POS-566/566L Ver2.x

AMD-K6®-2/ K6®-III / Pentium®Processor

Multimedia POS Control Board V:a

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Introduction

Welcome to the POS-566/566L 550MHz K6®-3 / Pentium® Processor Multimedia POS Control Board Computer. The POS-566/566L board is a LPX Spec. board, which equipped with high performance Pentium® CPU, LCD/CRT and 10/100Mbps Ethernet, designed for the system manufacturers, integrators, or VARs that want to provide all the performance, reliability, and quality at a reasonable price.

This board has a built-in **D**isk**O**n**C**hip™(DOC) Flash Disk Socket for embedded application. The DOC Flash Disk is 100% software compatible to hard disk. User can use any DOS command without any extra software utility. The DOC currently is available from 2MB to 144MB.

The POS-566/566L provides three 168-pin DIMM sockets for its on-board DRAM with max. 768MB. DIMM module is 3.3V SDRAM.

The board's Realtek RTL8139 IEEE 802.u network chipset provides 10MBps or 100MBps Ethernet with auto-sensing function. In addition, the **POS-566** is also Creative Sound Blaster 16 and Roland MPU401 UART Mode compatible. This feature is not available in **POS-566L**.

With its Isolated Digital I/O control for field site application, this POS-566/566L is the most advanced POS solution that supports up to 550MHz processor.

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1.1 Specifications :

The POS-566/566L 550MHz K6-3 / Pentium® Processor Multimedia POS Control SBC provides the following specification :

- **CPU** : Pentium® MMX up to 233Mhz, AMD® K6®/K6®-2/K6®-3 up to 550MHz, IDT C6, Cyrix 6x86MX, etc. Processor

- **RAM** : up to 768MB SDRAM 3pcs DIMMs

- **Cache memory** : 512KB Pipelined Burst SRAM on board

- **Bus** : PCISA bus expansion to support ISA and PCI bus signal

- **Chipset** : Aladdin 5, support 100MHz CPU clock

- **LCD/CRT Controller** : CHIPS 65555 64-bit flat panel controller Built-in HiQColor Technology for super clean STN flat panel. CRT
  Resolution up to
  1280 x 1024, 256 color
  1024 x 768,   64K color
  800 x 600 ,   16M color
  Display Memory : 2MB EDORAM

- **Support 3.3V or 5V flat panel.**

- **Support Mono, Color STN, TFT, EL,….wide range flat panel.**

- **Optional One Channel or Two Channels LVDS module.**

- **10/100Mbps Ethernet Controller   :** Realtek RTL8139 IEEE 802.u
  100 BASE-TX standard
  Dual Auto-sensing interface to 10MBps or 100MBps networks
  RJ45 connector for 10BASE-T and 100BASE-TX
  Full duplex capability, full software driver support.
  For more information : **www.realtek.com.tw**

- **Creative Sound Blaster 16 compatible and Roland MPU401 UART Mode compatible**

- **Floppy disk drive interface** : two 2.88 MB, 1.44MB, 1.2MB, 720KB, or 360KB floppy disk drives.

- **Four high speed Serial ports** : three RS-232C, one RS-232C or RS-422/485 Port

- **Parallel Ports :** Two SPP/EPP/ECP Parallel Ports

- **Enhanced IDE Interface** :
  One 44-pin Header for 2.5" HDD
  One 40-pin Header for 3.5" HDD

- **PCISA^{TM} Bus Expansion to support ISA and PCI bus signal**

- **Isolated Digital I/O** : 4 Digital Input and 4 Digital Output channels

- **IrDA port : Support Serial Infrared (SIR) and Amplitude Shift Keyed IR (ASKIR) interface.**

- **Two USB ports : Support USB port for future expansion.**

- **Watchdog timer** : can be set by 1, 2, 10, 20, 110 or 220 seconds period. Reset or NMI is generated when CPU does not periodically trigger the timer.

- **E^{2}Key^{TM} Function** : A special designed 1Kbit EEPROM (non volatile memory) provided to accept read/ write data by customer's program. It is useful to store system ID, Password, Critical Data on the board.

- **Flash Disk – DiskOnChip™ :** The Flash Disk provides 100% compatibility with hard disk.

- **Keyboard connector**

- **Mouse** : PS/2 Mouse Port on-board.

- **Power Consumption** : +5V/5.5A (AMD K6-2 350MHz,384MB SDRAM) +12V : 170mA , -12V : 60mA

- **Support ATX and AT power supply**

- **Operating Temperature** : 0° ~ 60°C (CPU needs Cooler)

- **Operating Humidity** : 5-95% non-condensing

1.2   What You Have

In addition to this *User's Manual*, the POS-566/566L package includes the following items:

- POS-566/566L 550MHz K6$^{\circledR}$-3 / Pentium$^{\circledR}$ Processor Multimedia POS Control Board

- RS-232 / Printer Cable

- FDD / HDD Cable

- Audio Cable

- FP24-01 Flat Panel Connection Module (see Appendix D for detail pin assignment).

- 6-pin Mini-Din to Keyboard and Mouse Adapter Cable

If any of these items is missing or damaged, contact the dealer from whom you purchased the product. Save the shipping materials and carton in case you want to ship or store the product in the future.

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Installation

This chapter describes how to install the POS-566/566L. The layout of POS-566 is shown on the next page and the Unpacking Precautions that you should be careful with are described on the following page. Also included is the jumpers and switches setting for this board's configuration, such as: CPU type selection, system clock setting and Watchdog timer.

2.1　POS-566's Layout

< please, refer to the next page >

2.1   POS-566's Layout

8
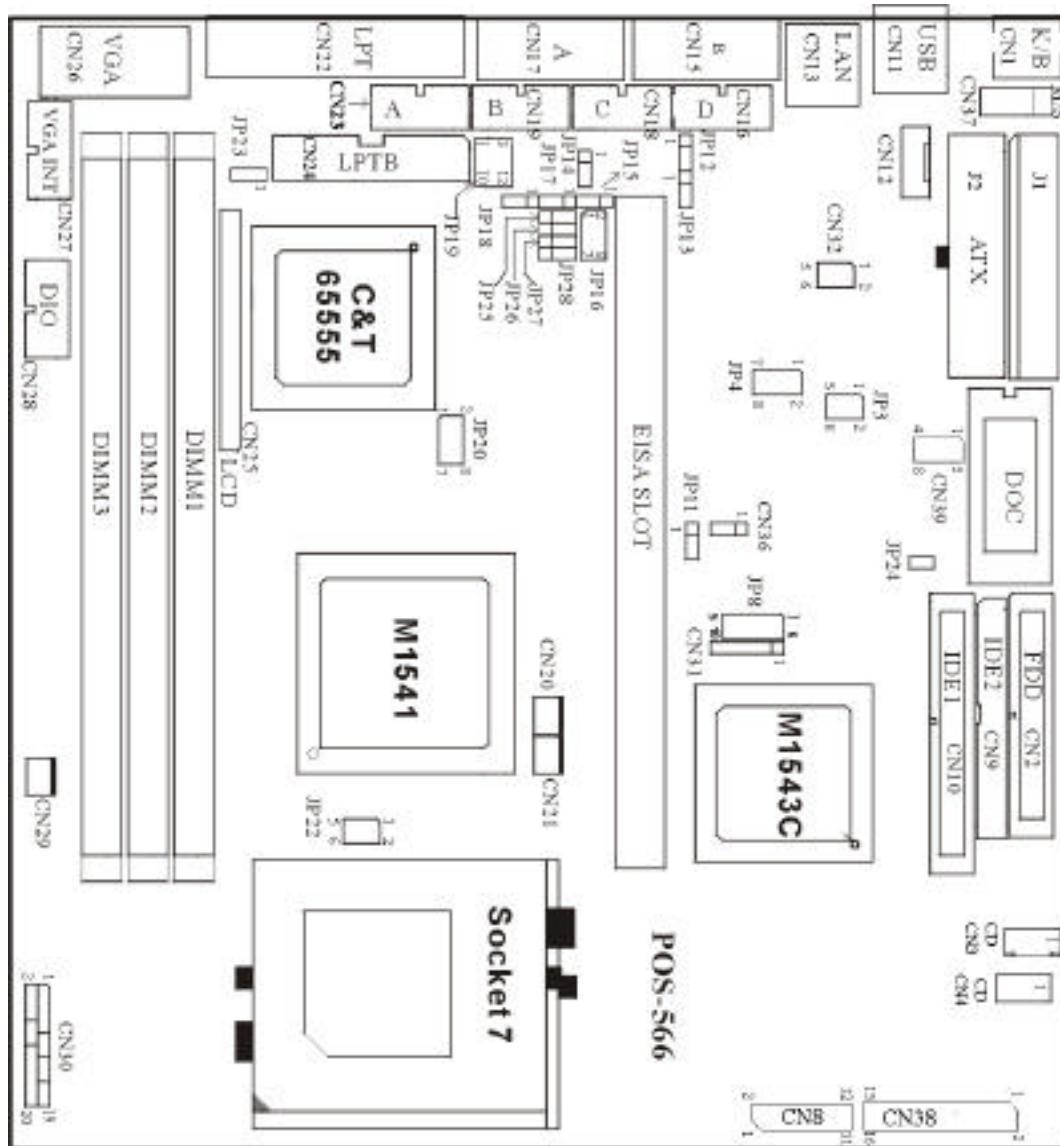
2.2   Unpacking Precautions

Some components on POS-566/566L are very sensitive to static electric charges and can be damaged by a sudden rush of power. To protect it from unintended damage, please, follow these precautions:

✓   Ground yourself to remove any static charge before touching your POS-566/566L. You can do it by using a grounded wrist strap at all times or by frequently touching any conducting materials that is connected to the ground.

✓   Handle your POS-566/566L by its edges. Don't touch IC chips, leads or circuitry if not necessary.

✓   Do not plug any connector or jumper while the power is on.

✓   Do not put your POS-566/566L unprotected on a flat surface because it has components on both sides.

2.3 Setting the CPU of POS-566/566L

☐ ☐	OFF
☐ ☐	ON
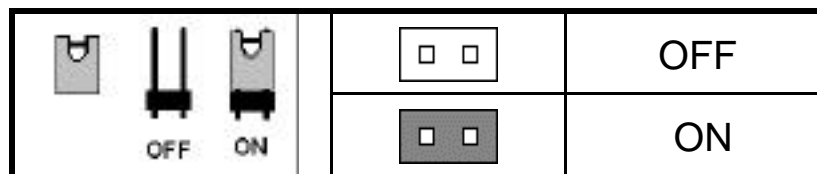
● JP8 : CPU (V core) Voltage Selector

Voltage	1-6	2-7	3-8	4-9	5-10
3.5	ON	ON	ON	ON	OFF
3.4	OFF	ON	ON	ON	OFF
3.3	ON	OFF	ON	ON	OFF
3.2	OFF	OFF	ON	ON	OFF
3.1	ON	ON	OFF	ON	OFF
3.0	OFF	ON	OFF	ON	OFF
2.9	ON	OFF	OFF	ON	OFF
2.8	OFF	OFF	OFF	ON	OFF
2.7	ON	ON	ON	OFF	OFF
2.6	OFF	ON	ON	OFF	OFF
2.5	ON	OFF	ON	OFF	OFF
2.4	OFF	OFF	ON	OFF	OFF
2.3	ON	ON	OFF	OFF	OFF
2.2	**OFF**	**ON**	**OFF**	**OFF**	**OFF**
2.1	ON	OFF	OFF	OFF	OFF
2.0	OFF	OFF	OFF	OFF	OFF

● JP20 : CPU / PCI Clock Setting :

CPU CLK	PCI CLK	JP20			
		1-2	3-4	5-6	7-8
60MHz	30MHz	ON	ON	ON	ON
66MHz	33MHz	OFF	ON	ON	ON
75MHz	37MHz	OFF	OFF	ON	ON
83MHz	33MHz	OFF	ON	OFF	ON
95MHz	33MHz	ON	OFF	OFF	ON
100MHz	**33MHz**	**OFF**	**OFF**	**OFF**	**ON**

- **JP22 : CPU MULTIPLIER SETTING :**

Multiplier	1-2	3-4	5-6
2x/6x	ON	OFF	OFF
2.5x	ON	ON	OFF
3.0 x	OFF	ON	OFF
3.5 x	**OFF**	**OFF**	**OFF**
4.0 x	ON	OFF	ON
4.5 x	ON	ON	ON
5.0 x	OFF	ON	ON
5.5x	OFF	OFF	ON

Note:

Win95 will not run stable with all 350MHz and above K6-2 system. If you use AMD K6-2/350MHz to run Win95, oftenly the message **'Windows protection error. You need to restart your computer'** *will appear. This is AMD CPU's problem. To debug this problem, you must download and run the program:* **amdk6upd.zip** *from AMD website.*

2.4 Voltage Setting for FLASH ROM

- **JP3 : Flash ROM Voltage Setting**

PIN NO.	DESCRIPTION		MANUFACTURER
	VOLT.	SIZE	
1-3 , 2-4	+12V	1MB	INTEL 28F001-BX-T150
1-3 , 4-6	+12V	2MB	INTEL
3-5 , 4-6	**+5V**	**1MB/2MB**	**SST/WINBOND/ATMEL**
1-3 , 4-6	+12V	1MB	MX28F 1000

2.5 LCD Voltage Setting

- **JP23 : LCD Voltage Setting**

PIN NO.	DESCRIPTION
1-2	**3.3V**
2-3	+5V

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2.6   DiskOnChip™ Flash Disk

The DiskOnChip™ (DOC) Flash Disk Chip is produced by M-Systems. Customers don't need any extra software utility because the DOC is 100% compatible to hard disk. It is just "plug and play", easy and reliable. Right now, the DOC is available from 2MB to 144MB.

● **JP4 : DiskOnChip™ Memory Address Setting**

PIN NO.	ADDRESS
1-2	CE00H
3-4	D600H
5-6	**DE00H**

2.7   Watch-Dog Timer

The Watch-Dog Timer is enabled by reading port 443H. It should be triggered before the time-out period ends, otherwise it will assume the program operation is abnormal and will issue a reset signal to reboot or activate NMI to CPU. The Watch-Dog Timer is disable by reading port 843H.

● **JP11 : Watch-Dog Timer Type Setting**

PIN NO.	DESCRIPTION
1-2	NMI
2-3	**RESET**
OPEN	Disable WDT

● **JP16 : WDT Time-out Period**

PERIOD	1-2	3-4	5-6	7-8
1 sec.	OFF	OFF	ON	OFF
2 sec.	OFF	OFF	ON	ON
10 sec.	**OFF**	**ON**	**OFF**	**OFF**
20 sec.	OFF	ON	OFF	ON
110 sec.	ON	OFF	OFF	OFF
220 sec.	ON	OFF	OFF	ON

2.8   Clear CMOS Setup

If you forget the CMOS password, you can clear or reset it by closing the **JP24** for about 3 seconds then open again. Now, the password has been cleared from your CMOS.

● **JP24 : Clear CMOS Setup**

JP24	DESCRIPTION
OFF	**Normal Operation**
ON	Clear CMOS Setup

Note : If you are using an ATX power supply, the ATX-power connector should be disconnectedfrom the motherboard in order to be able to clear CMOS.

2.9   RS232 / RS422 / RS485 Selector (COMB)

● **JP17 : RS422 / RS485 Selector**

JP17	DESCRIPTION
1-2	RS485
2-3	**RS422**

● **JP18 : RS422 / RS485 , RS232**

JP18	DESCRIPTION
1-2	RS422/RS485
2-3	**RS232**

● **JP19 : RS422 / RS485 , RS232 Selector**

JP19	PIN NO.			
RS422/RS485	2-3	5-6	8-9	11-12
RS232	**1-2**	**4-5**	**7-8**	**10-11**

2.10   RI and COM Port Voltage Selector

COMA

The RI pin of COMA (CN23) can be set as RI, +5V or +12V mode by setting the JP26 and JP25

COMA PIN#9 FUNCTION DESCRIPTION	JP25	JP26
RI	Don't care	2-3
+5V	1-2	1-2
+12V	2-3	1-2

* +5V or +12V output is fuse protected.

COMB

The RI pin of COMB (CN19) can be set as RI, +5V or +12V mode by setting the JP28 and JP27

COMB PIN#9 FUNCTION DESCRIPTION	JP27	JP28
RI	Don't care	2-3
+5V	1-2	1-2
+12V	2-3	1-2

* +5V or +12V output is fuse protected.

COMC

The RI pin of COMC (CN18) can be set as RI, +5V or +12V mode by setting the JP14 and JP15

COMC PIN#9 FUNCTION DESCRIPTION	JP15	JP14
RI	Don't care	2-3
+5V	1-2	1-2
+12V	2-3	1-2

* +5V or +12V output is fuse protected.

COMD

The RI pin of COMD (CN16) can be set as RI, +5V or +12V mode by setting the JP12 and JP13

COMC PIN#9 FUNCTION DESCRIPTION	JP13	JP12
RI	Don't care	2-3
+5V	1-2	1-2
+12V	2-3	1-2

* +5V or +12V output is fuse protected.

Note : when the output is set as 12V, the board should have +12V input too from power supply.

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Connection

This chapter describes how to connect peripherals, switches and indicators to the POS-566/566L board.

3.1   Floppy Disk Drive Connector

POS-566/566L is equipped with a 34-pin daisy-chain driver connector cable.

● **CN2 : FDD CONNECTOR**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	REDUCE WRITE
3	GND	4	N/C
5	GND	6	N/C
7	GND	8	INDEX#
9	GND	10	MOTOR ENABLE A#
11	GND	12	DRIVE SELECT B#
13	GND	14	DRIVE SELECT A#
15	GND	16	MOTOR ENABLE B#
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	SIDE 1 SELECT#
33	GND	34	DISK CHANGE#

3.2   PCI E-IDE Disk Drive Connector

You can attach four IDE (Integrated Device Electronics) hard disk drives to the POS-566/566L IDE controller.

CN10 (IDE 1) : Primary IDE Connector
CN9   (IDE 2) : Secondary IDE Connector

• **CN10 : IDE 1 Interface Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	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	GND	20	N/C
21	IDE DRQ	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	IDE CHRDY	28	GND
29	IDE DACK	30	GND - DEFAULT
31	INTERRUPT	32	N/C
33	SA 1	34	N/C
35	SA 0	36	SA 2
37	HDC CS0#	38	HDC CS1#
39	HDD ACTIVE#	40	GND

● CN9 : IDE 2 Interface Connector
(2.5" IDE Connector 2.00mm pitch 44 pin)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	IDERST#	2	GND
3	D7	4	DATA 8
5	D6	6	DATA 9
7	D5	8	DATA 10
9	D4	10	DATA 11
11	D3	12	DATA 12
13	D2	14	DATA 13
15	D1	16	DATA 14
17	D0	18	DATA 15
19	GND	20	N/C
21	IDE_DRQ	22	GND
23	IDE_IOW#	24	GND
25	IDE_IOR#	26	GND
27	IDE_RDY	28	PULL LOW
29	IDE_DACK#	30	GND
31	IRQ	32	N/C
33	A1	34	N/C
35	A0	36	A2
37	CS0#	38	CS1#
39	ACTIVE#	40	GND
41	VCC	42	VCC
43	GND	44	PULL HIGH

3.3   Parallel Port

POS-566/566L provides two SPP/EPP/ECP Parallel Ports. These ports are usually connected to printer, accessed through a D-type 25-pin female connector CN22 and a 26-pin flat-cable connector CN24.

● CN22 : Printer Port Connector (LPTA)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	STROBE#	2	DATA 0
3	DATA 1	4	DATA 2
5	DATA 3	6	DATA 4
7	DATA 5	8	DATA 6
9	DATA 7	10	ACKNOWLEDGE
11	BUSY	12	PAPER EMPTY
13	PRINTER SELECT	14	AUTO FORM FEED #
15	ERROR#	16	INITIALIZE
17	PRINTER SELECT LN#	18	GND
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND
25	GND		

● CN24 : Printer Port Connector (LPTB)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	STROBE#	2	DATA 0
3	DATA 1	4	DATA 2
5	DATA 3	6	DATA 4
7	DATA 5	8	DATA 6
9	DATA 7	10	ACKNOWLEDGE
11	BUSY	12	PAPER EMPTY
13	PRINTER SELECT	14	AUTO FORM FEED #
15	ERROR#	16	INITIALIZE
17	PRINTER SELECT LN#	18	GND
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND
25	GND	26	N/C

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3.4   Serial Ports

POS-566/566L offers four high speed NS16C550 compatible UARTs with Read/Receive 16 byte FIFO serial ports. These ports can be connected to pointing devices or other serial devices (COMA/COMB/COMC/COMD).

● **CN23/CN19/CN18/CN16: Serial Port 10-pin Header Connector (COMA/COMB/COMC/COMD)**

PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD) /TX–
2	RECEIVE DATA (RXD) /TX+
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GROUND (GND)
6	DATA SET READY (DSR) /RX+
7	REQUEST TO SEND (RTS) /RX–
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)
10	N/C
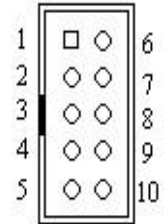
● **CN17/CN15 : Serial Port DB-9 Male Connector (COMA/COMB)**

PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD) /TX-
2	RECEIVE DATA (RXD) /TX+
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GROUND (GND)
6	DATA SET READY (DSR) /RX+
7	REQUEST TO SEND (RTS) /RX-
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)
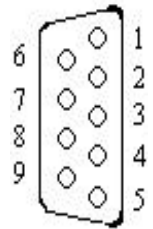
3.5 PS/2 Mouse / Keyboard

POS-566/566L provides two PS/2 Mouse connectors.

● **CN37 : 5-pin Header PS/2 Mouse Connector**

PIN NO.	DESCRIPTION
1	MS DATA
2	N/C
3	GND
4	+5V
5	MS CLK
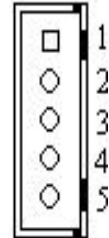
● **CN1 : 6-pin Mini-DIN PS/2 Mouse/Keyboard Connector**

PIN NO.	DESCRIPTION
1	KB DATA
2	MS DATA
3	GND
4	+5V
5	KB CLOCK
6	MS CLOCK
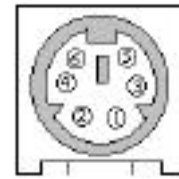
● **CN12 : 5-pin Header Extended Keyboard Connector**

PIN NO.	DESCRIPTION
1	KB CLOCK
2	KB DATA
3	N/C
4	GND
5	+5V

3.6 USB Port Connector

POS-566/566L has two built-in internal (CN39) and two external (CN11) USB ports for the future new I/O bus expansion.

- **CN39: 2 Internal USB Connectors**
        Pin 1-4 for USB 0
        Pin 5-8 for USB 1

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	5	GND
2	USBP00	6	USBP11
3	USBP01	7	USBP10
4	GND	8	+5V

- **CN11: 2 External USB Connectors**

PIN NO.		DESCRIPTION
1	5	+5V
2	6	USBP00 (-)
3	7	USBP01 (+)
4	8	GND
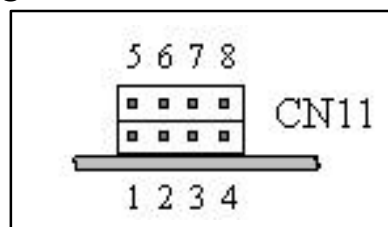
3.7 External Switches and Indicators

There are several external switches and indicators for monitoring and controlling your CPU board. All the functions are in the CN30 connector.

- **CN30 : Multi Panel**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1.	SPEAKER	2	VCC
3.	N/C	4	N/C
5.	N/C	6	GND
7.	+5V	8	KEYLOCK
9.	RESET SW	10	GND
11.	GND	12	GND
13.	IDE LED	14	N/C
15.	+5V	16	POWER ON
17.	ATX POWER BUTTON	18	ATX 5VSB
19.	GND	20	ATX 5VSB

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3.8   IrDA Infrared Interface Port

POS-566/566L built-in IrDA port supports Serial Infrared (SIR) or Amplitude Shift Keyed IR (ASKIR) interface. If you want to use the IrDA port, you have to configure the SIR or ASKIR model in the BIOS's Peripheral Setup's COM4. Then the normal RS-232 COM4 will be disabled.

● **CN31 : IrDA Connector**

PIN NO.	DESCRIPTION
1	VCC
2	N/C
3	IR-RX
4	GND
5	IR-TX
6	N/C

3.9   Fan Connector

POS-566/566L provides one CPU cooling fan connector and two system fan connectors. These connectors can supply 12V/500mA to the cooling fan. The connector has a "rotation" pin which supply the fan's rotation signal to the system, so the system BIOS knows the fan speed. Please note that only specified fan offers the rotation signal .

● **CN21 : CPU Fan Connector**
● **CN20/CN29 : System Fan Connector**

PIN NO.	DESCRIPTION
1	N/C
2	+12V
3	GND

Note:

The pin configuration is like this (looked from above):
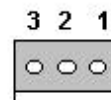
*If it is connected in reverse direction, it will cause the fan's rpm smaller and your CPU will be in **overheated** condition. Normal CPU Fan rpm is > 5000 rpm.*

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3.10 VGA Connector

The built-in 15-pin VGA connector can be connected directly to your monochrome CRT monitor as well as high resolution color CRT monitor. In addition, there is an internal VGA connector (CN27).

- **CN26 : 15-pin Female VGA Connector**

1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	VCC	10	GND
11	N/C	12	DDC DAT
13	HSYNC	14	VSYNC
15	DDC CLK		

- **CN27 : 10-pin header internal VGA Connector**

1	RED	2	GREEN
3	BLUE	4	HSYNC
5	VSYNC	6	DDDA*
7	DDCK*	8	GND
9	GND	10	GND
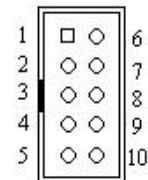
3.11   LCD Connector

- **CN25: LCD Interface Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VPCLK	2	P33
3	P34	4	P31
5	P35	6	P32
7	P30	8	P28
9	P29	10	P27
11	P25	12	P26
13	P24	14	P21
15	P23	16	P22
17	P16	18	P20
19	P17	20	P18
21	P19	22	P14
23	P13	24	P12
25	P15	26	P11
27	P7	28	P10
29	PLCD	30	PLCD
31	P9	32	P8
33	P4	34	P6
35	P3	36	P5
37	P2	38	P1
39	M	40	P0
41	SHFCLK	42	ENABKL
43	FPVDD	44	FLM
45	FPVEE	46	LP
47	GND	48	GND
49	+12V	50	+12V

3.12   LAN RJ45 Connector

POS-566/566L is equipped with a built-in 10/100Mbps Ethernet Controller. You can connect it to your LAN through RJ45 LAN connector. The pin assignments are as following:

- **CN13 : LAN RJ45 Connector**

1	TX+	5.	N/C
2	TX-	6.	RX-
3.	RX+	7.	N/C
4.	N/C	8.	N/C

- **CN32 : LED Connector (6-pin header) for LAN**

PIN NO.	DESCRIPTION
1	LED1(x10)Mbps
2	GND
3	LED2 (x100)Mbps
4	GND
5	LED3 (RX/TX)
6	GND

3.13   Audio Connector

POS-566 is compatible to Creative Sound Blaster 16 and Roland MPU401 UART Mode. You can choose either CN3 or CN4 as the input port (e.g.: connected to the output of CD player), depending on the type of connector that you have. The default address of the sound card I/O address is 220h. The sound card cannot be disabled from BIOS or hardware setting.

- **CN3 : CD_AUDIO INPUT Connector (type 1)**

PIN NO.	DESCRIPTION
1	GND
2	JCD_L
3	GND
4	JCD_R

- **CN4 : CD_AUDIO INPUT Connector (type 2)**

PIN NO.	DESCRIPTION
1	JCD_L
2	GND
3	GND
4	JCD_R

- **CN38 : Audio Connector**

This is the output port of your *Sound System.* Pin 1-2-3 and 5-6-7 can be connected to loudspeaker. Pin 9-10-11 can be used as input port if it is connected to the earphone jack of your CD. Pin 15-16 is for microphone.

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LINE OUT R	2	GND
3	LINE OUT L	4	GND
5	LINE OUT R	6	LINE OUT L
7	GND	8	GND
9	LINE IN R	10	LINE IN L
11	GND	12	GND
13	N/C	14	N/C
15	MIC IN	16	GND

Note: these connectors (CN3, CN4, CN38)are not available on POS-566L

3.14   Isolated Digital I/O Connector

POS-566/566L has 4-bit IN and 4-bit OUT built-in digital I/O connector.   The connector type is DINKLE ED350V-10P. An external power supply to the connector's pin-9 and pin-10 is needed to activate the digital I/O circuit. The external power supply's DC output should be connected with POS-566/566L's power supply at either 5V, 12V or GND to isolate POS-566/566L main system and the external I/O device.

In case that you cannot find any external power supply to activate the digital I/O, the 5V or 12V of the system's power supply can be used. Under this condition, your digital I/O is not isolated.

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- **CN28 : Digital I/O Connector**

PIN NO.	DESCRIPTION	FUNCTION
1	IN00	DATA IN
2	IN02	DATA IN
3	OUT00	DATA OUT
4	OUT02	DATA OUT
5	AAG	DEVICE GND
6	IN01	DATA IN
7	IN03	DATA IN
8	OUT01	DATA OUT
9	OUT03	DATA OUT
10	INCOM	DEVICE POWER
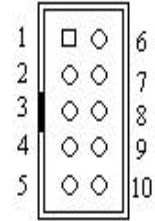
The addressed of digital I/O : 240H, 260H and 280H.
It can be disabled from CMOS peripheral setup.

Bit 0	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7
IN00	IN01	IN02	IN03	OUT00	OUT01	OUT02	OUT03

Digital Input Level
Logic Level 0 : +1V max
Logic Level 1 : +3.5V ~ 30V
Input Impedance : 3K£ 〔 0.5 W

Digital Output specifications:
Open Collector to 30V
Output Current : 600mA per channel, total 3A max

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3.15   AT and ATX Power Connector

- **J1: AT Power Supply Connector**

If you use AT power supply, plug both of the power supply connectors into J1. Make sure that you plug them in the right direction, the black wires (GND) of each power cable must be CLOSE to each other (in the center of the J1 connector).

Pin #		J1 Connector	Cable Color
P8	1	Θ Power Good	
	2	λ +5V	Red
	3	λ +12V	
	4	λ -12V	
	5	λ Ground	Black
	6	λ Ground	Black
	7	Θ Ground	Black
	8	λ Ground	Black
P9	9	λ -5V	
	10	λ +5V	Red
	11	λ +5V	Red
	12	λ +5V	Red

• J2: ATX Power Supply Connector
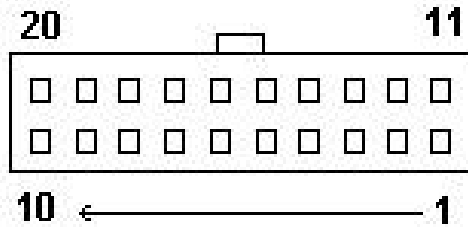
J2 is a 20-pin ATX Power Supply Connector. Please refer to the following table for the pin assignments.

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
11	3.3V	1	3.3V
12	-12V	2	3.3V
13	GND	3	GND
14	PS-ON	4	+5V
15	GND	5	GND
16	GND	6	+5V
17	GND	7	GND
18	-5V	8	Power good
19	+5V	9	5VSB
20	+5V	10	+12V

4

AMI BIOS Setup

The POS-566/566L uses the AMI PCI/ISA BIOS for system configuration. The AMI BIOS setup program is designed to provide maximum flexibility in configuring the system by offering various options which may be selected for end-user requirements. This chapter is written to assist you in the proper usage of these features.

4.1   Getting Start

When you turn on the power button, the BIOS will enter the Power-On-Self-Test routines. These routines will be executed for system test and initialization and system configuration verification.

" Hit DEL if you want to run SETUP"

To access AMI PCI/ISA BIOS Setup program, press <Del> key. The following screen will be displayed at this time.

```
          AMIBIOS HIFLEX SETUP UTILITY - VERSION 1.20
          (C)1998 American Megatrends, Inc. All Rights Reserved

                        Standard CMOS Setup
                        Advanced CMOS Setup
                       Advanced Chipset Setup
                       Power Management Setup
                     PCI / Plug and Play Setup
                          Peripheral Setup
                       Auto-Detect Hard Disks
                        Change User Password
                      Change Supervisor Password
                 Auto Configuration with Optimal Settings
                 Auto Configuration with Fail Safe Settings
                        Save Settings and Exit
                        Exit Without Saving




          Standard CMOS setup for changing time, date, hard disk type, etc.
              ESC:Exit  ↑↓:Sel  F2/F3:Color  F10:Save & Exit
```

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4.2 Standard CMOS Setup

The standard CMOS Setup is used for basic hardware system configuration. The main function is for Date/Time setting and Floppy/Hard Disk setting. Please refer to the following screen for this setup

```
              AMIBIOS SETUP - STANDARD CMOS SETUP
          (C)1998 American Megatrends, Inc. All Rights Reserved

Date (mm/dd/yyyy): Thu ███ 01,1999              Base Memory: 0 KB
Time (hh/mm/ss)  : 09:09:49                      Extd Memory: 0 MB

Floppy Drive A:    1.44 MB 3½
Floppy Drive B:    Not Installed
                                               LBA  Blk  PIO  32Bit
            Type           Size  Cyln  Head WPcom Sec Mode Mode Mode Mode
Pri Master : Auto                                                On
Pri Slave  : Auto                                                On
Sec Master : Auto                                                On
Sec Slave  : Auto                                                On

Boot Sector Virus Protection    Disabled

Month:   Jan - Dec                             ESC:Exit  ↑↓:Sel
  Day:    01 - 31                              PgUp/PgDn:Modify
  Year: 1901 - 9999                            F1:Help F2/F3:Color
```

To set the Date, for example, press either the arrow or <Enter> button on your keyboard to select one of the fields (Months, Date or Year) then press either <PgUp> or <PgDn> to set it to the current Months, Date and Year. Do the same steps for Time setting.

For IDE hard disk drive setup, please check the following possible setup procedure:
1. Use the Auto setting for detection during boot-up.
2. Use the Auto-Detect Hard Disk option in the main menu; the computer will automatically detect the HDD specifications.
3. Manually enter the specifications by yourself from the "User" option.

4.3   Advanced CMOS Setup

This Advanced CMOS Setup is designed for tuning the best performance of the POS-566/566L board. As for normal operation customers don't have to change any default setting. The default setting is pre-set for most reliable operation.

The following screen will be displayed if you select Advanced CMOS Setup:

```
            AMIBIOS SETUP - ADVANCED CMOS SETUP
         (C)1998 American Megatrends, Inc. All Rights Reserved

  1st Boot Device           Floppy        Available Options:
  2nd Boot Device           IDE-0            Disabled
  3rd Boot Device           CDROM            IDE-0
  Try Other Boot Devices    Yes              IDE-1
  S.M.A.R.T. for Hard Disks Disabled         IDE-2
  Quick Boot                Enabled          IDE-3
  BootUp Num-Lock           On             ▶ Floppy
  Floppy Drive Swap         Disabled         LS-120
  Floppy Drive Seek         Enabled          ATAPI ZIP
  Floppy Access Control     Normal           CDROM
  HDD Access Control        Normal           SCSI
  PS/2 Mouse Support        Enabled          NETWORK
  System Keyboard           Absent
  Primary Display           Absent
  Password Check            Setup
  Boot To OS/2              No
  External Cache            Enabled
  System BIOS Cacheable     Enabled        ESC:Exit  ↑↓:Sel
  Video BIOS Shadow         Enabled        PgUp/PgDn:Modify
  C800,16k Shadow           Disabled       F2/F3:Color
```

You can change the value of each options by using <PgUp> and <PgDn> key. The available values are shown on the right screen.
1st, 2nd, 3rd Boot Device > to define the sequence of boot drives after the routines check up completes. If the 1st Boot Device fails, the BIOS will attempt to boot from the 2nd or the 3rd device. The Optimal and Fail-Safe default settings are C:,A:,CDROM.
Try Other Boot Devices > the BIOS will try to boot from any other available device in the system if the 1st, 2nd and 3rd device fails to boot.
S.M.A.R.T. for Hard Disks > to allow BIOS to use the **S**ystem **Ma**nagement and **R**eporting **T**echnologies protocol for reporting server system information on a network.
Quick Boot > *Enabled*: this will enable the BIOS to boot quickly when you turn on your computer. The BIOS will only check the first 1MB of the system memory.

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Quick Boot > *Disabled:* the BIOS will test all system memory when it boots up. It will spend about 40 seconds untill it receives a Ready signal from the HDD. It will also wait for you to press the <Del> key or not.

BootUp Num-Lock > to turn on/off the Num-Lock option on a enhanced keyboard when you boot. If you turn it off, the arrow keys on the numeric keypad can be used just as the other set of arrow keys on the keyboard and vice versa.

Floppy Drive Swap > this function enables you to swap the floppy disk drives via software or without moving the hardware.

Floppy Drive Seek > when this option is turned Enabled, BIOS will perform a Seek command on floppy drive A: before boot-up.

Floppy Access Control > to define the read/write access which is set when booting from a floppy drive.

HDD Access Control > to define the read/write access which is set when booting from a HDD.

PS/2 Mouse Support > to testify whether or not a PS/2 mouse is supported.

System Keyboard > to configure the keyboard. If you set it Absent, BIOS will not report keyboard errors.

Primary Display > to define the type of display monitor of the system. The Absent option is for network file servers.

Password Check > to define if a password is necessary or not for access to the BIOS setup.

Boot to OS/2 > if you run the OS/2 operating system, this option must be set to yes. It means you permit BIOS to run properly if OS/2 or any other OS that does not support Plug and Play is found in your computer.

External Cache > to enable or disable the secondary cache memory.

System BIOS Cacheable > to define whether or not the ROM area F0000-FFFFF be copied to RAM. Setting it Enabled will give faster execution in your system.

XXXX, 16k Shadow > ROM Shadow is a technique in which BIOS code is copied from slower ROM to faster RAM. If you enable it then the BIOS will be executed from the RAM. Each option allows 16KB segment to be shadowed to the RAM.

4.4 Advanced Chipset Setup

This setup functions are working mostly for Chipset (Ali M1541). These options are used to change the Chipset's registers. Please carefully change any default setting ,otherwise the system will run unstably.

```
          AMIBIOS SETUP - ADVANCED CHIPSET SETUP
       (C)1998 American Megatrends, Inc. All Rights Reserved

 USB Function                  Disabled        Available Options:
 USB Legacy Support            Disabled        ▶ Disabled
 Ext. Tag SRAM Width           8 bits            Enabled
 SDRAM CAS Latency             Auto
 SDRAM Burst X-1-1-1-1-1-1-1   Enabled
 DRAM Timing                   Normal
 Pipe Function                 Enabled
 Gated Clock                   Disabled
 Graphic Aperture Size         64MB
 Primary Frame Buffer          Enabled
 VGA Frame Buffer              Enabled
    Data Merge                 Disabled
 Passive Release               Enabled
 ISA Line Buffer               Enabled
 Delay Transaction             Disabled
 AT Bus Clock                  Auto
 Memory Hole                   Disabled
                                               ESC:Exit  ↑↓:Sel
                                               PgUp/PgDn:Modify
                                               F2/F3:Color
```

USB Function > to enable or disable the USB (Universal Serial Bus) functions.
USB Legacy Support > to enable the support for order non-USB keyboard and mouse.
Ext. Tag SRAM Width > to select L2 Tag SRAM width.
SDRAM CAS# Latency > to specify the CAS latency timing form SDRAM DRAM.
DRAM Timing > to select DRAM timing mode (Normal, Slow, Fast)
Pipe function > to enable or disable the pipe function. Set it Enable if L2 is pipelined SRAM or not installed.
Gated Clock > to enable or disable the gated time and wake-up time of the DRAM sequencer and controller.
Graphics Aperture Size > to define the size of Graphics Aperture.
Primary Frame Buffer > to enable or disable the primary frame buffer.
VGA Frame Buffer > to specify the VGA Frame Buffer Size. *Enabled* will give you better system performance.

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Data Merge > to enable or disable the data merge, available only if VGA Frame Buffer is enabled. If enabled, the consecutive linear address will be merged.

Passive Release > *Enabled* will let the Passive Release mechanism encoded when CPU to PCI bus accesses.

ISA Line Buffer > to enable or disable the buffer for ISA Line.

Delay Transaction > to enable or disable the embedded 32-bit posted write buffer which supports delay transaction for PCI.

AT Bus Clock > to set the AT Bus Clock.

Memory Hole : to specify the location of a memory hole in the CMOS RAM. This setting reserve 15MB to 16MB memory address space for ISA expansion cards that specifically require this setting. Memory from 15MB and up will be unavailable to the system because expansion cards can only access memory up to 16MB.

4.5 Power Management Setup

```
         AMIBIOS SETUP - POWER MANAGEMENT SETUP
      (C)1998 American Megatrends, Inc. All Rights Reserved

Power Management/APM         Disabled      Available Options:
Green Monitor Power State    Off          ▶ Disabled
Video Power Down Mode        Disabled       Enabled
Hard Disk Power Down Mode    Disabled
Standby Time Out             Disabled
Suspend Time Out             Disabled
Monitor Parallel Port        Yes
Monitor Serial Port          Yes
Monitor Floppy               Yes
Monitor VGA                  No
Monitor Audio                No
Monitor Pri-HDD              Yes
Monitor Sec-HDD              No
Power Button Function        Suspend
Ring/Lan Resume              Disabled
MODEM Use IRQ                4
RTC Alarm Resume             Disabled
RTC Alarm Date               Disabled     ESC:Exit  ↑↓:Sel
RTC Alarm Hour               12           PgUp/PgDn:Modify
RTC Alarm Minute             30           F2/F3:Color
```

Power Management/APM > to enable or disable the Advanced Power Management feature.

Green Monitor Power State > to specify the power state of the monitor after the specified period of display-idle has ended.

Video Power Down Mode > to specify the power state of the VESA VGA video subsystem after the specified period of display-idle has ended.

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Hard Disk Power Down Mode > to specify the power state of the hard disk after the specified period of hard drive-idle has ended.

Standby Time Out > to specify the length of the system-idle period while the system is in full power on state. After this period of time has ended, the system will go into Standby state.

Suspend Time Out > to specify the length of the system-idle period while the system is in Standby state. After this period of time has ended, the system will go into Suspend state.

Monitor Parallel/Serial Port, Floppy,…Sec_HDD > to specify whether or not BIOS has to monitor the specified devices for power saving purpose.

Power Button Function > to specify the use of the power button that is mounted externally on the computer.

MODEM Use IRQ > to assign an IRQ for modem.

RTC Alarm Resume > If enabled, the system will wake up from suspend mode according to the set time.

RTM Alarm Date, Hour, Minute, Second > set the date, hour, minute and second for **RTC Alarm Resume**.

4.6   PCI / PLUG AND PLAY Setup

The setup help user handles the POS-566/566L board's PCI function. All PCI bus slots on the system use INTA#, thus all installed PCI slots must be set.

```
            AMIBIOS SETUP - PCI / PLUG AND PLAY SETUP
         (C)1998 American Megatrends, Inc. All Rights Reserved

 Plug and Play Aware O/S         No          Available Options:
 Clear NVRAM on Every Boot       No          ▶ No
 PCI Latency Timer (PCI Clocks)  64            Yes
 PCI VGA Palette Snoop           Disabled
 OffBoard PCI IDE Card           Auto
 OffBoard PCI IDE Primary IRQ    Disabled
 OffBoard PCI IDE Secondary IRQ  Disabled
 Assign IRQ to PCI VGA           Yes
 PCI Slot1 IRQ Priority          Auto
 PCI Slot2 IRQ Priority          Auto
 PCI Slot3 IRQ Priority          Auto
 PCI Slot4 IRQ Priority          Auto
 DMA Channel 0                   PnP
 DMA Channel 1                   PnP
 DMA Channel 3                   PnP
 DMA Channel 5                   PnP
 DMA Channel 6                   PnP
 DMA Channel 7                   PnP         ESC:Exit  ↑↓:Sel
 IRQ3                            ISA/EISA    PgUp/PgDn:Modify
 IRQ4                            ISA/EISA    F2/F3:Color
```

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Plug and Play Aware O/S > Yes or No
When PNP OS is installed, interrupts will be reassigned by the OS when the setting is Yes. When a non-PNP OS is installed or to prevent reassigning of interrupt settings, select setting to No.
Clear NVRAM on Every Boot > if *yes*, BIOS will auto-clear NVRAM on every boot.
PCI Latency Timer (PCI Clocks) > to define the latency timing (PCI clock) for all PCI devices on the PCI bus.
PCI VGA Palette Snoop > this option is useful only for system with more than one VGA devices connected to it through different bus (one PCI and one ISA). To enable those various VGA devices to handle signal from the CPU on each set of palette registers of every video devices, it must be set *Enabled*.
Offboard PCI IDE Card > to specify if an offboard PCI IDE card is installed in your computer or not. You must specify the slot number on the board which will be used for the card.
Offboard PCI IDE Primary (/Secondary) IRQ > to specify the PCI interrupt that is assigned to the Primary (/Secondary) IDE channel on the offboard PCI IDE controller.
Assign IRQ to PCI VGA > to assign IRQ to PCI VGA
PCI Slot (1,2,3,4) IRQ Priority > to specify the IRQ priority to be used by the PCI devices on slot 1 to 4.
DMA Channel (0,1,3,5,6,7) > to indicate whether or not the DMA channel is assigned for a PnP or ISA card.
IRQ (3,4,5,7,9,10,11,14,15) > to assign the displayed IRQ to be used by a legacy ISA adapter card. The settings are ISA/EISA or PCI/PnP.

4.7   Peripheral Setup

This setup is working mostly on Multi-I/O Chip. The options are used to change the Chipset's registers. Please carefully change any default setting to meet your application need perfectly. The only special concern is Onboard Serial Port 2. If you want to use the IrDA port, you have to configure the SIR or ASKIR model in the BIOS's Peripheral Setup's COM2; the RS-232 COM2 will be disabled.

```
                  AMIBIOS SETUP - PERIPHERAL SETUP
           (C)1998 American Megatrends, Inc. All Rights Reserved

 OnBoard FDC                    Auto            Available Options:
 OnBoard Serial Port1           3F8h/COM1        ▶ Auto
 OnBoard Serial Port2           2F8h/COM2          Disabled
   Serial Port2 Mode            Normal             Enabled
     IR Half-Duplex Time-Out    N/A
 OnBoard Parallel Port          378h
   Parallel Port Mode           Normal
     EPP Version                N/A
   Parallel Port IRQ            7
   Parallel Port DMA Channel    N/A
 OnBoard Serial PortC           3E8h
   Serial PortC IRQ             4
 OnBoard Serial PortD           2E8h
   Serial PortD Mode            Normal
     IrDA Protocol              1.6 uS
   Serial PortD IRQ             10
 OnBoard Parallel Port2         278h
   Parallel Port2 Mode          Normal          ESC:Exit  ↑↓:Sel
   EPP Version                  N/A             PgUp/PgDn:Modify
   Parallel Port2 IRQ           5               F2/F3:Color
```

Onboard FDC > to enable the Floppy Drive Controller on your board. If you set it Auto, the BIOS will decide if the FDC should be enabled, automatically).

Onboard Serial Port 1 (/2) > to specify the I/O port address of the serial port 1(/2). If you set it Auto, the BIOS will decide the correct I/O port address, automatically.

Serial Port 2 Mode > to specify the mode of serial port 2.

IR Half-Duplex Time-Out > to specify the time out of IR device that is connected to the IR port.

Onboard Parallel Port > to specify the I/O port address of the parallel port.

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Parallel Port Mode > to specify the mode of parallel port. The options are:

Normal (normal parallel port mode),

Bi-Dir (supports bidirectional transfer),

EPP (supports devices that comply with the Enhanced Parallel Port specification),

ECP (supports devices that comply with the Extended Capabilities Port).

Parallel Port IRQ > to assign certain IRQ to the parallel port.

Parallel Port DMA Channel > available only if the parallel port mode is ECP.

Onboard Serial PortC > to specify the I/O port address of the serial portC. If you set it Auto, the BIOS will decide the correct I/O port address, automatically.

Serial PortC IRQ > to assign IRQ to be used by Serial Portc.

Onboard Serial PortD > to specify the I/O port address of the serial portC. If you set it Auto, the BIOS will decide the correct I/O port address, automatically.

Serial PortD Mode > to specify the mode of serial port 2.

IrDA Protocol > to specify the function mode if an IrDA mode is selected.

Serial PortD IRQ > to assign IRQ to be used by Serial PortD IRQ.

Onboard Parallel Port2 > to specify the I/O port address of the parallel port2.

Parallel Port2 Mode > to specify the mode of parallel port2. The options are:

Normal (normal parallel port mode),

Bi-Dir (supports bidirectional transfer),

EPP (supports devices that comply with the Enhanced Parallel Port specification),

ECP (supports devices that comply with the Extended Capabilities Port).

Parallel Port2 IRQ > to assign certain IRQ to the parallel port.

Parallel Port2 DMA Channel > available only if the parallel port mode is ECP.

DIO address > to assign memory address to Digital I/O.

LCD/CRT Selection > to specify the display device. Options: LCD, CRT, Both or Auto.

LCD Type > to set LCD type. There are 15 types available. The followings are the available list of LCD panels:

#1　1024　x　768　STN
#2　1280　x　1024 TFT
#3　　640　x　480　STN
#4　　800　x　600　STN
#5　　640　x　480　TFT
#6　　640　x　480　18bit **< (choose this one for ICP's LCD)**
#7　1024　x　768　TFT
#8　　800　x　600　TFT
#9　　800　x　600　TFT
#10　800　x　600　TFT
#11　800　x　600　STN
#12　800　x　600　STN
#13 1024　x　768　TFT
#14 1280　x　1024 STN
#15 1024　x　600 STN

Onboard IDE > to define which on-board IDE controller channel(s) to be used. Available options are: Primary, Secondary, Both and Disabled.

4.8　Auto-Detect Hard Disk

This option detects the parameters of an IDE hard disk drive (HDD sector, cylinder, head, etc) automatically and will put the parameters into the Standard CMOS Setup screen. Up to 4 IDE drives can be detected and the parameters will be listed in the box. Press <Y> if you accept these parameters. Press <N> to skip the next IDE drives.

Note: If your IDE HDD was formatted in previous older system, incorrect parameters may be detected. In this case, you need to enter the correct parameters manually or low-level format the disk.

4.9   Change Supervisor / User Password

```
        AMIBIOS HIFLEX SETUP UTILITY - VERSION 1.20
       (C)1998 American Megatrends, Inc. All Rights Reserved


                 Standard CMOS Setup
                 Advanced CMOS Setup
                Advanced Chipset Setup
                Power Management Setup
               PCI / Plug and Play Setup

          ┌─────────────────────────────────────┐
          │                                     │
          │  Enter new supervisor password:     │
          │                                     │
          └─────────────────────────────────────┘

         Auto Configuration with Fail Safe Settings
                Save Settings and Exit
                 Exit Without Saving



               Change the supervisor password
         ESC:Exit  ↑↓:Sel  F2/F3:Color  F10:Save & Exit
```

This option sets a password that is used to protect your system and Setup Utility. Supervisor Password has higher priority than User Password. Once you setup the password, the system will always ask you to key-in password every time you enter the BIOS SETUP. If you enter the BIOS SETUP with Supervisor Password, you can access every setup option on the main menu but with User Password you can only choose three setup options (USER PASSWORD, SAVE SETTING AND EXIT and EXIT WITHOUT SAVING). To disable these passwords, enter the BIOS SETUP menu with Supervisor Password and then just press the <Enter> key instead of entering a new password when the 'Enter Password' prompt pop-up.

4.10   Auto Configuration with Optimal Settings

This option lets you load the *Optimal* default settings. These settings are *best-case values* which will provide the best performance. Whenever your CMOS RAM is damaged, this Optimal settings will be loaded automatically.

```
┌─────────────────────────────────────────────────────────────────┐
│        AMIBIOS HIFLEX SETUP UTILITY – VERSION 1.20                │
│      (C)1998 American Megatrends, Inc. All Rights Reserved        │
├─────────────────────────────────────────────────────────────────┤
│                                                                   │
│                      Standard CMOS Setup                          │
│                      Advanced CMOS Setup                          │
│                      Advanced Chipset Setup                       │
│                      Power Management Setup                       │
│                      PCI / Plug and Play Setup                    │
│             ┌───────────────────────────────────────┐            │
│             │                                        │            │
│             │  Load high performance settings (Y/N) ? Y          │
│             │                                        │            │
│             └───────────────────────────────────────┘            │
│                                                                   │
│                 Auto Configuration with Fail Safe Settings        │
│                      Save Settings and Exit                       │
│                      Exit Without Saving                          │
│                                                                   │
│                                                                   │
│         Load configuration settings giving highest performance    │
│           ESC:Exit  ↑↓:Sel  F2/F3:Color  F10:Save & Exit          │
└─────────────────────────────────────────────────────────────────┘
```

4.11   Auto Configuration with Fail Save Settings
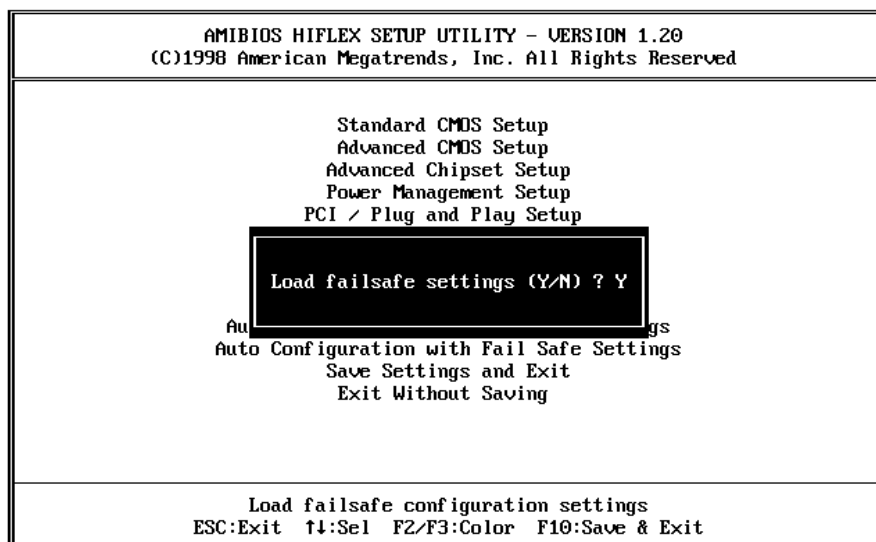
This option lets you load the *Fail Safe* default settings when something happens to your computer so that it cannot boot normally. These settings are not the most optimal settings but are the most stable settings.

```
┌─────────────────────────────────────────────────────────────────┐
│        AMIBIOS HIFLEX SETUP UTILITY – VERSION 1.20                │
│      (C)1998 American Megatrends, Inc. All Rights Reserved        │
├─────────────────────────────────────────────────────────────────┤
│                                                                   │
│                      Standard CMOS Setup                          │
│                      Advanced CMOS Setup                          │
│                      Advanced Chipset Setup                       │
│                      Power Management Setup                       │
│                      PCI / Plug and Play Setup                    │
│             ┌───────────────────────────────────────┐            │
│             │                                        │            │
│             │  Load failsafe settings (Y/N) ? Y      │            │
│          Au │                                        │ gs         │
│             └───────────────────────────────────────┘            │
│                 Auto Configuration with Fail Safe Settings        │
│                      Save Settings and Exit                       │
│                      Exit Without Saving                          │
│                                                                   │
│                                                                   │
│                 Load failsafe configuration settings              │
│           ESC:Exit  ↑↓:Sel  F2/F3:Color  F10:Save & Exit          │
└─────────────────────────────────────────────────────────────────┘
```

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4.12 Save Settings and Exit

Select this option when you finish setting all the parameters and want to save them into the CMOS. Just simply press <Enter> key and all the configuration changes will be saved.

4.13 Exit Without Saving

Select this option if you want to exit the Setup without saving the changes that you made. Just simply press <Enter> key and you will exit the BIOS SETUP without saving the changes.

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E^2 Key™ Function

The POS-566/566L provides an outstanding E^2KEY™ function for system integrator. Based on the E^2KEY™, you can free to store the ID Code, Password or Critical Data in the 1Kbit EEPROM. Because the EEPROM is nonvolatile memory, you don't have to worry for losing very important data.

Basically the E^2KEY™ is based on a 1Kbit EEPROM which is configured to 64 words(from 0 to 63). You could access (read or write) each word at any time.

When you start to use the E^2KEY™ you should have the utility in the package. The software utility will include four files as follows,

README.DOC
E2KEY.OBJ
EKEYDEMO.C
EKEYDEMO.EXE.

The E2KEY.OBJ provides two library functions for user to integrate their application with E^2KEY™ function. These library **(read_e2key and write_e2key)** are written and compiled in C language. Please check the following statement, then you will know how to implement it easily.

unsigned int read_e2key(unsigned int address)
/* This function will return the E^2KEY™'s data at address. The address range is from 0 to 63. Return data is one word,16 bits

*/**void write_e2key(unsigned int address,unsigned data)**

/* This function will write the given data to E^{2}KEY™ at certain address. The address range is from 0 to 63. The data value is from 0 to 0xffff. */

To easily start to use the function, please refer to the included EKEYDEMO.C code at first.

Please note that the E^{2}KEY™ function is based on the working of parallel port. So you should enable the POS-566/566L's parallel port, otherwise it will not work.

Appendix A. DMA, IRQ and 1st MB Memory

DMA Channel Assignments:

DMA Channel #	Description
0	Available
1	Available
2	Floppy Disk (8-bit transfer)
3	Available
4	Cascade for DMA controller 1
5	Sound
6	Available
7	Available

IRQ Mapping Chart

IRQ0	System Timer	IRQ8	RTC Clock
IRQ1	Keyboard	IRQ9	LAN & USB
IRQ2	Cascade to IRQ Controller	IRQ10	COM4
IRQ3	COM2	IRQ11	COM3
IRQ4	COM1	IRQ12	PS/2 Mouse
IRQ5	SOUND CARD	IRQ13	FPU
IRQ6	FDC	IRQ14	Primary IDE
IRQ7	LPT1	IRQ15	Secondary IDE

Note: all IRQs have been assigned to the listed devices, so if you want to add any additional device interface, you must free the unused IRQ first. For example, if you don't use USB K/B or Mouse, then IRQ10 may be set free.

1st MB Memory Address Map

Memory Address	Description
00000-9FFFF	System Memory
A0000-BFFFF	VGA Buffer
C0000-CBFFF	VGA BIOS
*D0000-D7FFF	DOC 2000
E0000-FFFFF	System BIOS
1000000-	Extend BIOS

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Appendix B. I/O Address Map

I/O Address Range	Description
000-01F	DMA Controller #1
020-021	Interrupt Controller #1, Master
040-05F	8254 Timer
060-06F	8042 (Keyboard Controller)
070-07F	Real Time Clock, NMI Mask
080-09F	DMA Page Register
0A0-0BF	Interrupt Controller #2
0C0-0DF	DMA Controller #2
0F0	Clear Math Coprocessor Busy
0F1	Reset Math Coprocessor
0F8-0FF	Math Coprocessor
1F0-1F8	Fixed Disk
200-207	Game I/O
278-27F	Parallel Printer Port 2 (LPT2)
2E8-2EF	Serial Port 4 (COM4)
2F8-2FF	Serial Port 2 (COM2)
300-31F	Prototype Card
360-36F	Reserved
378-37F	Parallel Printer Port 1 (LPT1)
380-38F	SDLC, Bisynchronous 2
3A0-3AF	Bisynchronous 1
3B0-3BF	Monochrome Display
3C0-3CF	Reserved
3D0-3DF	Color/Graphics Monitor Adapter
3E8-3EF	Serial Port 3 (COM3)
3F0-3F7	Diskette Controller
3F8-3FF	Serial Port 1 (COM1)
443	Watch-dog time Enable
843	Watch-dog time Disable

Appendix C. Watch-Dog Timer

The WatchDog Timer is provided to ensure that standalone systems can always recover from catastrophic conditions that cause the CPU to crash. This condition may have occurred by external EMI or a software bug. When the CPU stops working correctly, hardware on the board will either perform a hardware reset (cold boot) or a Non-Maskable Interrupt (NMI) to bring the system back to a known state.

Two I/O ports control the WatchDog Timer :.

443 (hex)	Read	Enable to refresh the WatchDog Timer.
843 (hex)	Read	Disable the WatchDog Timer.

To enable the WatchDog Timer, a read from I/O port 443H must be performed. This will enable and activate the countdown timer which will eventually time-out and either reset the CPU or cause a NMI, depending on the setting of JP11. To ensure that this reset condition does not occur, the WatchDog Timer must be periodically refreshed by reading the same I/O port 433H. This must be done within the time-out period that is selected by jumper group JP16.

A tolerance of at least 30% must be maintained to avoid unknown routines within the operating system (DOS), such as disk I/O that can be very time-consuming. Therefore, if the time out period has been set to 10 seconds, the I/O port 443H must be read within 7 seconds.

Note: when exiting a program it is necessary to disable the WatchDog Timer, otherwise the system will reset.

Appendix D. Flat Panel Connection Module

The FP24-01 connection module is installed on the POS-566/566L as a standard product. The FP24-01 converts POS-566/566L's on board 50pin LCD interface signal to the 44-pin and 41pin (Hirose DF9-41P-1V) LCD connectors. The 44-pin or 41-pin connector will only support 24-bit flat panel.

- **J3 : 44-pin LCD Interface Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+12V	2	+12V
3	GND	4	GND
5	5V/3.3V	6	5V/3.3V
7	FPVEE	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	M	38	LP
39	GND	40	ENABKL
41	NC	42	NC
43	FPVDD	44	5V/3.3V

- **J1 : 41-pin LCD Interface Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	P20	2	GND
3	P16	4	5V or 3.3V
5	P21	6	P0
7	P17	8	P8
9	P22	10	P1
11	P18	12	P9
13	P23	14	P2
15	P19	16	P10
17	5V or 3.3V	18	P3
19	FLM	20	P11
21	M	22	P4
23	LP	24	P12
25	SHFCLK	26	P5
27	5V or 3.3V	28	P13
29	5V or 3.3V	30	P6
31	ENABKL	32	P14
33	FPVDD	34	P7
35	FPVEE	36	P15
37	GND	38	+12V
39	GND	40	+12V
41	N/C		

- **J2 : LCD Backlight Power Connector**

PIN NO.	DESCRIPTION
1	N/C
2	GND
3	+12V
4	GND
5	FPVEE Inverter Enable

Appendix E. AMD-K6® Processor Voltage

CPU Type	Model	V-core	Typical Power	CPU Clock
AMD-K6/233	7	2.2V	8.10W	66 MHz
AMD-K6/266	7	2.2V	8.75W	66 MHz
AMD-K6/300	7	2.2V	9.25W	66 MHz
AMD-K6-2/266	8	2.2V	8.85W	66 MHz
AMD-K6-2/300-66	8	2.2V	10.35W	66 MHz
AMD-K6-2/300	8	2.2V	10.35W	100 MHz
AMD-K6-2/333-66	8	2.2V	11.40W	66 MHz
AMD-K6-2/333	8	2.2V	11.40W	95 MHz
AMD-K6-2/350	8	2.2V	11.98W	100 MHz
AMD-K6-2/366	8	2.2V	12.48W	66 MHz
AMD-K6-2/380	8	2.2V	12.95W	95 MHz
AMD-K6-2/400	8	2.2V	13.65W	100 MHz
AMD-K6-2/450	8	2.4V	17.05W*	100 MHz
AMD-K6-III/400	9	2.4V	16.1W*	100 MHz
AMD-K6-III/450	9	2.4V	17.7W*	100 MHz

* these numbers are only estimates and are subject to change

Note : this data is downloaded from AMD's website