

PC 9XX0 Industrial Panel PC

User Manual

PC 9XX0: 7 / 8 / 12 / 15" Industrial Panel PC with Dual-Core N2600 1.6GHz Processor





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.

Disclaimer

This information in this document is subject to change without notice. In no event shall Acnodes Corp. 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

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 Specifications

	PC 9070	PC 9080	PC 9120	PC 9150
System				
CPU	Atom Cedar View N260	Atom Cedar View N2600 1.6GHz Dual Core Processors		
System Chipset	NM10			
System Memory	Onboard DDR3 2GB 80	0 MHz		
IO Port				
USB	2 x USB 2.0 type A, US	B4/5		
Serial/Parallel	1 x RS-232/422/485 DB	-9, COM1, Default RS-23	2	
	1 x RS-232 DB-9, COM	2		
Audio	1 x Line out phone jack			
LAN	2 x GbE RJ-45			
Power	3 pins terminal block co	nnector, DC Power input		
Storage Space				
HDD	1 x 2.5" SATA 2 half size 1 x 2.5" SATA 2			
Movable device	1 x Internal SD slot 1 x Internal SD slot			
Expansion				
On board	1 x Mini-PCIe half size			
expansion bus				
Display				
Display Type	7" TFT-LCD	8"TFT-LCD	12.1"TFT-LCD	15"TFT-LCD
Max. Resolution	800x480	800x600	800x 600	1024x768
Max. Color	262K	16.2M	16.2M	16.2M
Luminance	350	350	330	400
(cd/m ²)				
View	140/110	140/125	160/140	160/145
angle(H°/V°)				
Touch screen				
Туре	Resistive Touch / Projected Capacitive Touch (Option)			
Interface		RS-23	2 / USB	
Light	80% / 90%			
Transmission(%)				

Power				
Power Input	9~36V DC			
Mechanical				
Construction	Sliver aluminum front bezel and chassis			
IP Rating		IP65 front panel		
Mounting		Panel moun	ing, VESA 75 x 75	
Dimension (mm)	202 x 149 x 39	231 x 176 x 51	319 x 245 x 51.68	410 x 310 x 54.67
Net Weight (Kgs)	2.3	3.2	4.0	6.3
Environmental				
Operatiing			0~50°C	
temperature(°C)				
Storage	-20~60°C			
temperature(°C)				
Storage humidity	10 to 90% @ 40°C, non- condensing			
Certification	CE / FCC Class A			
Operating	Windows XP pro, Windows XP Embedded, Windows Embedded CE6.0(Note 1), Windows 7 pro for			
System Support	Embedded Windows Embedded standard 7(Win 7 support 3D Graphic function)			

Note 1: PC9XX0 series is covered by one or more of the following patents: US6, 570, 884, US6,115,776, and US6,327,625.

1.2 Dimensions



Figure 1.1: Dimensions of PC9070



Figure 1.2: Dimensions of PC9080



Figure 1.3: Dimensions of PC9120



Figure 1.4: Dimensions of PC9150

1.3 Brief Description of PC9XX0 SERIES

There are 7", 8", 12",15" Industrial Compact Size Panel PC in PC9XX0 series, which comes with flat front panel touch screen and fanless design. It is powered by an Intel Atom N2600 1.6GHz CPU built-in, 2GB DDR III 800 MHz. PC9XX0 series is 9~36VDC wide-ranging power input and IP65 compliant front panel. Optional projected capacitive touchscreen support 7H anti-scratch surface is ideal for use as a PC-based controller for Industrial Automation & Factory Automation.



Figure 1.5: Front View of PC9XX0 SERIES



Figure 1.6: Rear View of PC 9070 / PC 9080



Figure 1.7: Rear View of PC 9120/ PC 9150

1.4 Installation of HDD(PC9070/PC9080)







Installation of HDD(PC 9120 / PC 9150)

Step 1

There are 2 screws to deal with when enclosing or removing the chas sis. Gently remove 2 screws.





Chapter 2_____

2.1 Mainboard

Specifications				
Board Size	170mm x 113mm			
CPU Support	Atom N2600 /1.60GHz			
Chipset	NM10 Express			
Memory	Onboard 2GB DDRIII SDRAM			
Support				
Graphics	Integrated GMA 3600 (N2600)			
Display Mode	1 x CRT Port			
	1 x LVDS1 (18/24-bit single LVDS)			
Support	Up to 1920 x1200 for CRT			
Resolution	Up to 1366 x768 for LVDS1 (N2600)			
Dual Display	CRT+LVDS1			
Super I/O	Winbond W83627UHG-E			
BIOS	AMIBIOS			
Storage	1 x SATA Connector (7P)			
	1 x SATA Connector (7P+15P)			
	1 x SD Socket (USB to SD)			
Ethernet	2 x PCIe GbE LAN by Realtek RTL8111E			
	2 x USB 2.0 (type A)stack ports (USB4/USB5)			
	2 x USB 2.0 Pin header via CN3 (USB2/USB3)			
USB	2 x USB 2.0 Pin header via CN1 (USB0/USB1)			
	Mini-PCIe(USB7)			
	1 x PS 222/PS 422/PS 495 DP0 connector for outernal			
	(COM1)			
	pin 9 w/5V/12V/Ring select			
Serial	1 x RS232 port, DB9 connector for external (COM2)			
	pin 9 w/5V/12V/Ring select			
	1 x RS422/485 header via CN2 (COM3)			
	2 x UART via CN3 (COM5,COM6)			
Digital I/O	8-bit digital I/O Pin header via CN2			

	4-bit digital Input			
	4-bit digital Output			
	4-bit digital I/O Pin header via CN3			
	2-bit digital Input			
	2-bit digital Output			
Battery	Support CR2477 Li battery by 2-pin header			
Audio	Realtek ALC662 HD audio codec			
	Line-in, Line-out, MIC via 2x6-pin header			
	Audio Line out in phone jack			
Keyboard	1 x PS2 keyboard/mouse 1x6 box pin header via CN3			
/Mouse				
Expansion Bus	1 x mini-PCI-express slot			
	1 x PCI-express via CN3			
Touch Ctrl	1 x Touch control header for TCH1 (COM4)			
Pow er	Wide Range DC 9~36V input			
Management	1 x 3-pin power input connector			
Switches and	1 x Power on/off switch via CN1			
LED Indicators	1 x Reset switch via CN1			
	1 x Power LED status via CN1			
	1 x HDD LED status via CN1			
	1 x Buzzer			
External I/O	2 x COM Ports (COM1/CO M2)			
port	2 x USB 2.0 Ports (USB4/USB5)			
	2 x GbE LAN Ports			
	1 x Line out Audio phone jack			
Watchdog	Software programmable $1 - 255$ second by Super I/O			
Timer				
Tomporatura	Operating: -20 to 70			
remperature	Storage: -40 to 85			
Humidity	5% - 95%, non-condensing, operating			
Power	<u>12V /0.95A (Intel Atom N2600 processor with 2GB DDR3</u>			
Consumption	DRAM)			
EMI/EMS	Meet CE/FCC class A			



(units :mm)

Figure 2.1: Mainboard Dimensions

2.2 Installations

SBC-7106 is a 4" industrial motherboard developed on the basis of Cedarview-M Processors and NM10, 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 c onfiguration, one VGA port, one HDMI port, one LVDS interface. To s atisf y 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.

2.2.1 Jumpers Setting and Connectors

Board Top



Figure 2.2: Jumpers and Connectors Location_ Board Top

Board Bottom



Figure 2.3: Jumpers and Connectors Location_ Board Bottom

2.3 Jumpers Setting and Connectors

<u>1. JP5:</u>

(2.0mm Pitch 1X2 box Pin Header), ATX Power and Auto Power on jumper setting.

JP5	Mode	
Open	ATX Power	
Close	Auto Power on	
	(Default)	

<u>3. BAT1 :</u>

(1.25mm Pitch 1X2 box Pin Header) 3.0V Li battery is embedded to provide power for CMOS.

Din#	Signal
PIN#	Name
Pin1	VBAT
PIN2	Ground

4. DC IN1:

(5.08mm Pitch 1x3 Pin Connector), DC9V~36V System power input connector

Pin#	Power Input
Pin1	DC+9V~32V
Pin2	Ground
Pin3	FG

<u>6. VGA1:</u>

(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	Ground
CRT_H_SYN	7	8	CRT_D DCDAT
С			А
CRT_V_SYNC	9	10	CRT_D DCCL
			К
Ground	11	12	Ground

<u>8. JP1:</u>

(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 Indicator)
		(default)
Close 3-4	COM1	Pin9=+5V
		(option)
Close 5-6	COM1	Pin9=+12V
		(option)

9. RS-232:

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

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

<u>10. RS-422:</u>

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

Function		RS_422 Pin#
RS232	OFF:	Pin1, Pin2, Pin3, Pin4
(Default)		
RS422	ON:	Pin1, Pin2, Pin3, Pin4
(option)		
RS485	ON:	Pin1, Pin2, Pin3, Pin4
(option)		

Note: Must keep the setting with BIOS setting.

<u>11. COM1:</u>

(Type DB9), 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.



R S232 (Default):		
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/W83627UHG 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/W83627UHG Super IO		
Configuration/Serial Port 1 Configuration 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/W83627UHG Super IO		
Configuration/Serial Port 1 Configuration RS-485		

<u>12 JP2:</u>

(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	COM1	RI (Ring Indicator)
		(default)
Close 3-4	COM1	Pin9=+5V
		(option)
Close 5-6	COM1	Pin9=+12V
		(option)

<u>13. COM2:</u>

(Type DB9), 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	RI (Ring Indicator)

16. LED3:

LED STATUS. Green LED for Touch Power status.

<u>19 SATA1:</u>

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

20 SD1:

(SD card socket), Secu re Digital Memory Card socket.

23. LINE OUT:

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



24. USB45:

USB4/USB5 (Double stack USB type A), Rear USB connector, it provides up to 4 USB2.0 ports, High-speed USB 2.0 allows data transfers up to480 Mb/s ,support USB full-speed and low-speed signaling.



Each USB Type A Receptacle (2 Ports) Current limited value is 1.5A. If the external USB device current exceeds 1.5A, please separate connectors into different Receptacle.

25. LAN1/LAN2:

LAN1/LAN2: (RJ 45 Connector). Rear LAN port, Two standard 10/100/1000M RJ-45 Ethernet ports are provided. Used Realtek RTL8111E 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.



<u>26. BUZ1:</u>

Onboard buzzer.

27 LED1:

LED STATUS. Green LED for Motherboard Power status.

28. LED2:

LED STATUS. Green LED for Motherboard Standby Power Good status.

31. CN3:

(1.27mm Pitch 2X30 Pin Header), For expand output connector, It provides four GPIO, Two USB 2.0,one PS/2 mouse one PS/2 keyboard,two uart,one PCIe x1,one SMbus.

Function	Signal Name	Pin#	Pin#	Signal Name	Function
	5V_S5_USB	1	2	5V_S5_USB	
	5V_S5_USB	3	4	5V_S5_USB	
	USB23_OC	5	6	CLKREQPSON_ATX-	
USB2	USB2_N	7	8	USB2_P	USB2
USB3	USB3_N	9	10	USB3_P	USB3
	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
	COM6_RI	17	18	COM6_DCD-	
COM6	COM6_TXD	19	20	COM6_RXD	COM6
(UART)	COM6_DTR	21	22	RICOM6_RTS	(UART)
				-	
	COM6_DSR	23	24	COM6_CTS-	
	Ground	25	26	Ground	
	COM5_RI	27	28	COM5_DCD-	
COM5	COM5_TXD	29	30	COM5_RXD	COM5
(UART)	COM5_DTR	31	32	DSRCOM5_RTS-	(UART)
	COM5_DSR	33	34	DTRCOM5_CTS-	
GPIO24	ICH_GPIO24	35	36	ICH_GPIO13	GPIO13
GPIO26	ICH_GPIO26	37	38	ICH_GPIO27	GPIO27
	Ground	39	40	Ground	
	PE1_TX_N0	41	42	PE1_TX_P0	
	PE1_RX_N0	43	44	PE1_RX_P0	
PCIE	Ground	45	46	Ground	PCIE
	CLK_100M_PE1_N	47	48	CLK_100M_PE1_P	
	PM_PCIE_WAKE	49	50	PLTRST_BUF-	
SMBUS	SMB_CLK_S	51	52	SMB_DATA_S	SMBUS
	5			5	
	PE1_CLKRE	53	54	Ground	
PCIE	Q				PCIE
	3P3V_S5	55	56	3P3V_S5	

	3P3V_S5	57	58	3P3V_S5	
12V	12V_S0	59	60	12V_S0	12V

3 BIOS Setup Description

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.

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.					
Main Advanced	Chipset	Boot	Security	Save & Exit	
BIOS Information				Intel Reference Code	
BIOS Vendor	Ameri	ican Megat	rends	Version	
Core Version	4.6.5.3	4.6.5.3			
Compliancy	UEFI	2.3; PI 1.2			
Project Version	7106	/002			
Build Date and Tim	ne 12 1	7 2012 0	3:22:46		
? Intel RC Version					
				: Select Screen	
System Language	[Englis	sh]		: Select Item	
				Enter: Select	
System Date	[Sun (01/01/2012]	+/- : Charge Opt. F1	
System Time	[00:00	:08]		: General Help F2:	
				Previous Values	
Access Level	Admir	nistrator		F3:Optimized Defaults	
				F4:Save and Exit	
				ESC Exit	
Version 2.15.1226. Copyright (C) 2012 American Megatrends , Inc.					

3.3 Main Settings

BIOS Information		Intel Reference Code
BIOS Vendor	American Megatren ds	Version
Core Version	4.6.5.3	
Compliancy	UEFI 2.3; PI 1.2	
Project Version	7106V002	
Build Date and Time	12 17 2012 03:22:46	
? Intel RC Version		

Version 2.15.1226. Copyright (C) 2012 American Megatrends , Inc.				
		ESC Exit		
		F4:Save and Exit		
Access Level	Administrator	F3:Optimized Defaults		
		Previous Values		
System Time	[00:00:08]	: General Help F2:		
System Date	[Sun 01/01/2012]	+/- : Charge Opt. F1		
		Enter: Select		
System Language	[English]	: Select Item		
		: Select Screen		

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) 2012 American Megatrends, Inc.					
Main	Advanced	Chipset	Boot	Security	Save & Exit
					PCI,PCI-X and PCI
AAAA	PCI Subsyst ACPI Settin CPU Con fig Thermal Co	em Settings gs guration onfiguration	5		Express Settings
AAAAA	IDE Config USB Config W8362 7UH W8362 7UH Serial Port (uration guration IG Super IC IG HW Mor Console Rec) Configu nitor direction	iration	
	PPM Confi	guration			: Select Screen : Select Item Enter: Select +/- : Charge Opt. F1 : General Help F2: Previous Values F3:Optimized Defaults F4:Save and Exit ESC Exit
	Version 2.1	5.1226. Copyr	ight (C) 2	012 Americar	Megatrends, Inc.

3.4.1 PCI Subsystem Settings

PCI Bus Driver Versio V2.05.02

PCI Common Settings:

PCI Latency Timer:

[32 PCI Bus Clocks]

- [64 PCI Bus Clocks]
- [96 PCI Bus Clocks]
- [128 PCI Bus Clocks]
- [160 PCI Bus Clocks]
- [192 PCI Bus Clocks]
- [224 PCI Bus Clocks]
- [248 PCI Bus Clocks]

VG A Palette Snoop:

[Disabled]

[Enabled]

PERR# Generation:

[Disabled]

[Enabled]

SERR# Generation:

[Disabled]

[Enabled]

3.4.2 ACPI Settings

Enable ACPI Auto Conf:

[Disabled]

[Enabled]

Enable Hibernation:

[Enabled]

[Disabled]

ACPI Sleep State:

[Both S1 and S3 available for OS to choose from] [Suspend Disabled] [S1 only(CPU Stop Clock)] [S3 only (Suspend to RAM)]

Lock Legacy Resources:

[Disabled]

[Enabled]

S3 Video Repost:

[Disabled]

[Enabled]

3.4.3 CPU Configuration

Processor Type	Intel(R) Atom(TM) CPU N2600
EMT64	Not Supported
Processor Speed	1600 MHz
System Bus Speed	400 MHz
Ratio Status	16
Actual Ratio	16
System Bus Speed	400 MHz
Processor Stepping	30661
Microcode Revision	269

L1 Cache RAM	2x56 k
L2 Cache RAM	2x512 k
Processor Core	Dual
Hyper-Threading	Supported

Hyper-Threading:

[Enabled]

[Disabled]

Execute Disable Bit:

[Enabled]

[Disabled]

Limit CPUID Maximum:

[Disabled]

[Enabled]

3.4.4 Thermal Configuration

CPU Thermal Configuration

DTS SMM

[Disabled]

[Enabled]

Platform Thermal ConfigurationCritical Trip Point [POR]Active Trip Point Lo [55 C]Active Trip Point Hi [71C]Passive Trip Point [95]Passive TC1 Value1Passive TC2 Value5Passive TSP Value10

3.4.5 IDE Configuration

SATA Port0	Not Present
SATA Port1	Not Present

SATA Controller(S):

[Enabled]

[Disabled]

Configure SATA as:

[IDE]

[AHCI]

Misc Configuration for hard disk

3.4.6	USB Configuration	
	USB Configuration	
	USB Devices:	
	1 Drive 1 keyboard	
	Legacy USB Support:	
		[Enabled]
		[Disabled]
	EHCI Hand-off:	
		[Disabled]
		[Enabled]
	USB hardware delays a	
	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]
	Mass Storage Devices	
	Multiplecard Reader 1	
		[Auto]
		[Floppy]
		[Forced FDD]
		[Hard Disk]
		[CD-ROM]

3.4.7 W83627UH G Super IO Configuration

W83627UHG Super IO ch W83627UHG Serial Port 1 Configuration UART Mode Selection

[RS-485] [RS-422]

Serial Port 2 Configuration Serial Port 3 Configuration UART Mode Selection

[RS-485]

[RS-422]

Serial Port 4 Configuration Serial Port 5 Configuration Serial Port 6 Configuration Power Failure

> [Keep last state] [Always off] [Always on]

3.4.8 W83627UHG HW Monitor

PC Health Status

System temperature1	: +38
System Speed	: N/A
VCORE	: +0.968 V
+12V	: +12.302 V
+3.3V	: +3.320 V
+1.5V	: +1.528 V
AVCC	: +5.203 V
VCC5V	: +5.216 V
VSB5	: +5.203 V
VBAT	: +3.334 V

3.4.9 Serial Port Console Redirection

COM0

Console Redirection

[Enabled] [Disabled]

Console Redirection Settings Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS) Console Redirection

[Enabled]

Console Redirection Settings

3.4.10 PPM Configuration

PPM Configuration	
E101.	[Enabled]
	[Disabled]
CPU C state Report	
	[Enabled]
	[Disabled]
Enhanced C state	
	[Enabled]
	[Disabled]
CPU Hard C4E	
	[Enabled]
	[Disabled]
CPU C6 state	
	[Enabled]
	[Disabled]
C4 Exit Timing	
	[Fast]
	[Slow]
C-state POPDOWN	[Enchlod]
	[Disabled]
U-SIGIE FUFUF	[Enabled]
	[Disabled]
3.5 Chipset Settings

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.						
Main	Advanced	Chipset	Boot	Security	Save & Exit	
					Host Bridge Parameters	
>	Host 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	
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3.5.1 Host Bridge

Memory Frequency and Timing Intel IGD Configuration

******* Memory Information *******

Memory Frequency	800 MHz(DDR3)
Total Memory	2048 MB
DIMM#0	Not Present
DIMM#1	2048 MB

Memory Frequency and Timing

MRC Fast Boot

[Enabled] [Disabled]

Max TOLUD

[Dynamic] [1GB] [1.25GB]

[1.5GB]
[1.75GB]
[2GB]
[2.25GB]
[2.5GB]
[2.75GB]
[3GB]
[3.25GB]

Intel IGD Configuration

IGFX – Boot Type

[VBIOS Default]							
[VGA]							
[LVDS]	[LVDS]						
[VGA + LVI	DS]						
[VBIOS De	efault]						
[640x480	18bit]						
[800x480	18bit]						
[800x600	18bit]						
[1024x600	18bit]						
[1024x768	18bit]						
[1280x768	18bit						

LCD Panel Type

[800x480	
[800x600	18bit]
[1024x600	18bit]
[1024x768	18bit]
[1280x768	18bit]
[1280x800	18bit]
[1280x1024	18bit]
[1366x768	18bit]
[1024x768	24bit]
[1280x768	24bit]
[1280x800	24bit]
[1280x1024	24bit]

Panel Scaling

[Auto]

[Force Scaling] [off] [Maintain Aspect Ratio]

Active LFP

[LVDS] [No LVDS]

IGD Clock Source	
	[External Clock]
	[Internal Clock]
Fixed Graphics Memory	
	[128MB]
	[256MB]
ALS Support	
	[Disabled]
	[Enabled]
Back light Control	
	[DC]
	[PW M]
Back light Logic	
	[Positive]
	[Negative]
Back light Control Lev	
Back light Control Lev	[Auto]
Back light Control Lev	[Auto] [Disabled]
Back light Control Lev	[Auto] [Disabled] [Level 8]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 4]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 4] [Level 5]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 4] [Level 5] [Level 6]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 4] [Level 5] [Level 6] [Level 7]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 4] [Level 5] [Level 6] [Level 7] [Level 8]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 3] [Level 5] [Level 6] [Level 7] [Level 8] [Level 9]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 3] [Level 5] [Level 6] [Level 7] [Level 8] [Level 9] [Level 10]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 3] [Level 4] [Level 5] [Level 6] [Level 7] [Level 8] [Level 9] [Level 10] [Level 11]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 2] [Level 3] [Level 3] [Level 4] [Level 5] [Level 6] [Level 6] [Level 8] [Level 9] [Level 10] [Level 11]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 2] [Level 3] [Level 3] [Level 4] [Level 5] [Level 6] [Level 6] [Level 7] [Level 8] [Level 9] [Level 10] [Level 11] [Level 12] [Level 13]
Back light Control Lev	[Auto] [Disabled] [Level 8] [Level 1] [Level 2] [Level 3] [Level 3] [Level 4] [Level 5] [Level 5] [Level 6] [Level 6] [Level 8] [Level 9] [Level 10] [Level 11] [Level 12] [Level 13] [Level 14]

3.5.2 South Bridge

TPT Devices

PCI Express Root Port 0

PCI Express Root Port 1

- PCI Express Root Port 2
- PCI Express Root Port 3

DMI Link ASPM Control

[Enabled] [Disabled]

PCI-Exp. High Priorit

[Disabled] [Enabled]

High Precision Event Timer Configuration High Precision Timer

> [Enabled] [Disabled]

SLP_S4 Assertion Widt

[1-2 Seconds]
[2-3 Seconds]
[3-4 Seconds]
[4-5 Seconds]

Restore AC Power Loss

[Last State] [Power off] [Power on]

3.6 Boot Settings

Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.					
Main Advanced Ch	<mark>ipset</mark> Boot	Security	Save & Exit		
Boot Configuration			Number of seconds to		
Setup Prompt Timeout			Wait for setup		
Bootup Numlock State	[On]		Activation key.		
			65535(0xFFFF)means		
Quiet Boot	[Disabled]		Indef inite waiting.		
Fast Boot	[Enabled]				
Skip USB	[Disabled]				
Skip PS2	[Disabled]				
CSM16 Module Version	07.69				
Gatea20 Active	[Upon Reque	est]			
Option ROM Messages	[Force BIOS]			
Interrupt 19 Capture	[Enabled]				
			: Select Screen		
Driver Option Priorities			: Select Item		
Boot Option Priorities			Enter: Select		
			+/- : Charge Opt. F1		
Boot Option Priorities			: General Help F2:		
Boot Option #1	[Sata PM: H	litachi]	Previous Values		
Boot Option #2	[]		F3:Optimized Defaults		
Hard Drive BBS Prioritie	S		F4:Save and Exit		
? CSM Parameters			ESC Exit		
Version 2.15.122	6. Copyright (C) 20	012 American	Megatrends, Inc.		

Setup Prompt Timeout

[1]

Bootup Numlock State

[On] [off]

[Disabled]

	[Enabled]		
Fast Boot	[Enabled]		
	[Disabled]		
Skip VGA			
	[Enabled]		
	[Disabled]		
Skip USB	[Dischlad]		
	[Enabled]		
Skip PS2	[[
	[Disabled]		
	[Enabled]		
	07.00		
CSM16 Module version	07.69		
Gatea20 Active			
	[Upon Request]		
	[Always]		
Option ROM Messages	[Force BIOS]		
	[Keep Current]		
Interrupt 19 Capture			
	[Immediate]		
	[Postponed]		
Boot Option #1			
Boot Option #2			
	Sets the system boot order		
Hard Drive BBS Priorities	[SATA PM:***]		
	SATA PM:***		

	Disabled		
COMP			
INVI Horomotors			

[Never]

Boot option filter	
	[UEFI and Legacy]
	[Legacy only]
	[UEFI only]
Launch PXE OpROM poli	
	[Do not Launch]
	[UEFI only]
	[Legacy only]
Launch Storage OpROM	
	[Legacy only]
	[Do not Launch]
	[UEFI only]
Launch Video OpROM po	
	[Do not Launch]
	[UEFI only]
	[Legacy only]
Other PCI device ROM	
	[UEFI OpROM]
	[Legacy OpROM]

3.7 Security Settings

Aptio Setup Utility – Copyright (C) 2012					
American Megatrends, Inc.					
Main Advanced Chipset Boot Security	Save & Exit				
Password Description	Set Administrator				
	Password				
If ONLY the Administrator's password is set,					
Then this only limits access to Setup and is					
Only asked for when entering Setup.					
If ONLY the User's password is set, then this					
Is a power on password and must be entered to					
Is a power on password and must be entered to					
Boot or enter Setup. In Setup the User will					
Have Administrator rights. : Select Screen					
The password length must be	: Select Item				
In the following range:	Enter: Select				
Minimum length 3	+/- : Charge Opt F1				
Maximum length 20	: General Help F2:				
Previous Values					
Administrator Password F3:Optimized Defau					
User Password	F4:Save and Exit				
ESC Exit					
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6.4.1 Administrator Password



6.4.2 User Password



Type the password with up to 20 characters and then press *≪*Enter≻ key. This will clear all previously typed CM OS pas swords. You will be requested to confirm the password. Type the pass word again and press *≪*Enter≻ key. You may press *≪*Esc≻ key to abandon pass word entry operation.

To clear the password, just press \prec 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 B IOS Features . If Security Option is set to System, you will be requested to enter the pas sword before system boot and when entering BIOS setup; if Security Option is set to Setup, you will be requested for pass word for entering BIOS setup.

3.8 Save and Exist Settings

BIOS SETUP UTILITY							
Main	Advanced	PCIPnP	Boot	Security	Chi	ipset	Exit
Advanced Chipset Settings						Configure North Bridge	
sectio	ns m	ov cause sv	stem to	malfunctio	n	Teatu	C
A A	North Bridg	ge Configur ge Configur	ation ation	manuncuo	///	Enter F1	Select Screen Select Item Go to sub screen General Help
						F10 ESC	Save and Exit Exit
	V02.61 © Copyright 1985-2006 American Mega trends , Inc.						



Note: Due to limited address length of BIOS, only a portion of panel parameters are listed in BIOS Setup. If the connected panel is not included in the parameter list, display problem will occur. In this case, Please do not change BIOS setup.

3.8.1 North Bridge Configuration

BIOS SETUP UTILITY				
	(Chipset		
North Bridge	Chipset Configur	ation		ENABLE: Allow
Memory	Remap	Featu	ıre	Remapping of
[Enabled]				Over lapped PCI Memory
PCI MMIO A	Allocation: 4Gb To	3072MB		Above the total
Memory		Н	ole	Physical memory
[Disabled]				
				DISABLE: Do not allow
Initate Graphic	Adapter	[PCI/IGE)]	remapping of memory
IGD Gr	raph ics Mo	de Sel	ect	
[Enabled ,64 MB]				
IGD GTI Grap	VT			
mode,2MB]				Select Screen
				Select Item
PEG Port Co	onfiguration			+- Charge Field
	U			F1 General Help
Video Fr	unction Configu rati	on		F10 Save and Exit
				ESC Exit
V02.	61 © Copyright 1985-2	2006 American M	lega	trends , Inc.

Memory Remap Feature:

[**Enabled**] [Disabled]

Memory Hole:

[Disabled]

[15MB-16MB]

Initate Graphic Adapter:

Select which graphics controller to use as the primary boot device.

[**IGD**] [PCI/IGD]

IGD Graphics Mode Select:

[Enabled, 64MB] [Disabled] [Enabled, 32MB] [Enabled, 128MB]

Video Function Configuration:

BIOS SETUP UTILITY				
		Ch	ipset	
Video Functio n Co	onfiguration		Options	
DVMT Mode Select		[DVM	Fixed Mode	
Mode]			DVMT Mode	
DVMT/FIXED		Memo ry		
[256MB]				
Boot	Display	Device		
[VBIOS-Default]				
Flat Panel Type		[1024x768		
18bit 1c]				
Backlight	Control	Support	Select Screen	
[VBIOS-Default]			Select Item	
Backlight Control Lev	vel	[Level 5]	+- Charge option	
Backlight Control Mo	ode	[DC]	F1 General Help	
Backlight	Image	Adaptation	F10 Save and Exit	
[VBIOS-Default]			ESC Exit	
V02.61 © Co	opyright 1985-2006	American Mega	trends , Inc.	

DVMT Mode Select:

[**DVMT Mode**] [FIXED Mode]

DVMT/FIXED Memory Size:

[**256MB**] [128MB] [Maximum DVMT]

Boot Display Device:

[BIOS-Default] [CRT] [LVDS] [CRT + LVDS]

Flat Panel Type:

[1024x 768 18bit 1ch]

[640x480 18bit 1ch] [800x600 18bit 1ch] [1280x800 18bit 1ch] [1366x768 18bit 1ch] [1024x 768 24bit 2ch] [1440x900 24bit 2ch] [1600x900 24bit 2ch] [1680x1050 24bit 2ch] [1920x1080 24bit 2ch]

Backlight Control Support

[VBIOS-D efault]

[Both BLC & BIA Disabled] [BLC Enabled]

Backlight Control Control:

- [Level5] [Level0] [Level1] [Level2] [Level3] [Level4] [Level6]
- [Level7]



Note: Panel support PWM Function.

Backlight Control Mode:

[DC] [PWM]

Backlight Image Adaptation:

[VBIOS-Default] [BIA Disabled] [BIA Enabled at Level1] [BIA Enabled at Level2]

[BIA Enabled at Level3] [BIA Enabled at Level4] [BIA Enabled at Level5]

3.8.2 South Bridge Configuration:

	Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.						
Main	Advanced	Chipset	Boot	Security		Save & Exit	
Save	Changes and	l Exit				Exit system setup after	
Disca	Discard Changes and Exit Saving the change				Saving the changes.		
Save	Changes and	Reset					
Disca	ard Changes a	nd Reset					
Save	Options						
Save	Changes						
Disca	rd Changes						
Resto	ore Defaults Sa	ave				: Select Screen	
user	Defaults Restor	re				: Select Item	
user	Defaults					Enter: Select	
						+/- : Charge Opt. F1	
Boot	Override					: General Help F2:	
Multip	bleCard Reade	r 1.00				Previous Values	
SATA	PM:***					F3:Optimized Defaults	
Laun	ch EFI Shell fro	om filesystem	device			F4:Save and Exit	
						ESC Exit	
	Version 2.1	5.1226. Сору	right (C) 2	012 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?	

	[No]
Discard Changes and Reset	
Reset Without Saving Reset without saving?	
	[Yes]
	[No]
Save Changes	
Save Setup Values Save configuration?	
	[Yes]
	[No]
Discard Changes	
Load Previous Values Load Previous Values?	
	[Voc]
Destars Defeults	[NO]
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]

3.9 Exit Options

		BIC	DS SETUP	UTILITY				
Main	Advanced	PCIPnP	Boot	Security	Cł	nipset	Exit	
Exit	Options					Exit s	ystem setup)
Save C	Changes and	Exit				after s	saving the	
Disc	card Changes	s and Exit				chang	jes	
Discar	d Changes							
						F10 k	ey can be u	sed
Load C	Optimal Defa	aults				For th	is operation	I
Load H	Failsafe Defa	ults						
						S	Select Scree	n
						S	elect Item	
						Enter	Gotosubs	screen
						F1	General H	lelp
						F10	Save and	Exit
						ESC	Exit	
	V02.61 ©	Copyright 19	985-2006	American M	ega	trends	, Inc.	

Save Changes and Exit:

Save configuration changes and exit setup?

(F10 key can be used for this operation)

[OK] [Cancel]

Discard Changes and Exit:

Discard Changes and Exit setup?

(ESC key can be used for this operation)

[OK] [Cancel]

Discard Changes:

Discard changes?

(F7 key can be used for this operation)

[OK]

[Cancel]

Load Optimized Defaults:

Load Optimized Defaults?

(F9 key can be used for this operation)

[OK]

[Cancel]

Load Fail-Safe Defaults:

Load Fail-Safe Defaults?

(F9 key can be used for this operation)

[OK]

[Cancel]

Chapter 4_

Installation of Drivers

This chapter describes the installation procedures for software and drivers under the windows XP. The software and drivers are included with the motherboard. The contents include **Chipset driver**, **VGA driver**, **LAN drivers**, **Audio driver Installation instructions are given below**.

Important Note:

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



4.1 Chipset Driver

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

Step 1. Select Intel (R) Chipset NM10 Express from the list



Step 2. Click Next to setup program.



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 Graphics Media Accelerator driver

To install the VGA drivers, follow the steps below to proceed with the installation. **Step 1**.Select **Intel(R) VGA Chipset Driver.**

S Aplex Technology Drivers	5	
	200	
	PC 9XX	0 - XP - Driver
	DRIVERS	Intel(R) Chipset NM10 Express Intel(R) VGA Chipset Realtek RTL8111D Driver Realtek ALC662 HD Audio Driver Touch Panel Driver
	OTHERS	User Manual
	-	View EXIT

Step 2. Select Installs driver and application files. Click Next.



Step 3. Select I agree. Click Install.



Step 4. Click Continue Anyway.





Step 6. To restart the computer, click Yes.



4.3 Network Adapter

To install the Network Adapter device driver, please follow the steps below.

Step 1. Select Realtek RTL8111D Driver.







Step 3. Click Install to begin the installation.

REALTEK GbE & FE Ethernet	PCI-E NIC Driver - InstallShield Wizard
Ready to Install the Program The wizard is ready to begin inst	allation.
	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	Cancel

Step 4. Click Finish to exist the wizard.

REALTEK GbE & FE Ethernet	PCI-E NIC Driver - InstallShield Wizard
	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed REALTEK GbE & FE Ethernet PCI-E NIC Driver. Click Finish to exit the wizard.
-	
InstallShield	Cancel

4.4 Realtek ALC662 HD Audio Codec Driver Installation

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



Step 2. Click Next to continue.



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

Realtek High Definition Audio	Driver Setup (3.44) R2.68
	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed Realtek High Definition Audio Driver. Before you can use the program, you must restart your computer.
	 Yes, I want to restart my computer now. No, I will restart my computer later.
	Remove any disks from their drives, and then click Finish to complete setup.
InstallShield	Kancel Cancel

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

5.1 Windows 2000/XP/2003/Vista/WIN7 Universal Driver

Installation for PenMount 6000 Series

Before installing the Windows 2000/XP driver software, you must have the Windows 2000/XP 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 2000/XP driver installed in your system, please remove it first. Follow the steps below to install the PenMount DMC6000 Windows 2000/XP driver.

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





Step 3. Click Next to continue.



🖳 PenMount Windows Universal Driver(WHQL) V2.4.0.306 Setup 💦 🔲	×
License Agreement Please review the license terms before installing PenMount Windows Universal Driver(WHQL) V2.4.0.306.	
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 PenMount touch screen controller or control board. Any person or company using a PenMount driver on any piece of equipment which does not utilize an PenMount touch screen controller will be prosecuted to the full extent of the law.	
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install PenMount Windows Universal Driver(WHQL) V2.4.0.306.	
Nullsoft Install System v2.46	

Step 5. Choose the folder in which to install PenMount Windows Universal Driver. Click **Install** to start the installation.

🖳 PenMount Windows Universal Driver(WHQL) V2.4.0.306 Setup 💦 🔲 🔀
Choose Install Location Choose the folder in which to install PenMount Windows Universal Driver(WHQL) V2.4.0.306.
Setup will install PenMount Windows Universal Driver(WHQL) V2.4.0.306 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\PenMount Windows Universal Driver(WHQL) Browse
Space required: 0.0KB Space available: 13.9GB
Nullsoft Install System v2.46

Step 6. Wait for installation. Then click Next to continue.

🖳 PenMount Windows Universal Driver(WHQL) V2.4.0.306 Setup 🛛 🔲 🔛
Installing Please wait while PenMount Windows Universal Driver(WHQL) V2.4.0.306 is being installed.
Execute: "C:\Program Files\PenMount Windows Universal Driver(WHQL)\install.exe" /Install Show details
Nullsoft Install System v2.46

Step 7. Click Continue Anyway.



Step 8. Click Finish to complete installation.



5.1.2 Installing Software (Projected Capacitive)

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



Step 2. Select Projected Capacitive.



Step 3. Click Next to continue.



Step 4. Select I accept the terms of the license agreement. Click Next.

eGalaxTouch	x
License Agreement	
Please read the following license agreement carefully.	
Declaration and Disclaimer	<u> </u>
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. Disclaimer: EETI MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,	- III
I go not accept the terms of the license agreement Drint I go not accept the terms of the license agreement	
InstallShield <u>Back</u> <u>N</u> ext > Cancel	:

Step 5. Tick Install RS232 interface driver. Click Next.

eGalaxTouch					
Setup Type					
Select the s	etup type that best s	uits your need	S.		
Extra RS23. Please cher	2 interface driver for	eGalaxTouch BS232 touch	controller.		
		110202 (0401)	controller.		
🗹 Install R	5232 interface driver				
InstallShield —					
			< Back	Next >	Cancel
			. East		Cancor

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>B</u> ack <u>N</u> ext > Cancel)

Step 7. Click OK.

eGalaxT	ouch - 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.
	OK

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

eGalaxTouch	
Setup Type Select the setup type that best suits your needs	s.
If you want to use Multi-Monitor, please check	the box.
Support Multi-Monitor System	
InstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel

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 follow	ving folder.
To install to this folder, click Next. To insta another folder.	Il to a different folder, click Browse and select
Destination Folder	
C:\Program Files\eGalaxTouch	Browse
InstallShield	
	< <u>B</u> ack <u>N</u> ext> Cancel
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 folder name, or select one from the existing folders list. Click Next to continue. Program Folder: eGalaxTouch Existing Folders: Accessories Administrative Tools Games Startup	
InstallShield]

Step 11. Tick 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	
< <u>B</u> ack <u>N</u> ext > Cancel	

Step 12. Wait for installation.



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

5.2.1 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.

🙀 PenMount Control Panel	
Device Multiple Monitors Tools About	
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'.

Command Calibration	Command call calibration function. Use
	command mode call calibration function,
	this can uses Standard, 4, 9, 16 or 25
	points to calibrate E.g. Please run ms-dos
	prompt or command prompt c:\Program
	Files\PenMount Universa Driver\Dmcctrl.exe
	-calibration 0 (Standard Calibration)
	Dmcctrl.exe - calibration (\$) 0= Standard
	Calibration 4=Advanc ed Calibration 4
	9=Advanced Calibration 9 16=Advanced
	Calibration 16 25=Advanced Calibration 25

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

🍇 PenMount Control Panel	
Device Multiple Monitors Tools About	
Select a device to configure.	
PenMount 6000 USB	
Configure Refresh	
	OK j

Step 2.Click "Standard Calibration" to start calibration procedure



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.Come back to "PenMount Control Panel" and select **Tools** then click **Advanced Calibration**.

🍓 PenMount Control Panel	
Device Multiple Monitors Tools	About
Draw	Test by drarwing on the touch screen
Advanced Calibration	Turn ON/OFF Advanced Calibration Mode
Right Button Icon	Show/Hide the icon for switching buttons
	Back to Defaul <u>t</u> OK

Step 4. Select Device to calibrate, then you can start to do Advanced Calibration.

Device 0 (PenMount 6000 US Calibrate Setting About	B)
Standard <u>C</u> alibration	Advanced Mode 9 • • • Plot calibration data
Turn off EEPROM storage.	



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 storage	The function disable for calibration data to write in
	Controller. The default setting is Enable

Setting

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 the mouse only
	provides a click function, and dragging is disabled
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 hold as	You can set the time out and area for you need
right click	

🖉 Device () (PenMount 6000 USI	в) 📃 🗖 🔀
Calibrate Setting About	1
Touch Mode	
<u>Mouse Emulation</u>	C Click on Touch
🕞 Beep Sound	Kind of Sound Buzzer Beep 💌
Beep Mode	Beep Frequency 1000 Hz
🕫 Beep on pen d <u>o</u> wn	
C Been on pep up	Been Duration 100 m
	The second secon
C Beep on both	homenne
Cursor Stabilizer	Use press and hold as right click
You can use Cursor	Delaur 20 sec
Stabilizer to remove	111111
pitel di cuisdi.	Area:
	Back to Default OK

About

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

🖉 Device O (Pen	Mount 6000 USB)		
Calibrate Setting	About		
	PenMount 6000 USB (10-bit)		
<i>~</i>	Driver Version	2.1.0	
	Firmware Version	6000.3.0.0	
	Firmware Config Data	6,36864,341,32,7,0,0	
	-		
			ОК

Multiple Monitors

Multiple Monitors support from two to six touch screen displays for one system.

The PenMount drivers for Windows 2000/XP support Multiple Monitors. This f unction supports from two to six touch sc reen 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 RS-232 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 sc reen 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.

PenMount Control Panel	
Calibrate Draw Multiple Monitors Option About	
🔽 Enable Multiple Monitor Support	
PonM Iount	
TOUCH SCREE	
<u>Map</u> Touch Screens	
	OK

2. When the mapping screen message appears, click OK.

PenMount Control Panel alibrate Draw Multiple Monitors Option	About
Enable Multiple Monitor Sup	port
PenM Jount	
Mapping	
Please touch the panel as indicated in the	following screens.
ОК	
	Οκ

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** f unction. 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 Monitor Menu Icon

The PenMount monitor icon (PM) appears in the menu bar of Windows 2000/XP system when you turn on PenMount Monitor in PenMount Utilities.





Control Panel	Open Control Panel Windows
Beep	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.

PenMount Rotating Functions

The PenMount driver for Windows 2000/XP supports several display rotating software packages. Windows Me/2000/XP support display rotating software packages such as:

- Portrait's Pivot Screen Rotation Software
- ATI Display Driver Rotate Function
- nVidia Display Driver Rotate Function
- SMI Display Driver Rotate Function
- Intel 845G/GE Display Driver Rotate 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.



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	X
General Setting Tools Display Hardware About	
Installed Touchscreen Controllers	
USB Controller	
Monitor Mapping Add Remove	
OK Cancel Appl	y

Monitor Mapping

to adjust touch panel

Add

to search for device

🖻 eGalaxTouch : USB Controller					
General Setting Tools Display Hardware About					
Beep Frequency Image: Beep On Touch Image: Frequency Image: Beep On Release Image: Duration Image: Beep From System Beep Duration Image: Beep From Sound Card Image: Duration					
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 6	
Smaller<<	
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.

S e	GalaxTouch : USB Controller 🛛 🛛 🔀							
Ge	General Setting Tools Display Hardware About							
l	Linearization Curve							
4 Points Calibration Do 4 points alignment to match display.								
	Clear and Calibrate		Clear linear alignment.	ization (parameter a	and do) 4 points	
	Linearization	Do 9 point: linearity.	s lineariz	ation for b	etter to	ouchscre	en	
	Draw Test	Do draw te	est to ve	rify the tou	ich ac(curacy.		
			OK		Cance	el	Ap	ply

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 : USE	3 Controller		
General Setting Tools	Display Hardware	About	
Display			
	1		
Double click on the m monitor. 🔽 Enable Multiple M	onitor area to map the to onitors.	ouchscreen to the displ	ay
🔲 Map to main displa	ay if system has only one	e display monitor.	
- Operation Mode			
Full Screen	C Lower Screen	C Left Screen	
C Upper Screen	C Right Screen	Other	
	ОК	Cancel <u>Ap</u>	ply

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 A	rea					
_ Oti	her						
(C Quart	er 1	C Quarter	r 3	C Custom	ized	
(🔍 Quart	er 2	C Quarte	r 4			
_ Cu	stomized	Area800×	480				
Le	ft	0	Тор	0			
Rig	ght	800	Bottom	480			
		Drag	Working Area				
				OK	Cance	el <u>App</u>	y

Other

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

Other				
Other Active Area				
Active Area				
🗐 Enable The Active Area	Function			
Active Area List	Left	0	Тор 0]
1 🖵	Right	0	Bottom 0	1
Drag Active Area				
		OK	Cancel	spply

Active Area

Drag active area to enable Active Area Function.

🖻 eGalaxTouch : USB Controller 🛛 🔀
General Setting Tools Display Hardware About
Controller Model PCAP7200 Series Firmware Version 1030
Hardware Calibration
OK Cancel Apply

Saturn Hardware Configuration

Saturn - Hardware Configuration	×
Saturn	
Saturn - Hardware Configuration	
Sensitivity 128	
Delay Time	
Shorter<< >>Longer	
Reset all of the control parameters to factory default setting.	
OK Cance	!

About

To display information about eGalaxTouch and its version.

