

Chapter 1

Introducing the Motherboard

Introduction

Thank you for choosing the 86551 motherboard. This motherboard is a high performance, enhanced function motherboard designed to support Intel Skylake processors for high-end business or personal desktop markets.

This motherboard is based on integrated Intel Chipset for best desktop platform solution. Skylake is a dual-core or quad-core processor. The chipset for Skylake is highly integrated and high performance. Moreover, Skylake will feature DirectX12-compliant Gen 9 architecture graphics and support Win8 and UEFI Secure Boot. This motherboard supports up to 32 GB 260pin SO-DIMM memory with dual-channel DDR4 2133 (2GB/ 4GB/ 8GB/ 16GB) SDRAM. One PCI Express x16 slot is supported, is fully compliant to the PCI Express Base Specification revision 3.0. One M.2 slot and One Mini PCIE are also supported.

It implements an EHCI (Enhanced Host Controller Interface) compliant interface that provides six USB 2.0 ports (two USB 2.0 ports at rear panel, one USB 2.0 type A port onboard, one USB 2.0 header supports additional two USB 2.0 ports and one port is supported by mPCIE 2.0 USB signal) and four USB 3.0 ports at the rear panel.

The motherboard is equipped with advanced full set of I/O ports in the rear panel, including one PS/2 mouse and PS/2 keyboard Combo connector, two Serial ports (COM), one VGA port, two Lan ports, two USB 2.0 ports, four USB 3.0 ports, one HDMI port and audio jacks for line-out and Mic-in.

In addition, this motherboard supports two SATA 6.0Gb/s connectors.

Feature

Processor

The motherboard uses Skylake CPU that carries the following features:

- DirectX12-compliant Gen 9 graphics architecture
- Supports “Hyper-Threading” technology
- Supports Win8.1/ Win10 and UEFI Secure Boot.

“Hyper-Threading” technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate “logical” processors within the same physical processor.

Chipset

The integrated Skylake chip is proven reliability and high performance.

- Support one PCI Express x16 slot
- Integrated Serial ATA (SATA) host controller with independent DMA.
- Six USB 2.0 ports supported
- Four USB 3.0 port supported
- Serial Peripheral Interface (SPI) support
- Intel® High Definition Audio Controller

Memory

- Supports DDR4 2133 (2GB/ 4GB/ 8GB/ 16GB) SDRAM with dual-channel architecture
- Up to 32GB 260pin SO-DIMM memory module support

Audio

- 2+2 Channel High Definition Audio Codec
- Meets Microsoft Windows Logo Program and Lync audio requirements
- All DACs supports 44.1k/48k/96k/192kHz sample rate
- Software selectable 2.2V/3.0V/3.9V VREFOUT as voltage for analog microphone input
- Direct Sound 3D™ compatible
- Power Support: Digital: 3.3V; Analog: 5.0V

Ethernet LAN

The onboard LAN provides the following features:

- Supports PCI ExpressTM 2.1
- IEEE 802.3az
- Wake-on-LAN (including from S3, S4, S5, power button off) and remote wake-up support
- PXE support

Expansion Options

The motherboard comes with the following expansion options:

- One PCI Express x16 slot
- One Mini PCI Express x1 slot (With mSATA and USB2.0)
- Two SATA 6.0Gb/s connectors
- One M.2 slot for SSD

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- Two LAN ports
- Two Serial port (COM)
- four USB 3.0 ports
- One VGA port
- One HDMI port
- One PS/2 keyboard and PS/2 mouse Combo connector
- Audio jacks for line-out and Mic-in

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and Memory timing
- Graphic parameters

The firmware can also be used to set parameters for different processor clock speeds.



- 1. Some hardware specifications and software items are subject to change without prior notice.*
- 2. Due to chipset limitation, we recommend that motherboard be operated in the ambiance between 0 and 60 ° C. (NOTICE: Test method: bare PCB with 100% loading running Pass Mark 7.0 at chamber 60 ° C)*

Specifications

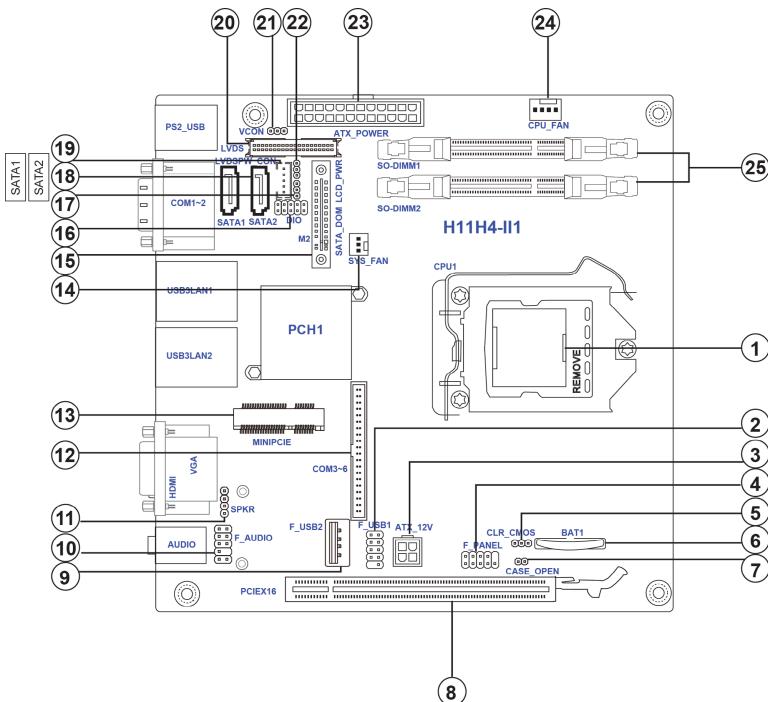
CPU	<ul style="list-style-type: none"> Intel Skylake series processors, up to 4 cores Supports “Hyper-Threading” technology
Chipset	<ul style="list-style-type: none"> Integrated Intel Skylake H110 chip
Memory	<ul style="list-style-type: none"> Dual-channel DDR4 memory architecture 2 DDR4 260pin SO-DIMM sockets support up to 32 GB Supports 2133 (2GB/ 4GB/ 8GB/ 16GB) SDRAM
Expansion Slots	<ul style="list-style-type: none"> 1 x PCI Express x16 slot 1 x Mini PCI Express x1 slot (With mSATA and USB2.0 and PCIe) 1 x M.2 slot for SSD
Storage	<ul style="list-style-type: none"> Supported by integrated Intel skylake H110 SoC chip 2 x Serial ATA 6.0 Gb/s Host Controllers
Audio	<ul style="list-style-type: none"> Realtek ALC269VC 2.1-Ch HD audio CODEC
Ethernet LAN	<ul style="list-style-type: none"> 2 x Intel I211AT
Rear Panel I/O	<ul style="list-style-type: none"> 4 x USB 3.0 ports 2 x USB 2.0 ports 2 x Serial ports (COM) 1 x VGA ports 2 x RJ45 LAN connectors 1 x PS/2 keyboard & PS/2 mouse Combo connector 1 x Audio port (Line out, Mic in) 1 x HDMI port
Internal I/O Connectors & Headers	<ul style="list-style-type: none"> 1 x 24-pin ATX Power Supply connector 1 x 4-pin 12V Power Supply connector 1 x 4-pin CPU_FAN connector 1 x 3-pin SYS_FAN connector 2 x SATA III 6.0Gb/s connectors 1 x Front panel switch/LED header 1 x Front panel audio header 1 x USB 2.0 header supports additional two USB 2.0 ports 1 x USB 2.0 port 1 x SPKR header 1 x COM3~6 header 1 x Clear CMOS header with jumper 1 x LVDS header 1 x VCON header with jumper 1 x Opened Chassis detective header 1 x LCD_PWR header with jumper 1 x LVDSPW_CONN connector 1 x DIO header 1 x SATA_DOM header with jumper

Introducing the Motherboard

System BIOS	<ul style="list-style-type: none">• AMI BIOS with 64Mb SPI Flash ROM• Supports Plug and Play, S1 / STR (S3) / STD (S4) , Hardware monitor• Supports ACPI & DMI• Audio, LAN, can be disabled in BIOS• Supports Dual Display• F7 hot key for boot up devices option
Form Factor	<ul style="list-style-type: none">• Mini ITX Size, 170mm x 170mm
Driver	<ul style="list-style-type: none">• Windows 7 (32bit/ 64bit)• Windows 8.1 (32bit/ 64bit)• Windows 10
Certification	<ul style="list-style-type: none">• RoHS• EMI: FCC, CE• WHQL: TBD

Introducing the Motherboard

Motherboard Components



Introducing the Motherboard

Table of Motherboard Components

LABEL	COMPONENTS
1. CPU1 Socket	LGA1151 socket for Intel Skylake processors
2. F_USB1	Front panel USB2.0 header
3. ATX_12V	4-pin +12V power in connector
4. F_PANEL	Front panel switch/LED header
5. CLR_CMOS	Clear CMOS header with jumper
6. BAT1	Battery
7. CASE_OPEN	CASE open header
8. PCIEX16	PCI Express slot for graphics interface
9. F_USB2	USB2.0 type A port onboard
10. F_AUDIO	Front audio header
11. SPKR	Speaker
12. COM3~6	Onboard serial port headers
13. MINIPCIE	PCI Express Gen2 x1 slot (with SATA and USB 2.0)
14. SYS_FAN	3-pin System cooling fan connector
15. M2	M.2 slot for SSD
16. DIO	4 bit GPIO (GPI*4, GPO*4)
17. SATA_DOM	SATA DOM header with jumper
18. SATA1~2	Serial ATA 6.0Gb/s connectors (one supports SATA DOM)
19. LVDSPW_CON	LCD backlight power & Brightness control header
20. LVDS	LVDS connector
21. VCON	LVDS power & inverter jumper
22. LCD_PWR	LVDS Power select jumper
23. ATX_POWER	Standard 24-pin ATX power connector
24. CPU_FAN	4-pin CPU cooling fan connector
25. SO-DIMM1~2	DDR4 2133 SDRAM slot

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Memo

Introducing the Motherboard

Chapter 2

Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the ITX system case. Some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

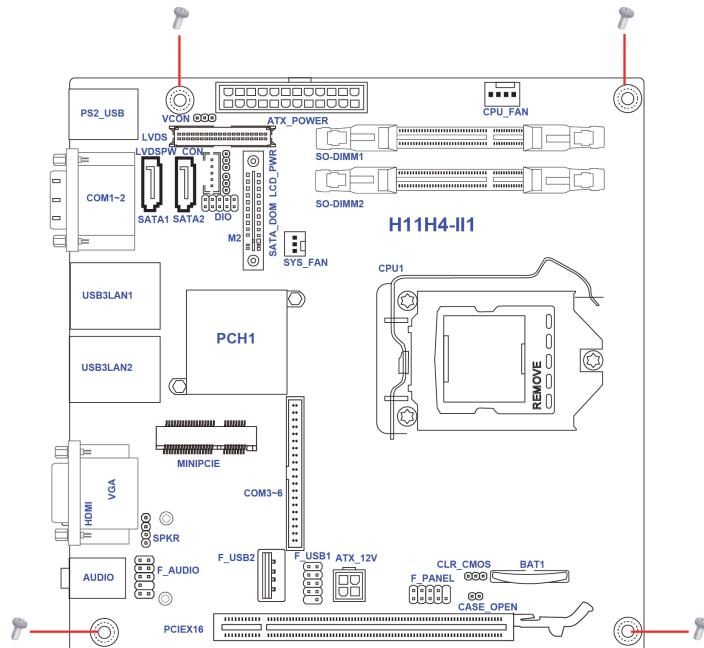
This motherboard carries a Mini ITX form factor of 170 x 170 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond to the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

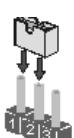
This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.



SHORT



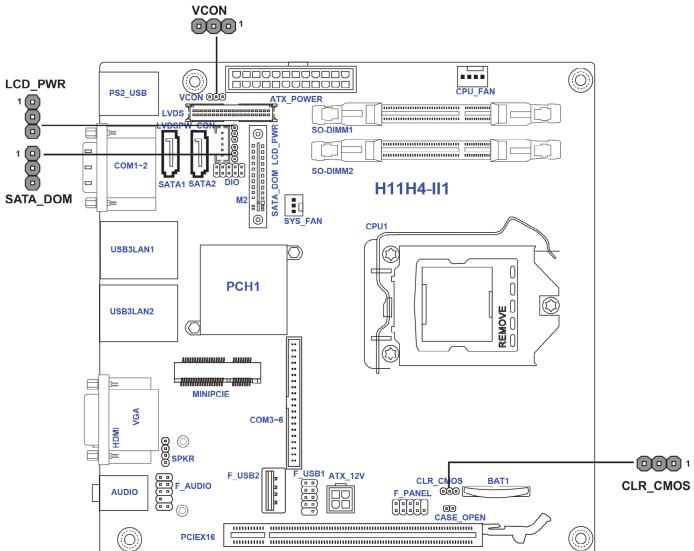
OPEN



Installing the Motherboard

Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



Jumper Settings

Jumper	Type	Description	Setting (default)
CLR_CMOS	3-pin	Clear CMOS Before clearing the CMOS, make sure to turn off the system.	1 CLR_CMOS
SATA_DOM	3-pin	SATA DOM	1 SATA_DOM
VCON	3-pin	Reserve	1 VCON
LCD_PWR	3-pin	LCD Power Selection	1 LCD_PWR



To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to “Load Default Settings” and then “Save and Exit Setup”.

Installing the Motherboard

Installing Hardware

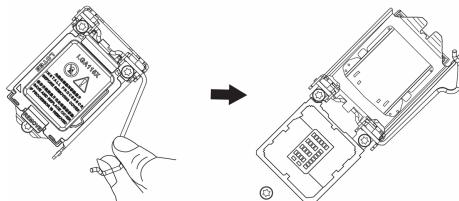
CPU Installation Procedure

The following illustration shows CPU installation components.

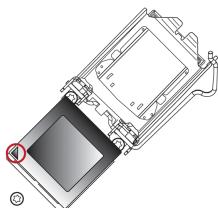
- Press the hook of lever down with your thumb and pull it to the right side to release it from retention tab.



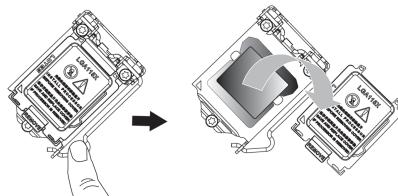
- Lift the tail of the load lever and rotate the load plate to fully open position.



- Grasp the edge of the package substrate. Make sure pin 1 indicator is on your bottom-left side. Aim at the socket and place the package carefully into the socket by purely vertical motion.



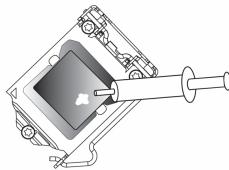
- Rotate the load plate onto the package IHS (Intergraded Heat Spreader). Engage the load lever while pressing down lightly onto the load plate. Secure the load lever with the hook under retention tab. Then the cover will flick automatically.



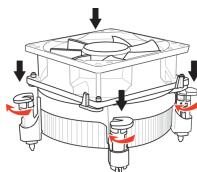
Please save and replace the cover onto the CPU socket if processor is removed.

Installing the Motherboard

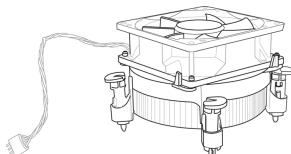
E. Apply some thermal grease onto the contacted area between the heatsink and the CPU, and make it to be a thin layer.



F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard. And make sure the CPU fan is plugged to the CPU fan connector.



G. Connect the CPU cooler power connector to the CPU_FAN connector.



1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

2. DO NOT remove the CPU cap from the socket before installing a CPU.

3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA1151 socket.

Installing the Motherboard

Installing Memory Modules

This motherboard accommodates two memory modules. It can support DDR4 2133 (2GB/ 4GB/ 8GB/ 16GB). The total memory capacity is 32 GB.

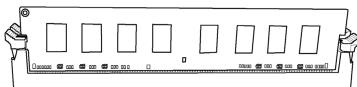
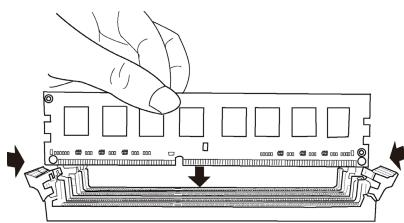
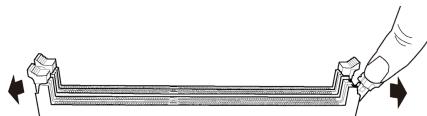


Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

- 1 This motherboard supports unbuffered DDR4 SDRAM .
- 2 Push the latches on each side of the DIMM slot down.
- 3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
- 4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
- 5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
- 6 Install any remaining DIMM modules.



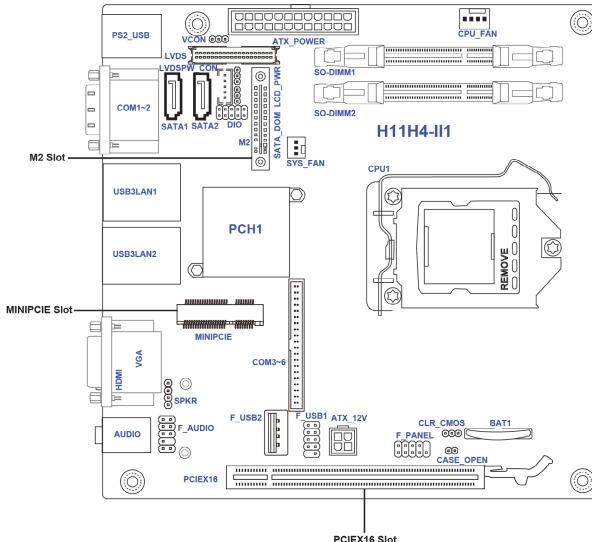
* For reference only

Installing the Motherboard

Expansion Slots

Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



PCIEX16 Slot

The PCI Express x16 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision3.0.

MINIPCIE Slot

The Mini PCI Express x1 slot is for extending usage, such as wireless card or TV card, which supports full-card & half-card with SATA & USB2.0 and PCIe signal.

M2 Slot

The M.2 slot is for SSD card extending usage.

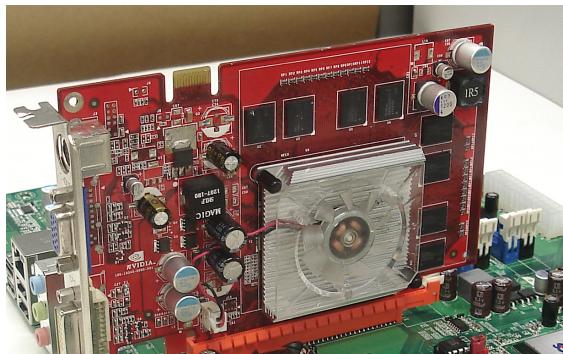


Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Installing the Motherboard

Follow these instructions to install an add-on card:

- 1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
- 2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
- 3 Secure the metal bracket of the card to the system case with a screw.



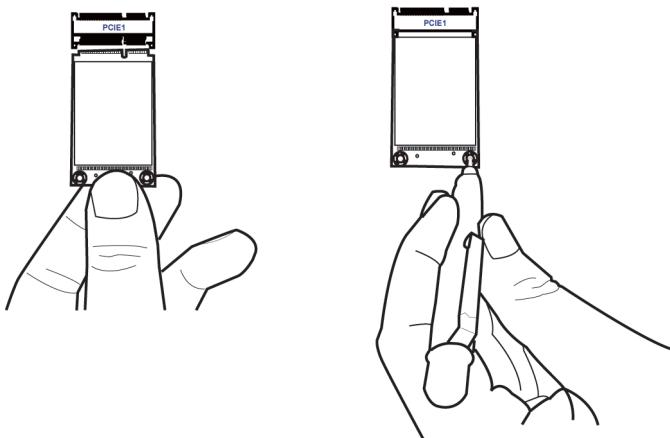
* For reference only



For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Insert a SSD card into the M2 slot.

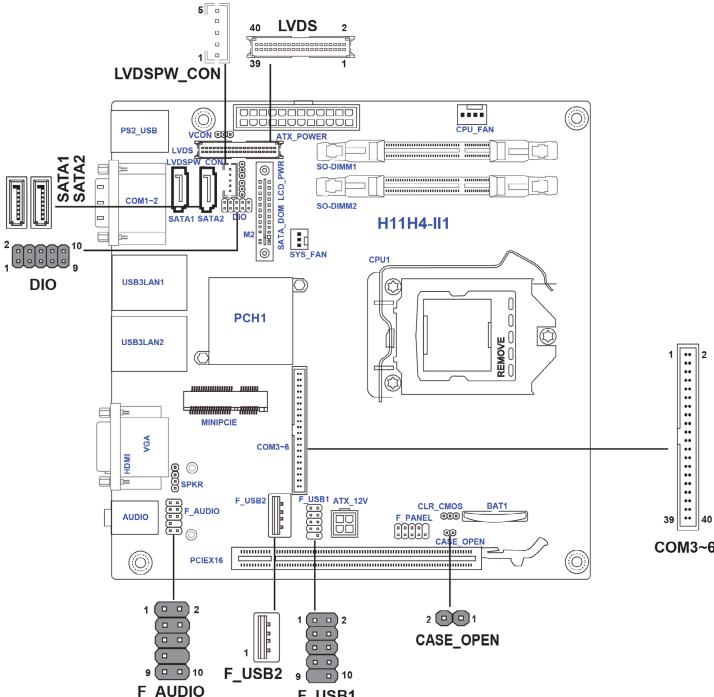
Insert a WIFI card into the MINIPCIE slot.



Installing the Motherboard

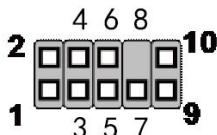
Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



F_AUDIO: Front Panel Audio Header

The front panel audio header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access. This header supports HD audio by default. If you want connect an AC' 97 front panel audio to HD onboard headers, please set as below picture.



For HD Front Audio

Pin	Description	Pin	Description
1	Left channel microphone input signal	2	Analog ground
3	Right channel microphone input signal	4	HD Panel sensor detect
5	Right channel to front panel	6	Microphone sensor detect
7	Analog ground	8	No pin
9	Left channel to front panel	10	Line-in sensor detect

Installing the Motherboard

COM3~6 : Onboard serial port header

Connect a serial port extension bracket to this header to add a second serial port to your system.

Pin	Signal Name	Pin	Signal Name
1	C3_DCD	21	C5_DCD
2	C3_DSR	22	C5_DSR
3	C3_RXD	23	C5_RXD
4	C3_RTS	24	C5_RTS
5	C3_TXD	25	C5_TXD
6	C3_CTS	26	C5_CTS
7	C3_DTR	27	C5_DTR
8	C3 RI	28	C5 RI
9	Ground	29	Ground
10	Ground	30	Ground
11	C4_DCD	31	C6_DCD
12	C4_DSR	32	C6_DSR
13	C4_RXD	33	C6_RXD
14	C4_RTS	34	C6_RTS
15	C4_TXD	35	C6_TXD
16	C4_CTS	36	C6_CTS
17	C4_DTR	37	C6_DTR
18	C4 RI	38	C6 RI
19	Ground	39	Ground
20	Ground	40	Ground

SATA1~2: Serial ATA 6.0Gb/s connector

This connector is used to support the Serial ATA devices for the highest data transfer rates (6.0 Gb/s), simpler disk drive cabling and easier PC assembly.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	8	No pin

CASE: Opened Chassis detective header

This detects if the chassis cover has been removed. This function needs a chassis equipped with intrusion detection switch and needs to be enabled in BIOS.

Pin	Signal Name
1	GND
2	Case open

Installing the Motherboard

DIO: 4 bit GPIO header

Pin	Signal Name	Pin	Signal Name
1	GPP_D8_DI	6	GPP_D18_DO
2	GPP_D20_DO	7	GPP_D5_DI
3	GPP_D7_DI	8	GPP_D17_DO
4	GPP_D19_DO	9	VCC_DIO
5	GPP_D6_DI	10	GND

LVDSPW_CON: LVDS_POWER Connector

Pin	Function
1	12V
2	GND
3	BACK LIGHT ENABLE
4	BACK LIGHT CONTROLL
5	5V

LVDS: LVDS Connector

Pin	Signal Name	Pin	Signal Name
1	VDDSAFE	21	LVDS_L2_P
2	VDDSAFE	22	LVDS_U2_P
3	GND	23	GND
4	GND	24	GND
5	VDDSAFE	25	LVDS_CLKL_N
6	VDDSAFE	26	LVDS_CLKU_N
7	LVDS_L0_N	27	LVDS_CLKL_P
8	LVDS_U0_N	28	LVDS_CLKU_P
9	LVDS_L0_P	29	GND
10	LVDS_U0_P	30	GND
11	GND	31	LVDS_CH7511_DDC_CLK
12	GND	32	LVDS_CH7511_DDC_DATA
13	LVDS_L1_N	33	GND
14	LVDS_U1_N	34	GND
15	LVDS_L1_P	35	LVDS_L3_N
16	LVDS_U1_P	36	LVDS_U3_N
17	GND	37	LVDS_L3_P
18	GND	38	LVDS_U3_P
19	LVDS_L2_N	39	Back Light En
20	LVDS_U2_N	40	VCON

Installing the Motherboard

F_USB1: Front Panel USB 2.0 Header

The motherboard has one USB 2.0 header supporting two USB 2.0 ports. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name
1	Power +5V
2	Power +5V
3	USB Port A (-)
4	USB Port B (-)
5	USB Port A (+)
6	USB Port B (+)
7	Ground
8	Ground
9	No pin
10	Not Connected

F_USB2: Front Panel USB 2.0 type A port



Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

Installing a SATA Hard Drive

This section describes how to install a SATA Hard Drive.

About SATA Connectors

Your motherboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with a SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.



SATA cable (optional)



SATA power cable (optional)

Refer to the illustration below for proper installation:

- 1 Attach either cable end to the connector on the motherboard.
- 2 Attach the other cable end to the SATA hard drive.
- 3 Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



** For reference only*

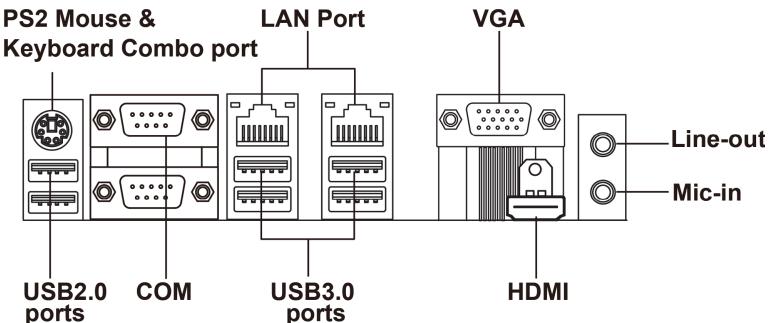


This motherboard supports the “Hot-Plug” function.

Installing the Motherboard

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:

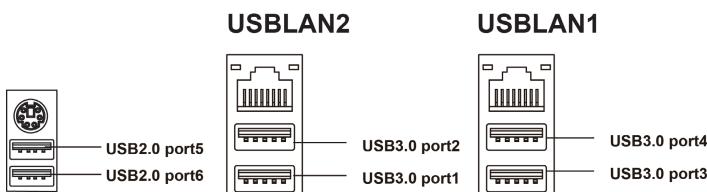


PS2 Mouse & Keyboard Combo port Use the upper PS/2 port to connect a PS/2 pointing device or a PS/2 keyboard.

Serial port (COM) Use the COM port to connect the serial devices such as mice or fax/modems.

LAN Port Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

USB 3.0 Ports Use the USB 3.0 ports to connect USB 3.0 devices.



VGA Port You can connect the display devices to the VGA port.

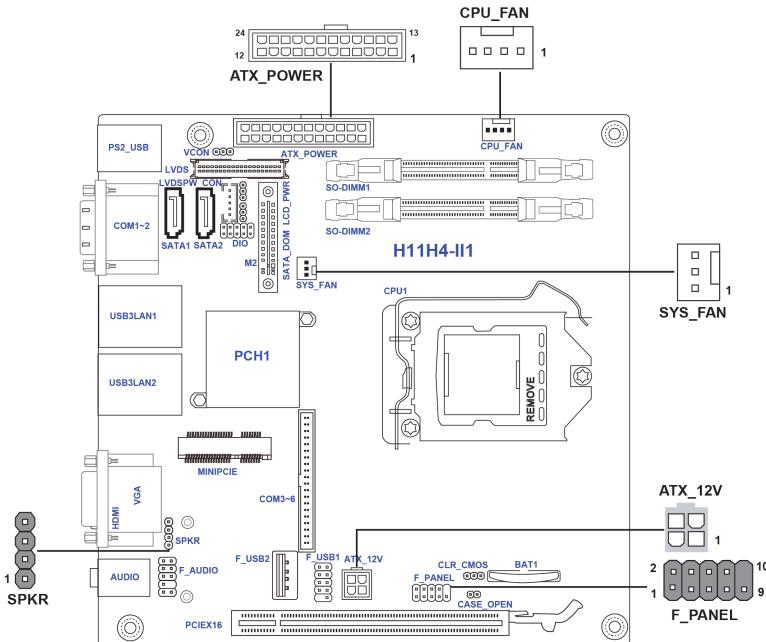
HDMI Port You can connect the display devices to the HDMI port.

Audio Ports Use the two audio ports to connect audio devices. The first jack is for stereo line-out singal. The second jack is for stereo Mic-in singal.

Connecting Case Components

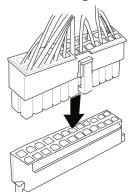
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

- 1 Connect the system cooling fan connector to **SYS_FAN**.
- 2 Connect the CPU cooling fan connector to **CPU_FAN**.
- 3 Connect the case switches and indicator LEDs to the **F_PANEL**.
- 4 Connect the case speaker cable to **SPKR**.
- 5 Connect the auxiliary case power supply connector to **ATX_12V**.
- 6 Connect the standard power supply connector to **ATX_POWER**.



Connecting 24-pin power cable

The ATX 24-pin connector allows you to connect to ATX v2.x power supply.



24-pin power cable

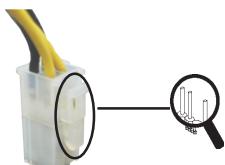
With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable and the ATX match perfectly.

Installing the Motherboard



Connecting 4-pin power in cable

The ATX_12V power in connector is used to provide power to the CPU.



4-pin power cable

When installing 4-pin power cable, the latches of power cable and the ATX12V match perfectly.

SYS_FAN: System Cooling FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Vout
3	Sense	Sensor

ATX_12V: ATX 12V Power in Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

SPKR: Internal speaker

Pin	Signal Name
1	Left Channel-
2	Left Channel+
3	Right Channel-
4	Right Channel+

CPU_FAN: CPU Cooling FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	CONTROL	CONTROL

Installing the Motherboard

ATX_POWER: Standard ATX 24-pin Power Connector

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

Front Panel Header

The front panel header (F_PANEL) provides a standard set of switch and LED headers commonly found on ATX or Micro ATX cases. Refer to the table below for information:



Pin	Signal	Pin	Signal
1	Hard disk LED (+)	6	Power Switch (+)
2	MSG LED (+)	7	Reset Switch (+)
3	Hard disk LED (-)	8	Power Switch (-)
4	MSG LED (-)	9	Reserved
5	Reset Switch (-)	10	No pin

* MSG LED (dual color or single color)

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing the Motherboard