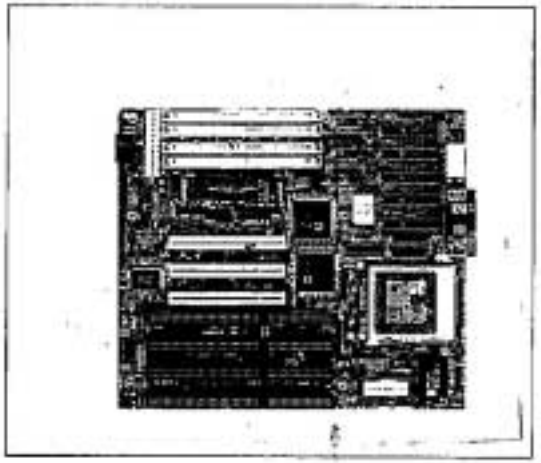
486 PCI/ISA MAIN BOARD
WITH E-IDE & I/O ON BOARD
(486SX / DX / DX2 / DX4)

PT-432A

USER'S MANUAL

432A/001/0795

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



Please refer to page 6, section 1.3.

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- 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.
- PCI is registered trademark of PCI Special Interest Group.

The manufacturer reserves the right to modify the specifications from time to time to match with the technology change.

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SECTION 1

INTRODUCTION

1.1 Overview

- PT-432A offers a 32-bit programming architecture compatible with the software base of the x86 microprocessors. It is a reliable motherboard using a UMC chipset and a multilayer printed circuit board. The chipset consists of UM8881F and UM8886AF which provides the most cost effective and high performance solution for a x86 computer system and APT2300/A I/O chip which provides the enhanced I/O functions.
- The UM8881F is a Host Bridge compliant to PCI spec. 2.0 for 486 mother board which contains a sophisticated direct-mapped cache controller with write-back or write through operation, fast page mode DRAM Controller, and supports system management mode operation. The UM8886AF provides the bridge between the PCI bus and ISA bus , Enhanced DMA function, incorporates two 82C59 interrupt controllers, one 82c84 16-bit counter/timers, NMI control logic, built-in hardware keyboard controller, RTC and NVSR direct interface, primary and secondary PCI IDE controller interface.
- PT-432A is a PCI Local Bus motherboard. The three PCI slots fully comply with the PCI spec. v2.0. The speed of I/O peripherals can be dramatically increased by connecting PCI compatible controller cards to the PCI bus slots on the PT-432A.
- PT-432A offers you the option for an excellent CPU upgrade path. Designed to work with most brands of x86 CPUs such as 486DX/DX4 and DX2, this motherboard has been equipped with an option for lowering the voltage of the CPU down to 3.3V in order to enable use with Intel & AMD DX4 CPUs (and other 3.3Volt CPUs), offering up to 120MHz speeds. This option is in the form of a DXS converter/daughter board as fully described in Section 2.3 of this manual.
- PT-432A supports Plug and Play by using a 1MB Flash ROM which provides 4KB of NVRAM for storing the extended system configuration data structure.
- PT-432A is a green design mother-board which senses when there is no system activity for a specific period of time (this period is software programmable), the PT-432A will slow down its original working frequency to 8 Mhz speed when used with standard CPUs. If an 'SMM' (System Management Mode) CPU is used, the green feature of PT-432A slows down the CPU clock to zero. This will help save the power consumption, reducing energy related pollution and protect our environment.

"This is an ENERGY STAR™ compliant product."

The Environmental Protection Agency ENERGY STAR™ program defines that as an Ally of this program the specified manufacturer must produce systems, or system components which enable a computer system to operate and draw 30 watts or less of power in idle mode. Although the EPA do not endorse any particular product or service, the program is designed to offer a cooperative effort between the EPA and the computer manufacturer (Ally) to provide energy saving products and education to customers."

"It runs with Netware"

The PT-432A was authorized by Novell to use the Novell Yes, It runs with Netware certification mark.

SECTION 1

INTRODUCTION

1.1 Overview

"FCC Approval"

The PT-432A motherboard has been approved for FCC Class B when properly installed in a baseboard configuration using the following case/power supply:

Brand	Model	FCC ID
Frontier	FC-305 SM	[illegible]
Frontier	FC-609 T/M	[illegible]
Frontier	FC-708 T/M	[illegible]

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. Should you experience interference in radio or television reception then the user is encouraged to try to correct this interference by one or more of the following measures:

- Re-locate 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, DC20402, 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-432A package to ensure that it contains the following items :

- PT-432A Main Board
- PT-432A User's Manual
- PT-432A PCI IDE Driver Diskette
- Two IDE cables
- One FDD cable
- One DB9 + 25 Serial cable with bracket
- One DB15 game cable + DB25 printer cable with bracket

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 power consumption. There are three different Green PC modes:

1) Doze mode. This mode is available for all kinds of CPU. The clock of the CPU will slow down to 8 MHz.
2) Standby mode. This mode is only available for the SMM CPUs. The clock of the CPU will slow down to the pre-set frequency.
3) Inactive mode. This mode is only available for the SMM CPUs. The PT-432A can stop the CPU clock under this mode.

The PT-432A will be placed into Green PC mode as a result of one of the following events :

- Suspend switch (JP15) is pressed.
- Expiration of the internal Green PC Timer. The Green PC Timer is software programmable which can configure in the "Power Management Setup" option of the BIOS CMOS setup. (Refer to 3.10 Power Management Setup). The power management feature will be enabled as default, however the timing may differ due to production control. It is recommended that you re-adjust these timings according to your personal requirements/set-up.
- Execution of the system has key for power down sequencing <CTRL> <ALT> </>.

Through system activity monitoring and management, the PT-432A will not go into Green PC mode if any of the following activity is detected:

- PCI slave activity
- LPT port activity
- COM port activity
- ISA master activity
- IDE activity
- Floppy activity
- VGA activity
- Keyboard activity

SECTION 2

2.1 PT-422A System Board Specifications

- Supports 4 pcs. of 72 pins SIMM(single or double bank) up to 256MB on board memory.
- Auto configure memory size without hardware jumper.
- 32K, 128K, 256K, 512K cache memory size selectable.
- Fast CPU reset and Fastgate A20 logic.
- Speed switching with hardware and software selection.
- Board size 255mm by 220mm.
- Four 16-bit ISA slots, three PCI slots.
- Clock chip design makes CPU speed changing easier.
- I/O slot signal protector are IRQ9, DRQ1, 0MB8.
- On board DO(2 x fast FIFO serial ports) and PCI Enhanced IDE (Mode 3) for primary and secondary ports.
- Green features to slow down / stop the CPU clock & turn off VGA display signals.
- Supports DX4 CPU by a safe-proof 3.3V daughter board (DX4DB2).
- On board CPU cooling fan power socket can be switched off automatically in green modes.
- LED indicators for 3.3V or 5V operation.
- Dallas 12887A RTC chip provides high reliability for CMOS setup.

2.2 Jumpers and Connectors

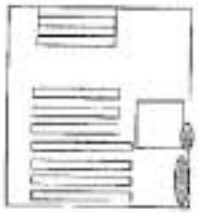
Jumpers / Connector	Description
JP2,3,4	[illegible] Select
JP8	Flash ROM VCC Select
JP12,13,14	CPU Clock Select
JP15	Hardware Light Green Switch
JP16	CPU Ground Select
JP18	I/O Channel Ready Select
JP19,20,21,22,23,27,28,30,32	CPU Type Select
JP25	Factory Default
JP26	P24C Clock Multiplier
JP29	CPU Cache Line Select
JP31,33,34	P24D Select
JP35	Cyrix M5 Select
JP41	Power Good Select
JP42	Cooling Fan Select
JP45	IRQ 4/9 Select
JP46	IRQ 3/5 Select
JP49	Cache VCC Select
JP107,108	Printer Mode Select
J109	Floppy Enable / Disable
J110	COM 1/3 Enable / Disable
J111	COM 1/3 Select
J112	COM 2/4 Enable / Disable
J113	COM 2/4 Select
J114	LPT3/5 Select
J115	Green port Enable / Disable
J116	ECP Enable / Disable
S101	DMA Request Select
1102	DMA Acknowledge

AMENDMENT OF PT-431A MANUAL PAGE 13

JP15, JP20, JP21, JP22-JP23, JP27, JP28,JP30,JP32 : CPU Type Select

CPU Type	JP19	JP20	JP21	JP22	JP23	JP27	JP28	JP30	JP32
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
486SX	OPEN	1-2,3-4	1-2	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
486SX SL	OPEN	1-2	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
486DX/DX2 SL	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
P24C	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
P24D	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
P24T	2-3	1-2,3-4	3-4,5-6	1-2	2-3	1-2	1-2	2-3,4-5	1-2
Cx486S	OPEN	2-3	3-4	2-3	1-2	2-3	1-2	1-2,3-4	1-2
Cx486SX	3-4	1-2,3-4	3-4	2-3	1-2	2-3	1-2	1-2,3-4	2-3
Cx486SX	3-4	1-2,3-4	3-4	2-3	1-2	2-3	1-2	1-2,4-5	OPEN
UMC U5	1-2,3-4	2-3	1-2	OPEN	OPEN	OPEN	2-3	OPEN	3-4
AMD486DX2,T	1-2,3-4	1-2,3-4	1-2	OPEN	OPEN	OPEN	2-3	OPEN	3-4
AMD Enhanced CPU	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN

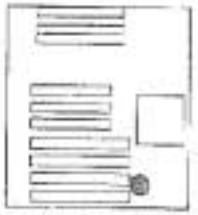
Note :
P24C : Intel DX4-100 Write Through CPU
P24D : Intel DX4-100 Write Back CPU
P24T : Intel Overdrive CPU
AMD Enhanced CPU : AMD DX4-100 Write Back CPU



This mother board has been designed to work with a wide range of CPUs from various vendors. Set this according to the type of CPU used.
WARNING : If you are using a 3.3V/2.5V or 5V CPU, please ensure you have the optional "DX4DB" converter connected.

JP8 : Flash ROM Power Select

1-2	5 Volt
2-3	12 Volt
[illegible]	[illegible]



This mother board can use a FLASH ROM in order to change the system BIOS through software. This allows you to constantly update your system BIOS as changes are made. Should you wish to use this feature then you must set this jumper according to the voltage of that FLASH ROM. When using FLASH ROM's a Flash Memory Writer Utility software driver is required. For details on this driver please contact your dealer or sales representative.

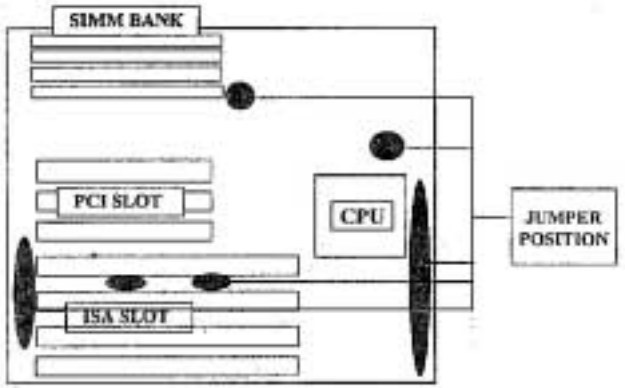
2.2 Cont...

PS1	Power Connector
KB1	Keyboard Connector
CN2	Secondary IDE Connector
CN3	Primary IDE Connector
CN903	FDD Connector
CN904	Game Port Connector
CN905	COM1/2 Connector
CN906	COM3/4 Connector
CN907	Printer Port Connector

SECTION 2.3 Cont...

SPECIFICATIONS

To assist you in locating the necessary jumpers in order to configure your system, the following graphical guide has been added for jumper location.

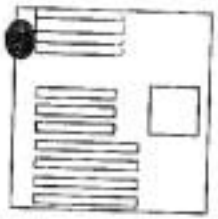


SECTION 2.2 Cont.

[illegible] Shaded box represents default setting

PS1: Power Supply Connector Pin Assignment

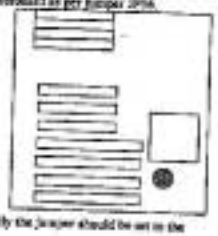
1	Power Good
2	+5V
3	+12V
4	-12V
5	Ground
6	Ground
7	Ground
8	Ground
9	-5V
10	+5V
11	+5V
12	+5V



These connectors are for the system ATX main power supply connector. This connector can only be attached in one specific way to avoid any incorrect signals/inputs. This also involves the 'Power Good' signal. This is a signal from your power supply which recognizes that the system board is stable enough to initiate its power to. Should your power supply not have a 'Power Good' signal, then you should choose the internal 'On-board Power Good' on this motherboard as per Jumper JP16.

JP1, JP3, JP4: Reset Signal For different version Chipset (Factory Setting)

Chip version	JP1	JP3	JP4
[illegible]	2-3	2-3	2-3
[illegible]	[illegible]	[illegible]	[illegible]



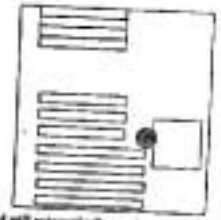
These jumpers are used to select the reset signal for different version of SiS5595, normally the jumper should be set on the default setting.

LED1: PCI IDE LED Connector

Pin	LED anode
Pin	LED cathod

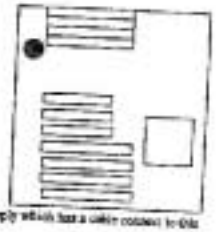
JP15: Hardware Light Green Stanby Switch

Press one time to go in suspend mode
Press another time to go back normal mode



Some systems cases will also have a cable for switch on the case front which when pressed will automatically put the system in to "and out of" suspend" mode. Connect that cable here.

JP7: Power Supply Power Down Connector



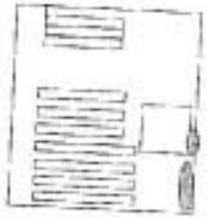
This connector can add further power saving Green features to the new design power supply which has a cable connect to this jumper pin no. 2-3 for performing Green function after the preset time.

AMENDMENT OF PT-42A MANUAL PAGE 11

JP19, JP13, JP21, JP22-JP25, JP27, JP28, JP30, JP32 : CPU Type Select

CPU Type	JP19	JP20	JP21	JP22	JP23	JP27	JP28	JP30	JP32
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
486SX	OPEN	1-2,3-4	1-2	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
486SX SL	OPEN	2-3	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
486DX/DX2 SL	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	2-3	2-3,4-5	OPEN
P24C	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
P24D	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN
P24T	2-3	1-2,3-4	3-4,5-6	1-2	2-3	1-2	1-2	2-3,4-5	1-2
Cyrix	OPEN	2-3	3-4	2-3	1-2	2-3	1-2	1-2,3-4	1-2
Cyrix	3-4	1-2,3-4	3-4	2-3	1-2	2-3	1-2	1-2,3-4	2-3
Cyrix	3-4	1-2,3-4	3-4	2-3	1-2	1-2	1-2	2-3,4-5	OPEN
Dual ID	1-2,3-4	2-3	1-2	OPEN	OPEN	OPEN	2-3	OPEN	1-2
486DX/DX2 LT	1-2,3-4	1-2,3-4	1-2	OPEN	OPEN	OPEN	2-3	OPEN	3-4
AMD Enhanced CPU	3-4	1-2,3-4	3-4	OPEN	OPEN	1-2	1-2	2-3,4-5	OPEN

Note :
P24C : Intel DX4-100 Write Through CPU
P24D : Intel DX4-100 Write Back CPU
P24T : Intel Overdrive CPU
AMD Enhanced CPU : AMD DX4-100 Write Back CPU



This mother board has been designed to work with a wide range of CPUs (Intel/Cyrix/AMD). Set them according to the type of CPU used.
WARNING : If you are using a 3.3Volt/5V or 5V CPU, please ensure you have the optional "3.3Volt" converter connected.

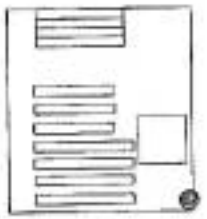
JP9 : Time NOM Power Select

1-2	5 Volt
2-3	12 Volt
[illegible]	[illegible]

This mother board has a FLASH ROM in order to change the system BIOS through software. This allow you to continually update your system BIOS as changes are made. Should you wish to use this feature then you must set this jumper according to the voltage to the FLASH ROM. When using FLASH ROMs a Flash Memory Writer Utility software driver is required. For details on this driver please contact your dealer or sales representative.

JP35 : Cyrix M5 Select

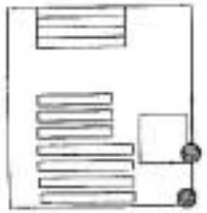
Short	Cyrix M5 Enable
Open	Other CPU



Short this jumper for using Cyrix M5 CPU.

JP31, JP33, JP36 : P24D Select

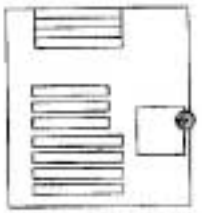
JP31	Short
JP33	Short
JP36	Short



Short all these jumpers for using P24D CPU.

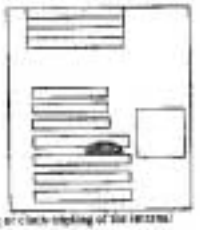
JP29 : Intel P24D or AMD DX2-80 CPU Cache Line

1-2	For AMD DX2-80 Write Through Cache
2-3	For Intel P24D Write Back Cache
[illegible]	[illegible]



JP12, JP13, JP14 : CPU Clock Select

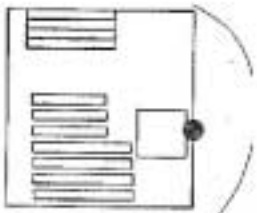
Clock Freq.	JP12	JP13	JP14
25MHz	2-3	2-3	2-3
25MHz	2-3	2-3	1-2
[illegible]	[illegible]	[illegible]	[illegible]
40MHz	2-3	1-2	1-2
50MHz	1-2	2-3	2-3



This selects the speed of CPU clock signal. Please note that some CPUs are clock-doubling or clock-tripling of the internal clock.

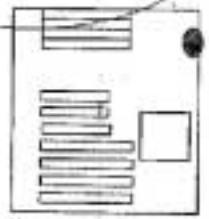
JP26 : Intel P54C CPU Internal Clock Select

1-3	2.5 X External Clock
3-5	2 X External Clock



IBM CPUs can perform high speed processing due to internal clock multiplication. This type of CPU is capable of multiplying the clock by 2(2.5X and 3X to reach 100mhz speed. However CPU vendors recommend that it is far more stable to use the 2X clock method. Therefore this is the default.

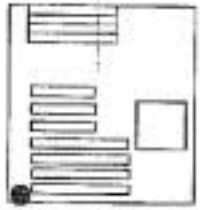
FAN 1 : Cooling Fan Power Connector



Connect the cooling fan power cable to this connector, then the cooling fan can be controlled by power supply or CPU, please refer to JP42 as well.

JP31 : Power Good Generator

1-2	On Board Power Good Generator
2-3	Power Good by ATX PS Connector



Most power supplies produce a 'Power Good' signal which recognizes that the system board is stable enough to restore the power to, however this mother board also includes an on-board Power Good circuit for additional safety.

JP42 : Cooling Fan Control

2-3	Control By Power Supply

This mother board has been equipped with an on-board power connector for the CPU cooling fan. The advantage of this feature is that as well as the CPU, the cooling fan itself can be slowed down according to the power management settings in the Green system BIOS. Here there are options for control by BIOS or cooling fan permanently on.

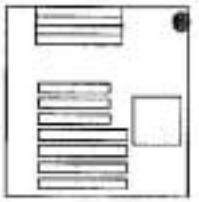
JP37,38,39,40 : Cache Size Select

Cache Size	JP37	JP38	JP39	JP40	Cache RAM	Tag RAM
128KB	OPEN	OPEN	OPEN	2-3	32KB x 4	8KB x 1
256KB	1-2	OPEN	1-2	2-3	64KB x 4	32KB x 1
512KB	1-2,3-4	1-2	1-2	2-3	128KB x 4	64KB x 1

This selects the size and type of cache RAM on the mother board. This mother board can work with three types of cache RAM which allows for extra flexibility should you wish to upgrade. The jumpers will be set according to during production.

JP49 : Cache VCC Select

JP49	Cache VCC
1-2,4-5	3.3V
2-3,5-6	5V



This jumper is used to select the VCC for 3.3V or 5V cache RAM.

JP15 : CPU Brand Select

Setting	JP15
[illegible]	[illegible]
Cyrix	1-3,2-4
AMD/IDT/IBC	2-4,1-5

The selects the CPU brand to get the optimal performance of CPU.

All of the following jumpers share the same position

CN5 : Power LED & Key-Lock Connector

1	+5V
2	NC
3	Ground
4	Key-Lock
5	Ground

CN1 : Speaker Connector

1	Speaker data
2	NC
3	Ground
4	+5V

JP24 : Turbo Switch

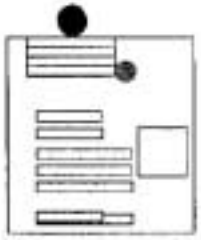
OPEN	Turbo Speed
CLOSE	Normal Speed

LED1 : Turbo LED Connector

1	LED anode
2	LED Cathod

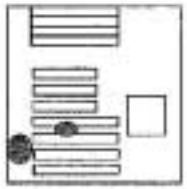
JP24 : Reset Switch

OPEN	Normal
CLOSE	Reset



Jumpers for I/O

Position	Function	1-2	2-3
JP9	Floppy Enable / Disable	Enable	Disable
JP10	COM1 / Enable / Disable	Enable	Disable
JP11	COM1/3 Select	COM1	COM3
JP12	COM2,4 Enable / Disable	Enable	Disable
JP13	COM2,4 Select	COM2	COM4
JP14	LPT2/3 Select	LPT2	LPT3
JP15	Game port Enable / Disable	Enable	Disable
JP16	ECP Enable / Disable	Enable	Disable
JP17	IRQ4/8 Select	IRQ4	IRQ8
JP18	IRQ3/5 Select	IRQ3	IRQ5



JP19 : I/O Channel Ready

OPEN	Disable
SHORT	Enable

JH7,JH8 : Printer Mode Select

Mode	JH7	JH8
Disable	2-3	2-3
SPP	1-2	2-3
EPP	2-3	1-2
ECP	1-2	1-2

SH1 : DMA Request Select

1-3	DRQ 3
2-4	DRQ 1
3-4	Disable

SH2 : DMA Acknowledge

1-3	DACK 3
2-3	DACK 1
3-4	Disable

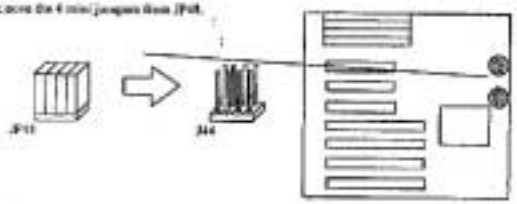
TION 2.3 : 5V to 3.3V Daughterboard Board Installation (DX4/3.3V CPU)

k : The user should read carefully all the procedures shown below before they go to install the 3.45V CPU and the 3.3V/3.45V daughter board (DX4DB2).

JP44 : 3.3V/3.45V Daughter Board (DX4DB2) Connector
an optional component which converts the voltage from 5V down to 3.3V/3.45V. Some CPUs, such as the Intel or AMD power at 3.3V. If you want to use this CPU then you must first add this extra component. If you have not purchased this cost beforehand please contact your dealer or sales representative.

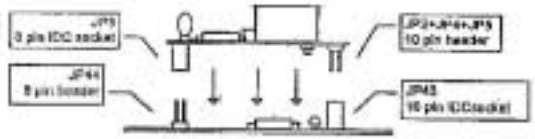
3.3V/3.45V Daughter Board Installation (DX4 CPU or 3.3V/3.45V CPU)

Step 1. Remove the 4 mini jumpers from JP48.



Step 2. Insert the DX4DB2 3.3V daughter board on to the 8 pin header (JP44) and the 10 pin IDC socket (JP43).

DX4DB2 3.3V/3.45V Daughter Board



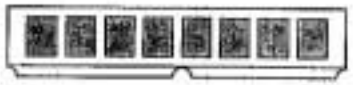
Step 3. refer to the above CPU Type Select Table to choose the correct setting of the 3.3V CPU

SECTION 2 Cont...

2.4 SIMM MEMORY Configuration
This motherboard can work with various types of SIMM module. It's auto-booting feature means that you do not have to set any jumpers to designate the bank, size or type of SIMM - just install the modules and the motherboard will auto-configure on booting up.

This motherboard supports 72-Pin SIMM module.

- 72-Pin



These are 32-bit modules (sometimes referred to as "x32" or "x36"). However they are fully 32-Bit you only need to use one piece. Therefore this type of SIMM occupies one bank on its own. The exception to this rule is that some 72-Pin modules are double sided and will occupy two banks. The table below shows you what types of SIMM are single or dual banked.

RAS Signals - The UMC chipset of this motherboard supports 4 RAS signals. Each of these RAS signals is equivalent to two banks. Therefore this motherboard can support 8 banks.

Some 72-pin SIMM modules are double-bank as mentioned above. This means that although they only occupy one socket, they require 2 RAS signals. To help you with identifying the type of 72-pin module your system uses please refer to the table below.

SIMM TYPE	RAS Signals used. For 1 Pc SIMM	TOTAL MEMORY For 1 Pc SIMM
256k x 32 (Non-Parity)	one - single bank	1 MB
256k x 36 (Parity)	one - single bank	1 MB
512k x 32 (Non-Parity)	two - dual bank	2 MB
512k x 36 (Parity)	two - dual bank	2 MB
1M x 32 (Non-Parity)	one - single bank	4 MB
1M x 36 (Parity)	one - single bank	4 MB
2Mx 32 (Non-Parity)	two - dual bank	8 MB
2M x 36 (Parity)	two - dual bank	8 MB
4M x 32 (Non-Parity)	one - single bank	16 MB
4M x 36 (Parity)	one - single bank	16 MB
8M x 32 (Non-Parity)	two - dual bank	32 MB
8M x 36 (Parity)	two - dual bank	32 MB

PT-432A CPU Type Select

CPU Type	JP12	JP13	JP14	JP16	JP19	JP20	JP21	JP22	JP23	JP26	JP27	JP28	JP29	JP30	JP32
Intel SX-25	2-3	2-3	1-2	1-3,2-4	open	1-2,3-4	1-2	open	open	open	open	open	open	open	op
Intel DX-25/DX2-50	2-3	2-3	1-2	1-3,2-4	3-4	1-2,3-4	1-2	open	open	open	open	open	open	open	op
Intel SX-33	1-2	1-2	1-2	1-3,2-4	open	1-2,3-4	1-2	open	open	open	open	open	open	open	op
Intel DX-33/DX2-66	1-2	1-2	1-2	1-3,2-4	3-4	1-2,3-4	1-2	open	open	open	open	open	open	open	op
Intel DX4-100 WT S CPU(P24C)	1-2	1-2	1-2	1-3,2-4	3-4	1-2,3-4	3-4	open	open	open	1-2	1-2	open	2-3,4-5	op
Intel DX4-100 WB S CPU(P24D)	1-2	1-2	1-2	1-3,2-4	3-4	1-2,3-4	3-4	open	open	open	1-2	1-2	2-3	2-3,4-5	op
Intel Overdrive 63 Mhz (P24T)	2-3	2-3	1-2	1-3,2-4	2-3	1-2,3-4	3-4,5-6	1-2	2-3	1-2	1-2	1-2	2-3	2-3,4-5	1-2
Intel Overdrive 83 Mhz (P24T)	1-2	1-2	1-2	1-3,2-4	2-3	1-2,3-4	3-4,5-6	1-2	2-3	1-2	1-2	1-2	2-3	2-3,4-5	1-2
AMD DX2-50	2-3	2-3	1-2	2-4,3-5	3-4	1-2,3-4	1-2	open	open	open	open	open	open	open	op
AMD DX-33/DX2-66	1-2	1-2	1-2	2-4,3-5	3-4	1-2,3-4	1-2	open	open	open	open	open	open	open	op
AMD DX-40	2-3	1-2	1-2	2-4,3-5	3-4	1-2,3-4	1-2	open	open	open	open	open	open	open	op
AMD DX2-80 5V	2-3	1-2	1-2	2-4,3-5	3-4	1-2,3-4	1-2	open	open	open	open	open	open	open	op
AMD DX2-80 3.3V	2-3	1-2	1-2	2-4,3-5	1-2,3-4	1-2,3-4	1-2	open	open	open	open	2-3	1-2	open	op
AMD DX4-100 WT	1-2	1-2	1-2	2-4,3-5	3-4	1-2,3-4	3-4	open	open	open	1-2	1-2	open	2-3,4-5	op
AMD Enhance DX4-100 WB	1-2	1-2	1-2	1-3,2-4	3-4	1-2,3-4	3-4	open	open	open	1-2	1-2	2-3	2-3,4-5	op
AMD Enhance DX4-120 WB	2-3	1-2	1-2	1-3,2-4	3-4	1-2,3-4	3-4	open	open	open	1-2	1-2	2-3	2-3,4-5	op
Cyrix SX-25 S CPU	2-3	2-3	1-2	1-3,4-6	open	2-3	3-4	2-3	1-2	open	2-3	1-2	open	1-2,3-4	1-2
Cyrix DX2-50 S CPU	2-3	2-3	1-2	1-3,4-6	3-4	1-2,3-4	3-4	2-3	1-2	open	2-3	1-2	open	1-2,3-4	2-3
Cyrix SX-33 S CPU	1-2	1-2	1-2	1-3,4-6	open	2-3	3-4	2-3	1-2	open	2-3	1-2	open	1-2,3-4	1-2
Cyrix DX-33/DX2-66 S CPU	1-2	1-2	1-2	1-3,4-6	3-4	1-2,3-4	3-4	2-3	1-2	open	2-3	1-2	open	1-2,3-4	2-3
Cyrix DX2-80 S CPU	2-3	1-2	1-2	1-3,4-6	3-4	1-2,3-4	3-4	2-3	1-2	open	2-3	1-2	open	1-2,3-4	2-3
Cyrix DX4-100 S CPU	1-2	1-2	1-2	1-3,4-6	3-4	1-2,3-4	3-4	2-3	1-2	open	2-3	1-2	open	1-2,3-4	2-3
Cyrix 5X86-100 S CPU(MISC)	1-2	1-2	1-2	1-3,2-4	3-4	1-2,3-4	3-4	open	open	open	1-2	1-2	2-3	2-3,4-5	op
UMC SX-33	1-2	1-2	1-2	2-4,3-5	1-2,3-4	2-3	1-2	open	open	open	open	2-3	open	open	3-4
UMC SX-40	2-3	1-2	1-2	2-4,3-5	1-2,3-4	2-3	1-2	open	open	open	open	2-3	open	open	3-4

Note : 1) If you are using a 3.3V, 3.45V or 4V CPU, please ensure that you have the optional 'DX4DB' or 'DX4DB2' converter is connected.

2) For both TI DX/DX2, ST DX/DX2 or IBM DX/DX2 CPU, the jumper setting is exactly the same as Cyrix DX/DX2 CPU.

3) Short JP31, JP33 and JP36 for Intel DX4-100 WB S CPU (P24D)

Refer to the PT-432A user's manual for more details information.

SECTION 5 - TROUBLE SHOOTING GUIDE

5.1 No Display After Power On

Check the following points if you face a "No Display " problem after power on.

- The interface cards must be inserted into the system slots properly and the gold fingers on them must be clean. The gold fingers can be cleaned with fibers or alcohol.
- The CPU must be installed on the CPU socket (U15) in the correct direction. If the CPU is inserted in a wrong direction, it will cause the "No Display" problem. The worst case is that the CPU may be destroyed.
- The clock chip speed (JP32, JP34, JP35) must be set to match with the CPU speed. If the clock chip speed is set faster than the CPU speed, e.g. 50MHz clock chip speed with a SX/SX-25 CPU, the system will have no display after power on.
- The SIMMs must be inserted in the sockets (SIM1, SIM2) properly and have complete contact with the socket pins. Otherwise there will be a "No Display" problem.

5.2 Cannot Boot Up

Check the following points if you face a "Cannot Boot Up" problem.

- The cache RAM setting (JP44) must be correct and the SRAM must be inserted in the correct position. Otherwise there will have "Cannot Boot Up" problem.
- Make sure the hard disk drive / floppy disk drive / IDE controller card / Super I/O card is in good condition. The cables must be connected to them in the correct direction. Otherwise there will be "Cannot Boot Up" problem.

5.3 Lose CMOS Data

Check the following points if you face a "Lose CMOS Data" problem.

- The RTC (RS12887 must be inserted correctly (which contained a battery inside). Otherwise there will be "Lose CMOS Data" problem.

5.4 No System Management Mode

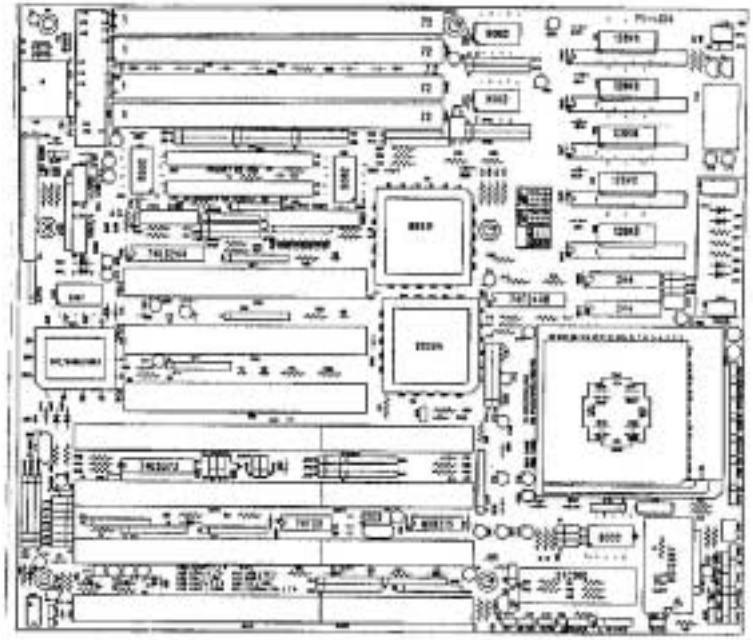
Check the following points if you face a "No System Management Mode" problem.

- Check the CPU type. The SMM CPUs can support all the DOZE, STANDBY, INACTIVE modes while the non-SMM CPU can support only the DOZE mode.
- The CPU type select jumpers (JP19-21, JP27-28, JP33, JP35) must be set to match with the CPU type. Otherwise there will be "No System Management Mode" problem.

5.5 General Notes

1. If on the first time installation, an error message <CMOS CHECKSUM ERROR> appears on the screen, please follow these steps : - (a) Leave the system on for about 15-20 minutes to recharge the battery, then you can enter the system configuration. (b) Alternatively, leave your system on for about 24 hours to recharge the battery fully.

2. If you have switched off the computer system for more than two weeks, you might be required to recharge the battery fully.

3. Any hard disk cable longer than the standard type is not recommended for used with PT-433A. Too long a hard disk cable will make the Green PC circuit unable to monitor the hard disk activity.

SECTION 6 - DIAGRAM LAYOUT