

# AtoD BOARD

# Model: DA009



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# Specification for DA009

## VGA+HDMI + 2\*AV-IN(BNC)

### 1.GENERAL FUNCTION

- A. Up to 10 bits per color
- B. 15 Pin D-SUB VGA Connector Input
- C. HDMI Connector Input.
- D. 3D \_2 CVBS Video Input with PIP/POP(Optional)
- E. DVI Input( Optional)
- F. RS232 Remote control
- G. Power On System On ( AC power On auto turn on )
- H. Auto Signal Source detect (VGA/HDMI/DVI)
- I. OSD up/ down ( Brightness for PC , Volume for AV)
- J. TFT-LCD Module Driver Board
- K. Resolution up to 1920X1200
- L. LVDS Interface Output to Panel
- M. Burn in mode
- N. Motion and Light sensor Input
- O. OSD ( On Screen Display ) Control Menu.
- P. Supporting HDCP Protocol.(OPTIONAL)
- Q. Supporting DDC/CI Protocol .(OPTIONAL)
- R. Supporting DCR function (OPTIONAL)
- S. 1.6W +1.6W Audio Output( at 8 Ohm)

### 2. Support PC Timing

Item	Description	H-Freq. (KHz)	V-Freq. (Hz)
1.	VGA640×400	31.480	70
2.	VGA640×480	31.649	60
3.	VGA720×400	37.469	70
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
9.	VESA 1024×768	48.363	60
10.	VESA 1024×768	56.476	70
11.	VESA 1024×768	60.023	75
12.	VESA 1152×864	54.948	60.057
13.	VESA 1152×864	66.095	70.016
14.	VESA 1280 x 768	47.400	60
15.	VESA 1280 x 768	60.300	75
16.	VESA 1280×960	60.000	60
17.	VESA 1280×960	75.000	75
18.	VESA 1280×1024	63.981	60
19.	VESA 1280×1024	79.977	75
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	VESA 1920x1080	67.5	60
29	VESA 1920x1200	74.5	60

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

### 3.Specification

<b>Model</b>	<b>GTR 63</b>
<b>Panel Compatibility</b>	Compatible with XGA, SVGA, VGA resolution TFT LCD panel from various panel manufactures by Changing some jumpers setting and specified BIOS.
<b>Maximum Resolution</b>	Up to 10bits per color, total 1000M Colors
<b>Vertical Refresh Rate</b>	VGA、SVGA、XGA AND UXGA VESA standard up to 75Hz
<b>Input Source</b>	VGA analog (15 pin D-Sub) ,HDMI , 3D 2CVBS(option), DVI ( Option )
<b>Audio Input</b>	3.5Ø Earphone 1 Vp-p
<b>Audio Output</b>	2W+2W at 8 Ohm speaker

Dot Clock Maximum (pixel clock)	VGA : 210 MHz HDMI :165 MHz
User Controls	Power On/Off OSD Menu UP Adjust + ( Brightness for PC , Volume for AV) Down Adjust - ( Brightness for PC , Volume for AV) Auto
Board Dimension	110 mm x 100 mm
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%

## 4. Signal input connections

### 4-1 VGA Signal Input

Location J4 - 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 data
3	BLUE IN	8	B-GND	13	SYNC. H
4	GND	9	PC 5V	14	SYNC. V
5	GND	10	DET	15	SCL DDC clock

### 4-2 HDMI Signal Input

Location J2 - 19 pin HDMI CONNECTOR

Pin Assign and Definition

PIN	SYMBOL	PIN	SYMBOL
1	TMDS Data2+	2	Ground
3	TMDS Data2-	4	TMDS Data1+
5	Ground	6	TMDS Data1-
7	TMDS Data0+	8	Ground
9	TMDS Data0-	10	TMDS Clock+
11	Ground	12	TMDS Clock-
13	Reserved	14	Reserved
15	DDC CLK	16	DDC DATA
17	Ground	18	+5V Power
19	Hot Plug Detect (HPD)		

### 4-3 DVI Signal Input

Location - CN12

Pin Assign and Definition 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

### 4-4 Key Output Connector

Location - CN7: 10PIN 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	UP (RIGHT) Adjust + KEY ( Brightness for PC , Volume for AV)
8	Down (LEFT) Adjust –KEY ( Brightness for PC , Volume for AV)
9	UP-KEY ( 預留)
10	DOWN-KEY( 預留 )

#### 4-5 Video Signal Input CN5 : 10 PIN WAFER PITCH 2.0mm 90D

AV CVBS and Video Input

Pin assign and definition

PIN	Signal
1	HD_Y
2	GND
3	HD_Pb
4	GND
5	HD_Pr
6	GND
7	AV1
8	GND
9	AV2
10	GND

#### 4-6 RS232 Signal Input

Location - CN3 4Pin 2.0mm

PIN	FUNCTION
1	+3VDC
2	TX
3	RX
4	GND

#### 4-7 IR Motion Light WAFER Location - CN8 6pin 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	GND
3	GND		

## Power DC ( CN11 )

WAFER 2pin 2.0mm

PIN	FUNCTION	PIN	FUNCTION
1	+12V	2	GND

### 5-1 Power Input

Location - J1 : DC JACK DC=2.1mm

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

### 5-2 .LVDS OUTPUT .....

Location - CN2 :2 x17 PIN, PITCH 2.0mm ( 8/10 bit )

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL
1	VCC	2	VCC
3	RxO0-	4	RxO0+
5	RxO1-	6	RxO1+
7	RxO2-	8	RxO2+
9	GND	10	GND
11	RxOC-	12	RxOC+
13	RxO3-	14	RxO3+
15	GND	16	GND
17	RxE0-	18	RxE0+
19	RxE1-	20	RxE1+
21	RxE2-	22	RxE2+
23	GND	24	GND
25	RxEC-	26	RxEC+
27	RxE3-	28	RxE3+
29	GND	30	GND
31	RxO4-	32	RxO4+
33	RxE4-	34	RxE4+

### 5-3 Inverter Connector

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

Pin assign and definition

Pin No.	SYMBOL	Pin No.	SYMBOL
1	+12V	4	Adjust
2	+12V	5	GND
3	GND	6	ON /Off

5-3A. Inverter Current Adjust : Range 0 ( Inverter Current Max ) to 5V  
( Inverter Current Min)

or PWM ( 100% Current Max ) ( 10% Current Min) Frequency : 200HZ

5-3B. Inverter ON/Off : 5V ( Inverter ON ) or 0V ( Inverter OFF)

### 5-4 Audio Output : CN6 4 PIN WAFER PITCH 2.0mm 180D

Audio Output 1.6W + 1.6W at 8 Ohm

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

### 5-5 Panel Power JP1 :2X3 PIN, PITCH 2.0mm

Panel Power Select

Pin assign and definition

Pin	Signal
1-2	3.3 V
3-4	5 V-
5-6	12 V



## 5-6 AV Audio output CN4 : 2X4 PIN, PITCH 2.0mm

Pin assign and definition

Pin	Signal
1	AV1_R
2	AV1_L
3	GND
4	AV2_R
5	AV2_L