

CPU SPEED switch

CPU: 80286 microprocessor, 8/12 MHz
switch-selectable clock speeds

Math Coprocessor: 80287 support (option), 8MHz

RAM: 1MB on system board

ROM: 64KB

Floppy Disk Controller: Supports two drives with multiple formats; double-density 5.25 (360KB), 3.5" (720KB); high-density 5.25" (1.2MB), 3.5" (1.44MB)

I/O Expansion Slots: Five standard slots; four 16-bit, one a-bit, one special slot occupied by serial/parallel card

Speaker: Internal

Clock/Calendar RAM: 64 bytes of CMOS RAM for real-time clock, calendar, and system configuration with battery backup

Keyboard: Detachable, enhanced AT-style, 3-position, 101 sculpted keys, 58-key QWERTY configuration, 12 function keys

Power supply: Switching type, fan-cooled, worldwide, 115/230V AC, 110 watts (140 watts peak), +5V DC, +12V DC, -5V DC, -12V DC

Mass Storage: Three internal half-height devices maximum

Standard: 5.25" diskette drive; 1.2MB (high-density) storage capacity

Optional: 5.25" diskette drive; 1.2MB (high-density) storage capacity

Optional: 5.25" diskette drive; 360KB (double-density) storage capacity

Optional: 3.5" diskette drive; 1.44MB (high-density) storage capacity

Optional: 3.5" diskette drive; 720KB (double-density) storage capacity

Optional: 5.25" hard disk drive; 40MB storage capacity

Optional: 5.25" hard disk drive; 100MB storage capacity

Interfaces:

Standard: Standard 8-bit parallel; DB-25S female connector

Standard: RS-232C, programmable, asynchronous; DB-9P male connector

Standard: Mini DIN (6-pin) connector for IRQ 12 mouse or other device

Environmental Conditions:

Temperature: Operating Range: 41 to 104 degrees F (5 to 35 degrees C)
Storage Range: -40 to 158 degrees F (-40 to 60 degrees C)

Humidity: Operating Range: 20% to 80% non-condensing
storage Range: 5% to 95% non-condensing

Physical Dimensions: Width: 15.7 inches (400mm)
Depth: 16.4 inches (416.5 mm)
Height: 6.2 inches (157 mm)
Weight: 23.2lbs (10.5 kg) (single diskette drive model)
Weight: 24.9 lbs (11.3 kg) (40MB hard disk drive model)

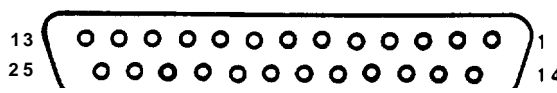
Switch Settings

There are no DIP switches on the Equity IIe. However, there is a CPU SPEED switch on the front of the unit in the lower left hand corner.

The CPU SPEED switch selects between 8MHz and 12MHz. When the computer is running at 8MHz, the power light is orange, and at 12MHz, the light is green.

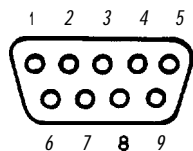
Connector Pin Assignment

Parallel Port Connector



PIN NO.	SIGNAL NAME	DIRECTION	DESCRIPTION
1	- STROBE	O	
2	DATA0	O	Printer Data Bit 0
3	DATA1	O	Printer Data Bit 1
4	DATA2	O	Printer Data Bit 2
5	DATA3	O	Printer Data Bit 3
6	DATA4	O	Printer Data Bit 4
7	DATA5	O	Printer Data Bit 5
8	DATA6	O	Printer Data Bit 6
9	DATA7	O	Printer Data Bit 7
10	- ACK		Acknowledge
11	+ BUSY		Printer Busy
12	+ PE		End of Paper
13	+ SLCT	I	Printer Select
14	- AUTOFT		Auto Feed
15	- ERROR	I	Printer Error
16	- INIT		Printer Initialize
17	- SLCTIN	I	Printer Select In
18	GND		Ground
19	GND		Ground
20	GND		Ground
21	GND		Ground
22	GND		Ground
23	GND		Ground
24	GND		Ground
25	GND		Ground

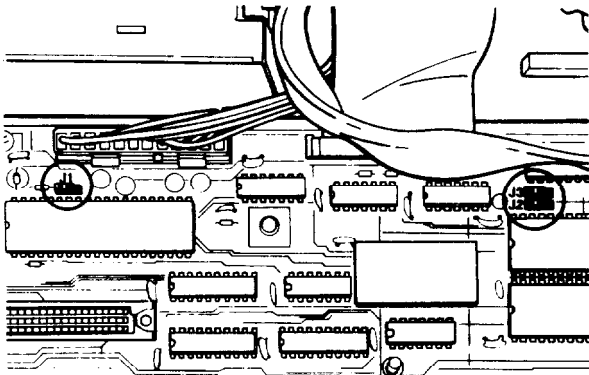
Serial Port Connector



PIN NO.	SIGNAL NAME	DIRECTION	DESCRIPTION
1	CRDET	I	Dam Carrier Detect
2	RXDT	I	Receive Dam
3	TXDT	O	Transmit Dam
4	DTR	O	Dam Terminal Ready
5	SG	-	Signal Ground
6	DSR	I	Dam Set Ready
7	RTS	O	Request to Send
a	CTS	I	Clear to Send
9	RI	I	Ring Indicator

Jumper Settings

Main Circuit Board



Keyboard Connector

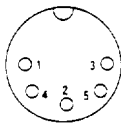


TABLE A-17. CN11 PIN ASSIGNMENT

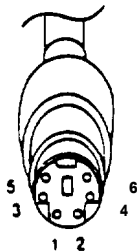
W/N NO.	SIGNAL NAME	DIRECTION	DESCRIPTION
1	KBD CLK	I/O	Keyboard Clock
2	KBD DATA	I/O	Keyboard Data
3	KEY		No Connection
4	GND		Ground
5	Vcc		Power

Main Circuit Board

Jumper			Function
1	2	3	
A			* Enables the power-on password Disables the power-on password * Sets the P-ROM type to 256KB Sets the P-ROM type to 128KB * Sets the built-in mouse port to IRQ12 Disables built-in mouse port so you can use a mouse or other pointing device connected to an option card; must use IRQ 12 signal
B	A		
	B	A	
		B	

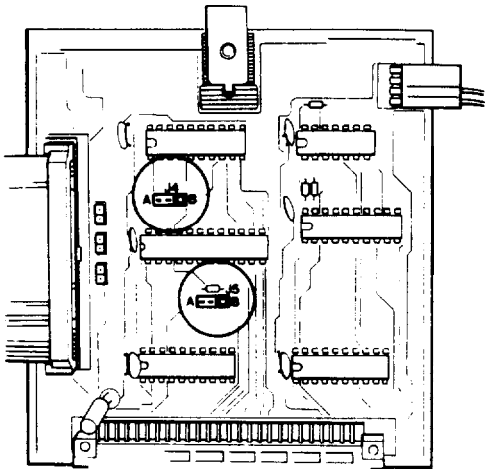
* Factory Settings

Mouse Connector



Pin	Signal	Direction	Description
1	PCDATA	I/O	Mouse Data
2	NC		Reserved
3	GND		Ground
4	+5V		+5V DC
5	PDCLOCK	I/O	Mouse Clock
6	NC		Reserved
SHIELD	Frame Ground		Shield

Hard Disk Drive Interface Board



Hard Disk Drive Interface Board

Jumper		Function
4	5	
A		* Built-in HDC is primary Built-in HDC is secondary • Enables built-in HDC Disables built-in HDC
B		
A		
B		

* Factory Settings

Hardware Interrupts

CTLR1	CTLR2	FUNCTION
IRQ0		Timer Output 0
IRQ1		Keyboard
IRQ2		Interrupt from CTLR2
IRQ3		Serial port 2
IRQ4		Serial port 1
IRQ5		Parallel port 2
IRQ6		floppy disk interrupt
IRQ7		Parallel port 1
	IRQ8	RTC interrupt
	IRQ9	Software redirected to IRQ2
	IRQ10	Resewed
	IRQ11	Resewed
	IRQ12	Mouse, pointing device
	IRQ13	Coprocessor
	IRQ14	Hard disk controller
	IRQ15	Reserved

I/O Port Addresses

Address	Function
000-01F	DMA Controller 1
020-03F	Interrupt Controller 1
040-05F	Timer/Counter
060-06F	Keyboard controller and Port B
070-07F	CMOS RAM and Non-Maskable Interrupt Mask
080-09F	DMA Page Register
0A0-0BF	Interrupt Controller 2
0C0-0DF	DMA Controller 2
0E0-0FF	Numeric Coprocessor
1F0-1F8	Hard Disk Controller
278-27F	Parallel Port 1
2F8-2FF	Serial Port 1
378-37F	Parallel Port 0
3B0-3BF	Parallel Port 2 (on some video boards)
3F0-3F7	floppy Disk Controller
3F8-3FF	Serial Port 0

DMA Channels

Channel	Function
0	Spare
1	Spare
2	floppy disk transfers
3	Spare (Hard disk drive)
4	Cascade of data from channel 0-3
5	Spare
6	Spare
7	Spare

Memory Matrix

Total on-board memory	Socket 1	Socket 2	Socket 3	Socket 4
1MB				
2MB	256KB	256KB	256KB	256KB
3MB	1MB	1MB		
5MB	1MB	1MB	1MB	1MB

Hard Disk Drive Types

Type no.	Type	Cylinders	Heads	Sectors	Precomp	Landing zone	MB	Drive name
00								No fixed disk (Used by ESDI)
01	ST-506	306	4	17	128	305	182	(1)
02	ST-506	615	4	17	300	615	20.4	
03	ST-506	615	6	17	300	615	30.6	
04	ST-506	940	8	17	512	940	62.4	
05	ST-506	940	6	17	512	940	46.8	
06	ST-506	615	4	17	—	615	20.4	
07	ST-506	462	8	17	2%	511	38.7	
08	ST-506	733	5	17	—	733	30.4	
09	ST-506	900	15	17	—	901	112	
10	ST-506	820	3	17	—	820	28.4	
11	ST-506	855	5	17	—	855	35.5	
12	ST-506	855	7	17	—	855	49.7	
13	ST-506	3%	8	17	128	319	20.3	
14	ST-506	733	7	17	—	733	42.6	
15								—reserved—
16	ST-506	612	4	17	0	663	283	
17	ST-506	977	5	17	300	977	485	CDC 94205-51 (2)
18	ST-506	977	7	17	—	977	56.8	
19	ST-506	1024	7	17	512	1023	59.5	
20	ST-506	733	5	17	300	732	38.4	Toshiba MK-133FA
21	ST-506	733	7	17	300	732	42.6	Toshiba MK-134FA
22	ST-506	733	5	17	300	733	30.4	
23	ST-506	306	4	17	0	336	10.2	
24	ST-506	612	4	17	305	633	20.4	
25	ST-506	306	4	17	—	340	10.2	
26	ST-506	612	4	17	—	670	20.4	

Notes:

- 1 Miniscribe 8425F Seagate ST125
- 2 Conner CP-344 or Miniscribe 8051A can be used as type 17
- 3 For western Digital ESDI HDG or Drive Maker default setting
- 4 Micropolis 1325, Atari 3085, Lanstor Lan64, Maxtor XT1085, Newbury NDR1085
- 5 Micropolis 1323A, Miniscribe 3035, Microscience HH1050, Seagate ST4053
- 6 The landing zone value is 964

Types 1 through 47 are allocated at 0FE401h, IBM new AT-compatible area.

Types 48 through 58 are allocated at 0FD2F1h to 0FDFF0h, extended Hard Drive Parameter area.

The factory-installed hard disk drive types for the Equity IIe are number 59 (407MB) and number 60 (100MB).

The settings for types 59, 60, 61, and 63 are stored in the computer's BIOS, so you do not need to enter the parameters for these drives in the Setup program.

Hard Disk Drive Types

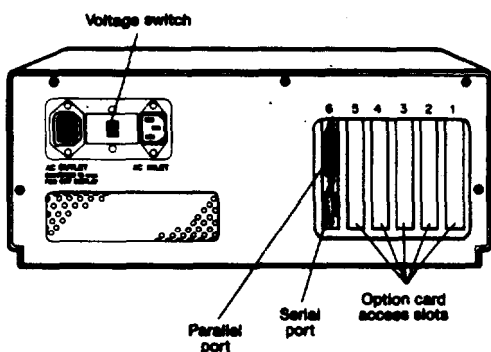
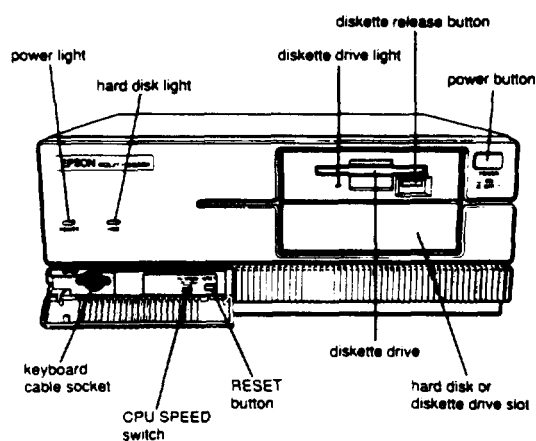
Type no.	Type	Cylinders	Heads	Sectors	Precomp	Landing zone	MB	Drive name
27	ST-506	698	7	17	300	732	40.6	
28	ST-506	976	5	17	488	971	40.5	
29	ST-506	306	4	17	0	348	10.2	
30	ST-506	611	4	17	306	663	20.4	
31	ST-506	732	7	17	300	732	42.6	
32	ST-506	1023	5	17	—	1023	42.5	
33								none
34								none
35								none
36								none
37								none
38								none
39								none
40								none
41	ESDI	1022	5	14	—	1022	84.8	CDC 94216-106 (3)
42	ESDI	1022	5	36	—	1022	89.8	CDC 94216-106
43	ST-506	1024	8	17	512	1023	68.0	(4)
44	ESD	828	10	34	—	828	137.5	Toshiba MK-156F
45	ST-506	1024	5	17	512	1023	42.5	(5)
46	ST-506	615	8	17	128	618	40.8	NEC D5147H
47								none
48	ST-506	820	6	17	—	820	40.8	Seagate ST251
49	ST-506	830	10	17	—	830	68.9	Toshiba MK56FB
50	ST-506	1024	9	17	1024	1024	76.5	Seagate ST4096
51	ESDI	828	7	34	—	828	96.2	Toshiba MK-154F
52	ESDI	967	5	36	—	967	85.0	CDC 94166-101
53	ESDI	967	7	36	—	967	119.0	CDC 94166-141
54	ESDI	967	9	36	—	967	153.0	CDC 94166-182
55	ESDI	1022	7	34	—	1022	118.6	Micropolis 1354A
56	ESDI	967	5	34	—	967	80.3	CDC 94166-101 (3)
57	ESDI	967	7	34	—	967	112.4	CDC 94166-141 (3)
58	ESDI	967	9	34	—	967	144.5	CDC 94166-182 (3)
59	AT	980	5	17	—	979	40.5	CONNER CP-344
60	AT	776	8	33	—	775	100	CONNER CP-3104
61	AT	745	4	28	—	744	40.5	Mini 8051A native mode
62	AT	965	5	17	—	Auto	40	Quantum 40AT-61
63	AT	965	10	17	—	Auto	80	Quantum pro 80AT-61
54 255								none

Installation / Support Tips

Power

The Equity IIe has a power supply that is switchable between 115 V, for USA and Canadian use, and 230V, for use in other countries. The voltage switch is located at the rear of the CPU between the AC inlet and the AC outlet. (see figure below)

WARNING! The voltage is not changed between the AC inlet and the AC outlet. If the CPU is switched for 230 V in order to function in Europe, only peripherals certified for use at 230 V should be plugged into the outlet.



Installing Floppy Disk Drives

- When installing a floppy disk drive as drive B, remember to set the drive select jumper to the second position and attach the pass-through connector on the floppy drive controller cable to the drive, not the end connector.

If the drive does not function normally, make sure that the drive type has been correctly selected in SETUP. Also check that any special drivers that may be necessary have been installed correctly.

Installing Hard Disk Drives

It is recommended that a 16-bit AT-type hard disk controller be used in the Equity IIe, if you are installing a drive that cannot make use of the internal HI board. Also remember to disable the HI board when installing such a drive.

If you are having difficulty in formatting the hard disk drive, try starting over with the Unconditional Format option in diagnostics.

Setup

- When installing an optional expanded memory board, do not list the memory under the memory expansion option in SETUP. That option is for EXTENDED memory ONLY.

When installing a hard disk drive, be sure to consult the drive type tables (on page EQUle-4) for the drive type which fits the drive you are installing.

Adding Memory Modules

The total amount of memory must be one of the following: 1 MB, 2MB, 3MB or 5MB.

- Memory banks must be filled with one size SIMM. You cannot mix SIMM types in one bank.

Software Problems

When installing a copy-protected software package on the Equity IIe, first try the installation at 12 MHz. If this does not work properly, try switching to 8 MHz for the installation. If you are still unable to load the program at 12 MHz, try loading at 8MHz and then switching to 12 MHz.

When using a software package that uses a keydisk as its copy-protection method, try loading it at 12 MHz. If this does not work, enable the Auto Speed option in SETUP.

Power-on Password

Make sure that you do not forget the Power-on Password should you set one up. If you do, it will be **necessary** to disable it by moving jumper 1 on the main circuit board to the B position.

--- If you enable network server mode after **installing** a password, the computer prompts you for that password before allowing you to **access** the system -- as long as you boot the system from the **Referencediskette**.

However, if you install **MS-DOS** on the hard disk and **boot** from that **drive**, the prompt no longer appears. The computer shows the normal MS-DOS prompt (e.g., C>), but it still requires the password before allowing you to access the system in network server mode.

Information Reference List

Engineering Change Notices

None.

Technical Information Bulletins

None.

Product Support Bulletins

None.

Related Documentation

Y18699100100		Equity IIe User's Guide
M-TM-EQIIe		Equity IIe Service Manual
M-PM-EQIIe		Equity IIe Technical Reference Manual
M-PL-EQIIe		Equity IIe Parts Price List
Y16299100502		
Y19499100200		Equity IIe MS-DOS 4.01 Manual
Y19499100300		Equity IIe Shell User's Guide
Y19499100400		Equity IIe Command Summary