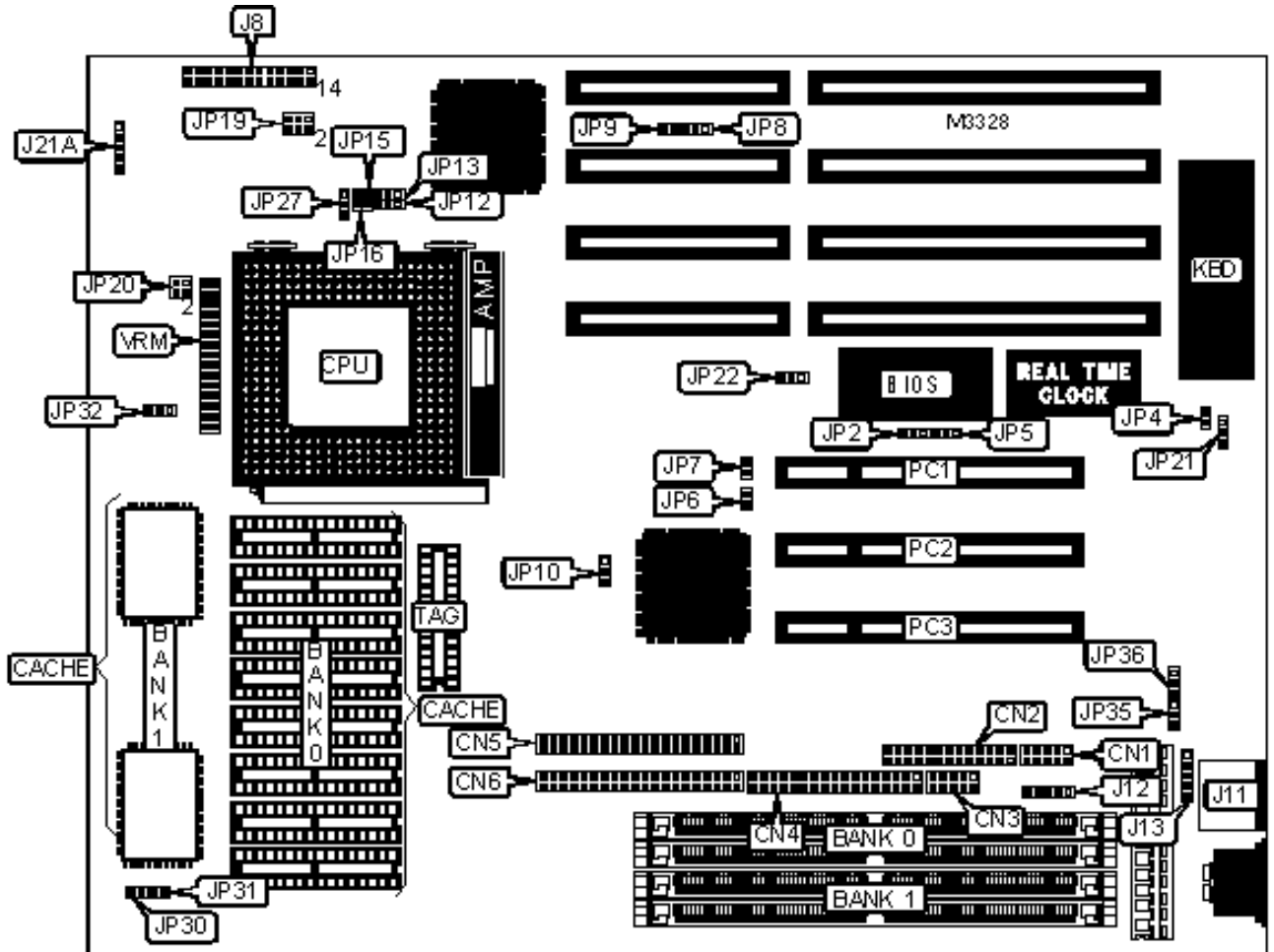


Biostar MB-8500TAC-A Ver.3

Features	Board	Jumpers	CPU	Connectors
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(fichiers #1, #2, #4: Ver.1→6, #3: Ver.3 mais en réalité infos >3, #5: Ver.3)



1) Features

CPU: Pentium class	- V3 or earlier: intel P54C/CT/CS/CQS, P55C - V4 or later: intel P54C/CT/CS/CQS, P55C, Cyrix 6x86, AMD 5k86
speeds	- V3 or earlier CPU: 75/90/100/120/133/150/166/180 MHz PCI bus: 25/30/33 MHz
	- V4 or later CPU: 66→200 MHz PCI bus: 25/27.5/30/33 MHz
	- all ISA bus: 8 MHz I/O clock
chipset	i82437FX Triton, i82371FB
DRAM memory	- 8→128Mb on board (72-pin 4/8/16/32 MB SIMM) - supports EDO & fast page
cache memory	- SRAM, 256 kB/512 kB, write back - supports asynchronous mix mode SRAM & synchronous pipeline burst SRAM
BUS slots	- 4x 16-bit ISA - 3x 32-bit PCI
ISA I/O on board	- 1x Multi-mode Parallel Port: standard & Bi-directional, Enhanced (EPP), Extended (ECP) - 2x Serial Port, 16550 UART - 1x Floppy Drives Interface supports 360 kB, 720 kB, 1.2 MB, 1.44 MB, 2.88 MB floppies - Optional IR Transmission - Optional PS/2 Mouse
PCI EIDE on board	- 2x IDE Interfaces support 4 IDE Hard Drives - Supports Mode 4 for High Performance HDs - Supports LBA Mode

dimensions	Baby-AT Size: 22 x 27.5 cm
BIOS	AMI Legal - Problem: original Bios can't detect large harddisks and doesn't support internal Zip-drive. - To update BIOS: 1) Turn off system 2) Put a disk with new BIOS named to AMIBOOT.ROM in drive A 3) Turn on system while pressing <Ctrl> & <Home> key 4) Release <Ctrl> & <Home> key after 3 seconds 5) System will update BIOS & re-boot
OS	MS/DOS, OS/2, Windows 3.x, Windows 95, Windows NT, Novell, UNIX, SCO UNIX

2) Board configuration

	Dual Voltage Design					I/O		I/R		Mouse	
	#1	#2	#3	#4	voltages	UMC	SMC	Yes	No	int	ext
Rev. 1	X				(2,5 / 3.5V)	X			X	X	X
Rev. 2	X				(2,5 / 3.5V)		X	X		X	
Rev. 3	X				(2,5 / 3.5V)		X	X		X	
Rev. 4		X			(2,5 / 3.5V)	X			X	X	X
Rev. 5			X		(2,5 / 3.5V)	X			X	X	X
Rev. 6				X	(2,8 / 3.5V)	X			X	X	X

DRAM CONFIGURATION									
Size (MB)	Bank 0 (2)	Bank 1 (2)	Size (MB)	Bank 0 (2)	Bank 1 (2)	Size (MB)	Bank 0 (2)	Bank 1 (2)	
8	1M x 36	-	40	1M x 36	4M x 36	68	512k x 36	8M x 36	
16	2M x 36	-	48	4M x 36	2M x 36	72	8M x 36	1M x 36	
16	1M x 36	1M x 36	48	2M x 36	4M x 36	72	1M x 36	8M x 36	
24	2M x 36	1M x 36	64	8M x 36	-	80	8M x 36	2M x 36	
24	1M x 36	2M x 36	64	4M x 36	4M x 36	80	2M x 36	8M x 36	
32	4M x 36	-	66	8M x 36	256k x 36	96	8M x 36	4M x 36	
32	2M x 36	2M x 36	66	256k x 36	8M x 36	96	4M x 36	8M x 36	
40	4M x 36	1M x 36	68	8M x 36	512k x 36	128	8M x 36	8M x 36	

CACHE CONFIGURATION						
Size	Bank 0 (8)	Bank 1 (2)	TAG size (1)	TAG type	JP10	Cacheable
0	-	-	-	-	open	zero MB
256KB (Synchronous)	-	32k x 32	8k x 8	Std/ASTER	open	64MB
256KB (Asynchronous)	32k x 8	-	8/16/32k x 8	Std/ASTER	open	64MB
512KB (Synchronous)	-	64k x 32	16/32k x 8	ASTER	2-3	64MB
512KB (Asynchronous)	64k x 8	-	16/32k x 8	Std	1-2	64MB

3) Jumpers

JP4: CMOS memory	
Open (default)	normal operation
Closed	clear CMOS memory

Procedure:

1. Power off
2. Close JP4
3. Power on
4. Power off after memory count finished
5. Open JP4
6. Power on

JP6 / JP7 voir CPU: bus clock
 JP15 / JP16 voir CPU: multiplier

JP5: Flash BIOS Voltage Select	
1-2	5V type Flash Memory used
2-3	12V type Flash Memory used
Open	EPROM used

JP8: Secondary IDE IRQ select	
1-2	IRQ 15
2-3	IRQ through PCI (default)

JP9: Primary IDE IRQ select	
Open	IRQ 14 disabled
Closed	IRQ 14 enabled (default)

Caution: CDROM-Boot
 only works with default setting

JP10: voir cache configuration.

ISA clock divisor:

Ver.1/2/3	JP21	Ver.4/5/6	JP21
50 MHz	1-2	50 MHz	1-2
60 MHz	2-3	55 MHz	1-2 (Cyrix) 2-3 (AMD)
66 MHz	2-3	60 MHz	2-3
		66 MHz	2-3

ISA bus frequency:

PCI bus	/3	/4
25 MHz	8.33 MHz	6.25 MHz
27.5 MHz	9.17 MHz	6.87 MHz
30 MHz	10.0 MHz	7.50 MHz
33 MHz	11.1 MHz	8.33 MHz

Attention: Warning Sandra_2003: ISA/DMA bus speed is too high: Multiplier x1/3, Speed 11MHz

→ apparemment JP21 ne fonctionne pas.

JP20/23/24: voir CPU type selection

JP27: voir CPU voltage selection.

Engineer Test Pins (leave to default):

JP22	2-3 Closed (default)
JP30 (Ver.4/5/6)	1-2 Closed (default)

COM 2/4 Operation Selection (SMC I/O only):

Setting	JP35	JP36
Used as COM 2/4 serial port	1-2	1-2
Used as IR connector (with SMC 665IR)	2-3	2-3

The setting is fixed on non-SMC boards.

4) CPU

- V3 or earlier	PCI bus: 25/30/33 MHz
- V4 or later	PCI bus: 25/27.5/30/33 MHz

Bus clock:

Ver.1/2/3	Ver.4/5/6	JP6	JP7
50 MHz	50 MHz	Open	Open
60 MHz	55 MHz	Open	Closed
66 MHz	60 MHz	Closed	Closed
	66 MHz	Closed	Open

Multiplier: (attention: erreur d'inversion JP15/JP16 dans le fichier #5)

JP15	JP16	Multiplier	Remarks
Open	Open	x 1.5	x4.0 for IDT C6/W2 (x3.5 for IDT W2A)
Open	Closed	x 2.0	x1.0 for AMD K5 (ici ? #1)
Closed	Closed	x 2.5	x1.0 for AMD K5 (ou là ? #3)
Closed	Open	x 3.0	

CPU settings table:

intel		AMD (Ver.4 and above)		Cyrix (V4 and above)		IDT (Ver.4 and above)	
iP 75	50 MHz x 1.5	K5 P-75	66 = 66 MHz x 1.0	6x86 P-120	50 x 2.0	C6/W2 200	66 x 3.0
iP 90	60 MHz x 1.5	K5 P-75	75 = 50 MHz x 1.5	6x86 P-133	55 x 2.0	C6/W2 240	60 x 4.0 *
iP 100	66 MHz x 1.5	K5 P-90	83 = 55 MHz x 1.5	6x86 P-150	60 x 2.0	W2A 200	66 x 3.0
iP 120	60 MHz x 2.0	K5 P-90	90 = 60 MHz x 1.5	6x86 P-166	66 x 2.0	W2A 233	66 x 3.5 *
iP 133	66 MHz x 2.0	K5 P100	100 = 66 MHz x 1.5				
iP 150	60 MHz x 2.5						
iP 166	66 MHz x 2.5						
iP 180	60 MHz x 3.0						
iP 200	66 MHz x 3.0						

CPU type selection:

Type	Ver.1/2/3		Ver.4/5/6		V(core)	V(I/O)
	JP20	JP20	JP23	JP24		
intel P54C/CS/CQS/CT Cyrix 6x86 AMD 5k86	1-2, 3-4 Closed	Open	1-2, 4-5 Closed	2-3, 4-5, 7-8, 9-10 Closed	Std/VRE	Std/VRE
intel P55C/CT (Remark #3: this setting is useless !!)	Open	Closed	2-3, 5-6 Closed	1-2, 3-4, 6-7, 8-9 Closed	2,5V	Std/VRE

JP27: CPU Voltage selection:

Ver.1/2/3	Ver.4/5/6	Voltage	Remark:
1-2 Closed	Closed	3,4V (Std)	SINGLE VOLTAGE FOR VR. STANDARD SPECIFICATION
2-3 Closed	Open	3,5V (VRE)	SINGLE VOLTAGE FOR VRE. SPECIFICATION

VOLTAGE SPECIFICATION SUMMARY:

intel CPU	Standard Spec.	3.135V - 3.365V
	VR. Spec.	3.300V - 3.465V
	VRE. Spec.	3.450V - 3.600V

a) status Biostar: (selon #4)

- Biostar states that Ver 1-3 support only intel CPUs.
- Ver. 4 and 5 offer split voltage support, but the Core-Voltage of 2.5V is useless. Do not try to use any 2.2V/2.4V AMD K6-2/III in this board, because you've heard that they will work with 2.5V also. The power plane is far too weak to feed the needs of such a CPU. The dual voltage design is also useless to any other AMD and Cyrix/IBM CPUs.
- Ver. 6 changed the core-voltage to 2.8V and may support MMX-CPU's. Due to spec changes from intel for the MMX-CPU's, this might not work, but you have a good chance. I never tried it so far, due to lack of such a CPU.

b) what CPUs do actually work? (selon #4)

- native intel Pentium up 200MHz should work on all boards, even on the older ones. However, watch the temperature of the voltage regulators if you install any fast intel, Cyrix or AMD-CPU.
- Pentium Overdrives will work, but you may need the latest Bios Update.
- the AMD-K5 and Cyrix 6x86 should work on all boards, maybe at reduced speed.
- the AMD K6/-2/III and Cyrix CPU's (6x86L, 6x86MX, MII) will not work, because they need either a different core voltage or the power plane is too weak or both. → confirmation #3 .
- all IDT-CPU's should work on all revisions. Avoid all versions which need speeds faster than 66MHz (for example the 225 MHz versions), because the board will not provide more than 66MHz.
- using an adapter socket *should* make nearly every CPU work.

c) compatibility list (selon #2) → [compatible avec 4b](#)

Ver.1/2/3	- intel Pentium 75, 90, 100, 120, 133, 150, 166, 180, 200 MHz
Ver.4/5/6	- intel Pentium 75, 90, 100, 120, 133, 150, 166, 180, 200 MHz - AMD: PR-75 66 MHz, PR-75 75MHz, PR-90 83MHz, PR-90 90MHz - Cyrix / IBM: 6x86 P-120 ⁺ , 6x86 P-133 ⁺ , 6x86 P-150 ⁺ , 6x86 P-166 ⁺

CAUTION:

ALL VERSIONS OF MB-8500TAC (ver.1 to ver.6) ARE NOT COMPATIBLE WITH ANY FORM OF MMX CPU.

5) Connectors

CN1	serial port 1
CN2	parallel port
CN3	serial port 2
CN4	floppy drive interface
CN5	IDE interface 2
CN6	IDE interface 1

J11	PS/2 mouse port
PC1	32-bit PCI slot 1
PC2	32-bit PCI slot 2
PC3	32-bit PCI slot 3
VRM	VRM connector

J8			
Assignment	Pin No	Pin No	Assignment
Speaker	1	14	NC
NC	2	15	NC
Ground	3	16	NC
Vcc	4	17	Green Control
Power LED+	5	18	Ground
NC	6	19	NC
Ground	7	20	HDD LED-
Key Lock	8	21	HDD LED+
Ground	9	22	NC
Turbo LED-	10	23	Turbo Control
Turbo LED+	11	24	Ground
Reset Control	12	25	Vcc
Ground	13	26	Ground

	JP19	J12, J12A	J13
Pin No	Fan Connector	IR Connector	PS/2 Mouse
1	Ground	IRRX	MS_DATA
2	Ground	Ground	NC
3	+12 V	IRTX	Ground
4	+12 V	NC	Vcc
5	Ground	Vcc	MS_CLK
6	Ground	N/A	N/A