

# FOR APPROVAL

MODEL : HC3511A1

Customer :

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RECEIPT STATUS

RECEIVED

By Date

Signature

Name

Time

|             |            |             |             |
|-------------|------------|-------------|-------------|
| Approved by | Checked by | Model       | HC3511A1    |
| 陳順清<br>許可春  | 陳璧生<br>申啓堅 | Version     | B           |
|             |            | Total Pages | 11          |
|             |            | Date        | JUN.05,2006 |

韋拓股份有限公司



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# 1.Application

3.5 " Color TFT LCD Monitor Kits is subject to car monitor, TV monitor and other industrial equipment. The model name is HC 3511A1.

## 2. Specifications

### 2-1 LCD Display

|                     |  |
|---------------------|--|
| Display             | 3.5" Diagonal Color TFT                        |
| Resolution          | 960(H) X 234(V)<br>Total =224,640 dots         |
| Active Area         | 71.6mmx52.65mm                                 |
| Dot Pitch           | 0.0745(H)mmx0.225(V)mm                         |
| Pixel Configuration | R.G.B. Delta                                   |
| View Angle          | Top=15deg<br>Bottom= 35deg<br>Left/Right=50deg |
| Brightness          | 220 cd/m <sup>2</sup> (TYP)                    |
| Contrast Ratio      | 350:1  |
| Panel Dimension     | 83.5(W)mmx63.1(H)mmx3.6(D)mm                   |

### 2-2 Back Light

6 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 12V $\pm$ 15%

### 2-5 Power Consumption

2.5W (Max.)

### 2-6 Temperature

Operation Temperature: 0 $^{\circ}$ C~ 60 $^{\circ}$ C

Storage Temperature: -20 $^{\circ}$ C~70 $^{\circ}$ C

### 2-7 Weight

75g

### 2-8 Over all Dimension

83.5(L)mmx63.1(W)mmx14.5(H)mm

### 3. Characteristics

#### 3-1 Measure Method

- |                             |   |
|-----------------------------|---|
| (1) Input Voltage           | DC 12V±0.5V<br>(Ripple Voltage 0.5VMax.)  |
| (2) Video Input             | NTSC & PAL<br>Composite Signal Input 1.0 Vp-p/75 ohm)   |
| (3) User Control VR         | At color signal ,each color is normally<br>present each VR adjustment (Bright,color,Tint)<br>is performed well.<br>VR1 = 50KΩ<br>VR2 = 10KΩ<br>VR3 = 50KΩ |
| (4) Environment Temperature | Normal Temperature(20~25°C)<br>Normal Humidity(60±5%RH)   |
| (5) Others                  | Best Viewing 35cm from monitor kits<br>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 <sup>2</sup> ;<br>Under full white , Power on to warm up<br>For 2 min. temperature = 25°C,<br>Contrast= 350 (Max.) |
| (4) Lamp Life        | 10,000 hrs(Tamb=25°C)   |

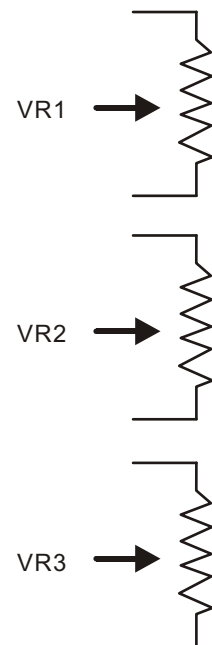
## 4. Connector

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

| Pin No. | Configuration |
|---------|---------------|
| 1       | Video(Input)  |
| 2       | Video GND     |
| 3       | DC GND        |
| 4       | DC +12 V      |

4-2 Finction control(9 pin/1.0mm to 9 pin /1.0mm)

| Pin No. | Configuration |
|---------|---------------|
| 1       | +             |
| 2       | Brightness    |
| 3       | -             |
| 4       | +             |
| 5       | Color         |
| 6       | -             |
| 7       | +             |
| 8       | Tint          |
| 9       | -             |



VR1=VR2=VR3=10KΩ

## 5. Inspection Standard

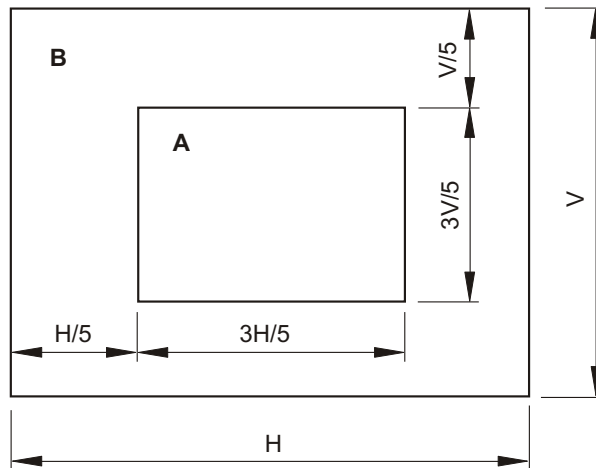
### 5-1 Inspection environment conditions

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

### 5-2 Dot Defects

- (1) Inspection distance : 35 ± 5 cm
- (2) Inspection illumination : 100 ~ 150 Lux
- (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<br>Black         | 2    | 3 | 4     |
| Red<br>Green<br>White | 1    | 3 | 3     |
| Total                 | 2    | 5 | 7     |

**5-3 Scratch on the polarizer**

Number = 3 max.

Width = 0.1 mm, Length = 6 mm

**5-4 Dent on the polarizer**

Number = 3 max. , Average Diameter = 0.3 mm

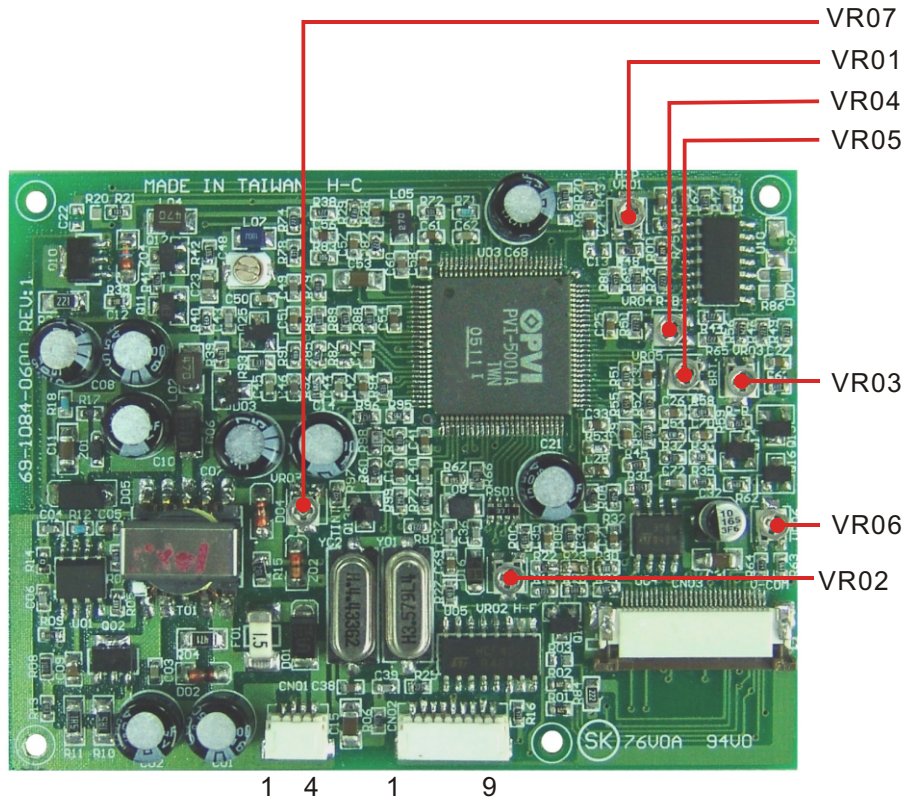
**5-5 Foreign material on the polarizer**

Number = 2 max. , Average Diameter = 0.5 mm

**5-6 Afterimage**

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

## 6.VR Descriptions



| Location | Adjustment  |
|----------|-------------|
| VR01     | H-Position  |
| VR02     | H-Frequency |
| VR03     | B-Red       |
| VR04     | B-Blue      |
| VR05     | Brightness  |
| VR06     | V-Com       |
| VR07     | Tint        |

\* Don't turning VR01/VR02,VR03,VR04,VR06.  
Those VRs are turned by authorized engineer only.



## **7. Caution**

7-1 Do not preserve or operate in the place where dewfall is easily formed

7-2 LCD should be preserved well to keep it's best performance.

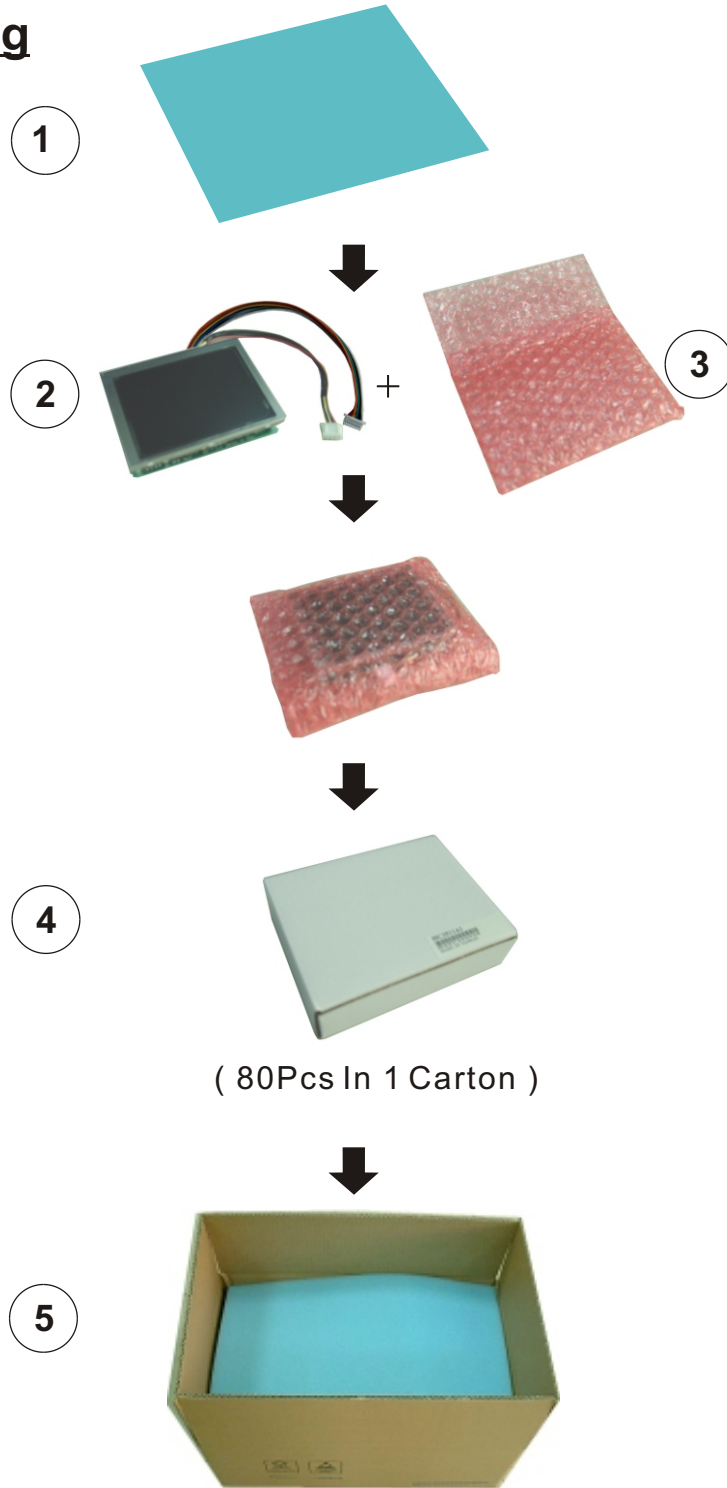
The Polarizing filter of LCD should prevent from exposing under ultra  
-violet ray or sunshine.the exposure might cause interior of the LCD.

7-3 The storage temerature of LCD should be at normaltemperature.

Liquefaction or damage might be possible when LCD module is  
exceeding the temperature listed in the specification.

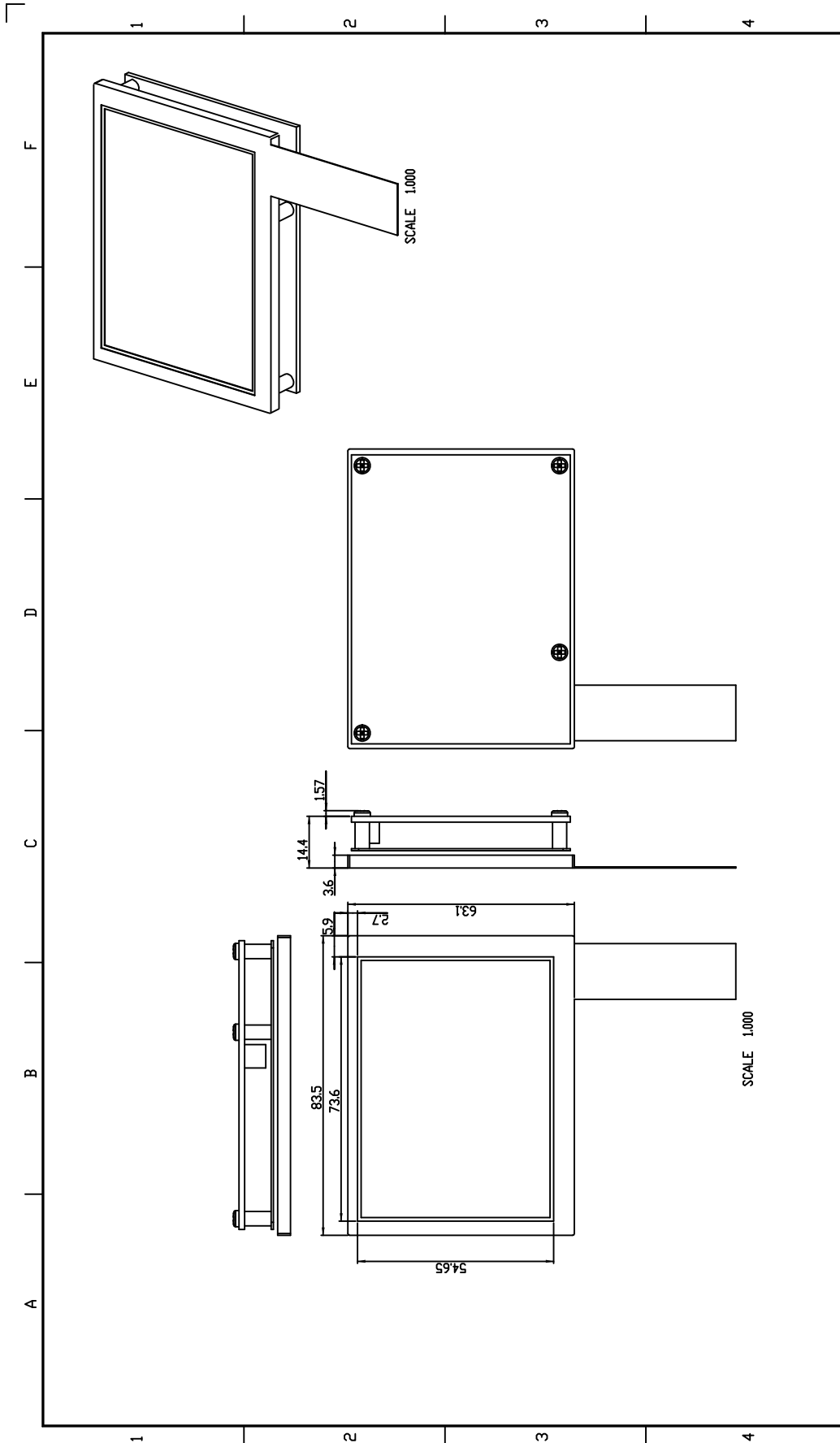
7-4 Please remove the foil on the LCD panel slowly and smoothly to avoid  
static electricy.

## 8.Packing

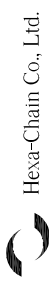


|    |              |                |
|----|--------------|----------------|
| 1. | 58-1043-2520 | SPONGE         |
| 2. | 02-1084-1000 | MODULE         |
| 3. | 73-1018-0010 | BUBBLE/ESD BAG |
| 4. | 70-1016-0010 | BOX            |
| 5. | 70-1011-0010 | CARTON         |

# 9. Mechanical Drawing



| ITEM | CONTENTS OF CHANGE | RVS | CHK | APV | M/D/Y | TOL ±   | M1  | M2  | S1   | S2  | P1   | P2  | C   | B   | DATE | 19-Feb-06 | MATERIAL | SEE NOTES | PROJECT  | TREATMENT |
|------|--------------------|-----|-----|-----|-------|---------|-----|-----|------|-----|------|-----|-----|-----|------|-----------|----------|-----------|----------|-----------|
|      |                    |     |     |     |       | RANGE   | .05 | .01 | .15  | .02 | .05  | .01 | .05 | .15 |      |           | HC3511A1 |           |          |           |
|      |                    |     |     |     |       | 0-6     | 0.1 | 0.2 | 0.25 | 0.1 | 0.15 | 0.1 | 1   | .15 |      |           | SCALE    | 1/1       | TITLE    | MODULE    |
|      |                    |     |     |     |       | 6-30    | .15 | .25 | 0.2  | 0.3 | 0.2  | 0.4 | 2   | .25 |      |           | CHECKED  | APPROVED  | PART NO. | R 00      |
|      |                    |     |     |     |       | 30-80   | .15 | .25 | 0.3  | 0.2 | 0.4  | 2   | .25 |     |      |           | REMARK   | DESIGNED  |          |           |
|      |                    |     |     |     |       | 80-180  | .15 | .25 | .45  | 0.4 | 0.8  | 3   | .25 |     |      |           |          | PENG      |          |           |
|      |                    |     |     |     |       | 180-315 | 0.2 | 0.5 | 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 |      |           |          |           |          |           |



Hexa-Chain Co., Ltd.

SHEET NO. OF

File name : DRW0001

Part name : ASM35