: D
COMPUTER: EOT SOH 'D' 'Layer' 'Mode' ETB
ASCII (04H)(01H)(44H)(31H~37H)(31H~33H)(17H)
Byte 1 1 1 1 1
DISPLAY: ACK (or NACK if failed)
ASCII (06H) (15H)
Byte 1 1

```

Note:

a) There are three layers of saved view messages as described on COMMAND "S"

b) There are two modes of display:

Mode 1 is running the saved messages from right to left, which is a horizontal scroll mode.

Mode 2 is running the saved messages from the lower line to the upper line, which is a vertical scroll mode.

c) For display layers:

select 31H means display the message saved on layer 1.

select 32H means display the message saved on layer 2.

select 33H means display the message saved on layer 1+ layer2.

select 34H means display the message saved on layer 3.

select 35H means display the two messages saved on layer 1 + layer 3.

select 36H means display the two messages saved on layer 2 +layer 3.

select 37H means display all the messages saved on layer 1 +layer 2 + layer 3.

d) For display modes,

select 31H means display the message with Mode 1.

select 32H means display the message with Mode 2.

select 33H means display the message with Mode 1+Mode 2.

For this Demo display function, you must have saved the message by COMMAND "S" previously, For example, select 37H for displaying layers and select 33H for displaying modes, DSP would display all the three messages saved on layer 1+ layer 2 + layer 3 with both Mode 1 + Mode 2 displaying modes.

e) Any new message from the computer would stop this Demo

display function and DSP would display that new message from the computer.

G. Select the Command Mode

COMMAND: M

COMPUTER: EOT SOH 'M' 'Mode' ETB

ASCII (04H) (01H) (4DH)(30H~38H) (17H)

Byte 1 1 1 1 1

DISPLAY: ACK (or NACK if failed)

ASCII (06H) (15H)

Byte 1 1

Note: Command Modes Selection

30H : VFD-450	35H : ICD 2002
31H : EPSON ESC/POS	36H : CD 5220
32H : UTC/S	37H : DSP-800
33H : UTC/E	38H : ADM 787/788
34H : AEDEX	

H. Set all default

COMMAND: X

COMPUTER: EOT SOH 'X' ETB

ASCII (04H) (01H) (58H) (17H)

Byte 1 1 1 1

Transmission method

Each ASCII character is transmitted with

1 start bit

8 data bits

1 stop bit

No parity

Note: You may generate your own application software to run the display according to the standard RS-232C communication protocols and the SOFTWARE CONTROL information listed on this chapter.

Command Modes

The command modes can be selected with the Demo Software.

Mode 0: Default

Mode 1: EPSON Esc/POS

Mode 2: UTC Standard

Mode 3: UTC Enhanced

Mode 4: AEDEX

Mode 5: ICD 2002

Mode 6: CD 5220

Mode 7: DSP-800

Mode 8: ADM 787/788

Mode 0: Default

Command	Hexadecimal Codes	Function
B	42H	Set baud rate and parity
I	49H	Select international character set
S	53H	Save the current view message
P	50H	Set cursor position
C	43H	Clear display message
D	44H	Display the saved DEMO message
ESC G	IBH 47H	Print ON command
ESC S	IBH 53H	Print OFF command
M	4DH	Select command mode
X	58H	Set all default

Mode 1: EPSON Esc/POS mode

Command	Code Description (hex)	Function
HT	09	Move cursor right
BS	08	Move cursor left
US LF	1F 0A	Move cursor up
LF	0A	Move cursor down
US CR	1F 0D	Move cursor to right-most position
CR	0D	Move cursor to left-most position
HOM	0B	Move cursor to home position
US B	1F 42	Move cursor to bottom position
US \$ x y	1F 24 x y X=1-20 y=01,02	Move cursor to specified position
CLR	0C	Clear display screen
CAN	18	Clear cursor line
US E n	1F 45 n n=00-ff	Blink display screen
ESC @	1B 40	Initialize display
ESC R n	1B 52 n n=0~15	Select international character set
US MD1	1F 01	Specify overwrite mode
US MD2	1F 02	Specify vertical scroll mode
US MD3	1F 03	Specify horizontal scroll mode
ESC W n s x1 y1 x2 y2	1B 57 n s x1 y1 x2 y2 n=1,2,3,4 s=0, 1	Specify/cancel the window range 1<=x1<=x2<=20 1<=y1<=y2<=2
US:	1F 3A	Set starting/ending position of macro definition
US ^ n m	1F 5E n m 00<=(n,m)<=ff	Execute and quit macro
US @	1F 40	Execute self-test
US T h m	1F 54 h m 0<=h<=17, 0<=m<=3b	Display time
US U	1F 55	Display time continuously
US.n	1F 2E n	n= a displayable character code Display the code with a dot
US,n	1F 2C n	n= a displayable character code Display the code with a comma
US;n	1F 3B n	n= a displayable character code Display the code with a semicolon
US#nm	1F 23 n m n = 0 ro 1 0 <=m<=20	Turn the anuciator (▼) ON/OFF

Mode 2: UTC Standard mode

Command	Code Description (hex)	Function
BS	08	Back space
HT	09	Horizontal tab
LF	0A	Line feed
CR	0D	Carriage return
DLE	0F	Display position
DC1	11	Over write display mode
DC2	12	Vertical scroll mode
DC3	13	Cursor on
DC4	14	Cursor off
ESC d	1B 64	Change to UTC enhanced mode
US	1F	Clear display

Mode 3: UTC enhanced mode

Command	Code Description (hex)	Function
ESC u ACR	1B 75 41 [data x 20] 0D	Upper line display
ESC u BCR	1B 75 42 [data x 20] 0D	Bottom line display
ESC u DCR	1B 75 44 [data x 20] 0D	Upper line message scroll continuously
ESC u ECR	1B 75 45 hh ':' mm 0D H,m='0'-'9'	Display time
ESC u FCR	1B 75 46 [data x 20] 0D	Upper line message scroll once pass
ESC u HCR	1B 75 48 n m 0D 20h<=n,m	Change attention code
ESC u ICR	1B 75 49	Two line display
Command	Code Description (hex)	Function
! # 1CR	21 23 31 [data x 20] 0D	Upper line display
! # 2CR	21 23 32 [data x 20] 0D	Bottom line display
! # 4CR	21 23 34 [data x 20] 0D	Upper line message scroll continuously
! # 5CR	21 23 35 hh ':' mm 0D H,m='0'-'9'	Display time
! # 6CR	21 23 36 [data x 20] 0D	Upper line message scroll once pass
! # 8CR	21 23 38 n m 0D 20h<=n,m	Change attention code
! # 9CR	21 23 39 [data x 40] 0D	Two line display
! # ACR	21 23 41 [data x 20] 0D	Upper line scroll message
! # BCR	21 23 42 [data x 20] 0D	Bottom line display message

Mode 4: AEDEX mode

Mode 5: ICD 2002 mode

Command	Code Description (hex)	Function
HT	09	Move cursor right (only valid in overwrite mode)
BS	08	Move cursor left (only valid in overwrite mode)
CR	0D	Move cursor to left-most position (only valid in overwrite mode)
ESC @	1B 40	Initialize customer display to initial state, clears display buffer, set display mode to shift and sets current display row to upper row
ESC U	1B 55	Select upper row as current row (initial default)
ESC D	1B 44	Select lower row as current row
ESC A ϕ	1B 41 ϕ	Sets customer display disable or enable ϕ 'D'=disable, 'E'=enable
ESC C r c	1B 43 r c	Move cursor to specified position (only valid in overwrite mode) -r Row ('U'=upper, 'D'=lower) -c Column number (range from 1~20)
ESC E r ϕ	1B 45 r ϕ	Set special effect or display mode of specified row
ESC R n	1B 52 n n=30~44	Set international font sets -n international fonts code

REMARK)* Using command "ESC E r Φ ", the value of parameter:

r 58= all rows

55= upper row

44= lower row

Φ special function, the value is one of

30= shift mode (default)

31= rotation mode

32= blink mode

33= clear this row and switch to shift mode

34= overwrite mode

35= vertical mode

Mode 6: CD 5220 standard mode

Command	Code Description (hex)	Function
ESC DC1	1B 11	Overwrite mode
ESC DC2	1B 12	Vertical scroll mode
ESC DC3	1B 13	Horizontal scroll mode
ESC Q A...CR	1B 51 41 [n]x20 0D	Set the string display mode, write string to upper line
ESC Q B...CR	1B 51 42 [n]x20 0D	Set the string display mode, write string to lower line
ESC Q D...CR	1B 51 44 [n]x20 0D	Upper line message scroll continuously
ESC [D	1B 5B 44	Move cursor left
BS	08	Move cursor left
ESC [C	1B 5B 43	Move cursor right
HT	09	Move cursor right
ESC [A	1B 5B 41	Move cursor up
ESC [B	1B 5B 42	Move cursor down
LF	0A	Move cursor down
ESD [H	1B 5B 48	Move cursor to home position
HOM	0B	Move cursor to home position
ESC [L	1B 5B 4C	Move cursor to left-most position
CR	0D	Move cursor to left-most position
ESC [R	1B 5B 52	Move cursor to right-most position
ESC [K	1B 5B 4B	Move cursor to bottom position
ESC 1 x y	1B 6C x y 1<=x<=20, y=1,2	Move cursor to specified position
ESC @	1B 40	Initialize display
ESC W s x1 x2 y	1B 57 1 x1 x2 y 1<=x1<=x2<=20 Y=1,2	Set or cancel the window range at horizontal scroll mode
CLR	0C	Clear display screen, and Clear string mode
CAN	18	Clear cursor line, and clear string mode
ESC _ n	1B 5F n n=0,1	Set cursor ON/OFF
ESC f n	1B 66 n n=30~44	Select international fonts set

30H : U. S. A.	3BH : Slavonic
31H : France	3CH : Russia
32H : Germany	3DH : Standard Europe International font set
33H : U. K.	3EH : Multilingual International font set
34H : Denmark I	3FH : Portuguese International font set
35H : Sweden	40H : Canadian French International font set
36H : Italian	41H : Nordic International font set
37H : Spain	42H : Russia font set
38H : Japan	43H : Slavonic font set
	44H : Katakana font set

Mode 7: DSP-800 mode

Command	Code Description (hex)	Function
EOT SOH I n ETB	04 01 49 n 17	Select international fonts set
EOT SOH P n ETB	04 01 50 n 17 n=31H-58H	Move cursor to specified position
EOT SOH C n m ETB	04 01 43 n m 17 31H<n<m<58H	Clear display range from n position to m position and move cursor to n position
EOT SOH S n ETB	04 01 53 n 17 n=31H-35H	Save the current displaying data to n layer for demo display
EOT SOH D n m ETB	04 01 44 n m 17 n=31H-4FH m=31H-33H	Display the saved data
EOT SOH T ETB	04 01 54 17	Transmit the current view message to computer
EOT SOH B n N ETB	04 01 42 n 4E 17 n=31H: 9600 n=32H: 4800 n=33H: 2400 n=34H: 1200 n=35H: 600 n=36H: 300	Set baud rate

Mode 8: ADM 787/788 mode

Command	Code Description (hex)	Function
CLR	0C	Clear display
CR	0D	Carriage return
SLE1	0E	Clear upper line and move cursor to upper left-end position
SLE2	0F	Clear bottom line and move cursor to bottom left-end position
DC0	10 n	Set period to upper line, last n position 31h<n<37h
DC1	11 n	Set line blinking, upper line n='1' bottom line n='2'
DC2	12 n	Clear line blinking, upper linen ='1', bottom line n='2'
SF1	1E	Clear field 1 and move cursor to field 1, first position
SF2	1E	Clear field 2 and move cursor to field 2, first position

Safety Regulatory Notices

CE MARK



This device complies with the requirements of the EEC directive 89/336/EEC with regard to “Electromagnetic compatibility” and 73/23/EEC “Low Voltage Directive”

FCC

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

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

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer’s instructions.

LEGISLATION AND WEEE SYMBOL

2002/96/EC Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.

The crossed dustbin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.



To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.