M300-30 / M300-30/P

CHARACTERISTICS

Microprocessor	INTEL 486 SX M300-30 INTEL 486 DX2 M300-30/P
Clock	25 MHz
Architecture	AT
Memory	From 4 MB to 36 MB on the motherboard Bank 0 4 MB, 1MB x 4 bit chips soldered Bank 1 Four sockets that can 　　　　　accomodate the following SIMMs 　　　　　1 M x 9 **EXM 27-820** (2 MB) 　　　　　4 M x 9 **EXM 27-821** (8 MB) Bank 2 Same as bank 1 **NOTE:** Two memory kits are always needed to expand memory (4 SIMMs)
Video memory	1 MB - Eight DRAM 256x4 - 70 ns chips
Memory access	80 ns
Coprocessor for M300-30 only	25 MHz INTEL 487 SX Overdrive Coprocessor
Floppy DIsk	1.2 MB 5.25" Panasonic JU 475-3-4-5 1.2 MB 5.25" Toshiba ND 08 DE 1.44 MB 3.5" Panasonic JU-257 1.44 MB 3.5" Sony MP-F17 / MITSUMI D359T3 1.44 MB Mitsubishi MF355C 1.44 MB YE DATA YD-702B / 702D 2.88 MB Sony MP-F40W
Hard Disk	40 MB QUANTUM Pioneer ELS42 AT 85 MB W.D. Caviar 280 85 MB CONNER CP30084E 85 MB QUANTUM Pioneer ELS85 AT 120 MB QUANTUM Pioneer ELS127 AT 170 MB CONNER CP30174E 170 MB QUANTUM Pioneer ELS170 AT 170 MB W.D. AC1170 210 MB QUANTUM LPS240 AT 210 MB CONNER CP30256 / CP30204 240 MB W.D. AC2250-14F 240 MB CONNER CP30254 340 MB CONNER CP3304 / CP3364 340 MB W.D. AC2340 510 MB CONNER CP3504 / CP3544 510 MB CONNER CP30544
Streaming Tape	80/120 MB IRWIN 287 with floppy interface 150 MB Wangtek with SCSI interface - This Streaming Tape drive requires the SCSI ASC1/A controller
Slots	Four 16-bit connectors on the expansion bus
Video controller	Integrated Super VGA WD90C31
Integrated HDU and FDU controller	Floppy disk controller: 87312 HDU interface: MSI buffer and logic gates
Mouse	PS/2- and AT-compatible
Keyboard	101/102-key ANK 26-101, ANK 26-102

MOTHERBOARD

BA356:	M300-30
BA366:	M300-30
BA2018:	M300-30 with on-socket CPU
BA2008:	M300-30/P
BA2025:	M300-30 no Flash EPROM
BA2030	M300-30 4-layer P.C.
BA2031	M300-30/P 4-layer P.C.

BIOS

The ROM BIOS is a FLASH EPROM. It is provided on diskettes and must be copied into Flash EPROM.

Latest level: 2.01

Board BA 2025 has an EPROM instead of a FLASH EPROM

EXPANSION BUS

IN 138

IN 2000

POWER SUPPLY

PS11 R 220 V
PS11 R 115 V

PS11 AR 220V
PS11 AR 110V

36

MOTHERBOARD

	LEVEL	D.R.S. CODE	ROM BIOS	NOTES
BA356	Nasc.	553094 N	The ROM BIOS is a FLASH EPROM. The BIOS code is supplied on diskettes and must be copied into Flash EPROM. Rev. 1.03	M300-30 system board with 4 MB of soldered memory To see what components are on this board, refer to the table listing the integrated controllers. This board is replaced by BA 366 which offers the same functions in addition to recuperating the PCB trimmings of the previous board.
	Lev. 01 MI		Rev. 1.03	PAL ESBB at location U530 is replaced by PAL GKDS. This PAL manages the keyboard controller.
	Lev. 01 SI		Rev. 1.03	**This board is no longer being produced. All modifications will be made at field level only and the level of the board's documentation will only change.**
BA366	Nasc.		Rev. 1.03	Replaces BA 356 but maintains the same components and functions
	Lev. 01		Rev. 1.04	- The keyboard controller socket is removed since this controller is soldered directly to the system board. - Mask C of component WD90C31 is replaced by Mask F. Consequently a 100 Ohm resistor R77 must be replaced with a 0 Ohm resistor R67. - PAL ESBB at location U530 is replaced by PAL GKDS. This PAL manages the keyboard controller.
	Lev. 02			Corrects the malfunction of the parallel port on the TAPEEXCHANGE Interpreter external back-up drive.
	Lev. 03			The keyboard and mouse connectors have been replaced with shielded connectors
	Lev. 04			- A 100 pF capacitor has been introduced on the MA (1) signal between pin RP13 and pin 1 of R102. This solves the problem of having a Parity Error signalled when using FUJITSU MB814400A-70 dynamic memory chips. - The 87312 component is used as an alternative to the Super I/O 87311 component. - The Flash EPROM socket has been removed to to cut costs. This component will be soldered directly on the system board.
	Lev. 05			Component 87312 is introduced as an alternative to Super I/O component 87311. The S.R.s are updated to Rev. 1.06.

	LEVEL	D.R.S. CODE	ROM BIOS	NOTES
BA2018	Nasc. Lev. 01 Lev. 02			Motherboard with the CPU installed in the coprocessor socket. - The 87312 component is used as an alternative to the Super I/O 87311 component. - To cut costs, the Flash EPROM socket has been removed. This component will be soldered directly on the system board. A 100 pF capacitor has been introduced on the MA (1) signal between pin RP13 and pin 1 of R102. This solves the problem of having a Parity Error signalled when using FUJITSU MB814400A-70 dynamic memory chips.
BA2008	Nasc. Lev. 01 Lev. 02 Lev. 03 Lev. 04			M300-30/P motherboard with the i486 DX2 CPU installed in the coprocessor socket. Corrects the fault of the parallel port on the TAPEEXCHANGE Interpreter external back-up drive. - The 87312 component is used as an alternative to the Super I/O 87311 component. - To cut costs, the Flash EPROM socket has been removed. This component will be soldered directly on the system board. A 100 pF capacitor has been introduced on the MA (1) signal between pin RP13 and pin 1 of R102. This solves the problem of having a Parity Error signalled when using FUJITSU MB814400A-70 dynamic memory chips.
BA2025	Nasc.		Rev. 1.04	Motherboard with an EPROM instead of a FLASH EPROM
BA2030	Nasc.	588093 R		New 4-layer printed circuit board replacing the BA366.
BA2031	Nasc.	588094 J		New 4-layer printed circuit board replacing the BA2008.

36

MOTHERBOARD INTEGRATED CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS

BA 356
BA 366
	CPU In QFP package (soldered on the system board)
	i486 SX CPU 25 MHz microprocessor
	Socket for the **i487SX** coprocessor or the **i486 DX2** Overdrive Processor
	VL82C486 This component integrates the following functions:
	        - DMA controller
	        - Memory controller
	        - Interrupt controller
	        - Timer
	        - Clock generator
	        - System bus controller
	8042 Keyboard and mouse controller
	87312 This controller integrates the following functions:
	        - Floppy disk controller
	        - Interface for two serial ports
	        - Parallel port interface
	        - intelligent hard disk interface
	WD90C31 Super VGA video controller
	ICD2023 Programmable clock generator
	MCCS14681 This component implements the following functions:
	        - 128 byte non-volatile RAM with back-up battery
	        - Real Time Clock
	BIOS Flash Eprom
	EYE Allows tests to be run on the video subsystem

BA 2018	This BA has the following differences with respect to the previous two versions: - CPU In PGA package and installed in the numeric coprocessor socket. To install the coprocessor the CPU must be removed - Jumper J28 to configure the system coprocessor.
BA 2008	This BA is used on the M300-30/P personal computer and differs from the BA 356 and BA 366 in that it configures an i486 DX2 CPU instead of an i486SX CPU. The i486 DX2 CPU is installed in the coprocessor socket. The i486 DX2 CPU has an integrated coprocessor.
BA 2025	This BA does not have a Flash EPROM but a normal EPROM. As far as everything else is concerned it is identical to BA 356 and BA 366.
BA 2030	4-layer system board replacing BA366 and BA356. This board has the J35 jumper which is used to change the Super I/O basic address. - 25 MHz i486 SX CPU in QFP package (soldered on the system board) - Socket for the i487 SX math coprocessor or the i486 DX2 OverDrive Processor - Flash EPROM
BA 2031	4-layer system board replacing the BA2008 on the M300-30/P. This board has the J35 jumper which is used to change the Super I/O basic address. - i486 DX2 CPU installed in the coprocessor socket. - The i486 DX2 CPU already has an integrated coprocessor. - Flash EPROM

BOARDS

FUNCTION	DESCRIPTION	D.R.S. CODE	CHARACTERISTICS
CPU system board	BA356	553094 N	4 MB for the M300-30
	BA366		4 MB for the M300-30
	BA2018		On-socket CPU
	BA2008	557934 Q	For the M300-30/P
	BA2025		Without Flash EPROM
	BA2030	588093 R	4-layer P.C. for M300-30
	BA2031	588094 J	4-layer P.C. for M300-30/P
PS11 R power supply	220 V	553028 T	
PS11 AR power supply	220 V		
PS11 R power supply	115 V	553027 J	
Bus adapter board	IN138	553333 Z	
Bus adapter board	IN2000	553667 G	

BUS EXPANSION BOARD

NAME	LEVEL	NOTES
IN 138	Nasc.	
IN 2000	Nasc	Replaces the previous board.
	Lev. 01	Seven 200 Ohm 100 pF terminators have been added to correct the incompatibility with the NCU 9143/S and 9141-II boards

OLIVETTI USER PROGRAM
This program resides in the hard disk's system regions.

LEVEL	NOTES
Rel. 1.00.	
Rel. 1.01	The readme utility is not available.
Rel. 1.04	The test on the CPU recognizes the Overdrive Processor, and the management of the keyboard lock feature is improved.
Rev. 1.05	In this release: - The CPU test recognizes and also tests the i486 DX2 processor - The readme test has been modified. - The logo has been modified. - The mouse test has been added - The possibility of configuring high capacity hard disks has been added - The setup.msg and setup.hlp files have been modified. - The serial port test has been modified. - Four serial ports are recognized during the serial port test. - IThe floppy disk drive test has been modified.
Rev. 1.06	Alignment with BIOS 2.00. This release was never used.
Rev. 1.07	Alignment with BIOS 2.00. - Configuration of high capacity hard disks - The CPU test recognizes the 80486 DX2 microprocessor. Tests run on the four serial and parallel ports - New 16 and 256 color 800 x 600 video modes.

OEM USER PROGRAM

This program resides in the hard disk's system region and is used on OEM M300-30 personal computers.

LEVEL	NOTES
Rel. 1.01	The readme utility is not available.
Rel. 1.02	The test on the CPU recognizes the Overdrive Processor, and the management of the keyboard lock feature is improved.
Rev. 1.03	In this release: - The CPU test recognizes and tests the i486 DX2 processor. - The Readme test has been modified. - The logo has been modified. - The mouse test has been added. - The possibility of configuring high capacity hard disks has been added. - The setup.msg and setup.hlp files have been modified. - The serial port test has been modified. - Four serial ports are recognized during the serial port test. - The floppy disk drive test has been modified.
Rev. 1.04	Alignment with BIOS 2.00. This release was never used.
Rev. 1.05	Alignment with BIOS 2.00. - Configuration of high capacity hard disks - The CPU test recognizes the 80486 DX2 microprocessor. Tests run on the four serial and parallel ports - New 16 and 256 color 800 x 600 video modes.

SYSTEM TEST

LEVEL	NOTES
Rel. 1.00	In this release there is no test run on the cache of the cpu_dia module and the readme file is missing.
Rel. 1.01	
Rev. 1.02	The setup utility and the tests on the hard disk, keyboard and EYE component have been modified.

Rev. 1.03	In this release:
	- The CPU recognizes and tests the Overdrive Processor.
	- The Setup utility has been modified.
	- Hard disk tests have been added.
	- The Readme file has been added.
	- The following two subtests have been added to the memory test:
	   a) MEMORY STRESS
	   b) TASK SWITCHING WARNING

Rev. 1.04	In this release: - The CPU test recognizes and also tests the i486 DX2 processor. - The Readme text has been modified. - The logo has been modified. - The mouse test has been added. - The possibility of configuring high capacity hard disks has been added - The setup.msg and setup.hlp files have been modified. - The serial port test has been modified. - Four serial ports are recognized during the serial port test. - The floppy disk drive test has been modified.
Lev. 1.06	In this release: - The logotype has been changed. - The test on the serial ports has been optimized. - The possibility of configuring high capacity hard disks has been added - The possibility of also entering a password using AZERTY keyboards has been added.

36

SYSTEM REGION SET UP

LEVEL	NOTE
Rel. 1.01	This System Region SETUP release allows the User Disk to be installed automatically in the hard disk system regions. It works with MS-DOS 5.0 only and with BIOS rel. 1.02 or later. This release has the following faults: - The help facility of the Copy User Disk utility is missing. - The Readme, Lastinfo and Tecinfo files are missing. - The power on password does not give access to the system regions. - The hard disk tests are run only in the system region partition. - The Parking Heads utility is not available.
Rev. 1.02	This System Region SETUP revision allows the User Disk to be installed automatically in the hard disk system regions. The SETUP utility has been modified. This release has the following faults: - The hard disk tests work only if launched from the system region. - The Parking Heads utility is not available
Rev. 1.03	This System Region SETUP revision allows the User Disk to be installed automatically in the hard disk system regions. - The CPU tests and the Cpu_dia.msg file has been modified. - The Setup utility has been modified. - Hard disk tests have been added. The Parking Heads utility is not available.
Rev. 1.04	This System Region SETUP revision allows the User Disk to be installed automatically in the hard disk system regions. - The CPU test recognizes the Overdrive Processor. - The Refresh Detect subtest has been modified. The Parking Heads utility is not available.
Rev. 1.05	This System Region SETUP revision allows the User Disk to be installed automatically in the hard disk system regions. This version contains the following new diagnostic tests: - Configuration of high capacity hard disks. - Test on the 80486 DX2 microprocessor. - Test on the four serial and parallel ports. - New 16 and 256 color 800 x 600 video modes.
Rev. 1.06	This System Region SETUP version allows the User Disk to be installed automatically in the hard disk system regions. This new version solves the problems with the tests on the serial port caused by the new 87312 component which is used as an alternative to the 87311 component.

POWER SUPPLY UNITS

POWER SUPPLY	LEVEL	DESCRIPTION
PS11 R 110 V	Lev. 01	Manufactured by ASTEC - Due to production problems, this power supply was never manufactured at NASC level.
PS11 R 220 V	Nasc	Manufactured by ASTEC.
	Lev. 01	To improve the manufacturing process, a capacitor has been added and a resistance replaced.
	Lev. 02	- Addition of an L5 inductor near the mains input area to improve the margins over EMI radiofrequency noise. - New printed circuit board to solve the problems caused by random voltage drops.
PS11 R 110 V	Nasc	Manufactured by HANTAREX.
PS11 R 220 V	Nasc	Manufactured by HANTAREX.
PS11 AR 220 V	Lev. 01	Manufactured by ASTEC - Due to production problems, this power supply was never manufactured at NASC level.
	Lev. 02	The J103 jumper has been replaced with a 10 Ohm resistance. This solves the problem with the ripple not complying with the specifications during minimum load conditions on the +5 V line.
PS11 AR 110 V		The evolution of this power supply is the same as the 220 V model.
PS11 AR 110 V	Nasc	Manufactured by MAGNETEK.
PS11 AR 220 V	Nasc	Manufactured by MAGNETEK.

36

COMPATIBILITY NOTES

BOARD OR HW/SW DEVICE	DESCRIPTION
Streaming Tape USER DISKETTE Rev. 1.02 provided in the STU 26-082/A Kit	This release makes it possible to install a streaming tape drive on an M400-10 with system board BA 301 capable of managing a 2.88 MB floppy disk drive.
Streaming Tape USER DISKETTE Rev. 1.03 Ver. 1 provided in the STU 26-082/A Kit	Version 1.02 of this User Diskette was entering into conflict with the second floppy disk drive. This problem was corrected with ver. 1.03.
Bus expansion board	Board IN138 is replaced by IN 2000.
85 MB and 170 MB CONNER and 85 MB W.D. hard disks	The 85 MB and 170 MB CONNER hard disks are not compatible with the Western Digital 85 MB hard disks.

SOFTWARE DRIVERS

DRIVER	NOTES
EVD 1.01 EVD 1.03 upd 1.0 EVD 1.04	Solves the problems of the previous release.

BIOS

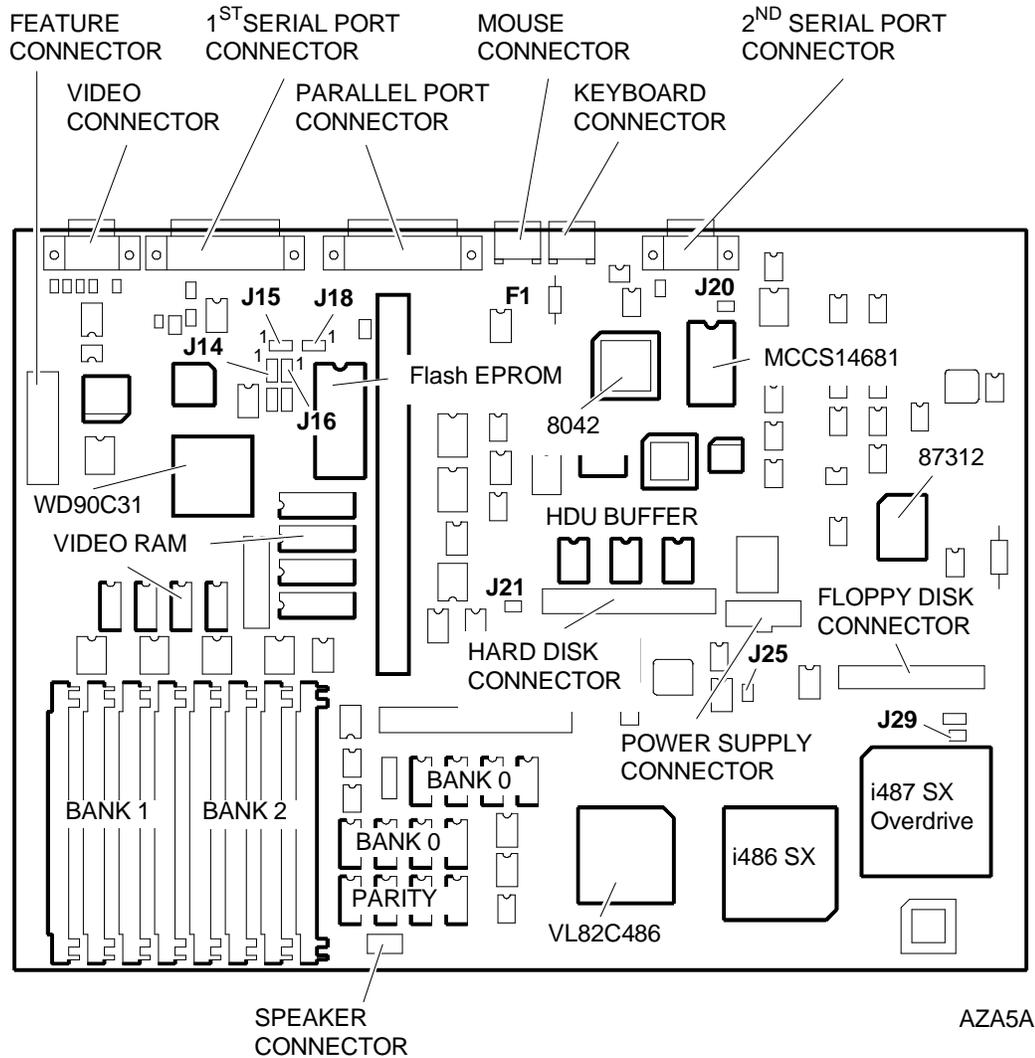| LEVEL	NOTES
Rev 1.02	

Rev 1.03	A new entry in the Jump Table allows the User Disk to read the Setup utility's security facility.
	The following modifications are made:
	- Solved the following: - Serial board on an external board
	        - Quick Lock with Windows
	        - Hidden Partition and Network Server Mode
	        - Password lock during POD
	        - Quick Lock in DOS after a key is pressed.
	- Modified the management of cache and RAM disable on system board.

Rev. 1.04	This release is issued to implement a series of modifications made necessary in order to use the dual speed i486 DX2 processor on the M300-30/P. The following modifications are made: - The interrupt controller test was modified so that it no longer depends on system speed. - CPU recognition was modified by the addition of a check on the free KBC input buffer before system shutdown.
Rev. 2.00	For the M300-30/P. Solves also the problems with the new 800 x 600 video modes in the Windows environment.
Rev. 2.01	This version solves the following problems: - Installation of Windows NT with an 80486 DX2 processor - Norway keyboard - Monitor recognition (being either a high or low resolution monitor) in the OS/2 environment.

SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	NOTES
IBM DISK Operating System, Ver. 3.30 MS-DOS (Compaq) IBM DISK Operating System, Ver. 4.01 MS-DOS Release 5.0 OS/2 Release 2.0 OS/2 Release 1.3 SE IBM Operating System/2, Ver. 1.10 and 1.20 IBM Operating System/2 Extended Edition, Ver. 1.10 and 1.20 INTERACTIVE 386/ix, Ver. 2.02 SCO UNIX System V/386, Rev. 3.2.4 SCO XENIX 386, Rev. 2.3	An unformatted DSDD disk is required during installation on hard disk. PS/2 mouse is not recognized. PS/2 mouse is not recognized.
WINDOWS	
GEM/3 Desktop, IBM-PC Ver. 3.02 MS-WINDOWS /286 Ver. 2.11	MS-WINDOWS /386 Ver. 2.11 MS-WINDOWS 3 Ver. 3.0

36

HARDWARE COMPATIBILITY

MODEMS	I/O INTERFACE PRODUCTS
Hayes Smart modem 2400B FAXY PC MAXTER FURY 2400 PC MODEM AT&T 2224 CEO MODEM FURY 2400 MAXTER MODEM FURY 2400 TI/MNP Hayes Smart modem 1200 B	IBM PRINTER ADAPTER (1505200) STB 4-ON THE FLOOR
MULTIPORT	**MOUSE**
CHASE AT8 COMPUTONE AT 8 COMPUTONE AT 16 INTEL Bell ICC.6 SPECIALIX SI / 8	IBM PS/2 Mouse (6450350) IBM PS/2 Mouse Serial Logitech Bus Mouse (PF-3F) Logitech 3 button mouse MS-BUS mouse MS-MOUSE serial
GRAPHICS PRODUCTS	**NETWORKING & LAN PRODUCTS**
AST VGA plus FASTWRITE 1024i FASTWRITE VGA HERCULES GRAPHICS CARD IBM VGA Adapter MATROX PG - 1281 MAXON MVGA-16 Adapter ORCHID PRODESIGNER VGA PLUS HERCULES INCOLOR CARD (GB222) PARADISE VGA PRO CARD	10 NET INTERFACE BOARD 200 series 3COM Etherlink adapter 3C501 3COM Etherlink II adapter 3C503 3COM Etherlink plus adapter 3C505 3COM Etherlink plus adapter 3C505 DECNET PCSA adapter IBM PC NETWORK adapter II IBM TOKEN RING 16/4 adapter IBM TOKEN RING adapter II MADGE AT RING NODE adapter MICOM NP1000 adapter NOVELL NE1000 adapter NOVELL NE2000 adapter
DISPLAY UNITS	
IBM enhanced graphics monitor 5151 IBM color graphics monitor 5153 IBM PS/2 Monochrome display 8503 IBM PS/2 color display 8512 IBM PS/2 color display 8513 IBM PS/2 color display 8514 NEC MULTISYNC II	NEC MULTISYNC 2A NEC MULTISYNC 3D NEC MULTISYNC 4D NEC MULTISYNC 5D PHILIPS 7BM749 PHILIPS 9CM082

BA356 - BA366 - BA2025 MOTHERBOARD COMPONENTS AND JUMPERS

FEATURE CONNECTOR 1ST SERIAL PORT CONNECTOR   MOUSE CONNECTOR 2ND SERIAL PORT CONNECTOR

VIDEO CONNECTOR   PARALLEL PORT CONNECTOR   KEYBOARD CONNECTOR

J15   J18   F1   J20

J14   MCCS14681

Flash EPROM

J16   8042   87312

WD90C31   HDU BUFFER

VIDEO RAM   J21   FLOPPY DISK CONNECTOR

HARD DISK CONNECTOR   J25

BANK 0   J29

BANK 1   BANK 2   POWER SUPPLY CONNECTOR

BANK 0   i487 SX Overdrive

PARITY   i486 SX

VL82C486

SPEAKER CONNECTOR   AZA5A

36

JUMPER J25

| Jumper installed | Soldered CPU disabled |
| Jumper not installed | Soldered CPU enabled * |

JUMPER J29
Not used

JUMPER J15 - System bootstrap from the 25-pin serial port.
Position 2 - 3 *   System bootstrap from the serial port.
Position 1 - 2   The system is not bootstrapped from the serial port.
The Power On Diagnostics check the position of this jumper; if it is set in position 2-3, the following message is displayed: *Serial Port 0 Security Enabled*.

JUMPER J18 - System bootstrap from the 9-pin serial port.
Position 2 - 3 *   System bootstrap from the serial port.
Position 1 - 2   The system is not bootstrapped from the serial port.
The Power On Diagnostics check the position of this jumper; if it is set in position 2-3, the following message is displayed: *Serial Port 0 Security Enabled*.

JUMPER J14 - BUILT-IN SETUP program

Position 1 - 2   The User program that resides in the hidden partitions of the hard disk and allows the system to be configured, is not run. If system configuration changes, the only way to reconfigure the system is to use the System Test. If this security feature is enabled, the following message will be displayed at the end of the POD: *POD Warning*.

Position 2 - 3 *   If system configuration has changed, the POD will automatically run the User program that allows the system to be reconfigured.

JUMPER J16 - Writing to floppy disk drives.

Position 2 - 3   Write operations to floppy disk drives are disabled.

Position 1 - 2 *   Write operations to floppy disk drives are enabled..

This feature can also be extended to streaming tape drives with floppy disk interface.

JUMPER J21

Jumper not installed   Two hard disk drives are installed.

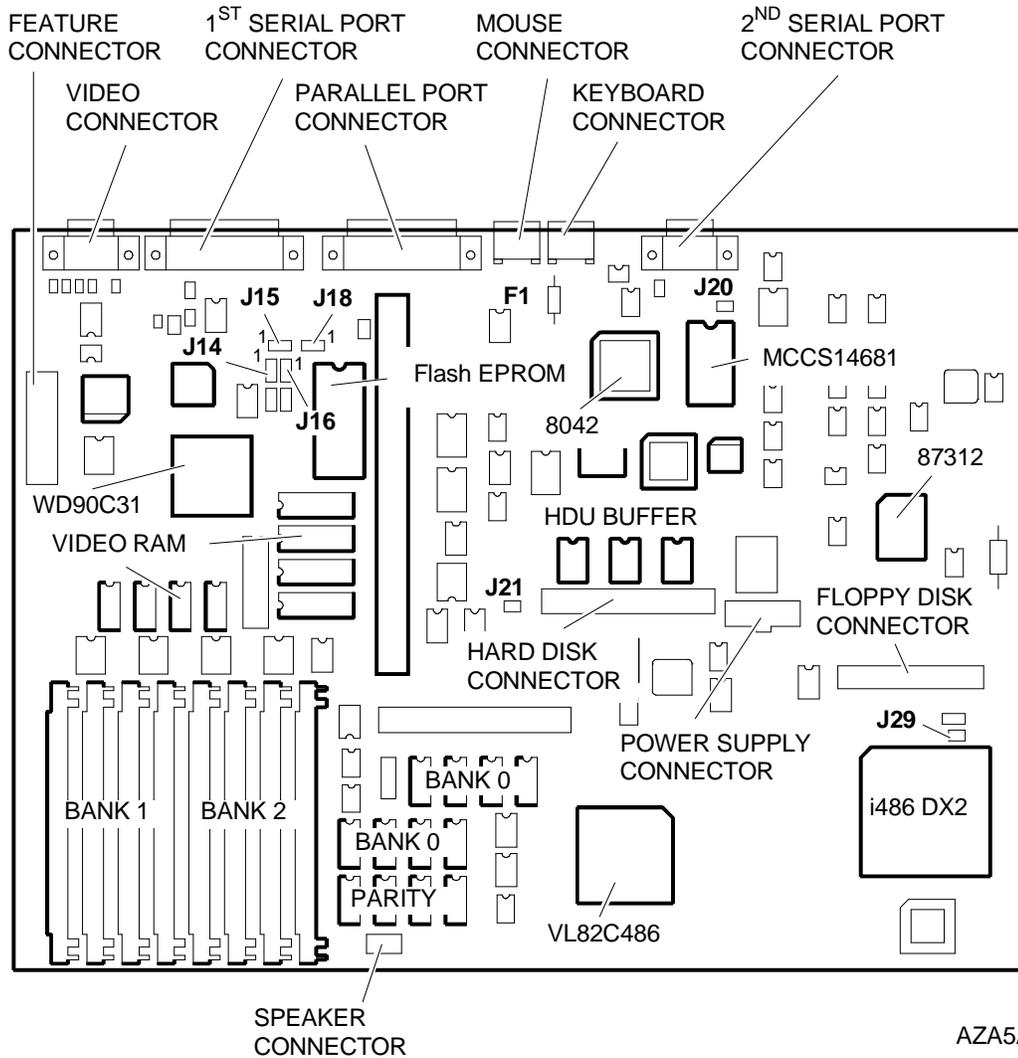Jumper installed   Only one hard disk drive is installed*

JUMPER J20

To erase the CMOS, short circuit these two solder points.

* Indicates the default setting.

NOTE: BA2025 uses a normal EPROM rather than a Flash EPROM.

BA2008 MOTHERBOARD For M300-30/P COMPONENTS AND JUMPERS

FEATURE CONNECTOR
1ST SERIAL PORT CONNECTOR
MOUSE CONNECTOR
2ND SERIAL PORT CONNECTOR

VIDEO CONNECTOR
PARALLEL PORT CONNECTOR
KEYBOARD CONNECTOR

J15 J18 F1 J20

J14

Flash EPROM MCCS14681

8042 87312

WD90C31 HDU BUFFER

J16

VIDEO RAM J21

FLOPPY DISK CONNECTOR

HARD DISK CONNECTOR

J29

BANK 1 BANK 2

BANK 0

POWER SUPPLY CONNECTOR

i486 DX2

BANK 0

PARITY
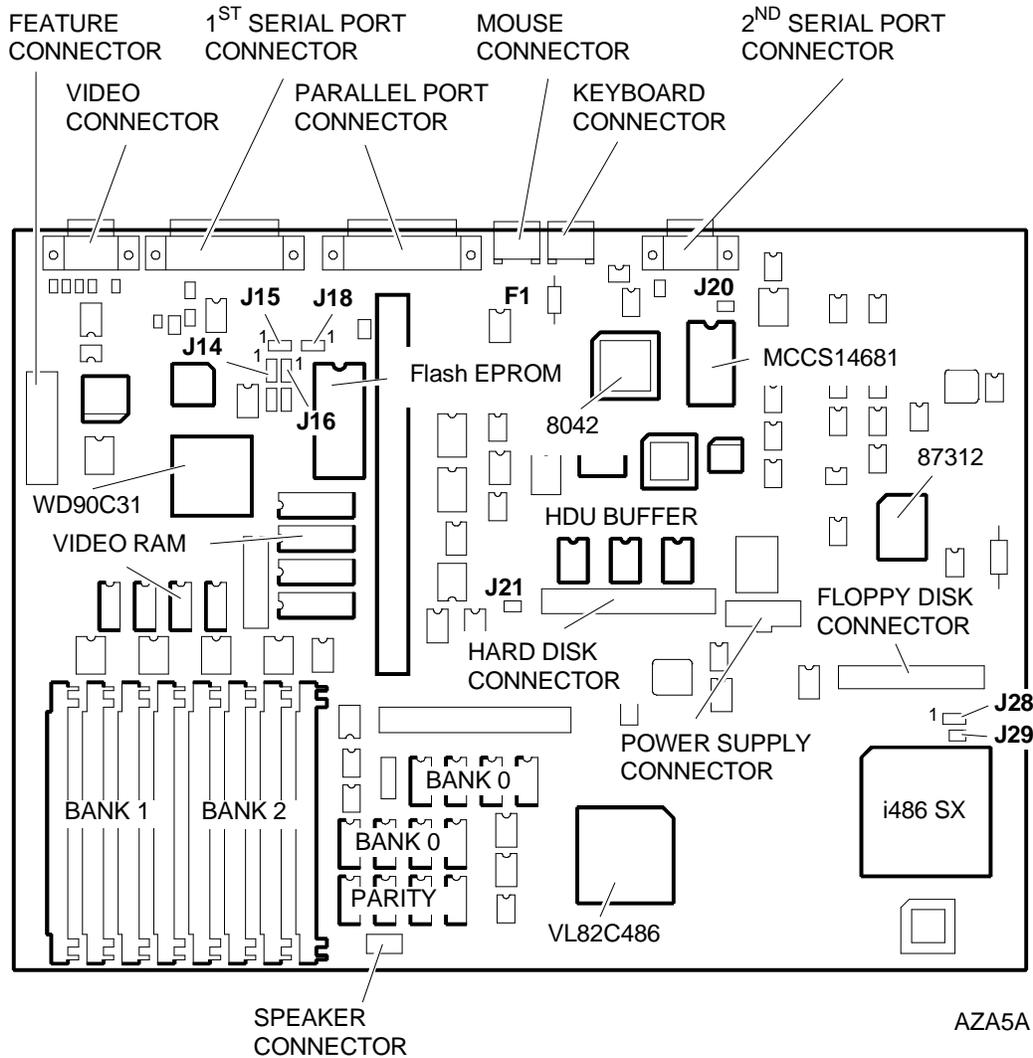
VL82C486

SPEAKER CONNECTOR

AZA5A

36

On BA 2008, the CPU is no longer soldered.
The i486 DX2 CPU is installed in the coprocessor socket.

The jumpers have the same functions as those on the BA356 and BA366 board with the exception of jumper J25 which is not used.

JUMPER J25
Not used.

BA2018 MOTHERBOARD COMPONENTS AND JUMPERS

AZA5A

On this board the i486 SX CPU is installed in the processor socket.
The CPU will need to be removed in order to install the coprocessor.

The jumpers have the same functions as those on the BA356 and BA366 boards with the exception of the new jumper J28, and of jumper J25 which is not used:

JUMPER J28
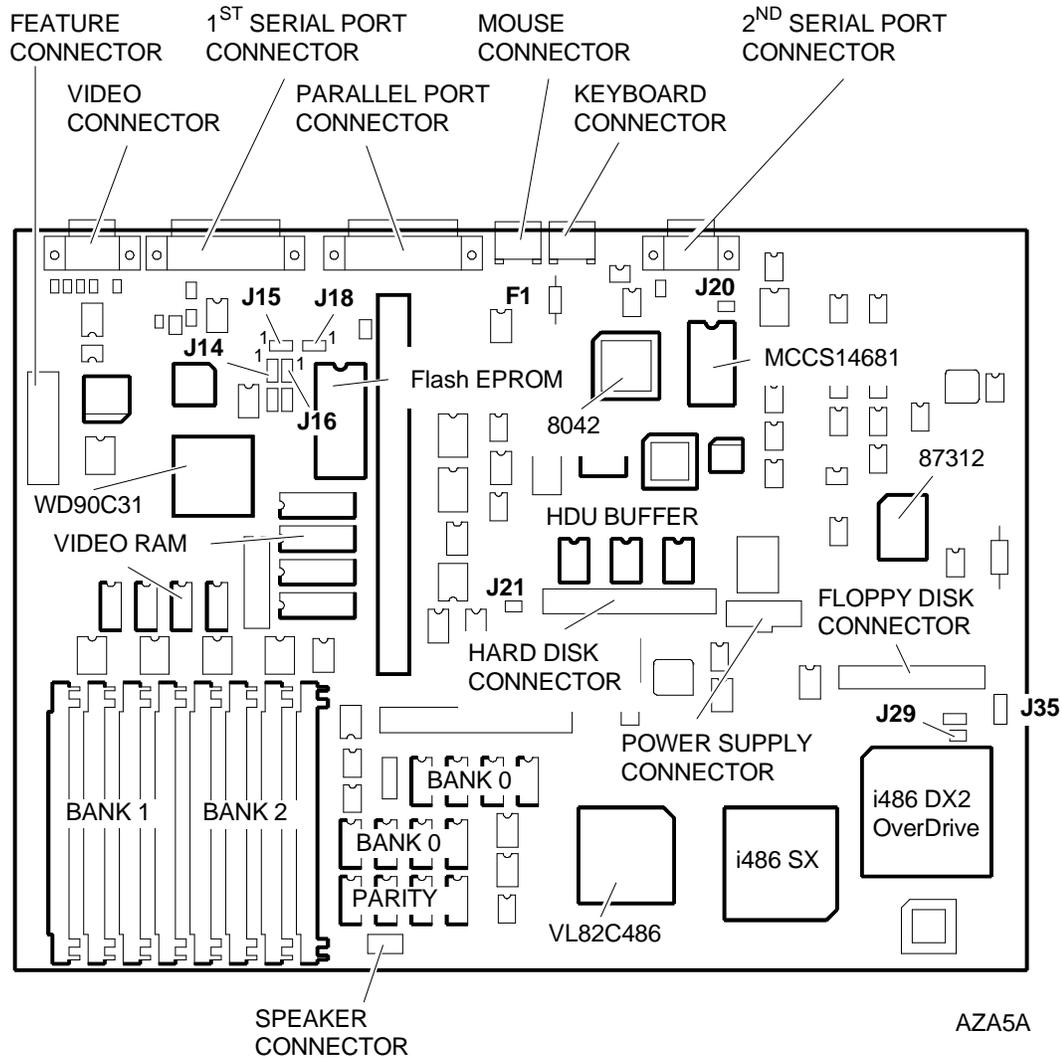
Position 1-2   i486 SX processor or OverDrive Coprocessor
Position 2-3   i486 SX processor*

JUMPER J25
Not used

* Indicates the default setting.

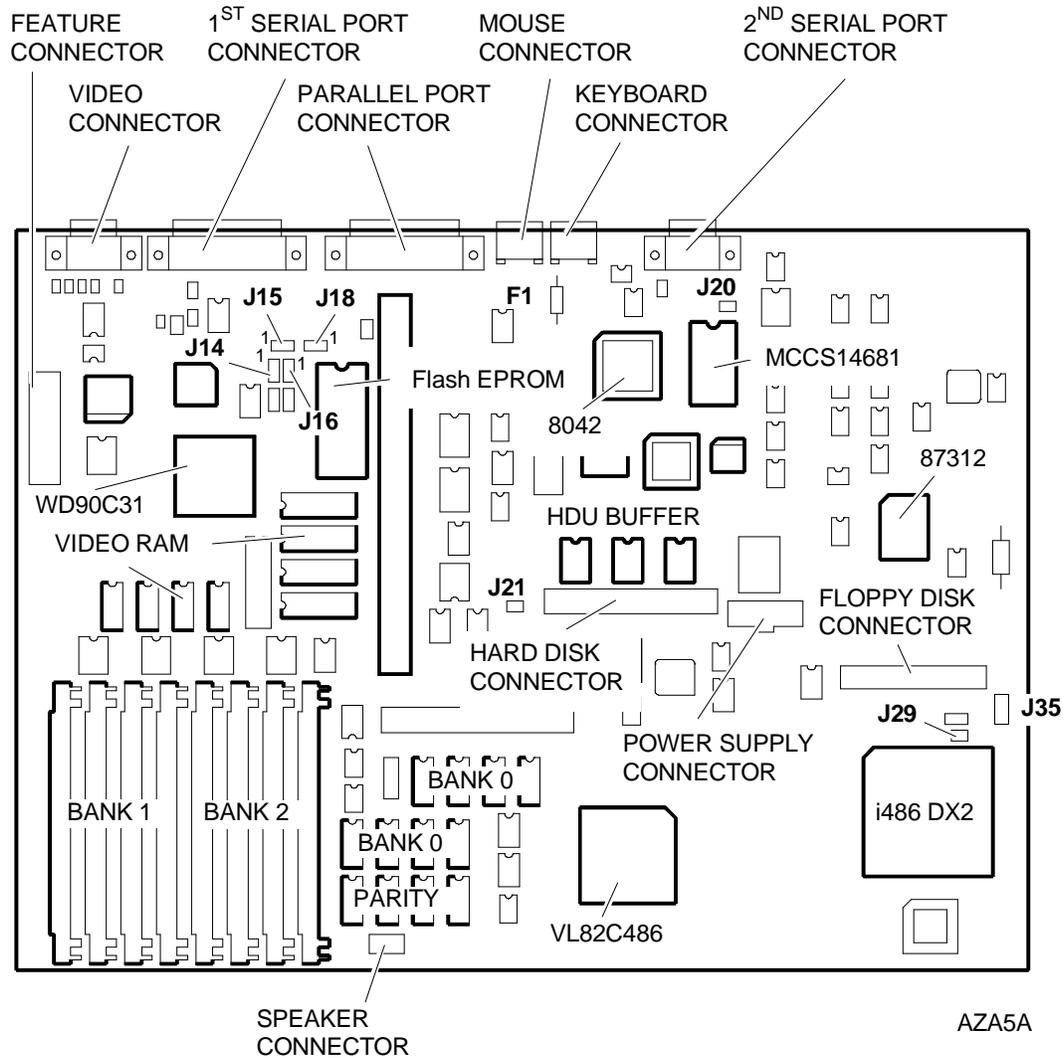## BA2030 MOTHERBOARD COMPONENTS AND JUMPERS

AZA5A

This board is identical to the BA366 and BA356 board with the exception of jumper J35.

JUMPER J35

Position 1-2   Super I/O basic address 398 - 399*
Position 2-3   Super I/O basic address 26E - 26F

* Indicates the default setting.

BA2031 MOTHERBOARD COMPONENTS AND JUMPERS

The CPU is not solderd on BA2031.
The i486 DX2 CPU is installed in the coprocessor socket.

The jumpers on this board have the same functions as those on boards BA356 and BA366 with the exception of the J35 jumper and of the J28 jumper, which is not used.

JUMPER J35

Position 1-2   Super I/O basic address 398 - 399*
Position 2-3   Super I/O basic address 26E - 26F

JUMPER J25
Not used

* Indicates the default setting.

INTERRUPT LEVELS

LEVEL	NAME	CONTROL.	FUNCTION
1	IRQ0	1	Channel 0 timer OUT
2	IRQ1	1	Keyboard
3 - 10	IRQ2	1	Interrupt to Controller 1 from Controller 2
3	IRQ8	2	Real time clock
4	IRQ9	2	Available
5	IRQ10	2	Available
6	IRQ11	2	Available
7	IRQ12	2	Available
8	IRQ13	2	Coprocessor
9	IRQ14	2	Hard disk controller
10	IRQ15	2	Available
11	IRQ3	1	Serial port 2
12	IRQ4	1	Serial port 1
13	IRQ5	1	Parallel port 2
14	IRQ6	1	Floppy disk controller
15	IRQ7	1	Parallel port 1

I/O ADDRESS MAP

36

ADDRESS	FUNCTION	ADDRESS	FUNCTION
000-01F h	DMA controller (channels 0-3)	2F8-2FF h	Serial port (COM2)
020-021F h	Interrupt controller 1	378-37B h	Parallel port 2 (LPT 2)
040-043 h	Timer	3B4-3B5 h	Video controller
60 h	Data keyboard controller	3BA h	Video controller
61 h	System B control port	3BC h	Parallel port 1 (LPT 1)
64 h	Commands keyboard controller	3C0-3CF h	Video controller
070 - 071 h	Real time clock, NMI, CMOS RAM	3D4-3D5 h	Video controller
081-08F h	DMA page registers	3DA h	Video controller
0A0-0A1 h	Interrupt controller 2	3F0-3F7 h	Floppy disk controller
0C0-0DF h	DMA channels 4-7	3F8-3FF h	COM1 serial port (default)
1F0-1F8 h	Hard disk drive	46E8 h	VGA control registers
278-27B h	Parallel port 3 (LPT 3)	8000F0-8000FF	i487 SX coprocessor

SYSTEM MEMORY MAP

000 KB	USER DATA AREA	0000.0000
512 KB	BUS BOARDS WITH ON-BOARD MEMORY	8000.0000
640 KB	VIDEO RAM	A000.0000
	VGA ROM BIOS	C000.0000
	AVAILABLE	C800.0000
	VIDEO BIOS SHADOW	E000.0000 or C000.0000
	SYSTEM BIOS SHADOW	F000.0000
1024 KB	SYSTEM MEMORY	10000.0000
		FFFF.FFFF

■