

2 Hardware Setup

This chapter explains how to configure the mainboard's hardware. After you install the mainboard, you can set jumpers install memory and a coprocessor on the mainboard and make case connections. Refer to this chapter whenever you upgrade or reconfigure your system.

CAUTION: Turn off power to the mainboard, system chassis, and peripheral devices before performing any work on the mainboard or system.

Setting Jumpers

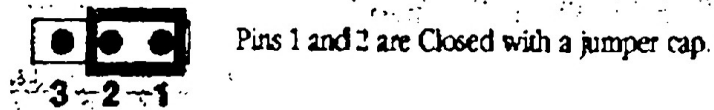
You can configure hardware options on the mainboard by setting jumper switches. Jumper switches are rows of small pins on the mainboard that are set by using a jumper cap. Refer to Figure 1-1 for jumper locations.

- Close a jumper switch by inserting the plastic jumper cap over two pins of the jumper.
- Open a jumper switch by removing the jumper cap.

Note: When you open a jumper, attach the plastic jumper cap to one of the pins so you won't lose it.

For jumper settings, the symbol  denotes a jumper cap.



For example, three-pin jumper settings are designated as below.



Hardware Setup

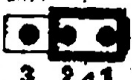

JP3: Display Type Settings

JP3 configures the mainboard for use with a color or monochrome monitor.

Display Type	JP3
Monochrome (Default)	
Color/EGA/VGA	

JP5: CMOS Reset Jumper

Jumper JP5 lets you discharge CMOS memory in the event you forget your password or encounter a BIOS Setup problem. Before you install the mainboard make sure that JP5 is set to retain CMOS memory.

CMOS Setting	JP5
Retain CMOS Data	
Discharge CMOS	

JP28: Green PC Power Control

This jumper controls Green PC Power, where the output status is low active.

Note: The Green PC Power must accept a low input signal and the POWER MANAGEMENT function must be Enabled (see page 25).

JP34: Berg Switch

Toggle this jumper to force the system to enter the 8 MHz (Standby) mode. Press any key or move the mouse to wake the system to full speed mode.

J4: Green Control Pin

The mainboard supports 4 sets of BIOS controlled jumpers. You can set the timer to control an external device. Output status is low active.

CPU Type Configuration

Configure the 486 VESA mainboard's CPU by inserting the specified CPU and setting jumpers as described in the diagrams that follow. Note that the CPU Type jumpers on the mainboard have yellow caps and the Clock Setting jumpers have red caps.

Intel / AMD CPUs

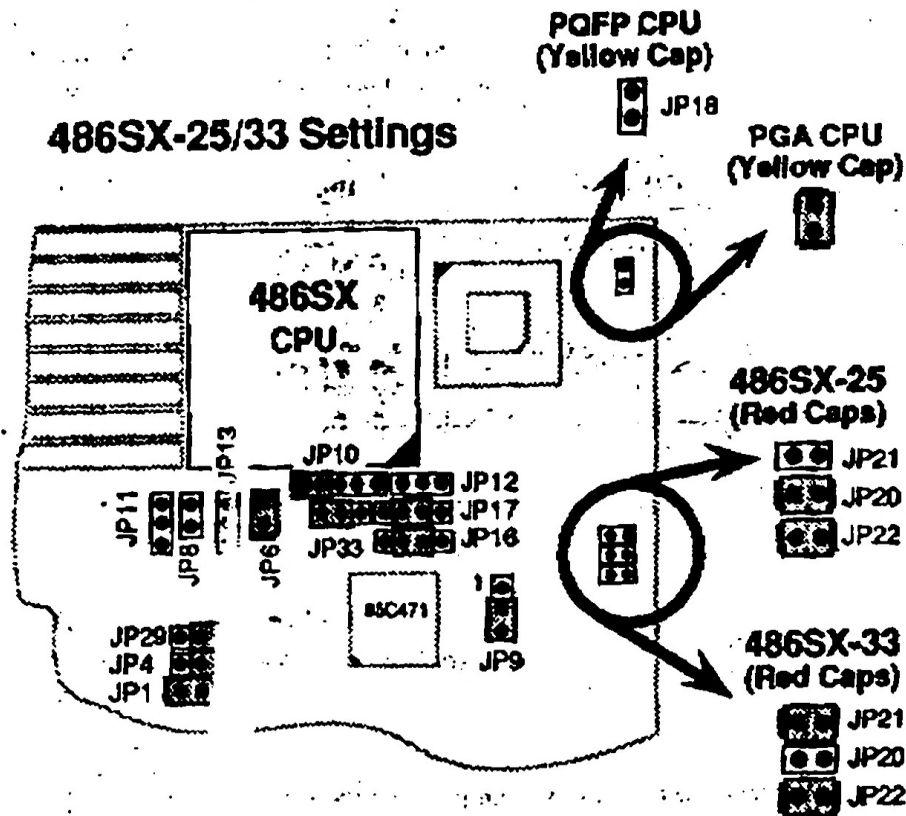


Figure 2-1. 486SX-25/33 Jumper Settings

486DX-25/33/40/50 and 486DX2-50/66 Settings

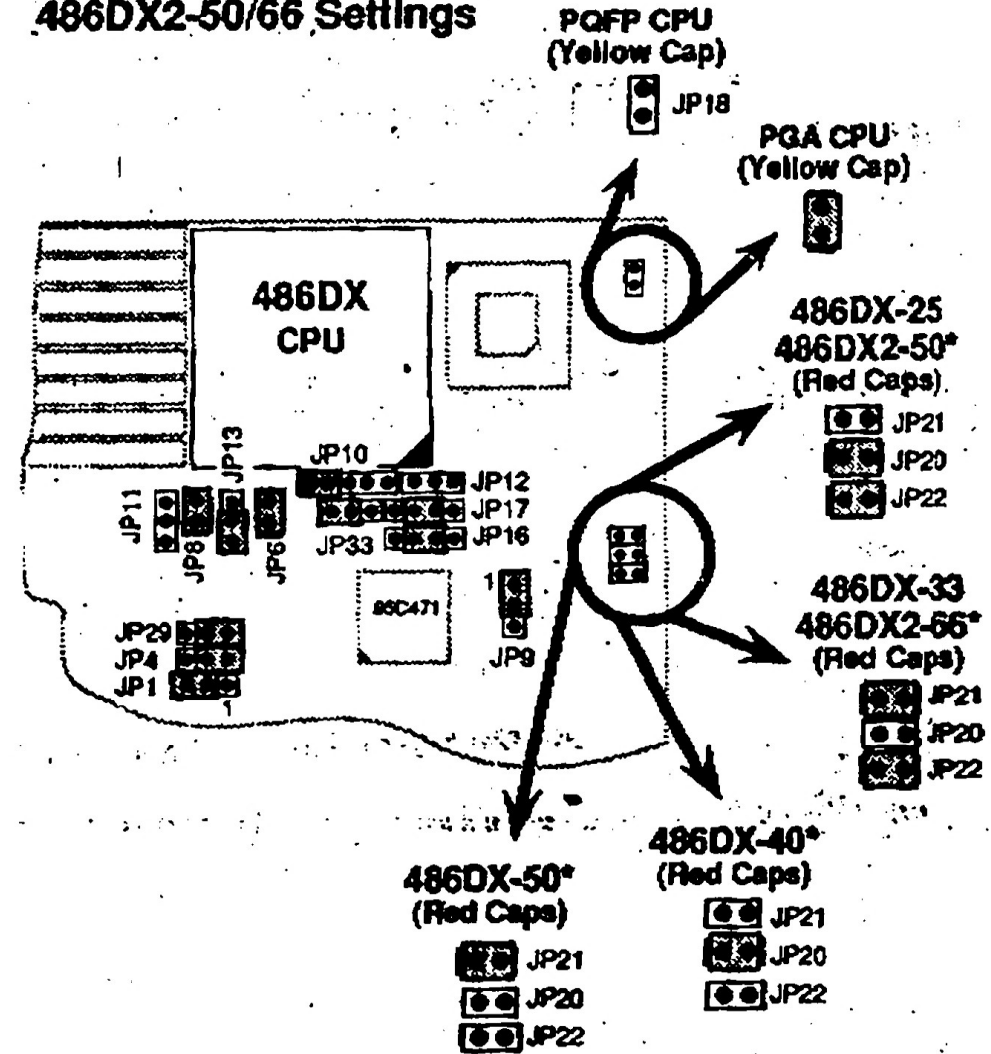


Figure 2-2. 486DX-25/33/40/50 and 486DX2-50/66 Jumper Settings

*Note: For the CPUs marked with an asterisk, a cooling fan is suggested for system stability.

Cyrix 486DX (M7, or M6+C6) Settings

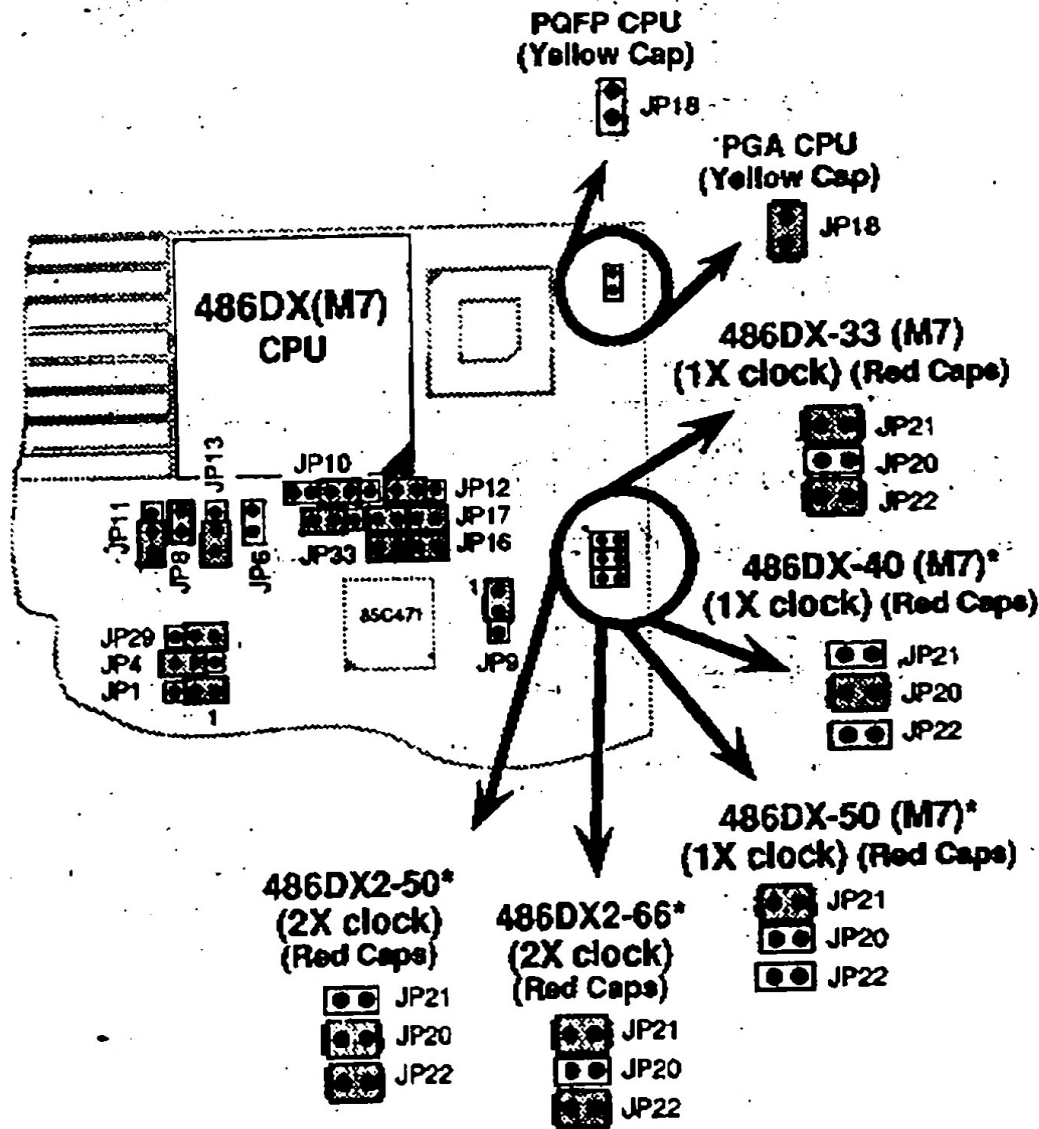


Figure 2-5. Cyrix 486DX/DX2 (M7) Jumper Settings

Note: For the CPUs marked with an asterisk, a cooling fan is suggested for system stability.

Cache Configuration

The 486 VESA mainboard has a write-back caching system. You can configure the mainboard's external cache for 64KB, 128KB, or 256KB by setting jumper switches and installing cache chips. Refer to the following pages for jumper switch settings and cache socket locations.

Cache Jumper Settings

You must set jumpers JP24, J25, and J26 to configure cache size. See the illustrations below. Note that the cache jumpers on the mainboard have white jumper caps.

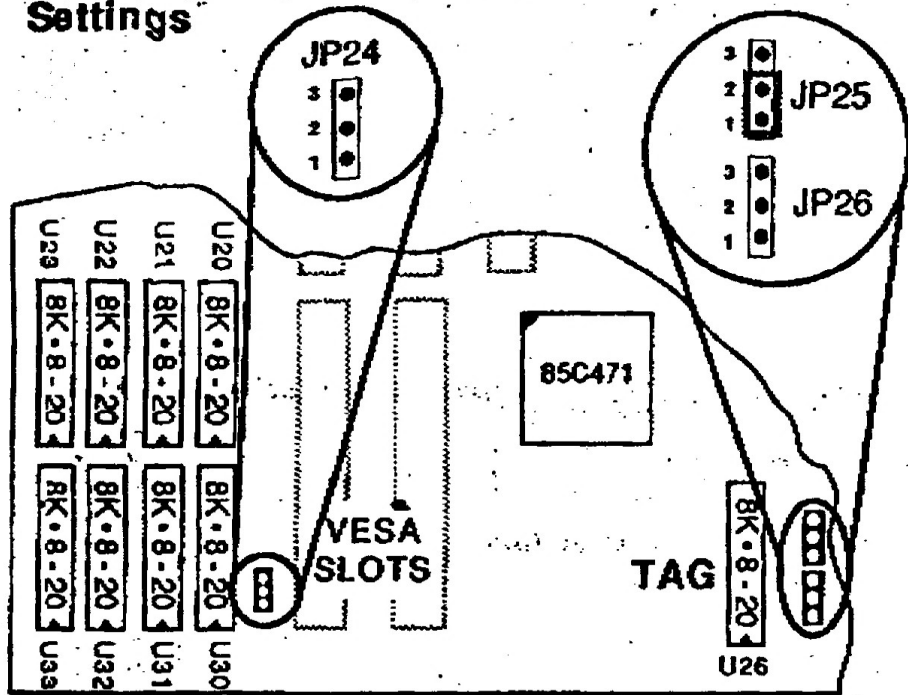
Cache Size and RAM Locations

The table below describes the chip type and socket locations for each cache size configuration.

Cache Size	Cache RAM	Tag RAM	Cacheable Range
64KB	8K x 8 - 20/ U20-U23, U30-U33	8K x 8 - 20/U26	8 MB
128KB	32K x 8 - 20/ U20-U23	8K x 8 - 20/U26	16 MB
256KB	32K x 8 - 20/ U20-U23, U30-U33	32K x 8 - 20/U26	32 MB

Note: Tag and Data RAM use 20ns for all conditions.

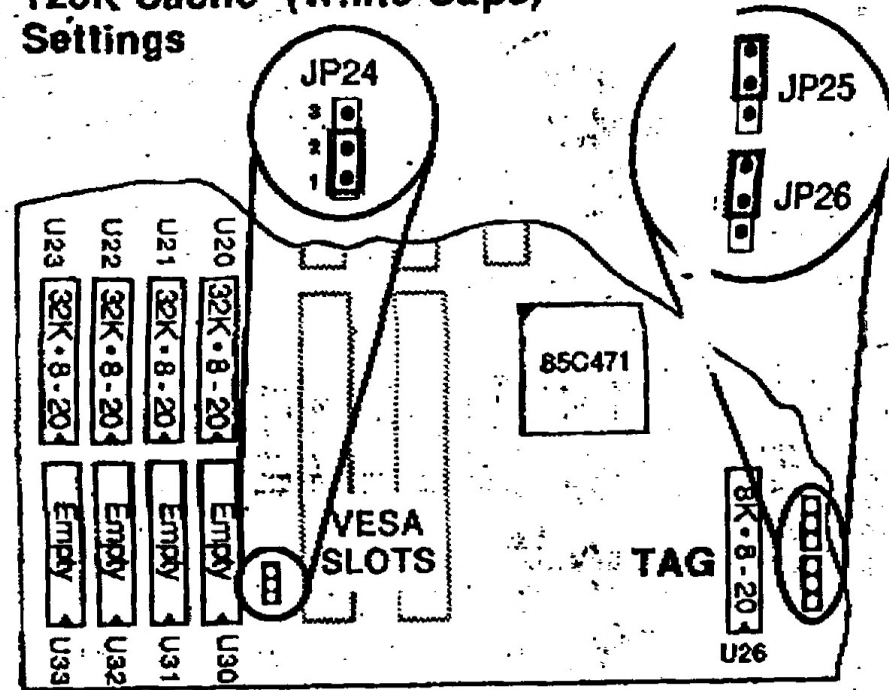
64K Cache (White Caps) Settings



Cache Size	JP24	JP25	JP26
64K	X	1-2	X

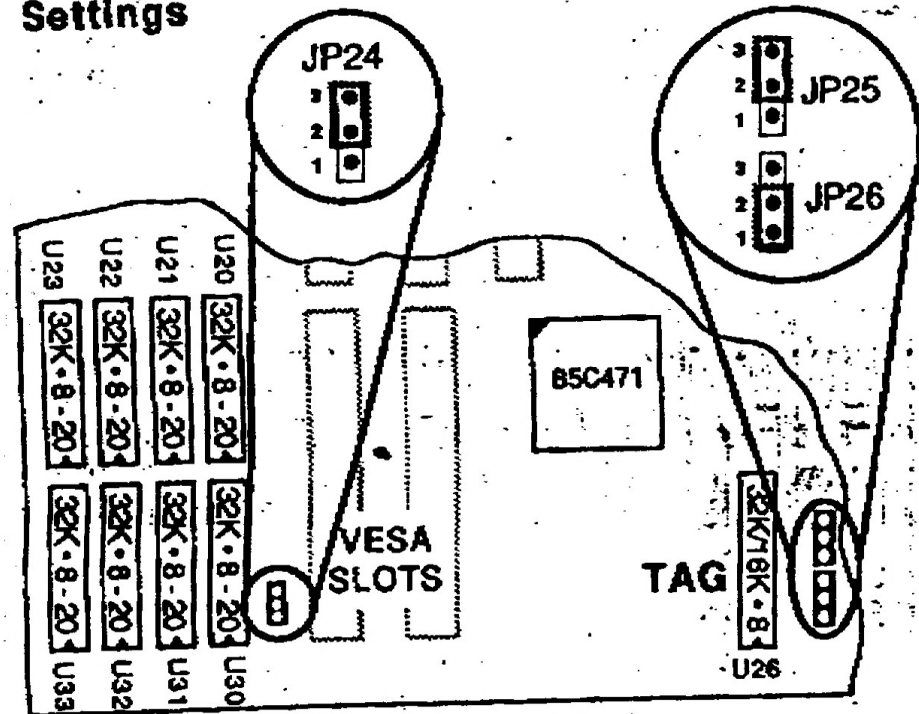
X = setting doesn't matter

128K Cache (White Caps) Settings



Cache Size	JP24	JP25	JP26
128K	1-2	2-3	2-3

256K Cache (White Caps) Settings



Cache Size	JP24	JP25	JP26
256K	2-3	2-3	1-2

Memory Configuration

The 486 VESA mainboard lets you increase the system's memory via on-board SIMM (Single In-line Memory Modules) sockets. The mainboard supports two banks of 256K, 1M, 4M and 16M SIMM. The inboard requires SIMM of at least 80ns access time.

On-board memory is located in two banks: Bank 0 and Bank 1. See Figure 1-1. Four SIMM sockets are provided in each bank. You can install either a 256K, 1M, 4M or a 16M SIMM in each socket with any configuration.

The mainboard supports the following configurations:

Memory Size	Bank 0	Bank 1
1 MB	256K	—
2 MB	256K	256K
4 MB	1M	—
5 MB	256K	1M
8 MB	1M	1M
16 MB	4M	—
17 MB	256K	4M
20 MB	1M	4M
32 MB	4M	4M
64 MB	16M	—
68 MB	1M	16M
80 MB	4M	16M
128 MB	16M	16M

Table 2-1. On-board Memory Configurations

Connectors

Attach the 486 VESA mainboard to case devices, or an external battery, via connectors on the mainboard. Refer to Figure 1-1 for connector locations and connector pin positions.

J17 - Keylock & Power LED Connector

J17 is a connector for a lock that may be installed on the system case for enabling or disabling the keyboard. J17 also attaches to the case's Power LED.

J18 - Speaker Connector

Attach the system speaker to connector J18.

J19 - Hardware Reset Control

Attach the Reset switch to J19. Closing the Reset switch restarts the system.

J20 - External Battery Connector

J20 is a 4-pin connector to which you can attach an external battery. Pin 1 of J20 is positive (+) and pin 4 is negative (-).

J21 - Turbo Switch Connector

J21 is connected to a Turbo switch on the front of the system case. The connector's pins 1-2 are shorted for normal operation and pins 2-3 are shorted for turbo operation.

J22 - Turbo LED Connector

J22 connects to a Turbo LED on the case control panel and works with the Turbo Switch. If the mainboard is in Turbo mode, the Turbo LED lights.

CN1- Keyboard Connector

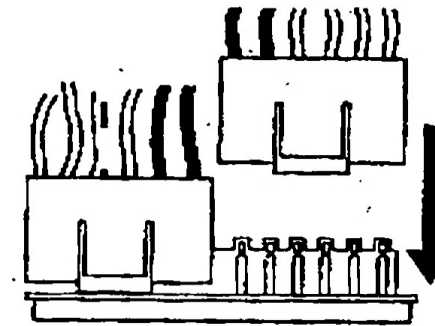
A five-pin female DIN keyboard connector is located at the top of the board. Plug the keyboard jack into this connector.

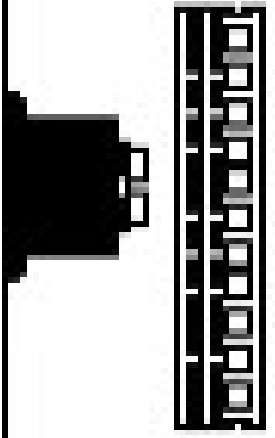
of the board.

CN2 - Power Supply Connectors

The mainboard requires a power supply with at least 200W and a "power good" signal. CN2 has two six-pin male header connectors.

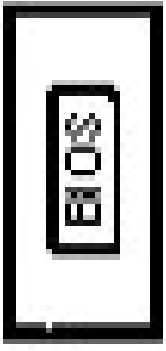
Plug the dual connectors from the power directly onto the board connector while making sure the black leads are in the center.





JP 5

JP 1

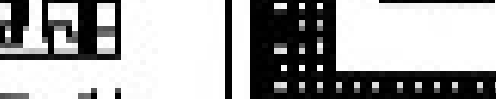


JP 28



KBD

JP 3



JP 11

JP 8

JP 13

JP 6

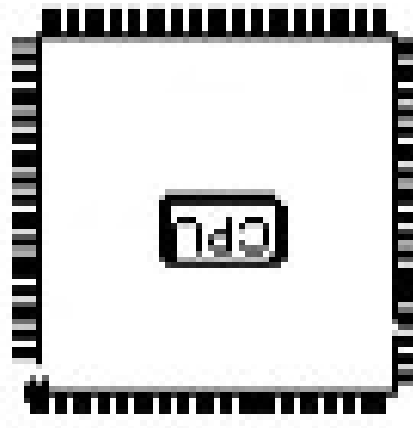
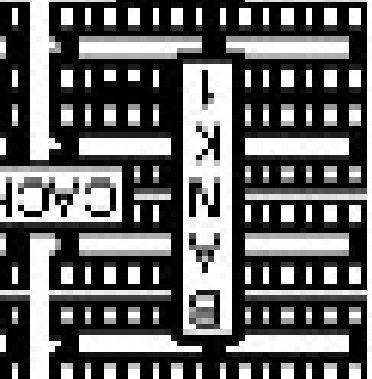
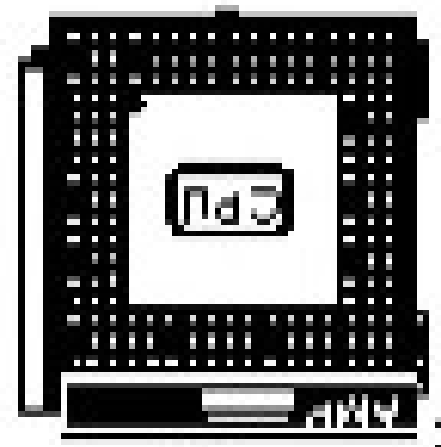
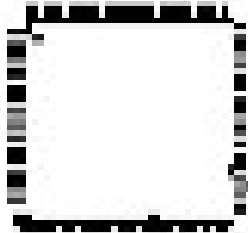
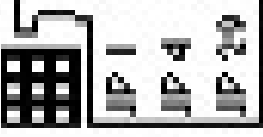
JP 10

JP 33

JP 16

JP 12

JP 17



JP 9

JP 21

JP 20

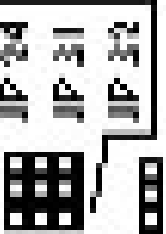
JP 22

JP 25

JP 16

JP 23

JP 26



JP 34

JP 31

JP 32

JP 36

JP 37

JP 38

JP 39