# **POS Touchscreen System**







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PT-3000

# PT3000 Technical Reference Manual

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## BATTERY REPLACEMENT

WARNING:

Your system is provided with a battery-powered Real-Time Clock circuit. There is a danger of explosion and risk of personal injury if the battery is incorrectly replaced or mistreated. Do not attempt to disassemble the battery, immerse it in water or dispose of it in fire.

#### **CE WARNING**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



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# **1 CHAPTER 1 - HARDWARE DESCRIPTION**

#### 1.1 Technical Specification

٠	CPU:	Intel Pentium P54C / P55C, MMX 233 MHz
		Option: AMD K5/ K6, Cyrix 6x86 & IDT C6.
٠	Chipset:	SiS 5582.
•	BIOS:	AWARD 128KB Flash ROM includes System
		& Video BIOS, Ethernet Boot ROM, SSD Driver and
		support Plug and play.
•	Cache Memory:	On-board 512KB-pipelined burst SRAM.
•	RAM:	2 x 168-pin SIMM upgradable to 128MB.
•	EIDE Interface:	Support two HDD's (3.5" & 2.5" each).
•	FDD Interface :	Support two FDD's (1.44MB).
•	Parallel Port:	1 port, support SPP/EPP/ECP parallel mode.
•	Serial Port:	4 RS232C ports, supports
		2 x 9-pin D-type (COM1, 2)
		1 x 8-pin RJ45 type (COM3) and
		1 x internal port used for touch panel (COM4).
•	Watchdog Timer:	Generates a system reset, timing & temperature
	Ū	Intervals are software programmable.
•	Keyboard:	Support one PS/2 type keyboard.
•	Mouse:	Support one PS/2 type mouse.
•	USB Interface :	Support two USB devices with fuse protection.
		Compliant with USB specs Rev 1.0
٠	Display Interface:	12.1" LCD single / double tube option and CRT
		(PCI SVGA) display. Simultaneously supports CRT and
		flat panel (EL, LCD and Gas Plasma) display.
		Resolution: Support non-interlaced CRT & LCD display up
		to 1024 x 768 @ 256 colors with onboard 1MB video
	_	memory. Expandable to 2 MB.
•	Cash Drawer:	1 x RJ11 connector, support two cash drawers.
		Drive Voltage: +24V DC
		Drive Current: 0.8A at maximum (within 510 ms)
•	Ethernet:	1 x RJ45 connector supports 10/100 Base-I,
	<b>-</b>	
•	Touch Panel:	Elo TouchSystem, five-wire resistive sensor.
•	Disk-On-Chip:	Supports Disk-On-Chip 2000 serials,
		Upgradable to 72 MB.
•	DC Power:	Support +24VDC/ 3A output for printer interface.
•	Customer Display:	Support +12VDC, 2 x 20 character display
		Interrace through COM3 serial port.
•	INISK Interface:	Supports 1 / 2 / 3 track reader.
•	Power Supply:	Adapter Input: $110 \sim 230$ VAC, $50/60$ Hz
		Adapter Output: +5V/10A, +12V/2A, +24V/3A
		IOIAI WAITAGE: 140 W

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•	Dimensions:	CPU Unit: 318 (L) x 326 (W) x 82 (H) mm
		CPU Unit on Pedestal: 318(L) x 345(W) x 193(H) mm
		CPU Unit rotation angle: mim $50^{\circ}$ C ~ max $275^{\circ}$ C
•	Weight:	Packing: 10.3 Kgs
		CPU Unit: 6.2 Kgs
•	Temperature:	Storage: -25°C ~ 70°C
	-	Operation: $5^{\circ}$ C ~ $55^{\circ}$ C
		Humidity: 0 to +85% (operating)
•	Options:	Sound Card Interface.
		PC/104 Interface: PCMCIA / FAX Modem Interface.
		IrDA device Interface.
•	Green Function:	Suspend mode support
		IDE & Display power down support
		APM 1.1 Compliant
•	Software:	Operation with MS-DOS, WINDOWS 95/ 98,
		WINDOWS NT, OS/2, NOVELL and SCO UNIX.



#### PT-3000 Mainboard Layout



#### 1.2 Jumper Setting Details

In order to set up the correct configuration, here is the description about how to set the jumpers to enable/disable or change functions. For all jumpers locations please refer



to PT-3000 mainboard layout diagram.

#### 1.2.1 JP1: CPU Clock Select

1-2	3-4	5-6	CPU Clock
Open	Open	Open	1.5X (P54C)
Close	Open	Open	2.0X
Close	Close	Open	2.5X
Open	Close	Open	3.0X
Open	Open	Open	3.5X (P55C)
Close	Open	Close	4.0X
Close	Close	Close	4.5X
Open	Close	Close	5.0X
Open	Open	Close	5.5X

#### 1.2.2 JP6: CPU Voltage Select

3-4	5-6	7-8	9-10	1-2 (open)	1-2(close)
Open	Open	Open	Open	Х	1.30V
Open	Open	Open	Close	2.1V	1.35V
Open	Open	Close	Open	2.2V	1.40V
				(Default)	
Open	Open	Close	Close	2.3V	1.45V
Open	Close	Open	Open	2.4V	1.50V
Open	Close	Open	Close	2.5V	1.55V
Open	Close	Close	Open	2.6V	1.60V
Open	Close	Close	Close	2.7V	1.65V
Close	Open	Open	Open	2.8V	1.70V
Close	Open	Open	Close	2.9V	1.75V
Close	Open	Close	Open	3.0V	1.80V
Close	Open	Close	Close	3.1V	1.85V
Close	Close	Open	Open	3.2V	1.90V
Close	Close	Open	Close	3.3V	1.95V
Close	Close	Close	Open	3.4V	2.00V
Close	Close	Close	Close	3.5V	2.05V

#### 1.2.3 JP7: Internal RTC

1-2 Close	Normal ( <i>Default</i> )
2-3 Close	Clear CMOS

#### 1.2.4 JP8: Clock Setting

1-2	3-4 CPU Clock		PCI Clock	
Open	Open	66.8 MHz	33.40 MHz (Default)	
Close	Open	75.0 MHz	37.50 MHz	

#### 1.2.5 JP9: Reset Switch Connector

Open	Normal ( <i>Default</i> )
Close	Reset System Board



#### 1.2.6 JP10, JP12: DOC-2000 & SRAM Select

JP10	JP12	1.2.6.1.1 Select
Open	Open	DOC-2000 (Default)
Close	Close	SRAM

#### 1.2.7 J11: SRAM Size Select

Open	128KB
Close	512KB ( <i>Default</i> )

#### 1.2.8 JP13, JP14: DOC-2000 Memory Address Select

JP13	JP14	1.2.8.1.1 Memory Address
Close	Close	C800 : 0000
Open	Close	D000 : 0000 ( <i>Default</i> )
Close	Open	D800 : 0000
Open	Open	x

#### 1.2.9 JP16: Clear External CMOS

Open	Normal ( <i>Default</i> )
Close	Clear CMOS

#### 1.2.10 J4: LCD Power Select

1-2	Close	+ 5V
2-3	Close	+ 3.3V (Default)

#### 1.2.11 J5: DOC-2000 Power Select

1-2	2-3	1.2.11.1.1.1.1.1 Power Select
Close	Open	+ 5V (Default)
Open	Close	From J6 Battery Input

#### 1.2.12 JP18: LCD Shift Clock Select

1-2	3-4	5-6	CN2 Pin 42 Signal
Close	Open	Open	SHFCLK -
Open	Close	Open	SHFCLK
Open	Open	Close	DOTCLK (Default)



#### 1.3 Connector's Description

#### 1.3.1 J1: Power Connector

Pin	Signal
1	+5V
2	+5V
3	GND
4	GND
5	GND
6	+12V

#### 1.3.2 J2: Invert Power Connector

Pin	Signal
1	+12V
2	GND
3	LCD ADJ.
4	+5V
5	+5V

#### 1.3.3 J3: LCD Bright Connector (Default: 2-3 short)

Pin	Signal
1	+5V
2	LCD ADJ.
3	GND
4	N.C.

#### 1.3.4 JP15: LAN LED Connector

Pin	Signal
1	LED +
2	LED -
3	LED +
4	LED -
5	LED +
6	LED -

#### 1.3.5 JP17: FAN Power Connector

Pin	Signal
1	+5V
2	GND
3	+12V



#### 1.3.6 J7: DOC-2000 Controller Programming Connector

Pin	Signal
1	TDO
2	TCK
3	TMS
4	TDI
5	GND
6	+ 5V

#### 1.3.7 J8: Power LED Connector

Pin	Signal
1	LED +
2	LED -

#### 1.3.8 JP3: Hard Disk Drive LED

Pin	Signal
1	LED +
2	LED -

#### 1.3.9 JP4: Slave IDE Connector (44 pin)

Pin	Signal	Pin	Signal
1	IDE RESET	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	SIGNAL GND	20	N/C
21	HDD 0	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	HD READY	28	N/C
29	HDACK 0	30	GND
31	IRQ14	32	N/C
33	ADDR 1	34	N/C
35	ADDR 0	36	ADDR 2
37	HARD DISK SELECT 0	38	HARD DISK SELECT 1
39	IDE ACTIVE	40	GND
41	VCC	42	VCC
43	GND	44	N/C





Pin	Signal	Pin	Signal
1	IDE RESET	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	SIGNAL GNA	20	N/C
21	HDD 0	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	DH READY	28	N/C
29	HDACK 0	30	GND
31	IRQ14	32	N/C
33	ADDR 1	34	N/C
35	ADDR 0	36	ADDR 2
37	HARD DISK	38	HARD DISK
57	SELECT 0	30	SELECT 1
39	IDE ACTIVE	40	GND

#### 1.3.10 JP5: Master IDE Connector (40 pin)

#### 1.3.11 J9: Floppy Drive Connector (34 pin)

Pin	Signal	Pin	Signal
1	GND	2	DENSITY SELECT
3	GND	4	N/C
5	GND	6	DRIVE TYPE
7	GND	8	INDEX
9	GND	10	MOTOR 0
11	GND	12	DRIVE SELECT 1
13	GND	14	DRIVE SELECT 0
15	GND	16	MOTOR 1
17	GND	18	DIRECTION
19	GND	20	STEP
21	GND	22	WRITE DATA
23	GND	24	WRITE GATE
25	GND	26	TRACK 0
27	GND	28	WRITE PROTECT
29	GND	30	READ DATA
31	GND	32	HEAD SELECT
33	GND	34	DISK CHANGE



33					1
0000	000	000	000	000	0 🗆
0000	000	000	000	000	00
34					2



#### 1.3.12 J10: Keyboard Signal Select (Default: Pin 3-4 & 5-6 short)

Pin	Signal	
1	+ 5V	
2	GND	
3	Connect to GOLDEN-FINGER (KBCLK)	
4	Keyboard Clock	
5	Keyboard Data	
6	Connect to GOLDEN-FINGER (KBDATA)	

#### 1.3.13 J11: COM4 Connector (Used for Touch Panel)

Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTX	8	CTS
9	RI	10	+5V

#### 1.3.14 J12: LCD Voltage Select (For Test Only) (Default:open)

Pin	Signal
1-2 Short	LCD Voltage Select +5V
2-3 Short	LCD Voltage Select +3.3V

#### 1.3.15 J13: VGA Chip Voltage Select

Pin	Signal
1-2 Short	VGA voltage Select +5V
2-3 Short	VGA voltage Select +3.3V (Default)

#### 1.3.16 J18: LCD Voltage Select

Pin	Signal			
1	Select +3.3V			
2	Power In			
3	+ 5V			

#### 1.3.17 CN1: Watchdog Connector Programming Connector

Pin	Signal	Pin	Signal
1	TDO	2	TCK
3	TMS	4	TDI
5	GND	6	+ 5V



#### 1.3.18 CN2: LCD Connector

Pin	Function	Pin	Function
1	+12V	2	+12V
3	GND	4	GND
5	5V/3.3	6	5V/3.3
7	ENAVEE	8	GND
9	P0	10	P1
11	P2	12	P3
13	P4	14	P5
15	P6	16	P7
17	P8	18	P9
19	P10	20	P11
21	P12	22	P13
23	P14	24	P15
25	P16	26	P17
27	P18	28	P19
29	P20	30	P21
31	P22	32	P23
33	GND	34	GND
35	SHFCLK	36	FLM
37	М	38	LP
39	GND	40	ENABKL
41	GND	42	ASHFCLK
43	ENAVDD	44	5V/3.3









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#### 1.3.19 USB Connector

Pin	Signal	Pin	Signal
1	VCC	2	UV-
3	UV+	4	GND

#### 1.3.20 JP1: COM3 Power Supply

Pin	Signal
1	+ 5V
2	Power In
3	+ 12V

#### 1.3.21 J8: MSR Setting

Pin 3-5, 4-6 Close: Extended Keyboard	
Pin 1-3, 5-7, 2-4,6-8 Close: Decode (Default)	

#### 1.3.22 VGA Connector (15-pin D type Female)

Pin	Signal	Pin	Signal	Pin	Signal
1	RED	6	GND	11	Х
2	GREEN	7	GND	12	Х
3	BLUE	8	GND	13	H-SYNC
4	Х	9	Х	14	V-SYNC
5	GND	10	GND	15	Х



#### 1.3.23 Printer Connector (25-pin D-type Female)

Pin	Signal	Pin	Signal
1	-Strobe	10	-ACKnowedge (ACK-)
2	Data 0	11	Busy
3	Data 1	12	Paper
4	Data 2	13	Printer Select (Select)
5	Data 3	14	-Auto Form Feed (Auto FD)
6	Data 4	15	–Error
7	Data 5	16	-Initialize (-Init)
8	Data 6	17	-Printer Select In (Select In-)
9	Data 7	18~25	GND



#### 1.3.24 COM1 and COM2 Connector (9-pin D-type Male)

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





#### 1.3.25 PS/2 Keyboard Connector

Pin	Signal	Pin	Signal
1	KB DATA	4	KB VCC
2	Х	5	KB CLK
3	KB GND	6	Х

1.3.26 PS/2 Mouse Connector

Pin	Signal	Pin	Signal
1	MS DATA	4	MS VCC
2	Х	5	MS CLK
3	MS GND	6	Х

1.3.27 Cash Drawer Connector (RJ-11 Type)

Pin	Signal	Pin	Signal
1	GND	4	+ 24V
2	Control 1	5	Control 2
3	State	6	GND

1.3.28 COM3 Connector (RJ-45 Type)

Pin	Signal	Pin	Signal
1	VCC	5	RTS
2	VCC	6	CTS
3	GND	7	ΤX
4	GND	8	RX

1.3.29 Power Connector (8-pin DIN Type)

Pin	Signal	Pin	Signal
1	+ 5V	5	GND
2	+ 5V	6	GND
3	+ 5V	7	GND
4	GND	8	RM

### 1.3.30 Power Connector (4-pin DIN Type)

Pin	Signal
1	GND
2	GND
3	+ 24V
4	+ 12V

### 1.3.31 Power Connector (3-pin DIN Type)

Pin	Signal
1	+ 24V
2	N.C.
3	GND







#### 1.3.32 HDD / FDD Power Connector

Pin	Signal
1	+ 12V
2	GND
3	GND
4	+ 5V

#### 1.3.33 CN3: LAN Connector

Pin	Signal
1	Tx+ (Data Transmission Positive)
2	Tx- (Data Transmission Negative)
3	Rx+ (Data Transmission Positive)
4	Rx- (Data Reception Negative)

#### 1.3.34 CN3: LAN Connector

	1							32
Row A		000000	000000	0000	000000	0000	000	00
Row B	0 0	000000	000000	0000	000000	0000	000	00
	1	1			20			32
Ro	w A	поооо						
_			<b>0</b>					
Ro	ow B	1			20			
Ī		Signal		Signal		٦		
	Pin	RowA	RowB	RowA	RowB			
	1	IOCHCHK	0V	0V	0V			
	2	SD7	RESET	SBHE	MEMCS16			
	3	SD6	+5V	LA23	IOCS16			
	4	SD5	IRQ9	LA22	IRQ10			
	5	SD4	-5V	LA21	IRQ11			
	6	SD3	DRQ2	LA20	IRQ12			
	7	SD2	-12V	LA19	IRQ15			
	8	SD1	ENDXFR	LA 18	IRQ14			
	9	SD0	+12V	LA17	DACK0			
	10	IOCHRDY	(KEY)	MEMR	DRQ0			
	11	AEN	SMEMW	MEMW	DACK5			
	12	SA19	SMEMR	SD8	DRQ5			
	13	SA18	IOW	SD9	DACK6			
	14	SA17	IOR	SD10	DRQ6			
	15	SA16	DACK3	SD11	DACK7			
	16	SA15	DRQ3	SD12	DRQ7			
	17	SA14	DACK1	SD13	+5V			
	18	SA13	DRQ1	SD14	MASTER			
	19	SA12	REFRESH	SD15	0V			
	20	SA11	SYSCLK	(KEY)	0V			
	21	SA10	IRQ7					
	22	SA9	IRQ6					
	23	SA8	IRQ5					
	24	SA7	IRQ4					
	25	SA6	IRQ3					
	26	SA5	DACK2					
	27	SA4	TC					
	28	SA3	BALE					
	29	SA2	+5V					
	30	SA1	OSC					
	31	SA0	0V					
	32	0V	0V					



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#### 1.4 Memory Configuration

PT-3000 lets you increase the system main memory via onboard SIMM (Single in-Line Memory Module) Sockets. The PT-3000 supports two banks of 16/ 32/ 64/ 128 MB SIMM modules. The system requires SDRAM SIMM modules.

Memory Size	BANK 0 (SIMM 1)	BANK 1 (SIMM 2)
16MB	N.C.	1 x 16MB
32MB	1 x 16MB	1 x 16MB
	N.C.	1 x 32MB
64MB	1 x 32MB	1 x 32MB
	N.C.	1 x 64MB
128MB	1 x 64MB	1 x 64MB
	N.C.	1 x 128MB

The PT-3000 supports the following configuration:

# 2 CHAPTER 2 - BIOS SETUP

#### 2.1 Introduction

For AWARD SOFTWARE, INC. supplies the PT-3000 system BIOS AWARD'S BIOS Flash ROM has a built-in setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM of CMOS chipset so that it retains the setup information when power is turned off.

As PT-3000 boots-up, the following appears on the screen: Hit <Del> if you want to run AWARD BIOS SETUP.

Control Keys:

Up Arrow	Move to previous item
Down Arrow	Move to next item
Left Arrow	Move to the item to the left side
Right Arrow	Move to the item to the right side
Esc Key	Main Menu – Quit and not save changes into CMOS
	Status Page Setup Menu and Option Page Setup Menu –
	Exit current page and return to Main Menu
PgUp / "+" key	Increase the numeric value or make changes
PgDn / "-" key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and
	Option Page Setup Menu
(Shift) F2 key	Change color from total 16 colors. F2 to select color
	forward, (shift) F2 to select color backward
F3 key	Reserved
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for
	Option Page Setup Menu



F6 key	Load the default CMOS value from BIOS default table,
	only for Option Page Setup Menu
F7 key	Load the setup default, only for Option Page Setup Menu
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

#### Getting Help:

- Main Menu: The on-line description of the highlighted setup function is displayed at the bottom of the screen.
- Status Page Setup Menu/ Option Page Setup Menu: Press F1 to pop-up a small Help window that describe the approximate keys to use the possible selections for the highlighted item. To exit the Help window press <F1> or <Esc>.

#### The Main Menu:

 Once you enter AWARD BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from ten setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

ROM PCI/IS CMOS AWARD	GA BIOS <2A5IIAKA> SETUP UTILITY SOFTWARE, INC.
STANDARD CMOS SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION LOAD BIOS DEFAULTS LOAD SETUP DEFAULTS	INTEGRATED PERIPHERALS SUPERVISOR PASSWORD USER PASSWORD IDE HDD AUTO DETECTION SAVE & EXIT SETUP EXIT WITHOUT SAVING
Esc: Quit F10: Save & Exit Setup	(Shift)F2 : Change Color
Time, Date,	Hard Disk Type



#### 2.1.1 Standard CMOS Setup Menu

The items in standard CMOS setup menu are divided into 11 categories. Each category includes one or more than one setup items. Use the arrow keys to highlight the items and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

ROM PCI/ISA BIOS <2A5IIAKA> STANDARD CMOS SETUP AWARD SOFTWARE, INC.										
Date(mm:dd:yy) : Time(hh:mm:ss) :	Fri, Apr 9 ′ 11 : 50 : 6	1999								
HARD DISK Primary Master Primary Slave Secondary Master Secondary Slave	TYPE SIZE :Auto :Auto :Auto 0 :Auto 0	CYLS 0 0 0	HEAD 0 0 0 0	0 PRECO 0 0 0 0	MP L/ 0 0	ANDZ 0 0	SECTO 0 0 0 0	DR MODE 0 AUTO AUTO	AUTO AUTO AUTO	
Drive A Video :EGA Halt On	:1.44MB, 3. /VGA :	5 in.				Bas Exte Oth Tota	e Memo ended N er Memo al Memo	ory : lemory : ory : ry :	640K 384K 32768K	1744K
Esc : Quit F1 : Help	<b>♦</b> (Shift)F	♥ → 2 : Cha	► <b>←</b> ange C	: Select If Color	tem		PU/PD/+	⊦/-: Modif	y	

<u>Date</u>: The date format is <day>, <month> <day> <year>.

<u>Time</u>: The time format is <hour> <minute> <second>. Which accepts either function key or numerical key. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

#### Primary Master/ Primary Slave/ Secondary Master / Secondary Slave:

The categories identify the types of hard disk drive C or drive D that has been installed in the system. There are 45 predefined types and 1 user definable types and 1 automatic type for normal BIOS. Type 1 to Type 45 are predefined. Type User is userdefinable. Type Auto is auto-definition.

Press PgUp / "+" or PgDn / "-" to select a numbered hard disk type or type the number and press <Enter>. Note that the specification of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk type is not matched or listed in 1 to 45, you can use Type User or Auto to define your own drive type manually or automatically. If a hard disk has not been installed select NONE and press <Enter>.

CYLS.	Number of Cylinders
HEADS	Number of Heads
PRECOMP	The size of a sector gets progressively smaller as the track diameter diminishes. Yet each sector much hold 512 bytes. Write Pre-compensation circuitry on the hard disk compensate for the physical difference in sector size by boosting the write current for sectors on inner tracks. This parameter is the track number where the write compensation begins.



LANDZONE	This number is the cylinder location where the heads will
	normally park when the system is shut down.
SECTORS	Number of Sectors per track.
MODE	HDD access mode

<u>Drive A</u>: Move the cursor to these fields via arrow keys and select the type. The settings are 360KB 5.25", 1.2MB 5.25", 720KB 3.5", 1.4MB 3.5" & 2.88MB 3.5".

<u>Video</u>: The category selects the type of adapter used for the primary system monitor that must match your video display interface and monitor.

EGA/VGA	Enhanced Graphics Adapter/ Video Graphics Array. For EGA,
	VGA, SVGA, or PGA monitors adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter includes high-resolution adapters.

Error Halt: The category determines whether the system will stop if an error is detected during power-up.

No Errors	Whenever the BIOS detects a non-fatal error the
	system will stop and you will be prompted.
All Errors	The system boot will stop for any error that is
	detected.
All, But Keyboard	The system boot will stop for all errors except a
	keyboard.
All, But Diskette	The system boot will stop for all errors except a disk
	error.
All, But Disk/Key	The system boot will stop for all errors except a
	keyboard or disk error.

<u>Memory</u>: The category is display-only which is determined by POST (Power On Self-Test) of the BIOS.

- Base Memory: The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of base memory is 640 KB for PT-3000 system.
- Extended Memory: The BIOS determines how much extended memory is present during POST. This is the amount of memory located above 1 MB in the CPU's memory address map.
- Other Memory: This refers to the memory located in the 640 KB to 1 MB address space. This memory that can be used for different applications. DOS uses this area to load device drives to keep as much base memory free for application programs. Most use for this area is Shadow RAM.
- Total Memory: System total memory is the sum of base, extended and other memory.



#### 2.1.2 BIOS Features Setup Menu

ROM PCI/ISA BIOS <2A5IIAKA> BIOS FEATURES SETUP				
Virus Warnings SETUP: Boot Sequence: Boot Up Floppy Seek: Boot Up NumLock Status:	Disabled C, A Disabled Off	Video BIOS Shadow C8000 - CBFFF Shadow CC000 – CFFFF Shadow D0000 – D3FFF Shadow D4000 – D7FFF Shadow	:Enabled :Disabled :Disabled :Disabled :Disabled	
Gate A20 Option: Typematic Rate Setting: Typematic Rate (Chars/Sec): Typematic Delay (Msec): Security Option:	Fast Enabled 30 250 Setup	DC000 – DEFFF Shadow DC000 – DFFFF Shadow	:Disabled :Disabled	
OS Select For DRAM > 64MB: Report No FDD For WIN 95:	Non-OS2 No			
		Esc :Quit F1 :Help F5 :Old Value F6 :Load BIOS Default F7 :Load Setup Defaul	Select Item PU/PD/+/- Modify (Shift)F2 Color ts ts	

<u>Virus Warning</u>: This category flashes on the screen. During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and following error message will appear, in the mean time, you can run an anti-virus program to locate the problem.

! WARNING!		
Disk Boot Sector is to be Modified		
Type "Y" to accept write or "N" to abort write		
AWARD Software, Inc		

Enabled	Activated automatically when the system boots up causing a
	warning message.
Disabled	No warning message to appear when anything attempts to access the boot sector or hard disk partition table

Note: This function is available only for DOS and other OS that do not trap INT13.

<u>Boot Sequence</u>: This category determines which drive system search first for the operating system files. Default value is A, C.

<u>Boot Up Floppy Seek</u>: If Enabled, during POST, the BIOS will determine if the floppy drive installed are 40 or 80 tracks.

<u>Boot Up NumLock Status</u>: The default value is ON; Keypad is number keys after bootup.

Gate A20 Option: The gate A20 is a device used to address memory above 1 MB.

Normal	Handling keyboard	gate	A20	by
Fast	Handling gate A20 by chipset			

<u>Typematic Rate Setting</u>: It determines the typematic rate and typematic delay programming parameters. The default value is Enable.

Typematic Rate (Chars/Sec): The default value is 30 characters per second.

Typematic Delay (Msec): The default value is 250 Msec.

<u>Security Option</u>: This category allows you to limit access to the system and setup, or just to setup.

System	The system will not boot and access to setup will be denied if the		
	correct password is not entered at the prompt.		
Setup	The system will boot, but access to setup will be denied if the		
	correct password is not entered at the prompt.		

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter setup freely.

OS Select for DRAM> 64 MB: This item allows you to access the memory over 64 MB in OS2. The default value is Non-OS2. Report No FDD for WIN95:

Yes	Release IRQ channel for system after disable FDD function
No	Without release IRQ channel for system after disable FDD
	function

<u>Video BIOS Shadow</u>: BIOS Shadow: It determines whether system BIOS will be copied to RAM or the system BIOS is always shadow to support LBA HDD. The default value is enabled.

<u>Video ROM Shadow</u>: It determines whether video ROM will be copied to RAM, however, it is optional from chipset design. Video shadow will increase the video speed.

C8000 – CBFFF Shadow/ CC000 – CFFFF Shadow/ D0000 – D3FFF Shadow/ D4000 – D7FFF Shadow/ D8000 – DBFFF Shadow/ DC000 – DFFFF Shadow: These categories determine whether optional ROM's will be copied to RAM. The default values are Disable.



r				
	ROM PCI/ISA B	BIOS <2A5IIAKA>		
CHIPSET FEATURES SETUP				
	AWARD SOF	FTWARE, INC.		
Auto Configuration:	Enabled	System BIOS Cacheable :Enabled		
L2 (WB) Tag Bit Length: SRAM Back-to-Back: NA# Enable: Starting Point of Paging: Refresh Cycle Time (us): RAS Pulse Width Refresh: RAS Precharge Time: RAS to CAS Delay: RAMW# Assertion Timing: SDRAM WR Retire Rate: SDRAM WR Retire Rate: SDRAM Wait State Control: Enhanced Memory Write: Read Prefetch Memory RD: CPU to PCI Port Write : CPU to PCI Burst Mem. WR: ISA Bus Clock Frequency:	8bits Enabled Enabled 1T 187.2 6T 4T 4T 3T X-2-2-2 1WS Disabled Enabled 3T Disabled PCICLK/4			
		Esc :Quit F1 :Help PU/PD/+/- :Modify F5 :Old Value (Shift)F2 :Color		
		F6 :Load BIOS Defaults		

#### 2.1.3 Chipset Features Setup Menu

The parameters in this screen are to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. Do not reset these values unless you understand the consequences of your changes.

Auto Configuration, selects predetermined optimal values of chipset parameters. When disabled, chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when auto configuration is enabled.



#### 2.1.4 Power Management Setup Menu

ROM PCI/ISA BIOS <2A5IIAKA>				
POWER MANAGEMENT SETUP				
	AWARD SC	DETWARE INC		
Power Management:	Enabled	Q3 <com 2=""> :Enabled</com>		
PM Control by APM:	Yes	IRQ4 <com 1=""> :Enabled</com>		
Video Off Option:	Susp,Stby Off	IRQ5 <lpt 2=""> :Enabled</lpt>		
Video Off Method:	DPMS supported	IRQ6 <floppy disk="">:Enabled</floppy>		
		IRQ7 <lpt 1=""> :Enabled</lpt>		
Doze Speed (div by):	2	IRQ8 <rtc alarm=""> :Disabled</rtc>		
Stdby Speed (div by):	2	IRQ9 <irq2 redir=""> :Enabled</irq2>		
MODEM Use IRQ:	3	IRQ10 <reserved> :Enabled</reserved>		
Hot key Suspend:	Disabled	IRQ11 < Reserved> : Enabled		
		IRQ12 <ps 2="" :enabled<="" mouse="" td=""></ps>		
** PN	I Timers **	IRQ13 <coprocessor> :Enabled</coprocessor>		
HDD Off Afte:	Disable	IRQ14 <hard disk=""> :Enabled</hard>		
Doze Mode:	Disable	IRQ15 <reserved> :Enabled</reserved>		
Standby Mod:	Disable			
Suspend Mode:	Disable			
** PN	Events **			
COM Ports Activity:	Enabled			
LPT ports Activity:	Enabled			
HDD Ports Activity:	Enabled			
VGA Activity:	Disabled			
		Esc :Quit F1 :Help F5 :Old Value F6 :Load BIOS Defaults F7 :Load Setup Defaults		

There are four selections for Power Management:

Disable	No power management. Disable all four modes.
Min. Power	Minimum power management, Doze mode = 1 hr. Standby
Saving	Mode = 1 hr. Suspend Mode = 1 hr. and HDD Power Down =
	15 min.
Max.	Minimum power management – ONLY AVAILABLE FOR SL
Power	CPU's, Doze mode = 1 min. Standby Mode = 1 min. Suspend
Saving	Mode = 1 min. and HDD Power Down = 1 min.
User	Allows you to set each mode individually. When not disabled,
Defined	each of the ranges are from 1 min. to 1 hr. except for HDD
	Power Down which ranges from 1 min. to 15 min. and
	disable.

<u>PM Control by APM</u>: When enabled, an Advance Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If the Max. power saving is not enabled, this will preset to "No". Default is "Yes"

Video off Method: This determines the manner in which the monitor is blanked

V/H	This section will cause the system to turn off vertical and
SYNC+Blan	horizontal synchronization ports and writes blanks to the
k	video buffer.
Blank	This option only writes blanks to the video buffer
Screen	
DPMS	Initial display power management signaling (default)



PM Timers:

- HDD Off After: When enabled and after the set time of system inactivity, the HDD will be powered down while all other devices remain active.
- Doze Mode: When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.
- Standby Mode: When enabled and after the set time of system inactivity, the CPU clock will run at slower speed and video would be shut off while all other devices still operate at full speed.
- Suspend Mode: When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

#### 2.1.5 PNP/PCI Configuration Setup Menu



<u>Resources Controlled By</u>: The AWARD Plug and Play BIOS can automatically configure all the boot and Plug and Play- compatible devices. If you select Auto, all interrupt request (IRQ) and DMA assignments fields disappear, as the BIOS automatically assigns them. The default values is Manual.

<u>IRQ n assigned to</u>: When the resources are controlled manually, assign each system interrupts as one of the following types, depending on the type of device using the interrupt:

- Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ 4 for serial port 1).
- PCI/ISA PnP devices complaints with the plug and play standard, whether designed for PCI or ISA bus architecture.



<u>DMA n assigned to</u>: When the resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt:

- Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific DMA channel.
- PCI/ISA PnP devices complaints with the plug and play standard, whether designed for PCI or ISA bus architecture.

#### 2.1.6 Integrated Peripherals Setup Menu

ROM PCI/ISA BIOS <2A5IIAKA> INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.				
Internal PCI/IDE: IDE Primary Master PIO: IDE Primary Slave PIO: IDE Secondary Master PIO: IDE Secondary Slave PIO: Primary Master Ultra DMA: Primary Slave Ultra DMA: Secondary Master Ultra DMA: Secondary Slave Ultra DMA: IDE Burst Mode : Enable IDE Data Port Post Write: IDE HDD Block Mode: Onboard FDC Controller: Onboard Serial Port 1: Onboard Serial Port 2: UART2 Mode: Onboard Parallel Port:	Both Auto Auto Auto Auto Auto Auto Auto Auto	Onboard Parallel Mode: Onboard Serial Port 3: Onboard Serial Port 4: WDT Active When Power PS/2 Mouse Function: USB Controller: USB Keyboard Support: Ethernet Boot ROM: Panel Type:	· ON:	SPP 3E8/IRQ10 2E8/IRQ5 63 sec Enable Enable Disable 800x600 TFT
		Esc :Quit F1 :Help F5 :Old Value F6 :Load BIOS Defaults F7 :Load Setup Defaults	♥ -▶• PU/PD/- (Shift)F2 s	<ul> <li>← :Select Item</li> <li>+/- :Modify</li> <li>2 :Color</li> </ul>

<u>IDE Primary/Secondary Master/Slave PIO</u>: The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode. (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provides successively increased performance. In Auto mode, the system automatically determines the best for each device.

<u>Primary/Secondary Master/Slave Ultra DMA</u>: Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95, OS/2 or a third-party IDE bus master driver). Select Auto to enable BIOS support.



#### 2.1.7 Change Password

To change the password, choose the PASSWORD SETTING option from the setup main menu and press <Enter>.

1. If the CMOS is bad or this option has never been used, a default password is stored in the ROM. The screen will display the following message:



Press <Enter>.

2. If the CMOS is good or this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen will display the following message:



Enter the current password and press <Enter>.

3. After pressing <Enter> (ROM password) or the current password (user-defined), you can change the password stored in the CMOS. The password can be at most eight (8) characters long.

Remember – to enable this feature, you must first select either Setup or System in the BIOS FEATURE SETUP.



# **3 CHAPTER 3 - DRIVER DETAILS**

#### 3.1 Disk-On-Chip ("DOC") Interface

The Disk-On-Chip (DOC) -2000 is a single chip Flash Disk designed to plug into a standard 32-pin flash EPROM socket. The DOC-2000 should be mapped into an 8K byte window in the BIOS expansion address space of the system, which is located between address C8000H to E0000H.

The Disk-On-Chip 2000 contain a built-in copy of the M-System industry-standard TrueFFS software, which makes the DOC to operate as a standard disk drive. The DOC-2000 can contain the operating system in it to allow BOOT in systems without a hard disk.

The DOC is a self-contained device. The installation of the DOC does not require any software installation. The design of the DOC allows for full upward and downward compatibility. While available today in capacities of 2 to 72 Mbytes,. Future DOC devices with higher densities, will be fully compatible with standard DOC sockets. The basic design of the DOC actually supports an unlimited capacity.

Operating the Disk-On-Chip

#### 3.1.1 Installing the Disk-On-Chip 2000:

When installing or removing the DOC, be sure to first touch a grounded surface to discharge any static electricity from you body. Use the following procedure to install the DOC:

- Align pin 1 on the DOC with pin 1 of socket.
- Push the DOC into the socket carefully until it is fully seated.
- Check to make sure the DOC is installed securely, and there are no bent pins.
- Caution: The DOC may be permanently damaged if installed incorrectly!
- To install the DOC as drive C on a system with out a hard disk, set the CMOS setup of drive C to "not installed" (setting that no physical magnetic disk is installed), and reboot the computer. The DOC-2000 will install as drive C. The DOC needs to be formatted with the system files in order for it to BOOT. See "Configuring the DOC as the BOOT device".
- To install the DOC as drive D on a system with a hard disk, just reboot the system, and DOC will install as drive D.
- To install the DOC as drive C on a system with a hard disk, see "Configuring the DOC as the first derive" .



#### 3.1.2 Configuring the Disk-On-Chip 2000 as the BOOT device:

In order to configure the DOC as the BOOT device, the operating system files need to be copied into it. Copying the Operating system into the DOC should be done like in any other hard disk. The following is an example of a typical initialization process:

- Set the DOC as a regular drive in your system (not a BOOT drive)
- Install a bootable floppy diskette in drive A and BOOT the system.
- At the DOS prompt, type SYS C: to transfer the DOS systems files to DOC (assuming the DOC is installed as drive C)
- Copy any file needed into the DOC.
- Remove the floppy diskette and boot the system. The system will BOOT from the DOC, and will allow you to run and access any files that have been copied into the DOC.

#### 3.1.3 Configuring the Disk-On-Chip 2000 as the first drive:

The DOC can be configured to be installed as the last drive (default), or as first drive in the system. When configured as the last drive, the DOC installed as drive D if there is another hard drive installed, and as drive C if no other hard disk is installed. When configured as the first drive, the DOC is always installed as drive C. The DOC is shipped from the factory, configured installed as the last drive. To configured the DOC to be installed as the first drive, processed as follows:

- BOOT the system and make sure the DOC is installed correctly as drive D
- At the DOS prompt type: **DUPDATE D:/FIRST / S:DOC105.EXB**
- After re-booting the system, the DOC will appear as C:

#### 3.1.4 DUPDATE – Updating Disk-On-Chip 2000 Firmware:

In case a firmware update will be required, M-System will deliver a new .EXB, which should be written into the firmware portion of the Flash media within the Flash Disk, using the DUPDATE utility.

DUPDATE requires that the DOC will be already programmed with previous firmware file programmed into, which is the default since the Flash Disk is ship fully tested and programmed.

DUPDATE program's the firmware that is supplied in DOC105.EXB into the DOC located as the first drive C: in case a hard disk is available in the system.

#### 3.1.5 Network Interface

The Realtek RTL8139A is a highly integrated and cost-effective single-chip Fast Ethernet controller that provides 32-bit performance, PCI bus master capability, and full compliance with IEEE 802.3u 100Base-T specifications and IEEE 802.3x Full Duplex Flow Control. It also supports ACPI, PCI power management for modern operating systems that is capable of Operating System Directed Power Management (OSPM) to achieve the most efficient power management. The RTL8139A is also suitable for motherboard with built-in network controller application.

The RTL8139A keeps network maintenance cost low and eliminates usage barriers. It is the easiest way to upgrade a network from 10 to 100Mbps. It also supports fullduplex operation, making possible 200Mbps of bandwidth at no additional cost. The RTL8139A is highly integrated and requires no logic or external memory. It includes an



interface for a boot ROM and can be used in diskless workstations, providing maximum network security and ease of management.

Features:

- Support 10 Mb/s and 100 Mb/s N-way Auto-negotiation operation.
- Support LED pins for various network activity indications.
- Half/ Full duplex capability.
- Support digital and analog loopback capability on both ports.
- Contains two large (2Kbytes) independent receive and transmit FIFO's.

Software Support:

- On-board EEPROM (93C46) programming
- Setup/Diagnostic program for DOS/Windows
- Help utility for easy installation
- RPL boot ROM for Novell Netware, Microsoft NT
- NDIS2 (DOS,OS/2,Lantastic,WFW3.1<sub>j</sub>K<sub>j</sub>K)
- NDIS3,NDIS4,NDIS5 for WIN95,98,NT3.1,3.5x,4.0,5.0,WFW3.11
- Netware 16-bit ODI driver for DOS,OS/2 and 32-bit ODI driver for Netware 3.x,4.x,5.0 Server
- Packet driver for UNIX Client
- SCO Unix driver
- Linux driver
- FreeBSD

Driver for RTL 8139A: Following is the list of driver's:

File Name	Description	Version
Win95-	Windows 95	3.53
8139(353).exe		
Win98-	Windows 98	3.53
8139(353).exe		
Nt50-8139(353).exe	Windows NT5.0	3.53
Nt40-8139(353).exe	Windows NT4.0	3.53
Nt351.exe	Windows NT3.51	3.50
Sco8139(313).exe	SCO Unix driver	3.13
RSET8139.exe	Setup/diagnostic program	4.03
	(must be run under PURE	
	DOS)	

#### 3.1.6 LCD/ VGA Display Interface

The CHIPS-65550 Multimedia Accelerator extends CHIPS' offering of high performance flat panel controllers for full-featured notebooks and sub notebooks. Based on a totally new internal architecture, the 65550 integrates a powerful 64-bit graphics accelerato

rengine for Bit Block Transfer (BitBLT), hardware cursor, and other functions intensively used in Graphical User Interfaces (GUIs). Superior performance is also achieved through a direct 32-bit interface to the VESA Local Bus, or PCI Bus. The 65550 offers exceptional performance when combined with the advanced linear acceleration driver technology developed by CHIPS.



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The 65550 support a wide variety of monochrome and color standard and high-res passive STN and active matrix TFT/MIM LCD, and EL panels. For monochrome panels, up to 64 gray scales are supported. Up to 4096 different colors can be displayed on passive STN LCDs and up to 16M colors on 24-bit active matrix LCDs. The 65550 offers a variety of programmable features to optimize display quality. Horizontal and vertical stretching capabilities are also available for both text and graphics modes for optimal display of VGA text and graphics modes on 800x600 and 1024x768 panels. Three selectable color-to-gray scale reduction techniques are available for improving the ability to view color applications on monochrome panels. The 65550 uses a variety of advanced power management features to reduce power consumption of the display subsystem and extend battery life. Although optimized for 3.3V operation, the 65550's internal logic, memory interface, bus interface, and panel interfaces can be independently configured to operate at either 3.3V or 5.0V.

File Name	Description	Version
Win95500.exe	Windows 95	6.0.0
Win98600.exe	Windows 98	5.0.0
Nt4129.exe	Windows NT4.0	1.2.9
WNT117.exe	Windows NT3.51	1.1.7
W31132.exe	Windows 3.x	1.3.2

Driver for VGA/ Flat Panel Controller: Following is the list of driver's:

#### 3.1.7 Touch Panel Interface

Elo TouchSystems designed AccuTouch touchscreens with the harshest environments in mind, so it's no wonder they excel in reliability, durability and expected product life. Impervious to environmental conditions such as liquid spills and splashes, humidity, and washdown, these touchscreens provide the most contamination resistance available on the market today. And AccuTouch touchscreens deliver drift-free operation—for all 35 million touches of their life.

PT-3000 implements serial-type of touch panel system with mouse emulation. The touch panel is connected internally to serial port COM 4, IRQ 5.

#### 3.1.7.1 Key Features

- AccuTouch's patented five-wire resistive technology provides unmatched accuracy because of its inherently stable design. There's no need for recalibration when environmental conditions change.
- Enhanced scratch-resistant hardcoat yields protection against damage.
- AccuTouch can be activated with fingers, fingernails, stylus, gloved hand and credit cards, while maintaining superb tactile feel.
- AccuTouch touchscreens are completely sealed against contamination and moisture. This prevents fluid ingress through the air vent due to capillary action.
- Most cost effective resistive touchscreen chip. The AccuTouch COACh (Controller On A Chip) is specifically designed for resistive touchscreen applications. The COACh is a single chip solution that is compatible with all Elo touchscreen drivers.



#### 3.1.8 Driver

#### 3.1.8.1 Windows 95/98

- MM95\_200.exe MonitorMouse for Windows 95/98, version 2.00. Includes a 32-bit driver and Touchscreen Control Panel, as well as an easy-to-use Setup program. See the README.TXT file after running the self-extracting program.
- WIN95.txt Instructions for installing the DOS and Windows Driver Disk, version 2.0c (Windows 16-bit 3.x drivers) with Windows 95.. See the READ.ME file.
- DIAGS.zip Touchscreen and controller diagnostic tools (run under DOS boot). Includes BUSSTAT, COMDUMP, INFO, and SAWDUMP.

#### 3.1.8.2 Windows NT

- MMICE30c.exe MonitorMice for Windows NT 4.0, version 3.00c. See the README.TXT file after running the self-extracting program. MonitorMice for Windows NT contains a native, 32-bit driver designed for Windows NT, an uninstall utility, a 32-bit control panel program, and DOS-based diagnostic applications for Elo TouchSystems' serial touchscreen controllers.
- MMNT.exe MonitorMouse for Windows NT, version 2.00. See the README.TXT file after running the self-extracting program. Compatible with NT 3.5, 3.51, and 4.0.
- DIAGS.zip Touchscreen and controller diagnostic tools (run under DOS boot). Includes BUSSTAT, COMDUMP, INFO, and SAWDUMP.

#### 3.1.8.3 DOS and Windows 3.x

- DWDSK.zip DOS and Windows Driver Disk, version 2.0c-1 with all-in-one INSTALL program. Includes MonitorMouse for Windows, MonitorMouse for DOS, ELODEV, TouchBack, and ELODEMO.
- POSDEMO.zip- Elo TouchSystems' point-of-sale demo program for Windows. This program can be run on a single touchmonitor

#### 3.1.9 Sound Controller

This hardware is an optional in PT-3000 system, it depends upon the customer requirement.

#### 3.1.9.1 Key Features

- The ESS 1869, sound controller is a single, high-performance, mixed-signal 16-bit stereo VLSI chip that can record, compress, and play back voice, sound, and music. It is equipped with an embedded microcontroller, 16-bit stereo wave ADC and DAC, industry-proven ESFM<sup>™</sup> music synthesizer, and ISA bus interface logic. The chip has three stereo inputs (typically line, CD audio, and an auxiliary line), and a mono input for a microphone.
- The controller support full-duplex operation for simultaneous record and playback and Zoom Video MPEG audio playback through an I<sup>2</sup>S interface.
- The controller supports all of the major operating systems including Windows NT<sup>™</sup>, Windows<sup>®</sup> 98 and Windows<sup>®</sup> 95.
- The controller support dual game port.
- Integrated 3-D sound interface.
- Hardware volume control.
- Support Full Duplex function.



**Driver Details** 

File Name	Description
1869W31.zip	Windows 3.1x
1869W95.zip	Windows 95
20118NT.zip	Windows NT4.0
1869OS2.zip	OS/2

#### 3.1.10 Customer Display Interface ("OLE/POS Driver")

What Is "OLE for Retail POS?"

OLE for retail POS provides an open device driver architecture that allows Point-of-Sale ("POS") hardware to be easily integrated into POS systems based on Microsoft Windows-95 and Windows NT.

The goals of OLE for Retail POS (or "OPOS") include:

- Defining architecture for Win-32 BASED POS device access.
- Defining a set of POS device interface sufficient to support a range of POS solutions.

For PT-3000 system, OLE/POS(OPOS) OCX Drivers are for the following devices:

- CD-6220 Line Display
- TP-3688 POS Printer

After Unzipping the file "PARTNER.ZIP", run INSTALL. EXE program. Follow the instructions. After installation, you will find a new entry in the "Start\Programs" menu. In the group 'Dietrich OCX Drivers' you should find the following topics:

- 1) Driver Configuration
- 2) Driver Manager Help
- 3) OLE-POS Overview(Presentation)
- 4) OPOS Application Documentation 1.1
- 5) OPOS Control Documentation 1.1
- 6) POS Example program
- 7) Line Display Test

(some of this topics may not exist if you disabled some installation options)

#### 1) Driver Configuration

This program allows you to setup the drivers to work with your system. More information you will find in the 'Driver Manager Help'. You can invoke this help either by selecting the 'Driver Manager Help' Entry in the 'Dietrich OCX Drivers'-Group or by pressing the 'Device Help' button of the Driver Manager.

2) Driver Manager Help

This help includes information for the Driver Configuration, for the Hardware, and a small troubeshooting guide.

3) OLE-POS Overview(Presentation)

Presentation about the OLE for Retail. Use PowerPoint to read the information.

4) OPOS Application Documentation 1.1

This documentation is (c) by the OPOS Developer Consortium. It contains the complete specification for OLE/POS Application developers.

5) OPOS Control Documentation 1.1

This documentation is (c) by the OPOS Developer Consortium. It contains the complete specification for OLE/POS Control developers.

6) POS Example program

With this you can test the installed OPOS Drivers for functionality. By simulating a small cash register you can access a line-display device and a POS-printer. For more information look into the Driver Manager Help.

7) Line display Test

This program provides a feature test for an OLE/POS Line display Device. During startup you are being asked for the logical device name of the OLE/POS Line display Device to test. For the "CD6220 Line Display" this would be "CD6220".

#### 3.1.11 Magnetic Swipe Reader (MSR) Interface

PT-3000 has an in-built port for the MSR, supports 1/2/3 track. The supply for the MSR is taken from the keyboard. Once the MSR is installed to the main system, Run "KBD.EXE" file to set the configuration of the MSR.

#### 3.1.12 PCMCIA Interface

PT-3000 support PCMCIA interface, which helps us to connect various mobile devices to the system from following areas:

- 1. Data Communication
- 2. Networking
- 3. Data Storage
- 4. Multimedia application

