



YL-N3160 L2 V2 mainboard

User manual

Intel Celeron N3160 processor

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## Chapter I:Hardware installation

### Precaution before installation

The motherboard is made up of many sophisticated integrated circuits and other components that are easily damaged by static electricity, Please read the manual and prepare the following instructions before installation:

Please confirm that the size of the chassis is consistent with the motherboard before installation.

Please do not tear up the serial number and agent warranty sticker on the motherboard before installation, otherwise it will affect standard of product warranty.

To install or remove the motherboard and other hardware devices, please be sure to turn off the power before, and removal of power cord from outlet. When you install other hardware devices to the motherboard socket, make sure the interface and socket is closely.

Take the motherboard, please try your best to avoid touching the metal connection parts to avoid short circuits in the line. Take the motherboard, central processing unit (CPU) or when the memory, it is best to wear anti-static bracelet.

If no ESD bracelet, make sure your hands dry, and touch the metal to dissipate the static charge. Before the boards are not installed, first placed in anti-static mat or anti-static bags.

When you want to remove the motherboard power supply when the plug from the socket, make sure that power supply is turned off. In before power on make sure that the power supply voltage of the voltage value is set in the area of standard values in make sure all hardware devices before turning on the power supply cable and the power cord is correctly connected.

Do not let the screw contacts on the motherboard circuit or part to



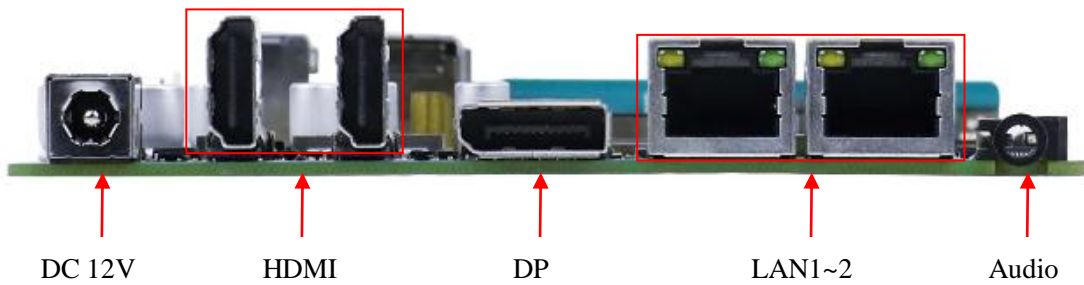
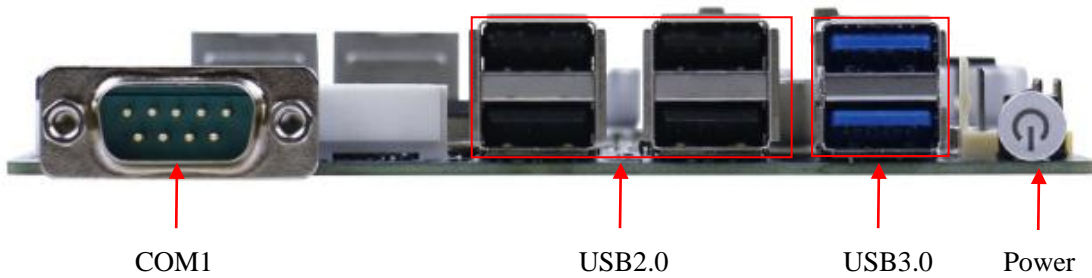
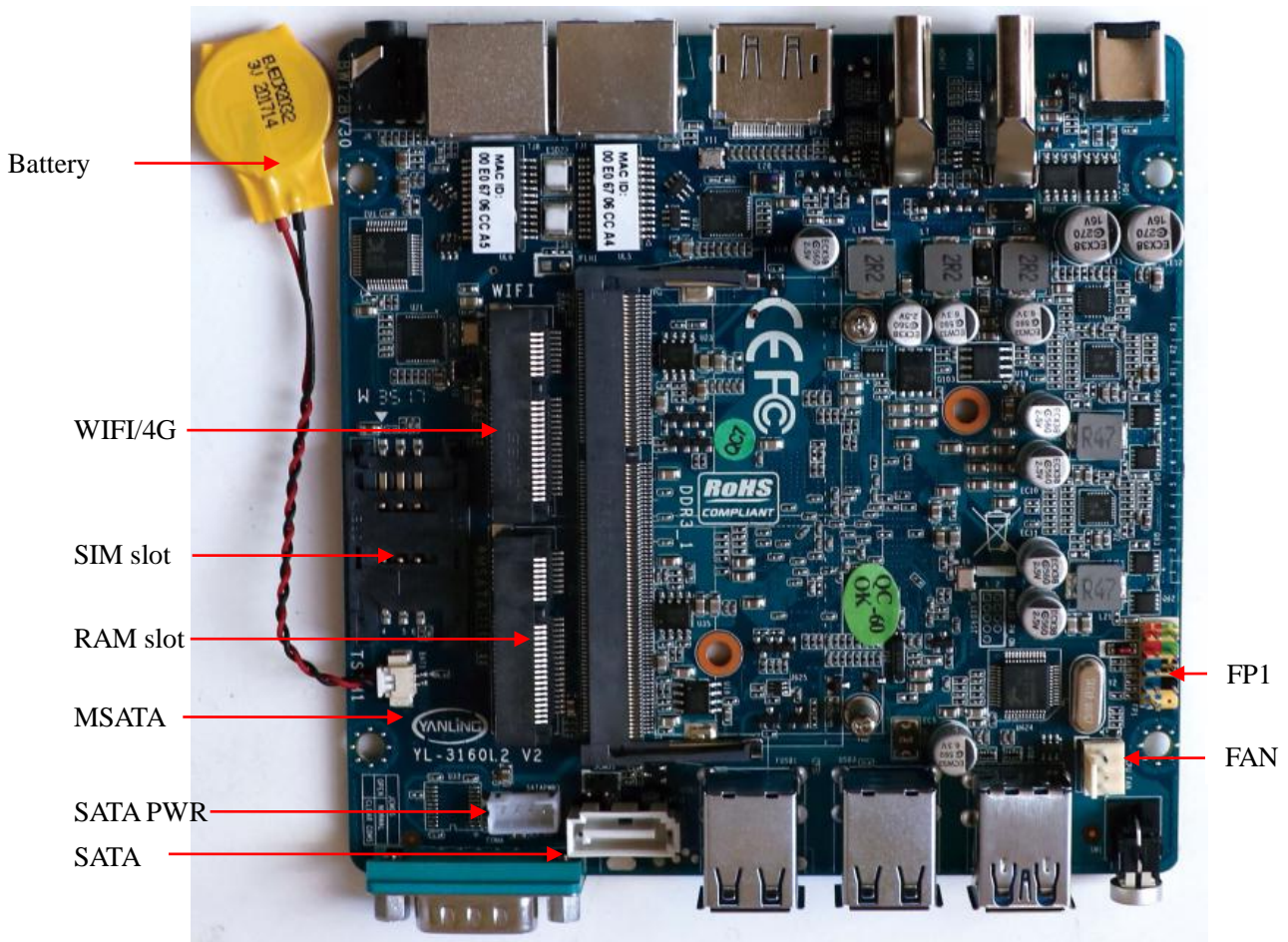
avoid Board damage or failure.

Please make sure that no screws or metal in or on the motherboard inside the computer chassis. Do not place the computer in unstable.


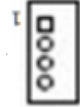

## Chapter II instruction of mainboard

Size	12cm*12cm
Chipset	Intel Celeron N3160
CPU frequency	Quad core, 1.6GHz, 2M second level cache, power dissipation: 6W
Memory slot	1 x DDR3L 1600 SODIMM, Max.8G
GPU	Intel HD Graphics 400
SATA port	1 x SATA 3.0
USB port	4 x USB 2.0, 2 x USB 3.0
Display port	2 x HDMI 1.4b, 1 x DP 1.1a same display/different display HDMI/DPMax. resolution: 3840 x 2160 @30Hz 2560 x 1600 @60Hz
Lan	2 x RTL8111E 1000M LAN (Support wake-on-lan,PXE boot)
Expansion slot	1 x Mini PCIE,1*MSATA
	1 x Mini PCIE, support WIFI/bluethooth/3G/4G
COM port	1 x RS232
Video	1 x two in one audio, Realtek ALC662 chipset
Power	DC 12V
Switch let light	Blue

### Chapter III I/O for mainboard



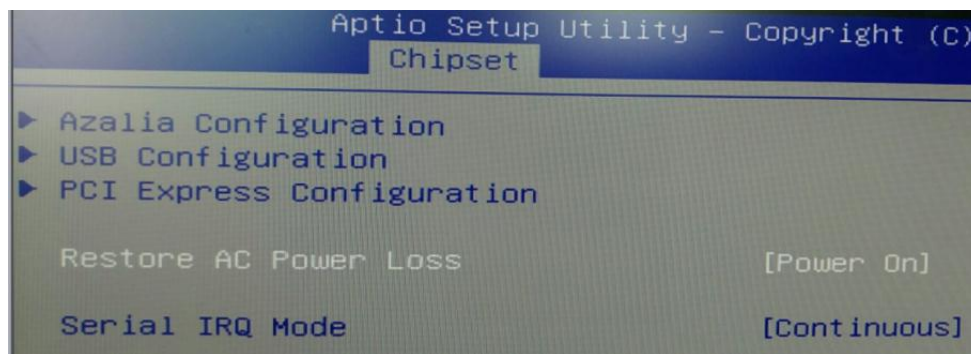
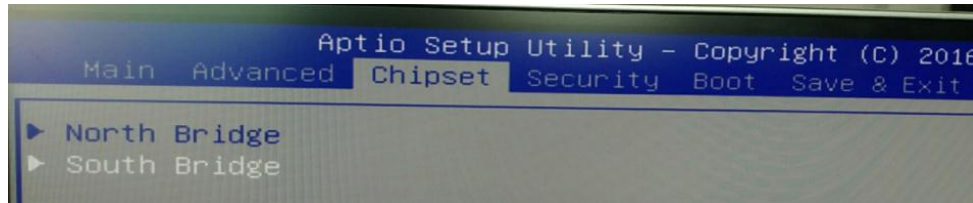
## Chapter IV PIN definition

Identifying	PIN	Detail	Remark
FP1 	1	HDD_LED+	FP1
	2	PWR_LED+	
	3	HDD_LED-	
	4	PWR_LED-	
	5	RST_GND	
	6	PW_ON	
	7	RST	
	8	PWON_GND	
	9	空	
JSATA 	1	+5V	SATA power supply
	2	GND	
	3	GND	
	4	+12V	
FAN 	1	GND	
	2	+12V	
	3	DET	

## Chapter V BIOS setting

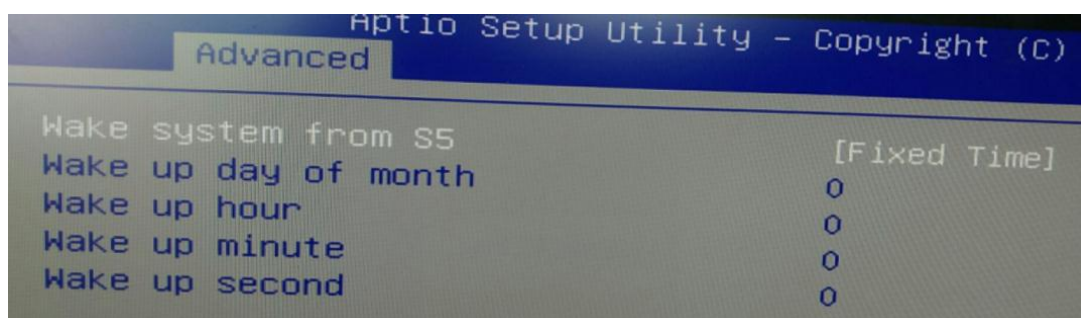
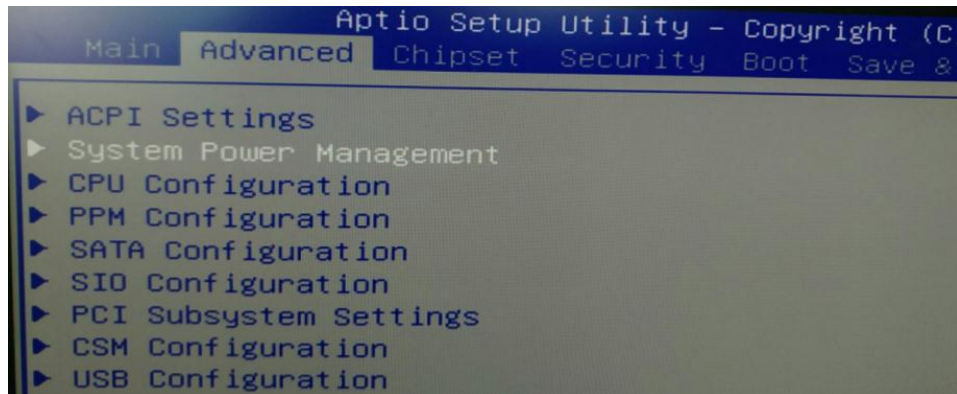
### 1、open PXE function

Power on and then click DEL button enter BIOS setting, follow white option, choose “Advanced” → “CSM Configuration” → “Network” → “Legacy”, “F4” → “YES” Esc.



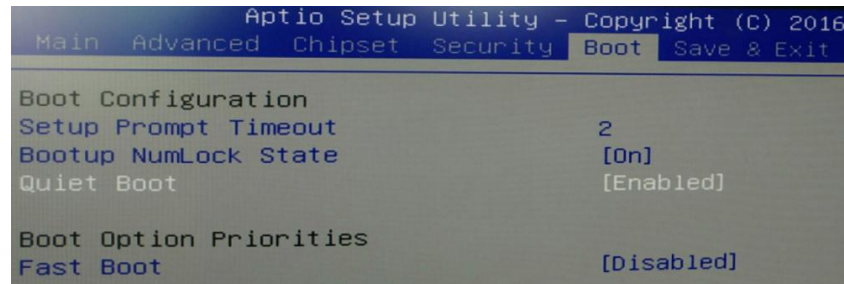
### 2.close opening LOGO

Power on and then click DEL button enter BIOS setting, follow white option, choose “Boot” → “Quiet Boot” → “Disabled” - “F4” → “YES” -esc.



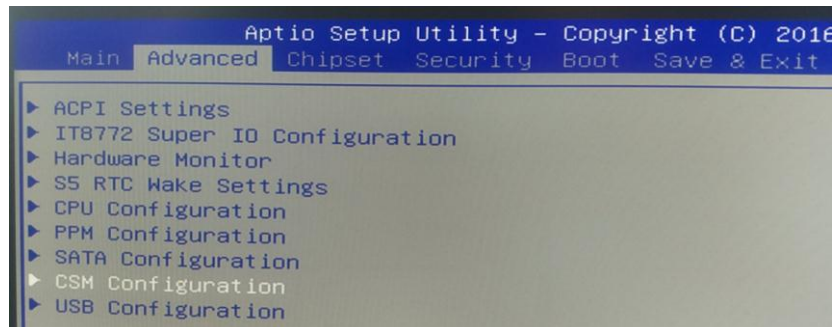
### 3、Closed LOGO setting

Choose “Boot” —— “Quiet Boot” —— “Disabled” , and then clock “F4” —— “YES” Esc.

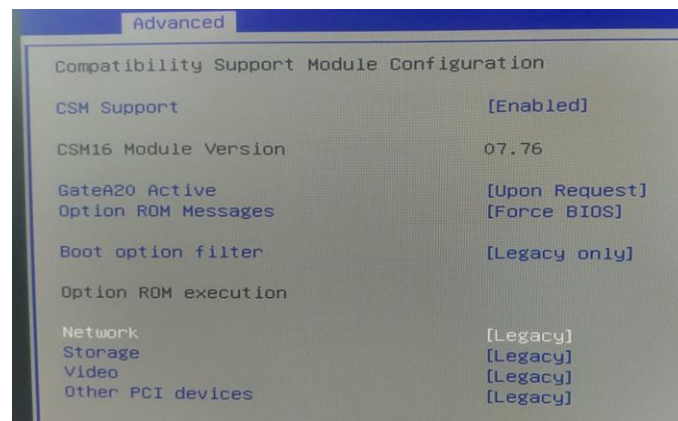


### 4、PXE booted setting

4.1、start machine and click “DEL” , enter to BIOS setting, choose “Advanced” → “CSM Configuration” ;

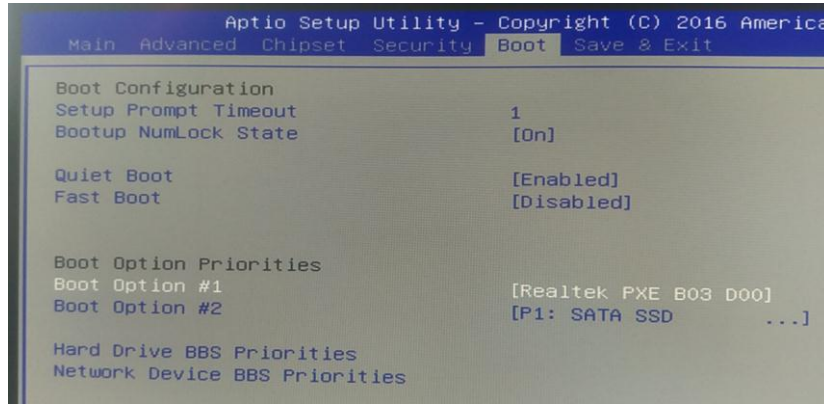


4.2、Network change to “Legacy” , choose “F4” save and Esc



4.3、click again “DEL” enter to BIOS, let “PXE” boot to be boot option 1 as follow picture;





## Chapter VI watch dog setting

name	length	I/O address	Register specification
IoIndexPort	8bits	0x2E	Address access register
IoDataPort	8bits	0x2F	Data access register

name	length	IO address	Register specification
DevSel	8bits	0x07	Device choose register
WDTctl	8bits	0x72	Watch dog controls register Bit7: 1=second mode 0=minute mode bit 4: 1=watch dog on 0=watch off
WDTCount	8bits	0x73	Watch dog's timely register 0-255

### watchdog configuration steps:

- 1: watchdog on
- 2: choose timely mode (minute/second)
- 3: setting counter, watchdog will be automatic count time when register change to more than "0"(means 1), when counter change to "0", system will be reboot.

### Example:

```
// UINT8 IoRead8(UINT16 IoAddr)—from appointed I/O address to read 8bits data
// void IoWrite8(UINT16 IoAddr,UINT8 Data)—to appointed I/Oaddress write 8bits data
```

```
#define BIT4 1<<4
#define BIT7 1<<7
#define IndexPort0x2E
```

```
#define DataPort 0x2F

#define DevSel      0x07
#define WdtCtl      0x72
#define WdtCount    0x73

#define WdtDevNum  0x07

UINT8 Temp;

write a special value into the configuration mode
IoWrite8(IndexPort, 0x87);
IoWrite8(IndexPort, 0x01);
IoWrite8(IndexPort, 0x55);
IoWrite8(IndexPort, 0x55);

// choose watchdog
IoWrite8(IndexPort, DevSel);
IoWrite8(DataPort, WdtDevNum);

// let watchdog on
IoWrite8(IndexPort, WdtCtl);
Temp = IoRead8(DataPort);
Temp |= BIT4;
IoWrite8(DataPort, Temp);

// choose timely mode bit7: 0->minute
1->second
IoWrite8(IndexPort, WdtCtl);
Temp = IoRead8(DataPort);
Temp |= BIT7; //choose second counter
IoWrite8(DataPort, Temp);

// write down counter value and star counter, set 5 seconds
IoWrite8(IndexPort, WdtCount);
IoWrite8(DataPort, 5);

// out of configuration mode
IoWrite8(IndexPort, 0x02);
IoWrite8(DataPort, 0x02);

// wait mainboard to reboot.
```

## Chapter VII COMMON HARDWARE FAILURES AND TROUBLESHOOTING

### METHODS

Problem	check
Power on but machine didn' t start	<ol style="list-style-type: none"> <li>1. make sure power supply correct connection</li> <li>2. make sure power supply is available with machine</li> <li>3. take out RAM and reset it</li> <li>4. change a new RAM</li> <li>5. clear mainboard CMOS</li> <li>6. if connect other external card on machine(USB WIFI or else), pls take out and check it again</li> </ol>
Start machine but monitor is black	<ol style="list-style-type: none"> <li>1. make sure monitor is on</li> <li>2. power supply is correct to connect monitor and x8 machine.</li> <li>3. the monitor cable is correct to connect x8 machine.</li> <li>4. make sure the monitor is not on power saving mode</li> <li>5. check monitor brilliance control whether set in darkness. you can up brilliance via monitor brilliance control setting.</li> </ol>
BIOS Setup cant be saving	<ol style="list-style-type: none"> <li>1、 make sure CMOS battery' s voltage is lower 2.8V, if lower 2.8V, pls change a new battery, resetting and saving</li> <li>2、 BIOS setting incorrect, start machine then click DEL,enter to BIOS setting, find BIOS Setup change time and date</li> </ol>
prompt unable to find the boot device	<ol style="list-style-type: none"> <li>1、 make sure HDD power cable and data cable correct connect</li> <li>2、 make sure SSD/HDD is good</li> <li>3、 Pre-installed OS into SSD/HDD</li> </ol>
A blue screen or crash happen when into OS	<ol style="list-style-type: none"> <li>1、 make sure RAM and external card didn't loose</li> <li>2、 take out new install hardware, unload new driver or software</li> <li>3、 change a new working RAM</li> </ol>
Enter OS is very slowly	<ol style="list-style-type: none"> <li>1、 use other software to check SSD/HDD whether broken</li> <li>2、 make sure space of SSD/HDD is enough</li> <li>3、 make sure CPU's fan cooling system is good</li> </ol>
OS automatic reboot	<ol style="list-style-type: none"> <li>1、 make sure CPU's fan cooling system is good</li> <li>2、 make sure didn't press reset button</li> <li>3、 run antivirus software to make sure machine didn't infect virus</li> <li>4、 make sure RAM and external card didn't loose</li> <li>5、 make sure power adapter makes the machine running</li> </ol>



<p>Cant find USB device</p>	<ol style="list-style-type: none"><li>1、make sure <b>USB device</b> doesn't need individual power on</li><li>2、make sure <b>USB port</b> is good</li><li>3、make sure <b>USB controller</b> is open into <b>BIOS Setup</b></li></ol>
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