

# MX81H

Intel® Core™ i3, i5, i7 Haswell Processor

User's Quick Start Card

Version 1.1

<http://www.bcmcom.com>

## Inspect the Package:

One **MX81H Motherboard**  
One **Standard I/O Shield**  
One **COM Port Cables**  
Two **SATA Cables**  
One **Driver CD**  
One **User's Quick Start Card**



## Responsibility:

This manual is provided "As-Is" with no warranties of any kind, expressed or implied, including, but not limited to the implied warranties or conditions of this product's fitness for any particular purpose. In no event shall we be liable for any loss of profits, loss of business, loss of data, interruption of business, or indirect, special, incidental, or consequential damages of any kind, even the possibility of such damages arising from any defect or error in this manual or product. We reserve the right to modify and update the user manual without prior notice.



### **WARNING: CMOS Battery Damage**

Replace your system's CMOS RAM battery only with the identical CR-2032 3V Lithium-Ion coin cell (or equivalent) battery type to avoid risk of personal injury or physical damage to your equipment. Improper installation might cause battery to explode. Always dispose of used batteries according to the manufacturer's instructions, or as required by the local ordinance (where applicable). The damage due to not following this warning will void your motherboard's manufacturer warranty.

Perchlorate Material- Special Handling May Apply.  
See <http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>

## Additional Information:

Additional information on setting this board up can be found in the User's Manual in the provided CD or DVD ROM. The Online User's Manual and FAQ/Knowledge Base can be found on our website by visiting our website: <http://www.bcmcom.com>. If your question is not answered in our FAQ/Knowledge Base, visit our forums and post your messages or submit a new FAQ through FAQ Submittal form for us to add your question in our FAQ with our answer.



### **ATTENTION: Incorrect BIOS Setup**

If you do not know how to handle BIOS setup or how to set it up properly, it is strongly advisable that you do not modify any of the settings than otherwise instructed in the User's Quick Start Card. Even a seemingly small incorrect adjustment or modification in the BIOS setup can render your system unstable or unusable. Incorrect BIOS setup is not covered by your motherboard's manufacturer warranty. Try Clear CMOS information when system does not boot after BIOS settings change.



### **WARNING: Electrostatic Sensitive Device (ESD)**

Static electricity can easily damage your motherboard and will void your motherboard warranty. Keep the motherboard and other system components in their anti-static packaging until you are ready to install them. Touch a grounded surface before you remove any system component from its protective anti-static packaging. Unpacking and installation should be done on a grounded, anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same points as the anti-static mat. During configuration and installation touch a grounded surface frequently to discharge any static electrical charge that may have built up in your body. Avoid touching the components when handling the motherboard or a peripheral card. Handle the motherboard and peripheral cards either by the edges or by the peripheral card case-mounting bracket.



### **WARNING: Misplaced Jumper Damage**

Incorrect jumpers and connectors settings may lead to damage to your motherboard and will void your motherboard warranty. Please pay special attention to not connect these headers in the wrong direction. DO NOT change ANY jumpers while the motherboard has power.

## Jumpers

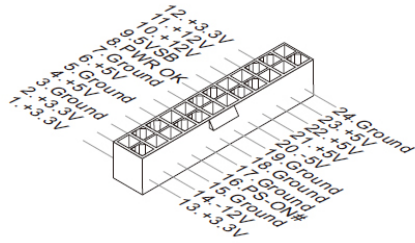
Label	Function
JCMOS3	Clear CMOS Jumper
JAT1	AT/ATX Select Jumper
JCMV1	COM1 port Power Jumper
JCMV2~4	COM2 ~ 4 port Power Jumper
J4	LVDS power jumper
J5	Full-Size Mini-PCIe Card Jumper:

## Connectors & Headers

Label	Function
ATX Power Connector	ATX1
DC Power Connector:	JPWR1
JCASE1	Chassis Intrusion Pin header:
SATA1	Serial ATA Connector
SATA2	Serial ATA Connector
SATA3	Serial ATA Connector
SATA4	Serial ATA Connector
JAMP1	Audio Amplifier Pin header:
CPUFAN1	Fan Power Connector:
SYSFAN1	Fan Power Connector:
JGPIO1	GPIO Pin header:
JFP1	Front Panel Pin header:
JUSB3	Front USB Pin header:
JUSB4	Front USB Pin header:
COM2	Serial Port Connector
COM3	Serial Port Connector
COM4	Serial Port Connector
JINV1	LVDS Inverter Connector:
JLVDS1	LVDS Connector: ( Optional on MX81HV )
JSPDI1	S/DPDIF Pin header:
JAUD1	Front Audio Pin header:
JTPM1	TPM Header

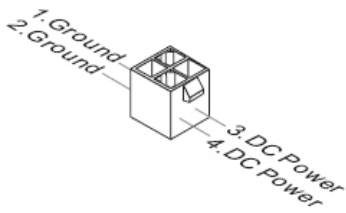
# Internal Connector Pin Assignment

## ATX Power Connector



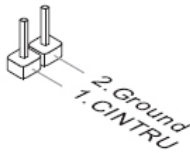
Pin	Signal Name	Signal Name	Pin
1	3.3V	3.3V	13
2	3.3V	12V	14
3	GND	GND	15
4	5V	PS_ON	16
5	GND	GND	17
6	5V	GND	18
7	GND	GND	19
8	PWR_OK	-5V	20
9	5VSB	5V	21
10	12V	5V	22
11	12V	5V	23
12	3.3V	GND	24

## DC Power Connector



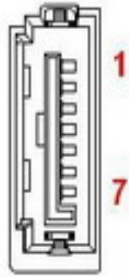
Pin	Signal
1	GND
2	GND
3	DC Power
4	DC Power

## JCASE1



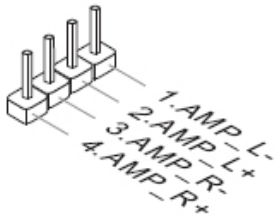
Pin	Signal
1	CINTRU
2	GND

SATA1, SATA2, SATA3, SATA4



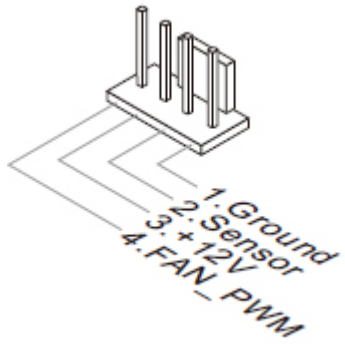
Pin	Signal Name
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

JAMP1



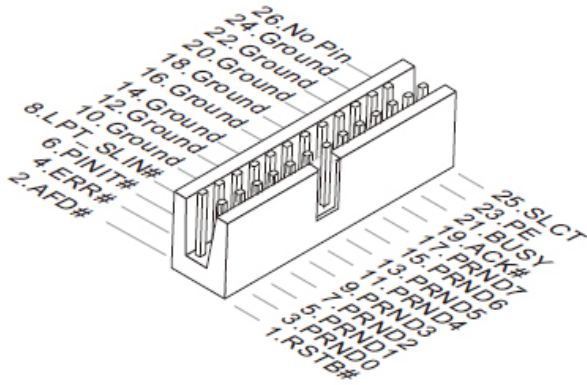
Pin	Signal
1	AMP_L-
2	AMP_L+
3	AMP_R-
4	AMP_R+

CPUFAN1 / SYSFAN1



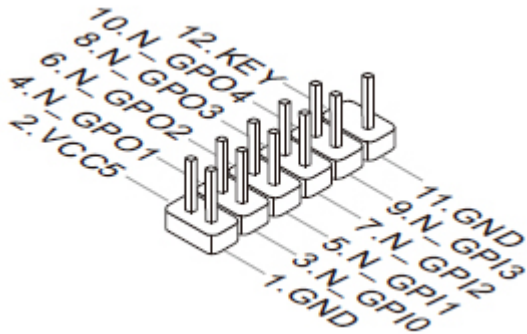
Pin	Signal
1	GND
2	Sensor
3	12V
4	FAN PWM

### JLPT1



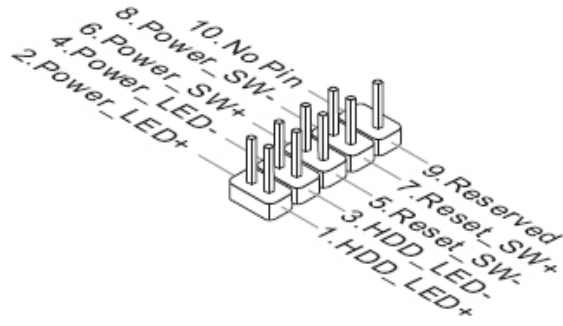
Pin	Signal Name	Signal Name	Pin
2	AFD#	RSTB#	1
4	ERR#	PRND0	3
6	PINIT#	PRND1	5
8	LPT_SL_IN#	PRND2	7
10	GROUND	PRND3	9
12	GROUND	PRND4	11
14	GROUND	PRND5	13
16	GROUND	PRND6	15
18	GROUND	PRND7	17
20	GROUND	ACK#	19
22	GROUND	BUSY	21
24	GROUND	PE	23
26	NO PIN	SLCT	25

### JGPIO1



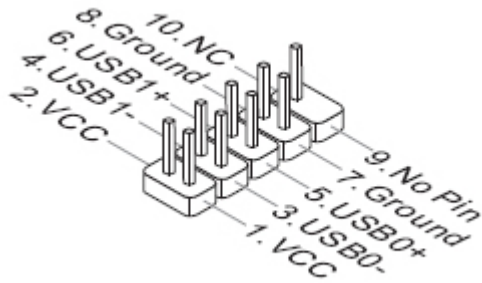
Pin	Signal Name	Signal Name	Pin
2	VCC5	GND	1
4	N_GP0	N_GPI0	3
6	N_GP1	N_GPI1	5
8	N_GP2	N_GPI2	7
10	N_GP3	N_GPI3	9
12	Key	GND	11

### JFP1



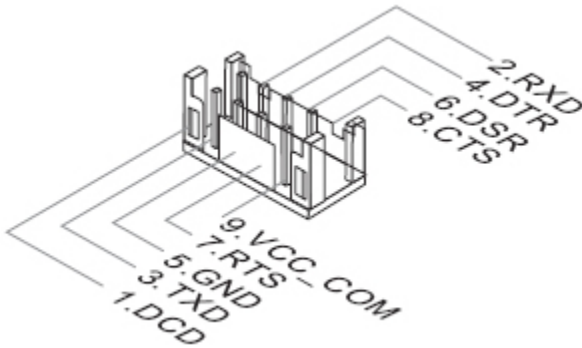
Pin	Signal Name	Signal Name	Pin
1	HDD_LED+	Power_LED+	2
3	HDD_LED-	Power_LED-	4
5	RESET_SW-	Power_SW+	6
7	RESET_SW+	Power_SW-	8
9	Reserved	No Pin	10

### JUSB3, JUSB4



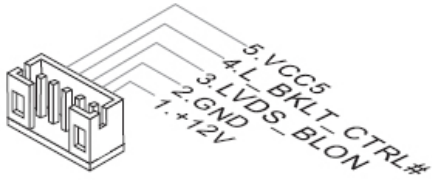
Pin	Signal Name	Pin	Signal Name
1	VCC	2	VCC
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	GND	8	GND
9	No Pin	10	NC

### COM2, COM3, COM4, COM5



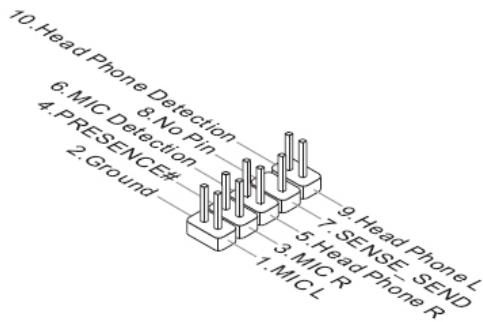
Pin	Signal Name	Pin	Signal Name
1	DCD	2	RXD
3	TXT	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	VCC_COM		

### JINV1



Pin	Signal
1	+12V
2	GND
3	LVDS_BLON
4	L_BKLT_CTRL#
5	VCC5

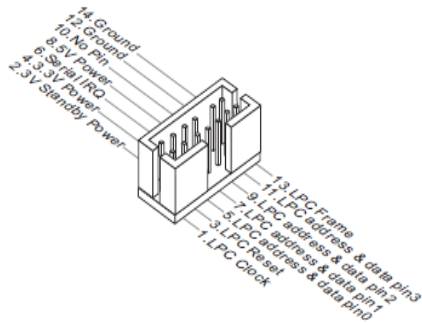
### JAUD1



Pin	Signal Name	Pin	Signal Name
1	MIC L	2	GND
3	MIC R	4	PRESENCE #
5	HEAD PHONE R	6	MIC DETECTION
7	SENSE_SEND	8	NO PIN
9	HEAD PHONE L	10	HEAD PHONE DETECTION

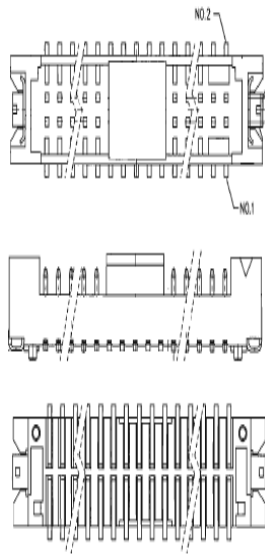


### JTPM1



Pin	Signal	Pin	Signal
2	3V STANDBY POWER	1	LPC CLOCK
4	3.3V POWER	3	LPC RESET
6	SERIAL IRQ	5	LPC ADDRESS & DATA PIN 0
8	5V POWER	7	LPC ADDRESS & DATA PIN 1
10	NO PIN	9	LPC ADDRESS & DATA PIN 2
12	GND	11	LPC ADDRESS & DATA PIN 3
14	GND	13	LPC FRAME

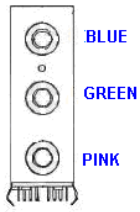
### JLVDS1



Pin	Signal Name	Pin	Signal Name
1	3.3V	2	LCD_VDD
3	3.3V	4	LVD_VDD
5	DCC_CLK	6	DCC_DATA
7	GND	8	GND
9	LVDSA_DATA1	10	LVDSA_DATA0
11	LVDSA_DATA#1	12	LVDSA_DATA#0
13	GND	14	GND
15	LVDSA_DATA3	16	LVDSA_DATA2
17	LVDSA_DATA#3	18	LVDSA_DATA#2
19	GND	20	GND
21	LVDSB_DATA1	22	LVDSB_DATA0
23	LVDSB_DATA#1	24	LVDSB_DATA#0
25	GND	26	GND
27	LVDSB_DATA3	28	LVDSB_DATA2
29	LVDSB_DATA#3	30	LVDSB_DATA#2
31	GND	32	GND
33	LVDSB_CLK	34	LVDSA_CLK
35	LBDSB_CLK#	36	LBDSA_CLK#
37	GND	38	GND
39	12V	40	12V

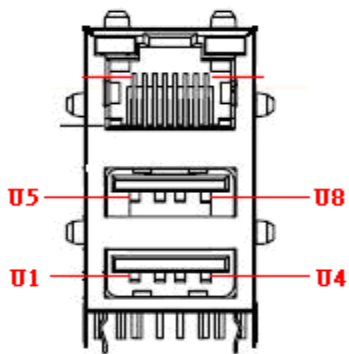
## Rear Panel Connector List

### AUDIO1 Audio Phone Jack



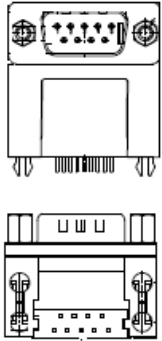
	Signal Name
BLUE	LINE IN
GREEN	LINE OUT
PINK	MIC IN

### LAN1, LAN2 RJ-45 + USB Port-0&1 Connector



Pin	Signal	Pin	Signal
1	VCC	12	Yellow LED
2	D0+	13	Green LED#
3	D0-	14	Orange LED#
4	D1+	U1	USB_PWR
5	D1-	U2	USB_N0
6	D2+	U3	USB_P0
7	D2-	U4	GND
8	D3+	U5	USB_PWR
9	D3-	U6	USB_N1
10	GND	U7	USB_P1
11	Yellow LED#	U8	GND

**COM1 RS-232 DB-9 Connector**



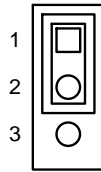
Pin	Signal
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	RI, Ring indicator

**PS-KBMS1 Internal PS/2 Keyboard & Mouse**

Pin	Signal Name	Pin	Signal Name
1	KB_DATA	2	NC
3	GND	4	KB_PWR
5	KB_CLK	6	NC
7	MS_DATA	8	NC
9	GND	10	KB_PWR
11	MS_CLK	12	NC
13	GND	14	GND
15	GND	16	GND

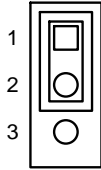
# Jumper Settings

## JCMOS3



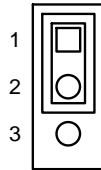
Jumper	Status
1-2 (Default)	KEEP CMOS
2-3	Clear CMOS

## JAT1 : AT/ATX SELECT JUMPER



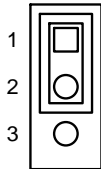
Jumper	Status
1-2	AT POWER
2-3(default)	ATX POWER

## JCMV1 / JCMV2-4 : COM PORT POWER JUMPER



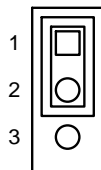
Jumper	Status
1-2 (Default)	5V
2-3	12V

## J4: LVDS Power Jumper



Jumper	Status
1-2 (Default)	3V
2-3	5V

## J5: Full-Size Mini-PCIe Card Jumper



Jumper	Status
1-2 (Default)	3V
2-3	3V Stand By

# Motherboard Layout:

