SBC-597

Super7 full-size CPU Card with LCD, Ethernet, High Driver, & SSD

SBC-597

Quick Installation Guide

Notice:

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

Safety Precautions

Warning! *Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.*

Caution! *Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.*

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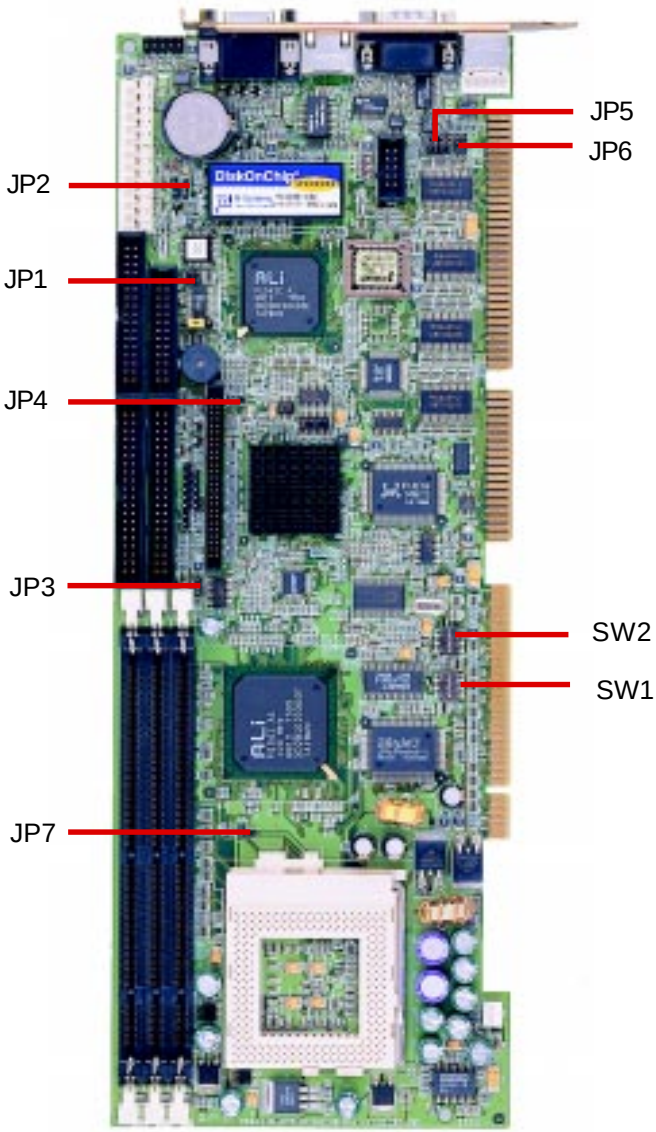
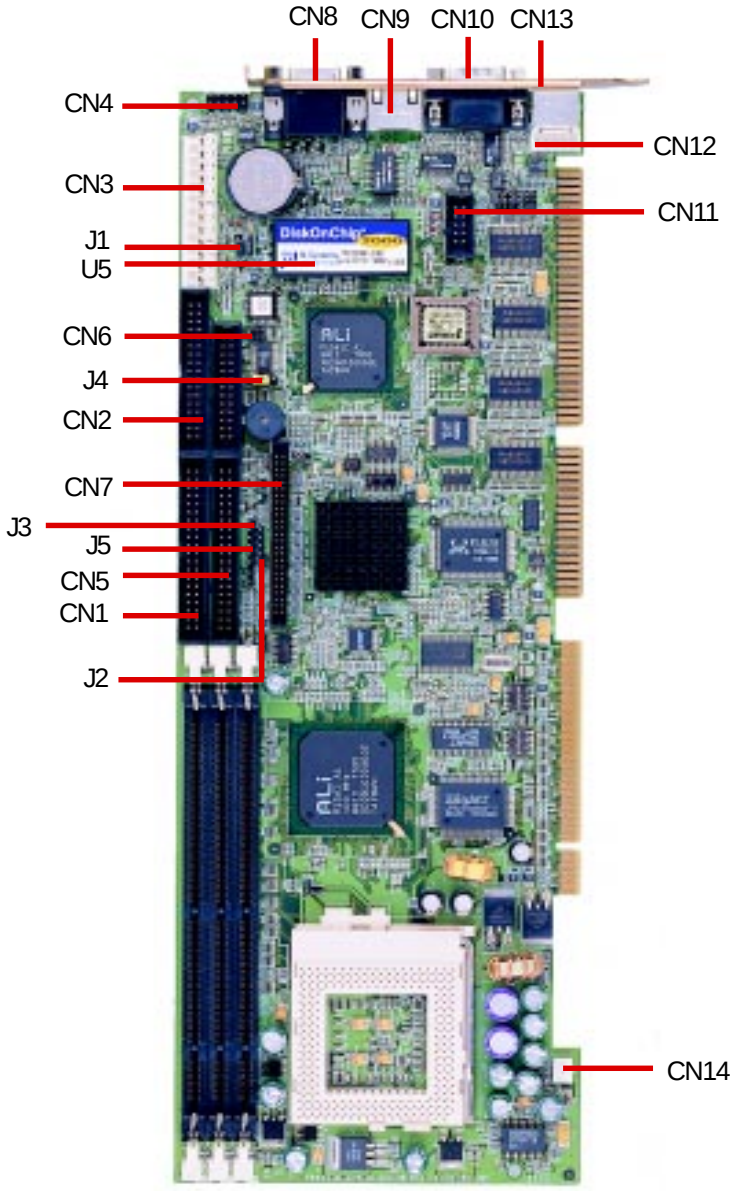
Locating jumpers



Locating connectors



Jumpers and connectors

Connectors on the board link it to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

The following tables list the function of each of the board's jumpers and connectors.

Jumpers

Label	Function
JP1	DOC address select
JP2	Clear CMOS
JP3	LCD clock signal select
JP4	LCD driving voltage select
JP5	COM2 RS-232/422/485 select
JP6	COM2 RS-232/422/485 select
JP7	Intel Tillamook CPU select
SW1 (1~5)	CPU Vcore select
SW2 (4~6)	CPU clock select
SW2 (1~3)	CPU frequency ratio select

Connectors	
Label	**Function**
J1	IDE drive LED
J2	Reset switch
J3	IrDA connector
J4	External speaker
J5	Power LED and keylock
CN1	IDE hard drive connector (Primary)
CN2	Floppy drive connector
CN3	Power connector
CN4	USB connector
CN5	IDE hard drive connector (Secondary)
CN6	Parallel port connector
CN7	LCD display connector
CN8	VGA display connector
CN9	100Base-Tx Ethernet connector
CN10	COM1 RS-232 serial port connector
CN11	COM2 RS-232/422/485 serial port connector
CN12	Internal keyboard connector
CN13	Keyboard and PS/2 mouse connector
CN14	CPU fan power connector
U5	DiskOnChip socket

Clear CMOS (JP2)

You can use JP2 to clear the CMOS data if necessary. To reset the CMOS data, set JP2 to 2-3 closed for just a few seconds, and then move the jumper back to 1-2 closed.

Clear CMOS (JP2)

	Protect*	Clear CMOS
JP2		

*default

LCD driving voltage select (JP4)

You can select the LCD connector CN7 (pin 5 and pin 6) driving voltage by setting JP4. The configurations are as follows:

LCD driving voltage select (JP4)

	5V	3.3V *
JP4		

*default

SW1 (1～5) CPU Vcore select

SW1 must be set to match the CPU type. The table below shows the available configurations.

CAUTION: Improper settings may damage the CPU!

	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	Vcore
	1	1	0	1	0	1.8V
	1	1	0	1	1	1.85V
	1	1	1	0	0	1.9V
	1	1	1	0	1	1.95V
	1	1	1	1	0	2.0V
	1	1	1	1	1	2.05V
	0	0	0	0	1	2.1V
*	0	0	0	1	0	2.2V
	0	0	0	1	1	2.3V
	0	0	1	0	0	2.4V
	0	0	1	0	1	2.5V
	0	0	1	1	0	2.6V
	0	0	1	1	1	2.7V
	0	1	0	0	0	2.8V
	0	1	0	0	1	2.9V
	0	1	0	1	0	3.0V
	0	1	0	1	1	3.1V
	0	1	1	0	0	3.2V
	0	1	1	0	1	3.3V
	0	1	1	1	0	3.4V
	0	1	1	1	1	3.5V

1 : ON 0 : OFF * default

CPU voltage selection reference

CAUTION:

Due to the CPU designs change frequently, the following table is only intended to be a simple guideline and this may not be correct for your CPU. Please always refer to the CPU documentation for your CPU's voltage and then set the appropriate SW1 according to the illustration below.

CPU Manufacturer	CPU Type	Single Voltage	Dual Voltage
AMD (.25 micron)	K6-III, K6-2/450 & faster	xxxxxx	2.4V (Dual)
AMD (.25 micron)	K6-2/400 & slower, K6	xxxxxx	2.2v (Dual)
AMD/IBM/Cyrix/Intel	K5, 6x86, P54C/P54CS	3.5V (VRE)	xxxxxx
AMD/Intel	K5, P54C/P54CS	3.4 (STD)	xxxxxx
AMD (.35 micron)	K6/PR233	xxxxxx	3.2V (Dual)
AMD (.35 Micron) /IBM/Cyrix	K6/166, 200, 6x86MX	xxxxxx	2.9V (Dual)
Intel	P55C-MMX	xxxxxx	2.8V (Dual)

SW2 (4～6) CPU clock select

CPU core frequency = External CPU clock (60~100 MHz) * CPU frequency ratio. The following table shows the available CPU external clock (called the FSB, Front Side Bus) configurations.

CAUTION: Improper settings may damage the CPU!

	SW2-4	SW2-5	SW2-6	CPU	PCI Bus
	1	1	1	60 MHz	30 MHz
	0	1	1	66.8 MHz	33.4 MHz
	1	1	0	75 MHz	30 MHz
	0	1	0	83.3 MHz	33.3 MHz
	1	0	0	95 MHz	31.6 MHz
*	0	0	0	100 MHz	33.3 MHz

1 : ON 0 : OFF * default

SW2 (1～3)/JP7 CPU frequency ratio select

SW2 (1~3) and JP7 set the freqency ratio between the internal frequency of the CPU and the External frequency (called the FSB, Front Side Bus) within the CPU.

CAUTION: Improper settings may damage the CPU!

SW2-1	SW2-2	SW2-3	CPU A	CPU B	CPU C	CPU D	CPU E	CPU F
0	0	0	3.5x	3.5x	1.5x	3.5x	3.0x	3.5x
1	0	0	6.0x	2x	2x	2x	2x	3.33x
1	1	0	2.5x	2.5x	2.5x	2.5x	1.0x	2.5x
0	1	0	3x	3x	3x	3x	X	3x
1	0	1	4x	4x	X	X	X	4x
1	1	1	4.5x	4.5x	X	X	X	4.5x
0	1	1	5.0x	5x	X	X	X	2.33x
0	0	1	5.5x	5.5x	X	X	X	2.66

SW2-1	SW2-2	SW2-3	JP7	CPU G
0	0	1	2-3	3.5x
1	0	1	1-2	4x
1	1	1	2-3	2.5x
0	1	1	2-3	3x
1	0	1	2-3	2x
1	1	1	X	X
0	1	1	X	X
0	0	1	X	X

CPU A : AMD-K6-III, AMD-K6-2/400 & faster

CPU B : AMD-K6-2/380 & slower, AMD-K6

CPU C : Intel Pentium P54C, AMD-K5

CPU D : Inter Pentium MMX, IBM/Cyrix 6x86MX, IBM/Cyrix M II

CPU E : IBM/Cyrix 6x86, IBM/Cyrix 6x86L

CPU F : IDT WinChip 2

CPU G : Interl Mobil Pentium (Tillamook)

Super7 CPU jumper setting examples

Please set the switch (SW2) and jumper (JP7) according to internal frequency of your CPU as follows:

CPU Model	CPU Type	CPU Freq.	FSB	Freq. Ratio	SW-2-1	SW-2-2	SW-2-3	SW-2-4	SW-2-5	SW-2-6	JP7
AMD-K6-III/450	A	450MHz	100MHz	4.5x	1	1	1	0	0	0	X
AMD-K6-III/400	A	400MHz	100MHz	4.0x	1	0	1	0	0	0	X
AMD-K6-2/475	A	475MHz	95MHz	5.0x	0	1	1	1	0	0	X
AMD-K6-2/450	A	450MHz	100MHz	4.5x	1	1	1	0	0	0	X
AMD-K6-2/400	A	400MHz	100MHz	4.0x	1	0	1	0	0	0	X
AMD-K6-2/380	B	380MHz	95MHz	4.0x	1	0	1	1	0	0	X
AMD-K6-2/366	B	366MHz	66MHz	5.5x	0	0	1	0	1	1	X
AMD-K6-2/350	B	350MHz	100MHz	3.5x	0	0	0	0	0	0	X
AMD-K6-2/333	B	333MHz	95MHz	3.5x	0	0	0	1	0	0	X
AMD-K6-2/ 333-66	B	333MHz	66MHz	5.0x	0	1	1	0	1	1	X
AMD-K6-2/300	B	300MHz	100MHz	3.0x	0	1	0	0	0	0	X
AMD-K6-2/ 300-66	B	300MHz	66MHz	4..5x	1	1	1	0	1	1	X
AMD-K6-2/266	B	266MHz	66MHz	4.0x	1	0	1	0	1	1	X
AMD-K6/300	B	300MHz	66MHz	4.5x	1	1	1	0	1	1	X
AMD-K6/266	B	266MHz	66MHz	4.0x	1	0	1	0	1	1	X
AMD-K6/233	B	233MHz	66MHz	3.5x	0	0	0	0	1	1	X
AMD-K6/200	B	200MHz	66MHz	3.0x	0	1	0	0	1	1	X
AMD-K6/166	B	166MHz	66MHz	2.5x	1	1	0	0	1	1	X

1 : ON 0 : OFF

CPU Model	CPU Type	CPU Freq.	FSB	Freq. Ratio	S2-1	S2-2	S2-3	S2-4	S2-5	S2-6	JP7
AMD-K5/133	C	100MHz	66MHz	1.5X	0	0	0	0	1	1	X
AMD-K5/120	C	90MHz	60MHz	1.5X	0	0	0	1	1	1	X
AMD-K5/100	C	100MHz	66MHz	1.5X	0	0	0	0	1	1	X
AMD-K5/90	C	90MHz	60MHz	1.5X	0	0	0	1	1	1	X
Intel Pentium P54C	C	166MHz	66MHz	2.5X	1	1	0	0	1	1	X
Intel Pentium P54C	C	150MHz	60MHz	2.5X	1	1	0	1	1	1	X
Intel Pentium P54C	C	133MHz	66MHz	2.0X	1	0	0	0	1	1	X
Intel Pentium P54C	C	120MHz	60MHz	2.0X	1	0	0	1	1	1	X
Intel Pentium P54C	C	100MHz	66MHz	1.5X	0	0	0	0	1	1	X
Intel Pentium P54C	C	90MHz	60MHz	1.5X	0	0	0	1	1	1	X
Intel Pentium MMX	D	233MHz	66MHz	3.5X	0	0	0	0	1	1	X
Intel Pentium MMX	D	200MHz	66MHz	3.0X	0	1	1	0	1	1	X
Intel Pentium MMX	D	166MHz	66MHz	2.5X	1	1	0	0	1	1	X
IBM/Cyrix M II- PR333	D	333MHz	83MHz	3.0.X	0	1	0	0	1	0	X
IBM/Cyrix M II- PR300	D	300MHz	75MHz	3.0X	0	1	0	1	1	0	X
IBM/Cyrix M II- PR300	D	300MHz	66MHz	3.5X	0	0	0	0	1	1	X
IBM/cyrix 6x86MX-PR233	D	200MHz	66MHz	3.0X	0	1	0	0	1	1	X
IBM/cyrix 6x86MX-PR200	D	166MHz	66MHz	2.5X	1	1	0	0	1	1	X
IBM/cyrix 6x86MX-PR166	D	150MHz	60MHz	2.5X	1	1	0	1	1	1	X
*IBM/Cyrix 6x86-PR166+	E	133MHz	66MHz	2.0X	1	0	0	0	1	1	X
*IBM/cyrix 6x86MX-PR166+	E	133MHz	66MHz	2.0X	1	0	0	0	1	1	X
IDT WinChip 2	F	240MHz	60MHz	4.0X	1	0	1	1	1	1	X
Mobil Pentium MMX	G	166MHz	66MHz	2.5X	1	1	1	0	1	1	2-3
Mobil Pentium MMX	G	266MHz	66MHz	4.0x	1	0	1	0	1	1	1-2

1 : ON 0 : OFF

LCD clock signal select (JP3)

You can select the LCD control signal by setting JP3. The following charts show the available option.

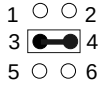
LCD clock signal select (JP3)

	SHFCLK*	INV-SHFCLK
JP3		

*default

DOC address select (JP1)

The DiskOnChip 2000 occupies an 8 Kbyte window in the upper memory address range of CC00 to E000. You should ensure this does not conflict with any other device's memory address. JP1 controls the memory address of the Flash disk.

DiskOnChip 2000 memory address (JP1)	
Memory address (HEX)	
DISABLE	
CC00	
D000*	
D400	
D800	
DC00	

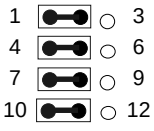
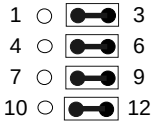
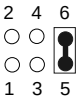
* default

These addresses might conflict with the ROM BIOS of other peripheral boards. Please select the appropriate memory address to avoid memory conflicts.

COM2 RS-232/422/485 select (JP5, JP6)

The SBC-597 COM2 serial port can be selected as RS-232, RS-422, or RS-485 by setting JP5, JP6.

COM2 Select (JP5, JP6)

	RS-232*	RS-422	RS-485
JP5			
JP6			

*default