

Mainboard Layout

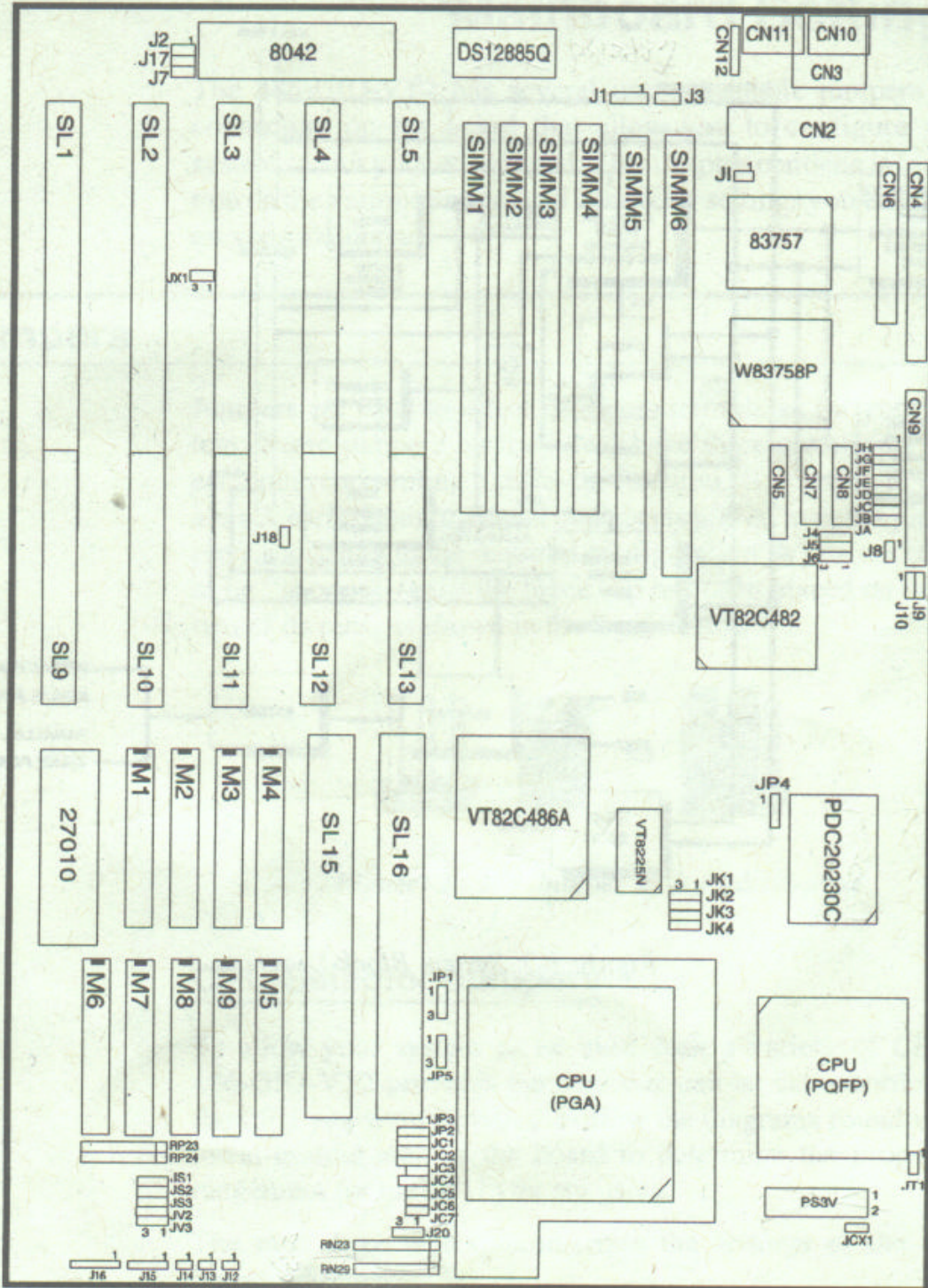


Figure 1-1. Mainboard Layout

Mainboard Settings

The 486-GIO-VT2 has several user-adjustable jumpers and connectors on the board that allow you to configure your system to suit your every need. This chapter contains information on the various jumper and connector settings you can make on your mainboard.

Jumpers

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. To “set” a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be “shorted” when the black cap has been placed on one or two of its pins, as shown in the figure below:



Figure 2 - 1 Jumper with Pins Shorted

CPU Selector Jumpers

To allow your system to be used with a variety of CPU's, 486-GIO-VT2 provides jumpers that can be set according to the CPU you want installed. Follow the diagrams found in the lower-middle area of the board to determine the proper arrangement for the CPU you are using.

The next three tables summarizes the settings of the CPU Selector jumpers:

JUMPER	486SX/ P23S* (PGA)	P24S*/P4S* P24C#/ 486DX/ IntelDX2™ (PGA)	P24CT/P24T (PGA)	Cx486S (M6) (PGA)	Cx486DX (M7) Cx486S+ Cx487S (M6+C6) (PGA)	P24D* (PGA)
JC1, JC2	2-3	1-2	1-2	2-3	1-2	1-2
JC3	open	open	shorted	open	open	open
JC4	1-2	1-2	2-3	1-2	1-2	2-3

* P23S, P24S, P24D, and P4S are the SL-enhanced CPUs while P24T is the Overdrive Processor.

When the onboard 3.3 volt regulator is not present, the 3.3 volt daughter board should be installed. If not, please refer to page 2-12 installation of the 3.3 volt regulator daughterboard.

JUMPER (RP 0Ω 8p4R)	P23S/P4S/ P24S/P24T (PGA)	486SX/DX/ IntelDX2™ (PGA)	Cx486S/DX (PGA)	P23C/P24D/ P24CT (PGA)
JC5, JC6	shorted	open	open	shorted
RN23	empty	empty	inserted	empty
RN29	empty	empty	empty	inserted

JUMPER	PIN DEFINITION	
J20	Open	3 X mode
	1-2	2 X mode
	2-3	2.5 X mode
JCX1	1-2	Intel SL-enhanced CPU, others (default)
	2-3	Cyrix Cx486S/DX
JP2, JX1	1-2 *	IRQ15 (Regular CPUs – default)
	2-3	– SMI (Cyrix or Intel SL-enhanced CPUs)
JP1, JP3, JP5	1-2	(factory default)

* IRQ15 is no longer available for the other devices when SMI is selected.

Table 2-1. Jumper Settings for CPU Selector

JUMPER	PIN DEFINITION	
J2	Display Type Select Open Short	Mono/EGA/VGA (default) Color
J3	External, Internal Battery Select 1-2 2-3	External battery Internal battery (default)
J4	Local IDE Select 1-2 2-3	Enable Disable
JP4	Local IDE 1-2 2-3	Default For VESA Local VGA Card installed at VESA slot 0 only
J5, J6	HDD Speed Select (PDC 20230 Only) IDE Type Speed 0 Speed 1 Speed 2	J5 J6 2-3 2-3 1-2 2-3 (default) 1-2 1-2
J7	Password Clear Short Open	Clear password (default)
J9	HDD_BALE Short Open	Enable Disable (default)
J10	HDD_IOCHRDY Short Open	Enable Disable (default)
J18	Short Open	Adaptec ISA Master 1542B/C SCSI card only (Transfer rate \geq 5.7MB/s) Default (Transfer rate $<$ 5.7MB/s)
JC7	80486SX/P23S/P4S/Cx486S PQFP Select Short Open	Disable Enable
JT1	P24T/P24CT Write-back/Write-through Select Short Open	Write-back Write-through

Table 2-2. Jumper Definitions



NOTE : Users are not encouraged to change the jumper settings not listed in this manual as they are considered factory defaults which may adversely affect system performance.

On-board I/O Jumper

JUMPER	FUNCTION	SETTINGS		DESCRIPTION
		JA	JB	
JA, JB	RS-232-I	1-2 Short	1-2 Short	Disable
		1-2 Short	2-3 Short	3E8
		2-3 Short	1-2 Short	3F8 (default)
		2-3 Short	2-3 Short	2E8
JC, JD	RS-232-II	JC	JD	
		1-2 Short	1-2 Short	Disable
		1-2 Short	2-3 Short	2E8
		2-3 Short	1-2 Short	2F8 (default)
JE, JF	LPT1	2-3 Short	2-3 Short	3E8
		JE	JF	
		1-2 Short	1-2 Short	Disable
		1-2 Short	2-3 Short	378 (default)
JG	IDE	2-3 Short	1-2 Short	278
		2-3 Short	2-3 Short	3BC
		2-3 Short		Enable (default)
		1-2 Short		Disable
JH	FDC	2-3 Short		Enable (default)
		1-2 Short		Disable
JI	LPT OE	Short		O/P Port (default)
		Open		Bi-directional

Table 2-3. On-board I/O Jumper Definition

CPU Clock Jumper JK1-JK4 (VT8225N)

CLK 2	JK1	JK2	JK3	JK4
50 MHz	2-3	1-2	2-3	2-3
40 MHz	1-2	1-2	2-3	1-2
33.3 MHz	2-3	2-3	1-2	1-2
25 MHz	2-3	1-2	2-3	1-2

*Table 2-4. CPU Clock Jumper Selection JK1-JK4 (VT8225N)***Connectors**

The connectors allow the mainboard to connect electronically with other parts of the system. Some connectors have two pins, others have four or five pins. Some malfunction problems encountered with your system may be caused by loose or improper connections. Ensure that all connections are in place and firmly attached.

CONNECTOR	PIN OUTS	SIGNAL NAME
J1 External Battery Connector	1 2, 3 4	Anode+ NC Cathode -
J8 HDD_LED Connector	1 2	VCC LED
CN2 Power Connector	1 2, 10, 11, 12 3 4 5, 6, 7, 8 9	Power good +5V +12V -12V Ground -5V
CN3 Keyboard Connector	1 2 3 4 5	Keyboard clock Keyboard_data NC Ground +5V

Table 2-5. Connector Pin Definitions (Continued)

CONNECTOR	PIN OUTS	SIGNAL NAME	
CN4 FDD Connector	2	Density selection	
	4, 6	NC	
	8	Index detection	
	10	Select motor A	
	12	Select drive A	
	14	Select drive B	
	16	Select motor B	
	18	Direction control	
	20	Step pulse	
	22	Write data	
	24	Write enable	
	26	Track 0	
	28	Write protect	
	30	Read data	
	32	Head select	
	34	Disk change	
	CN5 Game Port Connector	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33	Ground
1, 8, 9, 15		VCC	
2		D4	
3		D0	
4, 5, 12		Ground	
6		D1	
7		D5	
10		D6	
11		D2	
13		D3	
14		D7	
16		Not used	
CN7, CN8 Serial Port 1, 2 Connector		1	Data carrier detect
		2	Receive data
		3	Transmit data
		4	Data transmit ready
		5	Signal ground
	6	Ready to receive data	
	7	Request to send data	
	8	Clear to send	
	9	Ring indicator	

Table 2-5. Connector Pin Definitions (Continued)

Memory Subsystem

The 486-GIO-VT2 is equipped with the memory necessary for running all your applications. Memory comes in the form of DRAM (SIMMs) and cache SRAM. This chapter describes these two kinds of memory and gives instructions on how to install each kind on the mainboard.

Memory Locations

The board layout below shows the locations of the DRAM memory banks and the cache SRAM:

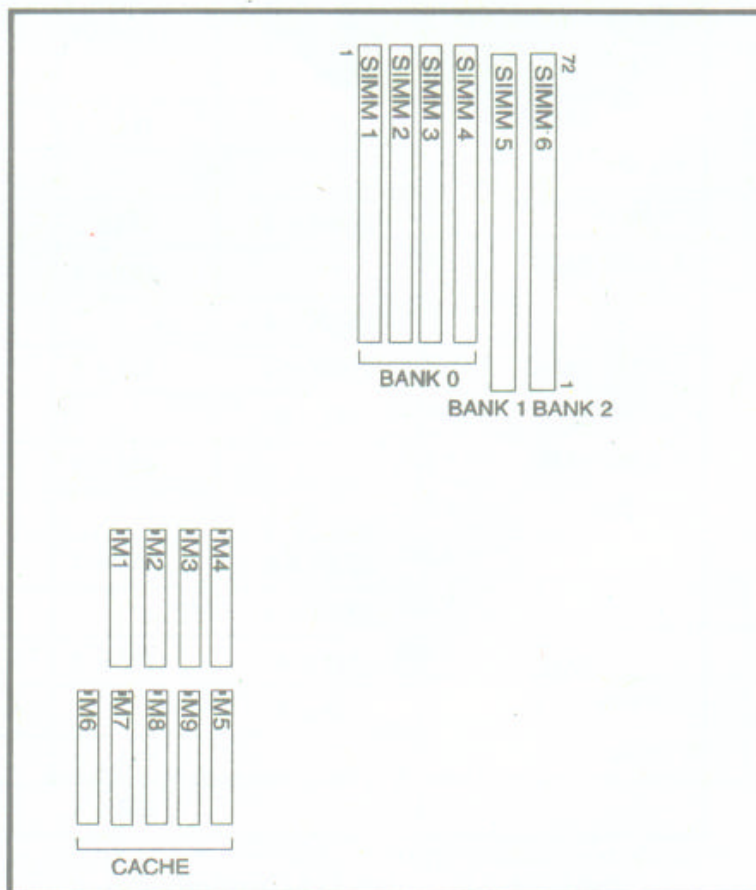


Figure 3-1. Cache and Memory Locations

Installing DRAM

SIMM Banks

The 486-GIO-VT2 can accommodate on-board memory from 1 to 96MB using SIMMs (Single-In-Line Memory Modules). The mainboard has three memory banks — Bank 0, 1, 2. Each bank can accept either a 256KB, 1MB, 4MB, or 16MB SIMM in each socket.

DRAM Configuration

Memory can be installed in a variety of configurations, as shown in the next table:

TOTAL MEMORY	BANK 0 (30-PIN)	BANK 1 (72-PIN)	BANK 2 (72-PIN)
1MB	256K x 4		
		1M x 1	
			1M x 1
2MB	256K x 4	1M x 1	
		1M x 1	1M x 1
	256K x 4		1M x 1
3MB	256K x 4	1M x 1	1M x 1
4MB	1M x 4		
		4M x 1	
			4M x 1
5MB	256K x 4	4M x 1	
	256K x 4		4M x 1
	1M x 4	1M x 1	
	1M x 4		1M x 1
		1M x 1	4M x 1
		4M x 1	1M x 1

Table 3 - 1 DRAM Configurations

TOTAL MEMORY	BANK 0 (30-PIN)	BANK 1 (72-PIN)	BANK 2 (72-PIN)
6MB	256K x 4	4M x 1	1M x 1
	256K x 4	1M x 1	4M x 1
	1M x 4	1M x 1	1M x 1
8MB	1M x 4	4M x 1	
	1M x 4		4M x 1
		4M x 1	4M x 1
9MB	256K x 4	4M x 1	4M x 1
	1M x 4	1M x 1	4M x 1
	1M x 4	4M x 1	1M x 1
12MB	1M x 4	4M x 1	4M x 1
16MB	4M x 4		
		16M x 1	
			16M x 1
17MB	256K x 4	16M x 1	
	256K x 4		16M x 1
		1M x 1	16M x 1
		16M x 1	1M x 1
	4M x 4	1M x 1	
	4M x 4		1M x 1
18MB	256K x 4	1M x 1	16M x 1
	256K x 4	16M x 1	1M x 1
	4M x 4	1M x 1	1M x 1
20MB	1M x 4	16M x 1	
	1M x 4		16M x 1
	4M x 4	4M x 1	
	4M x 4		4M x 1
		4M x 1	16M x 1
		16M x 1	4M x 1

Table 3-1. DRAM Configurations (Continued)