
Appendix C. Jumpers, Switches, and Pin Assignments

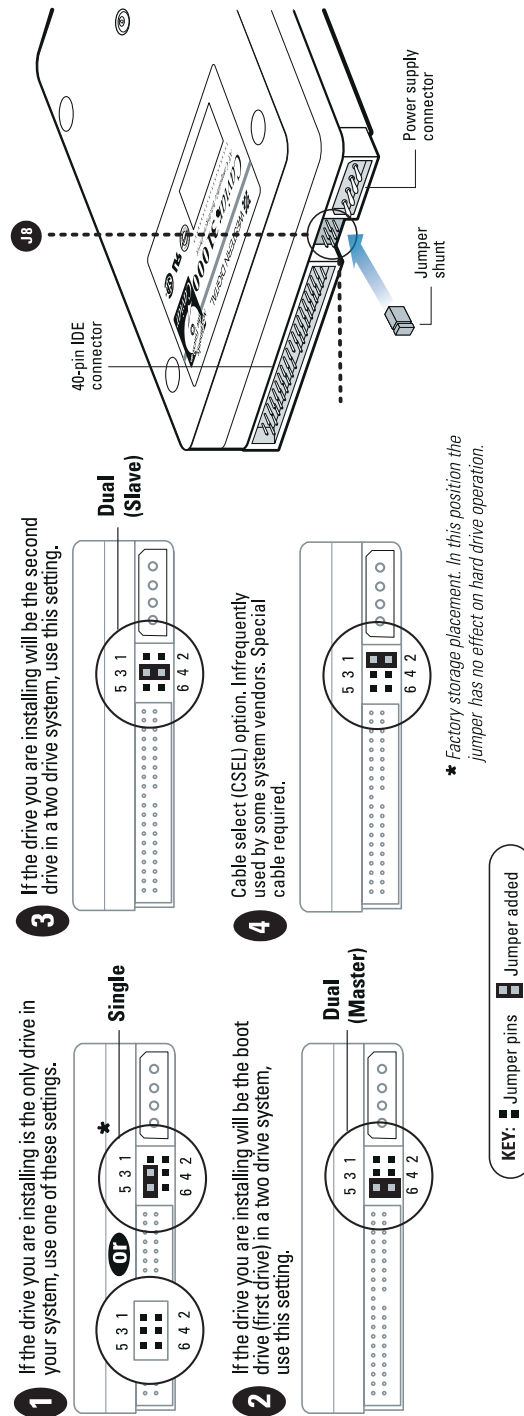
Jumpers and switches on the SBC and hard drives allow you to customize the operation of your computer.

Some jumpers cover two of three pins on a 3-pin block. Other jumpers are installed across two pins on a 2-pin block or are not installed. To change the position of a jumper on a 3-pin block, do the following.

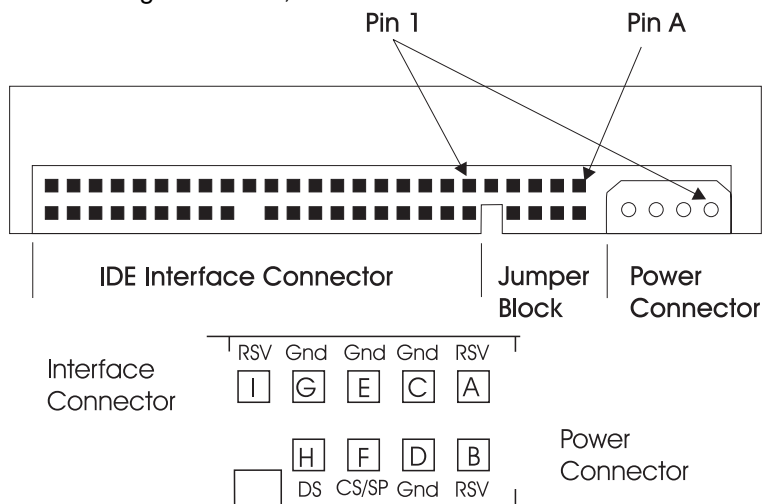
1. Turn off the computer and disconnect the power cord.
2. Remove the system unit cover.
3. Remove all components needed to gain access to the jumper.
4. Lift the jumper straight off the pin block.
5. Align the holes in the bottom of the jumper with the center pin and the pin that was not covered previously.
6. Slide the jumper fully onto these pins.
7. Reassemble the components that were removed, and install the system unit cover.
8. Reconnect the system unit power cord.

Hard Disk Drive Jumper Settings

Hard disk drives use jumpers to configure the drives as the master or the slave. If your drive matches the following illustration, use the information in the illustration to set the jumpers.

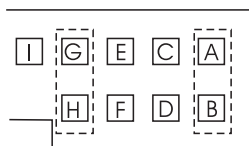


If your drive matches the following illustration, use the information in the illustration to set the jumpers.

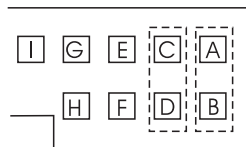


16 Logical Head

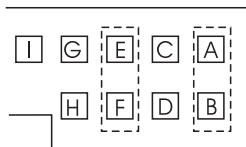
Device 0
(Master)
(Shipping
Default)



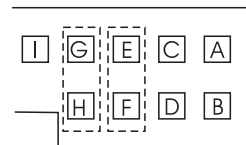
Device 1
(Slave)



Cable
Select

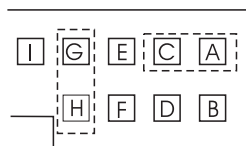


Device 1
(Slave)
Present

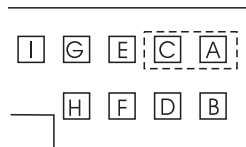


15 Logical Head

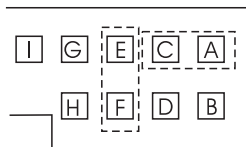
Device 0
(Master)



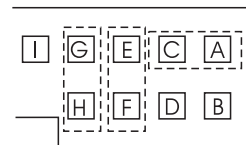
Device 1
(Slave)



Cable
Select

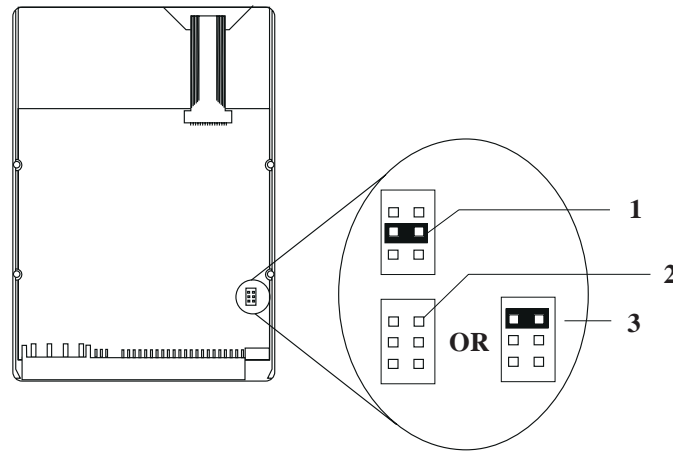


Device 1
(Slave)
Present



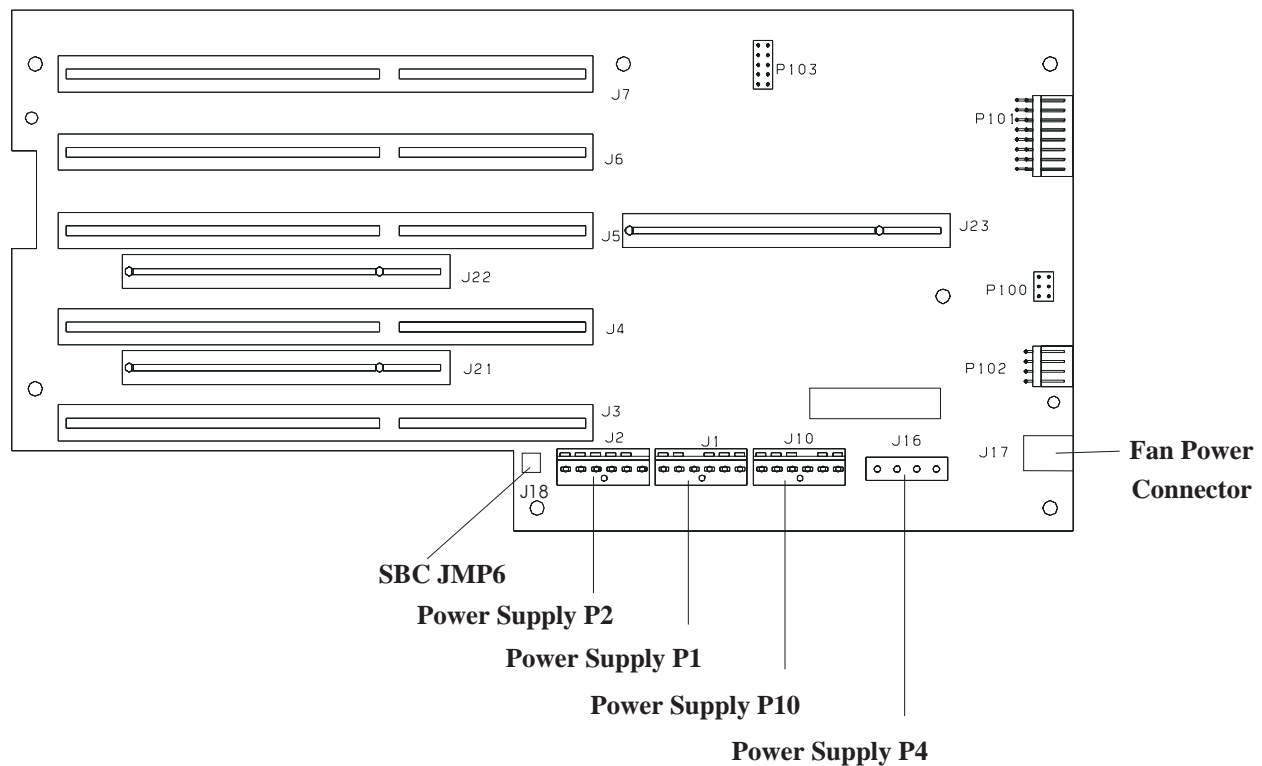
If your drive matches the following illustration and is operating as the master drive, set the jumper to setting 1.

If your drive is operating as the slave drive, set the jumper to either setting 2 or setting 3. (Setting 3 is recommended because it allows you to store the jumper for use in the future.)



Backplane Connectors

The following illustration shows the cable connectors on the IBM 7587 Industrial Computer backplane.



SBC Connectors

The following illustrations show the connectors on the SBCs as used in the 7587 Industrial Computer.

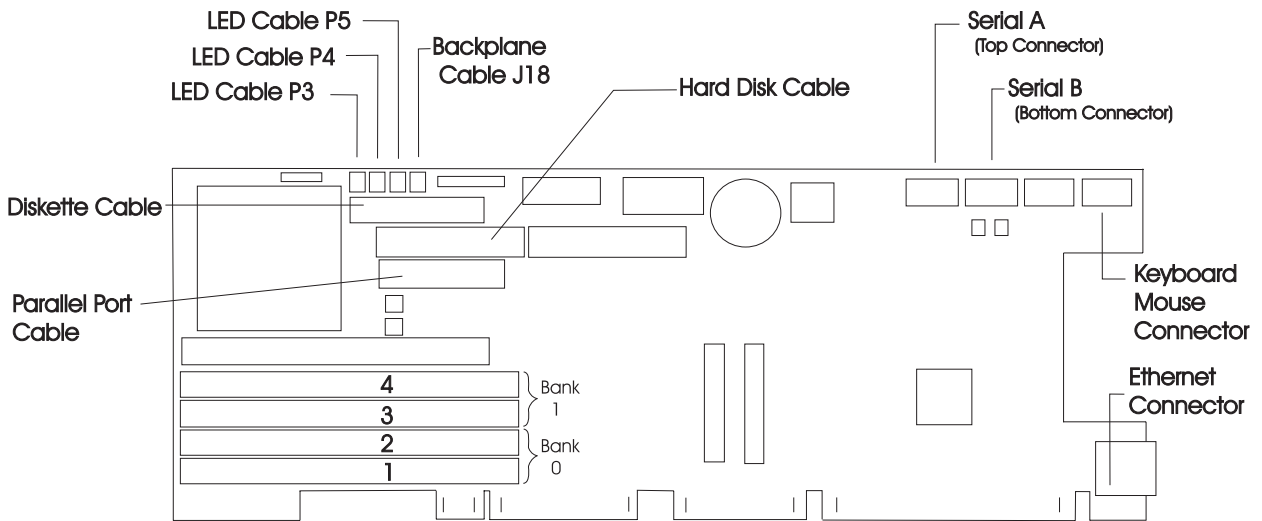


Figure C-1. Connectors on the 586 and 586E SBCs

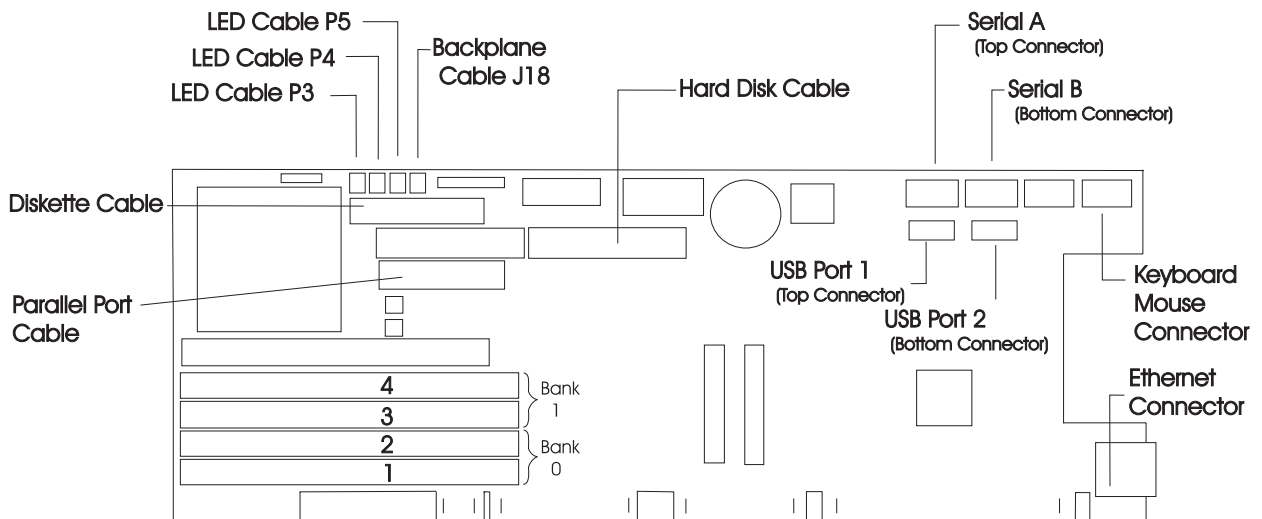
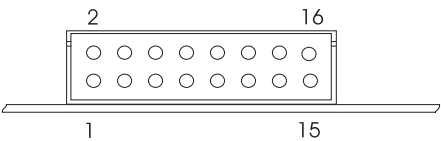


Figure C-2. Connectors on the 586U and 586EU SBCs

SBC Settings

The following jumper settings are valid only for the 586U and 586EU SBCs. The jumpers are installed in the external power connector, as shown.

Attention
Do not install jumpers in the external power connector on the 586 or 586E SBC. Damage will result.



Microprocessor	Jumper Settings
Classic Pentium	
Pentium with MMX	
K6-2	

Figure C-3. Processor Voltage Selection Jumpers

Table C-1. Configuration Switch Definitions	
Switch	Description
1	CPU speed 0
2	CPU speed 1
3	CPU speed 2
4	Enable RS-232
5	Auto boot
6	CPU/PCI clock speed 0
7	CPU/PCI clock speed 1
8	Disable video
9	Reserved

Table C-2. Processor/Bus Speed Selection Switches

Switch Number					Multiplier	Bus Frequency	Processor Frequency	SBC Notes	
1	2	3	6	7				586 586E	586U 586EU
Intel Pentium Processors									
Off	Off	Off	Off	On	1.5x	50 MHz	75 MHz	1	1, 5
Off	Off	Off	On	Off	1.5x	60 MHz	90 MHz	1	1, 5
On	Off	Off	Off	On	2.0x	50 MHz	100 MHz	1	2, 5
Off	Off	Off	On	On	1.5x	66 MHz	100 MHz	1	1, 5
On	Off	Off	On	Off	2.0x	60 MHz	120 MHz	1	2, 5
On	Off	Off	On	On	2.0x	66 MHz	133 MHz	1	2, 5
On	On	Off	On	Off	2.5x	60 MHz	150 MHz	1	2, 5
On	On	Off	On	On	2.5x	66 MHz	166 MHz	1	2, 5
Off	On	Off	On	On	3.0x	66 MHz	200 MHz	1	2, 5
Off	Off	Off	On	On	3.5x	66 MHz	233 MHz	n.s.	3, 5
AMD K6-2 Processors									
On	Off	Off	On	On	2.0x	66 MHz	133 MHz	n.s.	4, 5
On	On	Off	On	On	2.5x	66 MHz	166 MHz	n.s.	4, 5
Off	On	Off	On	On	3.0x	66 MHz	200 MHz	n.s.	4, 5
Off	Off	Off	On	On	3.5x	66 MHz	233 MHz	n.s.	4, 5
On	Off	On	On	On	4.0x	66 MHz	266 MHz	n.s.	4, 5
On	On	On	On	On	4.5x	66 MHz	300 MHz	n.s.	4, 5
Off	On	On	On	On	5.0x	66 MHz	333 MHz	n.s.	4, 5
Off	Off	On	On	On	5.5x	66 MHz	366 MHz	n.s.	4, 5
n.s. —Not supported.									
Installing the Pentium processor with MMX or the AMD K6-2 processor on a 586 or 586E SBC will damage the microprocessor when the system is turned on.									
Notes:									
1. Classic Pentium processor only.									
2. Classic Pentium processor or Pentium processor with MMX.									
3. Pentium processor with MMX only.									
4. The AMD K6-2 processors are supported in special applications only. Contact your IBM representative or your place of purchase.									
5. Refer to Figure C-3 on page C-6 for the processor voltage setting.									

Serial Port Pin Assignments

<i>Table C-3. Serial Port Pin Assignments</i>		
RS-232 Serial A, Serial B		RS-422/485 Serial B
Pin 1	Carrier detect	Transmit data (–)
Pin 2	Receive data	Receive data (–)
Pin 3	Transmit data	Transmit data (+)
Pin 4	Data terminal ready	Receive data (+)
Pin 5	Ground	N/C
Pin 6	Dataset ready	N/C
Pin 7	Request to send	N/C
Pin 8	Clear to send	N/C
Pin 9	Ring indicate	N/C