

Industrial LCD Monitor
MODEL : 49-1902-DA
 [PN: 49-1902-DA-ASM]

(●)	Preliminary Specification
()	Final Specification

Customer

Customer's Approval	
<u>Signature</u>	<u>Date</u>

<u>Prepared By</u>	<u>Date</u>
<u>Approved By</u>	<u>Date</u>

CONTENTS

1. Description	4
2. General Features	4
3. Specification	4
4. Environment	6
5. Specifically for Liquid Crystal Display ("LCD") Screens	7
6. Electronic Component Temperature Characteristics	7
7. Key Button Function & OSD Control Function	8
8. Cable Pin Configuration	9
9. Standard Display Mode	10
10. Mechanical Specification	11
11. Packing Specification	12
Appendix : Block Diagram	13
Appendix : POG to WMS touch setting	14
Appendix : "UL" Certificate of Compliance	15
Appendix : "CE(LVD)" Certificate of Conformity	16
Appendix : "CE(EMC)" Attestation of Conformity	17
Appendix : "FCC" Verification of Part15 Compliance	18

Revision History

Revision No.	Revision Date	Page	Description
0.0	06/APR/2016	-	First Draft
0.1	13/MAY/2016	10, 11	Packing Specification Update Mechanical Specification Update - OSD Position Changes
0.2	15/JUN/2016	6, 7	<ol style="list-style-type: none"> 1. Additional Environment Characteristics 2. Additional Specifically for Liquid Crystal Display ("LCD") Screens 3. Additional Electronic Component Temperature Characteristics
0.3	31/OCT/2016	4, 5, 6, 9, 10, 11, 12, 13	AD Board Changes (SH-1927 → SH-1527)
0.4	13/MAR/2017	4, 7, 14, 15, 16, 17, 18	Product Configuration & Display Update, Electronic Component Temperature Characteristics Update, POG to WMS touch setting Update, UL, CE, FCC Certificate Update

1. Description

Industrial TFT-LCD Bezel Frame monitor 49-1902-DA is a high performance TFT LCD monitor and providing high image from the analog RGB, CGA.

2. General Features

- 1280 x 1024 pixels resolution
- Low Power consumption
- RGB and CGA
- Light Emitting Diode(LED) Backlight system

3. Specification

- Product Configuration

Boards	SH-1527
Enclosure	<input type="checkbox"/> OPEN Frame <input checked="" type="checkbox"/> Bezel Frame
UI Control	<input checked="" type="checkbox"/> 5Key <input type="checkbox"/> Remote Control
Option	IR Touch (Serial/USB)
Accessories	RS232 Touch Cable, Power Cord(US), VGA Cable, Power Supply(12V / 3.33A Adapter)

- Display

Size	19.0 inches
Aspect Ratio	5:4
Active Display Area	374.784 mm(H) x 299.827 mm(V)
Outline Dimension	582.00 mm(H) x 465.00 mm(V) x 54.60 mm(D)
Number of Pixels	1280(H) × 1024(V) / R.G.B. Vertical Stripe
Pixel Pitch	0.0976 mm(H) x 0.2928 mm(V)
Color Depth	16.7M color
Viewing Angle (CR>10)	L/R : 89°/89° (Typ.)
	U/D : 89°/89° (Typ.)
Contrast Ratio	1000 : 1(Typ.)
Response Time	14 msec(Typ.) (GTG)
Average Brightness	250 cd/m ² (Typ.)
Back Light System	LED Backlight
Base Panel	BOE MV190E0M-N10

- Scanning Frequency

Horizontal	30 ~ 80KHz
Vertical	50 ~ 75Hz

- Input Resolution 1 [Analog RGB]

Recommended Resolution	1280x1024@60/75 Hz
Supported Input Resolution	640x480@59.9/75 Hz 800x600@60.3/72.1/75 Hz 1024x768@60/70/75 Hz 1280x1024@60/75 Hz

- Input Resolution 2 [CGA]

Supported Input Resolution	672x239@58.7Hz 720x224@60.3 Hz 724x287@51.1 Hz
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- Input Signal

RGB (VGA) / CGA	Analog RGB Amplitude : 0.7±0.05V Input Impedance : 75±2% ohm Sync : H/V Separate (TTL Level)
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- Input Signal Connector

Analog RGB	15pin D-Sub
CGA	10 pin connector

- Plug & Play

DDC2B (VESA Standard)

● Power Supply Rating

Power Consumption	19.2 Watt (Typ.) @Set
DC Output	12Vdc 3.33A
AC input	100~240Vac

● User Controls

OSD Key Button	5Key
OSD Language	English

4. Environment Characteristics

4-1 Operating Conditions

Temperature	0 ~ 40°C
Humidity	20 ~ 80% (without condensation)

4-2 Non Operating Conditions

Temperature	- 30 ~ 60°C
Humidity	5 ~ 95% (without condensation)

4-3 Transport Conditions (1month packed)

Temperature	- 20 ~ 60°C
Humidity	5 ~ 85% (without condensation)

4-4 Storage Conditions

Temperature	- 20 ~ 60°C
Humidity	5 ~ 90% (without condensation)

5. Specifically for Liquid Crystal Display (“LCD”) Screens

5-1 Panel Grade : “A1” Grade

5-2 Pixel error classes : ISO 9241-307 CLASS I

Native Resolution	No. of Million Pixels	ISO-9241-307 Class I Allowable Defects		
		Pixel	Sub-Pixel (Dot)	
		ISO-9241-307 Class I	ISO-9241-307 Class I	
			Bright	Black
1024x768	0,79	1	2	1
			1	3
			0	5
1366x768	1	1	2	1
			1	3
			0	5
1440x900	1,3	1	2	1
			1	3
			0	5
1280x1024	1,31	1	2	1
			1	3
			0	5
1680x1050	1,76	2	4	2
			2	6
			0	10
1920x1080	2,07	2	4	2
			2	6
			0	10
1920x1200	2,3	2	4	2
			2	6
			1	10
2048x1536	3,15	3	6	3
			3	9
			0	15

※ LCD displays are made up of a set number of pixels and each pixel is made from 3 sub-pixels: one Red, one Blue and one Green

6. Electronic Component Temperature Characteristics

6-1 A/D Board

Electrolytic Capacitors	105°C (Type : BXJ / MVK)
Printed Circuit Board	FR-4 2xArray

6-2 USB / Serial Interface Board

Printed Circuit Board	FR-4 2xArray
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7. Key Button Function & OSD Control Function

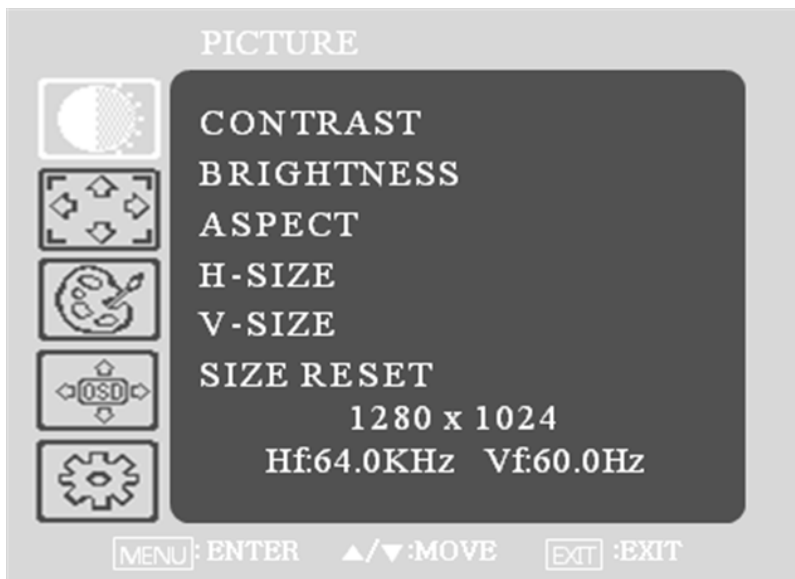
- Key Button Function



Key Name	Function	
	No OSD	OSD Menu
PWR/AUTO	Auto Adjust function	
MENU/SEL	Display Main OSD menu.	Access selected item
UP	Display "Contrast control" OSD menu.	Move up select bar and increase value
DOWN	Display "Brightness control" OSD menu.	Move down select bar and decrease value
AUTO/EXIT/SRC	Auto Adjust function	Exit OSD menu and return to previous menu.
	Change input source with long key	

Long Key : Press key and hold more than 1 sec.

- OSD Format



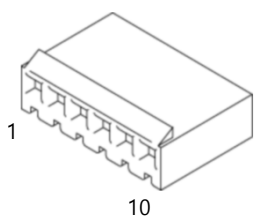
8. Cable Pin Configuration

- Analog RGB Cable (15pin D-SUB Connector)



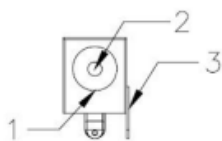
1	Red	9	+5V
2	Green (SOG in)	10	Ground - Sync
3	Blue	11	No Connector
4	Ground	12	DDC Serial Data
5	Ground	13	Horizontal or Composite Sync
6	Ground - Red	14	Vertical Sync
7	Ground - Green	15	DDC Serial Clock
8	Ground - Blue		

- CGA Input Connector (CH1143-10 connector)



1	H-Sync (Composite Sync)	6	Vertical Sync.
2	Vertical Sync.	7	Signal ground
3	Signal ground	8	SVideo-BLUE
4	NC	9	Video-GREEN
5	H-Sync (Composite Sync)	10	Video-RED

- Power Input (DC Jack, Ø2.5)

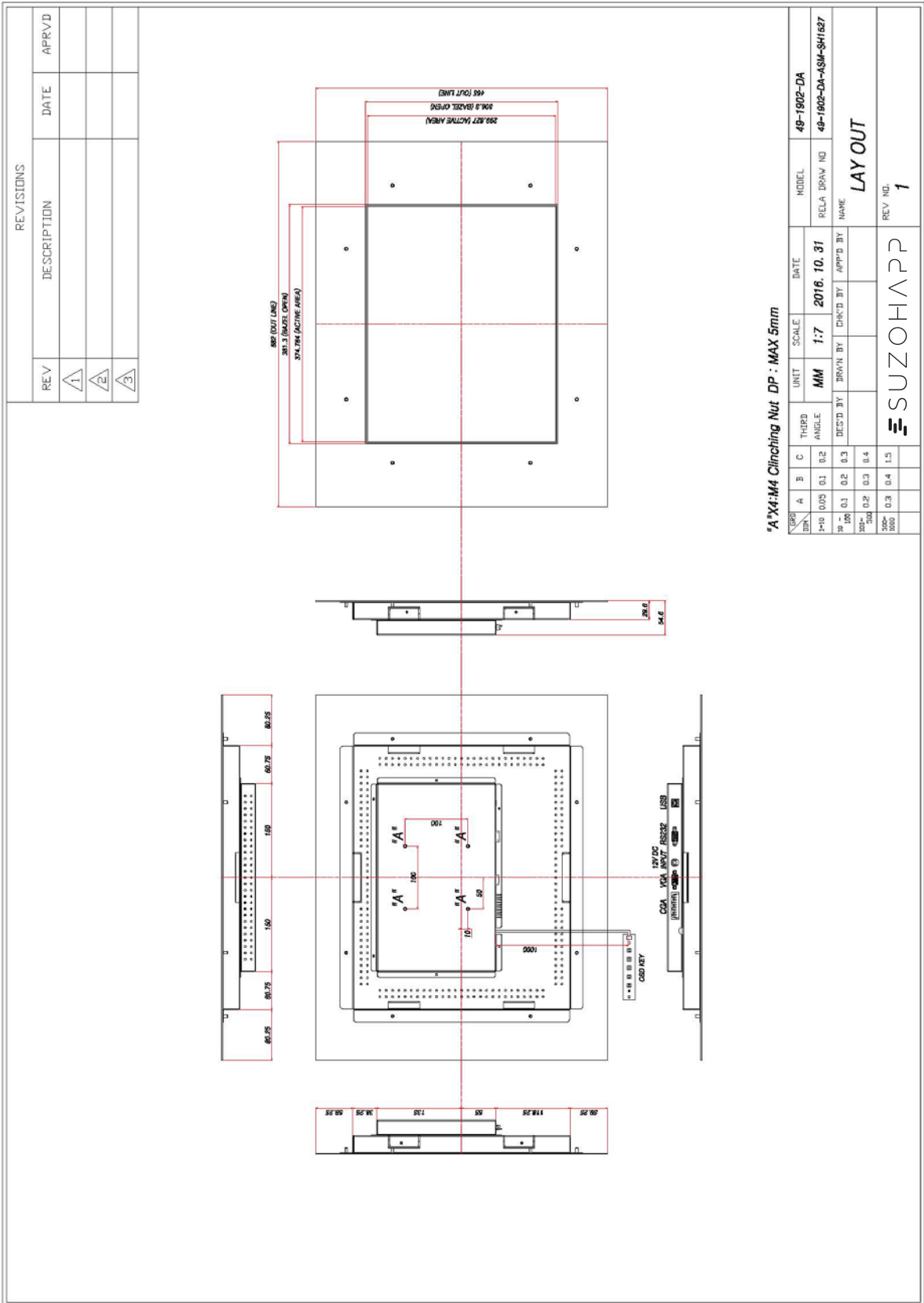


1, 3	GND
2	+12V

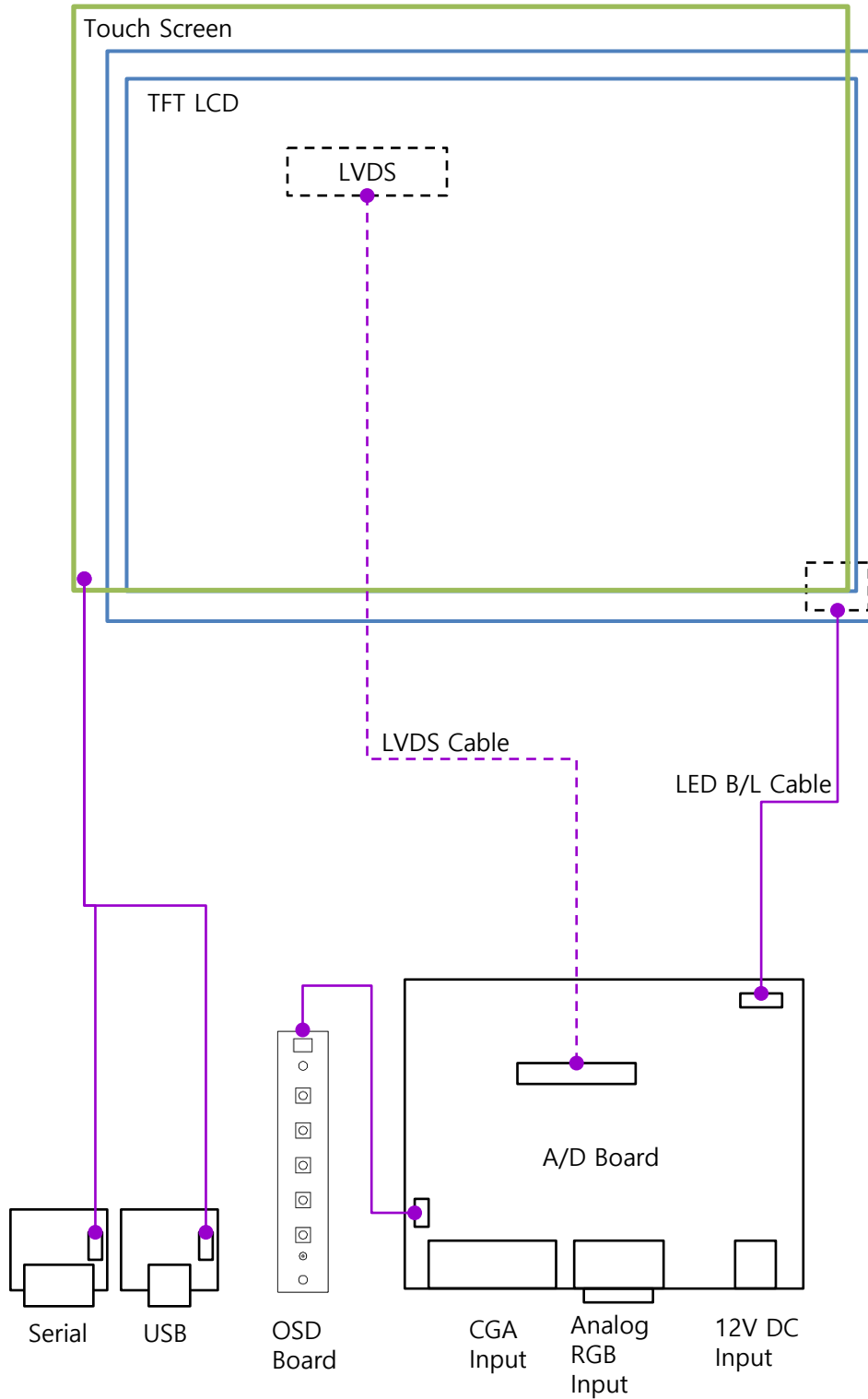
9. Standard Display Mode

NO	Resolution		Pixel Clock [MHz]	Hor. Freq. [KHz]	Ver. Freq. [Hz]	Remark
	Horizontal	Vertical				
1	640	480	25.175	31.4	59.9	
2			31.500	37.5	75.0	
3	720	400	28.322	31.4	70.0	
4	800	600	40.000	37.8	60.3	
5			50.000	48.0	72.1	
6			49.500	46.8	75.0	
7	1024	768	65.000	48.3	60.0	
8			75.000	56.4	70.0	
9			78.750	60.0	75.0	
10	1280	720	74.375	44.7	59.9	
11	1360	768	84.625	47.7	59.9	
12	1280	1024	108.000	64.0	60.0	
13			135.000	80.0	75.0	
14	1680	1050	147.000	65.2	59.9	Depend on LCD Module(Optional)
15	1920	1080	138.625	66.7	60.0	
16	1920	1200	154.125	74.1	60.0	

10. Mechanical Specification



Appendix : Block Diagram



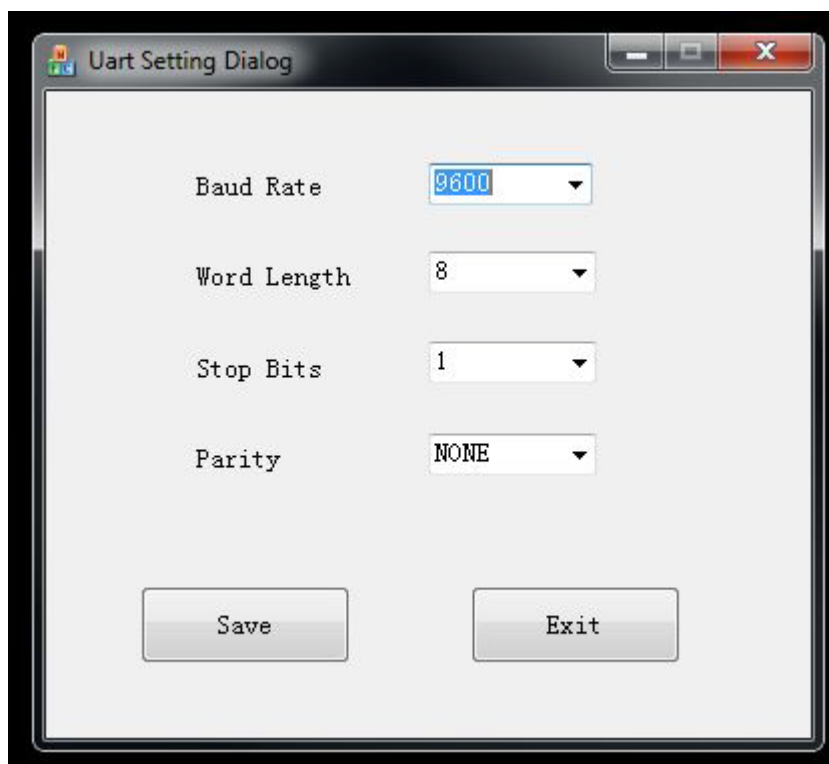
Appendix : POG to WMS touch setting

How to change touch screen baud rate from POG to WMS

To change the touch settings to suit POG (9600) or WMS (2400) baud rate please download the UartSetting.exe application.

<http://www.suzohapp.com.au/contact-us/software/>

- Vision Pro 49-1902-(NB)-DA WMS and POG touch setting – Download



1. Connect the touch screen to a PC using USB and launch the touch UartSetting.exe application
2. In the Baud Rate drop down menu change the rate to the correct setting, POG 9600 or WMS 2400.
3. Save new setting and exit.

IR Touch screen firmware

Touch screen firmware and uploading procedure is available from the Suzohapp website

<http://www.suzohapp.com.au/contact-us/software/>

- Vision Pro 49-1902-(NB)-DA touch screen firmware – Download