

## CHAPTER 2

## Hardware Configuration Setting

This chapter gives the definitions and shows the positions of jumpers, headers and connectors. All of the configuration jumpers on ACTI-688 are in the proper position. The default settings shipped from factory are marked with a star ( ★ ).

### 2-1 Jumpers

In general, jumpers on the single board computer are used to select options for certain features. Some of the jumpers are designed to be user-configurable, allowing for system enhancement. The others are for testing purpose only and should not be altered. To select any option, cover the jumper cap over (Short) or remove (NC) it from the jumper pins according to the following instructions. Here NC stands for “Not Connected”. (Please refer to Figure 2-1 for jumper positions)

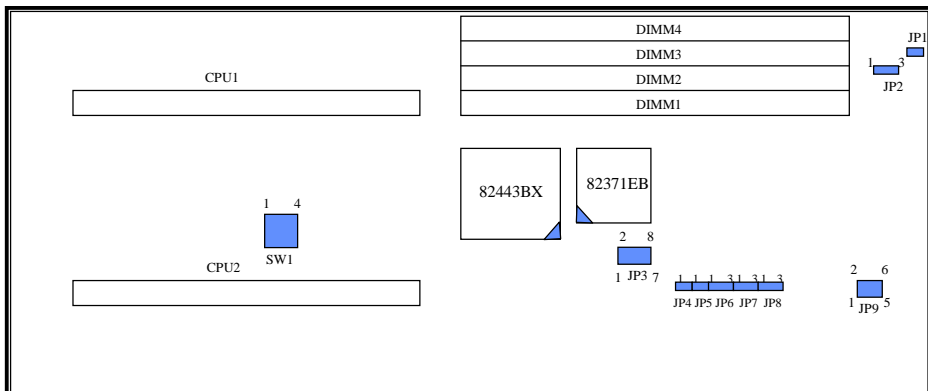


Figure 2-1 ACTI-688 Jumper Locations

**CPU Jumper Setting Table (SW1)**

SW1 DIP switch settings for CPU core/bus ratio

SW-1	SW-2	SW-3	SW-4	CORE/BUS RATIO
OFF	OFF	ON	OFF	1.5x
OFF	OFF	OFF	OFF	2.0x
ON	ON	ON	ON	2.0x
ON	OFF	ON	ON	2.5x
ON	ON	OFF	ON	3.0x
ON	OFF	OFF	ON	3.5x
ON	ON	ON	OFF	4.0x ★
ON	OFF	ON	OFF	4.5x
ON	ON	OFF	OFF	5.0x
ON	OFF	OFF	OFF	5.5x
OFF	ON	ON	ON	6.0x
OFF	OFF	ON	ON	6.5x
OFF	ON	OFF	ON	7.0x
OFF	OFF	OFF	ON	7.5x
OFF	ON	ON	OFF	8.0x
OFF	ON	OFF	OFF	Reserved

**NOTE :** For system stability, do not arbitrarily set CPU to run over speed unless you can handle BIOS parameters.

**Disk-On-Chip Jumper Setting (JP3)**

1 – 2	3 – 4	5 – 6	7 – 8	Memory Address Window
Short	NC	NC	NC	D0000 – D1FFF ★
NC	Short	NC	NC	D2000 – D3FFF
NC	NC	Short	NC	D4000 – D5FFF
NC	NC	NC	Short	D6000 – D7FFF

**Watch-Dog Timer Jumper Setting (JP4, JP5, JP6, JP7, JP9)**

**JP4** NC : Enabled WDT function  
Short : Disabled WDT function ★

**JP6** 1 – 2 : Report to “RESET” when WDT time-out ★  
2 – 3 : Report to “NMI” when WDT time-out

**JP9** Hardware WDT Time-out Interval (Twd) settings

5-6	3-4	1-2	Time-out Interval (Twd)
Short	Short	Short	0.5 sec.
Short	Short	NC	1 sec. ★
Short	NC	Short	2 sec.
Short	NC	NC	4 sec.
NC	Short	Short	8 sec.
NC	Short	NC	16 sec.
NC	NC	Short	32 sec.
NC	NC	NC	64 sec.

**JP7** 1 – 2 : Time-out period from H/W WDT ★  
 2 – 3 : Time-out period from Super I/O (83977ATF) WDT

**JP5** NC : Allocate I/O port 0533H/0033H for H/W WDT programming ★  
 Short : Allocate I/O port 0543H/0343H for H/W WDT programming

**RTC CMOS Clear Jumper Setting (JP1)**

**JP1** NC : Normal operation ★  
 Short : Clear CMOS contents

**NOTE :** This CMOS clearing operation is only effective after setting CMOS RAM CLEAR FUNCTION to enable state in BIOS Advanced Chipset Setup. It can be done under system power on or off period.

**SMI Source Jumper Setting (JP8)**

**JP8** 1 – 2 : APIC SMI alert ★  
 2 – 3 : PIIX4 SMI alert

**AT/ATX Power Supply Selection (JP2)**

**JP2** 1 – 2 : Select ATX power supply  
 2 – 3 : Select AT power supply ★

## 2-2 Connectors

I/O peripheral devices and Flash disk will be connected to these interface connectors and DOC socket located on this single board computer.

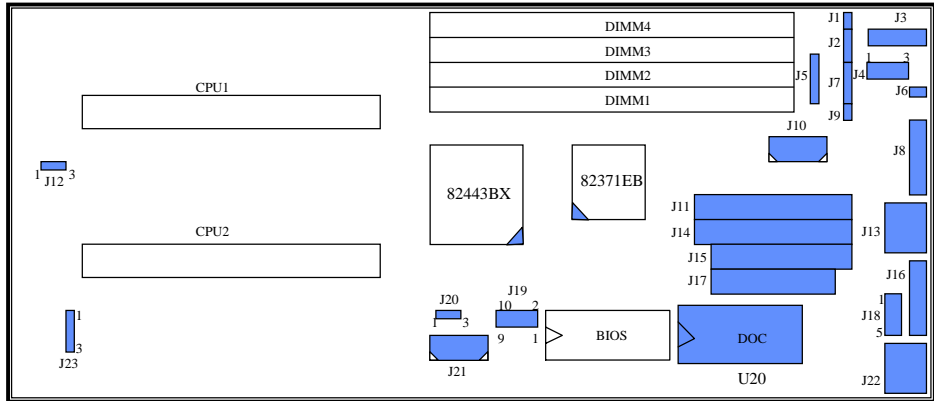


Figure 2-2 ACTI-688 Connector Locations

CONNECTOR	FUNCTION	REMARK
J1	System reset	
J2	External speaker interface	
J3	ATX power control interface	Connect to Backplane
J4	Wake-On-Lan (WOL) 3-pin connector	Connect to LAN card
J5	Infrared interface port	6-pin Header
J6	ATX power button interface	Connect to Chassis
J7	Keyboard lock	Connect to Chassis
J8	COM1 connector	D-SUB9
J9	IDE1/IDE2 access LED interface	
J10, J21	Standard 5-1/4" disk drive power connectors	4-pin connector (pitch : 0.2 inch)
J11	IDE1 (Primary) interface	
J12	CPU1 FAN (+12V) power connector	Connect to CPU1
J13	PS/2 mouse connector	6-pin Mini-DIN
J14	IDE2 (Secondary) interface	

CONNECTOR	FUNCTION	REMARK
J15	Floppy connector	
J16	COM2 connector	D-SUB9
J17	Parallel port connector	
J18	External keyboard interface	
J19	External USB interface	Two ports
J20	Chassis FAN connector	
J22	PS/2 keyboard connector	6-pin Mini-DIN
J23	CPU2 FAN (+12V) power connector	Connect to CPU2
U20	DOC socket	M-systems Flash Disk
CPU1, CPU2	Slot-1 for Pentium-II/III CPU	
DIMM1 – 4	3.3V SDRAM DIMM socket	

### Pin Assignments of Connectors

#### ■ J1: Reset Header

PIN No.	Signal Description
1	Reset
2	Ground

#### ■ J2 : External Speaker Header

PIN No.	Signal Description
1	Speaker signal
2	N/C
3	Ground
4	+5V

#### ■ J7 : Keyboard Lock Header

PIN No.	Signal Description
1	+5V (330 ohm pull-up for power LED)
2	N/C
3	Ground
4	Keyboard inhibit
5	Ground

#### ■ J9 : IDE1/IDE2 Access LED interface

PIN No.	Signal Description
1	+5V (330 ohm pull-up for HDD LED)
2	HDD Active # (LED cathode terminal)

■ **J3 : ATX Power Control Connector**

PIN No.	Signal Description
1	ATX P/S Power Good Signal
2	ATX P/S 5V Standby Power
3	ATX P/S Power On Control
4	Ground

■ **J12 / J23 / J20 : CPU1 & CPU2 & Chassis Fan Power Input Connector**

PIN No.	Signal Description
1	Ground
2	+12V
3	FAN_status (pull-up 5V)

■ **J11 / J14 : IDE1/IDE2 Interface Connector**

PIN No.	Signal Description	PIN No.	Signal Description
1	RESET#	2	Ground
3	Data 7	4	Data 8
5	Data 6	6	Data 9
7	Data 5	8	Data 10
9	Data 4	10	Data 11
11	Data 3	12	Data 12
13	Data 2	14	Data 13
15	Data 1	16	Data 14
17	Data 0	18	Data 15
19	Ground	20	N/C
21	DMA REQ	22	Ground
23	IOW#	24	Ground
25	IOR#	26	Ground
27	IOCHRDY	28	Pull-down
29	DMA ACK#	30	Ground
31	INT REQ	32	N/C
33	SA1	34	N/C
35	SA0	36	SA2
37	HDC CS0#	38	HDC CS1#
39	HDD Active#	40	Ground

■ **J10 / J21 : Standard 5-1/4" Disk Drive Power Connector**

PIN No.	Signal Description
1	+12V
2	Ground
3	Ground
4	+5V

■ **J15 : FDC Interface Connector**

PIN No.	Signal Description	PIN No.	Signal Description
1	Ground	2	Density Select 0
3	Ground	4	N/C
5	Ground	6	Density Select 1
7	Ground	8	Index#
9	Ground	10	Motor ENA#
11	Ground	12	Drive Select B#
13	Ground	14	Drive Select A#
15	Ground	16	Motor ENB#
17	Ground	18	Direction#
19	Ground	20	Step#
21	Ground	22	Write Data#
23	Ground	24	Write Gate#
25	Ground	26	Track 0#
27	Ground	28	Write Protect#
29	N/C	30	Read Data#
31	Ground	32	Head Select#
33	N/C	34	Disk Change#

■ **J4 : Wake-On-LAN (WOL) Interface Connector**

PIN No.	Signal Description
1	5V Standby Power
2	Ground
3	LAN wake up signal

■ **J6 : ATX Power Button Interface**

PIN No.	Signal Description
1	Power Button Control Signal
2	Pull down 1K ohm to ground

■ **J17 : Parallel Port Connector**

PIN No.	Signal Description	PIN No.	Signal Description
1	Strobe#	14	Auto Form Feed#
2	Data 0	15	Error#
3	Data 1	16	Initialization#
4	Data 2	17	Printer Select IN#
5	Data 3	18	Ground
6	Data 4	19	Ground
7	Data 5	20	Ground
8	Data 6	21	Ground
9	Data 7	22	Ground
10	Acknowledge#	23	Ground
11	Busy	24	Ground
12	Paper Empty	25	Ground
13	Printer Select	26	N/C

■ **J5 : Fast & Standard IrDA Infrared Interface Port**

PIN No.	Signal Description
1	VCC (+5V)
2	FIRRX (Reserved)
3	IRRX
4	Ground
5	IRTX
6	N/C

■ **J8 / J16 : Serial Port D-SUB 9-PIN Connector**

PIN No.	Signal Description
1	Data Carrier Detect (DCD)
2	Receive Data (RXD)
3	Transmit Data (TXD)
4	Data Terminal Ready (DTR)
5	Ground (GND)
6	Data Set Ready (DSR)
7	Request to Send (RTS)
8	Clear to Send (CTS)
9	Ring Indicator (RI)



■ **J19 : External USB Interface Connector**

PIN No.	Signal Description	PIN No.	Signal Description
1	+5V	2	N/C
3	SBD0- (USBP0-)	4	Ground
5	SBD0+ (USBP0+)	6	SBD1+ (USBP1+)
7	Ground	8	SBD1- (USBP1-)
9	N/C	10	+5V

■ **J13 : PS/2 Mouse Connector (6-pin Mini-DIN)**

PIN No.	Signal Description
1	Mouse Data
2	N/C
3	Ground
4	+5V
5	Mouse Clock
6	N/C

■ **J18 : External Keyboard Connector**

PIN No.	Signal Description
1	Keyboard Clock
2	Keyboard Data
3	N/C
4	Ground
5	+5V

■ **J22 : PS/2 Keyboard Connector (6-pin Mini-DIN)**

PIN No.	Signal Description
1	Keyboard Data
2	N/C
3	GND
4	+5V
5	Keyboard Clock
6	N/C

