

Computer Specifications

CPU and Memory

- 32-bit CPU Intel 486SX, DX, or DX2 processor upgradable to faster, more powerful processors, including SX2, DX4, or Pentium OverDrive processors; DX4 processors require an adapter board to regulate voltage
- Energy Star Low power consumption, Energy Star compliant in base configurations (consumes less than 30 Watts)
- System speed Fast and slow processor speeds available; fast speed is the speed of your processor and slow speed is 8 MHz; 0 wait state memory access at fast speed

Press Ctrl, Alt, and - to select slow speed or Ctrl, Alt, and + to select fast speed (use the - or + on the numeric keypad); default system speed selectable through SETUP

ISA bus speed for all processors is 8.3 MHz; local bus video speed reflects the speed of the processor; at fast speed, DX2/50 and DX2/66 processors run internally at 50 and 66 MHz, but run externally at 25 and 33 MHz; local bus speeds for DX/2 processors are 25 and 33 MHz respectively

- Memory 4MB RAM standard on system board; expandable to 36MB using 1MB, 4MB, and 16MB SIMMs; SIMMs must be 72-pin, 32-bit or 36-bit, fast-page mode type with an access speed of 70ns
- ROM 128KB system and video BIOS and SETUP code located in EPROM on main system board
- Video RAM 512KB or 1MB DRAM standard on main system board; 512KB expandable to 1MB using a 256 x 16-bit, 40-pin SOJ DRAM chip
- Shadow RAM Supports shadowing of system and video BIOS ROM into RAM
- Cache 8KB of internal cache on processor; supports 32KB, 64KB, 128KB, or 256KB of external cache using 28-pin, 8 x 8, 20ns DIP chips or 28-pin, 32 x 8, 20ns DIP chips and 28-pin, 32 x 8, 15ns tag chips
- Math coprocessor For SX-based systems, can install an 80487SX processor with math coprocessor support; math coprocessor built into DX-based and Pentium OverDrive processors

Clock/calendar Real-time clock, calendar, and CMOS RAM socketed on main system board with external 3.6V battery backup

Controllers

- Video Cirrus Logic CD5428 high speed super VGA local bus on-board controller with True Color support
- Diskette Controller on main system board supports up to two diskette drives or one diskette drive and one tape drive
- Hard disk Interface on main system board supports up to two IDE hard disk drives with built-in controller

Interfaces

Monitor Local bus SVGA interface for fixed or multi-frequency monitor built into system board; 15-pin, D-shell connector

EPSON Endeavor L

SVGA feature connector	SVGA pass-through interface built into main system board; 26-pin connector
Parallel	One standard 8-bit parallel uni- or bi-directional interface built into main system board; I/O address selectable through SETUP; 25-pin, D-shell connector
Serial	Two RS-232C, programmable, asynchronous interfaces built into main system board; 9-pin, D-shell connectors
Keyboard	PS/2 compatible keyboard interface built into main system board; 6-pin, mini DIN connector
Mouse	PS/2 compatible mouse interface built into main system board; 6-pin mini DIN connector
Option slots	Four 16-bit (or 8-bit) I/O expansion slots, ISA compatible, 8.33 MHz bus speed; three slots accommodate any size card, bottom slot can hold a half size card
Speaker	Internal, piezo-electric speaker on main board

Mass storage Internal mounts:
One **3½-inch** wide, half-height

Externally accessible mounts:
Two 5.25-inch wide, half-height

Diskette drives **3.5-inch** diskette drive, 720KB or 1.44MB storage capacity
5.25-inch diskette drive, 360KB or 1.2MB storage capacity
Combination diskette drive; 3.5-inch, 1.44MB and 5.25-inch, 1.2MB

Hard disk drives **3½-inch** form factor hard disk drive(s), up to half-height size; the first mounted in the vertical internal bay and the second mounted in an externally accessible, horizontal bay

Other devices Half-height tape drive, CD-ROM drive, optical drive, or other storage device; **5¼-inch** or **3½-inch** with mounting frames

Keyboard Detachable, two-position height; 101 or 102 sculpted keys; country-dependent main typewriter keyboard; numeric/cursor control keypad; four-key cursor control keypad; 12 function keys

SETUP Program Stored in ROM; accessible by pressing the **Delete** key at the SETUP prompt during boot

System security Password (up to 8 characters) defined in SETUP for system boot and keyboard unlock; definable hot key combination locks the keyboard and mouse

Virus protection Write protection feature for boot sector of the hard disk drive

Physical Characteristics

Width	14.8 inches (370 mm)
Depth	16.5 inches (412 mm)
Height	4.8 inches (120 mm)
weight	16.7 lb (7.5 kg), with one diskette drive and one hard disk, but without keyboard

Power Supply

Type	85 Watt, Autosensing, UL listed, fan-cooled
Input ranges	100V to 125V 200V to 240v
Maximum outputs	+5 VDC at 11 Amps, -5 VDC at 0.3 Amp, +12 VDC at 2.0 Amps, -12 VDC at 0.3 Amp
Frequency	50/60Hz
Cables	Two to main system board; four to mass storage devices

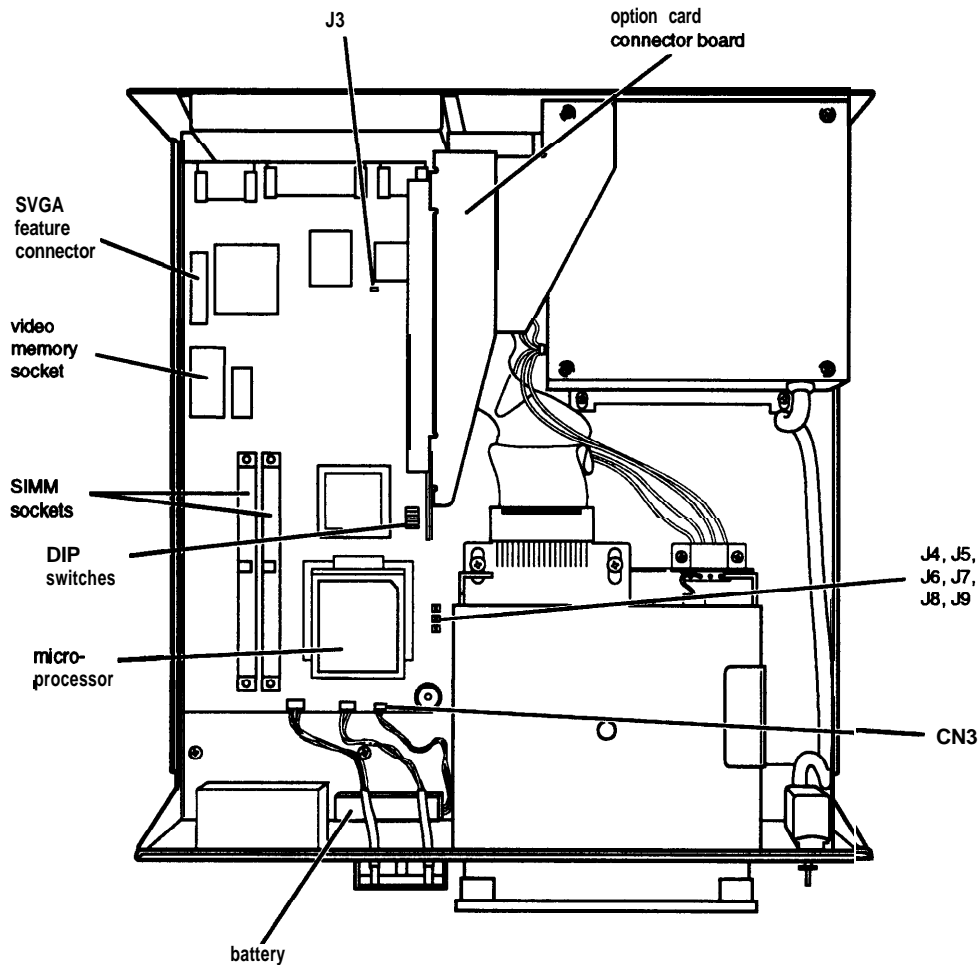
Option Slot Power Limits

Maximum current	+5 Volts	-5 volts	+12 Volts	-12 volts
For each slot	7 Amps	0.3 Amp	1.5 Amps	0.3 Amp
For all slots*	11 Amps	0.3 Amp	2 Amps	0.3 Amp

Environmental Requirements

Condition	range	Non-operating range	Storage range
Temperature	41° to 90° F (5° to 32° C)	-4° to 140° F (-20° to 60° C)	-4° to 140° F (-20° to 60° C)
Humidity (non condensing)	20% to 90%	10% to 90%	10% to 90%
Altitude	-330 to 9,900 ft (-100 to 3,000 m)	-330 to 39,600 ft (-100 to 12,000 m)	-330 to 39,600 ft (-100 to 12,000 m)
Maximum wet bulb	68° F (20° C)	104° F (40° C)	134° F (57° C)
Acoustical noise	37.5 dB	N/A	N/A

Major Subassemblies



Jumper and DIP Switch Settings

Jumper settings

Jumper number	Jumper setting	Function
J3	A*	Enable the built-in VGA adapter
	B	Disable the built-in VGA adapter
J4**	A	Enable DX-based or Pentium-based processor in PGA socket
	B	Enable SX-based processor in PGA socket

. Factory setting

** Factory set according to system CPU

External cache jumper settings

Cache size*	J5	J6	J7	J8	J9
0KB	B	B	B	B	A
32KB	A	A	A	A	A
64KB	A	B	A	B	A
128KB	B	B	A	A	A
256KB	B	B	B	B	B

Factory setting based on amount of external cache installed, if applicable

DIP switch settings

Switch number	Switch setting	Function
3**	On	CPU Installed in PGA socket
	off	CPU not installed in PGA socket
4	On*	Password enable
	off	Password disable
5	On*	Color monitor
	off	Monochrome monitor

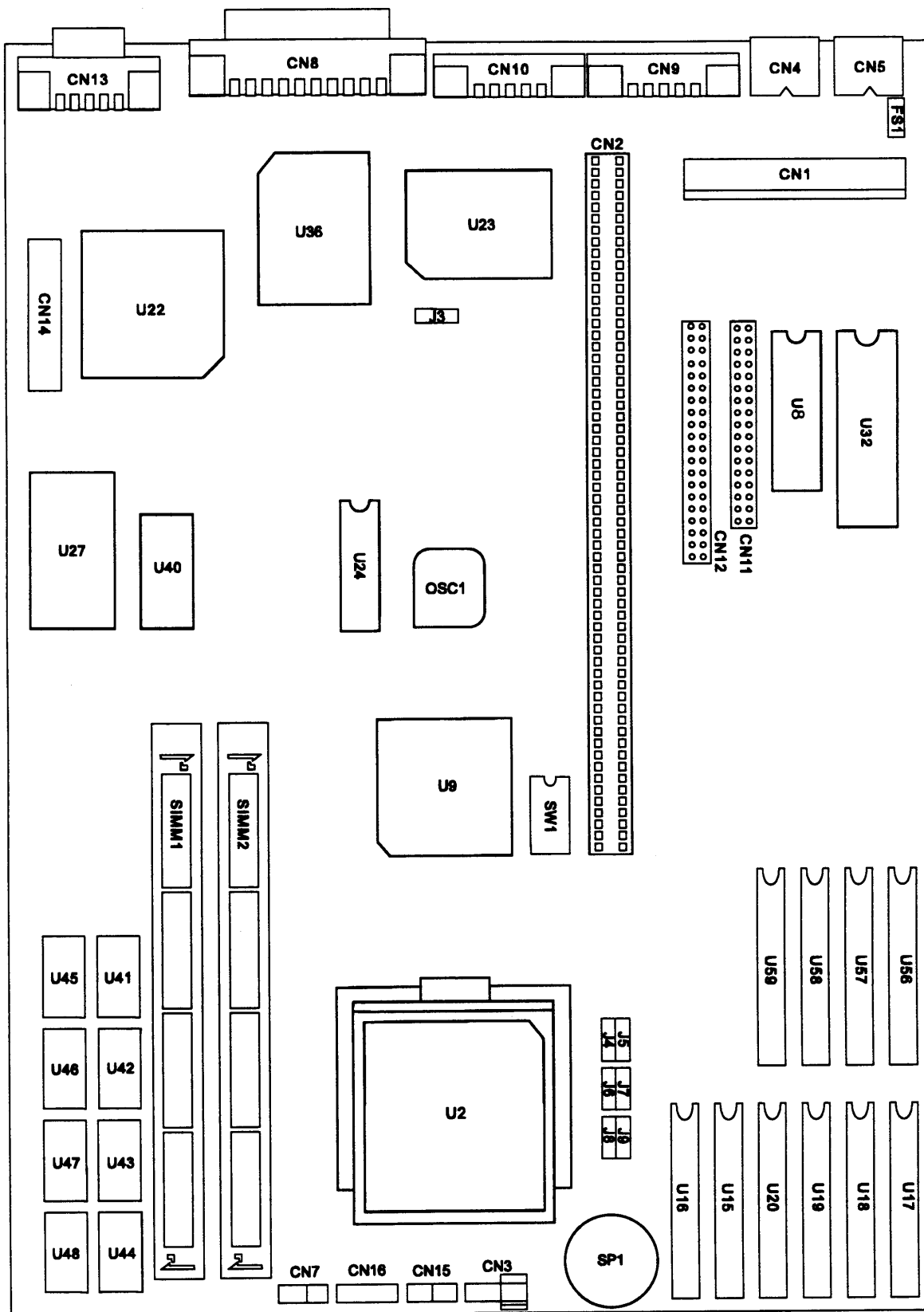
. Factory setting

** Factory set according to system type

Clock speed DIP switch settings

CPU clock speed	Switch 1	Switch 2
25 MHz	off	On
33 MHz	On	off

System Board Components



System board components and connectors

Socket	Component
U2	Processor
U8	AMI system BIOS
U9	System controller; integrated system, memory, local bus, and cache
U22	Video controller; VESA local bus VGA with integrated palette DAC, dual-frequency synthesizer, BRBLT for GUI acceleration
U32	Intel keyboard/mouse controller
U36	Super I/O controller; supports up to two diskette drives, two IDE hard disk drives, two serial ports, and one bi-directional parallel port
U23	Super I/O TTL integration; 6 line drivers, 10 line receivers, 4 timers, one 24 MHz crystal oscillator
U3	Clock generator; 4V to 7V operating supply range, 1ns skew, CMOS or TTL compatible outputs
U17-U20, U56-U59	Cache SRAM sockets
U15, U16	Cache tag sockets
U40, U27	Video DRAM; U40 is on-board DRAM, U27 is socket for optional DRAM
CN1	Power supply connector; 12-pin
CN2	ISA 120-pin slot connector
CN3	Battery connector; 2 pin header
CN4	Mouse; 6-pin, mini-DIN
CN5	Keyboard; 6-pin, mini-DIN
SP1	Speaker
CN7	SPEED indicator LED connector; 3-pin header
CN8	Parallel port; 25-pin, D-shell
CN9	Serial port labeled SERIAL 1; 9-pin, D-shell
CN10	Serial port labeled SERIAL 2; 9-pin, D-shell
CN11	Diskette drive connector; 34-pin header
CN12	Hard disk drive connector; 40-pin header
CN13	VGA connector; 15-pin, D-shell
CN14	VGA feature connector; 26-pin header
CN15	HDD indicator LED connector; 2-pin header
SIMM1, SIMM2	SIMM sockets
U41-U48	DRAM

SIMM Installation

Your computer comes with 4MB of memory on the system board. You can increase the memory up to 36MB by installing 1MB, 4MB, and 16MB SIMMs in the computer's two SIMM sockets. The following table shows the possible SIMM configurations. You can install SIMMs in either SIMM socket.

SIMM configuration

On-board	SIMM1	SIMM2	Total memory
4MB	None	None	4MB*
4MB	1MB	None	5MB
4MB	1MB	1MB	6MB
4MB	4MB	None	8MB
4MB	4MB	4MB	12MB
4MB	16MB	None	20MB
4MB	16MB	1MB	21MB
4MB	16MB	4MB	24MB
4MB	16MB	16MB	36MB

* Standard memory on the system board

Use only 32-bit, 72-pin, fast-page mode SIMMs that operate at an access speed of 70ns. If 32-bit SIMMs are unavailable, you can use 36-bit SIMMs instead.

Video Memory

This system comes with 512KB or 1MB of video memory. You can increase the video memory to 1MB by installing a video DRAM, 40-pin, 256KB x X-bit, SOJ chip.

Video resolutions and colors

Resolution	Memory requirements	Color	Vertical frequencies (Hz)	Remarks
640 x 480	256KB	256	60/72	8 bits/pixel*
	1MB	32K	60	15 bits/pixel
	1MB	64KB	60	16 bits/pixel*
	1MB	16M (True Color)	60	24 bits/pixel*
800 x 600	512KB	16	56/60/72	4 bit planes
	512KB	256	56/60/72	8 bits/pixel*
	1MB	32K	56	16 bits/pixel*
	1MB	64K	56	16 bits/pixel*
1024 x 768	1MB	16	43.5/60/70/72	4 bit planes*
	1MB	256	43.5/60/70/72	8 bits/pixel**
1280 x 1024	1MB	16	43.5	4 bit planes**

* Non-interlaced and interlaced

** Interlaced

External Cache

EPSON Authorized Servicers can install 32KB, 64KB, 128KB, or 256KB of external cache on this system.

- To install 32KB or 64KB of external cache, use SRAM, 28-pin, 8 x 8, 20ns DIP chips
- To install 128KB or 256KB of external cache, use SRAM, 28-pin, 32 x 8, 20ns DIP chips
- For all configurations of external cache, use two 28-pin, 32 x 8, 15ns tag chips
- If you install external cache, make sure you set jumpers J5, J6, J7, J8, and J9 as described on page 3.

For the cache memory to work properly, you must install chips in the following configuration (each bank contains four cache memory sockets).

Cache memory configurations

U17, U18, J19, U20	U56, U57, U58, U59	Tag SRAM (U15, U16)	Total cache
8K x 8		32K x 8	32KB
8K x 8	8K x 8	32K x 8	64KB
32K x 8		32K x 8	128KB
32K x 8	32K x 8	32K x 8	256KB

Microprocessor Upgrades

The computer's processor can be upgraded by replacing the existing microprocessor with a faster one. You can either purchase an upgrade kit from EPSON or buy the individual components separately, as listed in the following table.

Microprocessor upgrade components

Part	Manufacturer	EPSON part number
486SX/25 processor	Intel	A881541
486SX/33 processor	Intel	A881551
486DX/33 processor	Intel	A881561
	Cyrix	A881591
486DX2/50 processor	Intel	A881571
	Cyrix	A881611
486DX2/66 processor	Intel	A881581
	Cyrix	A881621
SX2, DX4, and Pentium OverDrive processors, when available	Intel	TBD
Heat sink*	Tennmax Trading Corp.	

* For the SX2, DX/33, DX/50, DX2/50, DX2/66, DX4 and Pentium OverDrive processor

SX2, DX/33, DX/50, DX2/50, DX2/66, DX4, and Pentium OverDrive processor upgrades require a heat sink.

You may also need to change the settings of jumper J4 or DIP switches 1 and 2. See page 3.

Hard Disk Drive Types

The table below lists types of hard disk drives supported by the computer. Check this table and the hard disk drive manual to find the correct type number(s) for the hard disk drive(s) installed in the computer. Enter the type number(s) when you set the hard disk drive configuration in the SETUP program.

Hard disk drive types

Type	Cyln	Head	WPCom	LZone	Sec	Size (MB)*	EPSON Drive
1	1048	16	65535	1048	63	516	
2	762	8	65535	762	39	116	CP30104H
3	1024	12	65535	1024	17	102	
4	940	8	512	940	17	62	
5	940	6	512	940	17	47	
6	903	8	65535	903	46	162	CP30174E
7	332	16	65535	332	63	163	
8	1024	12	65535	1024	34	204	
9	900	15	65535	901	17	112	
10	768	14	65535	768	62	326	
11	1024	16	65535	1024	63	504	
12	855	7	65535	855	17	50	
13	306	8	128	319	17	20	
14	1010	9	65535	1010	55	244	AC2250
16	612	4	0	663	17	20	
17	989	12	65535	989	35	203	AC1210
18	685	16	65535	685	38	203	
19	1023	13	65535	1023	50	325	

Type	Cyln	Head	WPCom	LZone	Sec	Size (MB)*	EPSON Drive
20	1010	12	65535	1010	55	325	AC2340
21	1010	6	65535	1010	55	163	AC1170
22	739	4	65535	739	40	58	
23	739	8	65535	739	40	115	
24	927	15	65535	927	17	115	
25	895	10	65535	895	55	240	CP30254
26	665	16	65535	665	63	327	CP30344
27	903	4	65535	902	46	81	CP30084E
28	826	16	65535	826	63	407	
29	1002	8	65535	1002	32	125	
30	967	16	65535	967	31	239	
31	790	15	65535	790	57	330	
32	683	16	65535	682	38	203	
33	901	5	65535	900	53	117	
34	723	13	65535	722	51	234	LPS240AT
35	980	10	65535	979	17	81	
36	1024	12	65535	1024	34	204	
37	925	9	65535	925	17	69	
38	1024	9	65535	1024	17	77	
39	767	14	65535	767	62	325	
40	820	6	65535	820	17	41	
41	1023	10	65535	1023	17	85	
42	1001	15	65535	1001	17	125	
43	978	14	65535	978	35	234	
44	919	16	65535	919	17	122	
45	1011	15	65535	1011	22	163	ELS170AT
46	828	10	65535	827	34	137	
47							USER TYPE

* Actual formatted size may be slightly different than size on drive label

Drive Option Information

Hard disk drive options for 1-inch IDE drives

Parameters	Connor				Quantum		Western Digital				
	CP-30084E	CP-30104H	CP-30174E	CP-30254	CP-30344	ELS170AT	LPS240AT	AC1170	AC1210	AC2250	AC2340
Formatted capacity (MB)	85	120	170	250	340	170	245	170	210	240	340
Size, width x height (in)	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1	4 x 1
Weight (lb)	1.3	1.3	1.3	1.2	1.2	0.91	1.05	1.12	1.12	1.12	1.12
Cylinders	1806	1524	1806	1895	2116	1536	1818	2233	2721	2233	2233
Disks	1	2	2	2	2	2	2	1	1	2	2
Heads	2	4	4	4	4	4	4	2	2	3	4
Sectors per track	46	39	46	62	63-95	54	44-87	56-96	55-99	56-96	56-96
Rotational speed (RPM)	3822	3399	3833	4542	4500	3683	4306	3322	3314	3322	3322
Buffer size (KB)	32	32	32	64	64	32	256	64	128	64	128
Average seek time (ms)	17	<19	17	14	13	17	16	<13	<13	<13	<13
Encoding method	RLL	RLL	RLL	RLL	RLL	RLL	RLL	RLL	RLL	RLL	RLL
	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7
Power dissipation (seek)	3.75W	3.9 W	3.75W	3.75W	3.75W	4.0 W	4.9 W	5.2 W	5.2 W	5.2 W	5.2 W
Logical parameters											
Cylinders	903	762	903	895	655	1011	723	1010	989	1010	1010
Heads	4	8	8	10	16	15	13	6	12	9	12
Precomp zone	0	0	0	0	0	none*	none*	1011	none*	1011	1011
Landing zone	903	762	903	895	655	1011	723	1011	989	1011	1011
Sectors	46	39	46	55	63	22	51	55	35	55	55

* Select 1 or none for the precomp value. If neither of these options are available, select the maximum available precomp value.

IDE hard disk drive

Model number	Single drive	Master drive	Slave drive
Conner CP30084E	C/D jumpered	C/D jumpered	No jumpers
Conner CP30104H	C/D jumpered	C/D, DSP jumpered	No jumpers
Conner CP30174E	C/D jumpered	C/D jumpered	No jumpers
Conner CP30254	C/D jumpered	C/D jumpered	No jumpers
Conner CP30344	C/D jumpered	C/D jumpered	No jumpers
Quantum ELS170AT	DS jumpered	DS, SP jumpered or DS jumpered	No jumpers
Quantum LPS240AT	DS jumpered *	DS or SP jumpered *	No jumpers *
Western Digital AC1170	No jumpers	5-6 jumpered	3-4 jumpered
Western Digital AC1210	No jumpers	5-6 jumpered	3-4 jumpered
Western Digital AC2250	No jumpers	5-6 jumpered	3-4 jumpered
Western Digital AC2340	No jumpers	5-6 jumpered	3-4 jumpered

CS (cable selection) can be jumpered for any configuration. When CS is used, the drive is a master if pin 28 is grounded, or a slave if pin 28 is not grounded.

Diskette and magneto optical drive options

Parameters	3.5" 1.44MB Seiko EPSON SMD-349	Combination 3.5"/5.25" FDD EPSON SD880-002	Magneto Optical Drive OMD-5010
Formatted storage capacity	1474KB	1474KB/ 1229KB	128MB
Size, width x height (in)	3.5 x 1	5.8 x 1.65	4.0 x 1.6
Cylinders	80	80/80	10,000
Heads	2	2/2	R/W laser
Tracks	160	160/160	10,000
Track density	135 TPI	135TPI/96TPI	15,875TPI
Power-on ready time	<0.5 secs.	500ms/ 500ms	3.5/5.0ms
Settling time	15 ms	15ms/15ms	N/A
Average latency time	100 ms	100ms/83ms	8.3ms

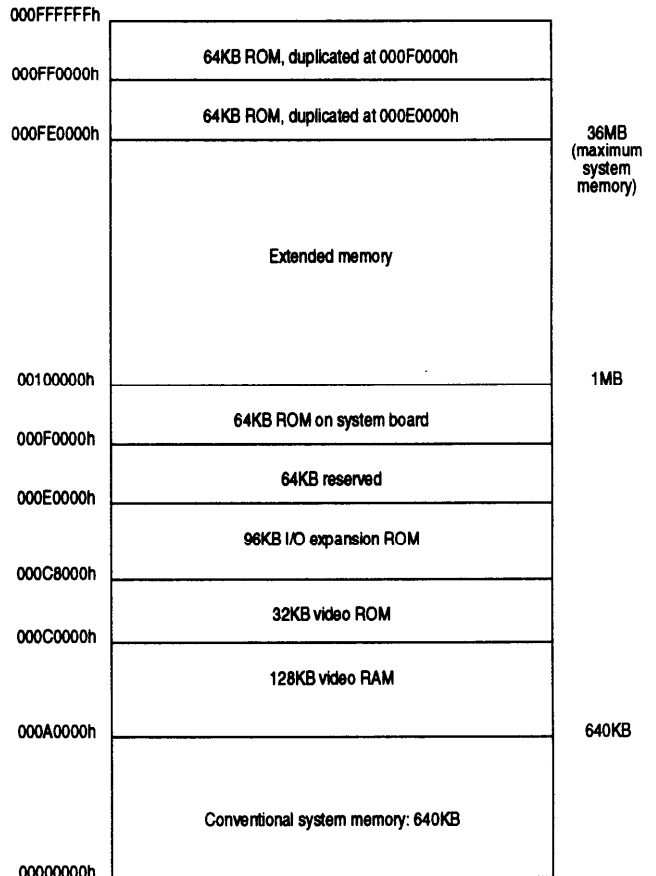
DMA Assignments

Level	Assigned device
DMA0	Available (8-bit)
DMA1	Available (8-bit)
DMA2	Diskette controller (8-bit)
DMA3	Available (8-bit)
DMA4	Cascade for DMA controller 1
DMA5	Available (16-bit)
DMA6	Available (16-bit)
DMA7	Available (16-bit)

Hardware Interrupts

IRQ no.	Function
IRQ0	Timeout 0 (internal connection)
IRQ1	Keyboard
IRQ2	Cascade IRQ9
IRQ3	Serial port 2
IRQ4	Serial port 1
IRQ5	Parallel port 2
IRQ6	Diskette drive controller
IRQ7	Parallel port 1
IRQ8	Real-time clock
IRQ9	Available
IRQ10	Available
IRQ11	Available
IRQ12	PS/2 mouse
IRQ13	Math coprocessor
IRQ14	Hard disk drive controller
IRQ15	Available

System Memory Map



System I/O Address Map

Hex address	Assigned device
000 - 01F	DMA controller 1, 8237A-5
020 - 03F	Interrupt controller 1, 8259A, master
022 - 024	Chip set configuration register
040 - 05F	Timer, 8254-2
060 - 06F	Keyboard controller, 8042
070 - 07F (CMOS)	Real-time clock NMI (non-maskable interrupt) mask
080 - 09F	DMA page register, 74LS612
0A0 - 0BF	Interrupt controller 2, 8259A
0C0 - 0DF	DMA controller 2, 8237A-5
0F0	Clear math coprocessor busy
0F1	Reset math coprocessor
0F8 - 0FF	Math coprocessor
1F0 - 1F8	Hard disk
200 - 207	Game I/O
222	CPU speed detection
278 - 27F	Parallel printer port 2
2B0 - 2DF	Alternate enhanced graphics adapter
2E1	GPIO (adapter 0)
2E2, 2E3	Data acquisition (adapter 0)
2F8 - 2FF	Serial port 2
300 - 31F	Prototype card
360 - 363	PC network (low address)
368 - 36B	PC network (high address)
378 - 37F	Parallel printer port 1
380 - 38F	SDLC, bisynchronous 2
390 - 393	Cluster
3A0 - 3AF	SDLC, bisynchronous 1
3B0 - 3BF	Monochrome display and printer adapter
3C0 - 3CF	Enhanced graphics adapter
3D0 - 3DF	Color graphics monitor adapter
3F0 - 3F7	Diskette drive controller
3F8 - 3FF	Serial port 1
6E2, 6E3	Data acquisition (adapter 1)
790 - 793	Cluster (adapter 1)
AE2, AE3	Data acquisition (adapter 2)
B90, B93	Cluster (adapter 2)
EE2, EE3	Data acquisition (adapter 3)
1390 - 1393	Cluster (adapter 3)
22E1	GPIO (adapter 1)
2390 - 2393	Cluster (adapter 4)
42E1	GPIO (adapter 2)
62E1	GPIO (adapter 3)
82E1	GPIO (adapter 4)
A2E1	GPIO (adapter 5)
C2E1	GPIO (adapter 6)
E2E1	GPIO (adapter 7)

Connector Pin Assignments

Parallel port connector pin assignments (CN8)

Pin	Signal	Pin	Signal	Pin	Signal
1	Strobe	10	ACck	19	Ground
2	Data 0	11	Busy	20	Ground
3	Data 1	12	Paper out	21	Ground
4	Data 2	13	Select	22	Ground
5	Data 3	14	Auto feed	23	Ground
6	Data 4	15	Error	24	Ground
7	Data 5	16	Init	25	Ground
8	Data 6	17	Selectin		
9	Data 7	18	Ground		

Serial port connector pin assignments (CN9, CN10)

Pin	Signal	Pin	Signal
1	Data center detect	6	Data set ready
2	Receive data	7	Request to send
3	Transmit data	6	Clear to send
4	Data terminal ready	9	Ring Indicator
5	Ground		

Keyboard connector pin assignments (CN5)

Pin	Signal	Pin	Signal
1	Data	4	Vcc
2	Reset	5	clock
3	Ground	6	NC

Mouse connector pin assignments (CN4)

Pin	Signal	Pin	Signal
1	Data	4	VCC
2	NC	5	clock
3	Ground	6	NC

VGA port connector pin assignments (CN13)

Pin	Signal	Pin	Signal	Pin	Signal
1	Red	6	Ground	11	Reserved
2	Green	7	Ground	12	Reserved
3	Blue	6	Ground	13	Horizontal sync
4	NC	9	NC	14	Vertical sync
5	Ground	10	Ground	15	NC

VGA feature connector (CN14)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	P0	8	P7	15	Ground	22	Ground
2	P1	9	VDCLK	16	Ground	23	Ground
3	P2	10	Blank*	17	EVIDEO*	24	Ground
4	P3	11	Horizontal sync	18	ESYNC*	25	NC
5	P4	12	Vertical sync	19	EDCLK*	26	NC
6	P5	13	Ground	20	NC		
7	P6	14	Ground	21	Ground		

*Active low logic

Power supply connector pin assignments (CN1)

Pin	Signal	Pin	Signal
1	Power good	7	Ground
2	+5 VDC	8	Ground
3	+12 VDC	9	-5 VDC
4	-12 VDC	10	+5 VDC
5	Ground	11	+5 VDC
6	Ground	12	+5 VDC

Diskette drive connector pin assignments (CN11)

Pin**	Signal	Pin**	Signal
2	RPM	20	Step pulse
4	NC	22	Write data
6	NC	24	Write enable
8	Index	26	Track 0
10	MotorA	28	Write protect
12	DriveB	30	Read data
14	DriveA	32	Select head
16	MotorB	34	Disk change
18	Direction		

**All odd-numbered pins are grounds

Hard disk drive connector pin assignments (CN12)

Pin	Signal	Pin	Signal	Pin	Signal
1	RESET*	15	D1	29	NC
2	Ground	16	D14	30	Ground
3	D7	17	D0	31	IRQ14
4	D8	18	D15	32	IOCS16*
5	D6	19	Ground	33	A1
6	D9	20	Key (NC)	34	NC
7	D5	21	NC	35	A0
8	D10	22	Ground	36	A2
9	D4	23	IOW*	37	CS0*
10	D11	24	Ground	38	CS1*
11	D3	25	IOR*	39	Active*
12	D12	26	Ground	40	Ground
13	D2	27	NC		
14	D13	28	ALE		

*Active low logic

Speaker connector pin assignments (SP1)

Pin	Signal
1	Speaker
2	(+)

Battery connector pin assignments (CN3)

Pin	Signal
1	RED wire (3.6v)
2	BLACK (Ground)

Option card riser board connector pin 1; assignments (CN2)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
A1	+12 VDC	A31	SA3	B1	+12 VDC	B31	BALE
A2	Ground	A32	SA2	B2	+5 VDC	B32	+5 VDC
A3	Ground	A33	SA1	B3	Ground	B33	OSC
A4	IOCHCK*	A34	SA0	B4	Ground	B34	Ground
A5	SD7	A35	Ground	B5	Resetdrv	B35	Ground
A6	SD6	A36	Ground	B6	+5 VDC	B36	+5 VDC
A7	SD5	A37	+5 VDC	B7	IRQ9	B37	+5 VDC
A8	SD4	A38	SBHE*	B8	-5 VDC	B38	Memcs16*
A9	SD3	A39	LA23	B9	DRQ2	B39	IOCS16*
A10	SD2	A40	LA22	B10	-12 VDC	B40	IRQ10
A11	SD1	A41	LA21	B11	OWS*	B41	IRQ11
A12	SD0	A42	LA20	B12	+12 VDC	B42	IRQ12
A13	IOCHRDY	A43	LA19	B13	Ground	B43	IRQ15
A14	AEN	A44	LA18	B14	SMMW*	B44	IRQ14
A15	SA19	A45	LA17	B15	SMEMR*	B45	DACK0*
A16	SA18	A46	MEMR*	B16	IOW*	B46	DRQ0
A17	SA17	A47	MEMW*	B17	IOR*	B47	DACK5*
A18	SA16	A48	SD8	B18	DACK3*	B48	DRQ5
A19	SA15	A49	SD9	B19	DRQ3	B49	DACK6*
A20	SA14	A50	SD10	B20	DACK1*	B50	DRQ6
A21	SA13	A51	SD11	B21	DRQ1	B51	DACK7*
A22	SA12	A52	SD12	B22	Refresh*	B52	DRQ7
A23	SA11	A53	SD13	B23	Sysclk	B53	+5 VDC
A24	SA10	A54	SD14	B24	IRQ7	B54	Master*
A25	SA9	A55	SD15	B25	IRQ6	B55	Ground
A26	SA8	A56	Ground	B26	IRQ5	B56	Ground
A27	SA7	A57	Ground	B27	IRQ4	B57	Ground
A28	SA6	A58	Ground	B28	IRQ3	B58	+5 VDC
A29	SA5	A59	+5 VDC	B29	DACK2*	B59	+5 VDC
A30	SA4	A60	+5 VDC	B30	TC	B60	+5 VDC

*Active low logic

Option slot connector pin assignments

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
A1	IOCHCK*	A26	SA5	B20	SYSClk	C14	SD11
A2	SD7	A27	SA4	B21	IRQ7	C15	SD12
A3	SD6	A28	SA3	B22	IRQ6	C16	SD13
A4	SD5	A29	SA2	B23	IRQ5	C17	SD14
A5	SD4	A30	SA1	B24	IRQ4	C18	SD15
A6	SD3	A31	SA0	B25	IRQ3	D1	Memcs16*
A7	SD2	B1	Ground	B26	DACK2*	D2	IOCS16*
A8	SD1	B2	Resetdrv	B27	T/C	D3	IRQ10
A9	SD0	B3	+5 VDC	B28	BALE	D4	IRQ11
A10	IORDY	B4	IRQ9	B29	+5 VDC	D5	IRQ12
A11	AEN	B5	-5 VDC	B30	OSC	D6	IRQ15
A12	SA19	B6	DRQ2	B31	Ground	D7	IRQ14
A13	SA18	B7	-12 VDC	C1	SBHE*	D8	DACK0*
A14	SA17	B8	OWS*	C2	SA23	D9	DREQ0
A15	SA16	B9	+12 VDC	C3	SA22	D10	DACK5*
A16	SA15	B10	Ground	C4	SA21	D11	DREQ5
A17	SA14	B11	SMMW*	C5	SA20	D12	DACK6*
A18	SA13	B12	SMEMR*	C6	SA19	D13	DRQ6
A19	SA12	B13	IOW*	C7	SA18	D14	DACK7*
A20	SA11	B14	IOR*	C8	SA17	D15	DREQ7
A21	SA10	B15	DACK3*	C9	MEMR*	D16	+5 VDC
A22	SA9	B16	DREQ3	C10	MEMW*	D17	MASTER*
A23	SA8	B17	DACK1*	C11	SD8	D18	Ground
A24	SA7	B18	DREQ1	C12	SD9		
A25	SA6	B19	REF*	C13	SD10		

*Active low logic

SIMM sockets (SIMM1, SIMM2)

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	Ground	19	NC	37	DP1	55	DQ11
2	DQ0	20	DQ4	38	DP3	56	DQ27
3	DQ16	21	DQ20	39	Ground	57	DQ12
4	DQ1	22	DQ5	40	CAS0*	58	DQ28
5	DQ17	23	DQ21	41	CAS2*	59	VCC
6	DQ2	24	DQ6	42	CAS3*	60	DQ29
7	DQ18	25	DQ22	43	CAS1*	61	DQ13
8	DQ3	26	DQ7	44	RAS0*	62	DQ30
9	DQ19	27	DQ23	45	RAS1*	63	DQ14
10	VCC	28	A7	46	A10A	64	DQ31
11	NC	29	NC	47	WE*	65	DQ15
12	A0	30	VCC	48	A10B	66	NC
13	A1	31	A8	49	DQ8	67	PD1
14	A2	32	A9	50	DQ24	68	PD2
15	A3	33	RAS3*	51	DQ9	69	PD3
16	A4	34	RAS2*	52	DQ25	70	PD4
17	A5	35	DP2	53	DQ10	71	NC
18	A6	36	DP0	54	DQ26	72	Ground

* Active low logic

Installation/Support Tips

Installing Diskette Drives

Make sure that the drive type has been correctly selected in the SETUP program.

Installing Hard Disk Drives

- When installing a hard disk drive, see the hard disk drive type tables on page 6 to select the correct type number for the drive. If the parameters for your drive are not listed, you can define your own drive type by selecting drive type 47 and entering the drive's exact parameters for this user-defined drive type.
- It is recommended that a 16-bit, AT-type hard disk controller be used if you are installing a drive that cannot use the embedded IDE interface. If you install a non-IDE hard disk drive and controller card, you need to use the SETUP program to disable the built-in IDE hard disk drive interface.

Software Problems

- When installing a copy-protected software package, first try the installation at high speed. If this does not work properly, select low speed by pressing the Ctrl and Alt keys and the - key on the numeric keypad simultaneously. Try loading the program at low speed and then switching to high speed, if possible.
- When using a software package that uses a key disk as its copy-protection method, try loading it at high speed. If this does not work, load it at low speed.

Booting Sequence

If you cannot boot the computer from the hard disk, make sure the booting sequence in SETUP is set to A: then C: . Then boot the computer from a system diskette in drive A.

Password

Make sure that you do not forget the password you set up. If you do:

1. Disable the password by setting DIP switch 4 on the main system board to OFF.
2. Then turn the computer on and off again.
3. Set DIP switch 4 to ON to enable the password function.
4. Run SETUP to enter a new password, if desired.

You can also enter a hot key designation in SETUP to secure the system from unauthorized users. Once a password and hot key have been set, when the hot key is pressed, the keyboard and mouse lock until the the user enters the password.

Information Reference List

Engineering Change Notices

None.

Technical Information Bulletins

None.

Product Support Bulletins

None.

Related Documentation

TM-ENDVRL	EPSON Endeavor L Service Manual
PL-ENDVRL	EPSON Endeavor L Parts Price List
400305600	EPSON Endeavor L User's Guide