

Computer Specifications

CPU and Memory

64-bit CPU	586-class processor
Green PC energy saver	Energy Star compliant, low power standby, doze, and suspend modes for the CPU, hard disk drive, and VGA display; select timeout periods, power-saving rates, and other options in SETUP
Memory	64-bit DRAM interface supporting 8MB RAM standard on two 4MB SIMMs; expandable to 128MB using 1MB, 2MB, 4MB, 8MB, 16MB, 32MB, and 64MB SIMMs; SIMMs must be tin-plated, 72-pin, 32-bit or 36-bit, fast-page mode type with access speed of 70ns or faster
ROM	128KB Phoenix's system BIOS, video BIOS, and SETUP code in Flash ROM on main system board
Video RAM	1MB video DRAM on main system board; expandable to 2MB using two 512KB, 40-pin, SOJ flat pack video DRAM chips
Shadow RAM	Supports shadowing of system and video BIOS ROM into RAM; video and option ROM shadowing selectable in SETUP
Cache	Internal cache in the 586-class processor; 256KB, 512KB, or 1MB of external cache installed on 32K x 8, 64K x 8, or 128K x 8, 3.3 volt, 15ns cache SRAM DIP chips and two 32K x 8, 28-pin, 5 volt, 15ns tag chips (one for the tag and one for the ALT bit); internal and external cache controllable through SETUP
Math coprocessor	Math coprocessor built into the 586-class processor
Clock/calendar	Real-time clock, calendar, and CMOS RAM socketed on main system board with on-chip backup battery

Controllers

PCI chipset Provides PCI caching, memory, and control for the PCI bus and the two-channel PCI IDE interface (described under 'Hard disk and other IDE devices' below); integrated PCI bridge translates CPU bus cycles to PCI bus cycles and CPU-to-PCI memory write cycles to PCI burst cycles

Video S3™ Trio64™ PCI VGA controller with integrated 24-bit RAMDAC, 64-bit DRAM interface; includes power-saving and multimedia features; supports resolutions up to 1280 x 1024 in 16 colors with 1MB of video RAM, increasing to 256 colors with **2MB** of video RAM; True Color support in the 640 x 480 resolution with 2MB of video **RAM**

Diskette Controller on main system board supports up to two diskette drives, or one diskette/combo diskette and one tape drive

Hard disk and other IDE devices Two PCI, ATA-2 compatible, IDE interfaces on main system board support up to four IDE devices (two on each interface); IDE CD-ROM drives cannot be connected to the primary IDE interface or to the same interface as IDE hard disk drives; BIOS provides hard disk auto-sensing and enhanced IDE functions

Interfaces

Monitor Energy Star compliant video interface for fixed or multi-frequency monitor built into system board; 15-pin, D-shell connector

Parallel One standard, multimode parallel interface built into main system board; supports 8-bit unidirectional, 16-bit bidirectional, and ECP (Extended Capability Port) modes; 25-pin, D-shell connector; operation controllable by SETUP program and jumpers

Serial Two high-speed RS-232C, programmable, asynchronous interfaces built into main system board; 16C550 compatible; 9-pin, D-shell connectors; operation controllable through SETUP

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 Connector card with five I/O expansion slots; three ISA compatible (8.33 MHz bus speed) and two PCI compatible (33 MHz bus speed); PCI slots support up to two PCI bus masters

Speaker Internal

Mass Storage *Slimline computer*
Internal bays:
One 3.5-inch wide, one-inch high drive
Externally accessible bays:
One 3.5-inch wide, one-inch high drive and two 5.25-inch wide, half-height drives

Tower computer
Front internal bay:
One 3.5-inch wide, half-height drive
Rear internal bracket:
Two 3.5-inch wide, one-inch high drives or one 3.5-inch wide, full-height drive
Externally accessible bays:
Two 3.5-inch wide, one-inch high drives and two 5.25-inch wide, half-height drives

Diskette drive types **3.5-inch** diskette drive, 720KB or 1.44MB storage capacity; 5.25-inch diskette drive, 360KB or 1.2MB storage capacity; or a combination 3.5-inch/5.25-inch diskette drive

Hard disk drive types 5.25-inch or 3.5-inch form factor hard disk drive(s), up to half-height size; maximum of four drives

Other devices Half-height tape drives, CD-ROM drives, optical drives, PCMCIA card readers, or other devices; 5.25-inch, or 3.5-inch with mounting frames

Keyboard Detachable, two-position height; 101, 102, or 104 sculpted keys; country-dependent main typewriter keyboard; numeric/cursor control keypad; four-key cursor control keypad; 12 function keys

Mouse Detachable, two-button, PS/2 compatible

SETUP Program Stored in ROM accessible by pressing Del during boot

System security User and Supervisor level passwords available for system boot or diskette access

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

Physical Characteristics

Dimension	Slimline computer	Tower computer
Width	16.8 inches (427 mm)	7.125 inches (181 mm)
Depth	15.8 Inches (401 mm)	16.25 Inches (413 mm)
Height	4.4 inches (112 mm)	13.25 inches (337 nun)
Weight	16.2 lb (8.3 kg) with one diskette drive, but without keyboard	20.6 lb (9.3 kg) with one diskette drive. but without keyboard

Power Supply

Type	200 Watt, UL/TUV/CSA listed, fan-cooled
Input ranges	90-130 VAC or 180-270 VAC; switch-selectable
Maximum output	+5 VDC at 20 Amps, -5 VDC at 0.5 Amp +12 VDC at 8 Amps, -12 VDC at 0.5 Amp
Frequency	47 to 63Hz
Cables	Two to main system board, five to mass storage devices; for more than five devices, Y cables can be installed on the existing cables

Option slot power limits

Output Voltage (VDC)	-5 volts	+12 Volts	-12 Volts
For all slots	12 Amps	0.4 Amp	4.0 Amps 0.4 Amp

Environmental Requirements

Condition	Operating range	Storage range
Temperature	41° to 90° F (5° to 32° C)	-4° to 140° F (-20° to 60° C)
Humidity (non-condensing)	20% 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)

Jumper Settings

Miscellaneous jumper settings

Jumper number	Jumper setting	Function
JP1	1-2 * 2-3	Fast-page mode video RAM Extended data out mode video RAM
JP2	1-2 * 2-3	Enable built-in VGA controller Disable built-in VGA controller
JP4	1-2 * 2-3	Enable SMC 37C665 signal (diskette drive and multi-parallel port) Disable SMC 37C665 signal
JP5	1-2 2-3 * Off	EPROM Program flash ROM Write-protect flash ROM
JP6	On Off *	Clears the CMOS SETUP values Normal CMOS operation
JP12	1-2 * 2-3	Disable DRAM parity checking if you installed 32-bit SIMMs Enable DRAM parity checking if you installed 36-bit SIMMs
JP13	Off * On	Enable IDE controller Disable IDE controller
JP14	2-3 * 1-2, 3-4	All SIMMs are single-sided Other SIMMs included
JP17	1-2 * 2-3	Write-back cache mode Write-through cache mode
JP18	1-2 2-3 *	Always write Write to invalidated

* Default setting

CPU clock jumper settings

CPU clock speed*	JP16 pins 1-2	JP16 pins 3-4
50 MHz (for 75 MHz CPU)	Off	Off
60 MHz (for 90 MHz CPU)	on	on
100 MHz (for 100 MHz CPU)	on	on

* Default setting depends on speed of CPU

Parallel port ECP mode DMA channel (DRQ) settings

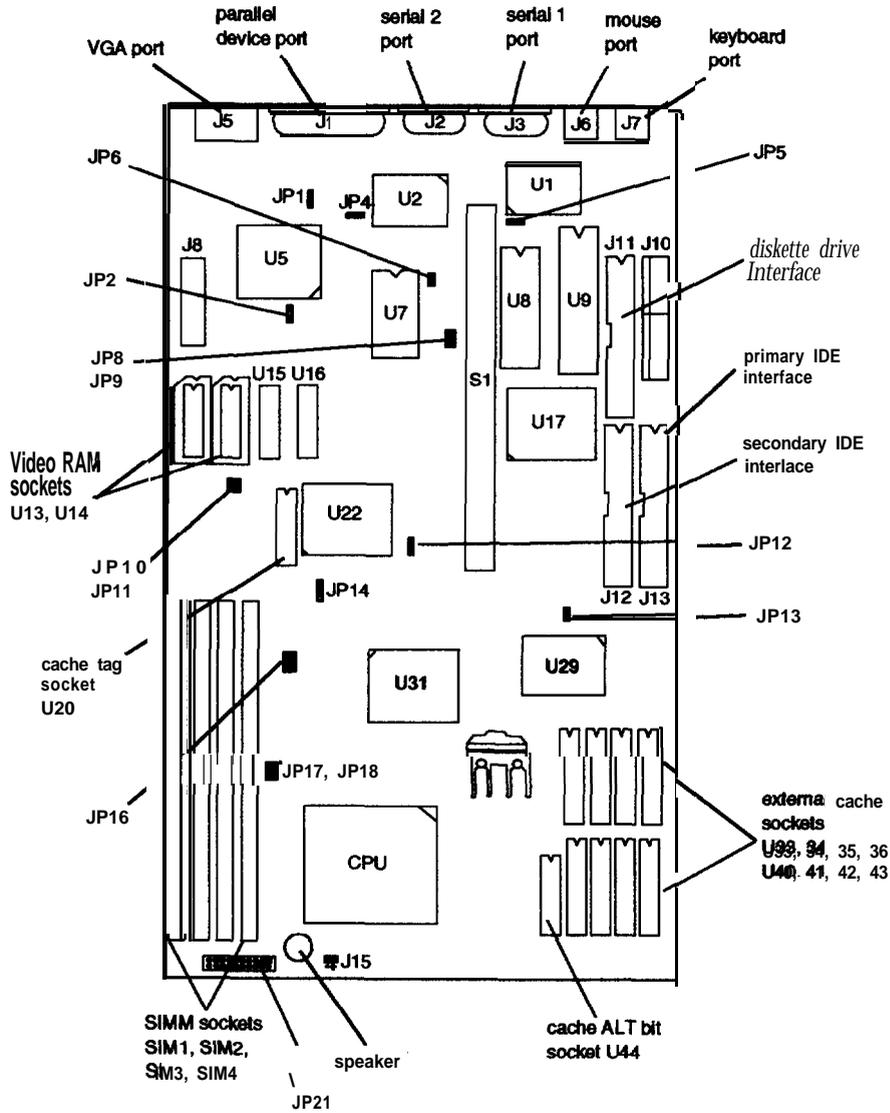
Jumper number	DRQ1 DMA channel	DRQ3 DMA channel
JP8	On pins 1-2	On pins 2-3
JP9	On pins 1-2	On pins 2-3

External cache size jumper settings

External cache size	JP10	JP11
256KB	Off	on
512KB	On	Off
1MB	On	on

System Board Components

The diagram below illustrates the components on the ActionPC 8000/ActionTower 8000 board. The table following it describes these components.



System board components

Connector	Function
J1	Parallel port
J2	Serial 2 port
J3	Serial 1 port
J5	15-pin DIN type VGA port
J6	PS/2 mouse port
J7	PS/2 keyboard port
J8	VGA feature connector
J10	Power connector
J11	Diskette drive connector
J12	Secondary IDE connector
J13	Primary IDE connector
J15	HDD LED connector
JP21	Pins 2-3: Turbo LED connector Pins 910: Hardware reset connector Pins 11-13: Power LED connector Pin 17-20: Speaker connector
S1	Riser card slot; default settings of PCI AD Select care AD28 and AD30
SIM1 - SIM4	SIMM sockets
U1	UMC UM82C865 I/O TTL Integrator
U2	SMC FDC37C865 AT-bus super I/O controller chip
U5	S3 Trio064 VGA controller chip with integrated RAMDAC
U7	Dallas DS12887A real-time clock chip
U8	Phoenix system and video BIOS chip
U9	AMIKEY-2 keyboard controller
U13, U14	Video DRAM expansion sockets
U15, U16	Soldered video RAM
U17, U22, U29, U31	SIS 85C503, SIS85C501, CMD PCI0640B, and SIS 85C502 PCI chipset
U20	Cache tag SRAM chip
U33-U36, U40-U43	External cache memory sockets
U44	Cache ALT bit chip socket

SIMM Installation

The computer comes with 8MB of RAM standard on two 4MB SIMMs. You can increase the memory up to 128MB using pairs of 1MB, 2MB, 4MB, 8MB, 16MB, 32MB, or 64MB SIMMs. The SIMMs must be tin-plated, 72-pin, single- or double-sided, fast-page mode, parity or no-parity type with an access speed of 70ns or faster. Be sure all the SIMMs operate at the same speed.

The table below lists all the possible SIMM configurations; do not install SIMMs in any other configuration.

SIMM configurations

Bank 0		Bank 1		Total memory
SIM1	SIM2	SIM3	SIM4	
1MB	1MB	—	—	2MB
1MB	1MB	1MB	1MB	4MB
2MB	2MB	—	—	4MB
2MB	2MB	2MB	2MB	8MB
2MB	2MB	16MB	16MB	36MB
4MB	4MB	—	—	8MB
4MB	4MB	4MB	4MB	16MB
8MB	8MB	—	—	16MB
8MB	8MB	4MB	4MB	24MB
8MB	8MB	8MB	8MB	32MB
8MB	8MB	16MB	16MB	48MB
16MB	16MB	16MB	16MB	64MB
24MB	4MB	4MB	8MB	8MB
32MB	32MB	—	—	64MB
32MB	32MB	32MB	32MB	128MB
64MB	64MB	—	—	128MB

Video Memory

The computer comes with 1MB of video memory. You can increase the video memory to 2MB by installing two 512KB, 40-pin, SOJ flat pack video DRAM chips.

Video resolutions and colors

Resolution	Memory requirements	Colors	Refresh rates (Hz)	Remarks
640 x 480	1MB	256	60/72/75	8 bits/pixel
	1MB	32K/64K	60/72/75	16 bits/pixel
	2MB	16.8M (True Color)	60/72/75	24 bits/pixel
800 x 600	1MB	256	56/60/72/75	8 bits/pixel
	1MB	32K/64K	60/72/75	16 bits/pixel
	2MB	16.8M (True Color)	60/72/75	24 bits/pixel
1024 x 768	1MB	256	43.5/60/70/75	8 bits/pixel*
	2MB	64K	43.5/60/70/75	16 bits/pixel**
1280 x 1024	1MB	16	43.5/60/72/75	4 bit planes*
	2MB	256	43.5/60/72/75	8 bits/pixel**
1600 x 1200	2MB	256	43.5	8 bits/pixel**

* Non-interlaced and interlaced

** Interlaced

External Cache

The computer has 256KB of external cache installed. You can expand the external cache to 512KB or 1MB with 64K x 8 or 128K x 8, 3.3 volt, 15ns SRAM DIP chips.

You must install chips in one of the configurations in the table below (each bank contains four cache memory sockets).

Use only 3.3 volt cache SRAM chips made by Alliance Semiconductor.

Cache memory configurations

BANK 0 U33, 34, 35, 36	BANK 1 U40, 41, 42, 43	Tag SRAM U20	ALT bit U44	Total external cache
32K x 8, 28-pin (3.3 V)	32K x 8, 28-pin (3.3 V)	32K x 8, 28-pin (5 V)	32K x 8, 28-pin (5 V)	256KB
64K x 8, 28-pin (3.3 V)	64K x 8, 28-pin (3.3 V)	32K x 8, 28-pin (5 V)	32K x 8, 28-pin (5 V)	512KB
128K x 8, 32-pin (3.3 V)	128K x 8, 32-pin (3.3 V)	32K x 8, 28-pin (5 V)	32K x 8, 28-pin (5 V)	1MB

Processor Upgrades

You can upgrade your processor with a faster one to improve system performance. If you upgrade the processor in the tower computer, you may want to lay the computer on its side to make the installation process easier. If you are upgrading to another processor, make sure you use a standard 3.3 V processor.

Hard Disk Drive Types

The computer comes with a hard disk auto-sensing feature. To use it, select one of the drives you have installed from the Fixed Disk Setup screen. On the screen that appears for that drive, press Enter to select the Autotype Fixed Disk option. The system detects the type of hard disk drive, fills in the drive's parameters, and sets the remaining options on the screen.

Hard Disk Drive Information

The IDE hard disk drives listed in the tables below are qualified for use in the computer.

IDE hard disk drive parameters

Parameters	Conner®						Western Digital®			
	CFS1275A	CFS860A	CFS640A	CFS425A	CFS420A	CFS270A	AC2540	AC2420	AC2340	AC2250
Unformatted capacity (MB)	1275	850	540	425	420	270	540	425	341	256
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
Weight (lb)	1.25	1.25	1.2	1.1	1.16	1.1	1.2	1.12	1.12	1.12
Cylinders	3687	3687	2805	839	2388	525	1048	2720	2233	2233
Disks	3	2	2	1	2	1	2	2	2	2
Heads	6	4	4	2	4	2	4	4	4	3
Sectors per track	78 - 144	78 - 144	79 - 119	78 - 144	63 - 100	72 - 117	63	55 - 99	56 - 96	56 - 96
Rotational speed (RPM)	3600	3600	3600	3600	3600	3400	4500	3314	3322	3322
Buffer size (KB)	64	64	64	64	32	32	128	128	128	64
Average seek time (ms)	<15	<15	14	14	14	14	11	<13	<13	<13
Encoding method	RLL 1,7	RLL 1,7	RLL 1,7	RLL 1,7						
Power dissipation (seek)	5.6 W	5.6 W	4.3 W	3.9 W	5-12 W	3.9 W	7.0 W	5.2 W	5.2 W	5.2 W
Logical parameters										
Cylinders	2479	1652	1050	826	826	525	1048	989	1010	1010
Heads	16	16	16	16	16	16	16	15	12	9
Precomp zone	0	0	0	0	0	0	1048	989	1011	1011
Landing zone	2479	1652	1050	826	826	525	1048	989	1011	1011
Sectors	63	63	63	63	63	63	63	56	55	55

IDE hard disk drive jumper settings

Model number	Single drive	Master drive	Slave drive
Conner CFS1275A	C/D jumpered	C/D jumpered	No jumpers
Conner CFS860A	C/D jumpered	C/D jumpered	No jumpers
Conner CFS640A	C/D jumpered	C/D jumpered	No jumpers
Conner CFS425A	C/D jumpered	C/D jumpered	No jumpers
Conner CFS420A	C/D jumpered	C/D jumpered	No jumpers
Conner CFS270A	C/D jumpered	C/D jumpered	No jumpers
Western Digital AC2540	No jumpers	MA jumpered	SL jumpered
Western Digital AC2420	No jumpers	MA jumpered	SL jumpered
Western Digital AC2340	No jumpers	MA jumpered	SL jumpered
Western Digital AC2250	No jumpers	MA jumpered	SL jumpered

DMA Assignments

Level	Assigned device
DMA0	Reserved
DMA1	Available
DMA2	Diskette drive controller
DMA3	Available
DMA4	Cascade from DMA1 to DMA2
DMA5	Spare
DMA6	Spare
DMA7	Spare

Hardware Interrupts

IRQ no.	Function
IRQ0	Internal timer, PIT A counter 0 output
IRQ1	Keyboard
IRQ2	Cascade for IRQ9
IRQ3	Serial port 2
IRQ4	Serial port 1
IRQ5	Available
IRQ6	Diskette drive controller
IRQ7	Parallel port 1
IRQ8	Real-time clock
IRQ9	Available
IRQ10	Reserved
IRQ11	Reserved
IRQ12	PS/2 mouse
IRQ13	Math coprocessor
IRQ14	Primary IDE controller
IRQ15	Secondary IDE controller

System Memory Map

Address range	Function
FE0000h-FFFFFFh	128KB duplication of ROM BIOS stored at 0E0000h-0FFFFFFh
100000h-FDFFFFh	System extended memory (128MB maximum)
0E0000h-0FFFFFFh	128KB ROM BIOS
08000h-0DFFFFh	Adapter ROM BIOS
0C0000h-0C7FFFh	Video ROM BIOS
0A0000h-0BFFFFh	128KB Video memory
000000h-09FFFFh	640KB base memory

System I/O Address Map

Hex address	Assigned device
000 - 01F	DMA controller 1, 8237
020 - 03F	Interrupt controller 1, 8259
022 - 024	Reserved
040 - 05F	Timer, 8254
060 - 06F	Keyboard controller, 8242PE
070 - 07F	Real-time clock NMI (non-maskable interrupt)
080 - 09F	DMA page register, 74LS612
0A0 - 0BF	Interrupt controller 2, 8259
0C0 - 0DF	DMA controller 2, 8237
0F0	Clear math coprocessor
0F1	Reset math coprocessor
0F8 - 0FF	Math coprocessor
1F0 - 1F8	Primary hard disk interface
1E0 - 1E7	Secondary hard disk interface
200 - 207	Game I/O

System I/O address map (Continued)

Hex address	Assigned device
278 - 27F	Parallel printer port 2
2B0 - 2DF	Alternate enhanced graphics adapter
2E1	GPiB (adapter 0)
2E2, 2E3	Data acquisition (adapter 0)
2F8 - 2FF	Serial port 2
300 - 31F	Prototype card
360 - 363	Available
368 - 36B	Available
378 - 37A	Parallel printer port 1
380 - 38F	Available
390 - 393	Available
3A0 - 3AF	Available
3B0 - 3BF	Available
3C0 - 3CF	VGA adapter
3D0 - 3DF	VGA adapter
3F0 - 3F5	Diskette drive controller
3F8 - 3FF	Serial port 1
6E2, 6E3	Available
790 - 793	Available
AE2, AE3	Available
B90, B93	Available
EE2, EE3	Available
1390 - 1393	Available
22E1	Available
2390 - 2393	Available
42E1	Available
63E1	Available
82E1	Available
A2E1	Available
C2E1	Available
E2E1	Available

Connector Pin Assignments

Parallel port connector pin assignments (J1)

Pin	Signal	Pin	Signal	Pin	Signal
1	Strobe*	10	ACK *	19	Signal ground
2	Data 0	11	Busy	20	Signal ground
3	Data 1	12	PE	21	Signal ground
4	Data 2	13	Select	22	Signal ground
5	Data 3	14	AFD *	23	Signal ground
6	Data 4	15	Error *	24	Signal ground
7	Data 5	16	Init *	25	Signal ground
8	Data 6	17	Selectin *	—	—
9	Data 7	18	Signal ground	—	—

* Active LOW logic

Serial port connector pin assignments (J2 and J3)

Pin	Signal	Pin	Signal
1	Data carrier detect	6	Data set ready
2	Receive data	7	Request to send
3	Transmit data	8	Clear to send
4	Data terminal ready	9	Ring indicator
5	Ground	—	—

Mouse and keyboard connector pin assignments (J6 and J7)

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

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VGA port connector pin assignments (J5)

Pin	Signal	Pin	Signal	Pin	Signal
1	Red	6	Red ground	11	NC
2	Green	7	Green ground	12	Monitor detect
3	Blue	8	Blue ground	13	Horizontal sync
4	NC	9	NC	14	Vertical sync
5	Ground	10	Ground	15	NC

LED connector pin assignments (JP21)

Pin	Signal	Pin	Signal
1	NC	11	Power LED (yellow)
2	Turbo LED (yellow)	12	NC
3	Turbo LED (white)	13	Power LED (white)
4	NC	14	NC
5	NC	15	NC
6	NC	16	NC
7	NC	17	Speaker (red)
8	NC	18	NC
9	Hardware reset (white)	19	NC
10	Hardware reset (yellow)	20	Speaker (black)

HDD LED connector pin assignments (J15)

Pin	Signal	Pin	Signal
1	Red	2	White

Power supply connector pin assignments (J10)

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 (J11)

Pin*	Signal	Pin*	Signal
2	NC	20	Step
4	NC	22	Write data
6	NC	24	Write enable
8	Index	26	Track 0
10	Motor A	28	Write protect
12	Drive B	30	Read data
14	Drive A	32	Select header 0
16	Motor B	34	Disk change
18	Direction		

* All odd-numbered pins are grounds

IDE drive connector pin assignments (J12 and J13)

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	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	IOCHRDY*		
14	D13	28	BALE		

*Active low logic

Option card riser board connector pin assignment

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	SMEMW*	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

ISA 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	SMEMW*	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 socket connector pin assignments

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

Tested Operating Environments

The following operating environments have been tested for compatibility with the system.

Microsoft MS-DOS 3.3 and later

Novell NetWare 3.12 and 4.1

Novell Personal NetWare

IBM OS/2; including version 3.0 (Warp)

SCO UNIX

SCO Open Desktop 3.1

Microsoft Windows 3.0 and later

Microsoft Windows 95

Microsoft Windows for WorkGroups

Microsoft Windows NT; including version 3.5

- Certified as workstation end file server in certain configurations

As new environments become available, these also will be tested.

Installation/Support Tips

Installing Diskette Drives

- ❑ Make sure that the drive type has been correctly selected in the SETUP program.
- ❑ Make sure jumper JP4 is set to position 1-2 to enable the diskette drive controller.

Installing Hard Disk Drives

- ❑ If you are installing a drive that cannot use the embedded IDE interface (such as an ESDI drive), it is recommended that you use a 16-bit, AT-type hard disk controller or, for higher performance, a PCI hard disk controller. If you install a non-IDE hard disk drive and controller card, you must set jumper JP13 to on to disable the built-in IDE hard disk drive interface. Also, remove the hard disk drive ribbon connector from the system board.
- ❑ When installing an IDE hard disk drive, use the auto-sensing feature in SETUP to select the correct type for the drive. If the auto-sensing feature does not produce a match for the drive, you can define your own drive type by selecting User as the type and entering the drive's parameters.

Installing Option Cards

If you are installing a video adapter card, make sure you disable the built-in VGA controller by setting jumper JP2 to 2-3.

Installing SIMMs

Make sure you check jumpers JP12 and JP14 and change the settings if necessary when you install SIMMs.

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

If you forget your password, you must discharge your CMOS memory as follows:

1. Turn off the computer and remove the cover.
2. Disable the password by setting jumper JP6 on the main system board to on.
3. Turn the computer on, leave it on for a few seconds, then turn it off again.
4. Set jumper JP6 back to off to select the system board battery.
5. Run SETUP to enter a new password, if desired.

Information Reference List

Engineering Change Notices

None.

Technical Information Bulletins

None.

Product Support Bulletins

None.

Related Documentation

TM-ACTPCT80	EPSON ActionPC 8000, ActionTower 8000 Service Manual
PL-ACTPCT80	EPSON ActionPC 8000, ActionTower 8000 Parts Price List
400434500-1	EPSON ActionPC 8000, ActionTower 8000 User's Guide