

## **CHAPTER 1 INTRODUCTION**

### **1.1 Overview**

The board supports the current 486 CPUs, the new SL Enhanced 486 CPUs, and 486 CPUs with L1 write-back capability from INTEL, AMD and CYRIX.

The board also supports VESA standards and power management features for most of advanced CPUs on the market.

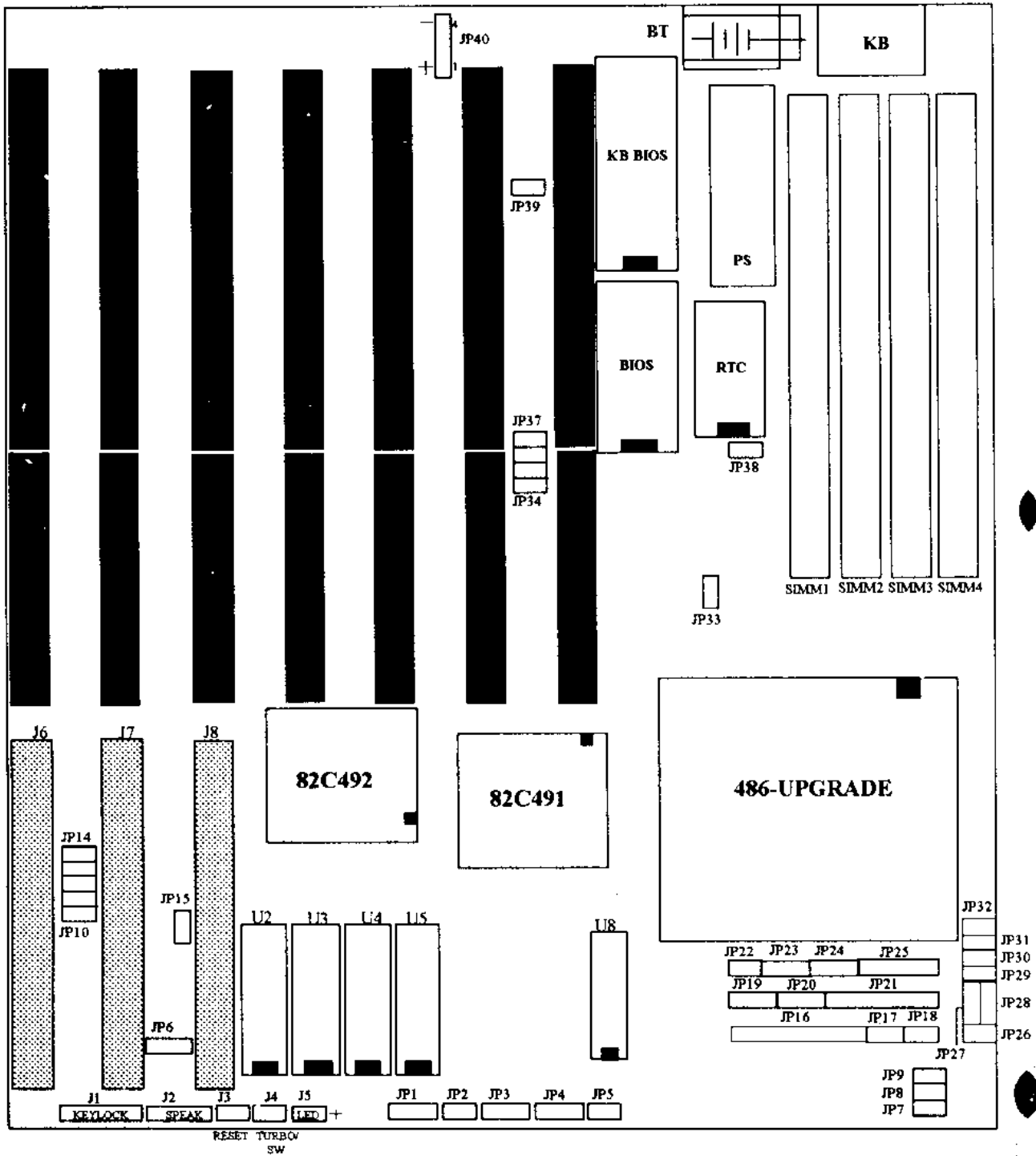
### **1.2 System Features**

- Supports INTEL 486SX/DX/DX2/DX4/P24D/P24C/P24T/S-SERIAL.  
AMD 486 DX/DX2.  
CYRIX M6, M7, DX2.
- Supports L1/L2 write back/write through cache.
- Supports MASTER/SLAVE 32-bit VESA Bus.
- Supports 128KB/ 256KB/512KB cache size.
- Supports SMM power controllers.

### **1.3 System Specifications**

Processor :	INTEL 486SX/DX/DX2/P24D/P24C/P24T/ S-SERIAL CPU CYRIX M6/M7/DX2 486 CPU AMD 486 DX/DX2
CPU Clock :	25/33/40 MHz CPU
Memory :	up to 128MB
SRAM :	128KB/256KB/512KB
BIOS :	AWARD BIOS
I/O Subsystem :	Seven 16-bit ISA Bus & Three 32-bit Local Bus.
Dimension :	24.9cm × 21.8cm , 2/3 baby AT size

# 1.4 EXP4045 Board Layout

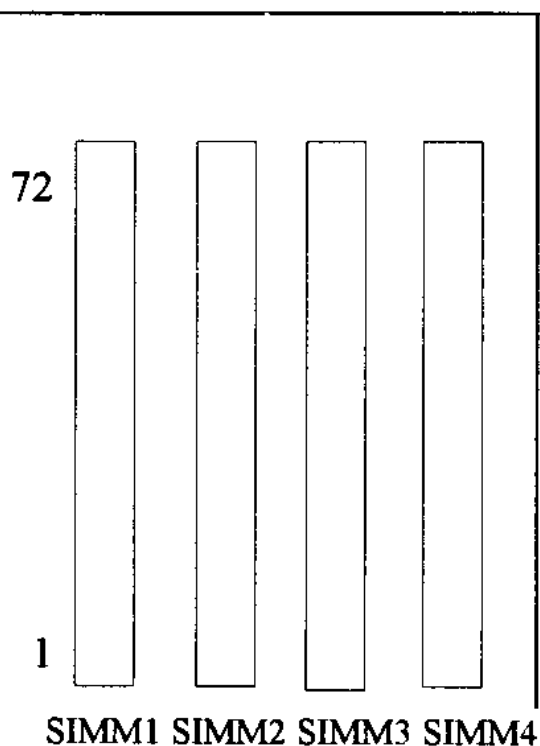


## CHAPTER 2 INSTALLATION

### 2.1 DRAM INSTALLATION

The EXP4045 main board can support expanded memory from 1MB to 128MB. Either 1MB, 2MB, 4MB, 8MB, 12MB, 16MB, 24MB, 32MB, 64MB, 128MB SIM DRAM can be used on the motherboard.

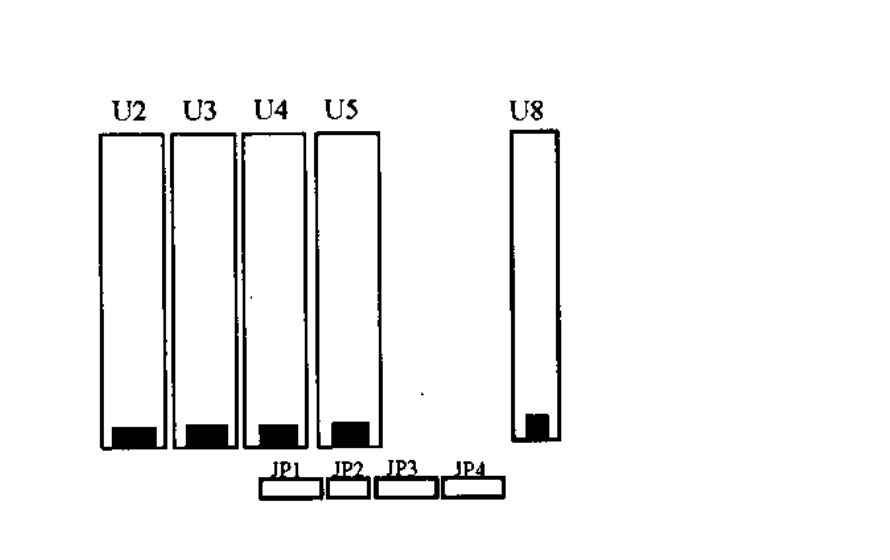
- The board layout below shows the locations of the DRAM memory banks :



■ DRAM Configuration

SIMM1	SIMM2	SIMM3	SIMM4	TOTAL MEMORY
1MB*1	NONE	NONE	NONE	1MB
1MB*1	1MB*1	NONE	NONE	2MB
4MB*1	NONE	NONE	NONE	4MB
4MB*1	4MB*1	NONE	NONE	8MB
4MB*1	4MB*1	4MB*1	NONE	12MB
4MB*1	4MB*1	4MB*1	4MB*1	16MB
4MB*1	NONE	4MB*2	NONE	12MB
4MB*2	NONE	NONE	NONE	8MB
4MB*2	4MB*2	NONE	NONE	16MB
4MB*2	4MB*2	4MB*2	NONE	24MB
4MB*2	4MB*2	4MB*2	4MB*2	32MB
16MB*1	NONE	NONE	NONE	16MB
16MB*1	16MB*1	NONE	NONE	32MB
16MB*1	16MB*1	16MB*1	16MB*1	64MB
16MB*2	NONE	NONE	NONE	32MB
16MB*2	16MB*2	16MB*2	16MB*2	128MB

## 2.2 SRAM INSTALLATION

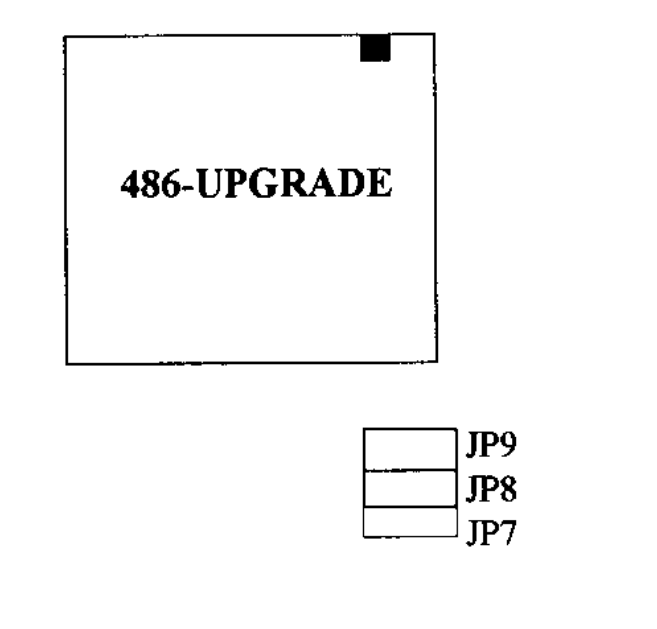


### CACHE CONFIGURATION SIZE



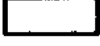






128K		256K		512K	
TAG RAM	DATA RAM	TAG RAM	DATA RAM	TAG RAM	DATA RAM
U8 32K×8	U2-U5 32K×8	U8 32K×8	U2-U5 64K×8	U8 32K×8	U2-U5 128K×8
JP1		JP1		JP1	
JP2		JP2		JP2	
JP3		JP3		JP3	
JP4		JP4		JP4	

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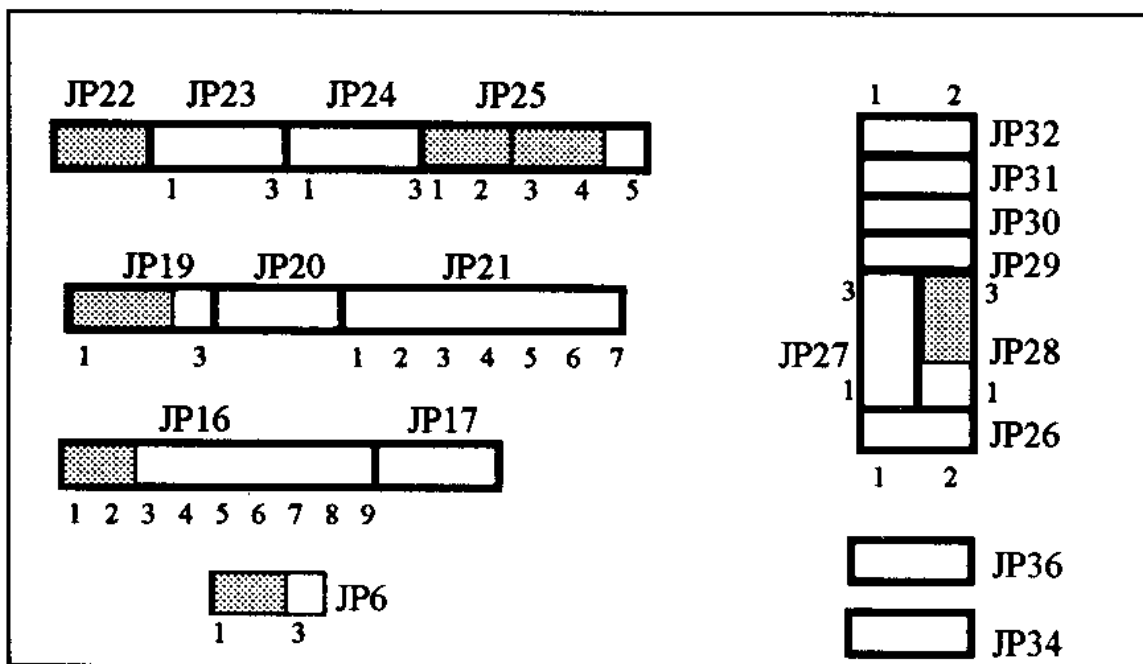
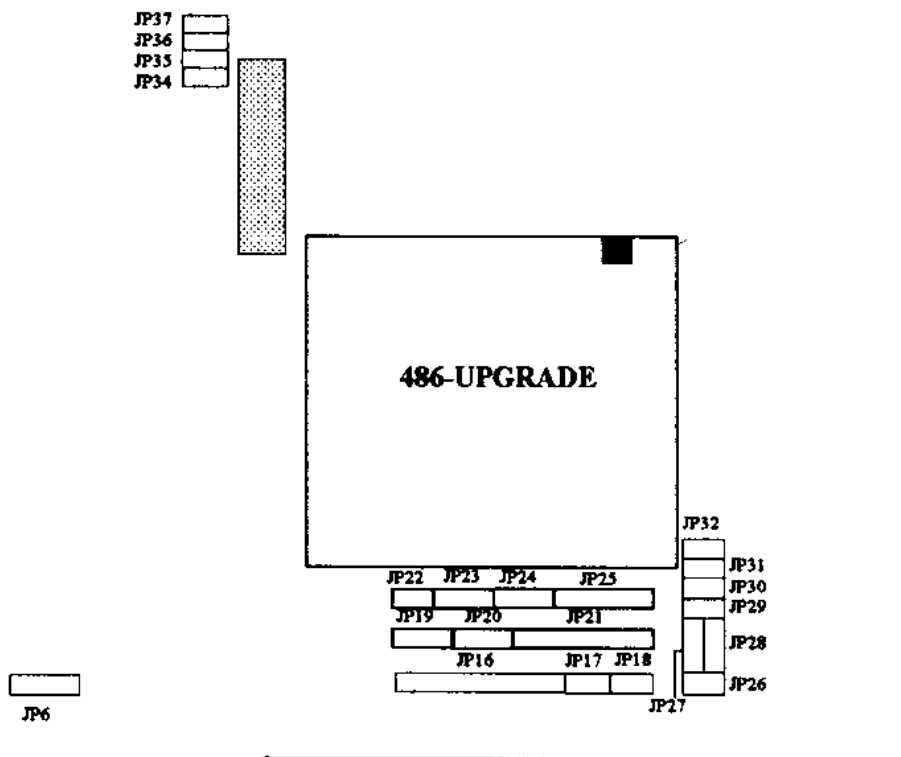
## 2.3 CPU INSTALLATION



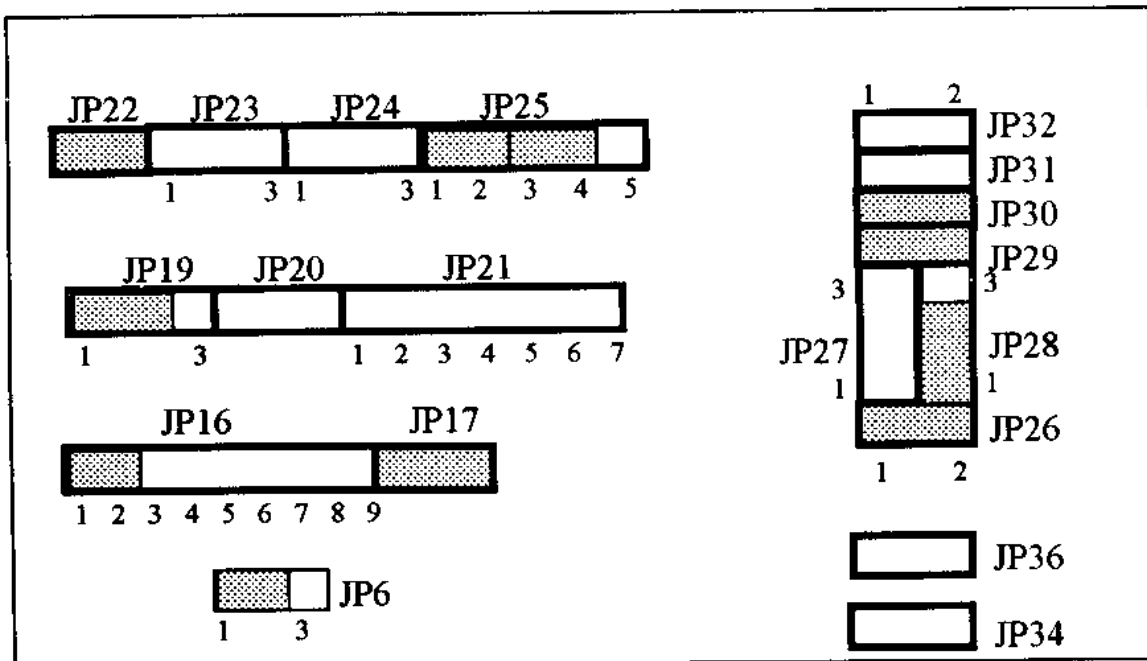
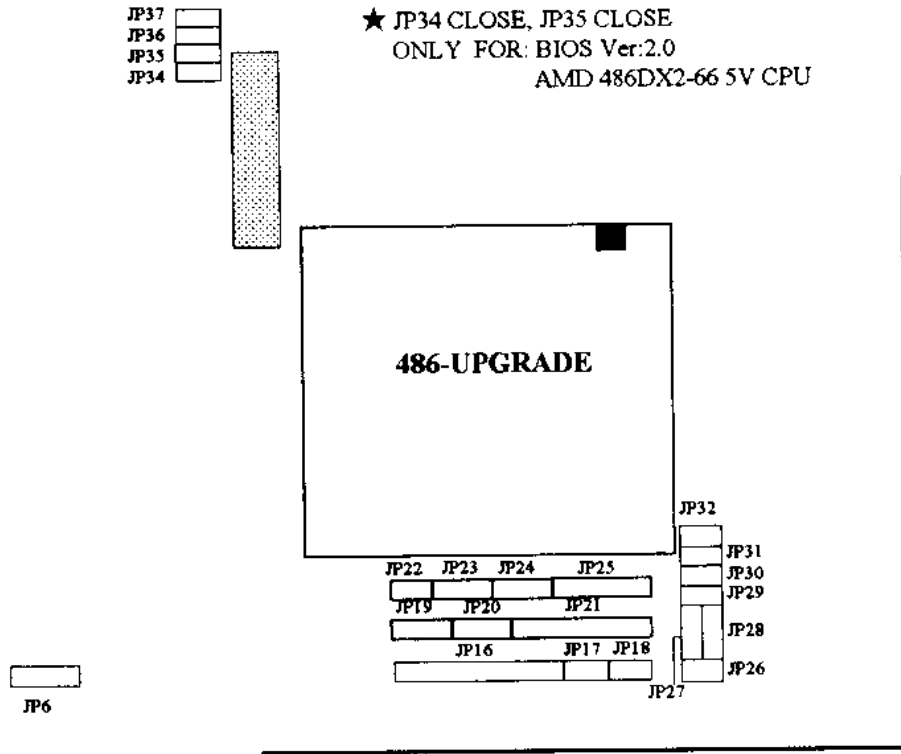
### CPU CLOCK

25MHz	33MHz	40MHz
JP9  JP8  JP7 	JP9  JP8  JP7 	JP9  JP8  JP7 

# INTEL 486SX

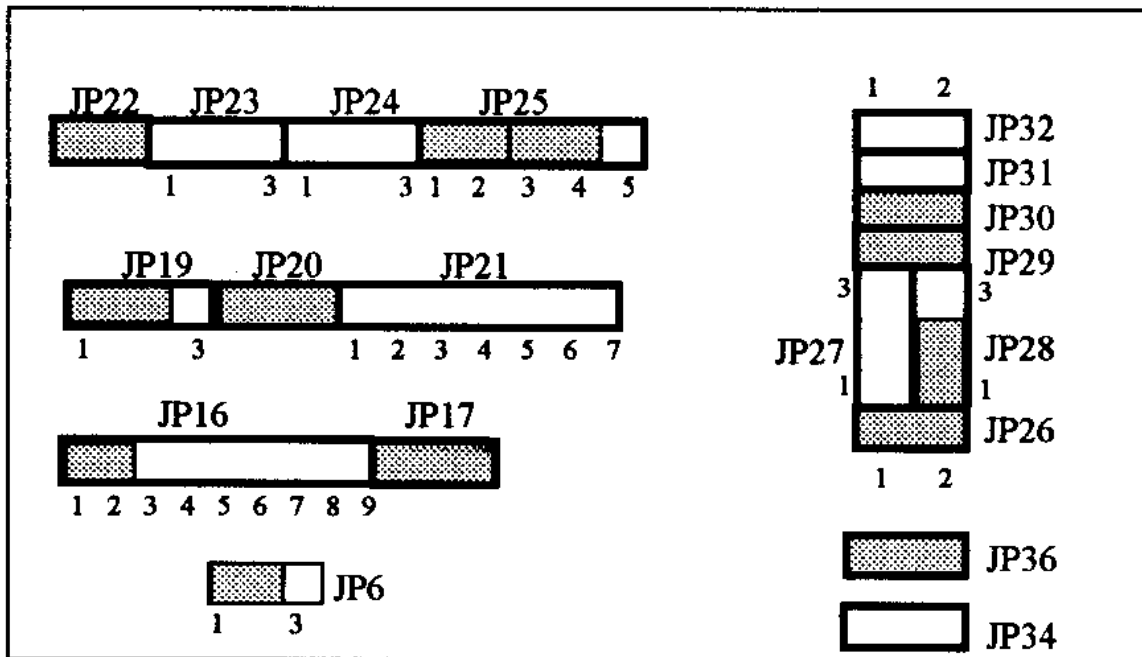
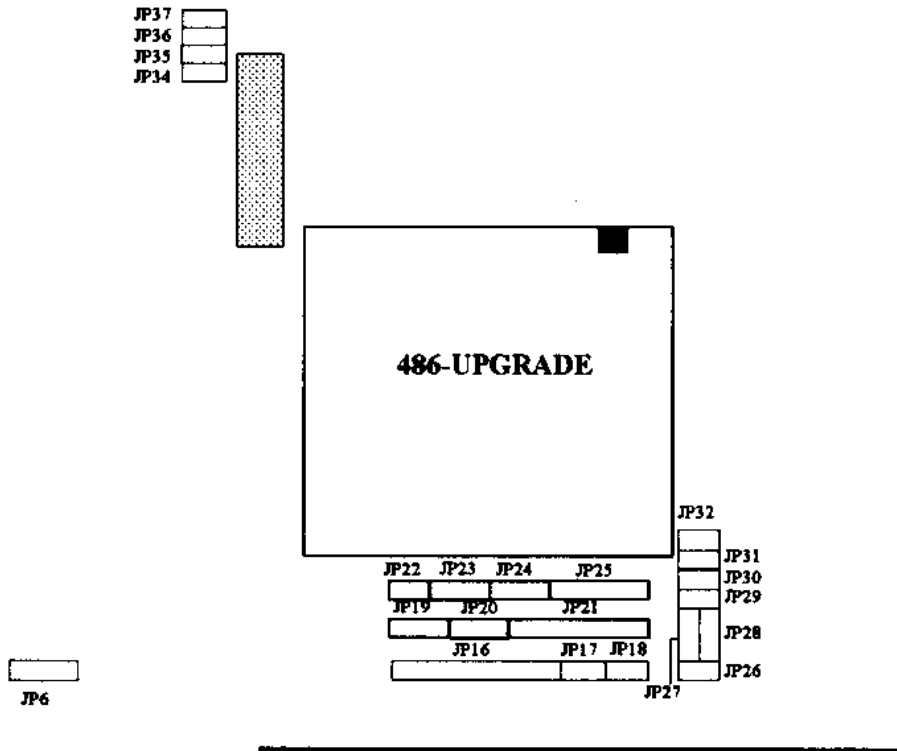


# INTEL(AMD) 486DX/DX2

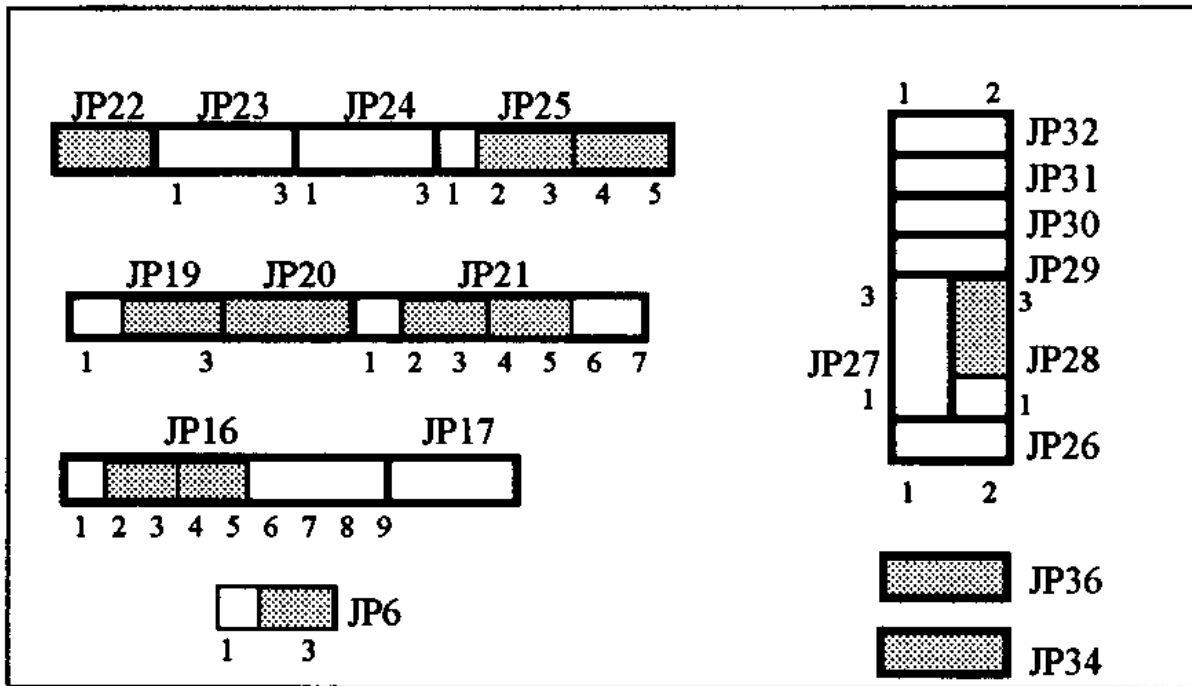
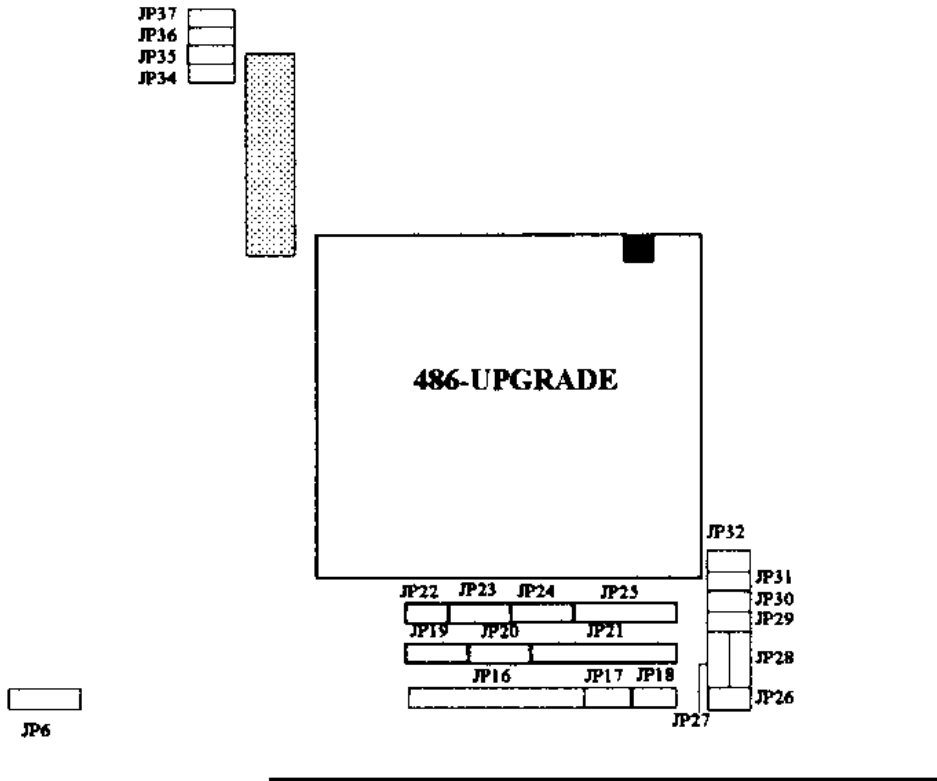




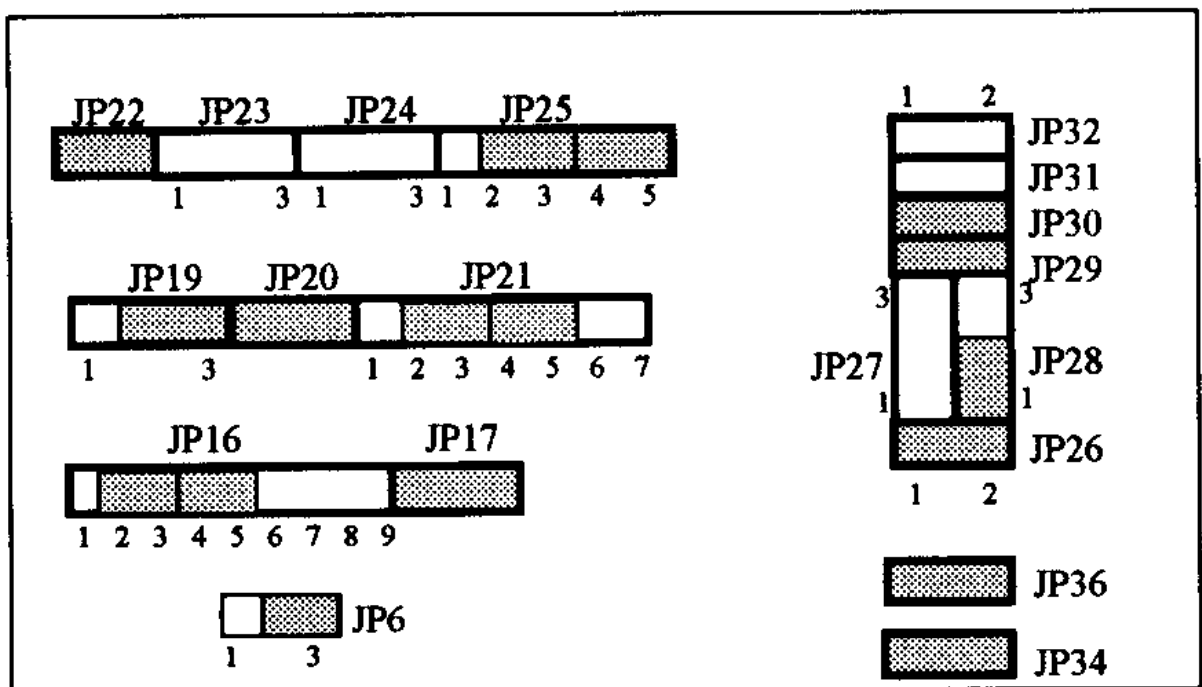
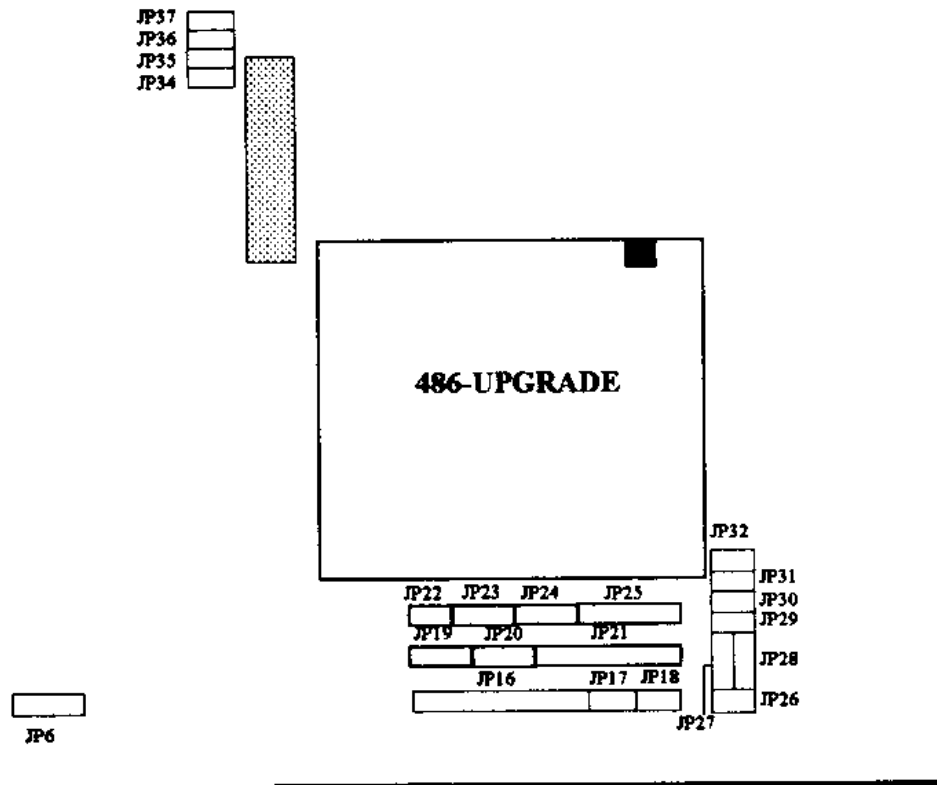
# INTEL 486 Enhanced



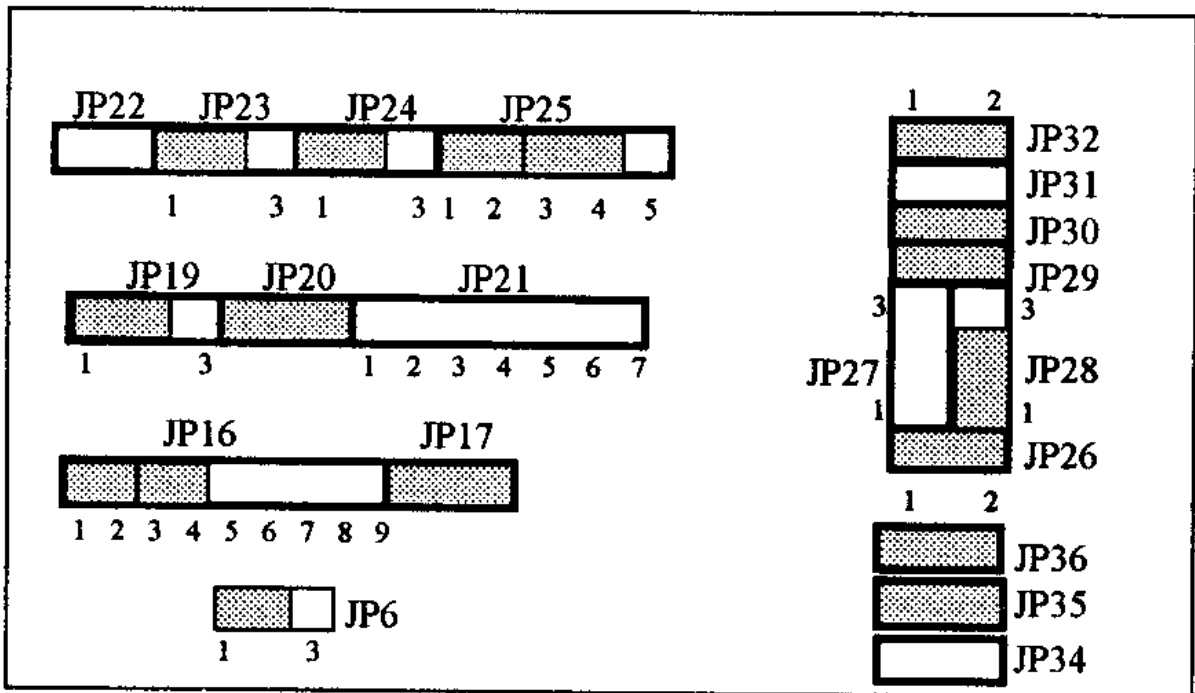
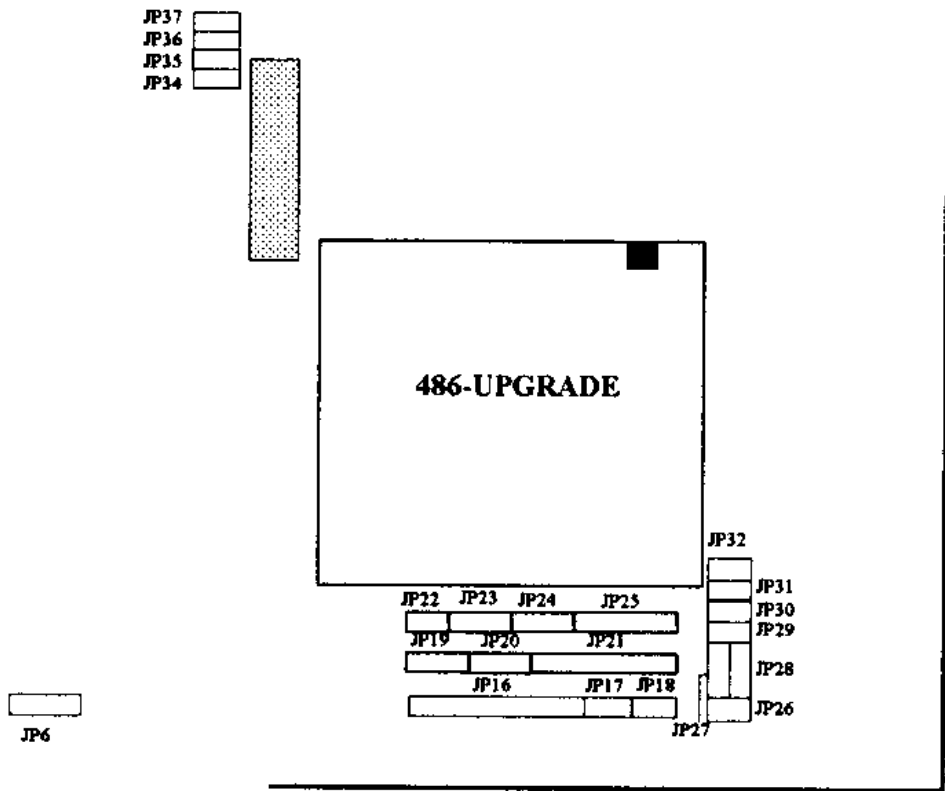
# CYRIX M6



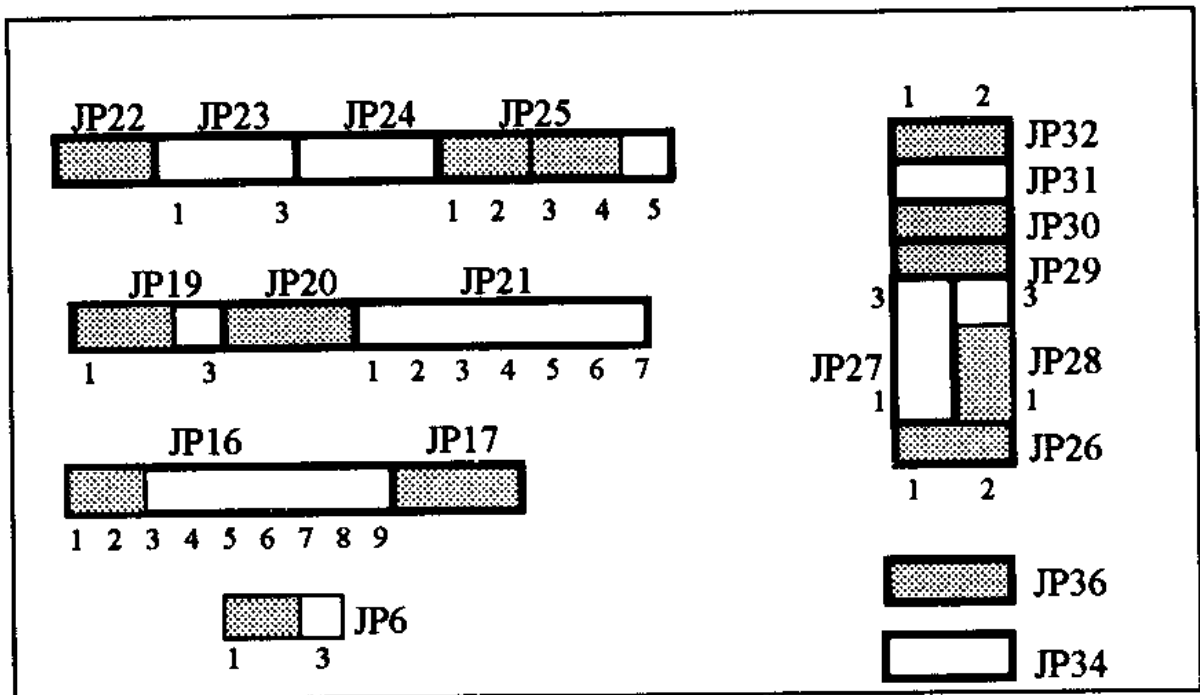
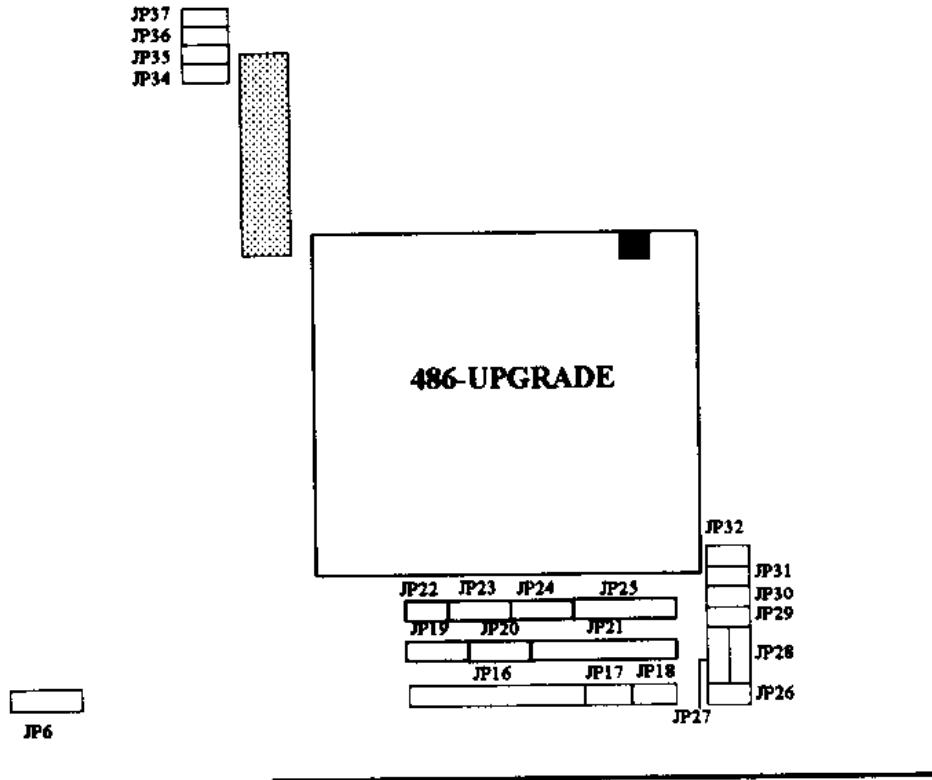
# CYRIX M7



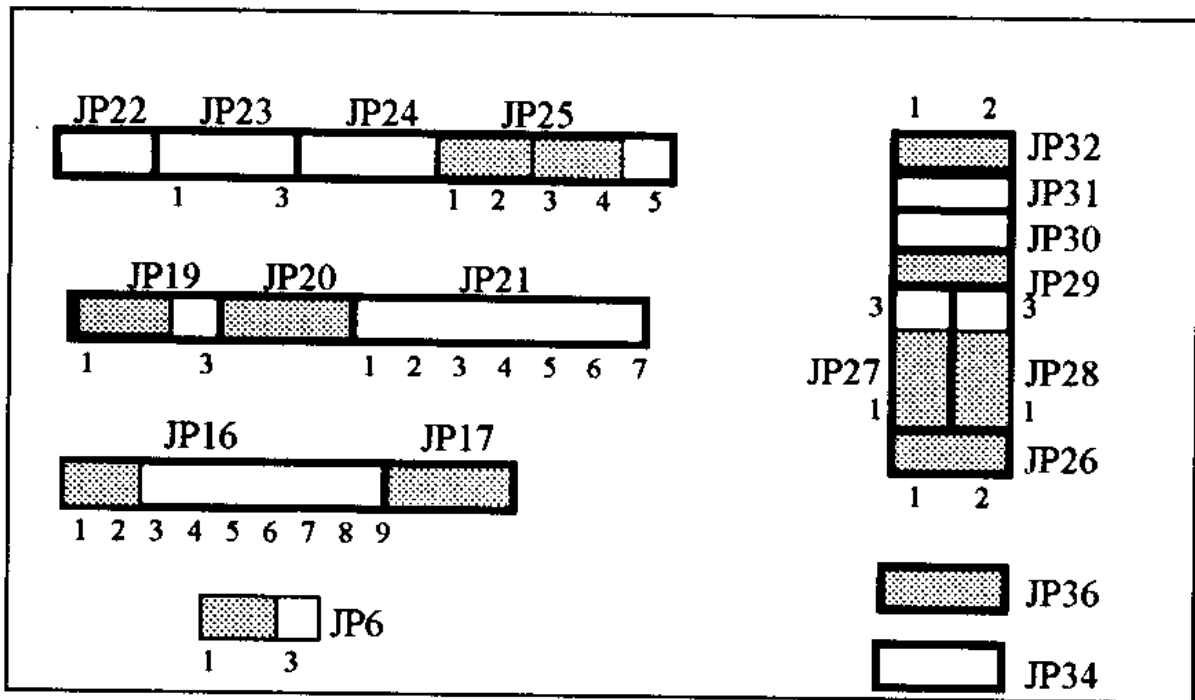
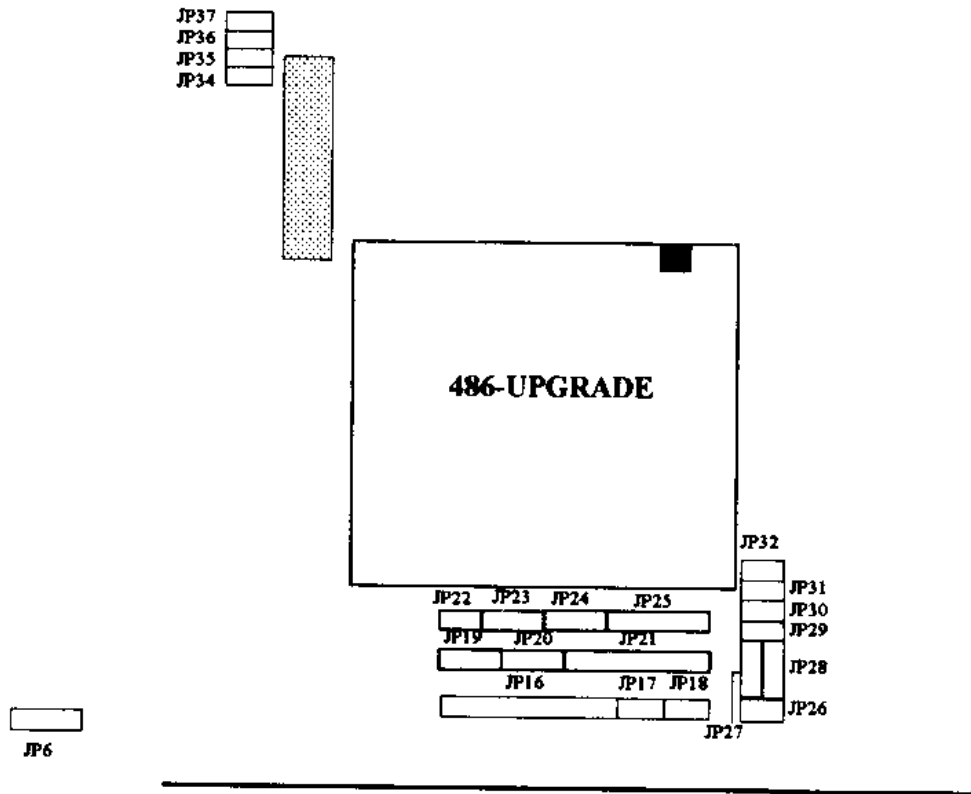
# P24D



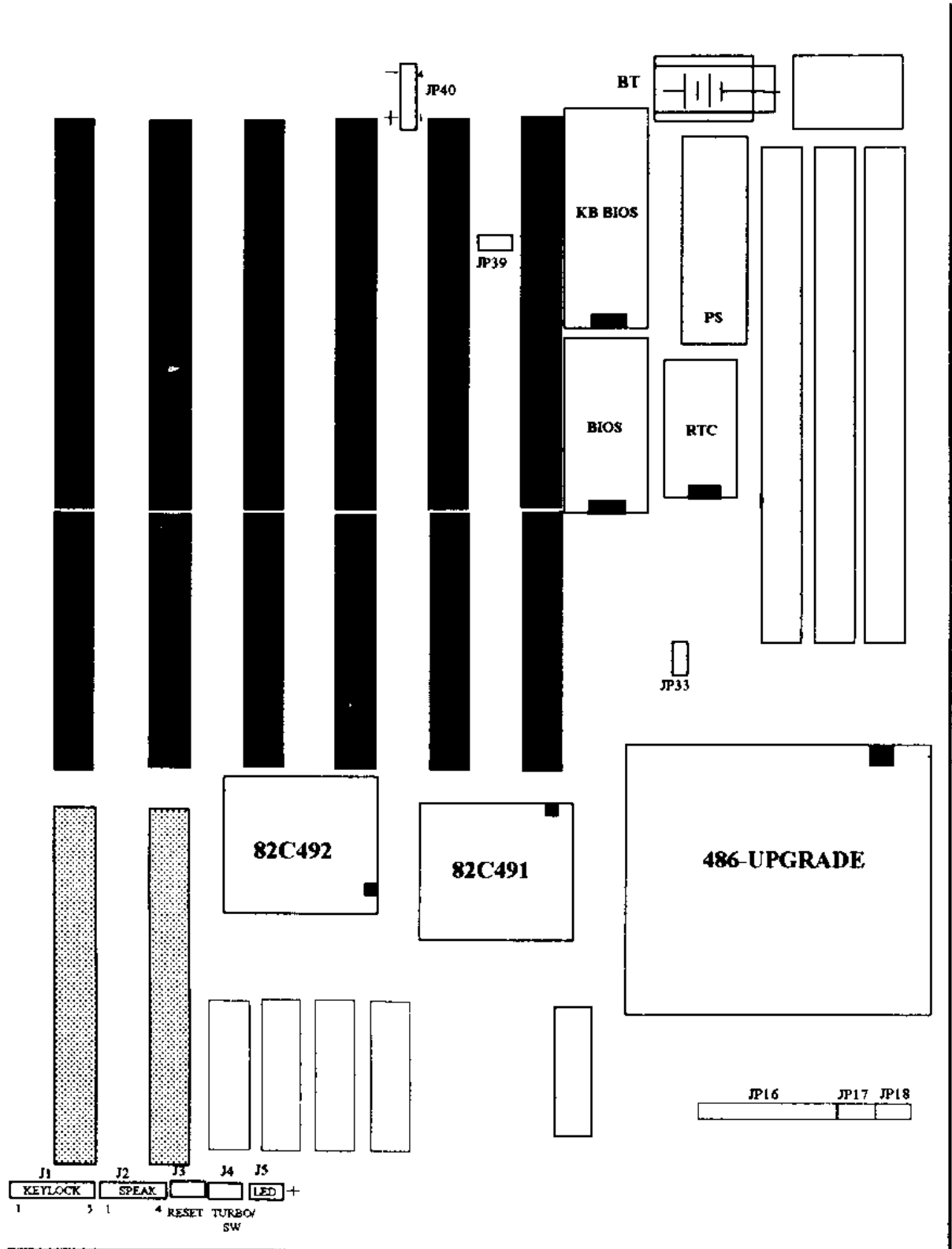
# P24C







# P24T



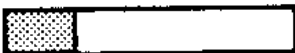


## 2.4 OTHER JUMPER INSTALLATION





### CPU POWER VOLTAGE

3.3V (Q3: present)		5V (Q3: absent)	
JP33	JP18	JP33	JP18
			

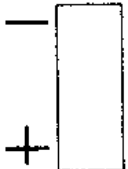


### INTEL P24C CPU CLOCK

CPU CLOCK*3	CPU CLOCK*2.5	CPU CLOCK*2
JP16	JP16	JP16
		
1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9

### AMD 3.3V 486DX2 CPU CLOCK

CPU CLOCK*2	CPU CLOCK*3
JP32	JP32
	

### OTHER JUMPER DESCRIPTION

JUMPER	DESCRIPTION
JP40	 — 4 3 2 + 1 EXTERNAL BATTERY CONNECTOR
JP39	  MONO COLOR



**CONNECTOR DESCRIPTION**

CONNECTOR	PIN OUT	SIGNAL NAME
<b>J1: KEY LOCK</b>	1	LED POWER
	2	NOT USED
	3	GROUND
	4	KEYBOARD INHIBITOR
	5	GROUND
<b>J2: SPEAK</b>	1	DATA OUT
	2	NOT USED
	3	GROUND
	4	+5V
<b>J3: RESET</b>	1	GROUND
	2	RESET IN
<b>J4: TURBO/SW</b>	1	GROUND
	2	SELECT PIN
		<div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 20px; height: 10px; border: 1px solid black; margin-right: 5px;"></div> <span>TURBO SPEED</span> </div> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: black; margin-right: 5px;"></div> <span>NORMAL SPEED</span> </div>
<b>J5: LED</b>		+ANODE -CATHODE
<b>KB: KEYBOARD CONNECTOR</b>	1	KEYBOARD CLOCK
	2	KEYBOARD DATA
	3	SPACE
	4	GROUND
	5	+5V
<b>PS: POWER CONNECTOR</b>	1	POWER GOOD
	2	+5V DC
	3	+12V DC
	4	-12V DC
	5,6,7,8	GROUND
	9	-5V DC
	10,11,12	+5V DC