

FOR APPROVAL

MODEL : HC4001A1

Customer :

RECEIPT STATUS

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Name

Time

Approved by	Checked by	Model	HC4001A1
鄧景全	陳周	Version	1
景全	陳耀生	Total Pages	8
鄧景全	周逸德	Date	DEC.07,2006



CONTENTS

1. Application	3
2. Specifications	3
3. Characteristics.....	4
4. Inspection Standard.....	5
5. Connector	6
6. Mechanical Drawing.....	8

1.Application

4" Color TFT LCD Moniror Kits is subject to car monitor, TV monitor and other industrial equipment. The model name is HC 4001A1.

2. Specifications

2-1 LCD Display

Display	4" Diagonal Color TFT
Resolution	320x (R.G.B) x 234 Total =224,640 dots
Active Area	81.120mm(H)x61.776mm(V)
Dot Pitch	0.0845mm(H)x0.2640mm(V)
Pixel Configuration	R.G.B. Delta
View Angle	Top=15deg Bottom= 35deg Left/Right=50deg
Brightness	350 cd/m ² (TYP)
Contrast Ratio	350:1
Panel Dimension	83.5(W)mmx63.1(H)mmx3.6(D)mm

2-2 Back Light

8 LEDs Type

2-3 Video Input

NTSC & PAL (Auto Switch)

Composite Video signal

(1.0 Vp-p/75ohm.)

Sync.Negative :

NTSC: f_H : 15.75KHz

f_V : 60 Hz

f_C : 3.58MHz

PAL : f_H : 15.62KHz

f_V : 50 Hz

f_C : 4.43MHz

2-4 Input Voltage

DC 9.6 ~ 15V

2-5 Power Consumption

2.5W (Max.)

2-6 Temperature

Operation Temperture: 0°C ~ 60°C

Storage Temperature: -20°C ~ 70°C

2-7 Weight

120 ±5g

2-8 Over all Dimension

94.1(W) x 74.3(H) x 17.27(D)

3. Characteristics

3-1 Measure Method

- | | |
|-----------------------------------|---|
| (1) Input Voltage | DC 9.6 ~ 15V
(Ripple Voltage 0.5VMax.) |
| (2) Video Input | NTSC & PAL
Composite Signal Input 1.0 Vp-p/ 75 ohm) |
| (3) User Control VR
(Optional) | At color signal ,each color is normally

present each VR adjustment (Bright,color,Tint)
is performed well.
VR1 = 50KΩ
VR2 = 10KΩ |
| (4) Environment Temperature | Normal Temperature(20~25°C)
Normal Humidity(60±5%RH) |
| (5) Others | Best Viewing 35cm from monitor kits
LCD should be set bottom up (θ=90deg) |

3-2 Optical Characteristics

- | | |
|----------------------|---|
| (1) Resolution pixel | 320(R.G.B.)x234 |
| (2) Gradation | Ten gradation is clearly identified. |
| (3) Brightness | Above 200 cd/m ² ;
Under full white , Power on to warm up
For 2 min. temperature = 25°C,
Contrast= 350 (Max.) |
| (4) Lamp Life | 10,000 hrs(Tamb=25°C) |

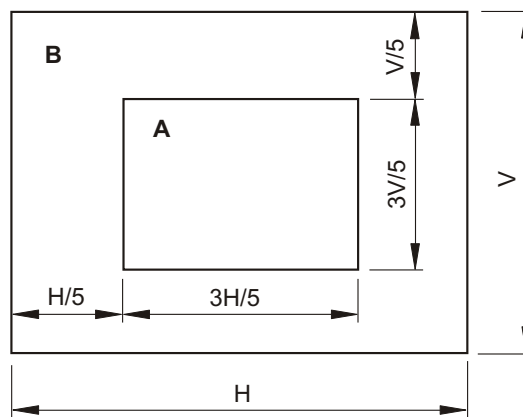
4. Inspection Standard

4-1 Inspection environment conditions

- (1) Room temperature : 20 °C ~ 25 °C
- (2) Humidity : 60 ± 5% RH
- (3) The viewing line should be perpendicular to the surface of screen.

4-2 Dot Defects

- (1) Inspection distance : 35 ± 5 cm
- (2) Inspection illumination :
- (3) Panel temperature : 30 ± 5 °C
- (4) Inspection pattern : full white, full black, red, green and blue screens.
- (5) Division



(6) Acceptable Criteria

Ltem	Area		Total
	A	B	
Blue Black	2	3	4
Red Green White	1	3	3
Total	2	5	7

4-3 Scratch on the polarizer

Number = 3 max.
Width = 0.1 mm, Length = 6 mm

4-4 Dent on the polarizer

Number = 3 max. , Average Diameter = 0.3 mm

4-5 Foreign material on the polarizer

Number = 2 max. , Average Diameter = 0.5 mm

4-6 Afterimage

After displaying a pattern for 5 seconds then switch to a different pattern, the previous pattern should disappear within 10 seconds.

5. Connector

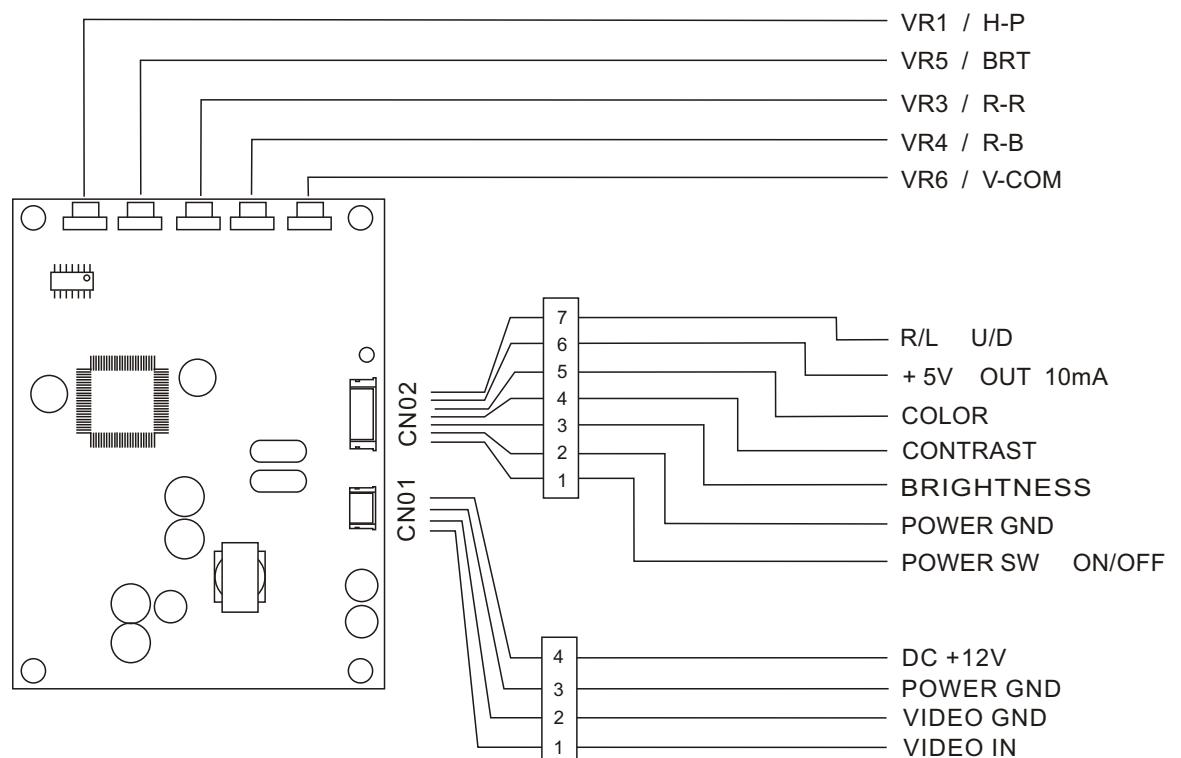
■ MAIN BOARD

5-1 Video/Power Input(4 pin/1.0mm to 4 pin/2.54mm)

Pin No.	CONFIGURATION
1	VIDEO IN
2	VIDEO GND
3	POWER GND
4	DC +12V

5-2 Finction control(7 pin/1.0mm to 7 pin/2.0mm)

Pin No.	CONFIGURATION
1	POWER SW ON/OFF
2	POWER GND
3	BRIGHTNESS
4	CONTRAST
5	COLOR
6	+ 5V OUT 10mA
7	R/L , U/D



■ **CN02** under without VR BOARD, user want to control, please make connection by the following method:

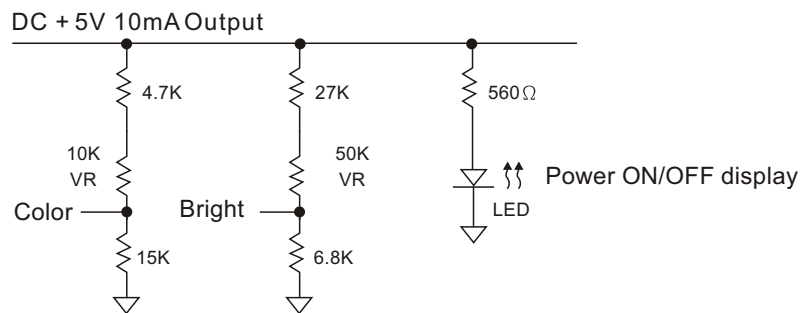
(1). Power ON/OFF

need to remove R5 /0Ω/ 1206 which on MAIN BOARD, and add a 2SB 1260 transistor at location Q2, and then can control by DC IN +9.6~15V.

(2). DC + 5V 10mA Output

can control RL/UD pins and below control circuit.

(3). Control circuit of Bright and Color showed as below:

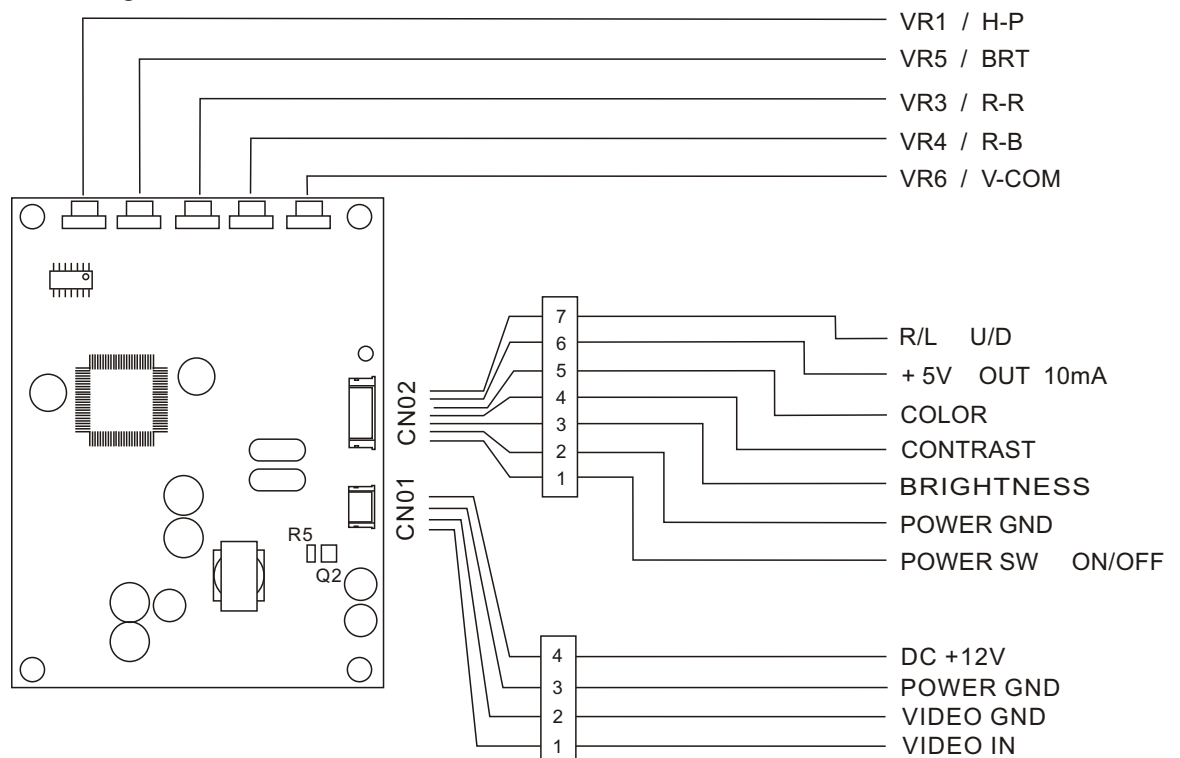


(4). RL/UD Control

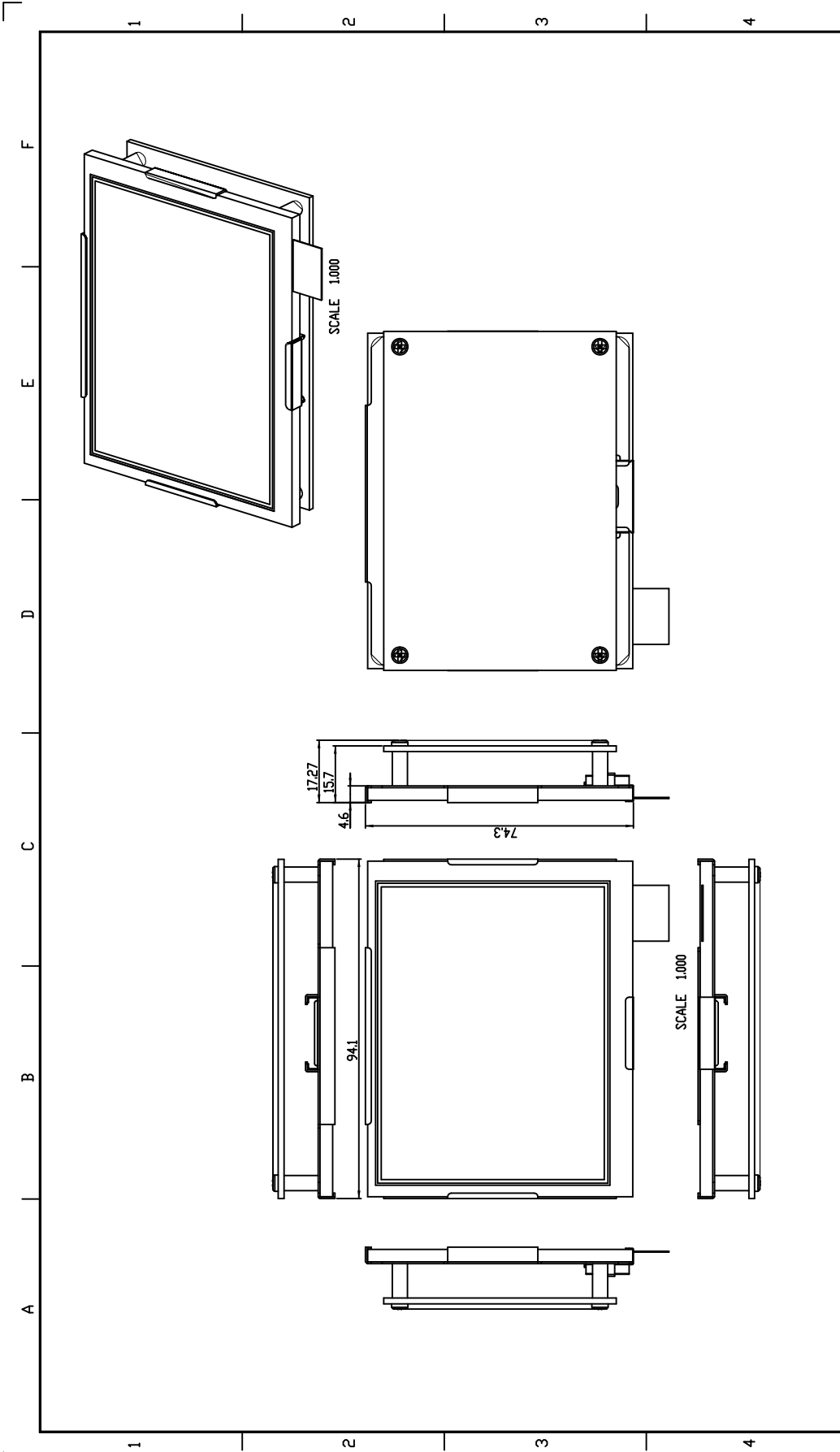
when connect DC +5V ,Up-Down/Left-Right reverse.

■ **CN01** connection way is same as figure1.

※ figure1.



6.Mechanical Drawing



ITEM	CONTENTS OF CHANGE	RVS	CHK	APV	M/D/Y	TOL. ±													DATE	MATERIAL	SEE	NOTES	PROJECT	HC4001A1	TREATMENT
						RANGE	M1	M2	S1	S2	P1	P2	C	B	UNIT	SCALE	CHECKED	APPROVED	TITLE	MODULE					
						0-6	.05	.01	.15	.02	.05	.01	.05	.15	.15	MM		1/1							
						6-30	.01	.02	.15	.25	.01	.15	1	.15	REMARK	DESIGNED			PART NO.	XX-XXXX-XXXX	R00				
						30-80	.15	.25	.02	0.3	0.2	0.4	2	.25											
						80-180	.15	.03	.25	.45	0.4	0.8	3	.25											
						180-315	.02	.05	0.4	0.6	0.6	1.2	3	0.3											
						315-800	0.3	0.8	0.7	1.1	0.8	1.5	4	0.5											

Part name : PA040XS3-ASM File name : HC4001A1 SHEET NO. 08 OF 08