

User Manual BI5616 V1.1 **RGB & DVI Ad Board**

Thanks for you selecting Beyondinfinite.com products.
Before using the A/D board, please read this manual thoroughly, and retain it for future reference.
It will help you to use the A/D board easily.

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1) Notice: Important Safety Instructions

- 1) The nominal voltage of DC input to the A/D board is 12V, and the voltage tolerance is +/- 1V. The size of DC current depends on the TFT LCD, audio amplifier, etc. Please note that your AC/DC adapter's output plug need to match the DC input jack, the diameter of the jack is 2.1 mm.
- 2). Before connecting these input/output ports, such as analog VGA port, digital DVI port, Audio port, it is strongly recommended that your turn off the A/D board and remove the DC 12V plug from the DC input jack.
- 3).Don't put the A/D board into a airtight package. When it works, it will produce a certain heat.
- 4). When assembling it, please use a suitable force, don't distort the PCB and other components.
- 5). The firmware of the A/D board is corresponding to the different TFT LCD, so please tell us your LCD model before purchasing out A/D board.

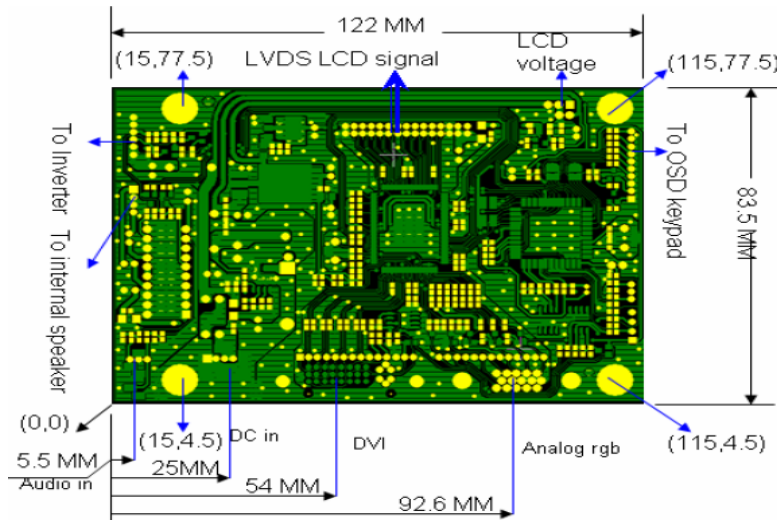
CAUTION: Information in this document is subject to change without notice. Please contact us if you have any questions or suggestions.

2) Technical Specifications

(a) The photo of the A/D board

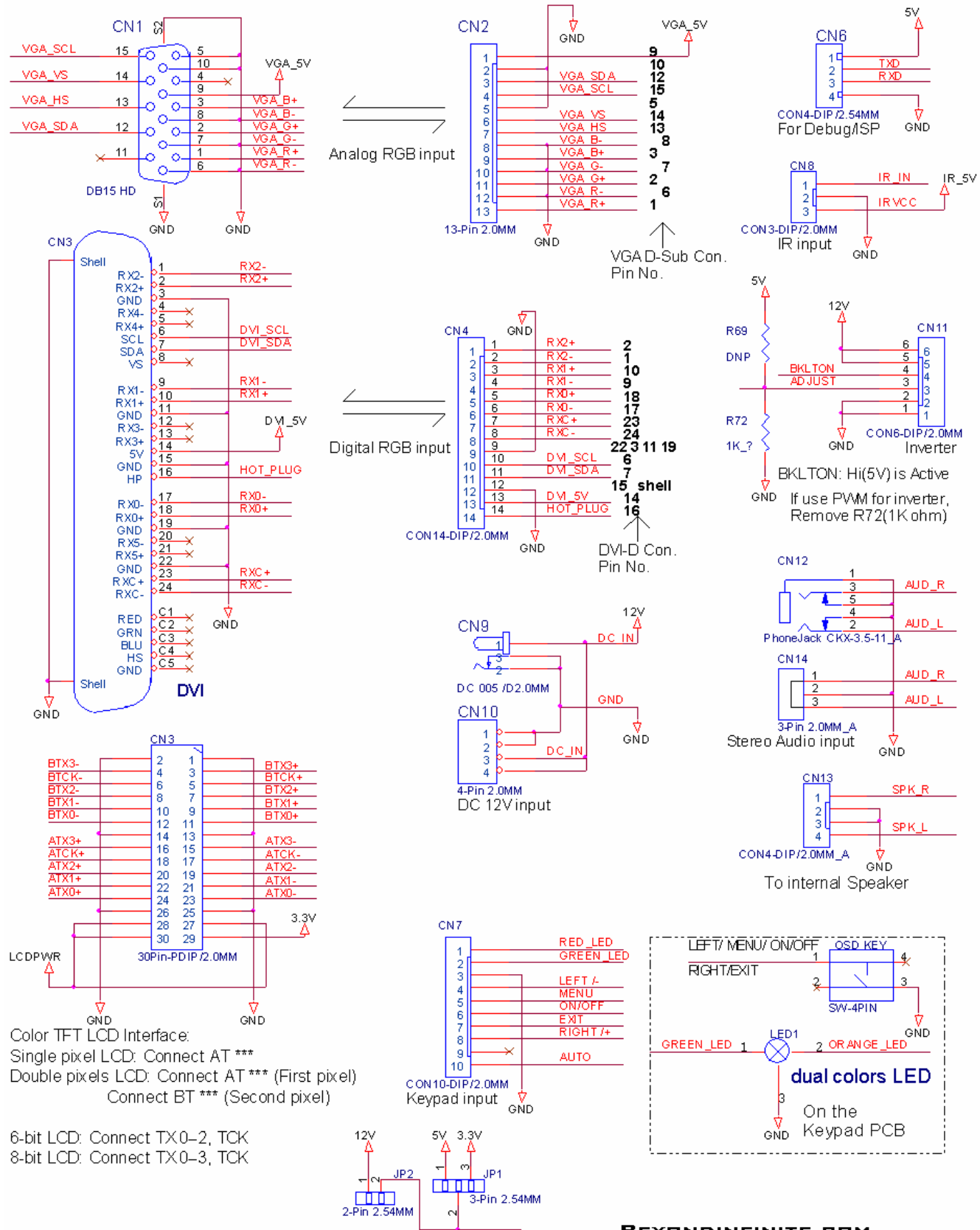


(b) The mechanical Dimension of the A/D board



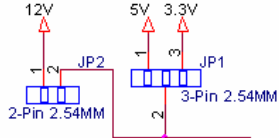
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(c) The interface definition of the A/D board



Color TFT LCD Interface:
 Single pixel LCD: Connect AT ***
 Double pixels LCD: Connect AT *** (First pixel)
 Connect BT *** (Second pixel)

6-bit LCD: Connect TX0-2, TCK
 8-bit LCD: Connect TX0-3, TCK



Select right LCD logic work voltage

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(d) Input/Output interface description

1). PC graphics Analog VGA input connector

This is a D-Sub type blue female connector, it can supports up to SXGA 75 Hz, Vertical Refresh Frequency is from 50 to 75Hz, and the Horizontal Frequency is up to 80 KHz.

2). PC graphics Digital DVI (Digital Visual Interface) (CVBS/Composite Video) input connector

This is a white female connector, it can supports up to SXGA 75 Hz.

3). PC audio input connector (optional)

This is a black 3.5 mm phone jack, it can be connected to PC sound card output port, it is a stereo sound input channel.

4). DC power supply input connector

This is a black male DC power outlet, the center is plus polarity, its size is 2.1 mm diameter. The power consumption of the monitor is source from this connector.

4) Setting the Monitor

3) Setting the monitor.

a) Key operation, the keypad includes **< On/Off>**, **< MENU>**, **< Left>**, **<Right>**, and **< Auto>**.

In addition, **<Exit>** key is optional for some models.

The description of each key:

< ON/OFF>: Press the **<ON/OFF>** key on the keypad to turn the monitor ON or OFF. But this is not shutting off the power supply from AC/DC adapter, this only let the monitor into standby (power saving) status. If you want to shut off the power supply entirely, please pull the DC plug of the AC/DC adapter out from the DC input connector of the monitor.

<MENU>: Press the **<MENU>** key to pop the OSD menu on no menu status, or exit present menu level to its father menu level. The **<MENU>** key is also confirm key, it confirm you operation.

<Left>: Press the **<Left>** key to move the cursor (highlight bar) from “down” to “up” on the OSD menu, or reduce the parameters value from “large” to “small”. These parameters are such as Brightness, Contrast, Volume, etc.. In addition, it is a shortcut key to decrease the volume value at no menu status.

<Right>: Press the **<Right>** button to move the cursor(highlight bar) from “up” to “down” on the OSD menu, or increase the parameters value from “small” to “large”. These parameters are such as Brightness, Contrast, Volume, etc. In addition, it is a shortcut key to increase the volume value at no menu status.

<Auto>: Press the **<Auto>** button to do a quick autoconfig for image on no OSD menu status, it adjust phase, clock and image horizontal and vertical position














<Exit> (optional): Press the **<Exit>** button to exit the present level menu to its father level menu.

On the OSD menu, there is a **<EXIT>** bar on every level menu. When you press **<Left>** or **<Right>** button move the cursor to the **<EXIT>** bar, then press **<Menu>** button to confirm the EXIT operation.

LED lamp: When No signal input or input signal is not right, it becomes orange color. When input signal is right, it becomes green color. At the procedure of no signal, the green led will be twinkle, then becomes to orange color.

b) OSD menu introduction (On Screen Display)

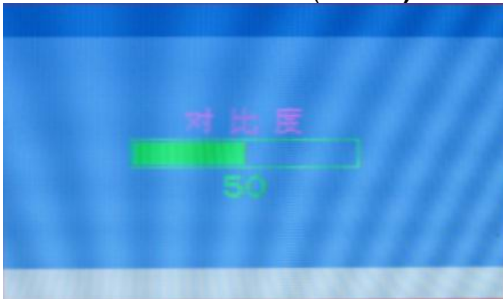
Press the <MENU> button, pop the top main menu.


Main OSD menu contains the following submenu:  BRIGHTNESS,  CONTRAST,  Horizontal POSITION,  Vertical POSITION,  Horizontal image SIZE,  image HASE,  COLOR,  INPUT SELECT,  factory RESET,  OSD LANGUAGE,  OSD screen,  AUDIO,  EXIT.

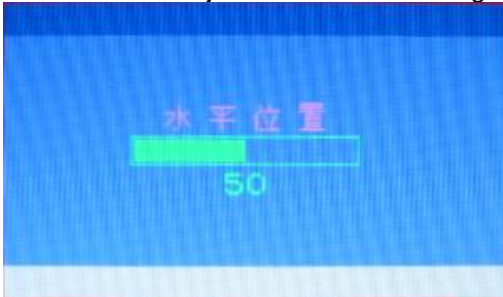
 BRIGHTNESS: Press **(RIGHT)** / <+> button or **(LEFT)** / <-> button to adjust the image brightness value.




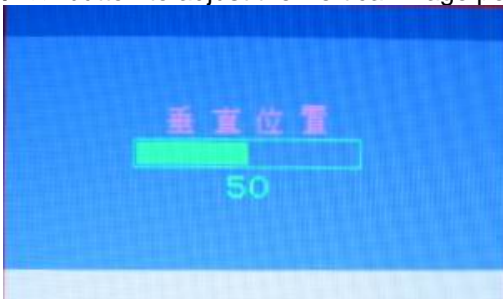
 CONTRAST: Press **(RIGHT)** / <+> button or **(LEFT)** / <-> button to adjust the image contrast value.




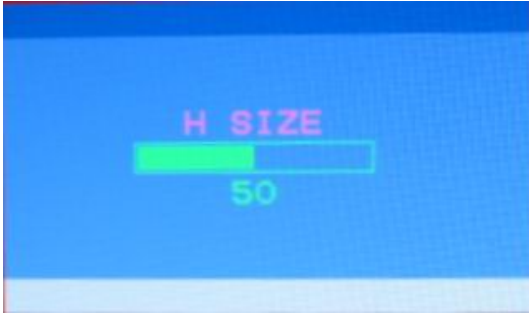
 H POSITION: Press **(MENU)** button to enter the H POSITION submenu, then press **(RIGHT)** / <+> button or **(LEFT)** / <-> button to adjust the Horizontal image position on the LCD screen.




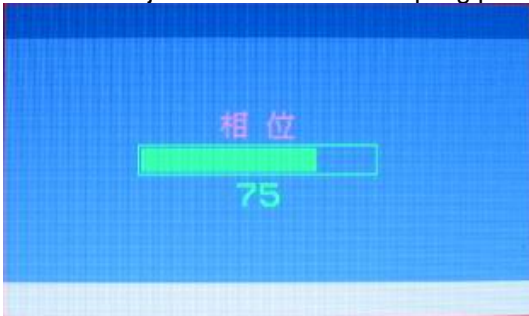
 V POSITION: Press **(MENU)** button to enter the H POSITION submenu, then press **(RIGHT)** / <+> button or **(LEFT)** / <-> button to adjust the Vertical image position on the LCD screen.




 H SIZE: Press **(MENU)** button to enter the H SIZE submenu, then press **(RIGHT) / <+>** button or **(LEFT) / <->** button to adjust the Horizontal image width (size) on the LCD screen.




 Phase: Press **(MENU)** button to enter the Phase submenu, then press **(RIGHT) / <+>** button or **(LEFT) / <->** Button to adjust the horizontal sampling phase to get a stable and clean image on the LCD screen.



 COLOR : Adjust Red, Green, Blue three basic colors ratio to get a suitable image color effect.





Press **(MENU)** button to enter the following submenu:

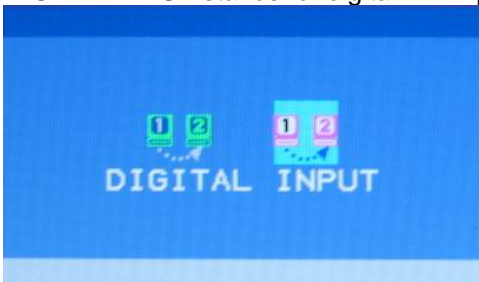
 AUTO COLOR: Autoconfig the color characteristic according the image color, please choose an image that contains white color and black color area to do right configuration.


Color temperature:


 6500K is warm color it has a little red effect.


 9300K is cool color it has a little blue effect.

 INPUT SELECT: When we adopt analog RGB and Digital RGB (DVI) dual input sources, use the menu to choose the desired input source. At normal condition, the signal quality of DVI is better than the analog RGB. DIGITAL INPUT stands for digital DVI input, ANALOG INPUT stands for analog RGB input.





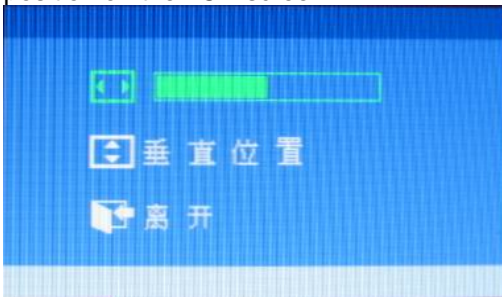
 Auto config: Press **(MENU)** button to select the autoconfig menu, then the system do the phase, clock and position adjustment.


 RESET: Press **(MENU)** button to select the factory reset, let the system return to default parameter settings of factory.

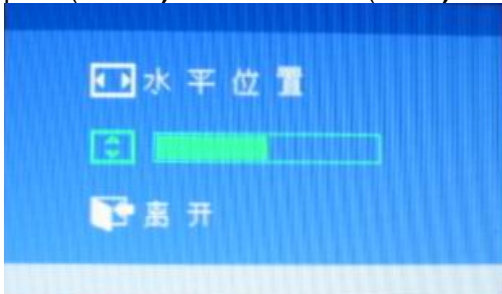
 Language: : **(MENU)** button to select the desired OSD language, the system contains seven languages, such as Simplified Chinese, English, France, German, Italian, Spanish and Korean.




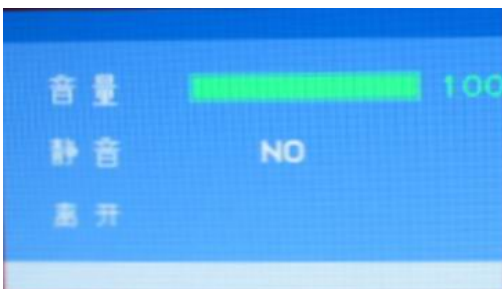
 OSD: Adjust OSD menu position, time out, etc.  OSD menu Horizontal position: Press **(MENU)** button to enter the OSD menu POSITION submenu, then press **(RIGHT) / (<+)** button or **(LEFT) / (<->)** button to adjust the menu Horizontal position on the LCD screen.




 OSD menu Horizontal position: Press **(MENU)** button to enter the OSD menu POSITION submenu, then press **(RIGHT) / (<+)** button or **(LEFT) / (<->)** button to adjust the menu Vertical position on the LCD screen.



 AUDIO: Press **(MENU)** button to enter the Audio submenu to adjust audio volume or turn the volume off/on. VOLUME: Press **(RIGHT) / (<+)** button or **(LEFT) / (<->)** button to choose the audio volume ON or OFF. Mute: Press **(RIGHT) / (<+)** button or **(LEFT) / (<->)** button to increase or decrease the audio volume. When select YES to turn the audio OFF, select NO to turn the audio ON.



 EXIT: Move the cursor to the EXIT bar, press **(MENU)** button to confirm the operation to exit its father level menu, or exit the main menu.

4) FAQ:

- 1) No image, no LED display
Check the power supply of TV, such as AC/DC adapter, AC power outlet, DC power connection.
- 2) No image, LED is orange color
Check input signal sources and its cables, or the monitor is at standby status.
To some display card of computer, it can not output DVI or Analog signal freely, we must adjust manually.
 - (1) Adjust (display property) → (settings) → (advanced) → (display) → (FPD) → Turn the power ON → (enter), then DVI output is OK.
 - (2) Connect the DVI cable from the display card to our DVI monitor, reset the computer, let the computer check the monitor by itself.
 - (3) When connect analog RGB and DVI cables from computer to our monitor, the DVI channel is first choice. On the other words, the monitor make the DVI input channel as the preferred signal channel to displays the computer image.
- 3) Prompt "Input Not Supported" or "Out Of Range"
Check the resolution of the PC VGA output.
We recommend the resolution is not higher than SXGA 75Hz (for 17" or 19" monitor)
The optimum vertical refresh frequency of LCD is 60Hz.
- 4) Image position is not right
Do the "Autoconfig" or manually adjust the image.
- 5) There is "water wave", "twinkling point", or incorrect color on the screen
Check the cable of input signal source and the quality of those signal sources
- 6) The volume of speaker is too small or noisy
Check the volume value, increase the volume via adjusting the OSD menu, and check the sound source quality.
- 7) No sound
Check the sound is mute or not.
- 8) There are many stripes, or big twinkling point on the screen and the color turns to dark
Check whether the monitor is disturbed by other strong radiation or not.

5) Precaution

For the sake of normal usage of this product, preventing incident from the electric shock or fire etc., please follow the precaution below instructions:

- a) Before operating this appliance, read these instructions, keep these instructions, heed all warnings, and follow these instructions.
- b) The DC (Direct current) supply of appliance is from the indicated AC (Alternating Current)/DC adapter. The AC voltage and AC frequencies should be in of accord with the description of its on Metal card, the power adapter should be away from the hotness, being put in the well ventilated place.
- c) AC power electric outlet and the AC power line of the AC/DC adaptor must be noticed to connect a ground well, and have an enough power supply if needed.
- d) Input electric voltage of DC supply of our board is 12V, the error margin is not over and above +/- 1V, The value of the electric current changes for the different LCD and that whether to have audio amplifier or not etc. The lowest value is not lower than 3.5A. Pay attention to connect well between 12V DC power electric outlet and the power electric outlets of the board.
- e) Do not place the board inside of the Hull son or Box that do not transmit heats, with the environment the airiness spreads well, Do not let the sunshine contact the board or other heat sources close to it, The heat sources, such as radiators, stoves, or their apparatus that produce heat.
- f) Pay attention to prevent it from contacting with wetness or the dust, in order to protect the electric circuit from decaying.
- g) While assembling, pay attention to reserve the certain space to keep the air spreads well, while it can prevent the conductor (for the fixed sheet iron of the of the controller board and the inverter) from contacting with the units of electricity board, from happening the short circuit with the board.(knothole install position bore etc. excepted)
- i) While assembling, pay attention to make sure that the controller board is prevented from not being curved because of the additional pressure.
- j) While assembling, notice that the controller board is in right connection with inverter, LCD, OSD keypad, and the speaker, choosing the right LCD work electric voltage(over low the display will not right, LCD may be burnt under over the high work voltage), The power is ON after all checking is well.
- k) The procedure of the MCU on the board should be in of accord with the procedure of the LCD, otherwise there is no display.
- l) The circuit signal on the Key board, the infrared acceptor and the inverter must pass directly the electric cable to connect to the IC on the board, the attention is that avoiding short circuit and the damages from the static electricity on the hand ESD.
- m) All connectors of output or input should be operated under the situation of cutting the power (pull out to put to deal with contact).

n) Under the rain-storm weather, at the time of the thunder and lightning especially, please pull out the power supply and the TV RF outlet.

o) This product is applicable to common business usage and domestic usage, if it is applied into the environment with high temperature (such as in outdoor), high humidity, the strong vibration (carried in car), strong electromagnetism radiation, please contact our sales personnel.

p) Please pull out the power supply if you do not use it in a long time.

6) Appendix I

Different resolution supported by the A/D board (depend on different model)

VGA

640 x 480 -- 60 Hz

640 x 480 -- 72 Hz

640 x 480 -- 75 Hz

640 x 350 -- 70 Hz

720 x 400 -- 70 Hz

SVGA

800 x 600 -- 56 Hz

800 x 600 -- 60 Hz

800 x 600 -- 72 Hz

800 x 600 -- 75 Hz

XGA

1024 x 768 -- 60 Hz

1024 x 768 -- 70 Hz

1024 x 768 -- 75 Hz

SXGA

1280 x 1024 -- 60 Hz

1280 x 1024 -- 70 Hz

1280 x 1024 -- 75 Hz