



Figure 1. NEC Image P90D Series

**Specifications**

**Processor**

- Intel Pentium 90MHz

**Memory**

- 8MB standard, expands to 136MB

**I/O Expansion Slots**

- Three 16 bit ISA slots
- One shared ISA/PCI slot

**Diskette Drive**

- 1.44MB drive and 540 Meg IDE HD

**Integrated Features**

- PCI video controller.
- Mouse and Keyboard
- Enhanced parallel port and Two serial ports.
- 256k secondary cache and 2MB of VRAM.

**Optional Features**

- Overdrive support "dual processor"
- 1.2 Meg Floppy
- CD-ROM IDE 4x reader

**Internal Expansion Bays**

- Two 5.25" user accessible bays
- One 3.5" user accessible bay
- One 3.5" internal expansion bay

**I/O Architecture (Bus s supported)**

- PCI / ISA

**Power Supply**

- 145 Watts

**Diagnostics**

- Normal Post Diags performed on Power UP of system.
- Troubleshoot according to errors found during test.

**CMOS Access**

- QAPlus/FE

**Tools and Software Requirements**

- Phillips head screwdriver
- Needle nose pliers
- Diags and formatted blank diskette
- Anti-static wrist strap

**Jumper/Switch Settings**

**System Board, J2 Jumper**

Jumper	Setting	Function
J2	1-2	VR: Processor voltage at 3.3
	2-3*	VRE: Processor voltage at 3.45

\* Default

**SW1 Switch Settings**

Switch 1	Setting	Function
Pos -1	ON	Prevents BIOS reprogramming
	OFF *	Allows BIOS reprogramming
Pos -2	ON	CPU frequency select at 100/50
	OFF *	CPU frequency select at 90/60
Pos -3	ON	CMOS clear is on
	OFF *	CMOS clear is off
Pos -4	ON	Security is off
	OFF *	Security is on
Pos -5 / 6	OFF/ OFF*	CPU clock is 60MHz
	ON / ON	CPU clock is 66MHz
	ON / ON	CPU clock is 50MHz
Pos -7	ON *	Video interrupt is on
	OFF	Video interrupt is off

\* Default

**Removal Procedures**

Before beginning removal complete the following steps:

1. Turn off the computer and any peripheral devices.
2. Disconnect AC power cord from outlet and system.
3. Disconnect all peripheral devices from the computer.
4. Ground yourself with static strap to discharge static.

**System Cover**

How to remove the cover:

1. Unlock the system unit cover if locked.
2. Remove the two cover screws on the rear of the unit.
3. Slide the cover toward the rear about one inch.
4. Lift the cover up and off of the system.

**Special Notices**

1. NEC IDE drives are always shipped as "Master" and setup as the only drive installed.
2. This unit BIOS senses for ISA parallel ports and disables the integrated port with same address.
3. Any interrupts for integrated serial port are not available to the integrated parallel ports.

## Memory Configurations

### Notice:

1. There is 2 memory banks (B1-B2) containing two sockets each in addition to the solder SIMMs row.
2. Different size SIMMs may be placed in any bank provided, each bank have same size SIMMs.
3. Each memory bank must have same speed SIMMs.
4. Memory is 32 bits wide with 4 parity ( x By 36 )
5. Actual Memory Size is:  
 $4x = 4 \times (256k, 512k, 1, 2, 4, 8) = (1, 2, 4, 8, 16, 32)$  Megs

### Combination of ( x by 36 ) SIMMs by banks

Desired Meg	B0 Built In	B1 Slot-1	B1 Slot-2	B2 Slot-1	B2 Slot-2
8*	2	--	--	--	--
10**	2	.25	.25	--	--
16	2	.25	.25	.25	.25
12	2	.5	.5	--	--
14	2	.25	.25	.5	.5
14	2	.5	.5	.25	.25
16	2	.5	.5	.5	.5
18	2	.25	.25	1	1
18	2	1	1	.25	.25
20	2	.5	.5	1	1
20	2	1	1	.5	.5
24	2	1	1	1	1
24	2	2	2		
26	2	.25	.25	2	2
26	2	2	2	.25	.25
28	2	.5	.5	2	2
28	2	2	2	.5	.5
32	2	1	1	2	2
32	2	2	2	1	1
40	2	2	2	2	2
40	2	4	4	--	--
42	2	.25	.25	4	4
42	2	4	4	.25	.25
44	2	.5	.5	4	4
44	2	4	4	.5	.5
48	2	1	1	4	4
48	2	4	4	1	1
56	2	2	2	4	4
56	2	4	4	2	2
72	2	4	4	4	4
72	2	8	8	--	--
74	2	.25	.25	8	8
74	2	8	8	.25	.25
76	2	.5	.5	8	8
76	2	8	8	.5	.5
80	2	1	1	8	8
80	2	8	8	1	1
88	2	2	2	8	8
88	2	8	8	2	2
104	2	4	4	8	8
104	2	8	8	4	4
136	2	8	8	8	8

## Field Replaceable Units

Memory	OEM Part	IBM Part
4MB @ 1MB X 36 SIMM	158-082311-070	22H1978
8MB @ 2MB X 36 SIMM	158-053409-009	37H8768
16MB @ 4MB X 36 SIMM	158-053409-010	37H8769
32MB @ 8MB X 36 SIMM	158-053409-011	37H8770

Internal Hard Drive	OEM Part	IBM Part
540MB, IDE HD	158-050395-322	71H0400
1.0GB, IDE HD	158-050395-330	61H6061

System Boards	OEM Part	IBM Part
G8SEB-System Bd. no CPU	158-026186-800A	61H7628

Processors	OEM Part	IBM Part
Heat-sink for Pentium only	158-060324-001	70H3241
Pentium- 90MHz	802-149020-003	61H7630

Diskette Drives	OEM Part	IBM Part
3.5", 1.44MB Floppy	808-870954-101A	37H8753
5.25", 1.2MB Floppy	158-053476-000	22H1988

Cables	OEM Part	IBM Part
Floppy signal cable	158-050561-000	55H1052
HD IDE signal cable	158-050324-001	66H7455

Miscellaneous	OEM Part	IBM Part
PCI / ISA backboard	158-050787-000A	61H7629
Power supply (145 Watt)	158-050730-000	61H7412
Battery 3.6v	158-060155-000	20H9490
Keyboard PS/2 style	158-050707-000	37H8765
NEC PS/2 style mouse	158-050484-002	55H1100
Fan Assembly	158-050735-000	61H7632

## Connector Labels

Connector Function	Connector Labels
Diskette drive connector	J7
Primary HD drive connector	J11
Reset button connector	J12
Secondary HD drive connector	J17
HD drive busy lamp connector	J18
Battery	J19
Speaker connector	J21
Fan connector	J22
Power supply connector	J24, J25
Power lamp connector	J28