

SECTION 2

SPECIFICATIONS

SIMM memory must begin from 'Bank 0'

The following three Banks are available ...

- 30-pin Bank x 1 (4pcs of 30-pin sockets = 1 Bank - 4pcs of 30-pin SIMM required. Bank must be completely filled).
- 72-Pin Bank x 1 (1pc of 72-pin socket = 1 Bank - only 1pc of 72-pin SIMM required).
- 72-Pin Bank x 1 (1pc of 72-pin socket = 1 Bank - only 1pc of 72-pin SIMM required).

Any of these Banks can be selected as 'Bank 0'. Therefore you can begin with 30-pin SIMM modules and upgrade using 72-pin SIMM modules, or vice-versa. Please see tables below for necessary jumper settings.

2.2 Jumpers and Connectors

JP21-JP25 : Bank of SIMM Select

8 bit SIMM can be selected at BANK 0 or BANK 2

	Bank 0	Bank 2
JP21	1-2	2-3

32 bit SIMM can be set as follow. (some 32 bit SIMM can occupy 2 BANK per SIMM)

Single BANK 32 bit SIMM:

SIMM 5 can be BANK 0 or BANK 1

	Bank 0	Bank 1
JP22	1-2	2-3
JP23	OFF	OFF

SIMM 6 can be BANK 1 or BANK 2

	Bank 1	Bank 2
JP24	1-2	2-3
JP25	OFF	OFF

Double BANK 32 bit SIMM:

SIMM 5 can be BANK 0 & 1 or BANK 1 & 2

	Bank 0 & 1	Bank 1 & 2
JP22	1-2	2-3
JP23	1-2	2-3

SIMM 6 can be BANK 1 & 2 or BANK 2 & 3

	Bank 1 & 2	Bank 2 & 3
JP24	1-2	2-3
JP25	1-2	2-3

J7: Green AUX # 1 Connector

1	Green AUX Output # 1
2	Green AUX Output # 2
3	Green AUX Output # 3
4	Green AUX Output # 4
5	+5V
6	+12V
7	Ground
8	Ground
9	Ground
10	Ground

SECTION 2

SPECIFICATIONS

2.2 Jumpers and Connectors

JP32: Green AUX # 2 Connector

1	Green AUX Output # 1
2	Green AUX Output # 2

G1: Green Enable Connector (For Green case panel switch only)

Open	Normal Operation
Short	Enable Green Function

G3: MEGA / MULTI KEY Select

1,2	AMI MEGAKY Keyboard BIOS
2,3	Phoenix MULTIKEY Keyboard BIOS

 Default Setting

2.3 Cache Memory Table

PT-429G 80486 VESA system board supports 32KB/64KB/128KB/256K cache size.

Size	SRAM Type	Quantity	Designation	TAG RAM (U25)
32KB	8K x 8	4 pcs.	Bank 0	8K x 8
64KB	8K x 8	8 pcs.	Bank 0 & Bank 1	8K x 8
128KB	32K x 8	4 pcs.	Bank 0	8K x 8
256KB	32K x 8	8 pcs.	Bank 0 & Bank 1	32K x 8

Note : Bank 0 (U21,U22,U23,U24), Bank 1 (U14,U15,U16,U17)
Refer to Section 2.2 JP15-JP17 Jumper settings with different Cache sizes.

2.4 Oscillator Table

CPU Speed	Oscillator
80486SX-25	25MHz
80486DX-33	33MHz
Am486™DX-40	40MHz
80486DX-50	50MHz
80486DX2-50	25MHz
80486DX2-66	33MHz

SECTION 2

SPECIFICATIONS

2.2 Jumpers and Connectors

J6: Keyboard Lock & Power LED Connector Pin Assignment

1	+5V ⁺
2	NC
3	Ground
4	Lock
5	Ground

JP1: On-board Battery Enable Select

Open	On-board battery disconnect
Short	On-board battery connect

JP2: Power Good Select

1-2	External power good
2-3	Internal power good

JP3: VGA Card Type Select

1-2	Normal VGA card
2-3	POWER-9000 VGA card

JP4: Master Mode Select

1-2	Enable Cx487S & MCA3 only for Master Mode
2-3	Normal J VESA Master

JP5: CPURDY# Delay I-T State Select

1-2	No delay for 50MHz VESA
2-3	Delay I-T state for 50MHz VESA

JP6: PADS# Delay I-T State Select

1-2	No delay for 50MHz VESA
2-3	Delay I-T state for 50MHz VESA

JP7: Test Logic Enable (486DX2) Select

OPEN	Enable CPU Test Logic
CLOSE	Disable CPU Test Logic

SECTION 2

SPECIFICATIONS

2.2 Jumpers and Connectors

JP9, JP10, JP11, JP30: Clock Chip Speed Select

Clock Chip = AvaSem AV9187-05 (U34)

	JP10	JP11	JP30
25MHz	ON	OFF	2-3
33MHz	OFF	ON	2-3
40MHz	OFF	OFF	2-3
50MHz	ON	OFF	1-2

Clock Chip = Chronitel CH9007E (U35)

	JP9	JP10	JP11
25MHz	ON	ON	ON
33MHz	ON	ON	OFF
40MHz	ON	OFF	ON
50MHz	OFF	OFF	OFF

Clock Chip = MX8315 (U28)

	JP9	JP10	JP11
25MHz	OFF	OFF	ON
33MHz	ON	ON	ON
40MHz	OFF	ON	ON
50MHz	ON	OFF	OFF

JP12: VESA Speed Select

Open	CPU speed <= 33MHz
Short	CPU speed > 33MHz

JP13-JP17: Cache Size Select

	32KB	64KB	128KB	256KB
JP13	Open	Open	2-3	1-2
JP14	2-3	1-2	2-3	1-2
JP15	Open	Open	Open	Short
JP16	Open	Short	Short	Short
JP17	Open	Open	Short	Short

JP18, JP19: CPU Type Select

	486SX	486DX/DX2	P24MP24T	486DX4 x3
JP18	2-3	1-2,3-4	1-2,3-4	1-2,3-4
JP19	Open	1-2	2-3	1-2

JP20: VESA Wait State Select

Open	0 Wait State
Short	1 Wait State

SECTION 2

SPECIFICATIONS

2.1 PT-429G System Board Specifications

- 100% IBM AT compatible.
 - Applied High performance CMOS technology.
 - Supports up to 48MB memory on board.
 - Mix 256K, 1M, and 4M SDRAM (8 bit/32 bit) Module DRAM memory
 - 32K, 64K, 128K, 256K cache memory size selectable.
 - Fast CPU reset and Fastgate A20 logic.
 - Speed switching with hardware and software selection.
 - Board size 220 mm by 250 mm.
 - Six 16-bit ISA slots; one 8-bit ISA slot.
 - Three VESA slots (Master Mode).
 - Clock chip design makes CPU speed changing easier.
 - I/O slot signal protector on: DRQ9, DRQ2, 0WS#.
 - Green feature to slow down CPU speed & control 4 external Green devices.
 - Support DX4 x3 speed.
- [Note: To use this feature, users must put a daughter board and a 5V to 3.3V converter to the CPU.]
- Support Intel, AMD, Cyrix, and UMC CPUs.

2.2 Jumpers and Connectors

Jumpers / Connector	Description
P1	Power Supply Connector
KB1	Keyboard Connector
J1	External Battery Connector
J2	Reset Switch
J3	Turbo Switch
J4	Turbo LED Connector
J5	Speaker Connector
J6	Power LED & Keylock Connector
J7	Green AUX # 1 Connector
JP1	On-board Battery Enable Connector
JP2	Power Good Select
JP3	VGA Card Select
JP4	Master Mode Select
JP5	CPURDY# Delay I-T Select
JP6	PADS# Delay I-T Select
JP7	Test Logic Enable Select
JP9,JP10,JP11,JP10	Clock Chip Speed Select
JP12	VESA Speed Select
JP13-JP17	Cache Size Select
JP18,JP19	CPU Type Select
JP20	VESA Wait State Select
JP21-JP25	Bank of SDRAM Select
JP32	Green AUX # 2 Connector
G11	Green Enable Switch
G13	MEGA/MULTI KEY Select

SECTION 2

SPECIFICATIONS

2.2 Jumpers and Connectors

P1: Power Supply Connector Pin Assignment

1	Power Good
2	+5V
3	+12V
4	-12V
5	Ground
6	Ground
7	Ground
8	Ground
9	-5V
10	+5V
11	+5V
12	+5V

J1: External Battery Connector Pin Assignment

1	External battery Vcc (+6V DC)
2	NC
3	Ground
4	Ground

J2: Reset Switch Connector

Open	Normal
Short	Reset

J3: Turbo Switch Connector

Open	Turbo speed
Short	Lower speed (Soft-key turbo switch disable)

J4: Turbo LED Connector

1	LED Cathode
2	LED Anode

J5: Speaker Connector Pin Assignment

1	Speaker data
2	NC
3	Ground
4	+5V

SECTION 1

INTRODUCTION

FCC approval:

The PT-429G motherboard has been approved for FCC Class B when properly installed in a barebones configuration using the following case-power supply:

Brand	Model	FCC ID
Process	PC-109 S/M	JP/PINE429G109
Process	PC-609 T/M	JP/PINE429G609
Process	PC-709 T/M	JP/PINE429G709

FCC Notice:

Information to the User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help and for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

FCC Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Note: In order for an installation of this product to maintain compliance with the limits for a Class B device, shielded cables and power cord must be used.

1.2 Checklist

Please check your PT-429G package to ensure that it contains the following items:

- PT-429G Main Board
- PT-429G User's Manual

If any of these items are missing or damaged, please contact your local dealer or sales representative for assistance.

SECTION 1

INTRODUCTION

1.3 Green PC Power Management

The Green PC mode is a state that minimizes the power consumption. Through the BIOS setting of the PT-429G can slow down the CPU clock to 8 MHz in Green PC mode. The PT-429G extends the Green PC feature to four external devices (Green AUX #1 to # 4) by the AUX Green connector (J7 & JP32). The Green PC mode option of these Green AUX connectors are:

- Remove the sync signals from the video monitor,
- Turn off video monitor power,
- Turn off printer power,
- Turn off hard disk drive power.

PT-429G will be placed into Green PC mode as a result of one of the following events:

- Power save button (GJI) is shorted.
- Expiration of one of five independent Green PC Timers, the 1st timer is used to slow down CPU speed. The Green PC Timers are software programmable which can be configured in the "Power Management Setup" option of the BIOS CMOS setup. (Refer to 5.8 Power Management Setup)
- Execution of the system hot key for power down sequencing <CTRL> <ALT> <>

Through the system activity monitoring and management, the PT-429G will not go into Green PC mode (or leaves Green PC mode and back to normal mode) if any activity is detected on the following signals:

- IRQ1 (Keyboard)
- IRQ3 (COM2)
- IRQ4 (COM1)
- IRQ6 (FDD)
- IRQ7 (LPT1)
- IRQ14 (HDD)

1.4 PT429G System Packages

The PT429G mother-board can act as the nucleus to various system configurations, in order to optimize your total power saving. The following is a brief introduction to add-on cards and peripherals suited to the PT429G:-

(1) Optimum Power Saving system package.

- PT 429G mother-board
Monitoring COM1, COM2, LPT1, Keyboard, Floppy Drives, Hard Drives.
- PT523G, PT524G, PT528G Cirrus Logic VGA Cards
Turning off the vertical & horizontal sync of monitors through the unique PT429G hardware connection. This hardware connection works in any environment (DOS, WINDOWS etc), whereas software drivers only work in WINDOWS.
- PT626 UMC VESA Local Bus IDE I/O Card
Powerful controller card with added Green driver.
- ECO PAD
This external device connects to the second unique PT429G connector to add on/off switching to peripherals such as printers, monitors and scanners - All timing and on/off controlled by the PT429G mother-board. Utilizing a Zero Voltage Protection Circuit the ECO PAD ensures safe and reliable on/off switching which will not harm your peripherals.

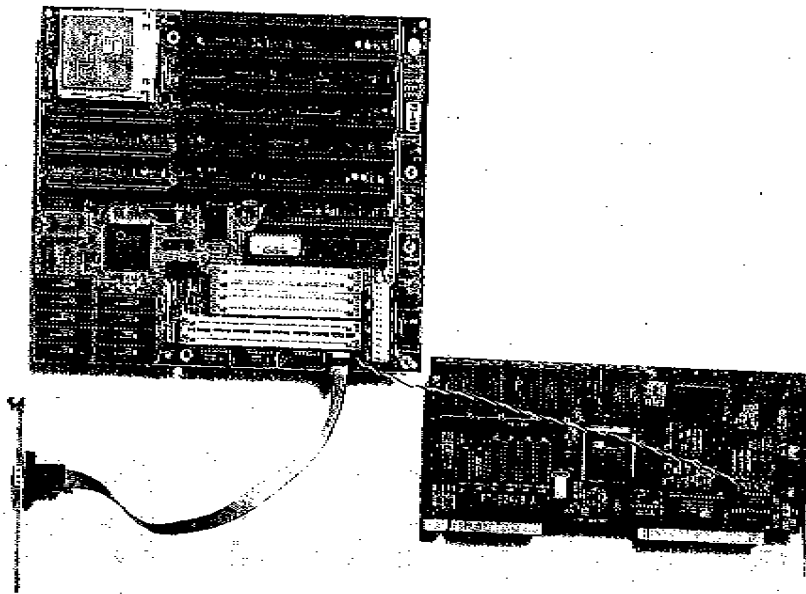
Testing results have shown that a system using the above products consumes only 17.6 watts of power at peak voltage of 220v. The effective watts (RMS) is less than 10 watts. Add an ECO PAD to this configuration and this covers your system, monitor, printer and scanner.

(2) Alternative system packages.

The PT429G mother-board is equipped with two unique green connectors, however it can also use conventional VGA cards to add power saving features to monitors using their respective software driver(s). All efforts are made to ensure the PT429G is compatible with a wide range of add-on cards.

For further details on PT523G, PT524G, PT528G, PT626 and the ECO PAD please contact your local dealer or sales representative for assistance.

BEFORE INSTALLING THIS 486 MAIN BOARD PLEASE READ THIS MANUAL COMPLETELY AND
RETAIN IT FOR FUTURE REFERENCE.



The Green Connection :

Please refer to page 5, section 1.14.

Note :

1. For the first time installation with error message on the screen, please leave the system on for about 15-30 minutes to recharge the battery, then you can enter the system configuration.
2. Leave your system on for about 24 hours to recharge the battery fully.
3. If you have switched off the computer system for more than two weeks, you might be required to repeat step 2 to recharge the battery fully.
4. Any hard disk cable longer than the standard type is not recommended for used with PT-429G. Too long hard disk cable will make the Green PC circuit unable to monitor the hard disk activity.

Trademark Acknowledgments:

- * IBM PC, PC/XT and PC/AT all are registered trademarks of International Business Machines Corporation.
- * Intel is registered trademark of Intel Corporation.
- * AMD is registered trademark of Advanced Micro Devices Inc.
- * AMI is registered trademark of American Megatrends Inc.
- * UMC is registered trademark of United Microelectronics Corporation.
- * VESA is registered trademark of Video Electronics Standards Association.