AP480-S
Motherboard layout reference

Contents

Specifications summary

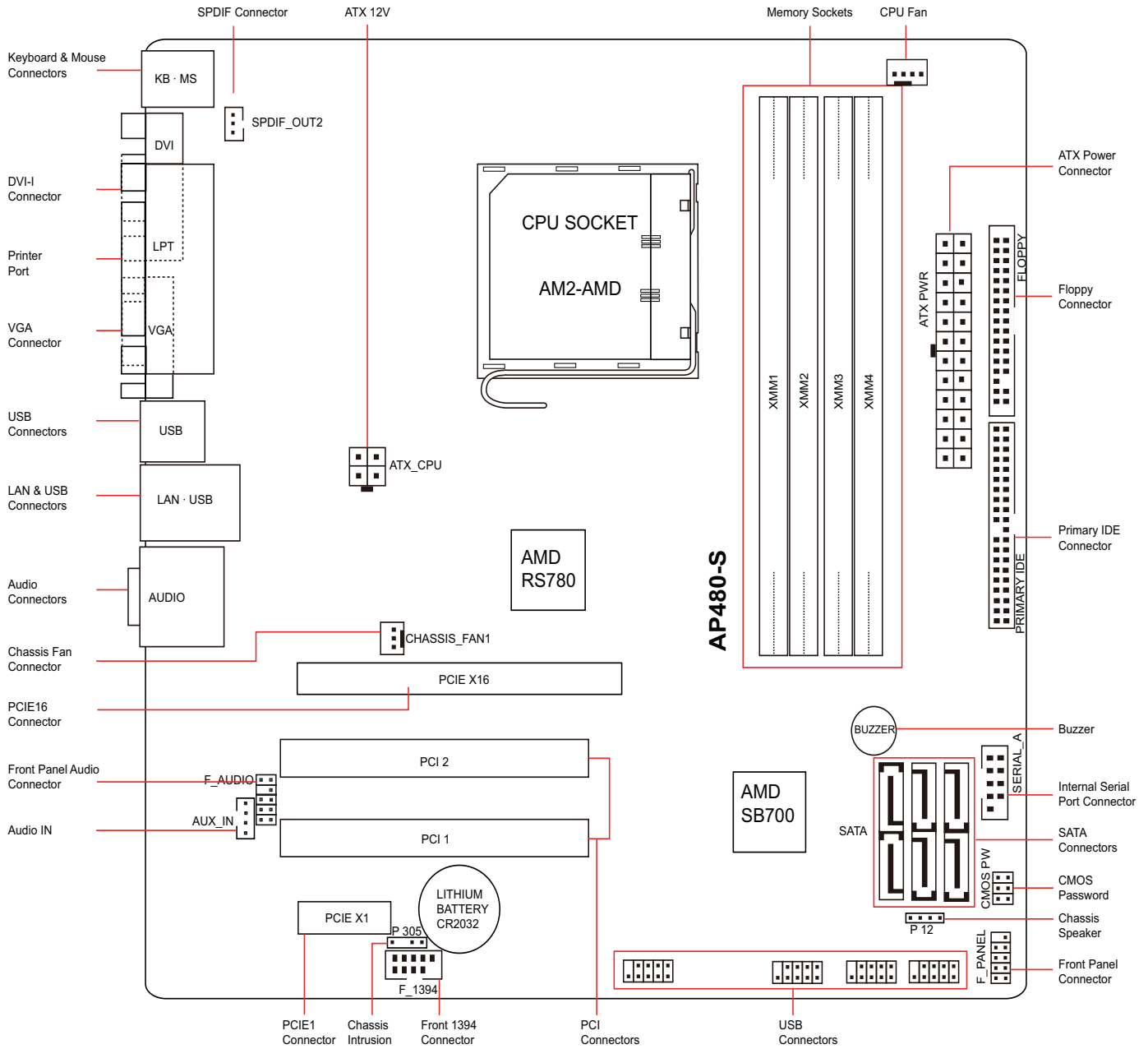|	
CPU	Socket AM2 - AMD Athlon64/ Sempron/ Athlon 64 X2/ AM2+CPU/ Phenom HT3 (Socket AM2+ with RS780, up to 5.2 GT/s) HT1 (Socket AM2 with RS780, 2.0 & 1.6 GT/s)
	HT Frequency: 2000MHz
Chipset	AMD RS780 AMD SB700
Front Side Bus	N/A
Memory	DDR2 667/800/1066 dual channel
	4 slots, max. up to 8GB
Expansion slots	PCI Express Graphic slot x16 (for discrete graphic cards) PCI x2 PCI Express x1
Audio	CODEC ALC 888s 8CH or 6CH, support Vista Premium
Storage/RAID	SB700 built-in SATAII x 6 connectors
LAN	MAC Gigabit: PCIE RTL8111C-VC(1000)
USB 2.0	12 ports (optional at mid-board, 4 at rear panel)
Alarm device *(optional)*	Buzzer
1394 *(optional)*	Agere FW322-07-T100-DB (Front Panel only)
Security device *(optional)*	TPM 1.2
Rear Panel I/O ports	1x PS/2 Keyboard/Mouse 1x LPT Printer port 1x DVI port 1x VGA port 2x USB ports 1x LAN port (RJ45) + 2x USB ports 1x Audio I/O(6 ports, 8CH)

(Specifications are subject to change without notice.)

Specifications summary
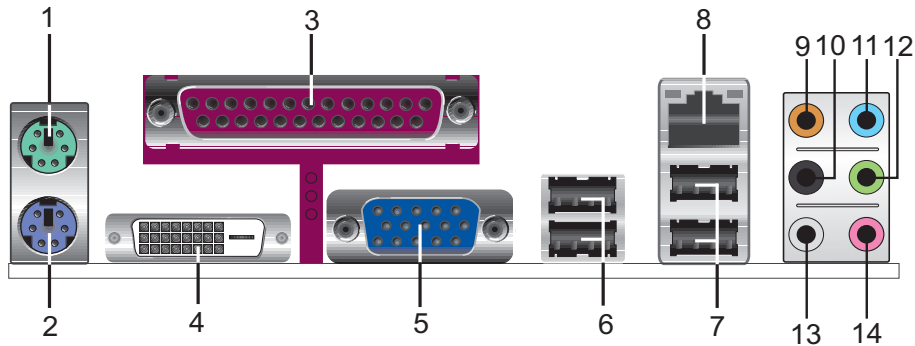
Internal connectors	1x CPU Fan connector 1x Chassis Fan connector 1x Chassis Intrusion connector 1x Intel Front panel connector 1x Azalia Analog front panel connector 4x USB connectors (8 ports) 1x EATX power connector 1x ATX 12V connector 1x 1394 connector *(optional)* 1x Floppy connector *(optional)* 1x S/PDIF connector 1x Clear CMOS jumper 1x CD audio-in connector *(optional)* 1x IDE connector *(optional)* 1x COM port connector
BIOS features	SPI 8Mb (AMI)
Form factor	uATX form factor 9.6" x 9.6"

(Specifications are subject to change without notice.)

Motherboard layout

SPDIF Connector
ATX 12V
Memory Sockets
CPU Fan

Keyboard & Mouse Connectors — KB · MS

SPDIF_OUT2

DVI

DVI-I Connector

LPT

Printer Port

VGA Connector — VGA

USB Connectors — USB

LAN & USB Connectors — LAN · USB

Audio Connectors — AUDIO

Chassis Fan Connector — CHASSIS_FAN1

PCIE16 Connector — PCIE X16

Front Panel Audio Connector — F_AUDIO

Audio IN — AUX_IN

PCI 2

PCI 1

PCIE X1

P 305

LITHIUM BATTERY CR2032

F_1394

CPU SOCKET

AM2-AMD

ATX_CPU

AMD RS780

AMD SB700

XMM1 XMM2 XMM3 XMM4

AP480-S

ATX PWR

FLOPPY

PRIMARY IDE

BUZZER

SERIAL_A

SATA

CMOS PW

P 12

F_PANEL

ATX Power Connector

Floppy Connector

Primary IDE Connector

Buzzer

Internal Serial Port Connector

SATA Connectors

CMOS Password

Chassis Speaker

Front Panel Connector

PCIE1 Connector
Chassis Intrusion
Front 1394 Connector
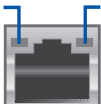PCI Connectors
USB Connectors

Rear panel connectors

1. **PS/2 mouse port (green).** This port is for a PS/2 mouse.
2. **PS/2 keyboard port (purple).** This port is for a PS/2 keyboard.
3. **Parallel port**. This 25-pin port connects a parallel printer, a scanner, or other devices.
4. **Digital Visual Interface Discrete / Integrated (DVI-D / DVI-I)** *(optional).* This video interface standard is designed to maximize the visual quality of digital display devices such as flat panel LCD computer displays and digital projectors.
5. **Video Graphics Adapter (VGA) port**. This 15-pin port is for a VGA monitor or other VGA-compatible devices.
6. **USB 2.0 ports 1 and 2.** These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
7. **USB 2.0 ports 3 and 4**. These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
8. **LAN (RJ-45) port**. This port allows connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.
9. **Center / Subwoofer port (orange).** This port connects the center / subwoofer speakers. *(optional)*
10. **Rear Speaker Out port (black).** This port connects the rear speakers in a 4-channel, 6-channel, or 8-channel audio configuration. *(optional)*
11. **Line In port (light blue)**. This port connects the tape, CD, DVD player, or other audio sources.
12. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out.
13. **Side Speaker Out port (gray)**. This port connects the side speakers in an 8-channel audio configuration. *(optional)*
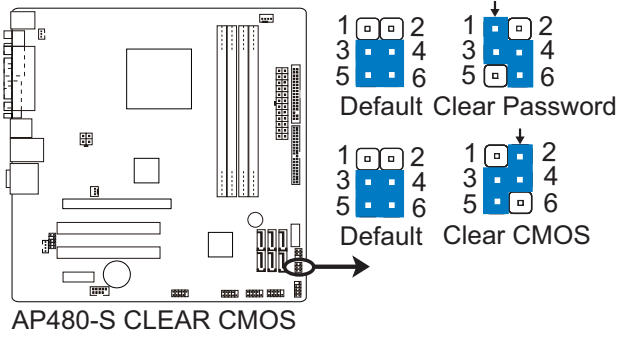14. **Microphone port (pink).** This port connects a microphone.

LAN port LED indications

Activity LED			Link LED	
Status	**Description**		**Status**	**Description**
OFF	**No link**		**OFF**	**No link**
BLINKING	**Data activity**		**GREEN**	**Linked**

Audio 2, 4, 6, or 8-channel configuration

Port	Headset 2-channel	4-channel	6-channel	8-channel
Light Blue	Line In	Line In	Line In	Line In
Lime	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In	Mic In

Function Selectors

1 □ □ 2
3 ■ ■ 4
5 ■ ■ 6
Default

1 ↓■ □ 2
3 ■ ■ 4
5 □ ■ 6
Clear Password

1 □ □ 2
3 ■ ■ 4
5 ■ ■ 6
Default

1 □ ↓□ 2
3 ■ ■ 4
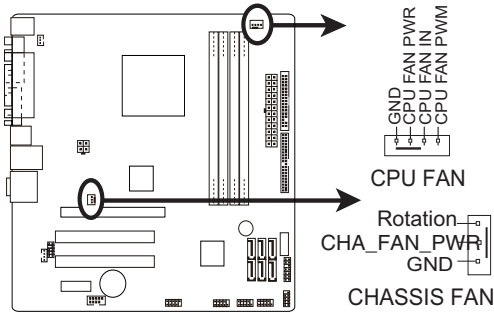5 ■ □ 6
Clear CMOS

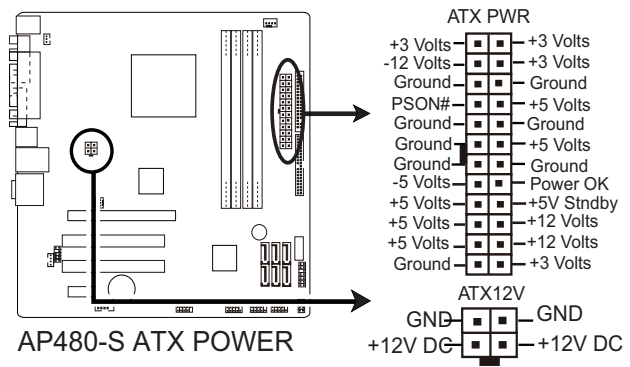AP480-S CLEAR CMOS

To clear the CMOS password:

1. Turn OFF the computer and unplug the power cord.
2. Remove the onboard CR2032 battery.
3. Move the jumper cap from pins [1-2] (default) to pins [2-3]. Keep the cap on pins [2-3] for about 5~10 seconds, then move the cap back to pins [1-2].
4. Reinstall the onboard CR2032 battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-configure settings.
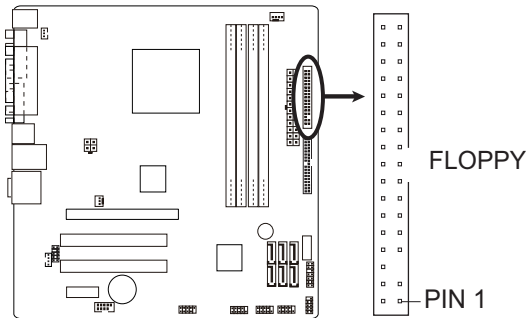

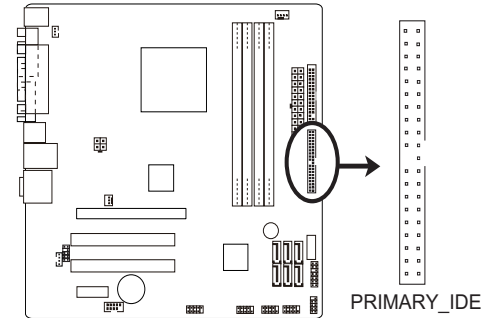+5VSB_MB Chassis Signal GND

(Default)

CHASSIS

AP480-S CHASSIS INTRUSION

AP480-S motherboard layout reference
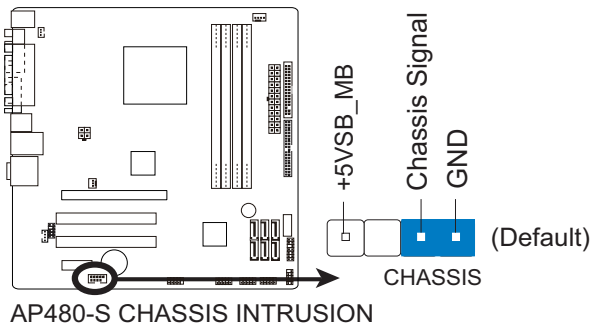
Internal connectors

AP480-S FAN CONNECTORS

CPU FAN
GND
CPU FAN PWR
CPU FAN IN
CPU FAN PWM

CHASSIS FAN
Rotation
CHA_FAN_PWR
GND

AP480-S FLOPPY DISK DRIVE CONNECTOR

FLOPPY
PIN 1

AP480-S ATX POWER

ATX PWR

+3 Volts	+3 Volts
-12 Volts	+3 Volts
Ground	Ground
PSON#	+5 Volts
Ground	Ground
Ground	+5 Volts
Ground	Ground
-5 Volts	Power OK
+5 Volts	+5V Stndby
+5 Volts	+12 Volts
+5 Volts	+12 Volts
Ground	+3 Volts

ATX12V
GND — GND
+12V DC — +12V DC

AP480-S IDE CONNECTOR

PRIMARY_IDE

AP480-S FRONT PANEL

F_PANEL

PLED PWRBTN HDLED RESET

GND — Reset
PWR — Ground
PLED- — HDLED-
PLED+ — HDLED+

AP480-S SATA CONNECTORS

SATA2	SATA3	SATA5
GND	GND	GND
RSATA_TXP2	RSATA_RXP3	RSATA_RX
RSATA_TXN2	RSATA_RXN3	RSATA_RX
GND	GND	GND
RSATA_RXN2	RSATA_TXN3	RSATA_TX
RSATA_RXP2	RSATA_TXP3	RSATA_TX
GND	GND	GND

SATA0	SATA1	SATA4
GND	GND	GND
RSATA_TXP0	RSATA_RXP1	RSATA_RX
RSATA_TXN0	RSATA_RXN1	RSATA_RX
GND	GND	GND
RSATA_RXN0	RSATA_TXN1	RSATA_TX
RSATA_RXP0	RSATA_TXP1	RSATA_TX
GND	GND	GND

AP480-S USB CONNECTORS

F_USB1 F_USB2 F_USB3 F_USB4

F_USB1	F_USB2	F_USB3	F_USB4
GND	GND	GND	GND
USB_P6+	USB_P8+	USB_P10+	USB_P12+
USB_P6-	USB_P8-	USB_P10-	USB_P12-
USB+5V	USB+5V	USB+5V	USB+5V
NC	NC	NC	NC
GND	GND	GND	GND
USB_P5+	USB_P7+	USB_P9+	USB_P11+
USB_P5-	USB_P7-	USB_P9-	USB_P11-
USB+5V	USB+5V	USB+5V	USB+5V

AP480-S INTERNAL IEEE 1394 CONNECTOR

F_1394

TPA2- GND TPB2- +12V GND
PIN 1
TPA2+ GND TPB2+ +12V
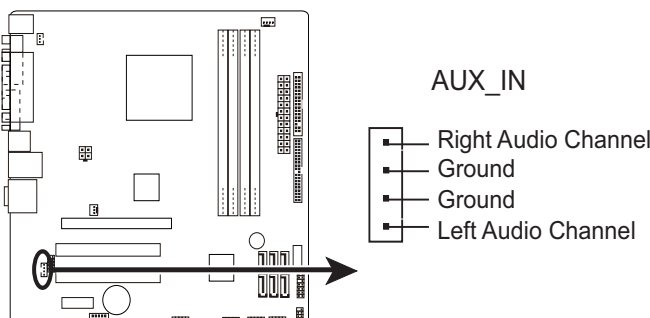
AP480-S AUDIO CD CONNECTOR

AUX_IN
Right Audio Channel
Ground
Ground
Left Audio Channel
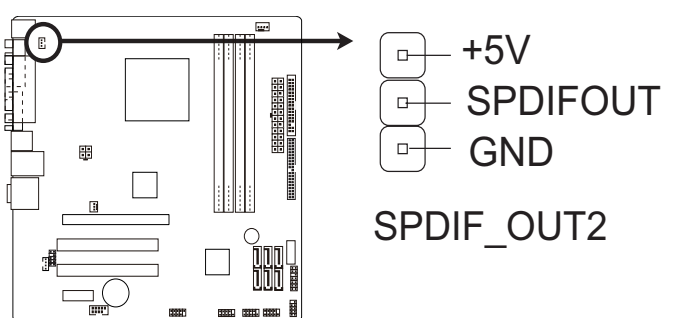
AP480-S DIGITAL AUDIO CONNECTOR

+5V
SPDIFOUT
GND

SPDIF_OUT2

AP480-S motherboard layout reference

HP_JD ── HP_L
AGND
MIC2_JD ── HP_R
PRESENSE# ── MIC2_R
AGND ── MIC2_L
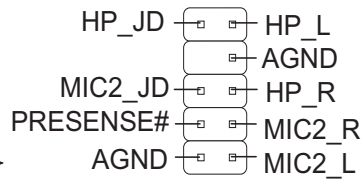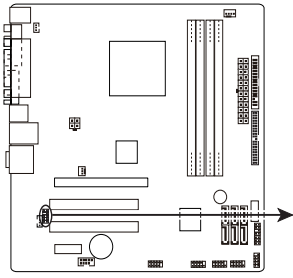
AAFP

AP480-S FRONT PANEL AUDIO CONNECTOR

PIN 1
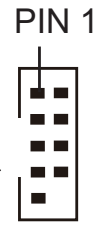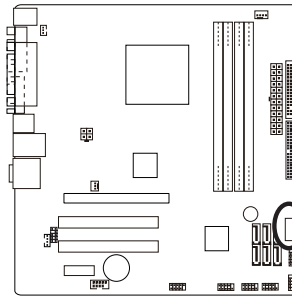
AP480-S INTERNAL SERIAL PORT CONNECTOR

AP480-S motherboard layout reference