



APC-3X94P/R

15", 17", and 19"Intel® Celeron® N2930 Full IP66/IP69K Stainless Steel Panel PC

User Manual

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Revision History

Reversion	Date	Description	
1.0	2016/02/15	Official Version	
1.1	2020/09/09	Modify 1.1 Spec data	

Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Caution

Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

Disclaimer

This information in this document is subject to change without notice. In no event shall Aplex Technology Inc. be liable for damages of any kind, whether incidental or consequential, arising from either the use or misuse of information in this document or in any related materials.

Packing List

Accessories (as ticked) included in this package are:		
Adaptor		
Driver & manual CD disc		
Other	_(please specify)	

Safety Precautions

Follow the messages below to prevent your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don't touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

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1.1 Features

- Low Power Consumption Panel PC
- Intel[®] Celeron[®] Processor N2930
- Onboard DDR3L 4GB 1333/1600MHz
- IP66/69K rated with M12 connector
- SUS304 Grade Stainless Steel Enclosure (SUS 316 Optional)
- Full Flat Bezel and Fanless Design
- Projective Capacitive Touch/Resistive Touch Window
- 9~36V DC Wide-ranging Power Input

1.2 Specifications

	APC-3594P/R	APC-3794P/R	APC-3994P/R		
System					
CPU	CPU Intel [®] Celeron [®] Processor N2930				
Chipset		SoC			
Memory	Onbo	oard DDR3L 4GB 1333/1600	MHz		
IO Port					
USB	1	x M12 8-pin for 1 x USB 3.0)		
Serial/Parallel	1 x M12 8-pin	for RS-232/422/485, COM1, I	Default RS-232		
	1>	(M12 8-pin for RS-232, CON	12		
LAN		1 x M12 8-pin for GbE LAN			
Power	1 x M12 3-pin DC Power				
Optional I/O	1 x M12 8-pin for 2 x USB 2.0 (Default)				
(either one)	1 x Power Switch				
Storage Space					
Storage	1 x 2.5"	SATA HDD or SSD, Easily ac	cessible		
	1 x	internal SD card slot onboa	rd		
Expansion					
Expansion Slot	1 x Mini-PCIe full size				
	For optional WLAN/BT Module and Antenna at rear side				
Display					
Display Type	15" color TFT LCD	17" color TFT LCD	19" color TFT LCD		
Max. Resolution	1024 x 768	1280 x 1024	1280 x 1024		

Max. Color	16.2M	16.2M	16.7M	
Contrast Ratio	2000: 1	1000: 1	1000: 1	
Luminance (cd/m ²)	300	350	350	
Viewing Angle	176(H) / 176(V)	160(H) / 140(V)	170(H) / 160(V)	
Backlight Lifetime	70,000 hrs	50,000 hrs	50,000 hrs	
Touch Screen – Resisti	ve Touch Window Type (AP	C-3X94R)		
Interface	USB			
Light Transmission		Over 80%		
Touch Screen – Projec	ted Capacitive Type (APC-3)	(94P)		
Interface		USB		
Light Transmission		Over 90%		
Power				
Power Input		9~36V DC		
Power Consumption	MAX:17W(APC-3594P)	MAX:27W(APC-3794P)	MAX:26W(APC-3994P)	
	MAX:16W(APC-3594R)	MAX:25W(APC-3794R)	MAX:25W(APC-3994R)	
Mechanical	-			
Construction		Stainless Steel Chassis		
IP Rating		Full IP66/IP69K Design		
Mounting	Panel Mount/	Panel Mount/	Panel Mount/	
	VESA Mount 75 x 75/	VESA Mount 75 x 75/	VESA Mount 100 x 100/	
	Wall Mount	Wall Mount	Wall Mount	
Dimension	399 x 324 x 58.8 mm	432 x 358 x 58.8	470 x 388.6 x 60.8	
Net Weight	5.3 Kg	7.2 Kg	7.6 Kg	
Environmental	-			
Operating		0~50°C		
temperature	-20~60°C (with Industrial SSD) for 15" and 17"			
Storage temperature	-30~70°C			
Humidity	10 to 95% @ 40°C, non- condensing			
Certification	CE / FCC Class A			
Operating System Support				
OS Support	Windows 7 Professional for Embedded Systems,			
	Windows 7 Ultimate for Embedded Systems,			
	Windows Embedded 8.1 Pro,			
	Windows Embedded 8.1 Industry Pro			
	Windows 10 IoT ENT LTSB			

1.3 Dimensions



Figure 1.1: Dimensions of APC-3594P/R – Standard & Optional I/O APC-3X94P/R User Manual



Figure 1.2: Dimensions of APC-3794P/R – Standard & Optional I/O



Figure 1.3: Dimensions of APC-3994P/R – Standard & Optional I/O

1.4 Brief Description of APC-3X94P/R

APC-3X94P/R series come with 15", 17", and 19" color TFT LCD, full IP66/IP69K rated with M12 connector design, and powered by Intel® Celeron® Processor N2930. The model supports onboard DDR3L 4GB 1333/1600MHz memory, and comes with DC 9~36V wide-ranging power input. The model is SUS 304 grade stainless steel enclosure, and SUS 316 stainless steel is for option. It comes with a resistive touch screen and projected capacitive touch screen for option. APC-3X94P/R can be VESA 75 x 75 mounted for 15" and 17", and VESA 100 x 100 mounted for 19" panel PC. The panel PC has a variety of functions and peripherals. Regarding the storage capability, APC-3X94P/R provides 1 x 2.5" SATA HDD or SSD space, allowing customers to easily access/backup the data.



Figure 1.4: Front View of APC-3594P/R



Figure 1.5: Rear View of APC-3594P/R



Figure 1.6: Front View of APC-3794P/R



Figure 1.7: Rear View of APC-3794P/R



Figure 1.8: Front View of APC-3994P/R



Figure 1.9: Rear View of APC-3994P/R

1.5 Installation of HDD/SSD

Step 1

There are two screws to deal with when

enclosing or removing the chassis.

Gently remove two screws.

Step 2

Take off the HDD cover. Then pull out

the HDD bracket like the way shown in the picture.

Step 3

You can replace HDD or SSD by unscrewing four screws as shown in the

picture.

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1.6 Mounting

The APC-3X94P/R series panel PC is designed to be panel-mounted as shown in Figure 1.10. Just carefully place the unit through the hole and tighten the given screws from the rear to secure the mounting.



Figure 1.10: Panel Mounting of APC-3x94P/R

Chapter 2

2.1 Motherboard Introduction

SBC-7111 is a 4" industrial motherboard developed on the basis of Intel Bay trail-I/M Processors, which provides abundant peripheral interfaces to meet the needs of different customers. Also, it features dual GbE ports, 3-COM ports and one Mini PCIE configuration, one VGA port, one HDMI port, one LVDS interface. To satisfy the special needs of high-end customers, CN1 and CN2 and CN3 richer extension functions. The product is widely used in various sectors of industrial control.

Specifications			
Board Size	170mm x 113mm		
CPU Support	Intel Atom E3845 / 1.91GHz (4cores, 10W, option) Intel Atom E3815 / 1.46GHz (1cores, 5W, option) Intel Celeron N2930 / 1.83 up to 2.16GHz (4cores, onboard) Intel Celeron N2807 / 2.16GHz (2cores, option)		
Chipset	SoC		
Memory Support	Onboard 2GB DDR3L SDRAM (E3845/N2930/E3815/N2807, option) Onboard 4GB DDR3L SDRAM (E3845/N2930/E3815/N2807, option) Onboard 8GB DDR3L SDRAM (E3845/N2930, option)		
Graphics	Intel® HD Graphics 542/792MHz (E3845) Intel® HD Graphics 313/854MHz (N2930) Intel® HD Graphics 400MHz (E3815) Intel® HD Graphics 313/750MHz (N2807)		
Display Mode	1 x HDMI Port 1 x LVDS (18/24-bit dual LVDS) 1 x CRT Port		
Support Resolution	Up to 1920 x 1200 for HDMI Up to 1920 x 1200 for LVDS (PS8625) Up to 1920 x 1200 for CRT		
Dual Display	HDMI + LVDS		

2.2 Specifications

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	HDMI + CRT LVDS + CRT
Super I/O	ITE IT8518E Fintek F81216AD
BIOS	AMI/UEFI
Storage	1 x SATAII Connector (7P) 1 x SATAII Connector (7P + 15P) 1 x SD Slot
Ethernet	2 x PCIe Gbe LAN by Intel 82574L
USB	USB 3.0 Hub(USB5534): 2 x USB 3.0/USB 2.0 (type A)stack ports (E3-USB5/E3-USB6) 1 x USB 2.0 Pin header for CN1 (E3-USB8) 1 x USB 2.0 for USB Touch (E3-USB7) USB 2.0 Hub(USB2514) 1 x USB 2.0 Pin header for CN2 (E-USB9) 2 x USB 2.0 Pin header for CN3 (E-USB10/E-USB11) 1 x USB 2.0 for MPCIE1 (E-USB12)
Touch Chul	1 x Touch ctrl header for TCH1 (E3-USB7)
Serial	 1 x RS232/RS422/RS485 port, DB9 connector for external (COM1) Pin 9 w/5V/12V/Ring select 1 x RS232 port, DB9 connector for external (COM2) Pin 9 w/5V/12V/Ring select 2 x UART for CN3 (COM3, COM4) 2 x RS422/485 header for CN2 (IT8518E:COM5/COM6)
Serial Digital I/O	 1 x RS232/RS422/RS485 port, DB9 connector for external (COM1) Pin 9 w/5V/12V/Ring select 1 x RS232 port, DB9 connector for external (COM2) Pin 9 w/5V/12V/Ring select 2 x UART for CN3 (COM3, COM4) 2 x RS422/485 header for CN2 (IT8518E:COM5/COM6) 8-bit digital I/O by Pin header (CN2) 4-bit digital Input 4-bit digital Output 4-bit digital I/O by Pin header (CN3) 2-bit digital Input 2-bit digital Output
Serial Digital I/O Battery	 1 x RS232/RS422/RS485 port, DB9 connector for external (COM1) Pin 9 w/5V/12V/Ring select 1 x RS232 port, DB9 connector for external (COM2) Pin 9 w/5V/12V/Ring select 2 x UART for CN3 (COM3, COM4) 2 x RS422/485 header for CN2 (IT8518E:COM5/COM6) 8-bit digital I/O by Pin header (CN2) 4-bit digital Input 4-bit digital Output 4-bit digital Output 2-bit digital Input 2-bit digital Output Support CR2477 Li battery by 2-pin header (BAT1/CMOS)
Serial Digital I/O Battery Audio	 1 x RS232/RS422/RS485 port, DB9 connector for external (COM1) Pin 9 w/5V/12V/Ring select 1 x RS232 port, DB9 connector for external (COM2) Pin 9 w/5V/12V/Ring select 2 x UART for CN3 (COM3, COM4) 2 x RS422/485 header for CN2 (IT8518E:COM5/COM6) 8-bit digital I/O by Pin header (CN2) 4-bit digital Input 4-bit digital Output 4-bit digital Input 2-bit digital I/O by Pin header (CN3) 2-bit digital Output Support CR2477 Li battery by 2-pin header (BAT1/CMOS) Support Audio via Realtek ALC662-VD HD audio codec Support Line-in, Line0out, MIC by 2x6-pin header

Expansion Bus	1 x mini-PCI-express slot 1 x PCI-express (CN3)
Power Management	Wide Range DC9V~36V input 1 x 3-pin power input connector
POE Power in	DC12V input 1 x 4 Wafer Pin header (DC_IN2)
Switches and LED Indicators	1 x Power on/off switch (BT1/BT2/CN2/CN3) 1 x Reset (CN2) 1 x Power LED status (CN1) 1 x HDD LED status (CN2) 1 x Buzzer
External I/O port	2 x COM Ports (COM1/COM2) 1 x USB 2.0 Port (stack) 2 x USB 3.0/2.0 Ports (stack) 2 x RJ45 GbE LAN Ports 1 x HDMI Port 1 x Stack audio Jack (Line out)
Temperature	Operating: -20 $^\circ \rm C$ to 70 $^\circ \rm C$ Storage: -40 $^\circ \rm C$ to 85 $^\circ \rm C$
Humidity	10% - 90%, non-condensing, operating
Power Consumption	12V /0.80A (Intel Atom E3845 processor with 4GB DDR3L DRAM) 12V /0.60A (Intel Atom E3815 processor with 2GB DDR3L DRAM) 12V /0.70A (Intel Celeron N2930 processor with 4GB DDR3L DRAM) 12V /0.55A (Intel Celeron N2807 processor with 2GB DDR3L DRAM)
EMI/EMS	Meet CE/FCC class A



Figure 2.1: Motherboard Dimensions



2.3 Jumpers and Connectors Location

Figure 2.2: Jumpers and Connectors Location- Board Top



Figure 2.3: Jumpers and Connectors Location- Board Bottom

2.4 Jumpers Setting and Connectors

1. U2:

(FCBGA1170), onboard Intel Bay trail-I/M Processors.

Model	Processor				
	Number	PBF	Cores/Threads	TDP	Remarks
SBC-7111-N2930-4G	N2930	1.83 up to	4 / 4	4.5/7.5W	
		2.16GHz			
SBC-7111-E3845-2G	E3845	1.91GHz	4 / 4	10W	Option
SBC-7111-E3845-4G	E3845	1.91GHz	4 / 4	10W	Option
SBC-7111-E3845-8G	E3845	1.91GHz	4 / 4	10W	Option
SBC-7111-N2930-2G	N2930	1.83 up to	4 / 4	4.5 /7.5W	Option
		2.16GHz			
SBC-7111-N2930P-CN3V-2G	N2930	1.83 up to	4 / 4	4.5/7.5W	Option
		2.16GHz			
SBC-7111-N2930-8G	N2930	1.83 up to	4 / 4	4.5/7.5W	Option
		2.16GHz			
SBC-7111-E3815-2G	E3815	1.46GHz	1/1	5W	Option
SBC-7111-N2807-2G	N2807	1.58 up to	2 / 2	2.5⁄4.3W	option
		2.16GHz			

2. H3/H4/H5/H6 (option):

U2 Heat Sink Screw holes, four screw holes for Intel Bay trail-I/M Processors Heat Sink assemble.

3. U3/U4/U5/U6/U8/U9/U10/U11:

(FBGA96), Onboard DDR3L Memory.

Model	Memory
SBC-7111-N2930-4G	4GB
SBC-7111-E3845-2G	2GB (option)
SBC-7111-N2930-2G	2GB (option)
SBC-7111-N2930P-CN3V-2G	2GB (option)
SBC-7111-E3815-2G	2GB (option)
SBC-711-N2807-2G	2GB (option)
SBC-7111-E3845-4G	4GB (option)
SBC-7111-E3845-8G	8GB (option)
SBC-7111-N2930-8G	8GB (option)

4. S-422 (PIN6):

(Switch), ATX Power and Auto Power on jumper setting.

S-422(Switch)	Mode	
Pin6 (Off)	ATX Power	
Pin6 (On)	Auto Power on (Default)	

5. BAT1:

(1.25mm Pitch 1x2 Wafer Pin Header) 3.0V Li battery is embedded to provide power for CMOS.

Pin#	Signal Name		
1	VBAT		
2	Ground		

6. DC_IN1:

(5.08mm Pitch 1x3 Pin Connector), DC9~36V System power input connector.

Pin#	Power Input		
1	DC+9V~36V		
2	Ground		
3	FG		

Model	DC_IN1
SBC-7111-E3845-xG	180°Connector
SBC-7111-N2930-xG	180°Connector
SBC-7111-E3815-xG	180°Connector
SBC-7111-N2807-xG	180°Connector
SBC-7111-N2930P-xG	45°Connector
SBC-7111-E3845P-XG	45°Connector
SBC-7111-N2930P-CN3V-XG	45°Connector

7. DC_IN2:

(2.0mm Pitch 1x4 wafer Pin Header) DC12V POE power input connector.

Pin#	Signal Name		
1	VCC_BAT		
2	VCC_BAT		
3	Ground		
4	Ground		

SBC-7111 R2.XX	POE Module
DC_IN2	TB-528NE1U2POE/12V OUT (30W)

8. BT1/BT2/P_SW1:

Power on/off button, They are used to connect power switch button. The two pins are disconnected under normal condition. You may short them temporarily to realize system startup & shutdown or awaken the system from sleep state.

BT2	BT1	P_SW1	
•	•	0	Default
•	0	•	Option

9. FAN1(option):

(2.54mm Pitch 1x3 Pin Header), Fan connector, cooling fans can be connected directly for use. You may set the rotation condition of cooling fan in menu of BIOS CMOS Setup.



Rote:

Output power of cooling fan must be limited under 5W.

10. VGA1:

(CRT 2.0mm Pitch 2x6 Pin Header), Video Graphic Array Port, Provide 2x6Pin cable to VGA Port.

Signal Name	Pin#	Pin#	Signal Name
CRT_RED	1	2	Ground
CRT_GREEN	3	4	Ground
CRT_BLUE	5	6	VGA_EN
CRT_H_SYNC	7	8	CRT_DDCDATA
CRT_V_SYNC	9	10	CRT_DDCCLK
Ground	11	12	Ground

VGA hot plug setting:		
VGA1 (Pin Header)	Function	
Pin4-Pin6 (Close)	VGA Simulation Disabled	
Pin4-Pin6 (Open) VGA Simulation Enabled		
Use the 2.0mm jumper cap to close pin4 and pin6		

11. HDMI1:

(HDMI 19P Connector), High Definition Multimedia Interface connector.



12. JP6:

(2.0mm Pitch 2x2 Pin Header), LVDS jumper setting.



JP6	Function (CN1)
Pin1-Pin2 (Close)	Single channel LVDS
Pin1-Pin2 (Open)	Dual channel LVDS (Default)
Pin3-Pin4 (Close)	8/24 bit (Default)
Pin3-Pin4 (Open)	6/18 bit

13. U18:

AT24C02-DIP8, The EEPROM IC (U18) is the set of LVDS resolution. If you need other resolution settings, please upgrade U18 data.

Model	LVDS resolution
SBC-7111-N2930-4G	1280*1024 (Default)
SBC-7111-E3845-2G	800*480 (option)
SBC-7111-E3845-4G	800*600 (option)
SBC-7111-N2930-2G	1024*768 (option)
SBC-7111-E3845-4G	1920*1080 (option)
SBC-7111-E3815-2G	

14. INVT1:

(2.0mm Pitch 1x6 wafer Pin Header), Backlight control connector for LVDS.



Pin#	Signal Name
1	+DC12V
2	+DC12V
3	Ground
4	Ground
5	BKLT_EN_OUT
6	BKLT_CTRL

15. CN1:

(1.25mm Pitch 2x20 Connector, DF13-40P), for 18/24-bit LVDS output connector, fully supported by Parad PS8625(DP to LVDS), the interface features dual channel 24-bit output. Low Voltage Differential Signaling, A high speed, low power data transmission standard used for display connections to LCD panels.

Function	Signal Name	Pin#	Pin#	Signal Name	Function
	12V_S0	2	1	12V_S0	
	BKLT_EN_OUT	4	3	BKLT_CTRL	
	Ground	6	5	Ground	
	LVDS_VDD5	8	7	LVDS_VDD5	
	LVDS_VDD3	10	9	LVDS_VDD3	
	Ground	12	11	Ground	
	LA_D0_P	14	13	LA_D0_N	
LVDS	LA_D1_P	16	15	LA_D1_N	LVDS
	LA_D2_P	18	17	LA_D2_N	
	LA_D3_P	20	19	LA_D3_N	
	LA_CLKP	22	21	LA_CLKN	
	LB_D0_P	24	23	LB_D0_N	
	LB_D1_P	26	25	LB_D1_N	
	LB_D2_P	28	27	LB_D2_N	
	LB_D3_P	30	29	LB_D3_N	
	LB_CLKP	32	31	LB_CLKN	
	Ground	34	33	Ground	E3_USB8
D3_USB3	E3_USB8_P	36	35	E3_USB8_N	(USB2.0)
(USB2.0)	5V_S5_USB	38	37	5V_S5_USB	
Power LED	PWR_LED+	40	39	Ground	Power LED

16. JP4:

(2.0mm Pitch 2x2 wafer Pin Header), Touch jumper setting.

JP4	Touch (TCH1)
Close 1-2 (default)	-
Open 3-4 (default)	-
Close 3-4 (option)	Hardware Enabled

17. TCH1:

(2.0mm Pitch 1x6 wafer Pin Header), internal Touch controller connector.

Pin#	Signal Name
1	SENSE
2	X+
3	Х-
4	Y+
5	Y-
6	GND_EARCH

18. JP1:

(2.0mm Pitch 2x3 Pin Header), COM1 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM1 port.

JP1 Pin#	Function	
Close 1-2	COM1 RI (Ring Indicato	or) (default)
Close 3-4	COM1 Pin9: DC+5V	(option)
Close 5-6	COM1 Pin9: DC+12V	(option)

19. S_232:

(Switch), COM1 jumper setting, it provides selectable RS232 or RS422 or RS485 serial signal output.

Function	S_232 Pin#
RS232 (Default)	ON: Pin1, Pin2, Pin3, Pin4
RS422 (option)	OFF: Pin1, Pin2, Pin3, Pin4
RS485 (option)	OFF: Pin1, Pin2, Pin3, Pin4

20. S_422:

(Switch), COM1 setting, it provides selectable RS232 or RS422 or RS485 serial signal output.

Function	S_422 Pin#
RS232 (Default)	OFF: Pin1, Pin2, Pin3, Pin4, Pin5
RS422 (option)	ON: Pin1, Pin2, Pin3, Pin4, Pin5
RS485 (option)	ON: Pin1, Pin2, Pin3, Pin4, Pin5

S-422	Mode
Pin6 (Off)	Manual Power on
Pin6 (On)	Auto Power on (Default)

21. COM1:

(Type DB9M), Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices. COM1 port is controlled by pins No.1~6 of JP1, select output Signal RI or 5V or 12V, for details, please refer to description of JP1 and S_232 and S_422 setting.



RS232 (Defaul	t)
Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	JP1 select Setting (RI/5V/12V)
BIOS Setup:	
Advanced/F81	216SEC Super IO Configuration/Serial Port 1
Configuration	【RS-232】

RS422 (option)					
Pin#	Signal Name				
1	422_RX+				
2	422_RX-				
3	422_TX-				
4	422_TX+				

5	Ground				
6	NC				
7	NC				
8	NC				
9	NC				
BIOS Setup:					
Advanced/F81216SEC Super IO Configuration/Serial Port 1					
Configuration	tion 【RS-422】				

RS485 (option)				
Pin#	Signal Name			
1	NC			
2	NC			
3	485-			
4	485+			
5	Ground			
6	NC			
7	NC			
8	NC			
9	NC			
BIOS Setup:				
Advanced/F81216SEC Super IO Configuration/Serial Port 1				
Configuration	【RS-485】			

22. JP2:

(2.0mm Pitch 2x3 Pin Header), COM2 jumper setting, pin 1~6 are used to select signal out of pin 9 of COM2 port.

JP2 Pin#	Function		
Close 1-2	COM2 RI (Ring Indicator) (defa		
Close 3-4	COM2 Pin9: DC+5V	(option)	
Close 5-6	COM2 Pin9: DC+12V	(option)	

23. COM2:

(Type DB9M), Rear serial port, standard DB9 Male serial port is provided to make a direct connection to serial devices.

Pin#	Signal Name
1	DCD# (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmit Data)
4	DTR (Data Terminal Ready)
5	Ground
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	JP2 select Setting (RI/5V/12V)

24. LED1, LED2 (option) :

LED1: LED STATUS. Green LED for Power Good status. LED2: LED STATUS. Green LED for Touch Power Status. LED3: LED STATUS. Green LED for EC Power status. LED4: LED STATUS. Green LED for Motherboard Standby Power Good status.

25. SATA_P(option):

(2.5mm Pitch 1x2 box Pin Header), One onboard 5V output connector are reserved to provide power for SATA devices.

Pin#	Signal Name
1	+DC5V
2	Ground

P.

Note:

Output current of the connector must not be above 1A.

26. SATA2(option):

(SATA 7Pin), SATA Connectors, one SATA connector are provided, with transfer speed up to 3.0Gb/s.

27. SATA1:

(SATA 7Pin+15Pin), SATA Connectors, one SATA connector are provided, with transfer speed up to 3.0Gb/s.

28. SD1:

(SD card slot), Secure Digital Memory Card socket.

29. MPCIE1:

(Socket 52Pin), mini PCIe socket, it is located at the top, it supports mini PCIe devices with USB2.0 and LPC and SMBUS and PCIe signal. MPCIe card size is 30x50.95mm.

30. H1/H2:

MPCIE1 SCREW HOLES, H1and H2 for mini PCIE card (30mmx50.95mm) assemble.

31. F_AUDIO1:

(2.0mm Pitch 2X6 Pin Header), Front Audio, An onboard Realtek ALC662-VD codec is used to provide high-quality audio I/O ports. Line Out can be connected to a headphone or amplifier. Line In is used for the connection of external audio source via a Line in cable. MIC is the port for microphone input audio.

Signal Name	Pin#	Pin#	Signal Name
+5V	1	2	GND_AUD
LINE-OUT-L	3	4	LINE-OUT-R
FRONT_JD	5	6	LINE1_JD
LINE_IN-L	7	8	LINE-IN-R
MIC-IN-L	9	10	MIC-IN-R
GND-AUD	11	12	MIC1_JD

32. LINE_OUT1:

(Diameter 3.5mm Jack), HD Audio port, an onboard Realtek ALC662-VD codec is used to provide high quality audio I/O ports. Line Out can be connected to a headphone or amplifier.



33. USB3:

USB3-5/USB3-6: (Double stack USB type A), Rear USB connector, it provides up to two USB3.0 port, support USB full-speed and low-speed signaling.



USB3.0(USB3-6)

USB3.0(USB3-5)

Each USB Type A Receptacle (2 Ports) Current limited value is 2.0A.

If the external USB device current exceeds 2.0A, please separate connectors into different Receptacle.

34. LAN1/LAN2:

LAN1/LAN2: (RJ45 Connector), Rear LAN port, Two standard 10/100/1000M RJ-45 Ethernet ports are provided. Used intel 82574L chipset, LINK LED (green) and ACTIVE LED (yellow) respectively located at the left-hand and right-hand side of the Ethernet port indicate the activity and transmission state of LAN.



35. BUZ1:

Onboard buzzer.

36. CN2:

(DF13-30P Connector) For expand output connector, It provides eight GPIO, one RS422 or RS485, one USB2.0, one Power on/off, one Reset.

Function	Signal Name	Pin#	Pin#	Signal Name	Function		
5V	5V_S5	2	1	5V_S5	5V		
SOC_GPIO10	GPIO_IN2	4	3	GPIO_IN1	SOC_SPIO09		
SOC_GPIO26	GPIO_IN4	6	5	GPIO_IN3	SOC_GPIO17		
SOC_GPIO05	GPIO_OUT2	8	7	GPIO_OUT1	SOC_GPIO04		
SOC_GPIO08	GPIO_OUT4	10	9	GPIO_OUT3	SOC_GPIO06		
	Ground	12	11	Ground			
485 or 422	485+_422TX+	14	13	485422TX5-	485 or 422		
RS422	422_RX+	16	15	422_RX5-	RS422		
485 or 422	485+_422TX6+	18	17	485422TX6-	485 or 422		
RS422	422_RX6+	20	19	422_RX6-	RS422		
5V	5V_S0	22	21	HDD_LED+	HDD LED		
	5V_USB09	24	23	5V_USB01	USB2.0		
USB2.0	E_USB9_P	26	25	E_USB9_N			
	Ground	28	27	FP_RST-	RESET		
Power auto on	PWRBTN_ON	30	29	Ground			
COM5/COM6 BIOS Setup:							
Advanced/IT8518Super IO Configuration/Serial Port 1 Configuration 【RS-485】							
Advanced/IT8518Super IO Configuration/Serial Port 1 Configuration 【RS-422】							
Advanced/IT8518Super IO Configuration/Serial Port 2 Configuration 【RS-485】							
Advanced/IT8518Super IO Configuration/Serial Port 2 Configuration 【RS-422】							

37. EC_GPIO1:

(2.0mm Pitch 1X10 Pin Header)For expand connector, it provides brightness adjustment function.

Pin#	Signal Name
1	Ground
2	GPA0_ONOFF
3	GPA1_SPK-
4	GPE6_BKLT-
5	GPE0_BKLT+
6	SPKGPC3_SPK+
7	BKL_CTRL_PWR
8	ADC6_BKLT_CTRL
9	ADC7_L_SENSE
10	3.3V

38. CN3:

(1.27mm Pitch 2X30 Female Header), for expand output connector, it provides four GPIO, two USB 2.0,one PS/2 mouse, one PS/2 keyboard, two uart, one PCIex1, one SMbus. connected to the TB-528 riser Card.

Function	Signal Name	Pin#	Pin#	Signal Name	Function
	5V_S5_USB	1	2	5V_S5_USB	
	5V_S5_USB	3	4	5V_S5_USB	
	USB1011_OC	5	6	PSON_ATX-	
E-USB10	E_USB10_N	7	8	E_USB10_P	E-USB10
E-USB11	E_USB11_N	9	10	E_USB11_P	E-USB11
	Ground	11	12	Ground	
PS/2 MS	PS2_MSCLK	13	14	PS2_MSDATA	PS/2 MS
PS/2 KB	PS2_KBCLK	15	16	PS2_KBDATA	PS/2 KB
	COM4_RI	17	18	COM4_DCD-	
COM4	COM4_TXD	19	20	COM4_RXD	COM4
(UART)	COM4_DTR	21	22	RICOM4_RTS-	(UART)
	COM4_DSR	23	24	COM_CTS-	
	Ground	25	26	Ground	
	COM3_RI	27	28	COM3_DCD-	
COM3	COM3_TXD	29	30	COM3_RXD	COM3
(UART)	COM3_DTR	31	32	DSRCOM3_RTS-	(UART)

	COM3_DSR	33	34	DTRCOM3_CTS-	
GPIO23	SOC_GPIO23	35	36	ICH_GPIO22	GPIO12
GPIO25	SOC_GPIO25	37	38	ICH_GPIO24	GPIO24
	Ground	39	40	Ground	
	PCIE_TX0_DN	41	42	PCIE_TX0_DP	
	PCIE_RX0_DN	43	44	PCIE_RX0_DP	
PCIE	Ground	45	46	Ground	PCIE
	PCIE_REFCLK0_DN	47	48	PCIE_REFCLK0_DP	
	PCIE0_WAKE_N	49	50	PLTRST_3P3_N	
SMBUS	SMB_CLK_S0	51	52	SMB_DATA_S0	SMBUS
PCIE	PCIE_CLKREQ0_N	53	54	Ground	
	3P3V_S5	55	56	PWRBTN_ON-	Power Auto on
	3P3V_S5	57	58	3P3V_S5	
12V	12V_S0	59	60	12V_S0	12V

3.1 Operations after POST Screen

After CMOS discharge or BIOS flashing operation, press [Delete] key to enter CMOS Setup.



After optimizing and exiting CMOS Setup, the POST screen displayed for the first time is as follows and includes basic information on BIOS, CPU, memory, and storage devices.

3.2 BIOS Setup Utility

Press [Delete] key to enter BIOS Setup utility during POST, and then a main menu containing system summary information will appear.
3.3 Main Settings

Aptio Setup Utility – Copyright (C) 2014 America					can Megatrends, Inc.
Main	Advanced	Chipset	Security	Boot	Save & Exit
BIOS Information					Choose the system default
BIOS	Vendor	Ame	American Megatrends		Language
Core	Version	5.010	5.010		
Comp	liancy	UEF	UEFI 2.4; PI 1.3		
Projec	t Version	7111i 1.07 x64			
Build	Date and Time	12/18	/2014 09:54:	21	
CPU	Configuration				
Micro	code Patch	901			
BayTr	ail SoC	DO S	Stepping		
KSC I	nformation				
KSC	/ersion	N/A			
Memory Information					
Total I	Total Memory		MB (DDR3L))	
GOP Information					
Intel (R) GOP Drive		er [N/A]			
					→ ←: Select Screen
TXE I	nformation				1↓ : Select Item
Sec R	Sec RC Version 00.05.00.00			Enter: Select	
TXE F	W Version	01.0	1.00.1089		+/- : Charge Opt.
					F1 : General Help
System Language		(Engl	ish]		F2: Previous Values
					F3:Optimized Defaults
Syste	m Date	[Sun	01/01/2012]		F4:Save and Exit
Syste	m Time	[00:0	0:10]		ESC Exit
	Version 2.17	1246. Copy	right (C) 20	14 Americ	an Megatrends . Inc.

System Time:

Set the system time, the time format is:

Hour :	0 to 23
Minute :	0 to 59

Second: 0 to 59

System Date:

Set the system date, the date format is:

Day: Note that the 'Day' automatically changes when you set the date.

Month:	01 to 12
Date:	01 to 31
Year:	1998 to 2099

3.4 Advanced Settings

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.					
Main	Advanced	Chipset	Security	Boot	Save & Exit
					System ACPI Parameters.
► ACPI	Settings				
►F8121	I6SEC Super I	IO Configura	tion		
►IT851	8 Super IO Co	onfiguration			
►Intel ((R) Smart Co	nnect Techn	ology		
Serial	Port Console	Redirection			
►CPU 0	Configuration				
►PPM	Configuration				
► Them	nal Configurati	on			
►IDE C	onfiguration				
Miscellaneous Configuration					→←: Select Screen
►LPSS & SCC Configuration					1↓ : Select Item
►Syste	m Component				Enter: Select
►Netwo	ork Stack Conf	iguration			+/- : Charge Opt.
►CSM	Configuration				F1 : General Help
► SDIO	Configuration				F2: Previous Values
► USB Configuration			F3:Optimized Defaults		
► Platfo	Platform Trust Technology			F4:Save and Exit	
Security Configuration				ESC Exit	
	Version 2.1	7.1246. Cop	yright (C) 20	14 Americ	an Megatrends , Inc.

3.4.1 ACPI Settings

Enable ACPI Auto Conf:

[Disabled] [Enabled]

Enable Hibernation:

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[Enabled]

[Disabled]

ACPI Sleep State:

[S3 (Suspend to RAM)]

[Suspend Disabled]

Lock Legacy Resources:

[Disabled]

[Enabled]

3.4.2 F81216SEC Super IO Configuration

Super IO chip F81216SEC

Serial Port 1 Configuration

UART1 Mode Selection:

[RS-232]

[RS-485]

[RS-422]

Serial Port 2 Configuration

Change Settings [Auto]

Serial Port 3 Configuration

Change Settings [Auto]

Serial Port 4 Configuration

Change Settings [Auto]

3.4.3 IT8518 Super IO Configuration

Super IO chip IT8518/IT8519 Serial Port 1 Configuration Backlight PWM Controller (COM5) :

[RS-485]

[RS-422]

Serial Port 2 Configuration (COM6)

Change Settings [Auto]

3.4.4 Intel (R) Smart Connect Technology

ISCT Support

[Disabled] [Enabled]

3.4.5 Serial Port Console Redirection

COM0 Console Redirection

[Disabled]

[Enabled]

Console Redirection Settings

Legacy Console Redirection

Legacy Console Redirection settings

Serial Port for Out-of-Band Management/

Windows Emergency Management Services (EMS)

Console Redirection

[Disabled]

[Enabled]

Console Redirection Settings

3.4.6 CPU Configuration

Socket 0 CPU Information

Intel(R) Atom(TM) CPU E3845 @ 1.91GHz

CPU Signature	30679
Microcode Patch	901
Max CPU Speed	1910 MHz
Mix CPU Speed	500 MHz
Processor Cores	4
Intel HT Technology	Not Supported
Intel HT-X Technology	Supported
L1 Data Cache	24KB x 4
L1 Code Cache	32KB x 4
L2 Cache	1024KB x 2
L2 Cache	Not Present

CPU Thermal configuration

CPU Speed	1918 MHz
64-bit	Supported
Hyper-Threading:	

[Enabled] [Disabled] Limit CPUID Maximum:

[Disabled] [Enabled]

Execute Disable Bit:

[Enabled]

[Disabled]

Intel Virtualization Technology:

[Enabled] [Disabled]

Power Technology

[Energy Efficient] [Disabled] [Custom]

3.4.7 PPM Configuration

CPU C State Report

[Enabled] [Disabled]

Max CPU C-state

[C7] [C6] [C1]

SOix

[Disabled] [Enabled]

3.4.8 Thermal Configuration Parameters

3.4.9 IDE Configuration

Serial-ATA(SATA)

[Enabled] [Disabled]

SATA Test Mode

[Disabled] [Enabled]

SATA Speed Support

[Gen2] [Gen1]

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SATA ODD Port	
	[No ODD]
	[Porto ODD]
	[Port1 ODD]
	[Disabled]
SATA Mode	
	[AHCI Mode]
	[IDE Mode]
Serial-ATA Port 0	
	[Enabled]
	[Disabled]
SATA Port0 Hotplug	
	[Disabled]
	[Enabled]
Serial-ATA Port 1	
	[Enabled]
	[Disabled]
SATA Port1 Hotplug	
	[Disabled]
	[Enabled]
SATA Port0	
Not Present	
SATA Port1	
Not Present	

3.4.10 Miscellaneous Configuration



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High Precision Timer [Enabled] [Disabled] Boot Timer with HPET Timer [Disabled] [Enabled] PCI Express Dynamic Clock Gating [Disabled] [Enabled]

OS Selection

Use the **OS Selection** option to select an operating system for the system.



Users must go to this item to select the OS mode before installing corresponding OS driver, otherwise problems will occur when installing the driver.

3.4.11 LPSS & SCC Configuration

LPSS & SCC Configuration	[ACPI Mode]
SCC Configuration	
SCC eMMC Support	[eMMC AUTO MODE]
SCC eMMC 4.5 DDR50 Support	[Enabled]
SCC eMMC 4.5 HS200 Support	[Disabled]
eMMC Secure Erase	[Disabled]
SCC SDIO Support	[Enabled]
SCC SD Card Support	[Enabled]
SDR25 Support for SDCard	[Disabled]
SDR50 Support for SDCard	[Enabled]
MIPI HSI Support	[Disabled]
LPSS Configuration	
LPSS DMA #1 Support	[Enabled]
LPSS DMA #2 Support	[Enabled]
LPSS I2C #1 Support	[Enabled]
LPSS I2C #2 Support	[Enabled]

[Enabled]

[Enabled]

LPSS I2C #3 Support

LPSS I2C #4 Support

LPSS I2C #5 Support	[Enabled]
LPSS I2C #6 Support	[Enabled]
LPSS I2C #7 Support	[Enabled]
NFC	[Disabled]
Touch Pad	[Disabled]
I2C touch Device Address	
LPSS HSUART #1 Support	[Disabled]
LPSS HSUART #2 Support	[Disabled]
LPSS PWM #1 Support	[Enabled]
LPSS PWM #2 Support	[Enabled]
LPSS SPI Support	[Enabled]

3.4.12 System Component

3.4.13 Network Stack Configuration

Network Stack

[Disabled]

3.4.14 CSM Configuration

CSM Support	[Enabled]
CSM16 Module Version	07.76
GateA20 Active	[Upon Request]
	[Always]
Option ROM Messages	[Force BIOS]
	[Keep Current]
Boot option filter	[UEFI and Legacy]
	[Legacy only]
	[UEFI only]
Network	
	[UEFI]
	[Do not launch]
	[Legacy]
Storage	
	[UEFI]
	[Do not launch]
	[Legacy]
Video	
	[Legacy]
	[UEFI]

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[Do not launch]

Other PCI devices

[UEFI] [Do not launch] [Legacy]

3.4.15 SDIO Configuration

3.4.16 USB Configuration

USB Configuration	
USB Module Version 8.11.02	
USB Devices:	
1 keyboard, 1 Mouse,2 Hu	bs
Legacy USB Support:	
	[Enabled]
	[Disabled]
XHCI Hand-off:	
	[Enabled]
	[Disabled]
EHCI Hand-off:	
	[Disabled]
	[Enabled]
USB Mass Storage Driver Suppor	t
	[Enabled]
	[Disabled]
USB hardware delays and time-o	uts:
USB transfer time-out:	
	[20 sec]
	[10 sec]
	[5 sec]
	[1 sec]
Device reset time-out:	
	[20 sec]
	[10 sec]
	[30 sec]
	[40 sec]
Device power-up delay	
	[Auto]
	[Manual]

3.4.17 Platform Trust Technology

3.4.18 Security Configuration

3.5 Chipset Settings

	Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.				
Main	Advanced	Chipset	Security	Boot	Save & Exit
					Host Bridge Parameters
► Host I	Bridge				
South	Bridge				
					→←: Select Screen
					↑↓ : Select Item
					Enter: Select
					+/- : Charge Opt.
					F1 : General Help
					F2: Previous Values
					F3:Optimized Defaults
					F4:Save and Exit
					ESC Exit
	Version 2.17.1246. Copyright (C) 2014 American Megatrends , Inc.				

3.5.1 Host Bridge

Intel IGD Configuration	
► IGD – LCD Control	
Force Lid Status	[On]
	[Off]
BIA	[Auto]
ALS Support	[Disabled]
IGD Flat Panel	[Auto]
Pannel Scaling	[Auto]
Memory Frequency and Ti	ming
Graphics Power Managem	ent Control
Memory Information	
Total Memory	4096 MB(DDR3L)
Memory Slot0	4096 MB(DDR3L)
DIMM#1	Not Present

Max TOLUD

[Dynamic]

[2GB] [2.25GB] [2.5GB] [2.75GB] [3GB]

3.5.2 South Bridge

- ► Azalia HD Audio
- USB Configuration

USB OTG Support	[Disabled]
USB VBUS	[On]
XHCI Mode	[Smart Auto]
USB2 Link Power Management	[Enabled]
USB 2.0(EHCI) Support	[Enabled]
USB EHCI debug	[Disabled]
USB Per Port Control	[Enabled]
USB Port 0	[Enabled]
USB Port 1	[Enabled]
USB Port 2	[Enabled]
USB Port 3	[Enabled]

3.6 Security Settings

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.				
Main Advanced	Chipset	Security	Boot	Save & Exit
Password Description	า			Set Administrator Password
If ONLY the Administr	ator's pass	word is set,		
Then this only limits a	access to Se	etup and is		
Only asked for when	entering Se	tup.		
If ONLY the User's pa	assword is s	et, then this		
Is a power on passwo	ord and mus	t be entered	to	
Is a power on passwo	ord and mus	t be entered	to	
Boot or enter Setup. I	n Setup the	User will		→←: Select Screen
Have Administrator rig	ghts.			1↓ : Select Item
The password length	must be			Enter: Select
In the following range	e -			+/- : Charge Opt.
Minimum length	3			F1 : General Help
Maximum length	20			F2: Previous Values
				F3:Optimized Defaults
Administrator Passwo	ord			F4:Save and Exit
User Password				ESC Exit
Secure Boot menu				
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3.6.1 Administrator Password



3.6.2 User Password



Type the password with up to 20 characters and then press *<*Enter*>* key. This will clear all previously typed CMOS passwords. You will be requested to confirm the password. Type the password again and press *<*Enter*>* key. You may press *<*Esc*>* key to abandon password entry operation.

To clear the password, just press *<*Enter key when password input window pops up. A confirmation message will be shown on the screen as to whether the password

will be disabled. You will have direct access to BIOS setup without typing any password after system reboot once the password is disabled.

Once the password feature is used, you will be requested to type the password each time you enter BIOS setup. This will prevent unauthorized persons from changing your system configurations.

Also, the feature is capable of requesting users to enter the password prior to system boot to control unauthorized access to your computer. Users may enable the feature in Security Option of Advanced BIOS Features. If Security Option is set to System, you will be requested to enter the password before system boot and when entering BIOS setup; if Security Option is set to Setup, you will be requested for password for entering BIOS setup.

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc.				
Main Advanced Ct	nipset Security	Boot	Save & Exit	
Boot Configuration			Number of seconds toWait for	
Setup Prompt Timeout			Setup Activation key.	
Bootup Numlock State	[On]		65535(0xFFFF)means Indef	
			inite waiting.	
Quiet Boot	[Disabled]			
Fast Boot	[Enabled]			
Boot Option Priorities			→ —: Select Screen	
Boot Option #1	[UEFI:Built-ir	n EFI]	1↓ : Select Item	
			Enter: Select	
			+/- : Charge Opt.	
			F1 : General Help	
			F2: Previous Values	
			F3:Optimized Defaults	
			F4:Save and Exit	
			ESC Exit	
Version 2.17.1	246. Copyright (C)	2014 America	n Megatrends , Inc.	
Setu	o Prompt Timeo	ut	[1]	
Boot	un Numlock Stat		[-]	
BOOL			[0.1	
			[On]	
			[off]	
Quie	t Boot			
			[Disabled]	
			-	

3.7 Boot Settings

[Enabled]

Fast Boot

[Disabled] [Enabled]

Boot Option Priorities Boot Option #1 Hard Drive BBS Priorities [SATA PM:*** ...] Boot Option #1 SATA PM:***... ****** Disabled

3.8 Save & Exit Settings

Aptio Setup	Utility – Copy	right (C)	2014 Americ	an N	legatrends, Inc.	
Main Advanced	Chipset	Boot	Security		Save & Exit	
Save Changes and	l Exit				Exit system setu	o after
Discard Changes a	nd Exit				Saving the chang	jes.
Save Changes and	Reset					
Discard Changes a	nd Reset					
Save Options						
Save Changes						
Discard Changes						
Restore Defaults					→←: Select Scre	en
Save user Defaults					↑↓ : Select Item	1
Restore user Defau	Its				Enter: Select	
					+/- : Charge Opt.	
Boot Override					F1 : General Hel	р
UEFI:Built-in EFI SI	nell				F2: Previous Valu	les
					F3:Optimized De	faults
Launch EFI Shell fr	om filesystem	device			F4:Save and Exit	t
					ESC Exit	
Reset System wit	h ME disable I	ModeMEU	D000			
Version 2.1	7.1246. Copyr	ight (C) 2	014 America	n Me	egatrends , Inc.	

Save Changes and Exit

Save & Exit Setup save Configuration and exit?

[Yes] [No]

Discard Changes and Ext	
Exit Without Saving Quit without saving?	
	[Yes]
	[No]
Save Changes and Reset	
Save & reset Save Configuration and reset?	
<u> </u>	[Yes]
	[No]
Discard Changes and Reset	[]
Reset Without Saving Reset without saving?	
Reset Without Suving Reset Without Suving.	[Ves]
	[No]
Save Changes	
Save Changes	
Save Setup values save computation?	[]/[]
	[Yes]
	[NO]
Discard Changes	
Load Previous Values Load Previous Values?	
	[Yes]
	[No]
Restore Defaults	
Load Optimized Defaults Load optimized Defaults	?
	[Yes]
	[No]
Save user Defaults	
Save Values as User Defaults Save configuration?	
	[Yes]
	[No]
Restore user Defaults	
Restore User Defaults Restore User Defaults?	
	[Yes]
	[No]
Launch EFI Shell from filesystem device	
WARNING Not Found	
	[ok]
Reset System with MF disable ModeMFUD000	[~]
MF will runs into the temporary disable mode. Jar	ore if MF Ignition
EW/MELID001	

Chapter 4 Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows 7. The software and drivers are included with the motherboard. The contents include Intel chipset driver, VGA driver, LAN drivers, Audio driver, USB 3.0 driver, and Com driver Installation instructions are given below.

Important Note:

After installing your Windows operating system, you must install first the Intel Chipset Software Installation Utility before proceeding with the installation of drivers.

Drivers CD	al Par		×
	WIN7 - D	RIVER	
	DRIVERS	Intel(R) AtomTM SoC Chipset Intel(R) VGA Chipset Intel(R) 82574L LAN Driver Realtek ALC662 HD Audio Driver USB 3.0 Driver Touch Panel Driver Com Driver	Ð
	OTHERS	User Manual	
		View	IT

4.1 Intel(R) AtomTM SoC Chipset

To install the Intel chipset driver, please follow the steps below.

Step 1. Select Intel (R) AtomTM SoC Chipset from the list





Intel® Chipset Device Software		
Intel® Chipset Device Soft	ware	intel
Welcome to the Setup Program		
This setup program will install the Intel® Chipse strongly recommended that you exit all program	t Device Software onto t is before continuing,	this computer. It is
	< Back Nex	t > <u>C</u>ancel ® Installation Framework

Step 3. Read the license agreement. Click **Yes** to accept all of the terms of the license agreement.



Step 4. Click Next to continue.



Step 5. Click Next.



Step 6. Select **Yes, I want to restart this computer now**. Click **Finish**, then remove any installation media from the drives.



4.2 Intel(R) VGA Chipset

To install the VGA drivers, follow the steps below to proceed with the installation.

Step 1.Select Intel(R) VGA Chipset



Step 2. Click **Automatically run WinSAT and enable the Windows Aero desktop theme(if supported).** Click **Next.**

Intel® Installation Framework	
Intel® Graphics Driver	
Welcome to the Setup Program	(intel)
This setup program will install the following comp - Intel® Graphics Driver - Intel® Display Audio Driver	inents:
It is strongly recommended that you exit all prog	rams before continuing. Click Next to continue.
Automatically run WinSAT and enable the Wir	dows Aero desktop theme (if supported).
	< Back Next > Cancel

Step 3. Read license agreement. Click Yes.

ntel® Installation Framework	
Intel® Graphics Driver	
License Agreement	(intel)
You must accept all of the terms of the license agreement in order to program. Do you accept the terms?	o continue the setup
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution	on & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not use or load this software and any associated materials (colle- until you have carefully read the following terms and conditions. By Software, you agree to the terms of this Agreement. If you do not install or use the Software.	ctively, the "Software") loading or using the wish to so agree, do not
Please Also Note: * If you are an Original Equipment Manufacturer (OEM), Independen (IHV), or Independent Software Vendor (ISV), this complete LICENS * If you are an End-User, then only Exhibit A, the INTEL SOFTWARD	nt Hardware Vendor E AGREEMENT applies; E LICENSE AGREEMENT,
< Back	Yes <u>N</u> o

Step 4. Click Next.

Intel® Installation Framework	
Intel® Graphics Driver	
Readme File Information	(intel)
Refer to the Readme file below to view the system requirements and instal	llation information.
Release Notes for the Intel(R) Embedded Media and Graphics Drivers (Intel(R) EMGD) Gold 2 Production Version 36.15.0.xxxx(32-bit) and 37.15.0.xxxx(64-bit) (where xxxx = build version number) release for Windows* 7/Windows Embedded Standard* 7 with production license	
	₊
Seck Next	:> Cancel

Step 5. Click Install.

• Windows Security	X
Would you like to install this device software?	
Name: Intel(R) Corporation Sound, video and ga Publisher: Intel Corporation - Software and Firmwar	
Always trust software from "Intel Corporation - Software and Firmwar".	Install Don't Install
You should only install driver software from publishers you trust. Ho safe to install?	ow can I decide which device software is

Step 6. Click Install.



Step 7. Click Next.

tel® Installation	Framework	
ntel® Gra	ohics Driver	
etup Progr	ess	intel
Please wait while	the following setup operations are performed	i:
Creating Proces Deleting File: C: Deleting File: C: Click Next to co	:: D:\2-VGA\Intel_VGA(Win7)\32\ICCS\SetupI ProgramData\Microsoft\Windows\Start Menu\ ProgramData\Microsoft\Windows\Start Menu\ ProgramData\Microsoft\Windows\Start Menu\ ProgramData\Microsoft\Windows\Start Menu\ Users\Public\Desktop\Intel(R) HD Graphics Co Users\Public\Desktop\Intel(R) Graphics and M ProgramData\Microsoft\Windows\Start Menu\ Users\Public\Desktop\Intel(R) Iris(TM) Graphic Users\Public\Desktop\Intel(R) Graphics and M More the the the the the the the the the th	CCS.exe \Programs\Intel\Intel(R) HD Graphics \Programs\Intel(R) HD Graphics \Programs\Intel(R) Graphics and \Programs\Intel\Intel(R) Graphic ontrol Panel.lnk Iedia Control Panel.lnk \Programs\Intel\Intel(R) Iris(TM) cs Control Panel.lnk Iedia Control Panel.lnk
< 12	- Mi	
		Next >

Step 8. Click Yes, I want to restart this computer now. Then click Finish.



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4.3 Intel(R) LAN Driver

To install the Intel (R) LAN driver, please follow the steps below.

Step 1. Select Intel(R) 82574L LAN Driver from the list.



Step 2. . Click Next.



Step 3. Read license agreement. Click I accept the terms in the license agreement.

~	: - 1.		
()	ICK	· IN	eyt.
~	IUN		CAL:

討 Intel(R) Network Connections Install Wizard	-
License Agreement Please read the following license agreement carefully.	
INTEL SOFTWARE LICENSE AGREEMENT IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING. Do not copy, install, or use this software and any associated materials (collectively, the "Software") provided under this license agreement ("Agreement") until you have carefully read the following terms and cond By copying, installing, or otherwise using the Software, you agree to be b the terms of this Agreement. If you do not agree to the terms of this Agree	litions.
I accept the terms in the license agreement ○ I do not accept the terms in the license agreement < Back	Print Cancel

Step 4. Click Next to continue.

Intel(R) Network Connections	X
Setup Options Select the program features you want installed.	intel
Install: Drivers Intel(R) PROSet for Windows* Device Manager Advanced Network Services Windows* PowerShell Module Intel(R) Network Connections SNMP Agent	
Feature Description	Next > Cancel

Step 5. Click Install to begin the installation.

📅 Intel(R) Network Connections Install Wizard	—
Ready to Install the Program	(intal)
The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your installation settings, dick Back. Click exit the wizard.	Cancel to
< <u>B</u> ack Install	Cancel

Step 6. Click Finish to exit the wizard.



4.4 Realtek ALC662 HD Audio Driver Installation

To install the Realtek ALC662 HD Audio Driver, please follow the steps below. **Step 1.** Select **Realtek AL662 HD Audio Driver** from the list







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Step 3. Click **Yes, I want to restart my computer now**. Click **Finish** to complete the installation.



4.5 USB 3.0 Driver

To install the USB 3.0 Driver, please follow the steps below.

Step 1. Select USB 3.0 Driver from the list



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Step 2. Click Next to continue.



Step 3. Read the license agreement. Then click Yes to continue.



Step 4. Click Next to continue.



Step 5. Click Next to continue.



Step 6. Select **Yes, I want to restart this computer now.** Then click **Finish** to complete the installation.



4.6 Com Driver

To install the Com Driver, please follow the steps below.

Step 1. Select Com Driver from the list



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Step 2. Click Next to continue.



Step 3. Click install to begin the installation.

😥 Nuvoton Communcations Port 32-bits Driver - InstallShield Wizard	
Ready to Install the Program The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.	
InstallShield <u>< B</u> ack Install Cancel	



Step 4. Click Finish to complete the installation.

Chapter 5 Touch Screen Installation

This chapter describes how to install drivers and other software that will allow your touch screen work with different operating systems.

5.1 Windows 7/8.1 Universal Driver Installation for

PenMount 6000 Series

Before installing the Windows 7/8.1 driver software, you must have the Windows 7/8.1 system installed and running on your computer. You must also have one of the following PenMount 6000 series controller or control boards installed: PM6500, PM6300.

5.1.1 Installing Software(Resistive Touch)

If you have an older version of the PenMount Windows 7 driver installed in your system, please remove it first. Follow the steps below to install the PenMount DMC6000 Windows 7 driver.

Step 1. Insert the product CD, the screen below would appear. Click **Touch Panel Driver.**



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Step 2. Click Next to continue.



Step 3. Read the license agreement. Click I Agree to agree the license agreement.

PenMount Windows Universal Driver V2.4.2.325 Setup		
License Agreement Please review the license terms before installing PenMount Windows Universal Driver V2.4.2.325.		
Press Page Down to see the rest of the agreement.		
PLEASE READ THE LICENSE AGREEMENT		
PenMount touch screen driver software is only for using with		
Any person or company using a PenMount driver on any piece of		
will be prosecuted to the full extent of the law.		
I If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install PenMount Windows Universal Driver V2.4.2.325.		
Nullsoft Install System v2,46		
< <u>B</u> ack I <u>Ag</u> ree Cancel		

Step 4. Choose the folder in which to install PenMount Windows Universal Driver. Click **Install** to start the installation.

PenMount Windows Universal Driver V2.4.2.325 Setup
Choose Install Location Choose the folder in which to install PenMount Windows Universal Driver V2.4.2.325.
Setup will install PenMount Windows Universal Driver V2.4.2.325 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder C:\Program Files (x86)\PenMount Windows Universal Driver Browse
Space required: 0.0KB Space available: 136.8GB
Nullsoft Install System v2.46

Step 5. Click Yes to continue.






5.1.2 Installing Software (Projected Capacitive)

Step 1. Insert the product CD, the screen below would appear. Click touch panel driver.



Step 2. Click Next to continue.



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Step 3. Select I accept the terms of the license agreement. Click Next.

eGalaxTouch
License Agreement
Please read the following license agreement carefully.
Declaration and Disclaimer
The programs, including but not limited to software and/or firmware (hereinafter referred to "Programs" or "PROGRAMS"), are owned by eGalax_eMPIA Technology Inc. (hereinafter referred to EETI) and are compiled from EETI Source code. EETI hereby grants to licensee a personal, non-exclusive, non-transferable license to copy, use and create derivative works of Programs for the sole purpose in conjunction with an EETI Product, including but not limited to integrated circuit and/or controller. Any reproduction, copies, modification, translation, compilation, application, or representation of Programs except as specified above is prohibited without the express written permission by EETI.
 I accept the terms of the license agreement ☐ I do not accept the terms of the license agreement
InstallShield
< <u>B</u> ack <u>N</u> ext > Cancel

Step.4. Click Next to continue.

eGalaxTouch	×
Setup Туре	
Select the setup type that best suits your needs.	
Extra PS/2 interface driver for eGalaxTouch controller. Please check the check box for PS/2 touch controller.	
Install PS/2 interface driver	
InstallShield	
< <u>B</u> ack <u>N</u> ext > Cancel]

Step 5. Click Install RS232 interface driver.

eGalaxTouch
Setup Type Select the setup type that best suits your needs.
Extra RS232 interface driver for eGalaxTouch controller. Please check the check box for RS232 touch controller. Install RS232 interface driver
InstallShield <u>< B</u> ack <u>N</u> ext > Cancel

Step 6. Select None. Click Next.

eGalaxTouch	×
Setup Type	
Select the setup type that best suits your needs.	
Do 4 point calibration after system reboot	
O E very system boot up	
O Next system boot up	
⊙ None	
InstallShield	
<u>A Back</u> <u>Next</u> Cancel]



eGalaxT	iouch - InstallShield Wizard
(į)	If you are trying to install the USB touch device, please make sure that your touch monitor or touch controller's USB cable is plugged into the computer now. Please close the "Found New Hardware Wizard" dialog when it appears.
	ОК

Step 8. Click Support Muti-Monitor System. Click Next.



Step 9. Go to C:\Program Files\eGalaxTouch. Click Next.

eGalaxTouch	×
Choose Destination Location	
Select folder where setup will install files.	
Setup will install eGalaxTouch in the following folder.	
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.	
← Destination Folder	
C:\Program Files\eGalaxTouch Browse	
InstallShield	
< <u>B</u> ack <u>N</u> ext > Cancel	

Step 10. Click Next.

eGalaxTouch	×
Select Program Folder Please select a program folder.	
Setup will add program icons to the Program Folder listed below. You may type a new for name, or select one from the existing folders list. Click Next to continue. Program Folder: eGalaxTouch Existing Folders: Accessories Administrative Tools	
Games Startup	
InstallShield <u>Kack N</u> ext > C	ancel

Step 11. Click Create a eGalaxTouch Utility shortcut on desktop. Click Next.

eGalaxTouch	×
Setup Type Select the setup type that best suits your needs.	
Select the features you want to install, and deselect the features you do not want to install. Click Next to continue. Create a eGalaxTouch Utility shortcut on desktop	
InstallShield]

Step 12. Wait for installation.

eGalaxTouch	×
Setup Status	P.
eGalaxTouch is configuring your new software installation.	
C:\Program Files\eGalaxTouch\msvcrt.dll	
InstallShield	
	Cancel

Step 13. Click Yes to do 4 point calibration.

Questio	n 🛛 🔀
2	The eGalaxTouch driver has been installed, before operating touch function, please do 4 point calibration. Would you do 4 point calibration now ?
	<u>Y</u> es <u>N</u> o

5.2 Software Functions

5.2.1 Software Functions(Resistive Touch)

Upon rebooting, the computer automatically finds the new 6000 controller board. The touch screen is connected but not calibrated. Follow the procedures below to carry out calibration.

- 1. After installation, click the PenMount Monitor icon "PM" in the menu bar.
- 2. When the PenMount Control Panel appears, select a device to "Calibrate."

PenMount Control Panel(Resistive Touch)

The functions of the PenMount Control Panel are **Device**, **Multiple Monitors**, **Tools** and **About**, which are explained in the following sections.

Device

In this window, you can find out that how many devices be detected on your system.

RenMount Control Panel	
Device Multiple Monitors Tools About	1
Select a device to configure.	
PenMount	
6000 USB	
Configure Refresh	
	ок

Calibrate

This function offers two ways to calibrate your touch screen. 'Standard Calibration' adjusts most touch screens. 'Advanced Calibration' adjusts aging touch screens.

Standard Calibration	Click this button and arrows appear pointing to red	
	squares. Use your finger or stylus to touch the red	
	squares in sequence. After the fifth red point calibration	
	is complete. To skip, press 'ESC'.	
Advanced Calibration	Advanced Calibration uses 4, 9, 16 or 25 points to	
	effectively calibrate touch panel linearity of aged touch	
	screens. Click this button and touch the red squares in	
	sequence with a stylus. To skip, press ESC'.	

Step 1. Please select a device then click "Configure". You can also double click the device too.

evice Multiple Monitors Tools About	
Select a device to configure.	
6	
PenMount 6000 USB	
Configure Refresh	
	1





NOTE: The older the touch screen, the more Advanced Mode calibration points you need for an accurate calibration. Use a stylus during Advanced Calibration for greater accuracy. Please follow the step as below:



Step 3. Select Device to calibrate, then you can start to do Advanced Calibration.





Plot Calibration Data	Check this function and a touch panel linearity
	comparison graph appears when you have finished
	Advanced Calibration. The blue lines show linearity
	before calibration and black lines show linearity after
	calibration.
Turn off EEPROM	The function disable for calibration data to write in
storage	Controller. The default setting is Enable.

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Setting

🗶 Device 0 (PenMount 6000 US	B)	
Calibrate Setting Edge Comper	nsation About	1
Operation Mode	Mouse Emulation	
Eeep Sound	Kind of Sound	Buzzer Beep 💌
Beep Mode Beep on pen d <u>o</u> wn Beep on pen yp Beep on both	Beep Frequency Beep Duration	1000 Hz 1000 ms
Cursor Stabilizer You can use Cursor Stabilizer to remove jitter of cursor.	Use press and hold as Delay:	s right click 2.0 sec
	Back to	Defaul <u>t</u> OK

Touch Mode	This mode enables and disables the mouse's ability to drag
	on-screen icons – useful for configuring POS terminals.
	Mouse Emulation – Select this mode and the mouse
	functions as normal and allows dragging of icons.
	Click on Touch – Select this mode and mouse only provides a
	click function, and dragging is disables.
Beep Sound	Enable Beep Sound – turns beep function on and off
	Beep on Pen Down – beep occurs when pen comes down
	Beep on Pen Up – beep occurs when pen is lifted up
	Beep on both – beep occurs when comes down and lifted up
	Beep Frequency – modifies sound frequency
	Beep Duration – modifies sound duration
Cursor Stabilizer	Enable the function support to prevent cursor shake.
Use press and	You can set the time out and area for you need.
hold as right click	

Edge Compensation

You can use Edge Compensation to calibrate more subtly.



About

This panel displays information about the PenMount controller and driver version.

🟒 Device 0 (PenMo	unt 6000 USB)		J
Calibrate Setting	Edge Compensation About		
	PenMount 6000 USB (10-bit)		
~	Driver Version	2.4.2	
	Firmware Version	6000.6.0.0	
	Firmware Config Data	2,36864,852,32,7,500,12	
		ОК	i

Multiple Monitors

Multiple Monitors support from two to six touch screen displays for one system. The PenMount drivers for Windows 7/8.1 support Multiple Monitors. This function supports from two to six touch screen displays for one system. Each monitor requires its own PenMount touch screen control board, either installed inside the display or in a central unit. The PenMount control boards must be connected to the computer COM ports via the USB interface. Driver installation procedures are the same as for a single monitor. Multiple Monitors support the following modes:

Windows Extends Monitor Function Matrox DualHead Multi-Screen Function nVidia nView Function

NOTE: The Multiple Monitor function is for use with multiple displays only. Do not use this function if you have only one touch screen display. Please note once you turn on this function the rotating function is disabled.

Enable the multiple display function as follows:

1. Check the **Enable Multiple Monitor Support** box; then click **Map Touch Screens** to assign touch controllers to displays.

Nount Control Panel	
Device Multiple Monitors Tools About]

- 2. When the mapping screen message appears, click OK.
- 3. Touch each screen as it displays "Please touch this monitor". Following this sequence and touching each screen is called **mapping the touch screens.**



- 4. Touching all screens completes the mapping and the desktop reappears on the monitors.
- 5. Select a display and execute the "Calibration" function. A message to start calibration appears. Click **OK**.



- 6. "Touch this screen to start its calibration" appears on one of the screens. Touch the screen.
- 7. "Touch the red square" messages appear. Touch the red squares in sequence.
- 8. Continue calibration for each monitor by clicking **Standard Calibration** and touching the red squares.

NOTES:

- 1. If you use a single VGA output for multiple monitors, please do not use the **Multiple Monitor** function. Just follow the regular procedure for calibration on each of your desktop monitors.
- 2. The Rotating function is disabled if you use the Multiple Monitor function.
- 3. If you change the resolution of display or screen address, you have to redo **Map Touch Screens,** so the system understands where the displays are.

About

This panel displays information about the PenMount controller and this driver version.

PenMount C	ontrol Pane	l		
Calibrate Draw	Multiple Moni	tors Op	otion Abou	at]
	PenMount DM	C9000 a	nd DMC910	0
	Driver Ver	rsion	4.01	
	Firmware	Version		
	A1.2 A2.0	0 (COM1 0 (COM2	@19200bp @19200bp	s] s]
E-mail : <u>salt</u>	@salt.com.tw	Web	site : <u>www.s</u>	alt.com.tw
	Copyright(C) 2	:003 Sali	Int'l Corp.	

PenMount Monitor Menu Icon

The PenMount monitor icon (PM) appears in the menu bar of Windows 7/8.1 system when you turn on PenMount Monitor in PenMount Utilities.

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PenMount Monitor has the following function



Control Panel	Open Control Panel Windows
Веер	Setting Beep function for each device
Right Button	When you select this function, a mouse icon appears in the right-bottom of the screen. Click this icon to switch between Right and Left Button functions.
Exit	Exits the PenMount Monitor function.

Configuring the Rotate Function

- 1. Install the rotation software package.
- 2. Choose the rotate function (0°, 90°, 180°, 270°) in the 3rd party software. The calibration screen appears automatically. Touch this point and rotation is mapped.

Please tout	ch the point			

NOTE: The Rotate function is disabled if you use Monitor Mapping

5.2.2 Software Functions(Projected Capacitive)

General

In this window, you can see there is USB Controller. Click **OK** to continue.

😪 eGalaxTouch : USB Controller	×
General Setting Tools Display Hardware About	
Installed Touchscreen Controllers	
<u> </u>	_
USB Controller	
Monitor	
Mapping Add Remove	
OK Cancel A	pply

Monitor Mapping

to adjust touch panel

Add

to search for device

Setting

🖻 eGalaxTouch : USB Controller	$\mathbf{\times}$
General Setting Tools Display Hardware About	
Beep Frequency ✓ Beep On Touch □ Beep On Release ✓ Beep From System Beep □ Beep From Sound Card	
Linearization Style © 9 Points © 25 Points	
Double Click Time Shorter<	
Double Click Area Smaller<	
Normal Mode Option	
OK Cancel Apply	

Веер

- Beep On Touch
- Beep On Release
- Beep From System Beep
- Beep From Sound Card

Linearization Style

- 9 points
- 25 points

Double Click Time

Shorter

Longer

Double Click Area

Smaller

Bigger

Normal mode

Simulate the mouse mode

Option 🛛
Option
Function Enable Constant Touch Enable Auto Right Click Enable Touch Enable Cursor Stabilization Constant Touch Area
Smaller<<>Bigger
Auto Right Click Time 1000 ms
Shorter<< >>Longer
OK Cancel Apply

Option

Function Enable Constant Touch Enable Auto Right Click Enable Touch Enable Cursor Stabilization Constant Touch Area Auto Right Click Time

Tools

Click **OK** to continue the settings.

🖻 eGalaxTouch : US	B Controller	×
General Setting Tool	Display Hardware About	
Linearization Curve		
4 Points Calibration		
Clear and Calibrate	Clear linearization parameter and do 4 points alignment.	
Linearization	Do 9 points linearization for better touchscreen linearity.	
Draw Test	Do draw test to verify the touch accuracy.	
	OK Cancel Apply	

4 Points Calibration

Do 4 points alignment to match display.

Clear and Calibrate

Clear linearization parameter and do 4 points alignment.

Linearization

Do 9 points linearization for better touchscreen linearity.

Draw Test

Do draw test to verify the touch accuracy.

Display

In this window, it shows the mode of display.

🖻 eGalaxTouch : USB Controller	×
General Setting Tools Display Hardware About	
Display	
Double click on the monitor area to map the touchscreen to the display monitor. I Enable Multiple Monitors.	
Map to main display if system has only one display monitor.	
Operation Mode	
Full Screen C Lower Screen C Left Screen	
C Upper Screen C Right Screen Other	
OK Cancel <u>A</u> pply	

Enable Multiple Monitors.

Map to main display if system has only one display monitor

Full Screen Lower Screen Left Screen Upper Screen Right Screen

Other		
Other Active Area		
Other		
C Quarter 1	C Quarter 3 C	Customized
C Quarter 2	C Quarter 4	
Customized Area800 × 4	80	
Left 0	Тор	
Right 800	Bottom 480	
Drag W	/orking Area	
	ОК	Cancel Apply

Other

Other mode of display. Quarter1~4 and Customized area.

Other				×
Other Active Area				
Active Area				
🗐 Enable The Active Area	a Function.			
Active Area List	Left 0	T	op 0	
1 💌	Right 0	В	ottom 0	
Drag Active Are	a			
		. 1	1	
		К	Cancel App	yly

Active Area

Drag active area to enable Active Area Function.

Hardware

🖻 eGalaxTouch : USB Controller 🛛 🔀
General Setting Tools Display Hardware About
Controller Model PCAP7200 Series
Firmware Version 1030
Hardware Calibration
OK Cancel <u>A</u> pply

Saturn Hardware Configuration

Saturn - Hardware Configuration		
Saturn		
Saturn - Hardware Configuration		
Sensitivity 128		
Delay Time 800 us Shorter<		
Reset all of the control parameters to factory default setting.		
OK Cance	el 🛛	

About

To display information about eGalaxTouch and its version.

ବ eGalaxTouch : U	SB Controller	X
General Setting Too	ols Display Hardware About	
	Touch Screen Utility	
	Copyright (C) 2000-2011	
eGalaxTouch	eGalax_eMPIA_TechnologyInc.	
	Version 5.11.0.9126	
We provide a full ra both analog resistiv	nge of controllers for e and capacitive touch panels.	
The resistive contro through RS232, PS	iller communicates with the PC system directly /2 or USB port.	
The design is optim performance as wel	ized for an accurate, sensitive and quick touch II as an ease of use interface.	
The driver supports i.e. Windows(R) 20	a set of operating systems, 00 / Windows(R)XP , Windows Vista(R), Wind	
	~	
<		
	OK Cancel <u>Apply</u>	,