

M300-04

CHARACTERISTICS

Microprocessor	INTEL 386SX
Clock	20 MHz
Architecture	XT/AT with 32-bit addressing
Memory	From 3 MB to 17 MB on motherboard Banks 0 & 1 1 MB, two 256 KB x 18 bit memory chips soldered Bank 2 2 sockets on which to install SIMM modules: 1 M x 9 EXM 25-532 (2 MB) 4 M x 9 EXM 26-809 (8 MB) Bank 3 Same as bank 2
Memory access	80 ns
Coprocessor	20 MHz i387SX
Floppy Disk	1.2 MB 5.25" Panasonic JU 475-3 C20 1.2 MB 5.25" Panasonic JU 475-4 C20 1.44 MB 3.5" Panasonic JU257 A 293 1.44 MB 3.5" Panasonic JU257 A 294 1.44 MB 3.5" Sony MP-F17W - 86 1.44 MB 3.5" YE DATA YD-702B-6049B
Hard Disk	40 MB QUANTUM LPS 52 AT 40 MB W.D. AC 140 40 MB CONNER CP3044 40 MB CONNER CP3046F 40 MB QUANTUM Pioneer ELS42 AT 85 MB W.D. Caviar 280 85 MB CONNER CP30084E 85 MB QUANTUM Pioneer ELS85 AT 120 MB CONNER CP30126 120 MB W.D. AC 2120 120 MB QUANTUM Pioneer ELS127 AT
Streaming Tape	120 MB STU 38-120 with floppy interface
Slots	Three 16-bit connectors on the BUS expansion board
Video adapter	VGA-compatible integrated on motherboard WD90C11
HDU and FDU controller	Integrated on motherboard Floppy disk controller: National 87C311 Hard disk interface: MSI buffers and logic gates
Mouse	PS/2- and AT-compatible
Keyboard	101/102-key ANK 26-101, ANK 26-102

MOTHERBOARD

3 MB

BIOS

1.04

EXPANSION BUS

-

POWER SUPPLY

M203 220 V

M203 115 V

KEYBOARD AND MOUSE BOARD

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MOTHERBOARD

	LEVEL	D.R.S. CODE	ROM BIOS	NOTES
	Nasc.	413407 R	Rev. 1.04	Motherboard with 3 MB of RAM
	Lev. 01		Rev. 1.04	The WD90C11 video controller has been replaced with the equivalent WD90C11A-LR controller.

KEYBOARD AND MOUSE INTERFACE BOARD

	LEVEL	D.R.S. CODE	NOTES
	Nasc.	030066 U	Integrating: Lithium batteries Interface connectors for keyboard and mouse CMOS RAM

MOTHERBOARD INTEGRATED CONTROLLERS

MOTHERBOARD	INTEGRATED CONTROLLERS
	386SX CPU 20 MHz microprocessor Socket for i387SX numeric coprocessor 8042 Keyboard and mouse controller WD90C11 V.G.A. video controller 87C310 Serial and parallel port controller NATIONAL Floppy disk controller Buffer MSI Intelligent hard disk interface 27C010 BIOS EPROM TOPCAT System controller 82C320 BUS controller 82C331

BOARDS

FUNCTION	DESCRIPTION	D.R.S. CODE	CHARACTERISTICS
CPU system board		413407R	3 MB
Power supply 220 V	M203	413079S	
Power supply 110 V	M203	413416H	
BUS Adapter board		029231Z	
Keyboard mouse board		030066U	

USER DISKETTE

LEVEL	COMPATIBILITY
Rel. 1.88	–

SYSTEM TEST

LEVEL	COMPATIBILITY
Rev. 2.08	–

POWER SUPPLY UNIT

POWER SUPPLY	LEVEL	DESCRIPTION
M203 110 V	Lev. Nasc.	With this level the power supply is made to comply with Danish norms.
M203 220 V	Lev. Nasc.	
	Lev. 03	

COMPATIBILITY NOTES

BOARD OR HW/SW DEVICE	DESCRIPTION
-	-

SOFTWARE DRIVERS

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DRIVER	NOTES
LIM EMM386	For the management of expanded and extended memory.

BIOS

LEVEL	NOTES
Rev. 1.04	-

SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	NOTES
IBM DISK Operating System, Ver. 3.30 MS-DOS (Compaq) IBM DISK Operating System, Ver. 4.01 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 SCO XENIX 386, Rev. 2.3	A formatted DSDD diskette is required during installation on hard disk The PS/2 mouse is not acknowledged The PS/2 mouse is not acknowledged
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

HARDWARE COMPATIBILITY

MODEM	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
MULTIPOINT	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

BUILT IN SETUP and EXTENDED SETUP Utilities

BUILT IN SETUP

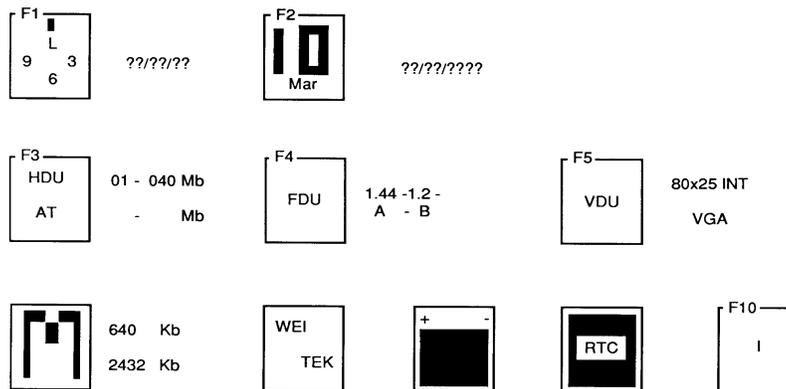
This program, resident in ROM BIOS, allows users to change some of the Personal Computer configuration parameters.

There are two possibilities:

First case: If the information in the CMOS RAM is no longer valid or if the power battery is not charging, the screen will display the BUILT IN SETUP. Users can select the national language version they wish to work in from a choice of 6 languages.

Second case: If the system configuration has been modified, only the icon of the device to be added or changed in the CMOS RAM will be displayed. For instance, after installing a second floppy disk the floppy disk icon will be displayed.

In both cases, this BUILT IN SETUP screen will be displayed automatically, without any operator action.



F1 To modify the system hour, minutes and seconds.

F2 To modify the system day, month and year.

F3 Press this key to select hard disk type and capacity. Press the space bar until the correct value is displayed. The following table lists the hard disks that can be installed in the system.

TYPE	MODEL	CAPACITY	CYL	T	WPC	LZ	SET
01	W.D. AC-140 3.5" 19 ms Quantum LPS 52 AT CONNER CP3044 CONNER CP3046F QUANTUM ELS42 AT	40 MB	980	5	-1	980	17
02	W.D. Caviar AC-280 CONNER CP30084E QUANTUM ELS85 AT	85 MB	977	10	-1	977	17
03	W.D. AC-2120 CONNER CP30126 QUANTUM ELS127 AT	120	762	8	-1	762	39

Where: CYL: No. of disk cylinders

WPC: Precompensation cylinder number

T: No. of disk heads

LZ: Head parking cylinder number

SET: No. of disk sectors

F4 Press this key to select capacity of the floppy disk. Three fields will be displayed beside the icon, in function of the number of drives (1, 2 or 3) in the system; enter the capacity of the floppy disk installed in the corresponding field.

The line underneath shows the letters A (for one drive only), A - B (for two drives) or A - B - X (for three drives). These are the logic names of the drives.

NOTE: To install a floppy interface streaming tape, the data field corresponding to this unit must not have any value and the drive must have logic name B associated with it.

F5 Press this key to select the video format when the system is switched on.

Numeric coprocessor This icon is displayed only when the WEITEK coprocessor is installed and is for the information of the user only.

Batteries This icon is displayed only when the system is switched on for the first time or when the system batteries are not charging.

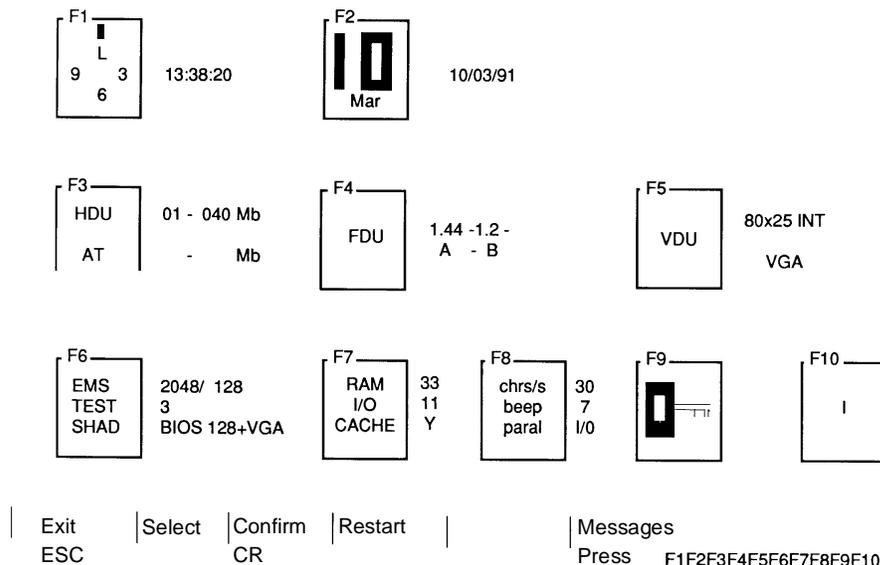
Real time clock This icon blinks when there is a failure of the system's *Real Time Clock*.

Language It is possible to select the language in which to have the messages of the BUILT IN SETUP displayed. Six languages are available.

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EXTENDED SETUP

In addition to the BUILT IN SETUP utility, there is another utility called EXTENDED SETUP with which other system parameters can be configured. This utility can be called by the operator by pressing the SHIFT, CTRL, ALT and DEL keys simultaneously.



This menu includes all icons of the BUILT IN SETUP and allows the system to be configured as described previously.

The following other configuration parameters have been added:

- F6** EMS Used to modify capacity of the extended memory and memory expansion.
- TEST Used to reduce the number of tests made on the system memory during power-on diagnostics.
- SHAD Used to assign a quantity of shadow memory to the BIOS and to defines specific areas of memory.
- F7** RAM Used to modify system speed from the default value (33 MHz) to 14 MH.
- I/O Used to modify the system BUS speed from the default value of 11 MHz to the AT standard speed of 8 MHz.
- F8** CHR/S Used to modify character repeat speed when the associated keys are pressed. This key repeat value is expressed as a number of characters per second.
- BEEP Used to increase or decrease speaker volume.
- PARAL Used to change direction of the parallel port.
- F9** The system allows the user to enter a **PASSWORD**

INTERRUPT LEVELS

LEVEL	NAME	CONTROLLER	FUNCTION
1	NMI		Parity error
2	IRQ0	1	Channel 0 timer OUT
3	IRQ1	1	Keyboard
4	IRQ8	2	Real time clock
5	IRQ9	2	Software redirected to INT 0AH (IRQ2)
6	IRQ10	2	Available
7	IRQ11	2	Available
8	IRQ12	2	Mouse
9	IRQ13	2	Available
10	IRQ14	2	Hard Disk controller
11	IRQ15	2	Available
12	IRQ3	2	Serial port 2
13	IRQ4	1	Serial port 1
14	IRQ5	1	Parallel port 2
15	IRQ6	1	Floppy Disk controller
16	IRQ7	1	Parallel port 1

33**I/O ADDRESS MAP**

ADDRESS	FUNCTION	ADDRESS	FUNCTION
000-01F h	DMA controller (channels 0 - 3)	0F8-0FF h	Math coprocessor
020-03F h	Interrupt controller 1	1F0-1F7 h	Hard disk drive (HCS0 selection)
040-043 h	Timer	278-27F h	Parallel port 2
060 h	Keyboard data controller	2F8-2FF h	Serial port COM2 (alternative)
061- 06F h	System control port B	378-37F h	Parallel port 1 (default)
064 h	Keyboard commands controller	3C0 - 3DF h	Video adapter
070 - 071 h	Real time clock, NMI, CMOS RAM	3F2 h	Floppy disk controller
080-08F h	DMA page registers	3F3 h	Super I/O configuration register
092 h	System control port A	3F4- 3F5 h	Floppy disk controller
0A0-0BF h	Interrupt controller 2	3F6-3F7 h	Hard disk drive (HCS1 selection)
0C0-0DE h	DMA channels 4-7	3F7 h	Floppy disk controller
1E0 - 1EF h	TOPCAT registers	3F8-3FF h	Serial port COM 1
0F0 h	Cancels math coprocessor operations	46E8 h	VGA register
0F1 h	Resets the coprocessor		

SYSTEM MEMORY MAP

ADDRESS	MEMORY	FUNCTION
00000 - 7FFFF h	512 KB	Conventional memory (0 KB - 512 KB)
80000 - 9FFFF h	128 KB	Basic memory (512 KB - 640 KB)
A0000 - BFFFF h	128 KB	Video adapter RAM
C0000 - DFFFF h	128 KB	Available
E0000 - FFFFF h	128 KB	BIOS/Shadow BIOS
100000 - FFFFFFF h	15 MB	Memory expansion (to the physical addressable limit of the 80386SX CPU)
1000000 - 1FFFFFF h	1 MB	Memory expansion (to the physical addressable limit of the system)

