K6-2 Series

Compact EPoS PC
User's Manual

M/B Ver. 2.0
May. 2000

WARNING

A: **Under no circumstances should any device be connected or disconnected whilst the DigiPoS2000 is powered. Failure to comply with this will invalidate the warranty.** It is advisable to allow 1 minute after power down before changing any COM port devices. This will allow the power supply to the COM ports to time to discharge.

B: The technical descriptions and specifications of the DigiPoS2000 are subject to change without notice.

C: For reasons of safety gloves should be worn when assembling the DigiPoS2000.

ACHTUNG!

A: **Wechseln Sie unter keinen Unständen die Schnittstellenstecker im eingeschaltetem Zustand. Dies würde zur Zerstörung der COM Ports führen. (kein Garantiefall). Bitte schalten Sie den DigiPoS 2000 zuvor ab und warten Sie ca. 1 Minute bis sich die Kondensatoren entladen haben!**

B: Technische Änderungen vorbehalten.

C: Aus Sicherheitsgründen ziehen Sie sich bitte beim Öffnen, Einbauen bzw. Ausbauen der einzelnen Komponenten des PCs Handschuhe an.

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1. INTRODUCTION & KEY FEATURES

1.1 Introduction

Congratulations on the purchase of your DigiPoS2000
You are now the owner of a state-of-the-art DigiPoS2000, the PC that offers enhanced features, speed, and performance, and the PC that is unrivaled by other conventional Pentium-586-based PCs.

1.2 Key Features:

Model number: DigiPoS2000

Options: DigiPoS2000 - POS ➔ 4S: 4 serial ports
DigiPoS2000 - Media ➔ 2S: 2 serial ports
with optional internal CD-ROM Drive

CPU	Supports Super Socket 7 P-54 / P-55 / K6-2 / 3-AFR / M3 CPUs
CPU CLOCK	66 / 75 / 83 / 95 / 100MHz bus frequency
CPU VOLTAGE	Vcore:1.8 to3.5V
MAIN MEMORY	Notebook SO-DIMM X 1 up to 128MB (SDRAM or EDO)
BIOS	I-O Preset IRQ / PnP / APM / DMI / ESCD / PCI bus 2.1 / DRAM ECC Quick Boot / HW Monitor (LDCM)
CACHE MEMORY	512KB P.B. SRAM
EXPANSION SLOTS	Riser Card with 3 FREE Slots: one ISA bus, one PCI bus and one ISA / PCI shared bus with COM3 / COM4 (Optional) FDD output and IDE2 CD-ROM output connector
SERIAL PORT A	COM1, COM2
PARALLEL PORT	One LPT port (SPP / EPP / ECP)
USB	TWO USB ports supporting Windows 95 / 98
FDD	1.44MB / 3.5" FDD x 1.
ENHANCED PCI IDE	On board PCI Bus Master IDE1/2 controller with Win95 utility, supports Ultra DMA/33
AGP GRAPHICS PORT	SiS530AGP with shared memory from 2 to 8MB. Added features include: • Support for 2X AGP VGA controller • Support for 3D / 2D Graphics Accelerator • Support for Video Accelerator • Support for VESA DPMS VGA Monitor for Power Management • Direct X, VPE, MPEG2 • NT4.0 / 5.0, Windows95/98 utility • APM / ACPI 1.0 • Option for 2 X 22-pin digital LCD pin out connector
PCI LAN PORT	ACPI / NT4.0 / 5.0 (NDIS 5)
(10/100MBPS AUTO)	NT 4.0 / Win95/98 utility
	Remote boot ROM for NT 4.0.
	Wake-on-LAN (WOL)
DISK ON CHIP SOCKET	2MB up to 144MB

KEYBOARD PORT	PS/2 type
MOUSE PORT	PS/2 type
FRONT PANEL	Front panel features include: • Diagnostic on/off button • 3 LED indicators: Power On/Off, Suspend mode state & LAN state • 4 LED indicators behind door, Diagnostics, 5V, 9V, 12V • 1.44MB FDD • Door for FDD and Diagnostic switch
BACK PANEL	Back panel features include: • VGA CRT 15-pin DSUB connector • COM1/2 9-pin DSUB output connector • LPT 25-pin DSUB connector • Optional COM3/4 9-pin DSUB output connector • PS/2 Keyboard & Mouse connector • LAN RJ-45 output connector • USB1 / USB2 connector
AC POWER SUPPLY	200W external power supply (UL, CSA, VDE, EMI meets FCC *B*)
AC POWER SOURCE	AC 90V to 264V, 50Hz / 60Hz AT type
CASE DIMENSIONS	11"(W) x 11" (D) x 3" (H) (280 x 280 x 75mm)
EXPORT PACKAGING	Each pack measures 34 x 34 x 17cm and weighs 5.5kg net 6.5kg gross
S/W COMPATIBILITY	DOS / OS2 V2.1 / SCO XENIX: V2.3.2 / SCO UNIX V3.2 / NOVELL / WIN 3.1/95/98/ NT4.0
TEMPERATURE	**Operating:** 0ºC to 45ºC (without HDD up to 60ºC) **Storage:** -25ºC to 85ºC

OPTIONS

I. PCI Audio Card	Audio Line in/out Mic-in/Game port
II. Game port	PCI 2.1/ACPI 1.0/WDM PC98 Logo, NT4.0/Win95/98 utility
III. Serial Port B	COM3,COM4 On riser Card
IV. PCI Modem Card	Win95/98 Utility (33.6 or 57K)support PCI2.1/ACPI1.0
V. IDE2 CD-ROM	On board PCI Bus Master IDE1/2 controller with Win95 utility, support Ultra DMA/33

Note: All brand names and trademarks are the property of their respective owners.

2. Installation Notes for the PENTIUM PROCESSOR vs. ZIP 7 SOCKET

Important! Study these notes before installation!

Thank you for purchasing our products. Before installation, please review these notes.
Failure to properly install and integrate your processor may impact negatively on your warranty coverage.

2.1 Integration Issues:

I. Before you integrate your Pentium processor in the ZIP 7① Socket, you need to carefully comply with the installation tips as described below to avoid damaging the CPU Socket due to incorrect operation.

II. Ensure your Pentium processor is put in the right position and in the right direction.

① ZIP 7 is specifically used in Notebook PCs, and is different from ZIF 7 used in Desktop PCs

2.2 Installation Tips:

To ensure smooth installation, please pay particular attention to the following steps:

I. Align your CPU by matching the blunt corner of the processor with the corresponding distinctive pinhole arrangement in the socket.

After aligning the CPU **make sure to** put your Pentium processor into the non-gold-coated pinhole area as shown on the enlarged detail below.

The CPU should be plugged into the socket firmly, but there is no need to use excessive force

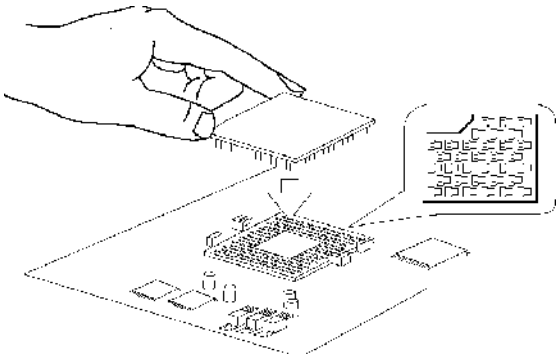
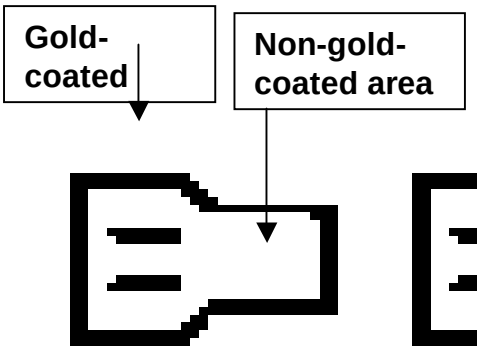


Figure 1 CPU Orientation

DETAIL OF PINHOLE:



** Please make sure to put your CPU in the* **non-gold-coated** *pinhole area.*

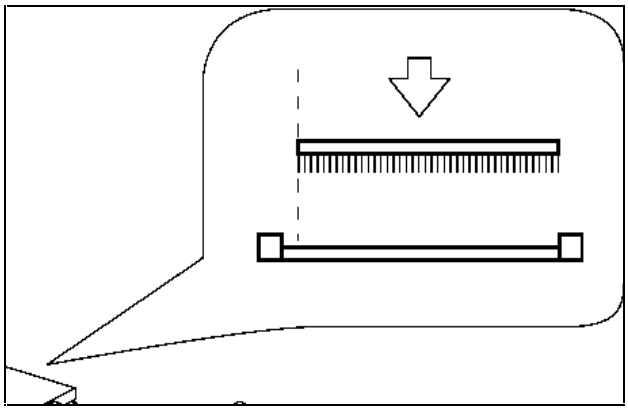


Figure 2 CPU Alignment

II. Insert the processor in the bottom of the pinhole precisely and firmly - no heavy force is necessary.

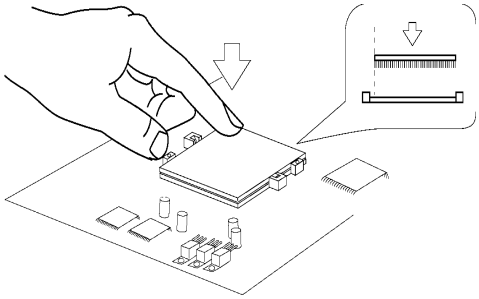


Figure 3 CPU Insertion

III. Use a screwdriver to push the processor from the plastic cavity engraved with “Close” to the “Open” end. This will push your Pentium processor into the gold-coated pinhole area. You can now proceed to the heat-pipe installation steps.
N.B. Please note the position of the plastic cavities engraved with “Close” and “Open”

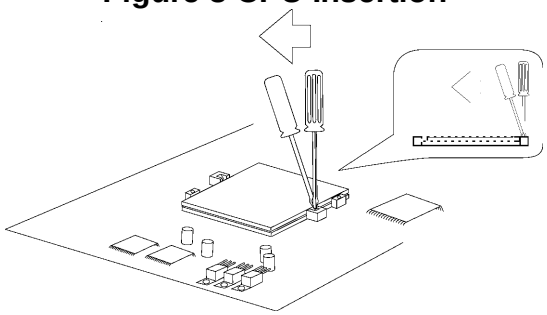


Figure 4 CPU Locking

IV. If you need to remove your Pentium processor, please reverse the steps described above after removing heat-pipe. Use a screwdriver to push the processor from the plastic cavity engraved with “Open” to the “Close” end. Push your Pentium processor into the non-gold-coated pinhole area.

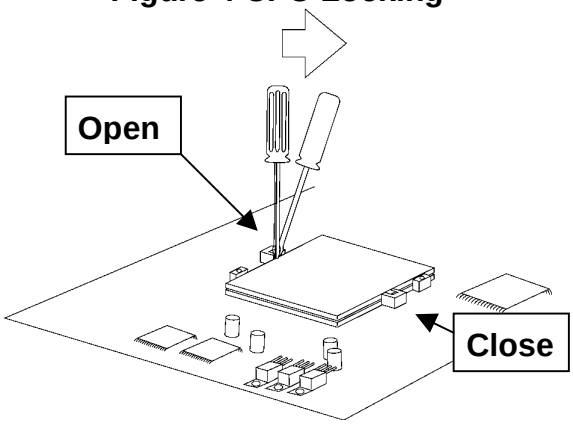


Figure 5 CPU Unlocking

V. Now you can remove your Pentium processor with your fingers.

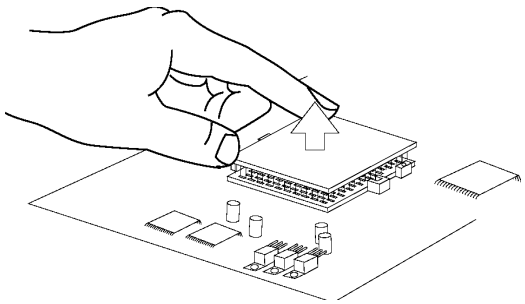


Figure 6 CPU Removal

Remarks:

1. Please refer to the installation tips for the heat-pipe in the following pages.
2. These notes are subject to change without notice.
3. All brands or trademarks are the property of their registered owners.
4. Please use the flat headed screwdriver

2.3 Heatpipe Installation Notes

Important! Study these notes before installation!

Thank you for purchasing our products. Before installation, please review these notes.
Failure to properly install the heat-pipe may impact negatively on your warranty coverage.

2.3.1 Parts: Heat-Pipe (front view and rear view) + 2 pairs of screws

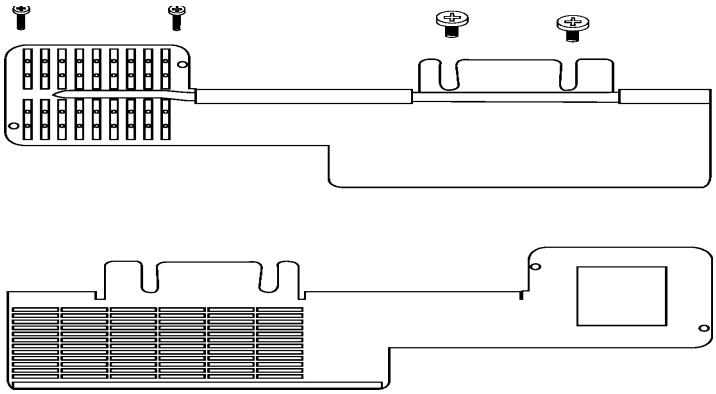


Figure 7 Heatpipe

2.3.2 Assembly Tips:

I. Complete the installation procedures for the Pentium processor described in the preceding “Installation Notes for Pentium Processor vs. ZIP 7 Socket” section.

II. Installing the heat-pipe will disadvantage the card length used in the PCI/ISA shared SLOT located in SL5-SL6; the length of the add-on card will be shortened as follows:

FROM: **175mm** without heat-pipe ⇨ TO: **165mm** with heat-pipe

And in the 8-bit Slot located in SL2-SL4, the length of add-on card will be shortened as follows:

FROM: **230mm** without heat-pipe ⇨ TO: **165mm** with heat-pipe

III. You need to fasten the pairs of screws through the heat-pipe into the appropriate screw-holes in the CPU socket and in the metal bracket. To ensure smooth installation, please pay particular attention to the following diagram:

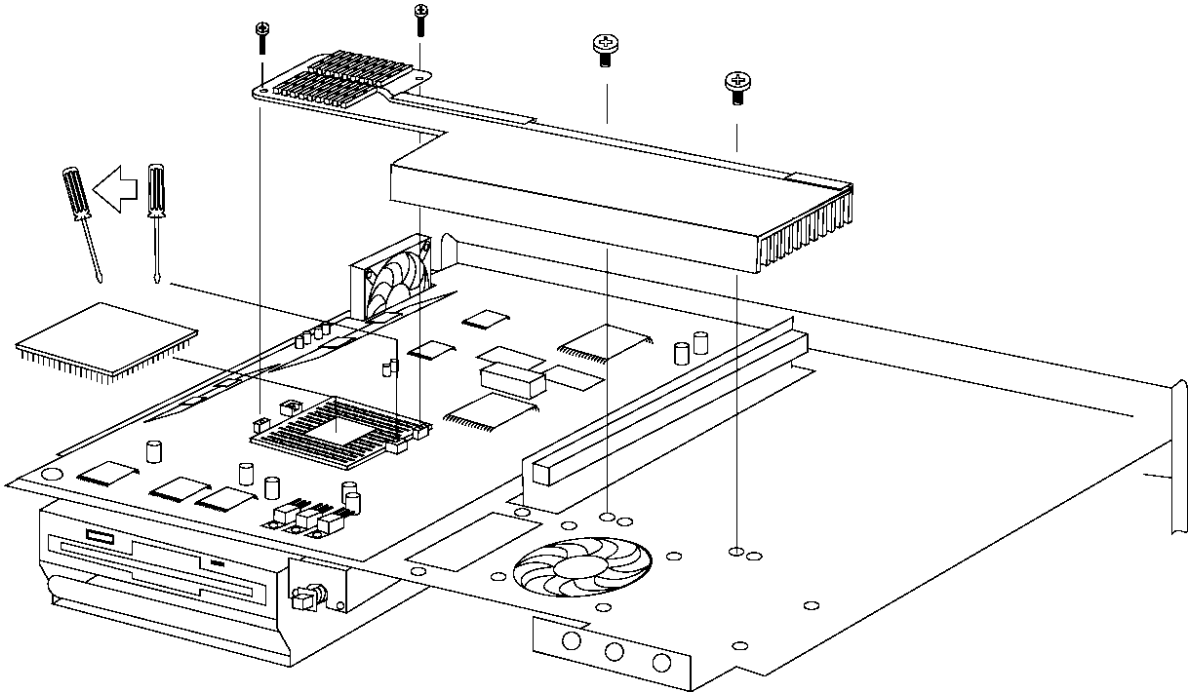


Figure 8 Heatpipe Installation

Remarks:

1. Please refer to the relative installation tips for other products.
2. These notes are subject to change without notice.
3. All brands or trademarks are the property of their registered owners.

3. SYSTEM CONFIGURATION

Familiarizing yourself with your DigiPoS2000

3.1 The Front Panel Arrangement:

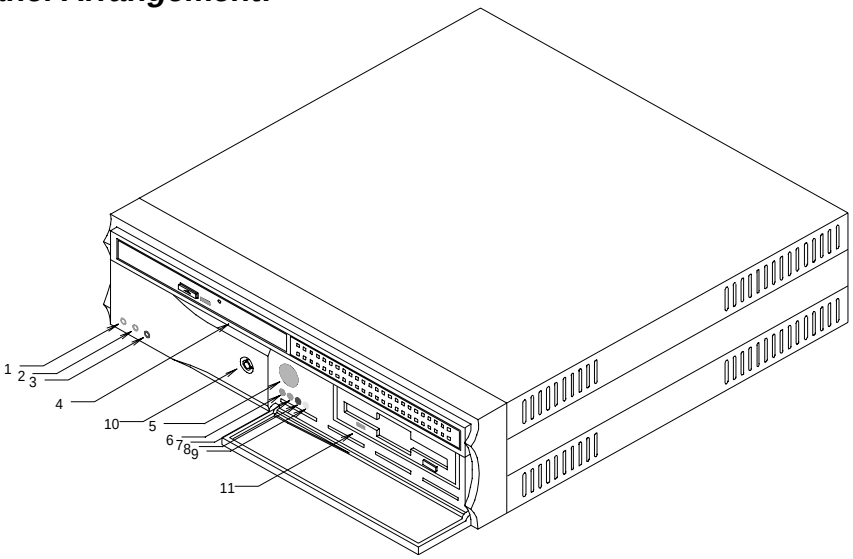


Figure 9 DigiPoS 2000 Front Panel

1) LED, Power On Indicator	7) LED, 5V Status Indicator
2) LED, Network Activity Indicator	8) LED, 9V Status Indicator
3) LED, HDD Activity Indicator	9) LED, 12V Status Indicator
4) CD-ROM drive	10) Front Panel Lock
5) Diagnostics Activation Switch	11) FDD Drawer
6) LED, Diagnostic On Indicator	

3.2 Rear Panel Arrangement:

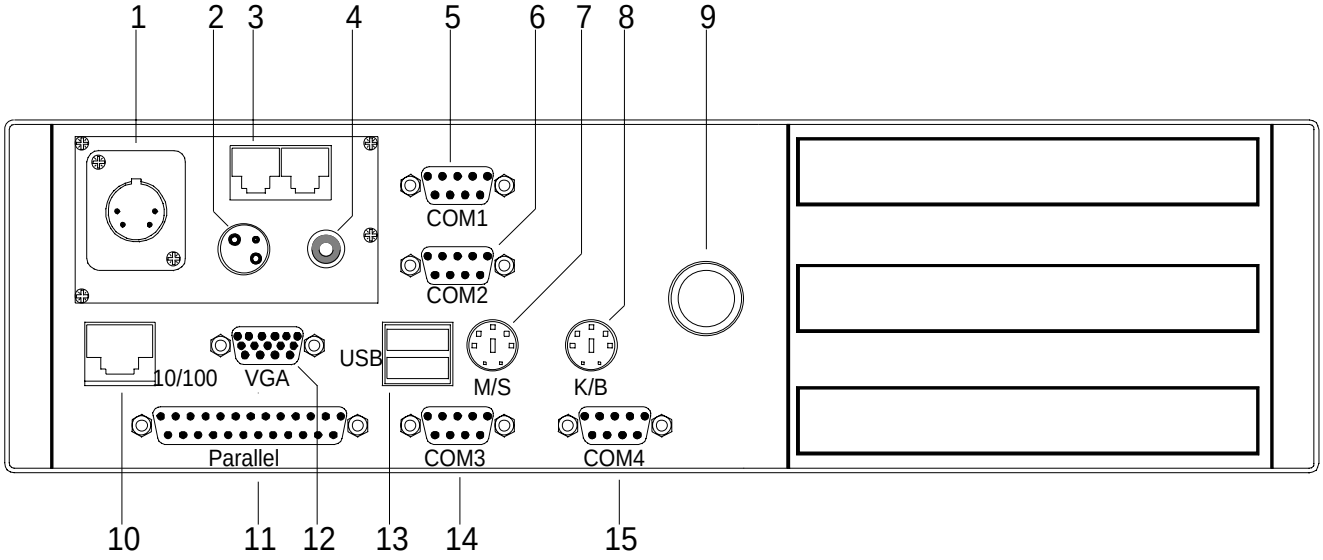


Figure 10 DigiPoS 2000 Rear Panel

1) DC Power Input 2) Hosiden 24VDC Power Output 3) Cash drawer connector 4) 2.5mm barrel connector 5) COM1 Port 6) COM2 Port 7) PS/2 Mouse Port 8) PS/2 Keyboard Port	9) Extraction knob 10) 10/100 LAN Port 11) Parallel Port 12) VGA port 13) Two USB Ports 14) COM3 Port 15) COM4 Port

3.3 System Internal Arrangement:

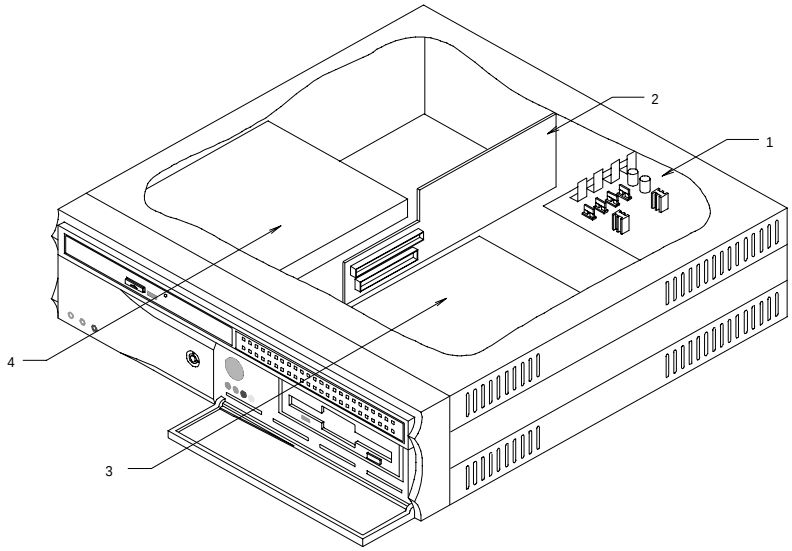


Figure 11 Internal System Arrangement

1) Power distribution board 2) Riser Card	3) HDD/FDD sub chassis 4) CD-ROM

3.4 DigiPoS2000 Main Board Layout

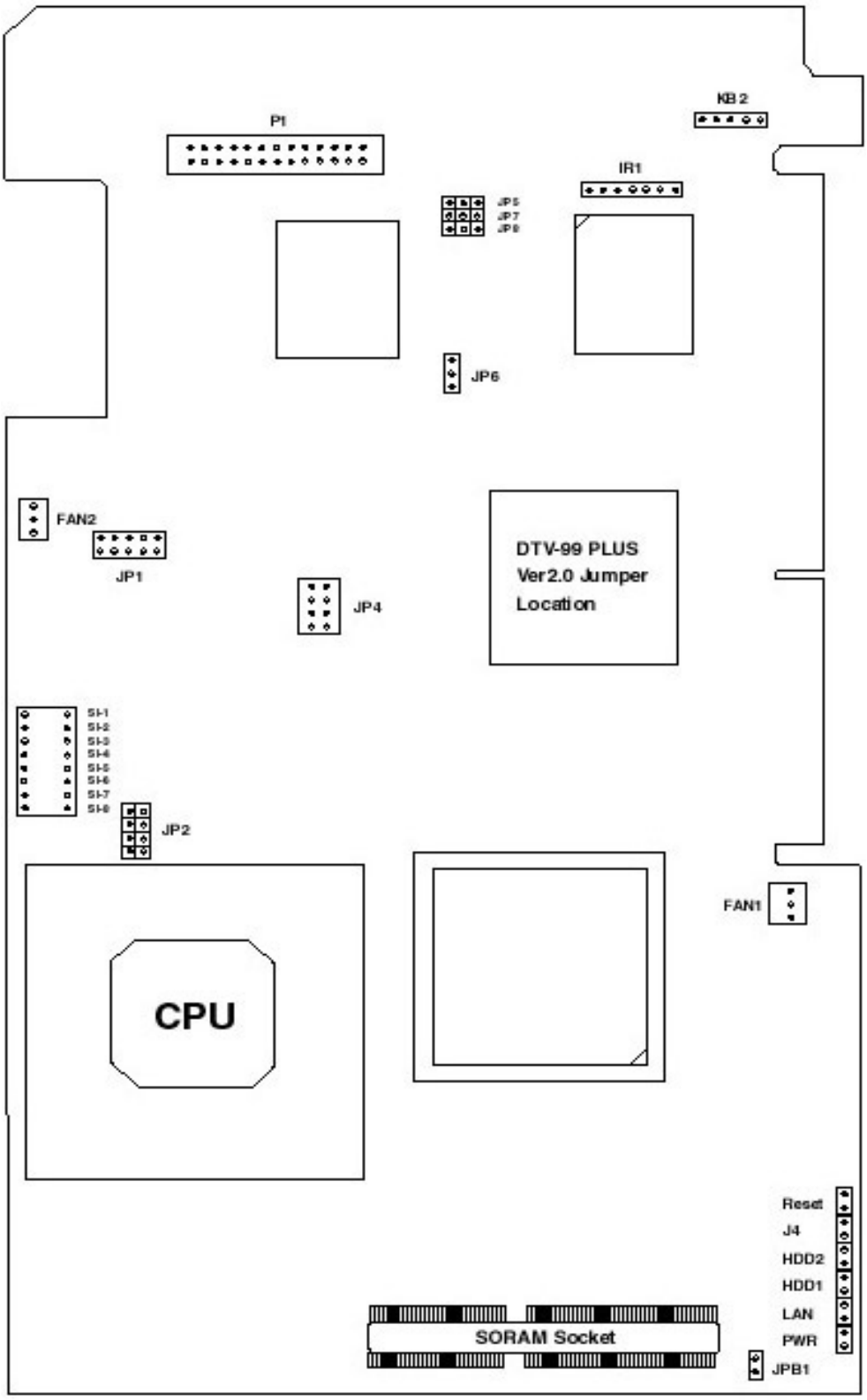


Figure 12 Main Board Layout

3.5 DigiPoS2000 Riser Card Layout (Front and Back Views):

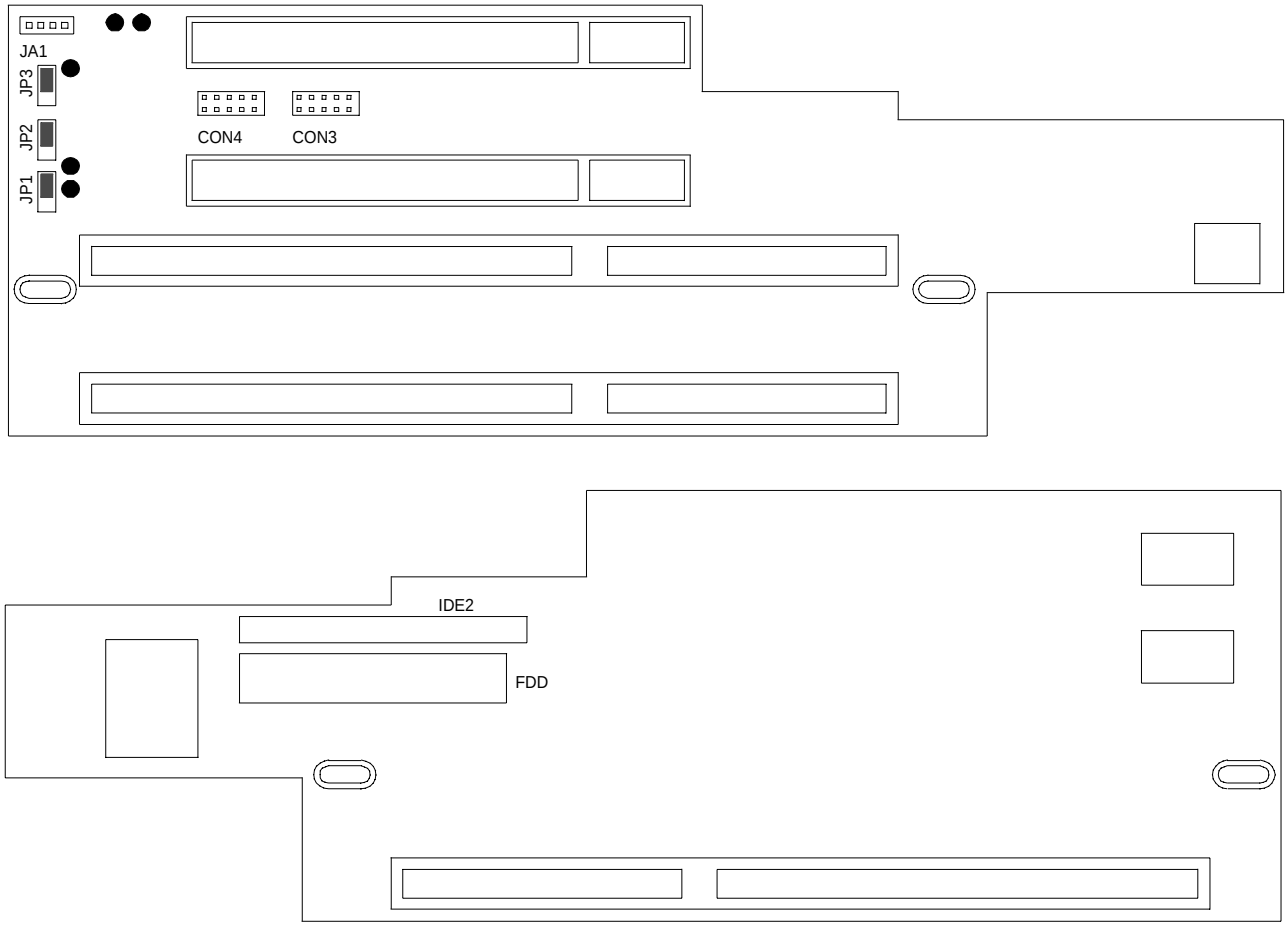


Figure 13 Riser Card Layout

3.6 Riser Card Jumper Setting

FDD1	FDD CONNECTOR
IDE2	CD-ROM MINI 50-PIN CONNECTOR
JP1 1-2 2-3	COM3 D-SUB PIN9 SELECT NORMAL (DEFAULT) +5V (OR +12V) FOR CCD
JP2 1-2 2-3	COM4 D-SUB PIN9 SELECT NORMAL (DEFAULT) +5V (OR +12V) FOR CCD
JA1	CD-ROM AUDIO LINE OUT CONNECTOR
CON3	COM3 CONNECTOR
CON4	COM4 CONNECTOR

3.7 Connector & Jumper Pin Location:

The following pages contain DigiPoS2000 Jumper Settings for:

- *CPU voltage regulator output*
- *CPU type*
- *WINCHIP clock ratio*
- *Disk-on-Chip address*
- *System BIOS FLASH ROM voltage*
- *CCD voltage*
- *COM1/2 D-Sub pin-9 selection*
- *CMOS*

NOTE: The correct Heatpipe must be fitted whenever the CPU is changed. Please refer to section 2.3 when installing the CPU and Heatpipe.

Note: In following pages, the jumper setting with ***"*"*** *mark means factory default value on regular shipments.*

4. MAIN BOARD JUMPER SETTING

4.1 CPU CORE VOLTAGE SELECT TABLE

VOUT	S1-1	S1-2	S1-3	S1-4	S1-5
1.8V	OFF	ON	OFF	ON	ON
1.9V	OFF	OFF	ON	ON	ON
2.0V	OFF	ON	ON	ON	ON
2.2V	OFF	ON	OFF	OFF	OFF
2.4V	OFF	OFF	ON	OFF	OFF
2.6V	OFF	ON	ON	OFF	OFF
2.8V	OFF	OFF	OFF	ON	OFF
2.9V	ON	OFF	OFF	ON	OFF
3.2V	OFF	OFF	ON	ON	OFF
3.3V	ON	OFF	ON	ON	OFF
3.5V	ON	ON	ON	ON	OFF

4.2 JP2 CPU 3.3V SELECTOR

JP2	1-2	3-4	5-6	7-8	
	ON	ON	OPEN	OPEN	SINGLE VOLTAGE
(Default)	OPEN	OPEN	ON	ON	DUAL VOLTAGE

1.1 JP4 SELECTABLE FREQUENCY

FS2 1,2	FS1 3,4	FS0 5,6	CPU1:3 7,8	SDRAM (MHz)	PCI (MHz)	
OPEN	ON	ON	ON	66.8	66.8	CPU/2
OPEN	ON	ON	OPEN	75	75	CPU/2.5
OPEN	ON	OPEN	ON	83.3	83.3	CPU/2.5
ON	ON	ON	ON	90	90	CPU/3
OPEN	ON	OPEN	OPEN	92.25	92.25	CPU/3
OPEN	OPEN	ON	ON	100.2	100.2	CPU/3
ON	OPEN	ON	ON	105	105	CPU/3
OPEN	OPEN	ON	OPEN	112	112	CPU/3
ON	ON	ON	OPEN	83.3	55.53	CPU/2.5
ON	ON	OPEN	ON	95.25	63.5	CPU/3
ON	OPEN	ON	OPEN	112	74.67	CPU/3

4.3 AMD-K6-2 & K6 & INTEL RATIO

BF0. S1-6	BF1. S1-7	BF2. S1-8	RATIO
ON	OFF	OFF	2.0X
ON	ON	OFF	2.5X
OFF	ON	OFF	3.0X
OFF	OFF	OFF	3.5X
ON	OFF	ON	4.0X
ON	ON	ON	4.5X
OFF	ON	ON	5.0X
OFF	OFF	ON	5.5X

4.4 IDT WINCHIP C6 CLOCK RATIO

BF0, S1-6	BF1, S1-7	BF2, S1-8	RATIO
ON	OFF	OFF	2.0X
OFF	ON	OFF	3.0X
OFF	OFF	OFF	4.0X
ON	OFF	ON	4.0X
OFF	ON	ON	5.0X

4.5 JP1 DISK ON CHIP ADDRESS SELECT

1-2, 7-8	0C800H-0C9FFH	
1-2, 9-10	0CC00H-0CDFFH	
3-4, 7-8	0D000H-0D1FFH	**DEFAULT**
3-4, 9-10	0D400H-0D5FFH	
5-6, 7-8	0D800H-0D9FFH	
5-6, 9-10	0DC00H-0DDFFH	

4.6 JP6 FLASH ROM VOLTAGE SELECTOR

1-2	USE +12V
2-3	USE +5V

4.7 JP7 CCD VOLTAGE SELECT

1-2	+5V	**DEFAULT**
2-3	+12V	

4.8 JP8 COM1 D-type pin9 SELECT, (When not using power board)

1-2	NORMAL	**DEFAULT**
2-3	+5V (or +12V)	FOR CCD

4.9 JP5 COM2 D-Type pin 9 SELECT, (When not using power board)

1-2	NORMAL	**DEFAULT**
2-3	+5V (or +12V)	FOR CCD

4.10 DIGIPOS2000 MAINBOARD CONNECTORS

U5	DISK ON CHIP SOCKET
IDE1	HDD CONNECTOR
U4	LAN CONNECTOR
U8	LAN BOOT ROM SOCKET
PWR1	POWER INPUT CONNECTOR
J10	CMOS CLEAR(ON)
PS1	PS/2 MOUSE CONNECTOR
PS2	PS/2 KEYBOARD CONNECTOR
PWR	POWER LED CONNECTOR
LAN	LAN LED CONNECTOR
HDD1	HDD1 LED CONNECTOR
FAN1	FAN CONNECTOR
FAN2	FAN CONNECTOR
VGA1	VGA CONNECTOR
USB1	USB1 & USB2 CONNECTOR
SDFP1	LCD MINI 44-PIN CONNECTOR
JPB1 (OPEN)	ONBOARD VGA ENABLE
JPB1 (ON)	ONBOARD VGA DISABLE

5. DigiPoS2000 Super 7 Book-Size PC specifications

Model Number	**DigiPoS2000 Super Socket 7**
CPU	Supports Super Socket 7 P-54 / P-55 / K6-2 / 3-AFR / M3 CPU clocking at 66 / 75 / 83 / 95 / 100MHz bus frequency
Main Memory	Notebook SO-DIMM x 1 up to 128MB (SDRAM or EDO)
BIOS	I-O Pre-set IRQ / PnP / APM / DMI / ESCD / PCI bus 2.1 / DRAM ECC Quick Boot / HW Monitor (LDCM)
Cache Memory	512KB P.B. SRAM
Expansion Slots	***Riser card with 3 FREE slots: 1 x ISA bus, 1 x PCI bus and 1 x ISA/PCI shared bus*** with COM3 / COM4, FDD output and IDE2 CD-ROM output connector
Serial Port A	COM1, COM2
Serial Port B:	COM3,COM4 on riser card
Parallel Port	One LPT port (SPP / EPP / ECP)
USB	TWO USB ports supporting Windows 95/98
FDD	1.44MB / 3.5" FDD x 1
Enhance PCI IDE	**On-board PCI Bus Master IDE1/2 controller with Win95 utility, supports Ultra DMA/33.**
AGP 3D Graphics Port	• SiS530AGP, shared memory from 2MB up to 8MB • Support for AGP(2X) VGA controller • Support for 3D / 2D graphics accelerator • Support for video accelerator • Support for VESA DPMS VGA monitor for power management • Direct X, VPE, MPEG2 • NT4.0/5.0, Windows95/98 utility • APM/ACPI 1.0 • 2x22 pin Digital LCD pin out connector (optional)
PCI LAN Port: (10/100 Mbps Auto)	- ACPI / NT4.0/5.0 (NDIS 5) • NT4.0 / Win95/98 utility • Remote boot ROM for NT4.0 • Wake-on-LAN (WOL)
Disk On Chip Socket	2MB up to 144MB
Keyboard Port	PS/2 type
Mouse Port	PS/2 type
Front Panel:	• Diagnostic on/off button • 3 LED indicators: Power On/Off, LAN activity and HDD activity • 1.44MB FDD • Door for FDD, Diagnostic switch, Diagnostic LED's
Back Panel:	• VGA CRT 15-pin DSUB connector • LPT 25-pin DSUB connector • PS/2 Keyboard & Mouse connectors • COM 3/4 9-pin DSUB output connector (optional) • USB1 / USB2 connectors • LAN RJ-45 output connector • COM1/2 9-pin DSUB output connector
AC Power Supply	200W external power supply (UL, CSA, VDE, EMI, FCC Class B)
AC Power Source	AC 110V or 230V, 50Hz/60Hz AT type
Case Dimensions	11" (W) x 11" (D) x 3" (H) (280 x 280 x 75mm).
Export Packaging	Each set: 34 x 34 x 17cm; NW/GW: 5.5kg / 6.5kg
O/S Compatibility	DOS / OS2 V2.1 / SCO XENIX V2.3.2 / SCO UNIX V3.2 / NOVELL / WIN 3.1/95/98 / NT4.0
Operating Temp	0ºC to 45ºC (without HDD up to 60ºC)
Storage Temperature	-25ºC to 85ºC
<u>OPTIONS</u>	
PCI Audio Card	Audio Line in/out Mic-in / Game port
Game Port	• PCI 2.1 / ACPI 1.0 / WDM • PC98 Logo, NT4.0 / Win95/98 utility
PCI Modem Card	Win95/98 Utility (33.6 or 57K) support for PCI2.1 / ACPI1.0
IDE2 CD-ROM	On board PCI Bus Master IDE1/2 controller with Win95 utility, supports Ultra DMA/33

6. UPGRADES

NOTE:
Your warranty remains in effect only if an authorized dealer or technician adjusts the internal settings. This section is intended only for those users who wish to perform the adjustments themselves and thereby void the warranty.
At any time, you can add (or remove) hardware to your DigiPoS2000 computer and modify its functionality. The information in this chapter will instruct you on how to open the chassis and install standard expansion cards

6.1 Removing the Cover:
WARNING: Make sure that the power to your system, as well as any peripheral devices, is off before removing the chassis. Allow the system 30 seconds after removing the power to dissipate any stored energy, this is for your safety as well as the equipments.. Ensure that all work is carried under static safe conditions.

6.1.1 Tools:
You will need a few simple tools to remove the DigiPoS2000 PC.

- A static safe work environment and ESD wrist strap.
- A Posidrive screwdriver
- Labeling material (tape, paper, pen)
- Container for screws etc

6.1.2 Installing Add-On Cards:
The DigiPoS2000 includes 2 card slots for the addition of peripherals.
WARNING: Because of DigiPoS2000's space-saving design, the format of add-on cards that can be installed is restricted as follows -
ISA card maximum dimensions: 85 mm (height) x 280mm (length) and
PCI card maximum dimensions: 110 mm (height) x 170mm (length).
Please make sure that the add-on card you are going to install in the DigiPoS2000 system conforms to these requirements.

6.2 Installing the Hard Disk Drive:
WARNING: If you buy a DigiPoS2000 without a hard disk drive and you would like to upgrade it later then please consult with your dealer.

6.3 Memory Configuration:
The DigiPoS2000 lets you increase the system main memory via onboard SODIMM Sockets.
The DigiPoS2000 supports one bank of 16/32/64/128..MB SODIMM Modules.

*The DigiPoS2000's bus frequency is set at 100MHz. You therefore need to use PC100 standard RAM mo*dul*es. If you use notebook PC type EDO DIMM modules, you must ensure that the VGA MEMORY CLOCK setting in the INTEGRATED PERIPHERALS menu of your BIOS settings is set at* ***66MHz****. Please refer to the BIOS Setup section in Chapter 9 of this manual.*

7. POWERED PORT SETUP

7.1 WARNING

The use of external power supplies with EPoS peripherals will damage the RS232 ports on the DigiPoS2000. For example connecting a TM-T88II printer to the DigiPoS2000 and powering the printer using a PS-170 power supply will under certain circumstances damage the DigiPoS2000.

Any or all of the serial ports may be configured for 5, 9, 12 or 24 volt on pin 9 of their respective D-type connector. This can result in damage to peripheral equipment if the incorrect voltage is selected. For example if a modem is connected to a port configured for 24 volts the modem will almost certainly be destroyed. It is therefore imperative that the voltage selected is suitable for the device attached. It is also important to remember that the industry standard connector for a RS232 serial port is a 9 pin D-type plug, and as pin 9 can be powered it is physically possible to short out pin 9 to either pin 5, 8 or the chassis. This will almost certainly result in serious damage to the motherboard and possibly to the peripheral as well.

7.2 Configuration

The diagram below shows the power distribution board and the jumper arrangement.

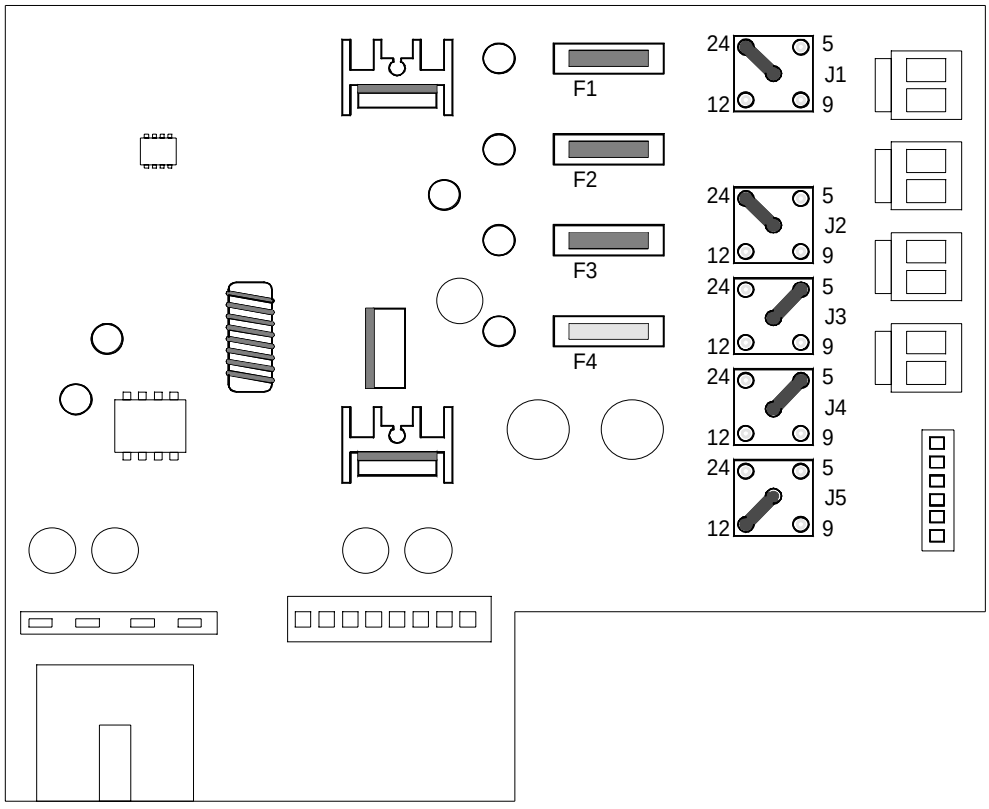


Figure 14 Power Board Layout

7.3 Power Board Configuration

Jumper	Port	Setting	Default Setting
J1	COM1	0, 5, 9, 12, 24, Modem	Not set
J2	COM2	0, 5, 9, 12, 24, Modem	Not set
J3	COM3	0, 5, 9, 12, 24, Modem	Not set
J4	COM4	0, 5, 9, 12, 24, Modem	Not set
J5	Barrel	0, 5, 9, 12, 24, Modem	Not set

7.4 Application

Unless specified at time of order, the DigiPoS2000 will be shipped with the default jumper settings, as shown in section 7.3 on page 21. If you wish to have a particular setup, including the Modem option, then please contact your DigiPoS2000 sales office.

The modem option will permit the connection of an external modem to the DigiPoS2000 and allows the use of the ring indicator (RI) signal. The RI signal is normally found on pin 9 of the d-type connectors and as this is the pin that is used to supply power to the peripherals it is necessary to replace the internal cable connection to the selected port. For example if a modem option is selected for COM port 3, then the powered cable assembly would be removed for COM port 3 and be replaced with a non powered version. This would not affect the other 3 ports, they would remain powered or as per requested configuration.

7.4.1 Typical Power Configuration

Device	**0**	**5**	**9**	**12**	**24**	**Modem**
Epson PoS Printer	X	X	X	X	✓	X
Epson PoS Display	X	X	X	X	✓	X
MSR-512 swipe reader	X	✓	X	X	X	X
MS-951	X	✓	X	X	X	X
DigiPoS2000 Display	X	X	X	✓	X	X
External Modem	X	☠	☠	☠	☠	✓

8. DIAGNOSTIC UTILITY

8.1 Diagnostic Overview

The DigiPoS2000 has built onto the motherboard an area of memory specifically for diagnostic purposes. This memory area and the program stored in it have been designed so that system tests can be run without interfering in any way with the operating system or user applications. The diagnostic tests are designed to cope with the majority of configurations. To access the diagnostics utility and run the tests it is necessary to follow the procedure laid out below.

8.2 Diagnostic Procedure

1. Close down any applications that are running switch off the machine either at the wall socket or the switch on the external PSU.
2. Unlock the front flap and press the round switch in until it latches.
3. Switch the power back on. The orange diagnostic LED, the LED at the left hand end of the group of four small LED's below the diagnostic switch, should illuminate to indicate that the DigiPoS is in diagnostic mode.
4. After the initial BIOS screens have cleared a splash screen should be displayed, this will clear after a second or two.
5. The main diagnostic screen will now appear and the system will start searching for connected serial devices. When the search has finished a menu will appear below the logo and show the serial devices found, see Figure 15. Check that the devices found match the devices attached and that the serial parameters match those defined for the peripherals.
6. Exercise each of the test procedures as described in section 8.2.1 to 8.2.5
7. After each test has been completed exit the diagnostic program using the appropriate menu selection and switch the power off.
8. Press the diagnostic switch and power back on again. The DigiPoS should boot as normal.
9. The results of the diagnostic tests can be found in a file called "DIAGRSLT.TXT" stored in the root of the hard disk drive (hdd). This file will be missing if the hdd uses a file system other than FAT16, i.e. FAT32 or NTFS etc.

Figure 15 Diagnostic Test Screen

8.2.1 Printer Test

Please note that the Printer test will only work with printers that are Epson ESC/PoS compliant. The serial scanning software will not reliably detect printers that are not ESC/PoS compliant and therefore the tests cannot be relied upon.

Figure 16 Printer Test

8.2.2 Customer Display Test

Please note that the Customer Display test will only work with displays that are Epson ESC/PoS compliant, these include all of the Epson displays and the CD-5220 (when set up for ESC/PoS emulation). Start the test by pressing the numbered key next to the menu entry; this will either be menu item 1 or menu item 2.

Figure 17 Customer Display Test

The display should now start to perform a variety of tests culminating with the following picture.

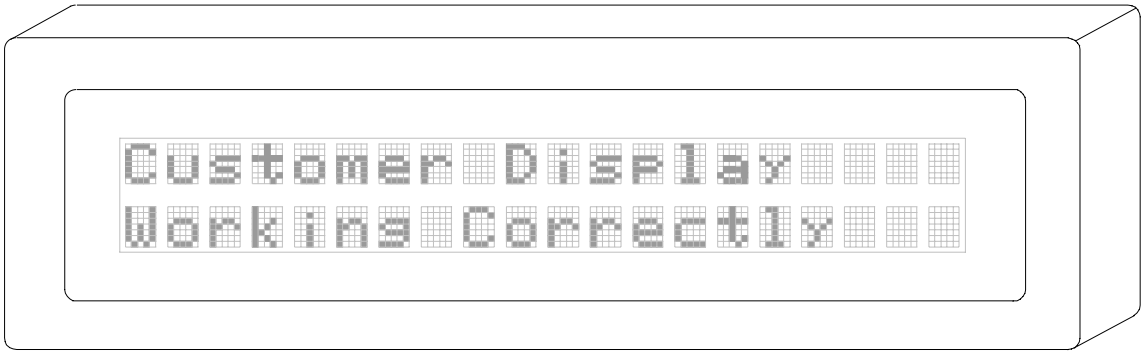


Figure 18 Customer Display

If this picture fails to appear then there is probably something wrong with the display and should be investigated further by a qualified technician.

8.2.3 Keyboard Test

Due to the almost infinite variations of keyboard layout and key code assignment this facility can only perform the most basic of tests. The test only allows standard keys, ie 0-9 a-z and F1-F10 to be tested.

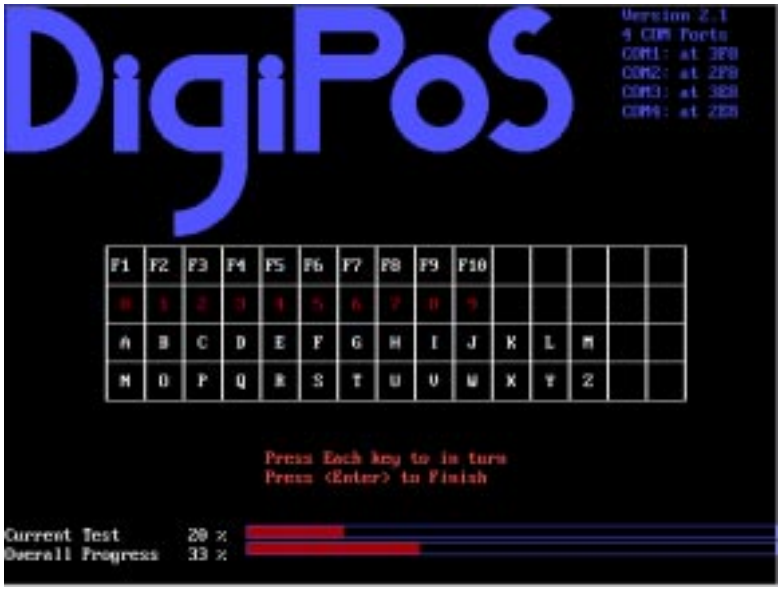


Figure 19 Keyboard Test

On any given PoS keyboard these keys my or may not be present and even if they are present they may be labeled as stock items or type of transaction, for example the key producing the letter “a” may be labeled as “Cheque”. The result of this is that pressing any key on the keyboard may well produce unexpected, but not necessarily incorrect results. Pressing any key 3 times terminates this test.

8.2.4 Magnetic Card Test

The diagnostic software is unable to detect the presence or absence of a magnetic card reader due to the fact that the majority of card readers only transmit data and do not receive data. Because of this the test menu will always show a magnetic card reader test even if there is no reader attached. To test a card reader select the appropriate menu entry and pass a card through the reader. If the reader is working then the contents of the data tracks will be displayed on the screen along with a question asking if the displayed data is correct. The data displayed should be the same as that embossed or printed on the card.

Figure 20 MSR Test

The majority of cards will store more data than is visible on the card, this is normal and as long as the display includes the information on the card then it is relatively safe to assume that the card reader is ok. If the card fails to read then try another card or a card from a different supplier. If no data has been received after 10 seconds then the menu will revert to the main test menu. DO NOT swipe cards outside of the magnetic card test. Swiping cards outside of this area will produce unpredictable results.

8.2.5 Bar Code Scanner Test

The diagnostic software is unable to detect the presence or absence of a bar code scanner due to the fact that the majority of bar code scanners only transmit data and do not receive data. Because of this the test menu will always show a bar code scanner test even if there is no reader attached. To test a bar code scanner select the appropriate entry in the main test menu and within 10 seconds scan a bar code.

Figure 21 Bar Code Test

9. BIOS SETUP

9.1 Setup Overview:

The DigiPoS2000 contains its own permanently programmed SETUP routing, which allows it to recognize and utilize the system's hardware. For example, one can set the system to identify hard disk and floppy disk drive capacity, the type of video being used, and the amount of memory installed. The BIOS (BASIC Input / Output System) will read this information each time the system boots up. In the first time the system is powered on, please run SETUP to configure it properly.

9.2 AMI BIOS Setup:

The BIOS setup program provided with the Main board is the ROM PCI/ISA BIOS program from AWARD Software Inc. Enter the AWARD Setup program's Main Menu as follows:

1. Turn on or reboot the system;
2. After a series of diagnostic checks press the <DEL> key to enter the AMI BIOS;
3. Please select "Auto Configuration with Optimal Settings" first.

9.3 DigiPoS2000 Compact Line System BIOS Setup Manual

9.3.1 Setup:

The following screenshots are a guide through the CMOS setup utility for the DigiPoS2000 Version 2.0. The ROM PCI/ISA BIOS (2A5IMDA9) is provided by AWARD SOFTWARE INC. If you need help during this process, press F1 and a small window will pop up describing the appropriate keys to use and the possible selections for the highlighted item. To exit the help window press <Esc> or F1 again. In case of problems after you have made and saved system changes with the setup utility, the AWARD BIOS supports an override to the CMOS settings which resets the systems to its defaults so that you can reboot.

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type..	

STANDARD CMOS SETUP

Date (mm:dd:yy) : Thu, Jan 6 2000
Time (hh:mm:ss) : 13 : 42 : 39

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	Auto	0	0	0	0	0	0	LBA
Primary Slave	None	0	0	0	0	0	0	- - - - -
Secondary Master	None	0	0	0	0	0	0	- - - - -
Secondary Slave	None	0	0	0	0	0	0	- - - - -

Drive A : None
Drive B : None

Video : EGA / VGA
Halt On : All Errors

Base Memory : 640K
Extended Memory : 60416K
Other Memory : 384K
Total Memory :61440K

Esc : Quit
F1 : Help
↑ ↓ → ← : Select Item
(Shift) F2: Change Color
PU/PD/+/- : Modify

BIOS FEATURES SETUP

Virus Warning	: Disabled	Video BIOS Shadow	: Disabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A, C, SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On	Cyrix 6x86/MII CPUID	: Enabled
Memory Parity Check	: Enabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
OS Select for DRAM > 64MB	: Non-OS2		
Report No FDD for Win 95	: Yes		

ESC: Quit
F1 : Help
F5 : Old Values
F6 : Load BIOS Defaults
F7 : Load Setup Defaults
↑ ↓ → ← : Select Item
PU/PD/+/- : Modify
(Shift) F2: Color

Security Option

This category allows you to limit access to the system and setup utility, or just to setup. If you choose the “System” option, the system will not boot, and access to SETUP will be denied if the correct password is not entered at the prompt. If you choose the “Setup” option as above in the default setting, the system will boot, but access to SETUP will be denied if the correct password is not entered at the prompt. To disable security, select PASSWORD SETTING in the Main Menu window. You will be asked to enter the password. Do not type anything, just press

<Enter> and the security feature will be disabled. Once security is disabled, the system will boot and you can enter SETUP freely.

OS Select for DRAM > 64MB
This allows you to access memory over 64MB in OS/2. Choices are “Non-OS2” and “OS2”.

PCI/VGA Palette Snoop
This item determines whether MPEG ISA/VESA VGA cards can work with PCI/VGA or not. Choose “Enabled” for cards to work with PCI/VGA and “Disabled” for them not to work.

Video BIOS Shadow
This feature determines whether video BIOS will be copied to RAM. However, it is optional depending on the chipset design. Video Shadow increases video speed. Choose “Enabled” to enable Video Shadow and “Disabled” if you do not require this feature.

CHIPSET FEATURES SETUP

Refresh Rate Control	: 15.6us	System BIOS Cacheable	: Enabled
Ref/Act Command Delay	: 8T	Video BIOS Cacheable	: Enabled
Refresh Queue Depth	: 12	Memory Hole at 15M-16M	: Disabled
RAS Precharge Time	: 4T	PCI Post Write Buffer	: Disabled
RAS-to-CAS Delay	: 4T	PCI Delayed Transaction	: Enabled
ISA Bus Clock Frequency	: PCICLK/4	Auto Detect DIMM/PCI Clk	: Enabled
Starting Point of Paging	: 1T	Spread Spectrum	: Disabled
NA# Enable	: Enabled		
L2 Cache Burst RD Cycle	: Delay 1T		
Asyn/Sync Mode CPU/DRAM	:Asynchronous		
SDRAM CAS Latency	: 3T		
SDRAM WR Retire Rate	: X-1-1-1		
DRAM Opt RAS Precharge	: Disabled		
PCI Peer Concurrency	: Enabled		
Read Prefetch Memory RD	: Enabled		
Assert TRDY After Prefet	: 2 QWs	ESC : Quit	↑ ↓ → ← : Select Item
CPU to PCI Burst Mem. WR	: Enabled	F1 : Help	PU/PD/+/- : Modify
CPU to PCI Post Write	: Enabled	F5 : Old Values	(Shift) F2: Color
		F6 : Load BIOS Defaults	
AGP Aperture Size	: 64MB	F7 : Load Setup Defaults	

Memory Hole At 15M-16M
In order to improve performance, certain space can be reserved in the memory for ISA cards. This memory must be mapped into the memory space below 16MB. Choose “Enabled” to support the memory hole and “Disabled” if it is not required.

POWER MANAGEMENT SETUP

Power Management	: User Define	VGA Activity	: Enabled
Video Off Option	: Always On	IRQ [3-7, 9-15], NMI	: Enabled
Video Off Method	: Blank Screen	IRQ 8 Break Suspend	: Disabled
Switch Function	: Disabled	Power Button Over Ride	: Delay 4 Sec
Doze Speed (div by)	: 2/8	Ring Power Up Control	: Enabled
Stdby Speed (div by)	: 1/8	GPI05 Power Up Control	: Enabled
Modem Use IRQ	: NA	KB Power ON Password	: Enter
Hot Key Function AS	: Disable	Power Up By Alarm	: Disabled
PM Timers			
HDD Off After	: Disable		
Doze Mode	: Disable		
Standby Mode	: Disable		
Suspend Mode	: Disable		
PM Events		ESC : Quit	↑ ↓ → ←: Select Item
HDD Ports Activity	: Disabled	F1 : Help	PU/PD/+/- : Modify
COM Ports Activity	: Disabled	F5 : Old Values	(Shift) F2: Color
LPT Ports Activity	: Disabled	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Power Management Timers

There are four Green PC power saving functions which are only user configurable when the "User Defined" power management mode has been selected. "User Defined" allows you to set each mode individually. When enabled, each of the ranges is from one minute to one hour, except for the HDD Power Down setting which ranges from one minute to 15 minutes. The other modes are "Disabled" for no power management (this disables all four settings), "Min. Power Saving" which provides minimum power management and "Max. Power Saving" that provides maximum power management.

When enabled the four settings will perform the following functions after the pre-set time of system inactivity has passed:

DOZE MODE runs the CPU clock at slower speeds while all other devices operate at full speed;

STANDBY MODE shuts down the fixed disk drive and video functions while all other devices operate at full speed;

SUSPEND MODE shuts off all devices except the CPU;

HDD POWER DOWN MODE powers down the hard disk drive while all other devices remain active.

Video Off Method

This feature determines the manner in which the monitor screen is blanked. The "V/H SYNC+Blank" option causes the system to turn off the vertical and horizontal synchronization ports and writes blanks to the video buffer. The "Blank Screen" option only writes blanks to the video buffer. The "DPMS" option initials display power management signaling. The default setting shown above is "Always On".

PNP/PCI CONFIGURATION

Resources Controlled By : Auto Reset Configuration Data : Disabled	PCI IRQ Activated By : Level
	ESC : Quit ↑ ↓ → ←: Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2: Color F6 : Load BIOS Defaults F7 : Load Setup Defaults

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGU Load BIOS Defaults (Y/N)? N	SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit ↑ ↓ → ← : Select Item F10 : Save & Exit Setup (Shift) F2 : Change Color	
Load BIOS Defaults except Standard CMOS SETUP	

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGU	SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	

Load SETUP Defaults (Y/N)? N

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Load Setup Defaults except Standard CMOS SETUP

CPU FEATURES SETUP

Current CPU Temperature	: 57°C/134°F
Current System	: 72°C / 161°F
Temperature	: 5532 RPM
Current CPUFAN1 Speed	: 5818 RPM
Current CPUFAN2 Speed	: 3.22V
IN0(V): IN1(V):	: 2.77V
IN2(V): IN3(V):	

ESC : Quit	↑ ↓ → ← : Select Item
F1: Help	PU/PD/+/- : Modify
F5: Old Values	(Shift) F2: Color
F6: Load BIOS Defaults	
F7: Load Setup Defaults	

INTEGRATED PERIPHERALS

Internal PCI/IDE	: Enabled	Onboard Parallel Port	: 378/IRQ7
IDE Primary Master PIO	: Auto	Parallel Port Mode	: SPP
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto	Onboard Serial Port 3	: 3E8H
IDE Secondary Slave PIO	: Auto	Serial Port 3 Use IRQ	: IRQ5
Primary Master UltraDMA	: Auto	Onboard Serial Port 4	: 2E8H
Primary Slave UltraDMA	: Auto	Serial Port 4 Use IRQ	: IRQ10
Secondary Master UltraDMA	: Auto	PS/2 mouse function	: Enabled
Secondary Slave UltraDMA	: Auto	USB Controller	: Enabled
IDE Burst Mode	: Enabled	USB Keyboard Support	: Disabled
IDE Data Port Post Write	: Disabled	Init Display First	: PCI Slot
IDE HDD Block Mode	: Enabled	VGA Shared Memory Size	: 8MB
		VGA Memory Clock (MHz)	: 66
ACPI Disable Method	: Disabled	Onboard LAN chip	: Enabled
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4	ESC : Quit	↑ ↓ → ← : Select Item
Onboard Serial Port 2	: 2F8/IRQ3	F1 : Help	PU/PD/+/- : Modify
IR Address Select	: Disable	F5 : Old Values	(Shift) F2: Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Note: If you wish to disable ON-BOARD VGA OUTPUT, you must first set VGA SHARED MEMORY SIZE to “NONE” and then disable ON-BOARD VGA JUMPER, JPB1**.**
Note: Serial Port 3 default setting is 3E8/IRQ5 (selectable 4 / 5 / 10 /11)
Note: Serial Port 4 default setting is 2E8/IRQ10 (selectable 3 / 5 / 10 / 11)

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGUR	T SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	

NOT AVAILABLE in DOS Version!
Press any key to continue

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Change/Set/Disable Password

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGUR	T SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	

NOT AVAILABLE in DOS Version!
Press any key to continue

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Change/Set/Disable Password

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGU	SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	

SAVE to CMOS and EXIT (Y/N)? N

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Save Data to CMOS & Exit SETUP

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGU	SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	

Quit Without Saving (Y/N)? N

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Exit SETUP Without Saving Changes

APPENDIX A: DIGIPOS2000-Media 2 Serial Model Bios Settings

CMOS SETUP UTILITY

STANDARD CMOS SETUP	CPU SPEED SETTING
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type..	

Note: These settings are for the DigiPoS2000 Media 2-Serial model.
Note: Please always select **LOAD SETUP DEFAULTS** in the CMOS SETUP UTILITY the first time you set your BIOS.

INTEGRATED PERIPHERALS

Internal PCI/IDE	: Enabled	Onboard Parallel Port	: 378/IRQ7
IDE Primary Master PIO	: Auto	Parallel Port Mode	: SPP
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto	Onboard Serial Port 3	: 3E8H
IDE Secondary Slave PIO	: Auto	Serial Port 3 Use IRQ	: IRQ5
Primary Master UltraDMA	: Auto	Onboard Serial Port 4	: 2E8H
Primary Slave UltraDMA	: Auto	Serial Port 4 Use IRQ	: IRQ10
Secondary Master UltraDMA	: Auto	PS/2 mouse function	: Enabled
Secondary Slave UltraDMA	: Auto	USB Controller	: Enabled
IDE Burst Mode	: Enabled	USB Keyboard Support	: Disabled
IDE Data Port Post Write	: Disabled	Init Display First	: AGP
IDE HDD Block Mode	: Enabled	VGA Shared Memory Size	: 4MB
		VGA Memory Clock (MHz)	: 66
ACPI Disable Method	: Disabled	Onboard LAN chip	: Enabled
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4	ESC : Quit	↑ ↓ → ← : Select Item
Onboard Serial Port 2	: 2F8/IRQ3	F1 : Help	PU/PD/+/- : Modify
IR Address Select	: Disable	F5 : Old Values	(Shift) F2: Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

10. WARRANTY POLICY

LIMITED WARRANTY

This product is warranted to be free of defects in materials and workings. This warranty period shall begin from the date of the accompanying invoice and will be in effect for a period of one year for labor and one year for parts.

WARRANTY RETURN PROCEDURES

The customer must call the dealer's technical support department. In order to return merchandise, the customer must have the following information readily available:

1) ***Name and Address.***
2) ***Phone Number.***
3) ***Contact.***
4) ***Serial Number.***
5) ***Invoice Number.***
6) ***Date of Purchase.***

Failure to provide complete and correct information will result in significant delays in processing your repair. Any merchandise sent for repair without a valid RMA will not be accepted. RMAs sent C.O.D. to the dealer will not be accepted. Also, the dealer will not cross-ship any repair parts: no repairs will be carried out until the merchandise has been received.

When returning merchandise for repair of refund, please put the RMA# clearly visible on the box, otherwise repairs or refunds will be delayed. When returning for refund, all parts must be returned together. Missing parts will be billed.

THE FOLLOWING SHALL VOID WARRANTY

Any unauthorized service, modification or tampering, any damages due to accident, misuse, abuse and operation outside of electrical specifications shall void the warranty.

There will be charges for labor and/or materials for repairs carried out after the warranty period has expired.

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