

# VIDEOLOGY®

IMAGING SOLUTIONS INC.

## Instruction Manual

### 45S10 10.2" LCD Module

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## 1. Scope of Work

These specifications shall be applied to: 45S10, 10.2"color TFT LCD module.

## 2. History

| Revision | Issue Date | Reason          | CN#     |
|----------|------------|-----------------|---------|
| Rev A    | 08-22-2007 | Initial release | 07-0195 |
|          |            |                 |         |
|          |            |                 |         |
|          |            |                 |         |
|          |            |                 |         |

## 3. Specifications

|                       |   |
|-----------------------|---|
| Display               | 10.2" color TFT LCD (16:9)  |
| Number of dots        | 800 x (R.G.B) x 480   |
| Active Area           | 222(W) x 133.2(H)   |
| Dot Pitch             | 0.1905(W) x 0.1905 (H)  |
| Color Configurations  | R.G.B stripe  |
| Display Color         | 262144  |
| Back Light            | CCFT  |
| Input Signal          | 1 CH Composite video Input (RCA x 1)<br>NTSC/PAL auto switchable.<br>S-Video Input (4 Pin Min Din x 1)<br>PC-D Sub. Input. SVGA.                        |
| Audio Input           | 1CH RCA Input (Option)  |
| Audio Output          | 2W(Optional)  |
| Power Input Voltage   | DC12±10%  |
| Power Consumption     | 8.5W  |
| External Control      | OSD Function Control:<br>Video: Contrast. Brightness. Color.<br>Hue (NTSC only). Saturation, Sharpness,<br>Color Temp (Warm, Cool), Display (Full, 4:3) |
| Operating Temperature | -10°C~60°C  |
| Storage Temperature   | -30°C~85°C  |
| Overall Dimension     | 235(W) x 145.8(H) x 5.9(D) (Panel only)   |
| Weight                | 305±10g (Panel only)  |

## 4. Optical Specifications

|                      |   |
|----------------------|---|
| Lamp Life-time       | 40,000hr min. (at Temp =25°C)                           |
| Viewing Angle (min.) | Right 60 deg<br>Left 60 deg<br>Up 50 deg<br>Down 60 deg |
| Brightness           | 450 nit (typ.)  |
| Contrast Ratio       | 300:1 typical   |
| Response Time        | Tr: 12 ms Tf: 18ms (Typ)                                |

## 5. Pin assignment

### TFT-LCD Panel Driving Section

| Pin no | Symbol  | I/O | Description                                 | Remark |
|--------|---------|-----|---|--------|
| 1      | (POL)   | O   | Polarity selection                          |        |
| 2      | DIO2    | O/P | Vertical start pulse signal input or output |        |
| 3      | OE      | I   | Output enable                               |        |
| 4      | CPV     | I   | Vertical clock                              |        |
| 5      | DIO1    | I   | Vertical start pulse signal input or output |        |
| 6      | GND     | I   | Power ground                                |        |
| 7      | (EDGSL) | I   | Select rising edge or rising/falling edge   |        |
| 8      | VCC     | I   | Digital voltage for source driver           |        |
| 9      | (V12)   | I   | Gamma voltage level 12                      |        |
| 10     | VGL     | I   | Gate OFF voltage                            |        |
| 11     | (V14)   | I   | Gamma voltage level 14                      |        |
| 12     | VGH     | I   | Gate ON voltage                             |        |
| 13     | (V13)   | I   | Gamma voltage level 13                      |        |
| 14     | U/D     | I   | Up/down selection                           |        |
| 15     | VCOM1   | I   | Common voltage                              |        |
| 16     | GND     | I   | Power ground                                |        |
| 17     | AVDD1   | I   | Power supply for analog circuit             |        |
| 18     | V10     | I   | Gamma voltage level 10                      |        |
| 19     | V8      | I   | Gamma voltage level 8                       |        |
| 20     | V6      | I   | Gamma voltage level 6                       |        |
| 21     | V4      | I   | Gamma voltage level 4                       |        |
| 22     | V2      | I   | Gamma voltage level 2                       |        |
| 23     | GND     | I   | Power ground                                |        |
| 24     | R5      | I   | Red data (MSB)                              |        |
| 25     | R4      | I   | Red data                                    |        |
| 26     | R3      | I   | Red data                                    |        |
| 27     | R2      | I   | Red data                                    |        |
| 28     | R1      | I   | Red data                                    |        |
| 29     | R0      | I   | Red data (LSB)                              |        |
| 30     | GND     | I   | Power ground                                |        |

| Pin no | Symbol | I/O | Description  | Remark |
|--------|--------|-----|--|--------|
| 31     | GND    | I   | Power ground   |        |
| 32     | G5     | I   | Green data (MSB)   |        |
| 33     | G4     | I   | Green data   |        |
| 34     | G3     | I   | Green data   |        |
| 35     | G2     | I   | Green data   |        |
| 36     | G1     | I   | Green data   |        |
| 37     | G0     | I   | Green data (LSB)   |        |
| 38     | STHL   | I/O | Horizontal start pulse signal input or output                        |        |
| 39     | INV    | I   | Control signal are inverted or not                                   |        |
| 40     | GND    | I   | Power ground   |        |
| 41     | DCLK   | I   | Sample clock   |        |
| 42     | DVDD   | I   | Voltage for digital circuit  |        |
| 43     | STHR   | I/O | Horizontal start pulse signal input or output                        |        |
| 44     | LD     | I   | Latches the polarity of outputs and switches the new data to outputs |        |
| 45     | B5     | I   | Blue data (MSB)  |        |
| 46     | B4     | I   | Blue data  |        |
| 47     | B3     | I   | Blue data  |        |
| 48     | B2     | I   | Blue data  |        |
| 49     | B1     | I   | Blue data  |        |
| 50     | B0     | I   | Blue data (LSB)  |        |
| 51     | R/L    | I   | Right/ left selection  |        |
| 52     | V1     | I   | Gamma voltage level 1  |        |
| 53     | V3     | I   | Gamma voltage level 3  |        |
| 54     | V5     | I   | Gamma voltage level 5  |        |
| 55     | V7     | I   | Gamma voltage level 7  |        |
| 56     | V9     | I   | Gamma voltage level 9  |        |
| 57     | V11    | I   | Gamma voltage level 11   |        |
| 58     | AVDD2  | I   | Voltage for analog circuit   |        |
| 59     | GND    | I   | Power ground   |        |
| 60     | VCOM2  | I   | Common voltage   |        |

## 6. Inspection Standard

### 6.1. Inspection Environment Conditions

Room Temperature: 20 ~ 25°C

Humidity: 65±5% RH

The viewing line should be perpendicular to the surface screen.

### 6.2. Classification of Defects

#### Dot Defect

##### A. Inspection condition

Inspection distance: 35±5cm

Inspection illumination: 100~150Lux

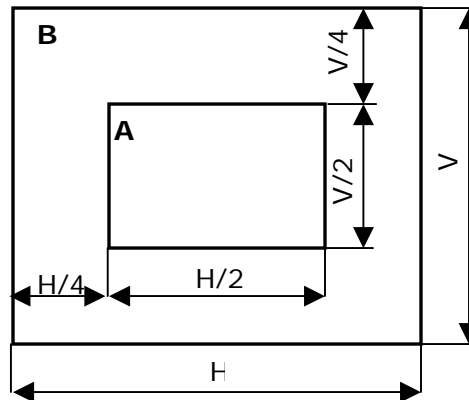
Panel temperature: 30±5°C

Inspection pattern: Full white, full black, red, green and blue screens.

##### B. Acceptable

| Item            | Area |   | Total |
|-----------------|------|---|-------|
|                 | A    | B |       |
| Blue Black      | 2    | 3 | 4     |
| Red Green White | 1    | 3 | 3     |
| Total           | 2    | 5 | 7     |

##### C. The definitions of A and B zone



#### Scratch on the polarizer

Number = 3 max.

Width  $\leq$  0.1 mm, Length  $\leq$  6 mm

#### Dent on the polarizer

Number = 3 max., Average Diameter  $\leq$  0.3 mm

#### Foreign material on the polarizer

Number = 2 max, Average Diameter  $\leq$  0.5 mm

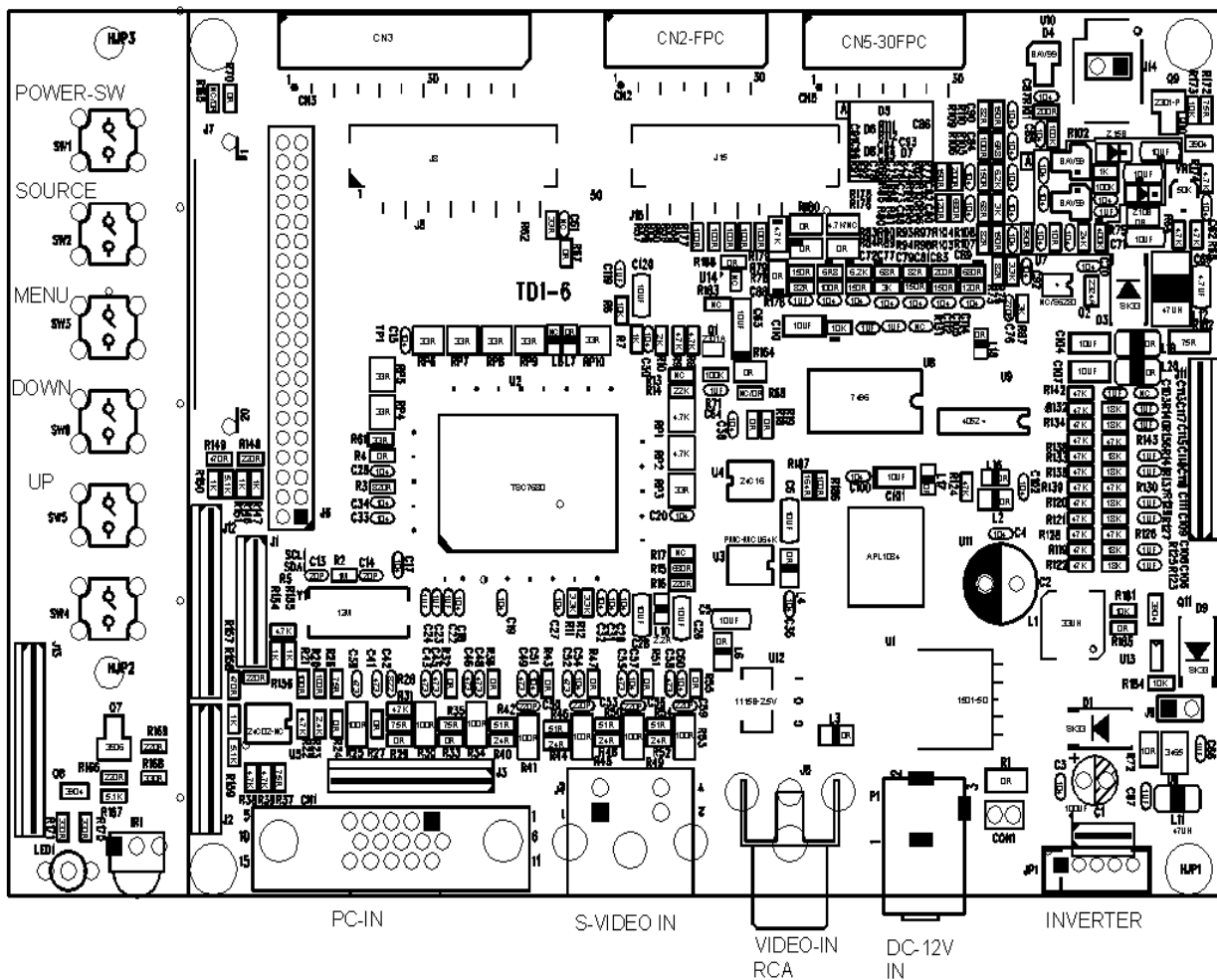
#### Afterimage

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

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## 7. Reference of The Input Application

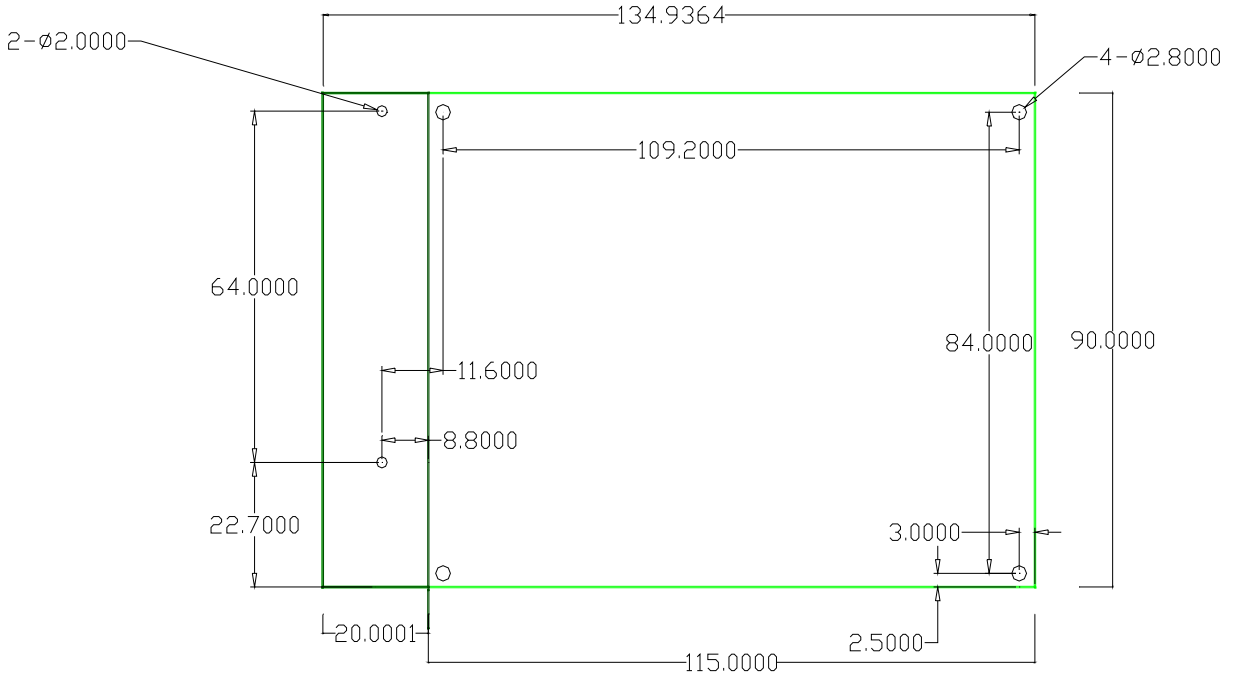
### 7.1. Drive Board w/Input Connectors/ Function Key Board



#### 7.1.1. Key Operation Manual

1. Press "POWER" to switch on the LCD monitor.
2. Press "Source" to select: AV1 -> S-Video -> PC.
3. Press "MENU" to get into the OSD operator: Contrast. Brightness. Color, Hue (NTSC only). Saturation, Sharpness, Color Temp (Warm, Cool), Display (Full, 4:3).
4. Press "UP" & "DOWN" to increase or decrease the setting.
5. Press "POWER" to switch off the power.

## 7.2. PCB Mechanical Dimensions



|                 |                        |
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## 8. Mechanical Drawing (PANEL only)

- Note:** 1: 6'O'CLOCK DIRECTION IS THE OPTIMUM VIEWING ANGLE  
 2: GENERAL TOLERANCE : 0.3mm  
 3: Connector : BHSR-02VS-1

Figure 1. Outline dimensions of TFT-LCD module (Front Side)

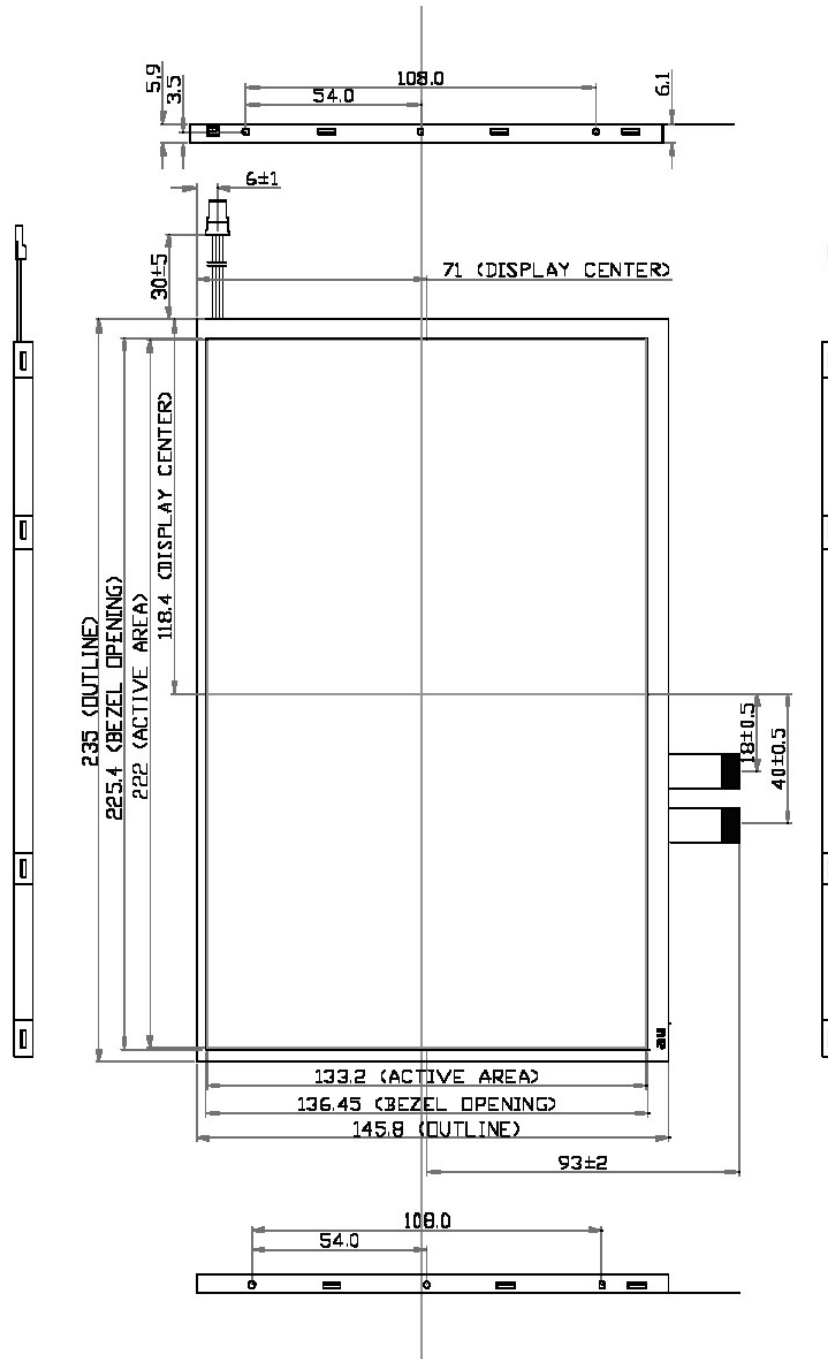
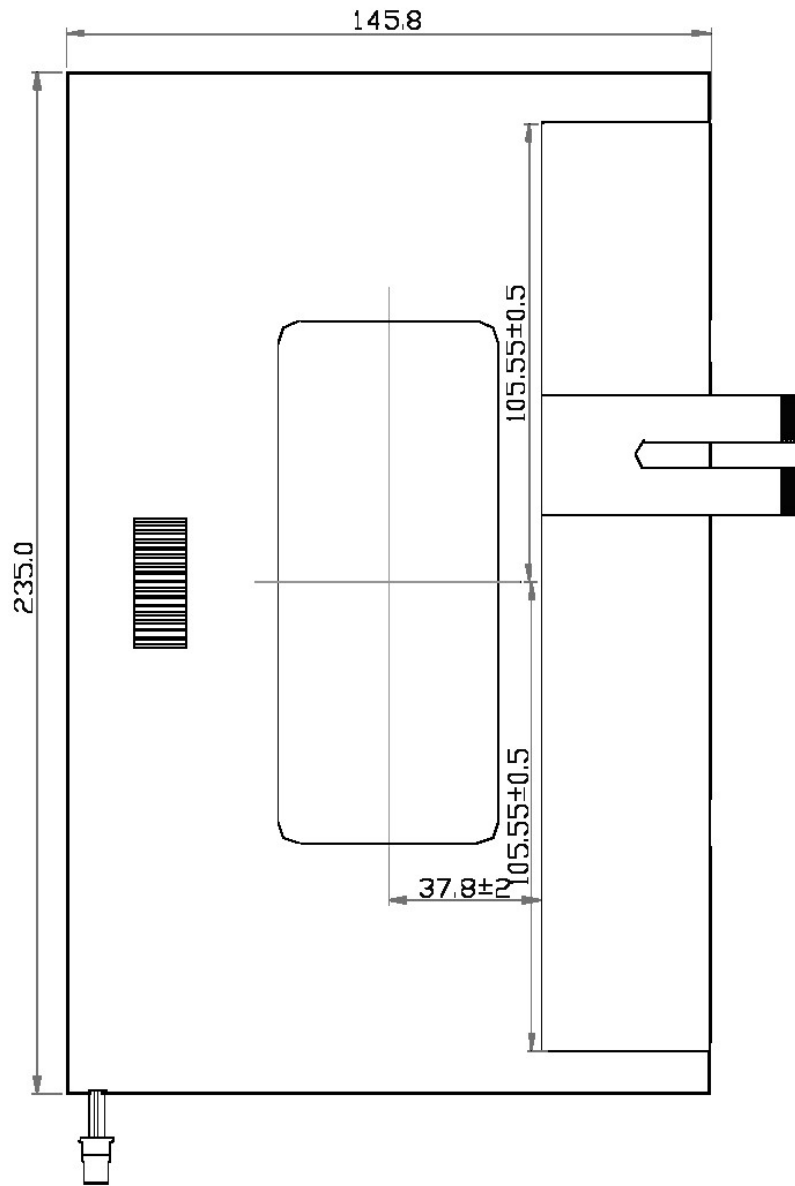


Figure 2. Outline dimensions of TFT-LCD module (Rear Side)



## 9. Contact

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<http://www.videologyinc.com/>

*Please note that data in this application note is subject to change without notification!*

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