ROCKY-5ST86HV Ver 2.x

486 DX66 with

SVGA CPU Board

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Support
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1

Introduction

Welcome to the ROCKY-5ST86HV 486 DX66 with SVGA CPU Board. The ROCKY-5ST86HV board is an all-in-one CPU board. It offers all the functions that a full-fledged computer needs.

In addition, the ROCKY-5ST86HV provides SVGA display controller on board, which can supply CRT resolutions up to 1024x768@64K colors.

This board has a built-in DiskOnChip™ (DOC) Flash Disk Socket for embedded applications. The DOC Flash Disk is 100% software compatible with hard disk. Users can use any DOS command without any extra software utility. The DOC is currently available from 2MB to 144MB.

1.1 Specifications

CPU	Embedded SGS Thomson DX-66 STPC Client
System bus connector	ISA
System memory	Two 72-pin SIMM socket supports 8,16 or 32MB EDO/FPR DRAM
Enhanced IDE Interface	Supports up to four EIDE devices with BIOS auto-detect function
Floppy disk drive interface	Supports up to two floppy disk drives
Serial ports	Four RS-232 ports with 16C550 UART (or compatible) with 16-byte FIFO buffer. Support up to 115.2Kbps. Ports can be individually configured to COM1, COM2,COM3, COM4 or disabled.
Bi-directional parallel Port	Configurable to LPT1, LPT2, LPT3 or disabled. Supports EPP/ECP/SPP.
IrDA port	Supports Serial Infrared (SIR) and Amplitude Shift Keyed IR (ASKIR) interface
Watch-dog timer	Can be set by 1~255 seconds intervals. Reset or NMI is generated when CPU does not periodically trigger the timer.
VGA display	Completes backward compatibility to VGA and SVGA , supports CRT resolutions up to 1024 x 768 @ 64K colors , 512KB – 4MB share memory , set in BIOS
Flash disk socket	The DiskOnChip™ compatible 32pin dip socket is provided for application of Flash Disk (DiskOnChip™) which let users use the Flash Disk in DOS command without any extra software utility.
Keyboard / Mouse connector	Supports standard PC/AT keyboard and PS/2 mouse
Power consumption	+5V @1.4A
Operating temperature	0◦ ~ 55◦C (CPU needs Cooler)

1.2 What You Have

In addition to this *User's Manual*, the ROCKY-5ST86HV package includes the following items:

- ROCKY-5ST86HV 486DX66 with SVGA CPU board
- RS-232 cable x 3
- Printer cable x 1
- FDD cable x 1
- HDD cable x 2
- VGA cable x 1

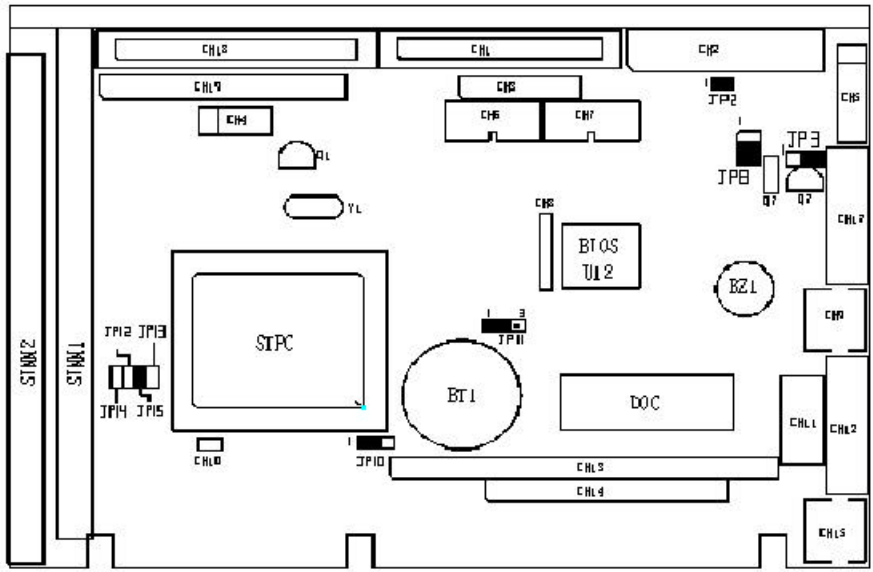
If any of these items are missing or damaged, contact the dealer from whom you purchased this product. Keep the shipping materials and carton in case you want to ship or store the product in the future.

2

Jumper Setting

This chapter describes how to install the ROCKY-5ST86HV. At first, the layout of ROCKY-5ST86HV is shown, and the unpacking information that you should be careful is described. The jumpers setting instructions of CMOS and DiskOnChip Flash Disk are also included.

2.1 ROCKY-5ST86HV's Layout



2.2 Unpacking Precautions

Some components on ROCKY-5ST86HV SBC are very sensitive to static electric charges and can be damaged by a sudden rush of power. To protect it from unintended damage, be sure to follow these precautions:

- ✓ Ground yourself to remove any static charge before touching your ROCKY-5ST86HV SBC. 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 ROCKY-5ST86HV SBC by its edges. Dont touch IC chips, leads or circuitry if not necessary.
- ✓ Do not plug any connector or jumper while the power is on.

2.3 PS2 Mouse (JP2)

If you want to disable PS/2 mouse, you should remove the jumper on JP2.

- **JP2: PS2 MOUSE**

Close	Enable
Open	Disable

2.4 Watchdog (JP3)

If you want to disable the function of watchdog, you should close the pin.1 and pin.2. For detailed information on Watch-Dog Timer, please refer to Appendix A.

- **JP3: Watchdog**

1-2	Disable
2-3	Enable

2.5 DiskOnChip™ Flash Disk (JP8)

The DiskOnChip™ Flash Disk Chip (DOC) is produced by M-Systems. Because the DOC is 100% software compatible to hard disk and DOS, users dont need any extra software utility. It is just "plug and play", easy and reliable. Right now the DOC is available from 2MB to 144MB. The DiskOnChip will only share 8KB memory address.

- **JP8 : DiskOnChip Memory Address Setting**

Address	**JP8**		
	1-2	**3-4**	**5-6**
C8000 – C9FFF	**OPEN**	**CLOSE**	**CLOSE**
D0000 – D1FFF	CLOSE	OPEN	CLOSE
D8000 – D9FFF	OPEN	OPEN	CLOSE

2.6 Clear CMOS Setup(JP10)

If you want to clear the CMOS Setup (for example: if you forgot the password, you should clear the setup and then set the password again.), you should close the JP10 about 3 seconds, then open again. Now, the password has been cleared from your CMOS.

- **JP10:CLEAR CMOS JUMPER**

1-2	NORMAL
2-3	CLEAR CMOS

2.7 CPU Clock Setting(JP12,13,14)

These jumpers are used to select the operating clock of CPU. Because the CPU is mounted on board, the factory setting will be made according to the CPU used.

- **JP12,13,14: CPU Clock Setting**

12	13	14	CPU CLOCK
Close	Open	Open	25 MHZ
Open	Close	Close	50 MHZ
Open	Close	Open	60 MHZ
Open	Open	Close	66 MHZ
Open	Open	Open	75 MHZ

2.8 PCI Clock Divisor(JP15)

This jumper is used to select the operating clock of PCI device. The default setting will be the HOST clock divided by three. In the case of 75Mhz HOST clock, the PCI clock is 25Mhz.

- **JP15: PCI Clock Divisor**

Close	HCLK/2
Open	HCLK/3

3

Connection

This chapter describes how to connect peripherals, switches and indicators to the ROCKY-5ST86HV board.

Table of Connectors

LABEL	FUNCTION
CN1	Floppy Disk Drive Connector
CN2	Parallel Port
CN3	COMB Connector
CN4	External K.B. Connector
CN5	External Power Connector
CN6	COM4 Connector
CN7	COM3 Connector
CN8	IR Connector
CN9	PS/2 Mouse Connector
CN10	CPU FAN Connector
CN11	COM2 Connector
CN12	COM1 Connector
CN13	PC104-64
CN14	PC104-40
CN15	Keyboard Connector
CN16	RESERVED
CN17	VGA Connector
CN18	IDE1 Connector
CN19	IDE2 Connector

3.1 Floppy Disk Drive Connector (CN1)

The ROCKY-5ST86HV board comes equipped with a 34-pin daisy-chain drive connector cable which can support up to two floppy drives. The detailed pin assignment of the connector is specified as below:

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GROUND	2	REDUCE WRITE
3	GROUND	4	N/C
5	GROUND	6	N/C
7	GROUND	8	INDEX #
9	GROUND	10	MOTOR ENABLE A#
11	GROUND	12	DRIVE SELECT B#
13	GROUND	14	DRIVE SELECT A#
15	GROUND	16	MOTOR ENABLE B#
17	GROUND	18	DIRECTION#
19	GROUND	20	STEP#
21	GROUND	22	WRITE DATA#
23	GROUND	24	WRITE GATE#
25	GROUND	26	TRACK 0#
27	GROUND	28	WRITE PROTECT#
29	GROUND	30	READ DATA#
31	GROUND	32	SIDE 1 SELECT#
33	GROUND	34	DISK CHANGE#

3.2 IDE Disk Drive Connector (CN18,CN19)

You can attach four IDE (Integrated Device Electronics) hard disk drives to the ROCKY-5ST86HV IDE controller. The IDE supports the Ultra DMA/33 interface.

- **CN18: IDE1 – Primary IDE**

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

- **CN19: IDE2 – Secondary IDE**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RESET#	2	GROUND
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	GROUND	20	N/C
21	IDE DRQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IDE CHRDY	28	GROUND
29	IDE DACK	30	GROUND. ***DEFAULT***
31	INTERRUPT	32	N/C
33	SA 1	34	N/C
35	SA 0	36	SA 2
37	HDD CS0#	38	HDC CS1#
39	HDD ACTIVE#	40	GROUND
41	VCC	42	VCC
43	GND	44	VCC

3.3 Switches, Indicators (CN3)

The connection of CN3 is illustrated as the following table for reference.

- **CN3: General connectors**

	PIN NO.	DESCRIPTION
BUZZER CON	1	BATTERY
	2	VCC
RESET	11	GND
	9	RESET SW
HDDLED	7	VCC
	13	IDE LED
KEYLOCK	8	KEYLOCK
	10	GND

PIN 6,12: GND

3.4 Parallel Port (CN2)

This port is usually connected to a printer. The ROCKY-5ST86HV includes an on-board parallel port accessed through a 26-pin mini-pitched flat-cable connector CN2.

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	INITALIZE
17	PRINTER SELECT LN#	18	GROUND
19	GROUND	20	GROUND

3.5 Serial Port (CN6, CN7, CN10, CN11)

The ROCKY-5ST86HV offers four high speed NS16C550 compatible UARTs with Read/Receive 16 byte FIFO serial ports.

- **CN12: COM1 (9-pin D-SUB connector)**
- **CN11: COM2 (10-pin header)**
- **CN7: COM3 (10-pin header)**
- **CN6: COM4 (10-pin header)**

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

3.6 External Power Connector (CN5)

The ROCKY-5ST86HV has an on-board external power connector CN5. The extra power supply like ±12VDC and -5VDC provided by CN5 will be passed to CN13 and CN14 and only for PC104 slot use.

1	+5V
2	+12V
3	-12V
4	GND
5	GND
6	-5V
7	+12V
8	+5V

3.7 VGA Connector (CN17)

ROCKY-5ST86HV's built-in 16-pin VGA connector can directly connect to your CRT monitor via the attached VGA cable.

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RED	2	GREEN
3	BLUE	4	N/C
5	GROUND	6	GROUND
7	GROUND	8	GROUND
9	N/C	10	GROUND
11	N/C	12	DDC DAT
13	HSYNC	14	VSYNC
15	DDCCLK		

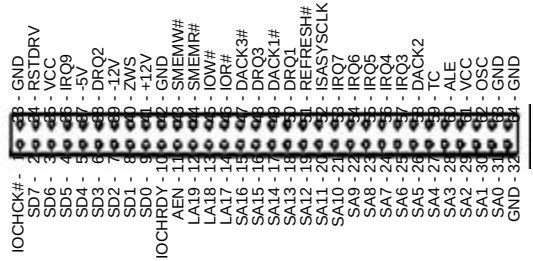
3.8 CPU Fan Connector (CN10)

The ROCKY-5ST86HV provides an optional CPU cooling fan connector which only presents when +12V power is supplied to CN6. Please note that the ROCKY-5ST86HV's STPC chip has already installed a heat sink. However, while running under environment temperature above 60 ¢ J users still have to add an additional CPU cooling fan.

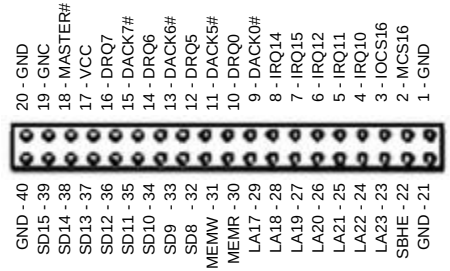
1	+12V
2	GND

3.9 PC/104 Connection Bus (CN13, CN14)

The ROCKY-5ST86HV's PC/104 expansion bus lets you attach any kind of PC/104 modules. There are two PC/104 connectors on this board: PC/104-64 and PC/104-40.



CN13 : PC/104-64 CON A



CN14 : PC/104-40 CON B

3.10 PS/2 Mouse Connector(CN9)

The 6-pin DIN connector allows users to connect PS/2 mouse .

PIN NO.	DESCRIPTION
1	MS DATA
2	N/C
3	GROUND
4	VCC
5	MS CLOCK
6	N/C

3.11 Keyboard Connector (CN15)

The 6-pin DIN connector allows users to connect PS/2 keyboard.

PIN NO.	DESCRIPTION
1	KB DATA
2	N/C
3	GROUND
4	VCC
5	KB CLOCK
6	N/C

3.12 External Keyboard Connector (CN4)

The 6-pin header allows users to connect keyboard.
Note: users should make the cable by themselves.

PIN NO.	DESCRIPTION
1	KB CLOCK
2	KB DATA
3	N/C
4	GROUND
5	VCC

3.13 IrDA Infrared Port (CN8)

PIN NO.	DESCRIPTION
1	VCC
2	FIR-RX
3	IR-RX
4	GROUND
5	IR-TX
6	CIRRX

4

AMI BIOS Setup

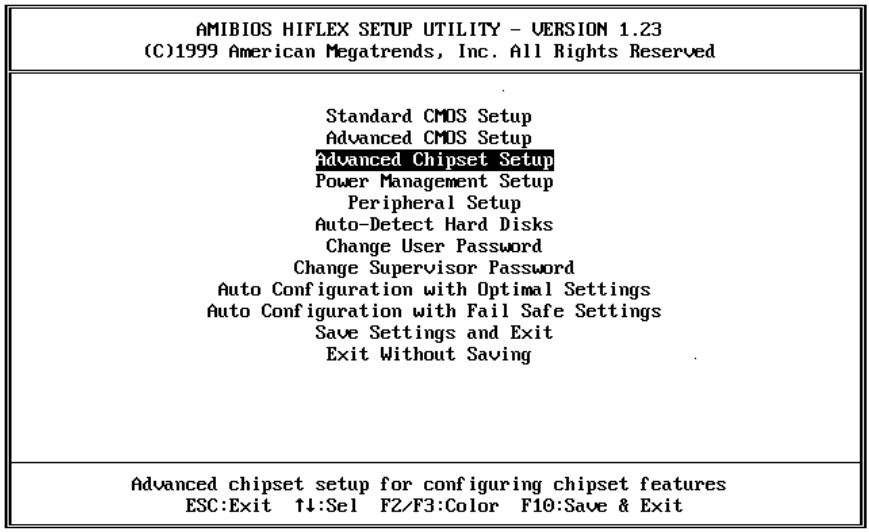
The ROCKY-5ST86HV uses the AMI PCI/ISA BIOS for system configuration. The AMI BIOS setup program is designed to provide maximum flexibility in configuring the system by offering various options which may be selected for end-user requirements. This chapter is written to assist you in the proper usage of these features.

4.1 Getting Started

When powering on the system, the BIOS will enter the Power-On-Self-Test (POST) routines. These routines will be executed for system test, initialization and system configuration verification. After the POST routines are completed, the following message will appear:

" 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.

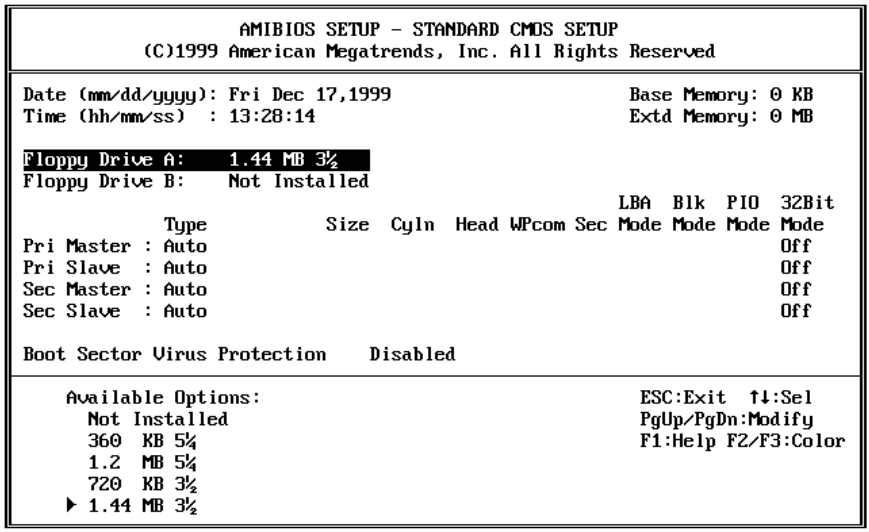


When choose **Auto Configuration with Fail Safe Settings**, it will load the minimized settings for Troubleshooting. The performance should be very poor when use this setting.

When choose **Auto Configuration with Optimal Settings**, it will load optimized defaults for regular use. Choosing this setting will modify all applicable settings.

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 Drive setting. Please refer to the following screen for this setup.



For IDE hard disk drive setup, please check the following setup procedure:

1. Use the Auto setting for detection during boot up.

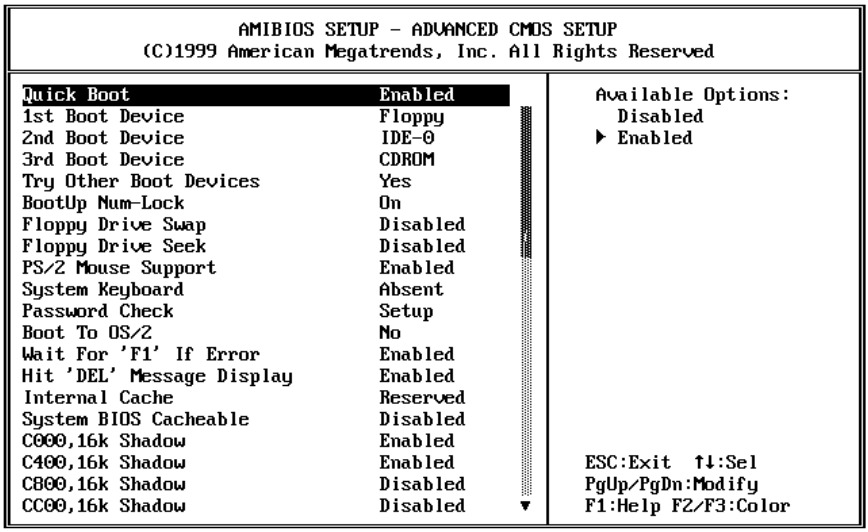
2. Use the IDE HDD AUTO DETECTION in the main menu to automatically enter the drive specifications.

3. Manually enter the specifications by yourself from the "User" option.

4.3 Advanced CMOS Setup

The Advanced CMOS Setup is designed for user's tuning best performance of the ROCKY-5ST86HV board. As for normal operation, users dont have t o change any default setting. The default setting is pre-set for most reliable operation.

Users can set "System Keyboard" to "Absent " for the applications which don't need keyboard.

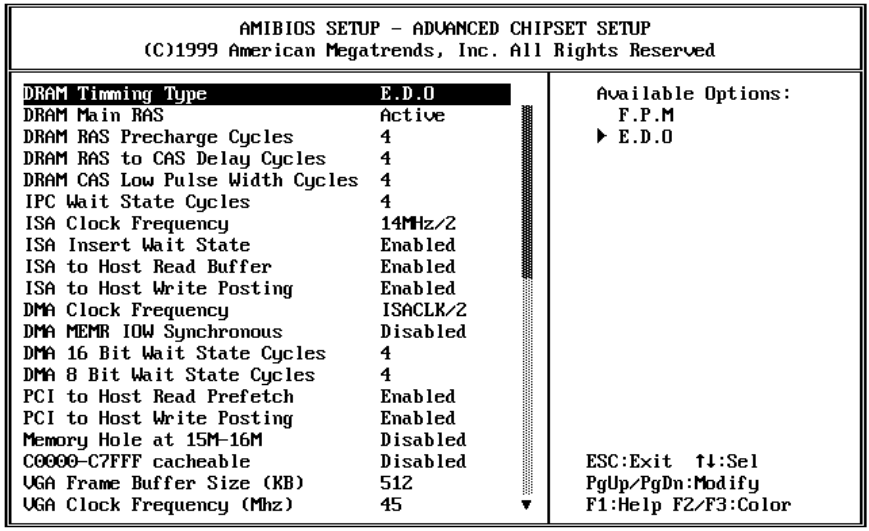


You can change the value of each option by using <PgUp> and <PgDn> key. The available values are shown on the right screen.

- **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.
- **Quick Boot > Disabled:** the BIOS will test all system memory when it boots up. It will spend about 40 seconds until it receives a Ready signal from the HDD. It will also wait for you to press the <Del> key or not.
- **1st, 2nd, 3rd Boot Device >** to define the device type for booting 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.

- **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.
- **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.
- **PS/2 Mouse Support >** to testify whether or not a PS/2 mouse is supported.
- **System Keyboard >** to testify whether or not a keyboard is attached to the computer.
- **Password Check >** to define if a password is necessary or not for access to the system.
- **Boot to OS/2 >** if you run the OS/2 operating system, this option must be set to yes.
- **System BIOS Cacheable >** to define whether or not the memory segment FOOOH can be read from or written to cache memory. 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

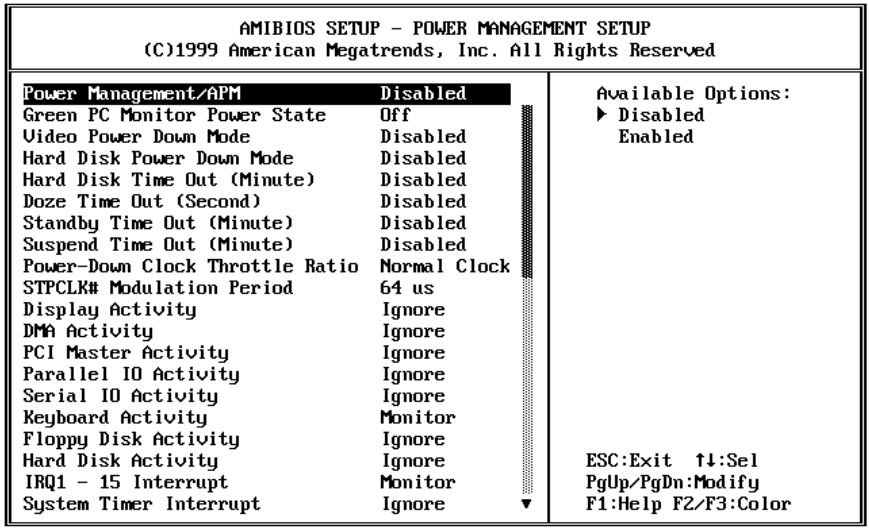


These setup functions mainly work for Chipset. These options are used to change the Chipsetś registers. Please carefully change any default setting, otherwise the system may become unstable.

- **Memory Hole at 15M-16M >** to specify the location of a memory hole in the CMOS RAM. This setting reserves 15MB to 16 MB 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.
- **VGA Frame Buffer Size (KB) >** to specify VGA share memory size

4.5 Power Management Setup

Power Management Setup helps users handle the ROCKY-5ST86HV board's "green" function. The features could shut down the video display and hard disk to save energy for example. The power management setup screen is as following:

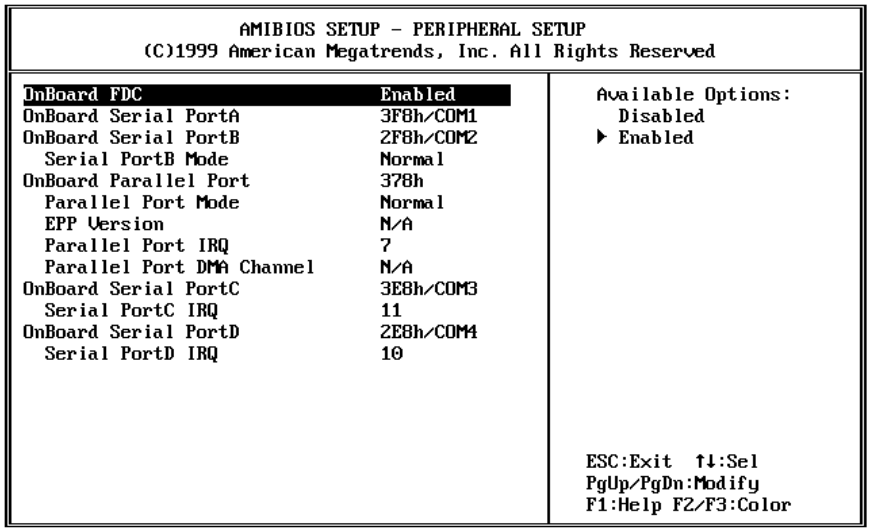


- **Power Management/APM >** to enable or disable the Advanced Power Management feature.
- **Green PC Monitor Power State >** to specify the power state of the monitor after the specified period of display-idle has ended.
- **Video Power Down Mode >** to specify the power state of the VESA VGA video subsystem after the specified period of display-idle has ended.
- **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 (Minute) >** 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 (Minute) >** 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.
- **Display Activity >** to specify if BIOS has to monitor display activity or not.

4.6 Peripheral Setup

This setup works mostly on (is almost working for) Multi-I/O Chip (W83977F). The options are used to change the Chipsets registers. Please carefully change any default setting to meet your application needs perfectly. The only special concern is Onboard Serial Port B. If you are using the IrDA port, you have to set this port accordingly.



When you enter the Peripheral Setup, the following items are available for setting:

- **On-board FDC >** The floppy disk drive controller can be Enabled or Disabled by this item. When you do not need floppy disk, the FDD controller can be disabled. If you set it Auto, the BIOS will try to enable any floppy drive controller on the ISA Bus.
- **Serial Port A >** The options are Disable, 3F8, 2F8, 3E8, 2E8 and Auto. You can set the I/O address of the serial port A (COMA) or disable it.
- **Serial Port B >** The options are Disable, 3F8, 2F8, 3E8, 2E8 and Auto. You can set the I/O address of the serial port B (COMB) or disable it.

- **Serial Port C >** The options are Disable, 3F8, 2F8, 3E8, 2E8 and Auto. You can set the I/O address of the serial port C (COMC) or disable it.
- **Serial Port D >** The options are Disable, 3F8, 2F8, 3E8, 2E8 and Auto. You can set the I/O address of the serial port D (COMD) or disable it.
- **OnBoard Parallel Port >** The options are Auto, Disable, 3BC, 378 or 278. You can set the I/O address of the parallel port or disable it.
- **IR Port Support >** to specify the IO Port address of the IR Port
- **Parallel Port Mode >** ROCKY-5ST86HV provides EPP Mode. EPP passes the parallel port to be used with devices which stick to the EPP specification. The existing parallel port signals will be used by EPP to provide asymmetric bi-directional data transfer driven by the host devices.
- **Parallel Port IRQ >** to define the Interrupt Request (IRQ) which is used by the parallel port.
- **Parallel Port DMA Channel >** to set the DMA Channel used by the parallel port.

Appendix A. Watch-Dog Timer

The Watch-Dog Timer is provided to ensure that stand-alone 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 perform hardware reset (cold boot) to bring the system back to a known state.

The Watch-Dog Timer is controlled by three I/O ports.

443	Write	Set Watch-Dog Time period
443 (hex)	Read	Enable the refresh the Watch-Dog Timer.
843 (hex)	Read	Disable the Watch-Dog Timer.

To enable the Watch-Dog Timer, users have to define the Timer before enable the Watch-dog Timer function. The output data is a value of time interval and the range of the value is from 01(hex) to FF(hex) and time interval 1 sec to 255 sec.

Data	Time Interval
01	1 sec
02	2 sec
03	3 sec
04	4 sec
. . .	. . .
FF	255 sec

This will enable and activate the countdown timer which will eventually time out and reset the CPU to ensure that this reset condition does not occur, the Watch-Dog Timer must be periodically refreshed by reading the same I/O ports 843H and 443H. This must be done within the time out period that is selected by software, please refer to the example program.

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 Watch-Dog Timer, otherwise the system will reset.

Example program:

```
TIMER_PORT   =  443H
TIMER_START  =  443H
TIMER_STOP   =  843H
;
; INITIAL TIME PERIOD COUNTER
;

      MOV   DX, TIME_PORT
      OUT    AL, 8 ; 8 SECONDS
;
; ADD YOUR APPLICATION HERE
;
      MOV   DX, TIMER_START
      IN       AL, DX.       ; START COUNTER
;
; ADD YOUR APPLICATION HERE
;
W_LOOP:
      MOV    DX,TIMER_STOP
      IN       AL,DX
      MOV   DX, TIMER_START
      IN       AL, DX.       ; RESTART COUNTER
;
; ADD YOUR APPLICATION HERE
;
      CMP     EXIT_AP, 0
      JNE      W_LOOP
       MOV    DX, TIMER_STOP
       IN       AL, DX
;
; EXIT AP
;
```

Appendix B. I/O Information

IO 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 (non-maskable interrupt) 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
0F2	Core logic programming configuration
0F8-0FF	Math Coprocessor
1F0-1F8	Fixed Disk
200-207	Game I/O
278-27F	Parallel Printer Port 2 (LPT3)
2E8-2EF	Serial Port 4
2F8-2FF	Serial Port 2
300-31F	Prototype Card
360-36F	Reserved
378-37F	Parallel Printer Port 1 (LPT2)
3B0-3BF	Monochrome Display and Printer Adapter (LPT1)
3C0-3CF	Reserved
3D0-3DF	Color/Graphics Monitor Adapter
3E8-3EF	Serial Port 3
3F0-3F7	Diskette Controller
3F8-3FF	Serial Port 1
443	Watch-dog timer enable
843 or 043	Watch-dog timer disable

1st MB Memory Address Map

Memory address	Description
00000-9FFFF	System memory
A0000-BFFFF	VGA buffer
C0000-C7FFF	VGA BIOS
*D6000-DDFFF	DOC 2000
F0000-FFFFF	System BIOS
1000000-	Extend BIOS

IRQ Mapping Chart

IRQ0	System Timer	IRQ8	RTC Clock
IRQ1	Keyboard	IRQ9	Unused
IRQ2	Cascade to IRQ Controller	IRQ10	Unused
IRQ3	COM2	IRQ11	Unused
IRQ4	COM1	IRQ12	PS/2 mouse
IRQ5	Unused	IRQ13	FPU
IRQ6	FDC	IRQ14	Primary IDE
IRQ7	Printer	IRQ15	Secondary IDE

DMA Channel Assignments

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