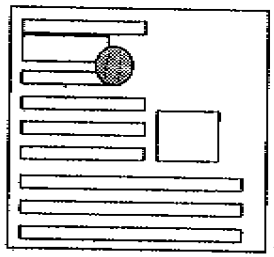
JP34: CPU Fan Control Select

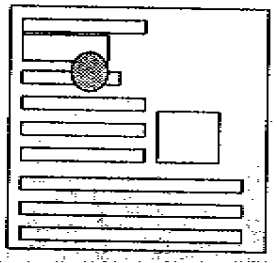
1-2	CPU fan control by green mode
2-3	CPU fan always on



This motherboard has been equipped with an on-board 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.

JP35: ECO-PAD / GREEN VGA & IDE Card Connector

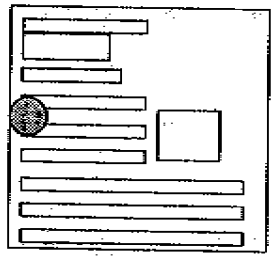
1	+ 5V	For ECO PAD
2	Ground	For ECO PAD/VGA/IDE
3	Control signal	For ECO PAD/VGA/IDE



This connector can add further power saving Green features to your system when used in conjunction with an ECO-PAD, a 'PT-xxxx' Green VGA Card or 'PT-xxxx' Green IDE I/O card with hardware connection. For further details refer to the 'Green PC Power Management' section of this manual.

JP36: Power Good Select

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



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

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

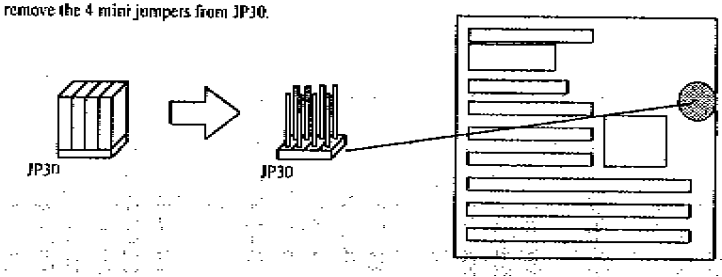
Remark : The user should read carefully all the procedures shown below before they go to install the 3.3V/3.45V CPU and the 3.3V/3.45V daughter board (DX4DB).

JP30,JP31,JP32 : 3.3V/3.45V Daughter Board (DX4DB) Connector

This is an optional component which converts the voltage from 5V down to 3.3V/3.45V. Some CPUs, such as the Intel or AMD DX4 operate at 3.3V. If you want to use this CPU then you must first add this extra component. If you have not purchased this component beforehand please contact your dealer or sales representative.

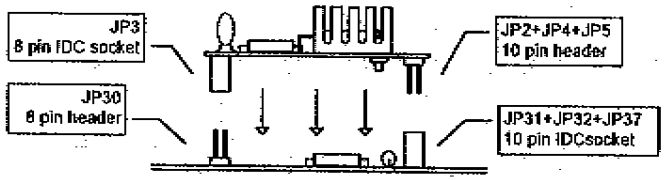
5V to 3.3V/3.45V Daughter Board Installation (DX4 CPU or 3.3V/3.45V CPU)

Step 1. remove the 4 mini jumpers from JP30.

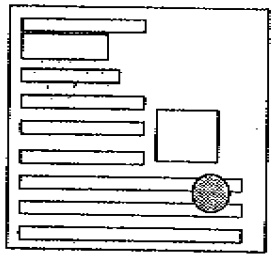


Step 2. insert the DX4DB 3.3V daughter board on to the 8 pin header (JP30) and the 10 pin IDC socket (JP31+JP32+JP37).

DX4DB 3.3V/3.45V Daughter Board



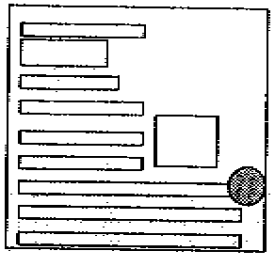
JP22: VESA Wait State Select



OPEN	VESA 0 wait state
CLOSE	VESA 1 wait state

VESA Local Bus is a high performance system, and as such it places extra burden on other VESA add-on cards. Some cards may not be able to cope with this burden, and may cause symptoms such as system hang. Adding a 'wait state' gives those add-on cards an extra split second to react. This feature increases this motherboards compatibility with other products.

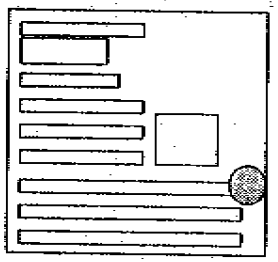
JP24: Supsend LED



1	LED anode
2	LED cathode

This is a Green power saving motherboard. Some system case power supplies have a connector for an LED on the case which lights up when the system enters 'suspend' mode. If your case has this feature, connect the cable here.

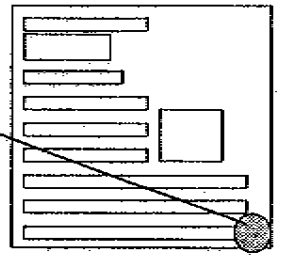
JP25: Suspend Switch



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

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

All the following jumpers share the same position



JP26: Reset Switch

OPEN	Normal
SHORT	Reset

For the system reset switch on your system case. Connect the cable here.

JP27: Turbo Switch

OPEN	Turbo speed
CLOSE	Normal speed (soft-key disabled)

Connect the turbo switch cable from your system case here.

JP28: Speaker Connector

1	Speaker data
2	NC
3	Ground
4	+ 5V

Connect the speaker cable from your system case here.

JP29: Power LED & Key-lock Connector

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

For the power LED and Key-lock of your system case, connect cables here.

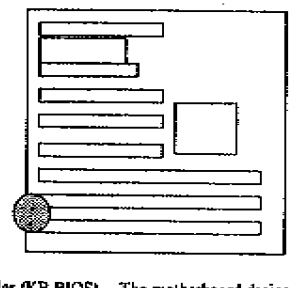
D1: Turbo LED Connector

1	LED anode
2	LED cathode

For the TURBO LED of your system case, connect cable here.

JP3 : Key-lock Select

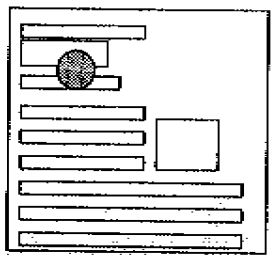
Open	External KBC key-lock
Short	Internal KBC key-lock



The UMC chipset used on this motherboard has an internal keyboard controller (KB BIOS). The motherboard design also allows for an external KB BIOS chip for extra flexibility should the parameters of the BIOS change. In order for the system to recognize the keyboard-lock signal you must first tell it which KB BIOS you are using. Default is internal.

JP4,JP5,JP6 : Clock Chip Speed Select

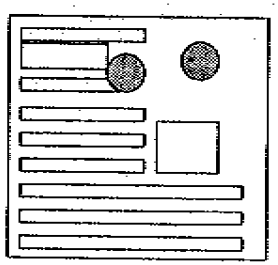
	JP4	JP5	JP6
25 MHz	OFF	OFF	ON
33 MHz	ON	ON	ON
40 MHz	OFF	ON	ON
50 MHz	ON	OFF	OFF



This selects the speed of the CPU signal to the clock chip. Please note that some CPUs, such as 486DX2-80, have an external clock signal of 40MHz while internally it works at 80MHz. In this case set this to 40MHz. This is generally the rule for all clock-doubling or clock-tripling CPUs.

JP7,JP8,JP9,JP10 : Cache Size Select

	JP7	JP8	JP9	JP10	SRAM
64K	OFF	OFF	OPEN	2-3	8K8 X 8
128K	OFF	ON	1-2	1-2	32K8 X 4
256K (1 bank)	ON	ON	1-2,3-4	1-2	64K8 X 4
256K (2 bank)	ON	ON	2-3	2-3	32K8 X 8



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

PT-430 80486 VESA system board supports 64KB/128KB/256K cache size.

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

- U10,U11,U12,U13 is Bank 0.
- U17,U18,U19,U20 is Bank 1.
- U14 is TAG RAM.

JP11,JP12,JP13,JP17,JP18,JP19 : CPU Type Select

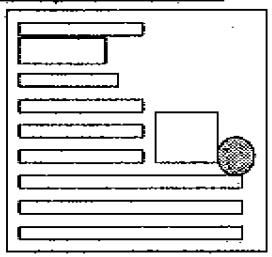
	JP11	JP12	JP13	JP17	JP18	JP19
486SX	OPEN	2-3	2-3	OPEN	OPEN	OPEN
486DX/DX2	OPEN	2-3	1-2,3-4	1-2	OPEN	OPEN
486DX-SL	1-2	1-2	1-2,3-4	1-2	5-6	1-2,3-4
P24D/Write-Back	1-2,4-5	1-2,4-5	1-2,3-4	1-2	3-4,5-6	1-2,3-4
P24T	1-2	1-2	1-2,3-4	2-3	5-6	1-2,3-4
DX4	1-2	1-2	1-2,3-4	1-2	5-6	1-2,3-4
M6	1-2,3-4,5-6	1-2,3-4,5-6	2-3	OPEN	2-3,4-5	2-3,4-5
M7	1-2,3-4,5-6	1-2,3-4,5-6	1-2,3-4	1-2	2-3,4-5	2-3
486DXL	2-3	2-3	1-2,3-4	1-2,3-4	1-2	OPEN
UMC486	2-3	2-3	2-3	3-4	1-2	OPEN

This motherboard has been designed to work with a wide range of CPUs from various vendors. Set this according to the type of CPU used. **Please Note...**

If you are using a CPU with *Write-Back Cache* architecture then set as 'P24D'.

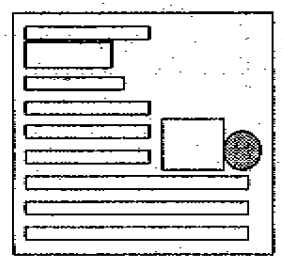
The majority of CPUs at present are *Write-Through* Cache.

WARNING - If you are using a 3.3V/3.45V or 4V CPU please ensure you have the optional 'DX4DB' converter connected (See Page 16)



JP20: DX4 Internal Clock Select

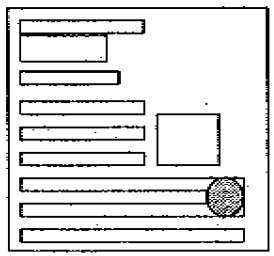
Open	3 x External Clock



DX4 CPUs can perform high speed processing due to internal clock multiplication. This type of CPU is capable of multiplying the clock by 2x / 2.5x and 3x to reach 100MHz speeds. However CPU vendors recommend that it is far more stable to use the 3x clock method. Therefore this is the default.

P21: VESA Clock Select

OPEN	<= 33MHz
CLOSE	> 33 MHz

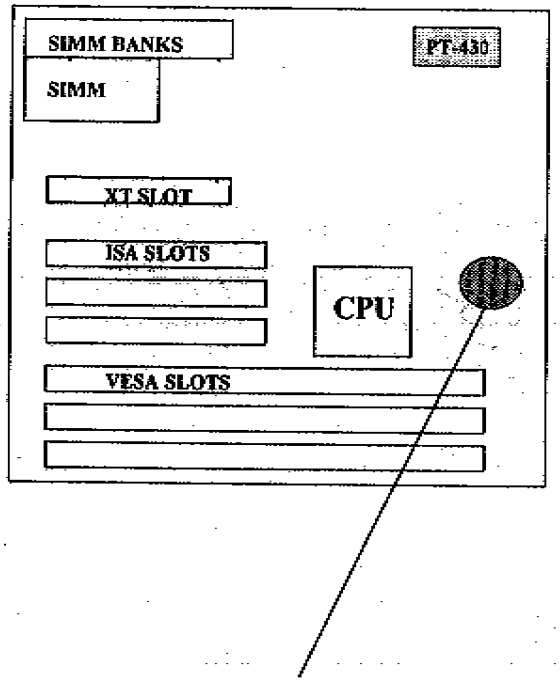


This determines the clock speed / signal to the VESA BUS. Should your external CPU speed exceed 33MHz then set to CLOSE

SECTION 2.2 Contd...

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.



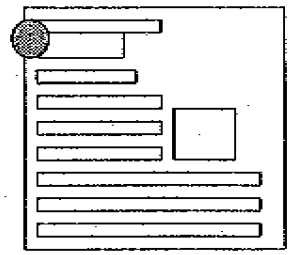
JUMPER / CONNECTOR POSITION

SECTION 2.2 Contd..

[ ] Default Setting

P1: Power Supply Connector Pin Assignment

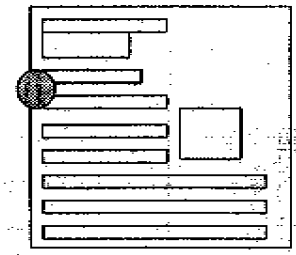
1	Power Good
2	+5V
3	+12V
4	-12V
5	Ground
6	Ground
7	Ground
8	Ground
9	-5V
10	+5V
11	+5V
12	+5V



These jumpers are for the system case main power supply connector. This connector can only be attached in one specific way to avoid any crossed signals/shorts. This also contains the 'Power Good' signal. This is a signal from your power supply which recognizes that the system board is stable enough to release 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 JP36.

JP1 : Battery Connector Pin Assignment

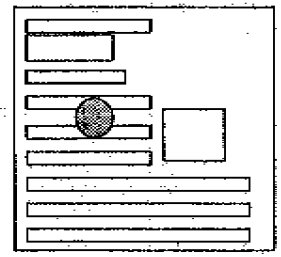
2-3	Normal on-board battery
3-4	Reset CMOS setting
For external battery: pin 1 is "+" ; pin 4 is "-"	



Default is using on-board battery. Should you set the CMOS incorrectly and wish to reset this, then change jumpers as shown. Should you wish to use an external battery, pull off the jumper and ensure that the "+" and "-" of the external battery pack cable are correct as shown.

JP2 : Flash ROM Type Select

1-2	5V flash ROM
2-3	12V flash ROM



This motherboard 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. Default is 5V. 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.

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-430 can stop the CPU clock under this mode.

The PT-430 extends the Green PC feature to a Green AUX connector (JP35). Through this connector, the user can connect the PT-430 with a ECO-PAD or a range of "PT-xxxx" VGA cards and IDE I/O cards which have the unique Green Aux connector. This enables :

- ECO-PAD - Turn off video monitor,
- ECO-PAD - Turn off printer (or other peripheral) power.
- PT-xxxx VGA CARD - Turn off the vertical & horizontal sync of the monitor.
- PT-xxxx VLB ENHANCED IDE I/O CARD (APT-2000A) - Turn off the I/O chipset.

(Note : The hardware function on "PT-xxxx" VGA cards is more efficient than a green software driver (screen saver) as it works with all types of software applications such as DOS or Windows. It is completely independent of software being used at the time. The ECO PAD uses a 3-pin connector while the Green VGA and IDE I/O cards use 2-pin connectors. Please see Page 15 - JP35 - for correct connections)

The PT-430 will be placed into Green PC mode as a result of one of the following events :

- Suspend switch (JP25) is pressed.
- Expiration of the internal Green PC Timer. The Green PC Timer is software programmable which can configured 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 hot key for power down sequencing <CTRL> <ALT> <\>.

Through system activity monitoring and management, the PT-430 will not go into Green PC mode if any of the following activity is detected:

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

For further details on the ECO PAD or 'PTxxxx' VGA cards please contact your local dealer or sales representative for assistance.

SECTION 2

SPECIFICATIONS

2.1 PT-430 System Board Specifications

- IBM AT compatible.
- Applied High performance CMOS technology.
- Supports up to 64MB memory on board.
- Mix 256K, 1M, and 4M SIMM (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: IRQ9, DRQ2, 0WS#.
- 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 (DX4DB).
- Supports ECO-PAD for turning off external power devices in green modes.
- On-board CPU cooling fan power socket can be switched off automatically in green modes.

2.2 Jumpers and Connectors

Jumpers / Connector	Description
PI	Power Supply Connector
KB1	Keyboard Connector
JP1	Battery Connector
JP2	Flash ROM type Select
JP3	Key-lock Select
JP4,JP5,JP6	Clock Chip Speed Select
JP7,JP8,JP9,JP10	Cache Size Select
JP11-JP13,JP17-JP19	CPU Type Select
JP20	P24C Internal Clock Select
JP21	VESA Clock Select
JP22	VESA Wait State Select
JP24	Suspend LED
JP25	Suspend switch
JP26	Reset Switch
JP27	Turbo Switch
JP28	Speaker Connector
JP29	Power LED & Key-lock Connector
JP30,JP31,JP32,JP37	3.3V Daughter Board (DX4DB) Connectors
JP33	CPU Fan Power Connector
JP34	CPU Fan control Select
JP35	ECO-PAD / PT-VGA Connector
JP36	Power Good Select
D1	Turbo LED Connector

Addendum 1 : CPU Table

CPU Type	JP4	JP5	JP6	JP11	JP12	JP13	JP17	JP18	JP19	JP20
Intel SX-25	OFF	OFF	ON	1-2	1-2	1-2,3-4	1-2	5-6	1-2,3-4	OPEN
Intel DX-25/DX2-50	OFF	OFF	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	OPEN
Intel DX-33/DX2-66	ON	ON	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	OPEN
Intel DX4-100 WT S CPU (P24C)	ON	ON	ON	1-2	1-2	1-2 3-4	1-2	5-6	1-2 3-4	OPEN
Intel DX4-100 WB S CPU (P24D)	ON	ON	ON	1-2	1-2	1-2 3-4	1-2	5-6	1-2 3-4	OPEN
Intel Overdrive 63 Mhz (P24T)	OFF	OFF	ON	1-2	1-2	1-2 3-4	1-2	5-6	1-2 3-4	OPEN
AMD DX-33/DX2-66	ON	ON	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	OPEN
AMD DX-40	OFF	ON	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	OPEN
AMD DX2-80 3.3V	OFF	ON	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	OPEN
AMD DX4-100 WT	ON	ON	ON	1-2	1-2	1-2 3-4	1-2	5-6	1-2 3-4	OPEN
AMD Enhance DX4-100 WB	ON	ON	ON	2-3	2-3	1-2 3-4	1-2 3-4	1-2	OPEN	OPEN
AMD Enhance DX4-120 SV8B	OFF	ON	ON	1-2	1-2	1-2 3-4	1-2	5-6	1-2 3-4	OPEN
Cyrix SX-33	ON	ON	ON	1-2 3-4	1-2 3-4 5-6	2-3	OPEN	2-3 4-5	2-3 4-5	OPEN
Cyrix DX-33/DX2-66 5V	ON	ON	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	OPEN
Cyrix DX2-50 5V	OFF	OFF	ON	OPEN	2-3	1-2 3-4	1-2	OPEN	OPEN	
Cyrix DX2-66 3.45V	ON	ON	ON	1-2 3-4 5-6	1-2 3-4 5-6	1-2 3-4	1-2	2-3 4-5	2-3	OPEN
Cyrix DX2-80 3.45V	OFF	ON	ON	1-2 3-4 5-6	1-2 3-4 5-6	1-2 3-4	1-2	2-3 4-5	2-3	OPEN
Cyrix DX4-100 3.45V	ON	ON	ON	1-2 3-4 5-6	1-2 3-4 5-6	1-2 3-4	1-2	2-3 4-5	2-3	OPEN
Cyrix 5x86	ON	ON	ON	1-2,4-5	1-2	1-2,3-4	1-2	1-2,5-6	1-2,3-4	OPEN
UMC SX-33	ON	ON	ON	2-3	2-3	2-3	3-4	1-2	OPEN	OPEN
UMC SX-40	OFF	ON	ON	2-3	2-3	2-3	3-4	1-2	OPEN	OPEN

Remark : AMD DX2-80 should add DX4DB or DX4DB2 and connect DX4DBX and JP12 pin 4 with a one pin cable
Cyrix 5x86 must be connected with a cable between JP11 pine 3 and JP17 pin 3

Addendum 2 : Jumper Setting

In order to use th Cyrix 5X86 CPU with this Motherboard please set the jumpers as follows:
JP11 : 1-2, 4-5
JP12 : 1-2
JP13 : 1-2, 3-4
JP17 : 1-2
JP18 : 3-4, 5-6
JP19 : 1-2, 3-4

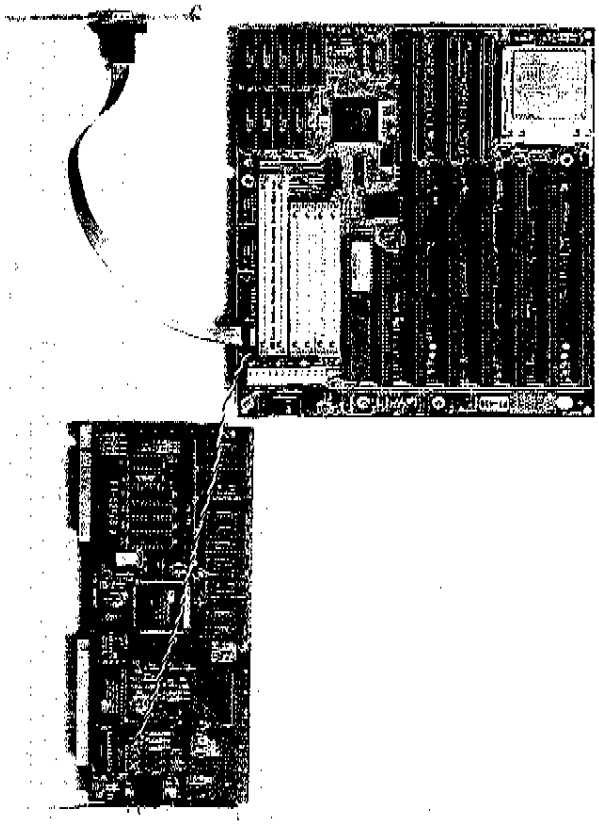
Addendum 3 : Jumper Wire

The one way Cable of the DX4D/B or DX4D/B2 must be usd to connect JP11 pin 3 and JP17 pin 3 on the PT-430 Motherboard.

Addendum 4 : BIOS Default Setting

The BIOS being used in this latest production of PT-430 has certain changes to the last one used. The changes are as follows:
"Software Flush 80486".....Disable
" Hold CPU Percentage".....7/16
"Internal Cache W/B Option".....W/Back

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



The Green Connection :

Please refer to page 7, section 1.3.

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* 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.