TENET TECHNETRONICS

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A13-OLinuXino-Micro

Author: P N KIRAN

Email ID:kiran@tenettech.com

Introduction:

A13-OLinuXino is a low-cost single-board Linux computer in a very compact nano-ITX form. It uses the very first Cortex A8 processor available in the eLQFP176 package, produced by Allwinner Technology Inc A13.

The A13 based boards currently available are:

- A13-oLinxino –Micro
- A13-OLinuXino
- A13-OLinuXino- WIFI

Software requriment for A13-oLinxino –Micro:

This operating system are working in windos 7

- In A13-oLinxino –Micro

  Debian

  Linux

  Download location to A13-OLinuXino-MICRO Debian 4GB SD-card image release-7

  Android

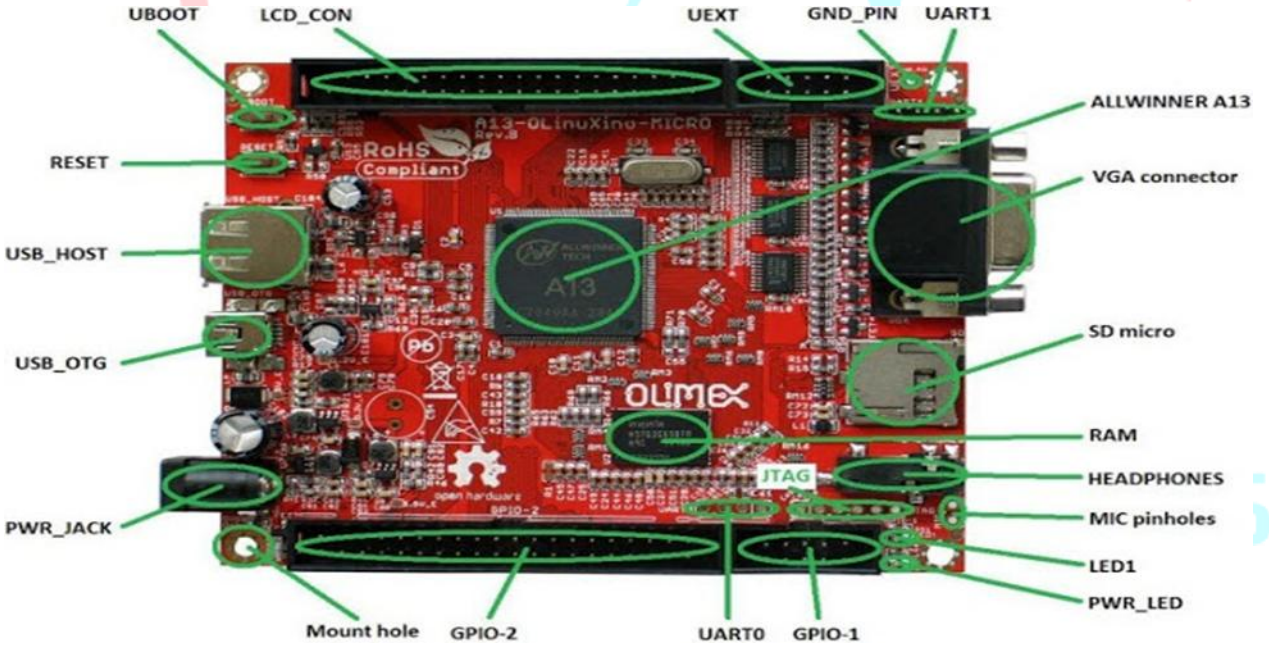
  A13-OLinuXino-MICRO has only 256MB of RAM, Android 4.x requires at least 512MB to run well. Running obsolete Android would be possible but without video acceleration)since only MALI requires around 200MB). Forget for Android on this board.

Features:

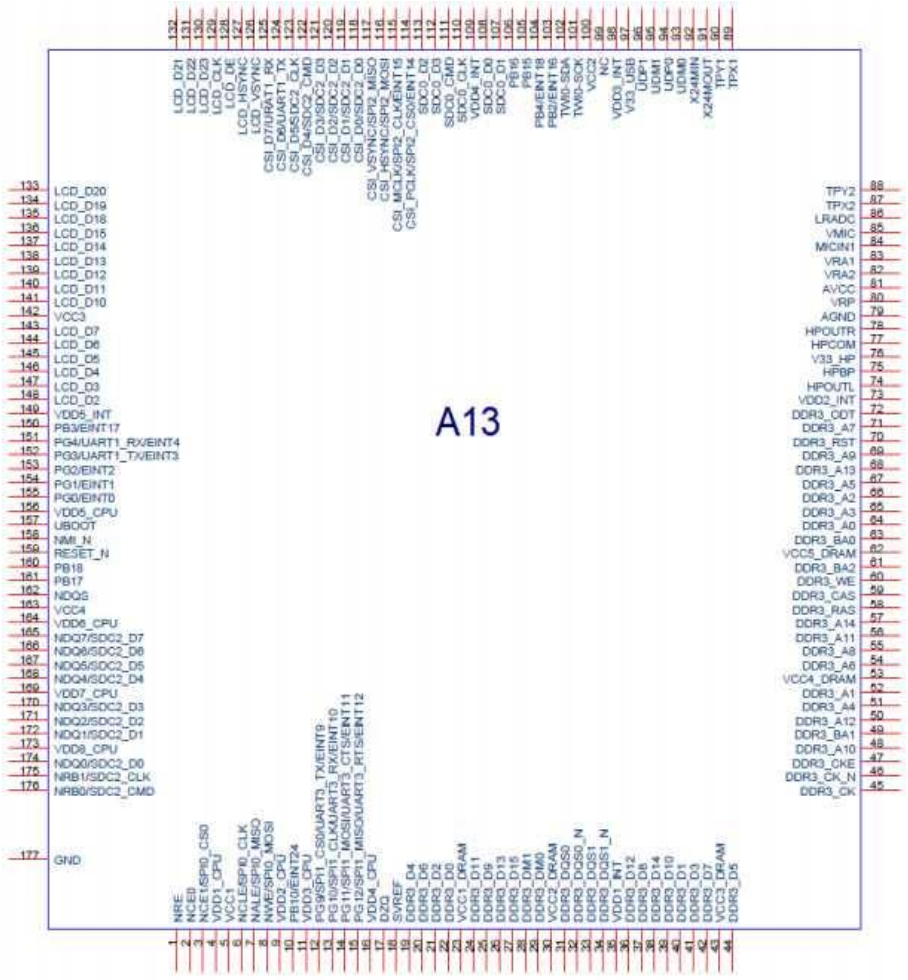
- A13 Cortex A8 processor at 1GHz,
- 256 MB RAM
- 5VDC input power supply, noise immune design
- 1 USB Host
- 1 USB OTG which can power the board
- SD-card connector for booting Linux or Android image
- VGA video output – 800 x 600 maximum resolution

- LCD signals available on connector so you still can use LCD if you disable VGA/HDMI
- Audio output
- Microphone input pads (no connector)
- 1 User key
- 4 Mount holes
- UEXT connector for connecting additional UEXT modules like Zigbee, Bluetooth, relays,
- etc
- GPIO connector with 68/74 pins and these signals : 17 for adding NAND flash; 22 for connecting LCDs;
- 20+4 including 8 GPIOs which can be input, output, interrupt sources;
- 3xI2C; 2x UARTs; SDIO2 for connectinf SDcards and modules;
- 5 system pins: +5V, +3.3V, GND, RESET, NMI
- (Optional low cost 7" or 4.8" LCD with/without touchscreen)

The Hardwere detaile of A13-oLinxino –Micro:



allwinner a13 processor pinout:



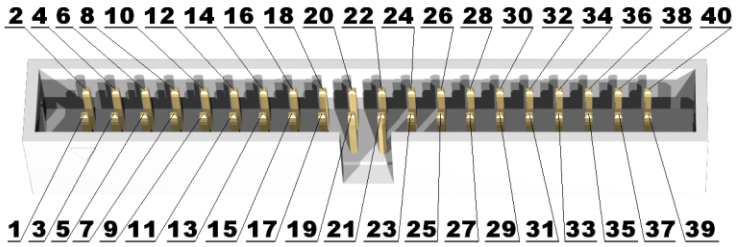
There are two possible ways of powering A13-OLinuXino-MICRO – via external supply using the power jack, or via the USB OTG connector. Depending on your preferred way of powering A13-OLinuXino-MICRO .The preferred way of powering board is via the PWR jack with 5Vdc with a power of 5W

USB-OTG USB On-The-Go introduces the concept that a device can perform both the master and slave roles – whenever two USB devices are connected and one of them is a USB On-The-Go device, they establish a communications link. Whichever device controls that link is called the master or host, while the other is called the slave or peripheral.USB devices such as digital audio players or mobile phones to act as a host, allowing other USB devices like a USB flash drive, digital camera, mouse, or keyboard to be attached to them.

Reset button:
This is a voltage supervisory device designed to keep
a microcontroller in reset until the system voltage has reached the proper level and stabilized It also operates as protection from brown-out conditions when the supply voltage drops below a safe operating level. The reset goes to processor pin 195. The reset circuit is connected to button RESET,which means pressing RESET would perform a hardware reset on the board

UBOOT button – used to enter bootloader mode

LCD_CON 40pin connector:
The LCD_CON pins are led out on a separate 40pin connecter for the ease of connecting an LCD.

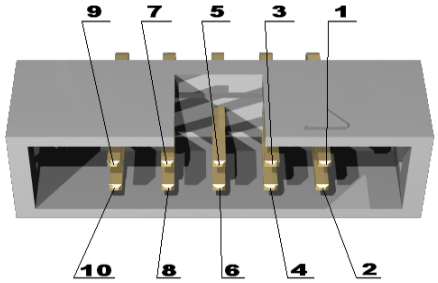


LCD_CON connector

GPIO Pin#	Signal Name	Processor pin#	GPIO Pin#	Signal Name	Processor pin#
1	5v	-	2	GND	
3	3.3	-	4	GND	
5	LCD_D18	135	6	LCD_D18	135
7	LCD_D18	135	8	LCD_D19	134
9	LCD_D20	133	10	LCD_D21	132
11	LCD_D22	131	12	LCD_D23	130
13	LCD_D10	141	14	LCD_D10	141
15	LCD_D10	141	16	LCD_D11	140
17	LCD_D12	139	18	LCD_D13	138
19	LCD_D14	137	20	LCD_D15	136
21	LCD_D2	148	22	LCD_D2	148
23	LCD_D2	148	24	LCD_D3	147
25	LCD_D4	146	26	LCD_D5	145
27	LCD_D6	144	28	LCD_D7	143
29	LCD_HSYNC	127	30	LCD_VSYNC	126
31	LCD_CLK	129	32	LCD_DE	128
33	PIN7	150	34	PIN8	104
35	PIN9	10	36	PIN6/PWM0	109
37	TPX1	89	38	TPX2	87
39	TPY1	90	40	TPY2	88

UEXT module:

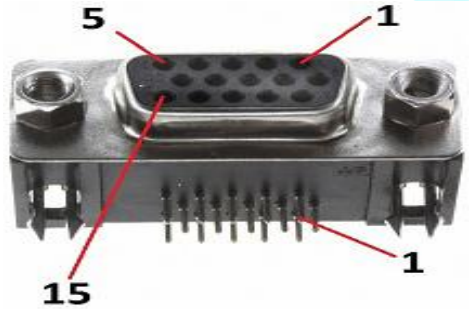
A13-OLinuXino-MICRO has an UEXT connector and can connect with Olimex's UEXT modules.



Pin #	Signal Name	Processor Pin #
1	3.3V	-
2	GND	-
3	UART1_TX	152
4	UART1_RX	151
5	TWI2_SCK	161
6	TWI2_SDA	160
7	SPI2_MISO	117
8	SPI2_MOSI	116
9	SPI2_CLK	115
10	SPI2_CS0	114

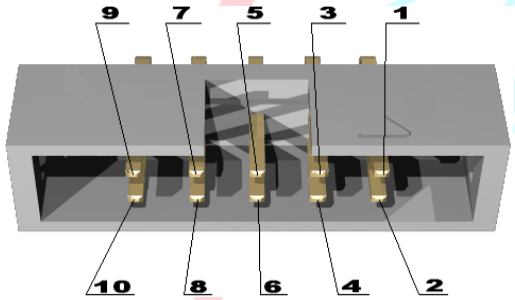
VGA video connector:

The female DB15 connector is used for video output on a monitor.At the moment the maximum achieved resolution is 800x600 dueto limited maximum frequency and the lack of integrated video controller in the chip.



GPIO Pin#	Signal Name	GPIO Pin#	Signal Name
1	VGA_R	2	VGA_G
3	VGA_B	4	Not Connected
5	GND	6	GND
7	GND	8	GND
9	GND	10	GND
11	NOT CONNECTED	12	NOT CONNECTED
13	VGA_HSYNC	14	VGA_VSYNC
15	NOT CONNECTED	16	NOT CONNECTED

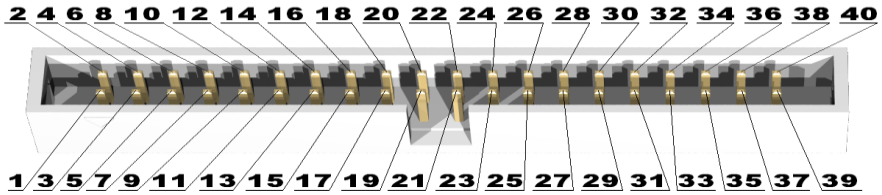
GPIO-1 (General Purpose Input/Output) 10pin connector



PIN#	SIGNAL NAME	PROCESSOR PIN
1	5V	-
2	GND	-
3	3.3V	-
4	GND	-
5	RESET_N 159	159
6	NMI_N 158	158
7	PIN0 -	-
8	PIN3 -	-
9	PIN1 -	-
10	PIN2 -	-

GPIO-2 (General Purpose Input/Output) 40pin connector:

The GPIO pins are led out on a separate 40pin connecter. They allow the user to attach additional hardware, check readings or perform hardware debug



GPIO Pin#	Signal Name	Processor pin#	GPIO Pin#	Signal Name	Processor pin#
1	5v	-	2		-
3	3.3v	-	4		-
5	PIN4/TWI0-SCK	101	6	PIN39/USBH_EN	14
7	PIN5/TWI0-SDA	102	8	PIN38/VGA_DIS	13
9	PIN6/PW0	103	10	PIN37/LED1	12
11	PIN7	150	12	PIN36	125
13	PIN8	104	14	PIN35	124
15	PIN9	10	16	PIN34	123
17	PIN10/TWI1-SCK	105	18	PIN33	122
19	PIN11/TWI1-SDA	106	20	PIN32	121
21	PIN12/NWE	8	22	PIN31	120
23	PIN13/NALE	7	24	PIN30	119
25	PIN14/NCLE	6	26	PIN29	118
27	PIN15/NCE1	3	28	PIN28/NDQS	162
29	PIN16/NCE0	2	30	PIN27/NDQ7	165
31	PIN17/NRE	1	32	PIN26/NDQ6	166
33	PIN18/NRB0	176	34	PIN25/NDQ5	167
35	PIN19/NRB1	175	36	PIN24/NDQ4	168
37	PIN20/NDQ0	174	38	PIN23/NDQ3	170
39	PIN21/NDQ1	172	40	PIN22/NDQ2	171

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