

M290-30

CHARACTERISTICS

Microprocessor	HARRIS /AMD 80286
Clock	20 MHz
RAM access time	100 ns
Capacity min/max	The system can address up to 17 MB BANK A 1 MB of soldered RAM BANK 1 Two sockets, where 1 MB x 9 EXM 25-532 or 4 MB x 9 EXM 26-809 SIMMs can be installed BANK 2 Same as bank 1
Coprocessor	INTEL 80287
ROM BIOS	Chip 27C010 with 128 K x 8 capacity
Floppy Disk	1.44 MB 3.5" Panasonic JU-257 1.44 MB 3.5" Sony MP-F17W 1.44 MB 3.5" Mitsubishi MF355 1.2 MB 5.25" Toshiba ND08 DE 1.2 MB 5.25" Panasonic JU 475-3
Hard Disk	120 MB CONNER CP30126 19 ms 40 MB Quantum LPS 52 AT 19 ms 40 MB CONNER CP3046 19 ms 40 MB W.D. AC 140 19 ms 120 MB W.D. AC 2120 19 ms
Streaming Tape	40 MB IRWIN 245 80 MB IRWIN 285
AT expansion slots	4 Present - 4 Available
Video adapter	Integrated in system board with WD90C11 component
Hard Disk and Floppy disk controller	Integrated on motherboard FDU controller: NATIONAL PC87310 HDU controller: Logic ports and MSI buffer implementing an AT interface for intelligent hard disks
Mouse	PS/2- and AT-compatible
Keyboard	Compact 101/102-key ANK 27-101, ANK 27-102

MOTHERBOARD

BA 278

BIOS

Rel. 2.01

POWER SUPPLY

PS11A - 220 V
 PLESSEY

PS11A - 115 V
 PLESSEY

PS11A - 220 V only
 ASTEC

EXPANSION BUS

IN123
 IN127

MEMORY BOARD

ME066

MOUSE I/O BOARD AND KEYBOARD

IF468

MOTHERBOARD

	LEVEL	D.R.S. CODE	ROM BIOS	INTEGRATED CONTROLLERS / NOTES
BA278	Nasc.	612301D	Rev. 1.09	<p>Intel 80286 Processor Intel 80287 Math coprocessor 27C010 ROM BIOS 8742 Keyboard and mouse controller WD90C11 Video adapter</p> <p>TOPCAT CHIP SET VL82C320 - Coprocessor interface - Shadow RAM - Programmable DRAM timing - Data buffer - BUS conversion cycle - EEMS handling support VL82C331 - Asynchronous DMA operations - Page address register - Timer - Interrupt controller - Refresh generation - Logic port A - Real Time Clock</p> <p>PC87310 NATIONAL - Two 8250 / 16450 UARTs - PD7650 floppy disk controller - One-way parallel port - Hard Disk and Chip Set address decoding - Game Port and Port Select address decoding - Register configuration - Address decoding for all board functions</p>
	Lev. 01 MI			Solves the ACK signal problems on the parallel port
	Lev. 02 MI			New oscillator introduced
	Lev. 03		Rev. 1.09	Corrects some system faults.
	Lev. 04		Rev. 2.01	New BIOS to solve the following problems: - Random system crashes - No system bootstrapping - S RAM board malfunctions - Faulty management of the A20 Gate signal Field level only. Production stopped at BIOS release 1.09.

BUS EXPANSION BOARD

BUS EXPANSION BOARD	LEVEL	D.R.S. CODE	NOTES
IN123	Nasc.	978260 W	
	Lev. 01		Solves video noise problems
	Lev. 02		Solves signal ground BUS criticality problems
IN127	Nasc.	978644 K	New board implementing all changes of IN123. It is interchangeable with IN123
	Lev. 01		Solves video disturbance

MEMORY EXPANSION BOARD

BOARD NAME	LEVEL	D.R.S. CODE	NOTES
ME066	Nasc.	977932 K	The board has no RAM. Modules to be installed: 1 Mb x 9 EXM 25-532 4897181 or 4 Mb x 9 EXM 26-809 4897194 E

KEYBOARD AND MOUSE I/O BOARD

BOARD NAME	LEVEL	D.R.S. CODE	NOTES
IF468	Nasc.	977928 X	

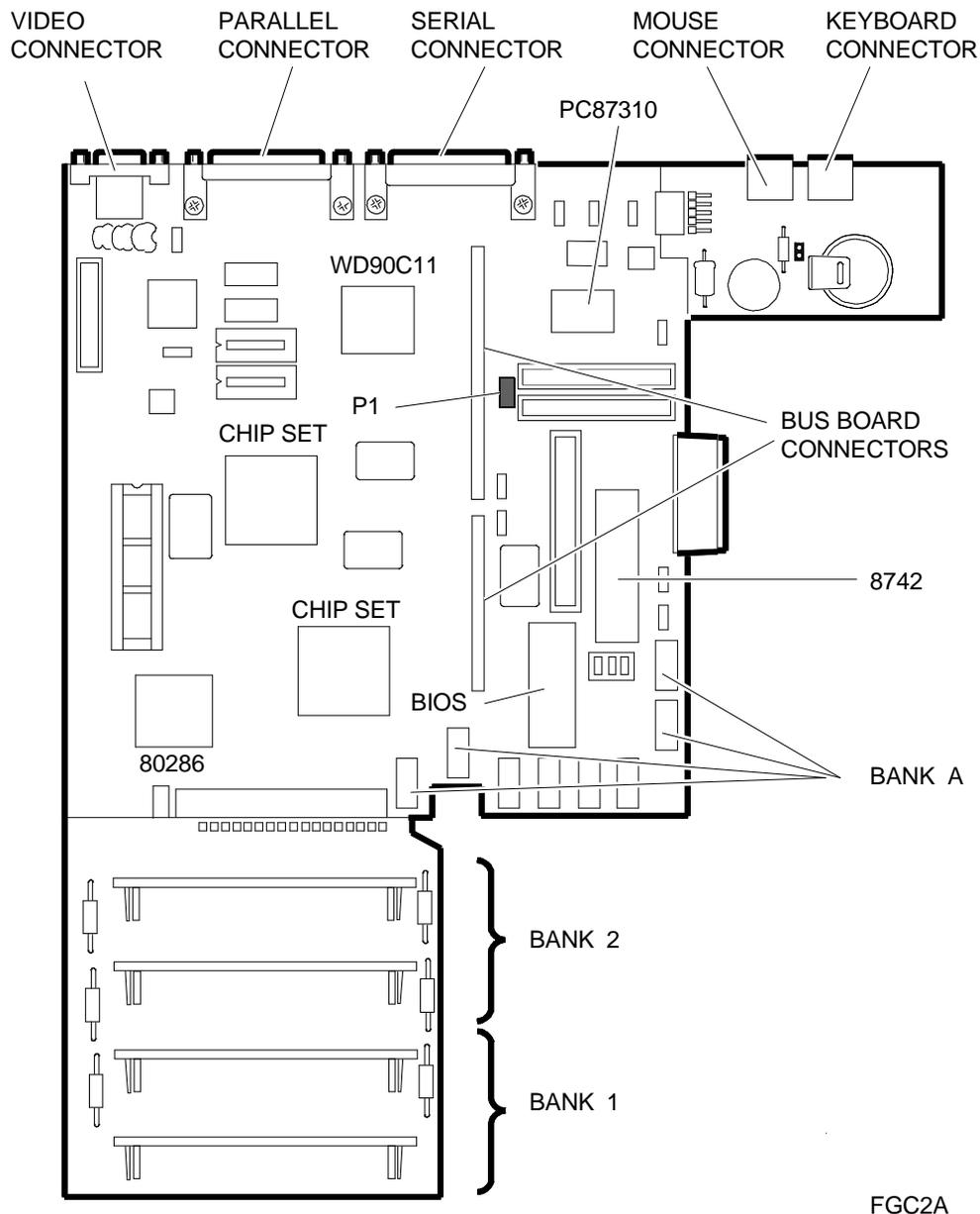
POWER SUPPLY UNIT

POWER SUPPLY	LEVEL	DESCRIPTION
PS11 B ASTEC 220 V	Nasc. Lev. 01	Only version 220 V Extended magnetic peripheral cables
	Lev. 02	Following problem solved: the system fails to switch on if the printer connected is switched on before the system. Occurs especially on printers shared with other systems. A zener diode and resistor have been added to the fan drive circuit to improve the power supply's immunity to external voltages
	Lev. 03	The box and lid have been changed
PS11 B Plessey 220 V	Nasc.	Improved RESET signal
	Lev. 01	Noise reduced
	Lev. 02	Temperature problems solved
	Lev. 03	Noise with MITSUBISHI fans reduced
	Lev. 04	Extended magnetic peripheral cables
	Lev. 05	Changed pcb materials to improve transportability
PS11 B Plessey 110 V	Nasc.	This power supply has evolved in the same way as the 220 V model

USER DISKETTE / SYSTEM TEST / DRIVER

LEVEL	COMPATIBILITY
User Diskette Rel. 1.67 System Test Rel. 1.88	

COMPONENTS AND JUMPERS ON THE MOTHERBOARD



This Personal Computer has a jumper (P1) used to disable the password; all settings can be made via User Diskette or BUILT-IN-SETUP or EXTENDED SETUP programs which are described in the following pages.

-  Indicates that a coprocessor is installed
-  Indicates that system batteries are low
-  Indicates a real time clock failure

EXTENDED SETUP PROGRAM

Extended SETUP program menu includes all BUILT IN SETUP program functions, and icons that identify advanced functions. To change these parameters, after selecting the function, press the space bar.

The program can be recalled at any time by pressing the SHIFT, CTRL, ALT, DEL keys simultaneously.

EXTENDED SETUP

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F1</p> <p>9 L 3</p> <p>6</p> </div> <p>10:25:32</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F2</p> <p>10</p> <p>M o r</p> </div> <p>21/03/1991</p>			
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F3</p> <p>HDU</p> <p>AT</p> </div> <p>03-080Mb - Mb PARKING</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F4</p> <p>FDU</p> </div> <p>1.44-1.2- A - B</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F5</p> <p>VDU</p> </div> <p>80x25 EXT</p>		
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F6</p> <p>SHAD</p> <p>TEST</p> <p>EMS</p> </div> <p>128 + VGA 3 2048/ 128</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F7</p> <p>RAM</p> <p>I/O</p> </div> <p>20 12</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F8</p> <p>chr/s</p> <p>beep</p> <p>paral</p> </div> <p>30 7 0</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F9</p> <p>TTT</p> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>F10</p> <p>I</p> </div>

Exit | Select | Confirm CR | Restart | Messages
Press F1F2F3F4F5F6F7F8F9F10

The following parameters can be changed:

- F1** Changes hour, minutes and seconds
- F2** Changes day, month and year
- F3** Changes hard disk type and hard disk heads in landing zone. When there are two hard disks, two fields are present. To move from one field to another, press the TAB key
- F4** Changes floppy disk type. When there are two hard disks, two fields are present. To move from one field to another, press the TAB key
- F5** Changes video format at system power on

- F6** Memory - There are 3 fields that indicate respectively:
 - Memory portion dedicated to shadow RAM
 - Duration of the POD memory test
 - Extended and expanded memory sizes
 To move from one field to another, press the TAB key

- F7** System speed. A field allowing to select the speed at which data is exchanged between memory and CPU; another field allows to select the speed at which data exchanged between CPU and peripherals. To move from one field to another, press the TAB key

- F8** Selects 3 fields that allow the following parameters to be changed:
 - Character repeat speed
 - Buzzer volume
 - Parallel port operation mode setting (The parallel port is not bidirectional; it can be set in either Input or Output)

- F9** Stores a system or network password

- F10** Selects country keyboard

I/O ADDRESS MAP

ADDRESS	FUNCTION	ADDRESS	FUNCTION
000-01F	DMA controller	102	VGA controller
020-021F	Interrupt controller 1	278-27b	Parallel port 2
040-043	Timer	2F8-2FF	Serial port 2
060	Data keyboard controller	378-37B	Parallel port 1
061	Control port B	3B4-3B5	Video adapter
064	Comands keyboard controller	3BA	Video adapter
070-071	RTC, NMI registers and CMOS RAM	3C0-3CF	Video adapter
080-08F	DMA page register	3D4-3D5	Video adapter
0A0-0A1	Interrupt controller 2	3DA	Video adapter
0C0-0DF	DMA channels 4-7	3F0-3F7	Floppy disk controller
0EC-0ED	TOPCAT chip set	3F8-3FF	Serial port 1
0F9 and 0FB	TOPCAT chip set	46E8	VGA control registers

INTERRUPT LEVELS

LEVEL	FUNCTION
IRQ0	Timer
IRQ1	Keyboard controller
IRQ2	Interrupt from interrupt controller 2
IRQ3	Serial port 2
IRQ4	Serial port 1
IRQ5	Parallel port 2
IRQ6	Floppy disk controller
IRQ7	Parallel port 1
IRQ8	RTC
IRQ9	Available
IRQ10	Available
IRQ11	Available
IRQ12	Mouse
IRQ13	80287
IRQ14	Hard disk controller
IRQ15	Available

DMA CHANNELS

CHANNEL	FUNCTION
DMA0	8-BIT
DMA1	8-BIT
DMA2	8-BIT
DMA3	8-BIT
DMA4	16-BIT
DMA5	16-BIT
DMA6	16-BIT
DMA7	16-BIT

SOFTWARE COMPATIBILITY

OPERATING SYSTEMS	NOTES
IBM DISK Operating System, Ver. 3.30 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	During installation on hard disk, a formatted DSDD disk is required. PS/2 mouse not recognised PS/2 mouse not recognised
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

<p>MODEMS</p> <p>HAYES SMARTMODEM (1200B) QUADRAM QUADMODEM II (QM2024) TELENETICS EXPRESSDATA 24i (24i-12i) VEN-TEL PC MODEM HALF-CARD (PCM XT) AT&T 2200 SERIES MODEM (2224-CD0) HAYES SMARTMODEM 1200</p>	<p>MEMORY EXPANSIONS</p> <p>AST RAMPAGE/286 (RAMP286) BOCARAM/AT IBM 128 KB/512 KB EXPANSION MEMORY OPTION (6450338) IBM 512 KB/2 MB EXPANSION MEMORY OPTION (6450343) IBM ENHANCED MEMORY EXPANSION ADAPTER (74X8635) INTEL ABOVEBOARD/286 (PCMB4020)</p>
<p>DISPLAY UNITS</p> <p>IBM COLOR GRAPHICS DISPLAY (5153) IBM ENHANCED GRAPHICS MONITOR (5154) IBM MONOCHROME MONITOR (5151) IBM PS/2 COLOR DISPLAY (8512) NEC MULTISYNC MONITOR (APC-H431) PRINCETON RGB DISPLAY (HX-12) ZENITH RGB/COMPOSITE DISPLAY (ZVM-135)</p>	<p>MOUSE</p> <p>AT&T BUS MOUSE (459420) LOGITECH BUS MOUSE (P7-3F) MICROSOFT BUS MOUSE, REV. C MICROSOFT SERIAL MOUSE MOUSE SYSTEMS PC MOUSE (M1)</p>
<p>NETWORKING & LAN PRODUCTS</p> <p>AT&T STARLAN NETWORK IBM PC NETWORK IBM TOKEN RING NETWORK NOVELL NETWORK 3COM NETWORK</p>	<p>I/O INTERFACE PRODUCTS</p> <p>APPARAT PARALLEL/SERIAL CARD (7950), REV. 1 IBM ASYNCHRONOUS COMMUNICATIONS CARD (1502074) IBM MONO DISPLAY/PRINTER ADAPTER (1504900) IBM PRINTER ADAPTER (1505200) IBM SERIAL/PARALLEL CARD (6450215)</p>
<p>GRAPHICS PRODUCTS</p>	
<p>AST RESEARCH AST-3G PLUS ATI EGA WONDER GENOA SUPER EGA HIRES HERCULES COLOR CARD (GB200) HERCULES GRAPHICS CARD (GB102) IBM ENHANCED GRAPHICS ADAPTER (5154001) IBM VGA ADAPTER PARADISE EGA 480</p>	<p>PARADISE MODULAR GRAPHICS CARD (06-1, Revision 02) PARADISE MULTI-DISPLAY CARD (05-1) QUADRAM QUAD EGA PLUS TECMAR GRAPHICS MASTER BOARD (20037, REV. C) VIDEO-7 VEGA DELUXE 325 INC. ADVANTAGE GRAPHICS INTERFACE (325 SHADOW)</p>

