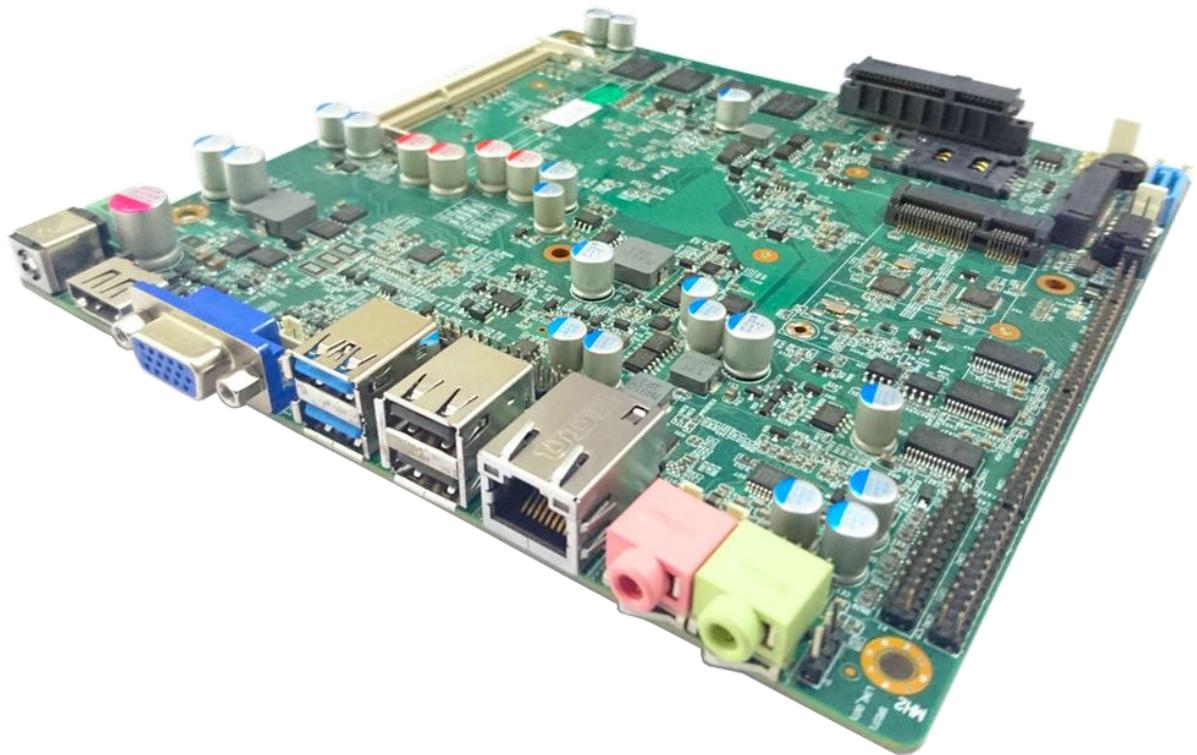


TOP19A Mainboard

(PCB Rev:2.00)

Manual Version 2.00

2015.12.03



1 Introduction

BT17A mainboard is a Standard Mini itx low power consumption industrial motherboard. Adopt Intel Atom Baytrail-D/I/M processor . The feature as follows:

1.1 Main Feature

1.1.1 Onboard CPU, support Intel Atom N2806 /J1800/N2900/J1900 Processor .

1.1.2 Onboard 2GB/4GB DDR3 1333mhz memory; DDR3L onboard 4GB DDR3L memory (optional).

1.1.3 Onboard 1* Gigabit Ethernet LAN.

1.1.4 Onboard HDA ALC662, provide MIC-IN/LINE-OUT and expansion header and SPK1 amplifier.

1.1.5 1*Mini-PCIE socket 1*SIM socket

1.1.6 1*Mini-SATA socket.

1.1.7 2*SATA 2.0 port.

1.1.8 1*USB 3.0 port 3*USB2.0 Ports 4*usb2.0 Pins .

1.1.9 Provide 5*RS232 expansion header, 1*RS485 /RS422 expansion header.

1.1.10 Provide 8bits 1*GPIO

1.1.11 Support RGB, CRT output.

1.1.12 Support single /dual 18bits/ 24bit LVDS output.

1.1.13 support HDMI output .

1.1.14 Support RGB CRT output.

1.1.15 2*3-Pin FAN connector .

1.1.16 support 225 level watchdog.

1.2 Power Supply

Wide voltage :6-36v power supply.

Support AT/ATX starting mode.

1.3 Size

170 x 170 mm

1.4 Working Environment

Working Temp: -20°C~60°C

Storage Temp: -20°C~80°C (-4°F~176°)

Operating Humidity: 5%~95% (non-condensing)

2 BT17A Front side interfaces layout

TOP floor layout as below:

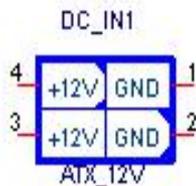
Remark: Interfaces in the above picture, **Pin 1** are in square shape

2.1 DC_IN1 & DC_IN2

Motherboard input power connector, the same application can only choose to plug one input power.

When adoption of DC_IN2 is the input power, DC_IN1 available to supply the same power to other devices in the system.

DC_IN1 adopt ATX_12V interface, same definition.

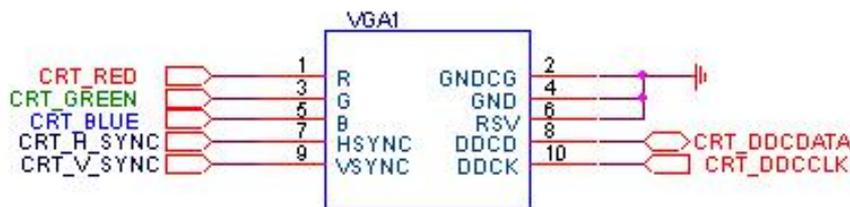


DC_IN2 adopt DC-JACK interface, power in the center.

2.2 CRT1 & VGA1

CRT1 is a standard CRT monitor output interface.

VGA1 is 2x5,2mm expansion header, can not use at the same time.

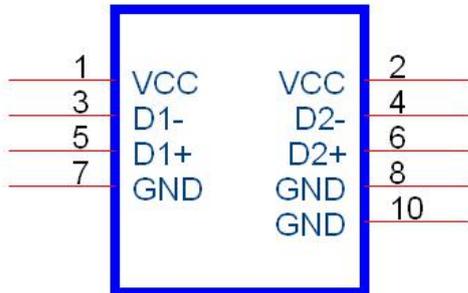


2.3 USB30、USB2、USB56、USB78

All are USB interfaces, support USB 1.0/1.1/2.0/3.0 devices.

USB30、USB2 is standard USB Type A interface; the lower layer is USB3.0 Interface. USB56、USB78 is 2x5,2mm expansion header, definition as below:

USB67



2.4 LAN1

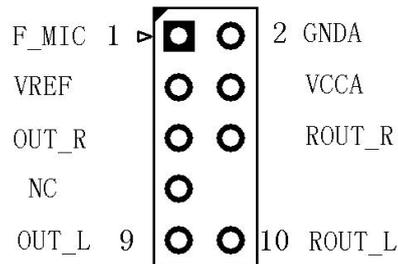
10/100/1000 M LAN is standard RJ45 port, chipset is Realtek RTL8111E.

2.5 MIC_IN、LINE_OUT and F_AUDIO

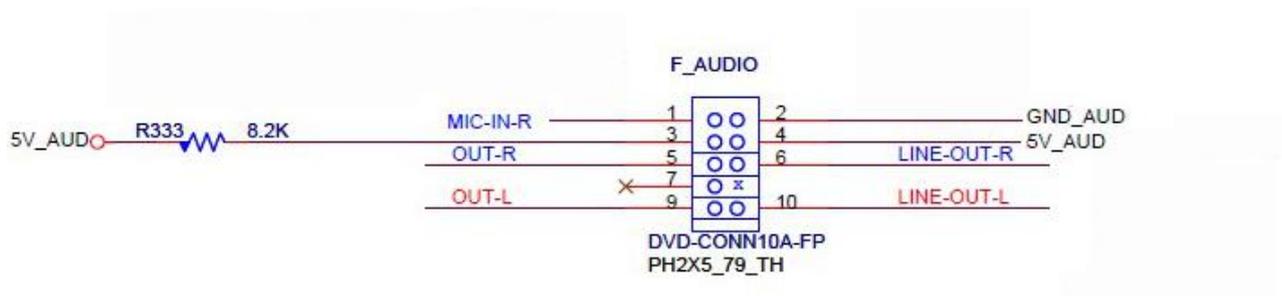
MIC_IN is Microphone input port, adopt general connector.

LINE_OUT is audio output port, adopt general connector.

F_AUDIO is 2×5, 2mm expansion header, definition as below:



If F_AUDIO have not connect with the AUDIO Cable in the front panel, Pin5-6、Pin9-10 have to catch Jumper。 Note 2: 5,9 pin is output to the front panel of the signal, the signal returned 6,10 feet.



2.6 SPDIF(option)

Adopt 1x3, 2.54mm pin, optional interfaces Optional

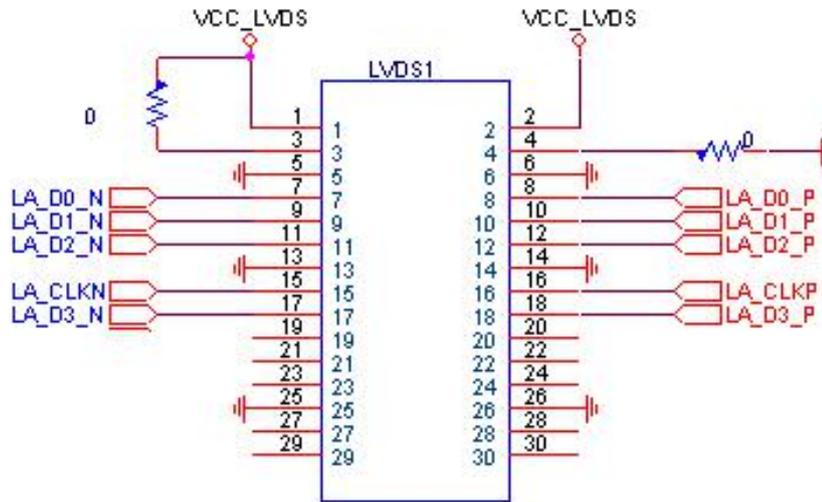
Pin1 ---- 5V;

Pin2 ---- SPDIF;

Pin3 ---- GND

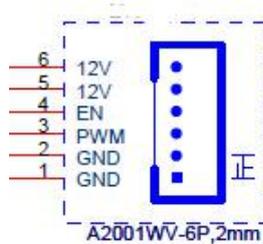
2.7 LVDS1

18bits/24bit dual CH LVDS interface, adopt 2×15, 2mm pin header, definition as below:



2.10 LVDS_P1

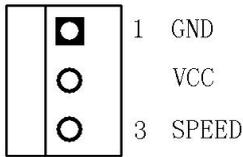
LVDS backlight screen interface, using CJT company A2001WR-6P-1 connectors or other compatible connectors, the pin is defined as follows



LVDS_P1	LVDS_PPin Definitions
1	Ground
2	Ground
3	Backlight brightness control
4	Backlit panels open
5	12V
6	12V

2.11 CPU_FAN1、SYS_FAN1

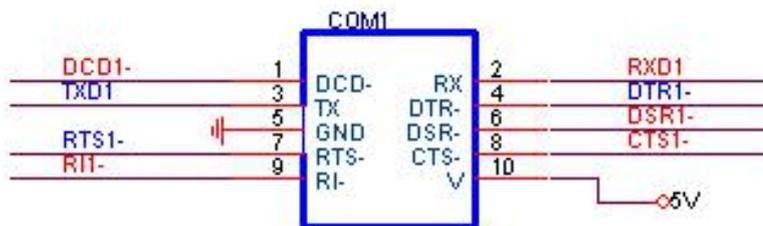
FAN interface support maximum current 0.3A, definition as below:



CPU fan connector, rotational speed adjust automatically. The maximum voltage is the power input voltage. Please choose a suitable fan, when the input voltage is higher. SYS fan does not support adjust automatically.

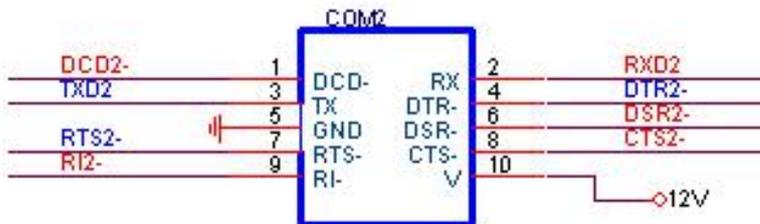
2.12 COM1、COM4、COM5

RSR232 pin header, adopt 2×5, 2mm pin, Pin10 is for power 5V.



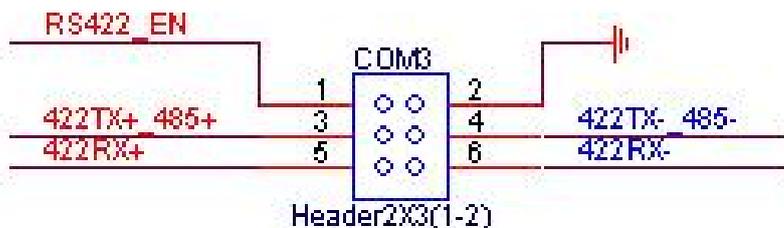
2.13 COM2、COM6

RSR232 pin header, adopt 2×5, 2mm pin, Pin10 is for power 12V.



2.14 COM3

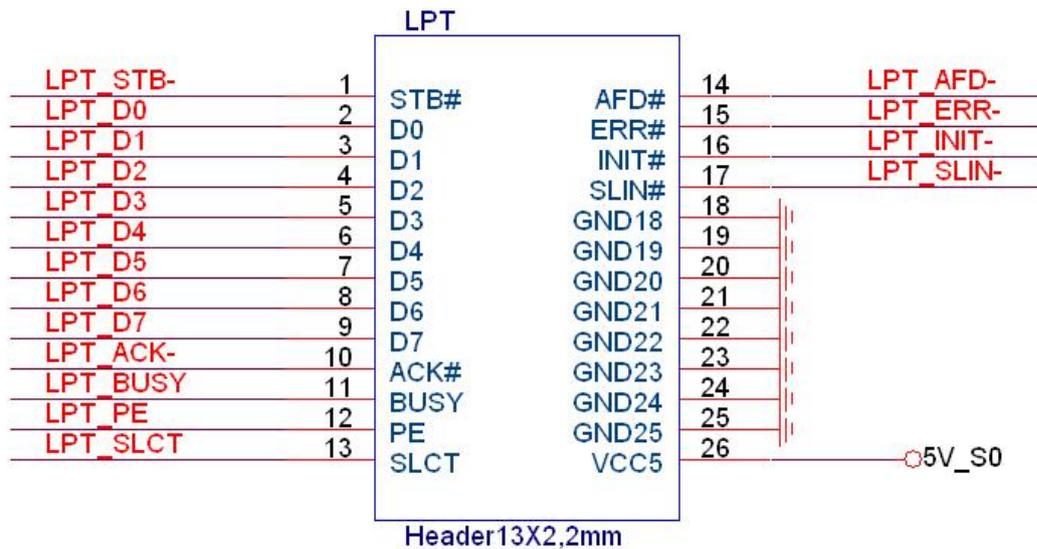
RS485/RS422 optional interface, adopt 2×3, 2mm pin, definition as below:



It's need to choose the corresponding working mode of COM3 in the CMOS.

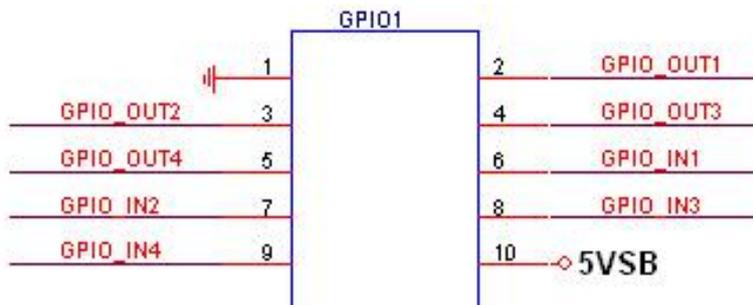
2.15: LPT parallel port

Using 13X2 pin, 2mm, as defined below



2.22 GPIO1

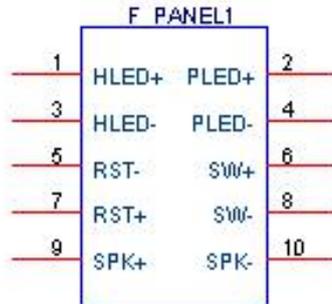
Spare GPIO interface, adopt 2x5, 2mm pin, definition as below:



The I/O features of GPIO can be amend through BIOS.

2.23 F_PANEL1

Mainboard control interfaces, adopt 2×5, 2mm pin, integrated HDD_LED、PWR_LED、on/off、reset switch、SPEAKER function. Pin definition as below:



F_PANEL1	Pin Definition
1, 3	Hard disk access lamp positive and negative signal pins.
2, 4	Main power indicator light positive and negative signal pins.
5, 7	Mainboard reset positive and negative signal pins.
6, 8	Mainboard on/off positive and negative signal pins.
9, 10	Spare buzzer connector.

2.28 MPCIE1

Standard Mini PCIE socket, support Rev1.00 Mini-PCIE standard, support SIM card, SIM card slot in the rear side.

2.29 SW1 and SW2

As SATA and MSATA switch.

When SW1 pulled to "ON" time, MSATA effective, whereas SATA1 effective;

When SW2 pulled to "ON", the onboard SSD effective, otherwise SATA2 effective;