

Engineering Specification

Model No. : APR-A0571-(A)(B)(C)(D)

5.7 inches Flat Panel Monitor

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Revision History

Ver.	Date	Page	Change Description
1.0	Mar.27.2012	N.A	Initial Release

Contact Details

Head Office, Factory & R&D Center
 #502 103-dong, Bucheon Techno Park 364, Samjeong-dong
 Ojeong-gu, Bucheon City, Gyeonggi-do, Korea, 421-741
<http://www.alphadisplay.co.kr>
 Tel. +82-32-321-8029 Fax. +82-32-325-8075

1. Description

This is the industrial-Grade flat panel monitor based on 5.7" VGA TFT LCD panel that is providing high quality screen image.

This monitor supports analog RGB, digital RGB input with expanding to full screen image. (by Model Definition)
It affords convenience to the user in installing various applications such as amusement, industry use and so on.

2. General Features

- Wide input resolution range up to VGA 640x480@75Hz.
- Enhanced Video Quality thru high performance up and down-scaling characteristic
- Automatic Scanning & Image Adjustment
- The most suitable GUI (Graphic User Interface)
- Auto Power On (Reset Condition)

3. Specification

-Model Definition

Basic Model : APR-A0571-ONAB

< Optional >

APR-A0571-(A)(B)(C)(D)

Suffix (A)	Frame Option	(O : Open Frame, C : Chassis Type, P : Panel Mount, R : Rack Mount)
Suffix (B)	Front Option	(N : No Option, R : Resistive T/S, C : Capacitive T/S, S : SAW T/S, I : IR T/S, P : Protection Glass,)
Suffix (C)	Input Option	(A : VGA only, B :VGA + DVI, H :VGA + Audio, I : VGA + DVI + Audio)
Suffix (D)	Power Option	(B : DC12V-In)

* Please contact sales department of alpha display for touch screen and chassis type in detail.

-Panel

Panel Module	AUO, G057VN01		
Size	5.7 inches		
Active Display Area	115.2mm (H) x 86.4mm (V))		
Number of Pixels	640 dots (H) x 480 lines (V) VGA		
Pixel Pitch (mm)	0.18mm(H) × 0.18mm(V)		
Color Depth	262K colors		
Viewing Angle	Horizontal	(θL)	Typ. 80 degrees (Min. 70 degrees)
		(CR≥ 10)	(θR) Typ. 80 degrees (Min. 70 degrees)
	Vertical	(φH)	Typ. 70 degrees (Min. 60 degrees)
		(φL)	Typ. 70 degrees (Min. 60 degrees)
Contrast Ratio	Typ. 800 : 1 (Min. 500:1)		
Response Time	Rise Time (Tr)	Typ. 15 mSec (Max. 20 mSec)	

	Fall Time (Tf)	Typ. 10 mSec (Min. 15 mSec)
	Average Brightness	Typ. 700 cd/m ² (Min. 525 cd/m ²)
	Panel Dimension	144.0mm (W) x 104.6 mm (H) x 12.3 mm (D)
	Back Light System	LED BackLight
-Scanning Frequency		
	Horizontal	30 ~ 80.0 KHz
	Vertical	55 ~ 75 Hz
-Input Resolution		
Analog RGB & Digital RGB		
	Recommended Resolution	640 x 480@60 Hz
	Supported Resolution	640x480@60/67/72/75 Hz
		<i>* Custom Resolution Available</i>
		<i>* Digital RGB Input, recommended 60Hz of each mode by VESA.</i>
-Input Signal		
	RGB	Analog RGB Amplitude: 0.7 ± 0.05V Input Impedance: 75 ± 2% ohms
	Sync	H/V Separate (TTL Level)
	DVI (Option)	Digital RGB Swing Voltage: 400mV ≤ V _{sig} ≤ 600mV Termination Resistance: 50 ± 10% ohms
-Input Signal Connector		
	Analog RGB	15pin D-Sub x 1
	Digital RGB(Option)	DVI-D x 1
-Plug & Play		
-Power Supply Rating		
	DC Input Voltage	Typ. DC +12V
	Max. Power Dissipation	Less than 15Watts
	Power Consumption	10W ± 10%
	AC Power Adaptor Rating	DC 12V / 3.5A output AC 100~240V@60/50Hz (Universal)
-User Controls		
	OSD Keypad	Power, Menu, Select, Up, Down (1Row 5Keys)
	OSD Language	English, German, French, Spanish, Italian (5 Languages)
-Regulation		
	RoHS Compliant	In compliance with the essential requirements and other relevant provisions of European Union

Directive 2002/95/EC (RoHS).

4. Environmental and Reliability Specification

** This specification depends on LCD panel characteristic. Please refer to panel specification in detail.*

•Operating Conditions

Temperature	0°C ~ 70°C
Humidity	10% ~ 90%RH @Ta < 40°C, non-condensing Wet-bulb temperature should be 39°C Max.
Altitude	Max. 3,000m

•Transportation Conditions

Temperature	-30°C ~ 85°C
Humidity	10% ~ 90% RH @Ta < 40°C, non-condensing Wet-bulb temperature should be 39°C Max.
Altitude	Max. 12,000m

•Storage Conditions

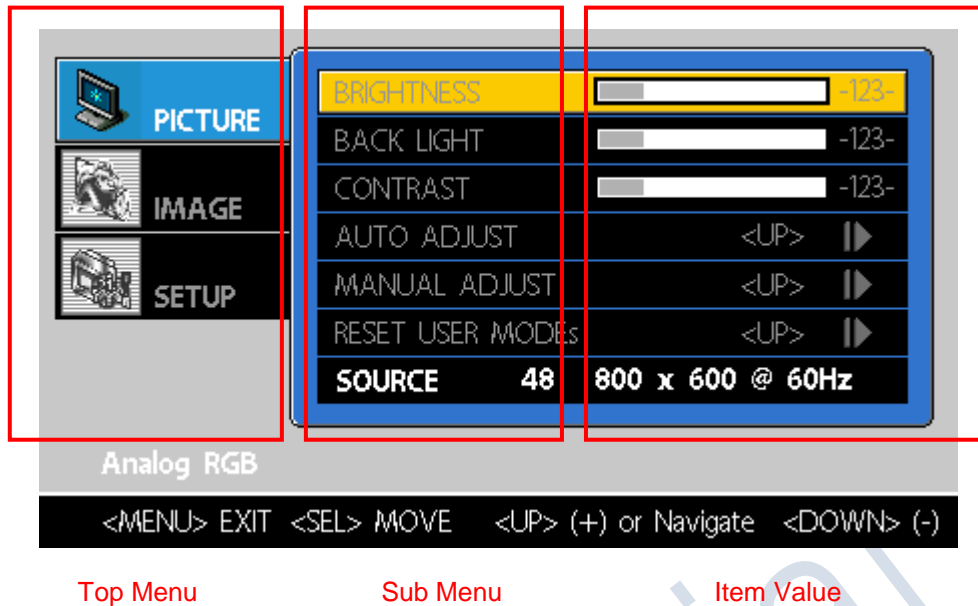
Temperature	-30°C ~ 85°C
Humidity	10% ~ 90% RH @Ta < 40°C, non-condensing Wet-bulb temperature should be 39°C Max.
Altitude	Max. 12,000m

•Reliability Specifications

Life Time	Typ. 50,000 hours at 90% confidence level. (50% of initial Brightness, Ta = 25 ± 5°C)
Reliability	General Specification of reliability test

5. OSD Control Functions & Keypad Description

5-1. OSD Control Functions

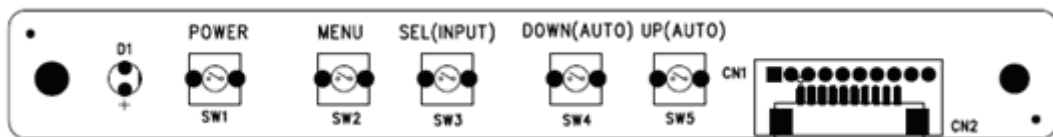


Top Menu	Sub Menu	Control Description
PICTURE	- Analog RGB & Digital RGB Input	
	Brightness	Adjust the brightness of image. (Increment/Decrement)
	Back Light	Adjust the luminance of back light. (Increment/Decrement)
	Contrast	Adjust the level of image. (Increment/Decrement)
	Auto Adjust	Execute Auto-Adjustment to optimize the displayed image automatically. (analog RGB only)
	Manual Adjust	Adjust H/V position, H. Phase and H. Frequency (Clock) manually.
	Reset User Modes	Reset user modes to default values for contrast, brightness and the input informations as Vtotal, Hperiod, Hfrequency, position, phase etc. detected by control board.
	Source	Input signal information. (Read only)
	- Video Input	
	Brightness	Adjust the brightness of image. (Increment/Decrement)
	Back Light	Adjust the luminance of back light. (Increment/Decrement)
	Contrast	Adjust the level of image. (Increment/Decrement)
	Sharpness	Adjust the sharpness of imgae. (Increment/Decrement)
	Color	Adjust the color expression of image. (Increment/Decrement)
Tint	Adjust the color balance between redish and greenish.	
IMAGE	Source	Input signal information. (Read only)
	Sharpness Filter	Adjust the Sharpness filter of the display.

	Color Temp.	Select the preset of the color temperatures such as Reddish, Bluish or User. User's color can be changed by a user. Red - Adjust the RED color temperature for User's color. Green - Adjust the GREEN color temperature for User's color. Blue - Adjust the BLUE color temperature for User's color.
	Gamma	Adjust the Gamma of the display.
SETUP	OSD Settings	Set the OSD menu setup as OSD Language, Transparency, menu position and OSD duration time.
	Input Search	Enable or disable to search the input source automatically. In case of analog RGB only, it does not affect.
	DPMS Activation	Enable or disable VESA Std. Compliant DPMS.
	Back Ground Color	Select the background color used at no signal state or while changed input source. (BLACK / BLUE / GREEN / RED)
	OSD Lock	Lock or Unlock all keys to do control OSD menu. (Available 'Power' Key only at OSD locked)
	Source Icon	Enable or disable to show the source icon used at no signal state or while changed input source.
	Reset to Factory Defaults	Initializes all settings to Factory Default Settings.

5-2. Keypad Function

a. Key Description



Direct Keys	POWER	Power On and Off
	MENU	- Enter to Top Menu from no OSD menu. - Exit to no OSD Menu from Top Menu. - Or exit to Top Menu from Sub Menu.
	SELECT	- Navigate Top Menu as PICTURE, COLOR, OSD and MISC. - Navigate between each item on Sub Menu .
	UP	- Navigate between Sub Menu and Top Menu . - Select the Item Value to control the item of Sub Menu. - Increase the Item Value of selected Sub Menu.
	DOWN	Decrease the Item Value of selected Sub Menu.
Hot Keys	UP+DOWN	Excutes 'Auto Adjust' to automatically optimize the displayed

(on No OSD Menu)	(Auto Adjust)	image, if pressed on No OSD menu. <i>(analog RGB input only)</i>
	SELECT	Change the current source input to another if pressed on No OSD Menu.
	MENU+SELECT (OSD Lock)	Locked or Unlocked OSD menu control. (toggled)

*** How to control the OSD menu**

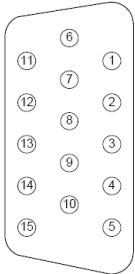
ex.) Adjust CONTRAST on PICTURE top menu

- a. Press <MENU> key to enter to PICTURE menu of Top Menu.
- b. Press <UP> key to navigate to Sub Menu. (Selected Brightness on PICTURE Sub Menu)
- c. Press <SEL> key to navigate to Contrast on PICTURE Sub Menu.
- d. Press <DOWN> key to decrease the adjust value or press <UP> key to increase it.
- e. Press <MENU> key to exit to Top Menu and Press it again to exit to No OSD menu.

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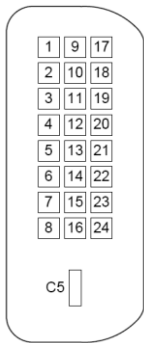
6. Cable Pin Configuration

Analog RGB Cable (15 Pin Mini D-SUB Connector)



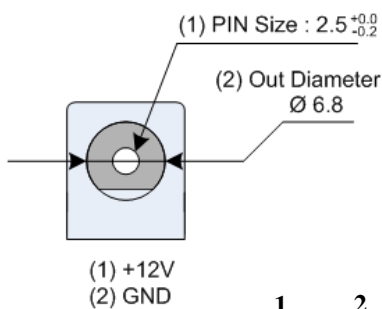
1	Red	9	+5V
2	Green (SOG in)	10	Ground - Sync
3	Blue	11	No Connection
4	Ground	12	DDC Serial Data
5	Ground	13	Horizontal or Composite Sync
6	Ground - Red	14	Vertical Sync
7	Ground - Green	15	DDC Serial Clock
8	Ground - Blue		

Digital RGB Cable (DVI-D Connector)



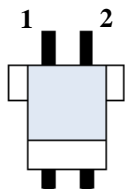
1	TMDS Data 2-	14	+5V Power
2	TMDS Data 2+	15	Ground (for +5V)
3	TMDS Data 2/4 Shield	16	Hot Plug Detection
4	TMDS Data 4-	17	TMDS Data 0-
5	TMDS Data 4+	18	TMDS Data 0+
6	DDC Serial Clock	19	TMDS Data 0/5 Shield
7	DDC Serial Data	20	TMDS Data 5-
8	No Connect	21	TMDS Data 5+
9	TMDS Data 1-	22	TMDS Clock Shield
10	TMDS Data 1+	23	TMDS Colck+
11	TMDS Data 1/3 Shield	24	TMDS Clock-
12	TMDS Data 3-	C5	Ground
13	TMDS Data 3+		

Power Connector (Using DC Jack, 2Pin) / YAW396-02V 2Pin (Option) (YeonHO Elec)



1 +12V Input 2 GND

2Pin (Option)



1 +12V Input 2 GND

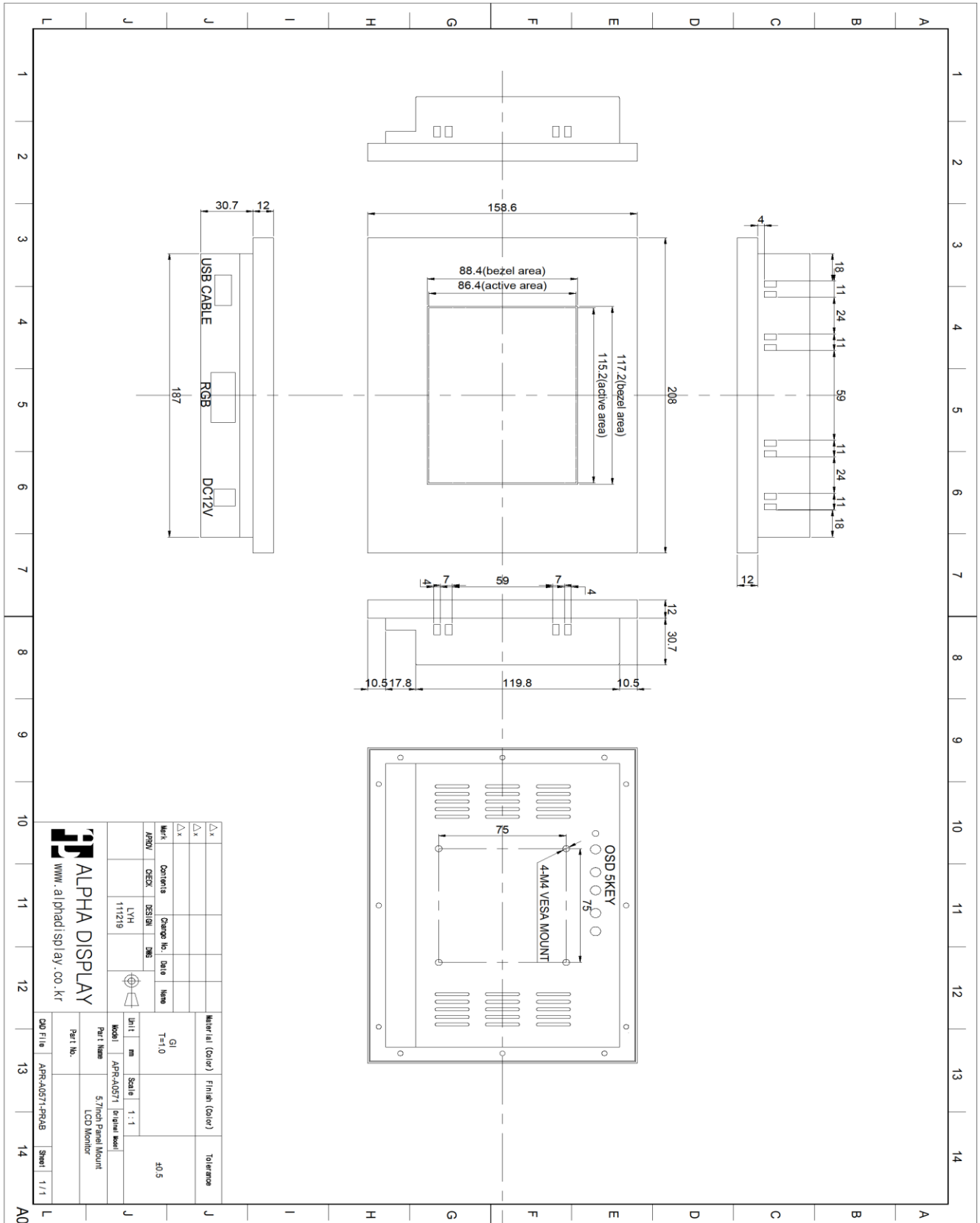
7. Standard Display Mode

No	Mode	Resolution	Horizontal		Vertical		Pixel clock	Remark
			Frequency	Polarity	Frequency	Polarity		
1	DOS	640x350	31.47 KHz	P	70.1 Hz	N	25.18 MHz	IBM
2		720x400	31.47 KHz	N	70.1 Hz	P	28.32 MHz	VESA
3	VGA	640x480	31.47 KHz	N	60.0 Hz	N	25.18 MHz	VESA
4		640x480	35.00 KHz	N	66.7 Hz	N	30.24 MHz	VESA
5		640x480	37.86 KHz	N	72.8 Hz	N	31.50 MHz	VESA
6		640x480	37.50 KHz	N	75.0 Hz	N	31.50 MHz	VESA
<p>* Regarding the specific input resolution, please contact to engineering team.</p>								

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8. Mechanical Specification

▶ APR-A0571-PRAB (Panel Mount)



Appendix1. Touch Screen Specification

•Touch Screen

** This specification depends on Touch Screen characteristic. Please refer to Touch Screen specification in detail.*

Model	Hantouch, HT057A (5.7inch 4-Wire Resistive Touch)
Active Area	115.2mm x 86.4mm
Viewing Area	120.2mm x 91.4mm
Glass Area	129.1mm x 101.7mm
Relative Humidity	90% at +60 °C
Storage Temperature	-30 °C to +70 °C
Operating Temperature	-20 °C to +60 °C

•Touch Controller

** This specification depends on Touch Controller characteristic. Please refer to Touch Controller specification in detail.*

Model	Hantouch, ETP-MB-S4000UAGG
Communications Protocol	USB type
Dimensions	20mm x 75mm
Relative Humidity	95% at +60 °C
Storage Temperature	-40 °C to +80 °C
Operating Temperature	0 °C to +50 °C
Power Requirements	DC +5V (100mA typical, 50mV peak to peak maximum ripple and noise)

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