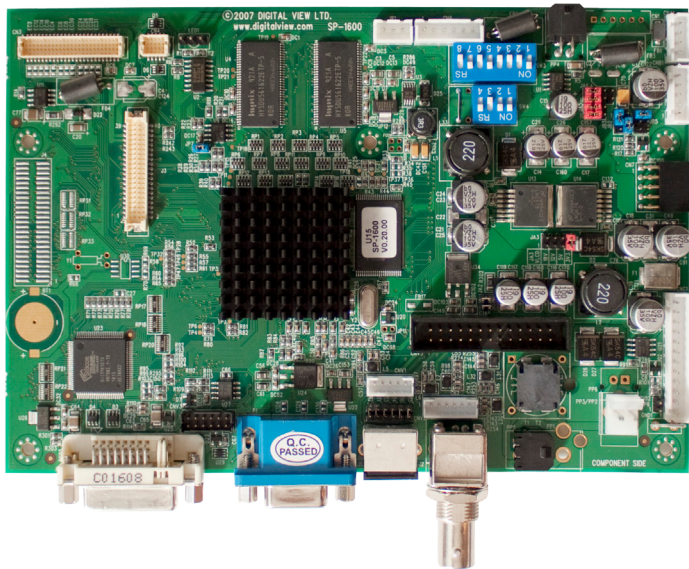




## SP-1600

### Multi Purpose LCD Controller Board

#### Key Features :

- > PAL, NTSC, SECAM Support
- > Small Form Factor
- > VGA to SXGA Resolutions
- > Dual S-Video & Composite Inputs

The SP-1600 is a fully buffered, multi-sync interface controller providing direct analog and digital connection to a wide range of TFT LCD panels up to UXGA resolution. Key features include a flexible port architecture that provides inputs for DVI, dual VGA channels, Composite, S-Video and Component video. Supporting a wide range of 4:3 and 16:9 format panels, the SP-1600 provides exceptional video performance via a new generation video controller coupled with guaranteed high-reliability.

#### Panel Connectivity

|             |             |           |
|-------------|-------------|-----------|
| 1680 x 1050 | 1280 x 1024 | 800 x 600 |
| 1600 x 1200 | 1280 x 800  | 800 x 480 |
| 1400 x 900  | 1280 x 768  | 640 x 480 |
| 1366 x 768  | 1024 x 768  |           |

#### Input

|                    |                                                                                                                                                                                                                                                                      |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Analog RGB:</b> | 60Hz @ UXGA<br>75Hz @ SXGA, WXGA, SVGA, VGA<br>1152 x 900 @ 66Hz (SUN)<br>1152 x 900 @ 76Hz (SUN)<br>1280 x 1024 @ 76Hz (SUN)<br><br>With auto detect of Digital Separate Sync, Sync-On-Green & Composite Sync. Auto detects VGA ~ UXGA interlaced & non-interlaced. |
| <b>DVI-I</b>       | 60Hz @ UXGA<br>75Hz @ SXGA, WXGA, XGA, SVGA, VGA                                                                                                                                                                                                                     |
| <b>Video:</b>      | NTSC / PAL / SECAM (Interlaced)<br>Composite Video<br>S-Video<br>Component (YCbCr)                                                                                                                                                                                   |

#### Reliability

Calculated Mean Time Between Failures In excess of 100,000 hours.  
Warranty: 3 years.

#### Custom Engineering Services

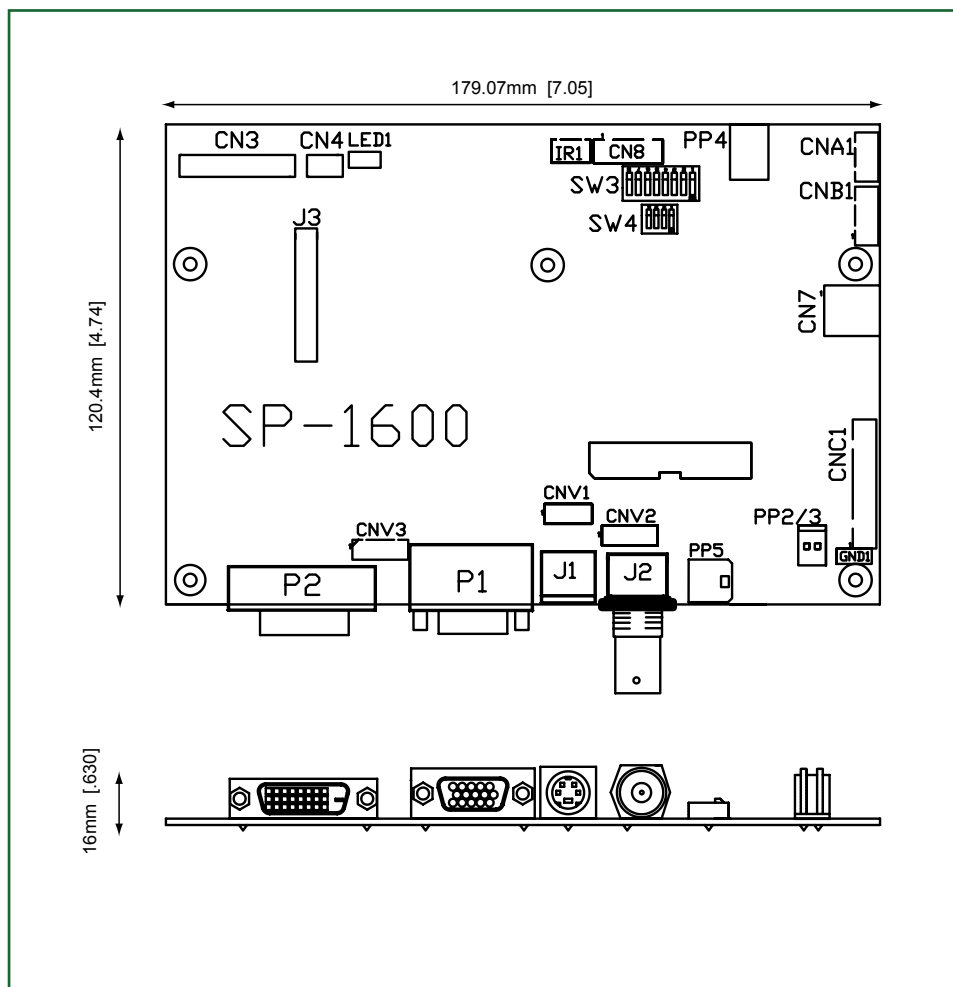
Custom input timing, panel timing, splash screen, OSD Menu, conformal coatings, layouts etc

#### Features

|                             |                                                                                                                     |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Colors :</b>             | Up to 8-bit per color, 16.7 million colors.                                                                         |
| <b>Functions :</b>          | On Screen Display (OSD) menu.                                                                                       |
| <b>Function Controls :</b>  | External buttons, Infra-Red controls, Serial Port Control.                                                          |
| <b>Image Scaling :</b>      | Up / down scaling to fit input to panel resolution.                                                                 |
| <b>Image Control :</b>      | Brightness, Contrast, Saturation, Hue, Frequency, Phase, Color temperature, Image position, Hue, Gamma.             |
| <b>Other Features :</b>     | Auto Picture Setup, Auto Color Gain, Auto Power, OSD Timeout Position and Transparency, Hot Keys, Auto Source Seek. |
| <b>Dimensions:</b>          | 179mm x 120.4mm (7" x 4.74")                                                                                        |
| <b>Form Factor:</b>         | DV Standard & Mounting Holes                                                                                        |
| <b>Power Requirements :</b> | 12V / 24VDC $\pm 5\%$ , 10w (controller only)                                                                       |
| <b>Panel Power :</b>        | Supports 3.3V, 5V, 12V & 18V panels.                                                                                |
| <b>Panel Signal :</b>       | TTL (Single Pixel) & LVDS                                                                                           |
| <b>Inverter Support :</b>   | DPMS Enable pin (3.3v or 5v).                                                                                       |
| <b>Plug &amp; Play:</b>     | DDC 1,2/b compatible                                                                                                |
| <b>Status Indicator :</b>   | Dual color LED support.                                                                                             |

## SP-1600

### Multi Purpose LCD Controller Board



#### Connector Definitions

|       |                                                                      |
|-------|----------------------------------------------------------------------|
| CN3   | TTL Panel Signal                                                     |
| CN4   | TTL Panel Signal                                                     |
| CN7   | Audio Board Connector                                                |
| CN8   | Serial control (for firmware programming or serial control use only) |
| CNA1  | Auxiliary Power Output                                               |
| CNB1  | Backlight Inverter                                                   |
| CNC1  | OSD Function Controls                                                |
| CNV1  | Alternate Video-In                                                   |
| CNV2  | Component Video-In                                                   |
| CNV3  | ARGB 2 Input                                                         |
| J1    | S-Video In                                                           |
| J2    | Composite Video-In                                                   |
| J3    | Panel Signal for LVDS Panel                                          |
| IR1   | Infra-Red Sensor Connector                                           |
| LED1  | Dual color LED connector                                             |
| P1    | VGA analog input                                                     |
| P2    | DVI-I input                                                          |
| PP2/3 | Power Input (Alternative)                                            |
| PP4   | External Panel Power Input                                           |
| PP5   | Main Power Input                                                     |

#### Mechanical Details

**Dimensions:**  
107.4mm x 91.4mm (4.23" x 3.60")

**Form Factor:**  
DV standard & mounting holes

#### Ordering Options / Accessories

|                              |                 |
|------------------------------|-----------------|
| SP-1600 (Board Only)         | P/N 4169900xx-3 |
| OSD Digital Button Board Kit | Kit 60110-3     |
| OSD Vertical Membrane Kit    | Kit 60121-3     |
| OSD Horizontal Membrane Kit  | Kit 60125-3     |
| Inverter Interface board     | P/N 416040010-3 |
| Power-Input Cable            | P/N 426013800-3 |
| RS-232 cable                 | P/N 426090200-3 |

#### Available Resources

Instruction Manual  
Revision control documentation\*\*  
Schematic diagrams (Subject to NDA)  
Mechanical Drawings  
Serial Port Programming Manual\*\*  
MTBF Analysis\*\*

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