

AtoD BOARD

Model: **DA007**



Specification for AD007

(VGA+HDMI+DVI-D)

1. GENERAL FUNCTION

- A. Power On System On (AC power On auto turn on)
- B. Auto Signal Source detect
- C. OSD up/ down for Brightness
- D. TFT-LCD Module Driver Board
- E. Resolution up to 1920X1200@75Hz (Note1)
- F. 15 Pin D-SUB VGA Connector input
- G. HDMI Connector input.
- H. 2 VGA, DVI-D, Y Pb Pr and Y Pb Pr looping option Connector input
- I. LVDS Interface Output to Panel
- J. Burn in mode (Press MENU + Power key)
- K. Up to 10 bits per color
- L. RS232 Remote control
- M. OSD (On Screen Display) Control Menu.
- N. Supporting HDCP Protocol.(OPTIONAL)
- O. Supporting DDC/CI Protocol (OPTIONAL)
- P. Supporting DCR function (OPTIONAL)

Support PC Timing

| Item | Description | H-Freq. (KHz) | V-Freq. (Hz) |
|------|---------------|---------------|--------------|
| 1. | VGA640×400 | 31.480 | 70.000 |
| 2. | VGA640×480 | 31.649 | 60.000 |
| 3. | VGA720×400 | 37.469 | 70.000 |
| 4. | VESA 640×480 | 37.862 | 72.809 |
| 5. | VESA 640×480 | 37.500 | 75.000 |
| 6. | VESA 800×600 | 35.156 | 56.250 |
| 7. | VESA 800×600 | 48.077 | 72.188 |
| 8. | VESA 800×600 | 46.875 | 75.000 |
| 9. | VESA 1024×768 | 48.363 | 60.000 |
| 10. | VESA 1024×768 | 56.476 | 70.000 |
| 11. | VESA 1024×768 | 60.023 | 75.000 |
| 12. | VESA 1152×864 | 54.948 | 60.057 |
| 13. | VESA 1152×864 | 66.095 | 70.016 |

| | | | |
|-----|-----------------|--------|--------|
| 14. | VESA 1280 x 768 | 47.400 | 60.000 |
| 15. | VESA 1280 x 768 | 60.300 | 75.000 |
| 16. | VESA 1280x960 | 60.000 | 60.000 |
| 17. | VESA 1280x960 | 75.000 | 75.000 |
| 18. | VESA 1280x1024 | 63.981 | 60.000 |
| 19. | VESA 1280x1024 | 79.977 | 75.000 |
| 20. | VESA 1440x900 | 59.9 | 60 |
| 21. | VESA 1440x900 | 75 | 75 |
| 22. | VESA 1600x1200 | 75 | 60 |
| 23. | VESA 1600x1200 | 81.3 | 65 |
| 24. | VESA 1600x1200 | 87.5 | 70 |
| 25. | VESA 1600x1200 | 93.8 | 75 |
| 26. | VESA 1680x1050 | 65.3 | 60 |
| 27. | VESA 1680x1050 | 75 | 75 |
| 28. | 1920x1080 | 67.5 | 60 |
| 28. | VESA 1920x1200 | 74.5 | 60 |

**** Display Resolution depends on panel spec. 2.

Specification

| | |
|--|--|
| Panel Compatibility | Compatible with XGA, SVGA, VGA resolution TFT LCD panel from various panel manufactures by Changing some jumpers setting and specified BIOS. |
| Maximum Resolution | Up to 10 bits per color, total 1000M Colors |
| Vertical Refresh Rate | VGA - SVGA ,XGA AND UXGA VESA standard up to 75Hz |
| Input Source | VGA analog (15 pin D-Sub) ,HDMI , VGA2 (16 pin) , DVI-D, Y Pb Pr and Y Pb Pr looping option |
| Audio Input | 3.50 Earphone 1 Vp-p |
| Audio Output | 2W+2W at 4 Ohm speaker |
| Dot Clock Maximum (pixel clock) | VGA : 165 / 210 MHz DVI : 165MHz HDMI :165 MHz |
| User Controls | Power On/Off OSD Menu Adjust Adjust + Auto VOL. + (OPTIONAL) VOL. (OPTIONAL) |
| Board Dimension | 120 mm x 85mm |
| Voltage for LCD Panel | 12V, 5V, 3.3V DC (Jump Select) |
| Storage Temperature Limits | Temperature 40C~80C |
| Operation Temperature Limits | Temperature -30C~70C Humidity : Less than 85% |

3. Signal input connections

4-1 VGA Signal Input

Location J3 - 15 pin Hi-Density Female D-SUB Pin

Assign and Definition

| Pin No. | SYMBOL | Pin No. | SYMBOL | Pin No. | SYMBOL |
|---------|----------|---------|--------|---------|---------|
| 1 | RED IN | 6 | R-GND | 11 | GND |
| 2 | GREEN IN | 7 | G-GND | 12 | SDA DDC |
| 3 | BLUE IN | 8 | B-GND | 13 | SYNC. H |
| 4 | GND | 9 | PC 5V | 14 | SYNC. V |
| 5 | GND | 10 | DET | 15 | SCL DDC |

4-2 VGA2 Input

WAFER 16pin 2.0mm

| PIN | FUNCTION | PIN | FUNCTION |
|------------|-----------------|------------|-----------------|
| 1 | +12V (Output) | 2 | +12V(Output) |
| 3 | GND | 4 | GND |
| 5 | VGA2B (Pb) | 6 | VGA2G (Y) |
| 7 | GND | 8 | GND |
| 9 | AUDIOR (input) | 10 | AUDIO_L(input) |
| 11 | SDADDC | 12 | SCLDDC |
| 13 | +5V (output) | 14 | VGA2R (Pr) |
| 15 | VGA2_Hsync | 16 | VGA2_Vsync |

4-3 Key Input Connector

Location - CN2A: 8PIN WAFER PITCH 2.0mm 90D

All Key Active Low Level., All LED Active HI Level , Output Current 10mA MAX

Pin assign and definition

| PIN | FUNCTION |
|------------|-----------------|
| 1 | GREEN-LED |
| 2 | GND |
| 3 | RED-LED |
| 4 | POWER-KEY |
| 5 | MENU-KEY |
| 6 | AUTO-KEY |
| 7 | RIGHT-KEY |
| 8 | LEFT-KEY |
| 9 | UP-KEY |
| 10 | DOWN-KEY |

4-4 DVI Input Connector

WAFER 16pin 2.0mm

| PIN | FUNCTION | PIN | FUNCTION |
|-----|-----------------------|-----|---------------------|
| 1 | TMDS Data 2+ (Dr+) | 2 | TMDS Data 2- (Dr-) |
| 3 | TMDS Data 1+ (Dg+) | 4 | TMDS Data 1- (Dg-) |
| 5 | TMDS Data 0+ (Db+) | 6 | TMDS Data 0- (Db-) |
| 7 | TMDS clock+ | 8 | TMDS clock- |
| 9 | GND | 10 | GND |
| 11 | DDC clock (SCL) | 12 | DDC data (SDA) |
| 13 | +5V | 14 | DVI det (DET) |
| 15 | Hot plug detect(HPD) | 16 | GND |

4-5 RS232 Input Connector

| PIN | FUNCTION |
|-----|----------|
| 1 | +5VDC |
| 2 | TX |
| 3 | RX |
| 4 | GND |

Remote (CN6)

WAFER 3pin 2.0mm

| PIN | FUNCTION | PIN | FUNCTION |
|-----|--------------|-----|----------|
| 1 | +5V | 2 | IR |
| 3 | GND | 4 | Motion |
| 5 | Light Sensor | 6 | NC |

Power DC (CN9)

WAFER 3 pin 2.0mm

| PIN | FUNCTION | PIN | FUNCTION |
|-----|----------|------|----------|
| 1 | +5V | 2, 3 | GND |

Power DC (CN10)

WAFER 2pin 2.0mm

| PIN | FUNCTION | PIN | FUNCTION |
|-----|----------|-----|----------|
| 1 | +12V | 2 | GND |

4-3 Power Input

Location - J1 : DC JACK DC=2.0mm

12V / 2A For 2 Light Inverter or 12V / 3A for 4 Light Inverter

4-4.LVDS INPUT

Location - CN3 :2 x17 PIN, PITCH 2.0mm (10 bit)

Pin Assign and Definition

| Pin No. | SYMBOL | Pin No. | SYMBOL |
|---------|--------------------------|-----------|--------------------------|
| 1 | VCC | 2 | VCC |
| 3 | 8 bit RO0- / 10 bit ROI- | 4 | 8 bit RO0+ / 10 bit ROI+ |
| 5 | 8 bit ROI- / 10 bit R02- | 6 | 8 bit R01+ / 10 bit R02+ |
| 7 | 8 bit R02- / 10 bit ROC- | 8 | 8 bit R02+ / 10 bit ROC+ |
| 9 | GND | 10 | GND |
| 11 | 8 bit ROC- / 10 bit R03- | 12 | 8 bit ROC+ / 10 bit R03+ |
| 13 | 8 bit R03- / 10 bit R04- | 14 | 8 bit R03+ / 10 bit R04+ |
| 15 | GND | 16 | GND |
| 17 | 8 bit RE0- / 10 bit RE2- | 18 | 8 bit RE0+ / 10 bit RE2+ |
| 19 | 8 bit RE1- / 10 bit REC- | 20 | 8 bit RE1+ / 10 bit REC+ |
| 21 | 8 bit RE2- / 10 bit RE3- | 22 | 8 bit RE2+ / 10 bit RE3+ |
| 23 | GND | 24 | GND |
| 25 | 8 bit REC- / 10 bit RE4- | 26 | 8 bit REC+ / 10 bit RE4+ |
| 27 | 8 bit RE3- / 10 bit RO0- | 28 | 8 bit RE3+ / 10 bit RO0+ |
| 29 | GND | 30 | GND |
| 31 | 10 bit RE0- | 32 | 10 bit RE0+ |
| 33 | 10 bit RE1- | 34 | 10 bit RE1+ |

4-6 Inverter Connector

Location - CN1: 6 PIN WAFER PITCH 2.0mm 90D

Pin assign and definition

| Pin No. | SYMBOL | Pin No. | SYMBOL |
|---------|--------|---------|----------|
| 1 | +12V | 4 | GND |
| 2 | GND | 5 | ON /Off" |
| 3 | Adjust | | |

4-6A. Inverter Current Adjust : Range 0 (Inverter Current Max) to 5V (Inverter Current Min)
or PWM (100% Current Max) (10% Current Min) Frequency : 200HZ

4-6B. Inverter ON/Off : 5 V (Inverter ON) or 0V (Inverter OFF)

4-7 Audio Input - CN1 , SCJ368R0NXS0G04G 3P Green or equiv.

Audio Input 1Vp-p Max.

4-8 Audio Input : 4 PIN WAFER PITCH 2.0mm 180D

Audio Input 1.6W + 1.6W at 8 Ohm

| Pin | Signal |
|-----|--------|
| 1 | R+ |
| 2 | R- |
| 3 | L+ |
| 4 | L- |