EMX-H61

Mini ITX Motherboard with Intel® H61 Express Chipset

Quick Installation Guide

2nd Ed – 29 October 2012

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Part No. E2017XH6101R

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1. Getting Started

1.1 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.

Always note that improper disassembling action could cause damage to the motherboard. We suggest not removing the heatsink without correct instructions in any circumstance. If you really have to do this, please contact us for further support.

1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- Rear I/O bracket X 1
- Quick Installation Guide X 1
- Driver/Utility CD X 1
- Serial ATA Signal Cable X 2

1.3 Specifications

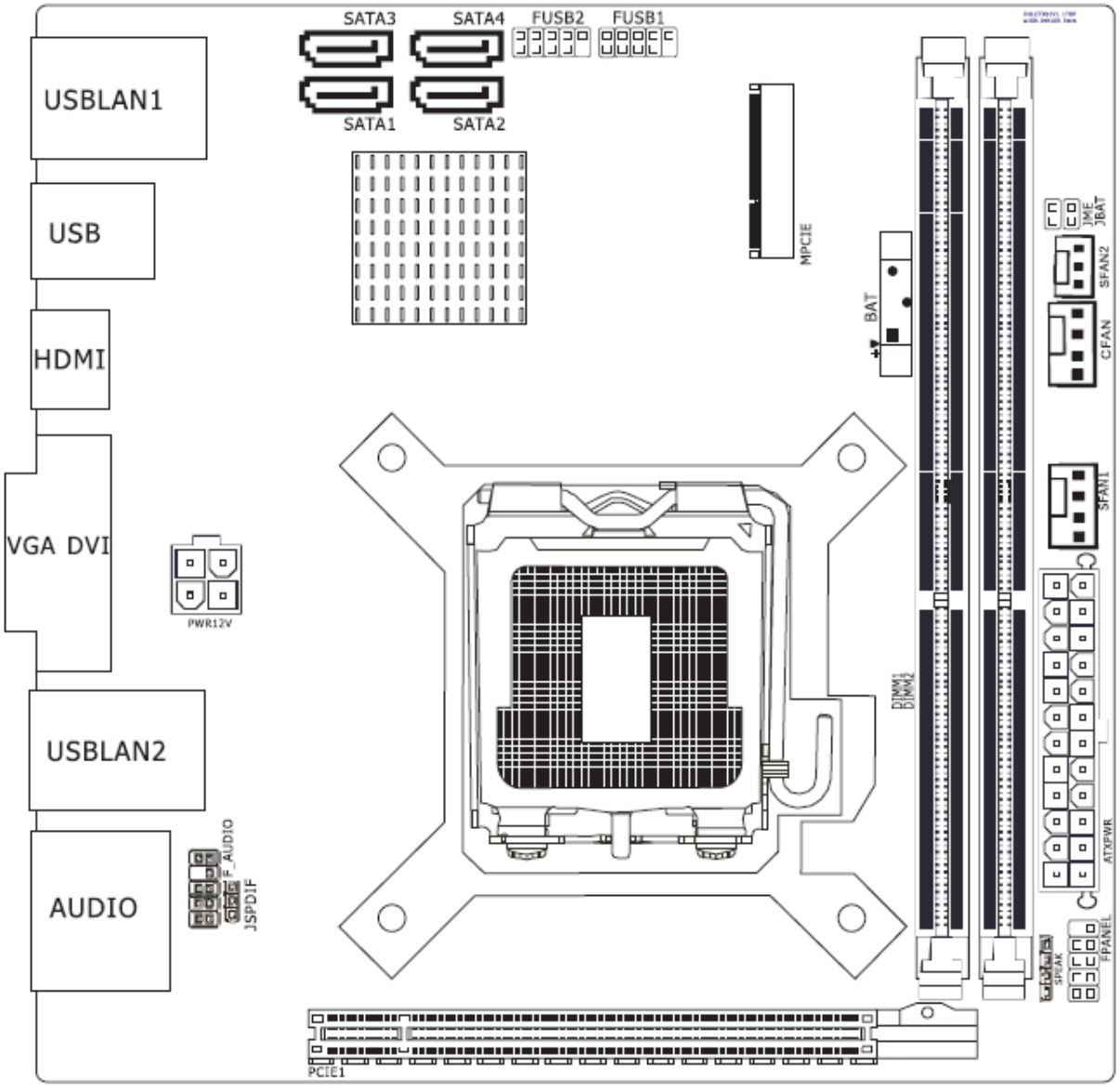
Title	EMX-H61
	Intel® Core™ i7, Core™ i5, Core™ i3, Pentium® /Celeron® Mini ITX Montherboard with Intel® H61 Express Chipset
Features	Intel® LGA1155 socket Supports Core™ i7, Core™ i5, Core™ i3, Pentium® and Celeron® processors
	Intel® H61 Express Chipset
	Two 240-pin DIMM sockets up to 8GB Dual Channel unbuffered DDR3 1066/1333MHz SDRAM
	VGA , DVI -D, HDMI
	Realtek® ALC892 7.1-Channel High-Definition Audio codec
	Dual Broadcom® 57788 PCI-Express Gigabit Ethernet
	1 x PCIex16 , 1 x Mini PCIe
	4 SATA II 3.0Gb/s , 2 x USB 3.0 Ports , 8 x USB 2.0 Ports
	8 Channel Audio I/O jacks with S/PDIF Out connector
Specifications	
System	
CPU	Intel® LGA1155 socket Supports Core™ i7, Core™ i5, Core™ i3, Pentium® and Celeron® processors
BIOS	AMI UEFI 1 x 32Mbit Flash ROM BIOS
System Chipset	Intel® H61 Express Chipset
I/O Chip	Nuvoton NCT5577D
System Memory	Two 240-pin DIMM sockets up to 8GB Dual Channel unbuffered DDR3 1066/1333MHz SDRAM
Watchdog Timer	NA
H/W Status Monitor	Monitoring temperature, Voltage, and Fan status.with Auto throttling control
Expansion	1 x PCIex16 , 1 x Mini PCIe
I/O	
MIO	4 SATA II 3.0Gb/s 1 x S/PDIF Out header 2 x 4-pin fan connectors, 1 x 3-pin fan connectors 1 x Front panel high definition audio header 1 x Front System Panel connector 1 x Speaker header

USB	2 x USB 3.0 Ports , rear I/O connectors 4 x USB 2.0 Ports ,rear I/O connectors 4 x USB 2.0 Ports , internal pin-header
Parallel Port	NA
PS2 KB/MS	NA
DIO	NA
Display	
Chipset	Intel® HD Graphics Media Accelerator 2000/3000 (Based on CPU type) Support for DX10.1 and OpenGL3.0
Resolution	VGA 2048X1536 @ 75 Hz HDMI 1920 x 1200 @ 60 Hz DVI –D 1920 x 1200 @ 60 Hz (The DVI-D port does not support D-Sub connection by adapter)
Dual Display	CRT+DVI, CRT+HDMI, DVI+HDMI
Audio	
Audio Codec	Realtek® ALC892 7.1-Channel High-Definition Audio codec
Audio Interface	Mic-in , Line-in,Line out , Center/Subwoofer, Rear R/L ,S/PDIF out
Ethernet	
LAN Chip	Dual Broadcom® 57788 PCI-Express Gigabit Ethernet
Ethernet Interface	10/100/1000 Base-Tx Gigabit Ethernet
Mechanical & Environmental	
Power Requirement	+12V/+5V/+5Vsb/+3.3V/-12V
Power Type	ATX
Operating Temp.	0 ~ 50°C (32 ~ 121°F)
Storage Temp	-40 ~ 75°C (-40 ~ 75°F)
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Size (L x W)	6.69” x 6.6” (170mm x 170mm)
Weight	0.88lbs (0.4kg)
Others	Ordering Information: EMX—H61-A1R Intel® Core™ i7, Core™ i5, Core™ i3, Pentium® /Celeron® Mini ITX Montherboard with Intel® H61 Express Chipset and VGA ,DVI-D ,HDMI, Audio ,2GbE , 1 PCIex16 , 1 Mini PCIe,4 SATA II, 2 x USB 3.0 , 8 x USB 2.0 , W/SATA Cable , Bracket / CD driver

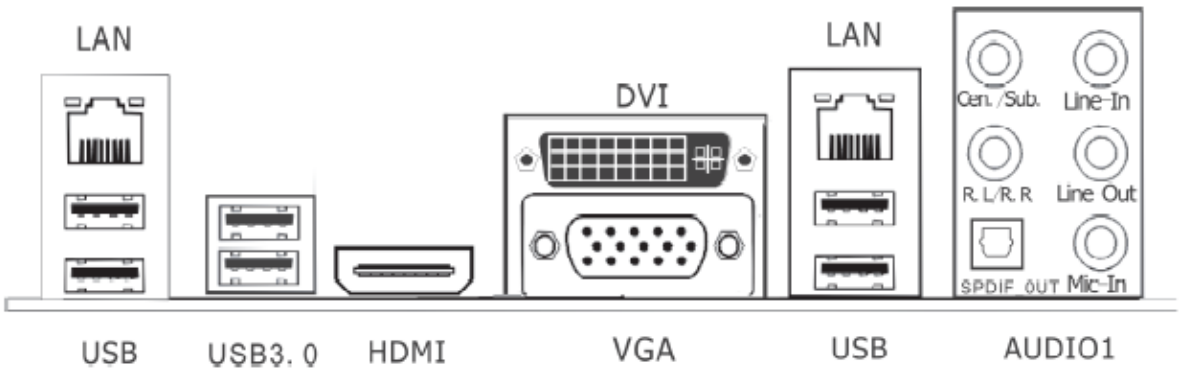
2 Hardware Configuration

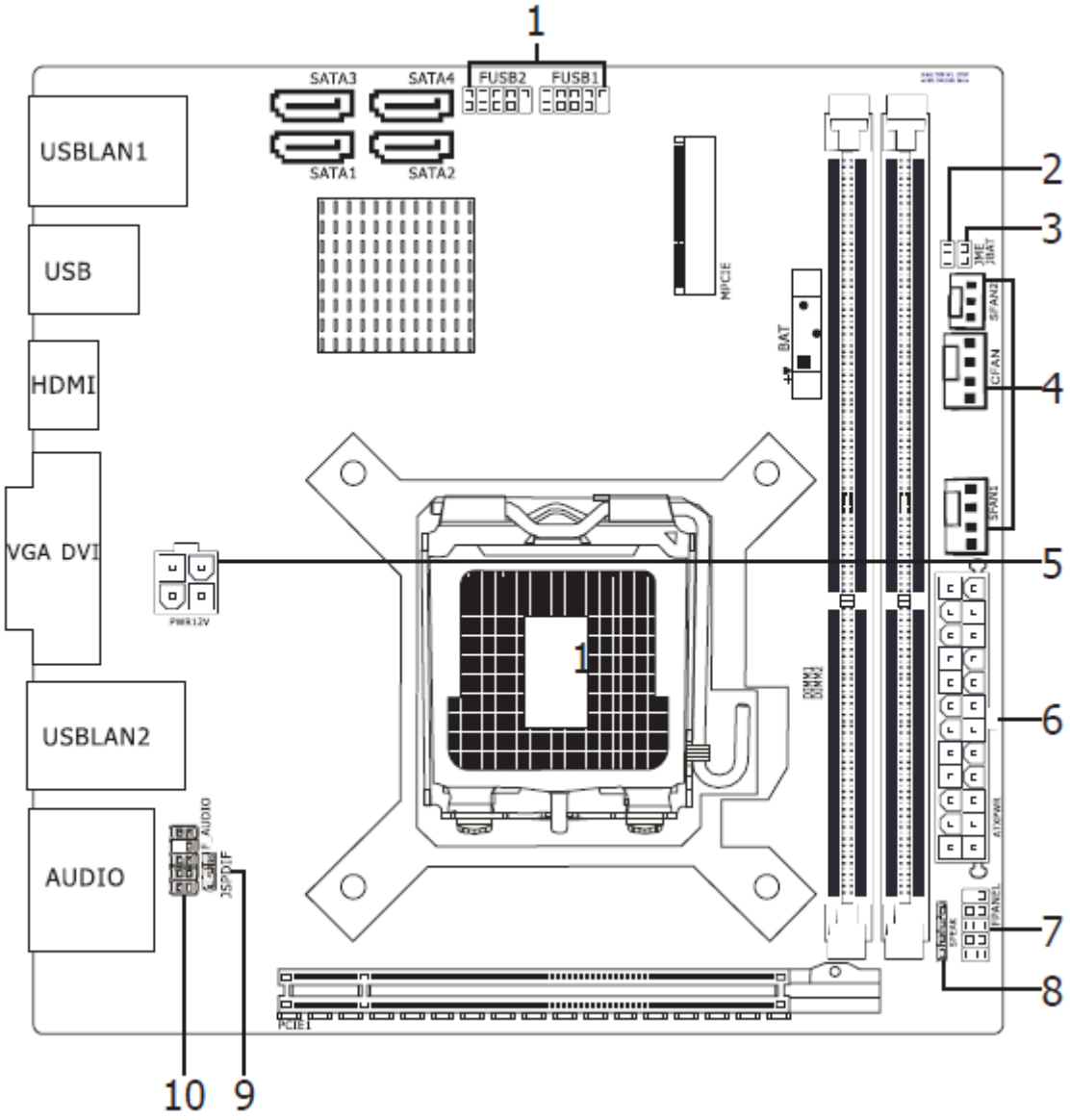
2.1 Product Overview

2.1.1 Main board layout



2.1.2 Connecting Rear Panel I/O Devices

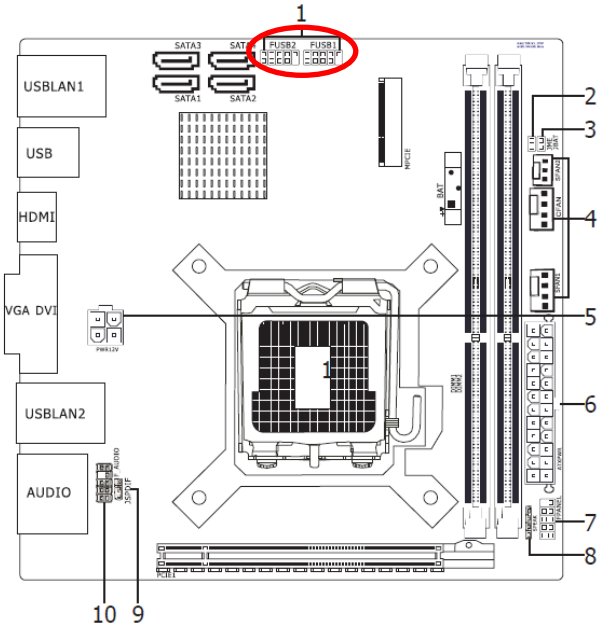




NO.	Layout	No.	Layout
1	FUSB1/FUSB2	6	ATXPWR
2	JME	7	FPANEL
3	JBAT	8	SPEAK
4	CFAN/SFAN1/SFAN2	9	JSPDIF
5	PWR12V	10	F_AUDIO

2.2 Setting Jumpers & Connectors

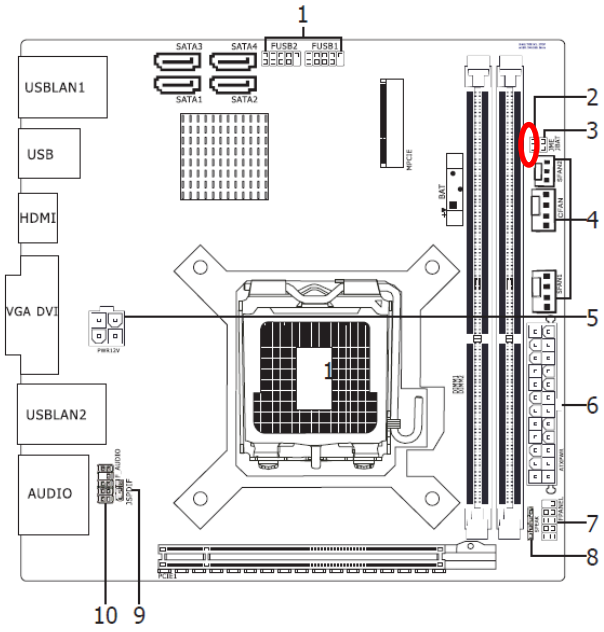
2.2.1 Additional USB Port Headers (FUSB1/FUSB2)





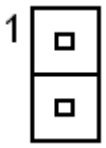
Pin No.	Definition	Pin No.	Definition
1	VCC	2	VCC
3	Data 0-	4	Data 1-
5	Data 0+	6	Data 1+
7	Ground	8	Ground
		10	NC

2.2.2 JME

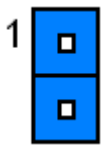




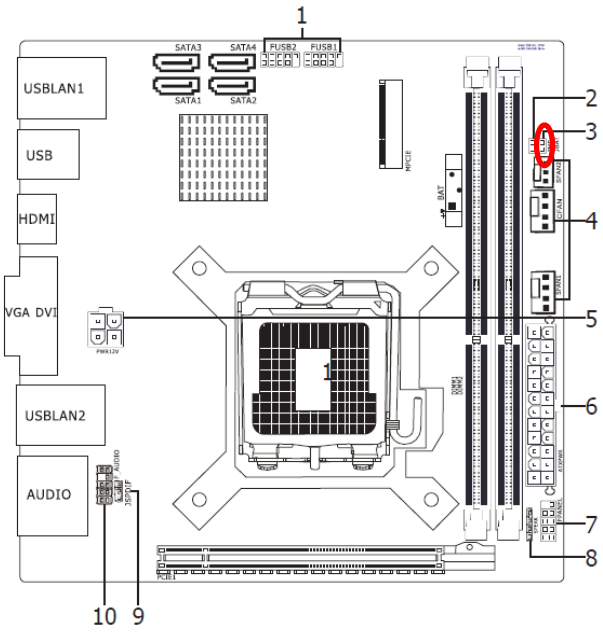
Can’t refresh the ME



Refresh the ME

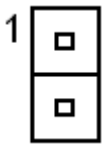


2.2.3 CMOS Memory Clearing Header (JBAT)

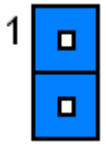




Normal*

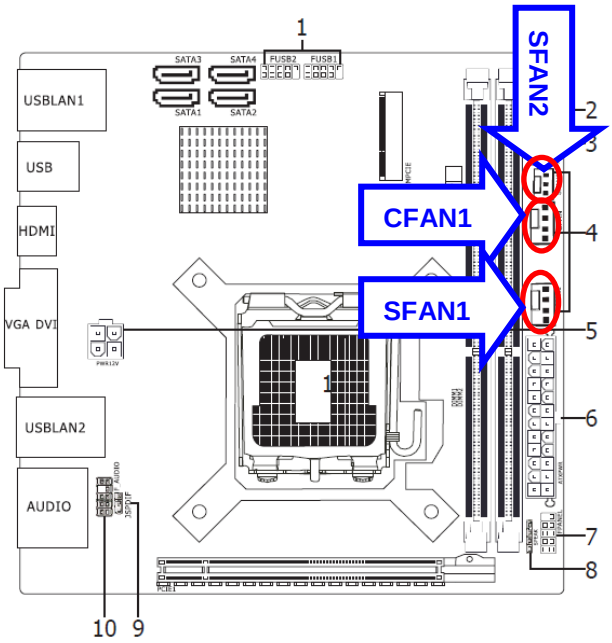


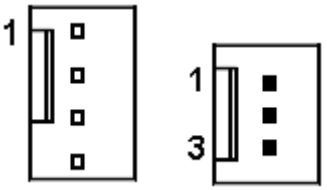
Clear CMOS



*** Default**

2.2.4 CPU/System Fan Power Connectors Header (CFAN/SFAN1/SFAN2)





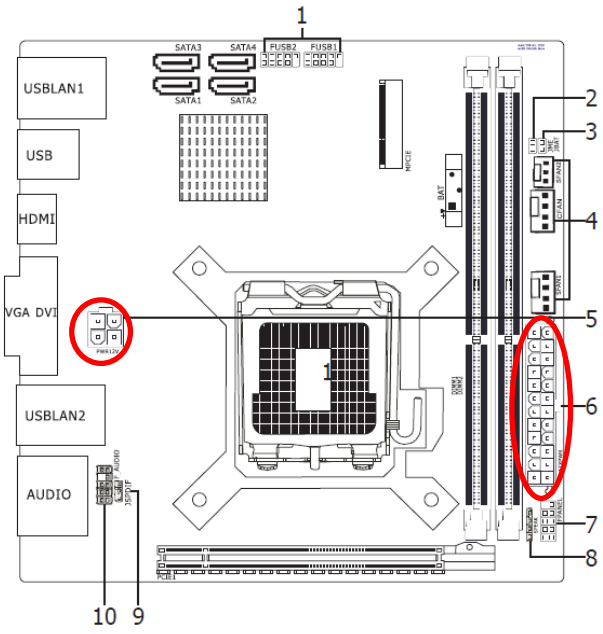
CFAN/SFAN1:

Pin No.	Definition
1	GND
2	+12V
3	RPM
4	Control

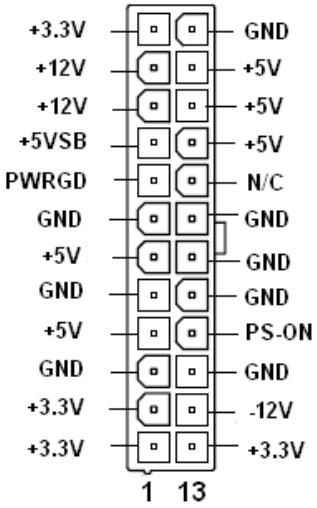
SFAN2:

Pin No.	Definition
1	GND
2	+12V
3	RPM

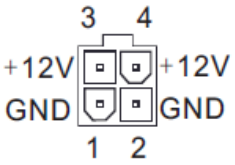
2.2.5 ATX Power Input Connectors (PWR12V/ATXPWR)



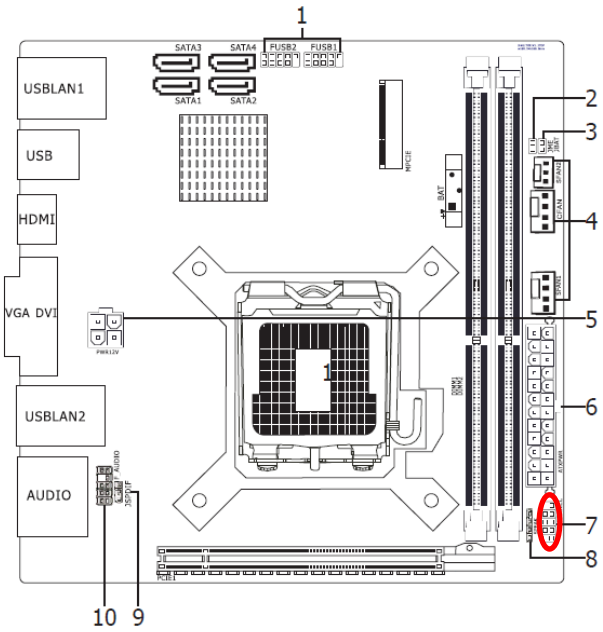
ATXPWR (ATX Power) connector

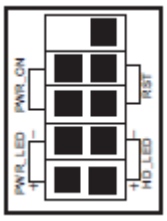


PWR12V (+12V Power) connector



2.2.6 Front Panel Switches (FPANEL)





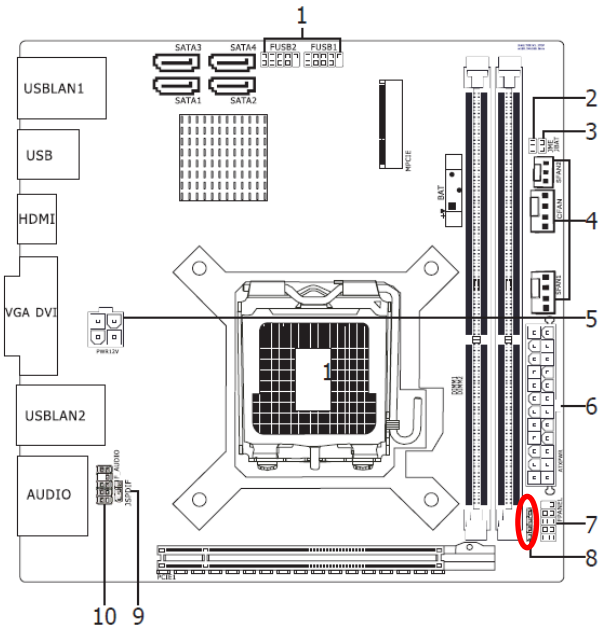
HD_LED (Red): Hard Drive LED connector

RST (Blue): Reset Switch

PWR_ON (Black): Power Switch

PWR_LED (Green): Power/Standby LED

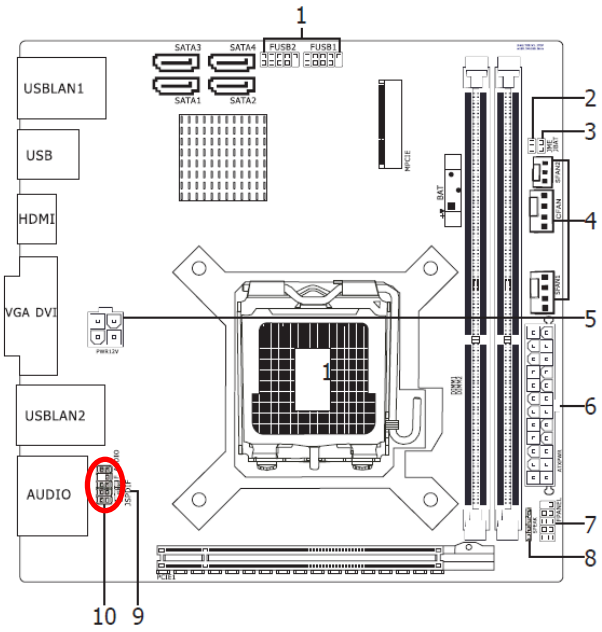
2.2.7 Speaker Headers (SPEAK)





Pin No.	Definition
1	SPK +
2	NC
3	NC
4	SPK -

2.2.8 Front Panel Audio Connection Header (F_AUDIO)





Pin No.	Header	HD Audio Definition	AC97 Audio Definition
1	PORT1L	Microphone_Left	Microphone
2	AGND	Ground	Ground
3	PORT1R	Microphone_Right	MIC Power
4	PRESENCE#	-ACZ_DET	N/A
5	PORT2R	Line2_Right	Line out (R)
6	SENSE1_RETURN	AuD_R_Return	N/A
7	SENSE_SEND	FAUDIO_JD	N/A
8	No Pin	N/A	N/A
9	PORT2L	Line2_Left	Line Out(L)
10	SENSE2_RETURN	AuD_L_Return	N/A