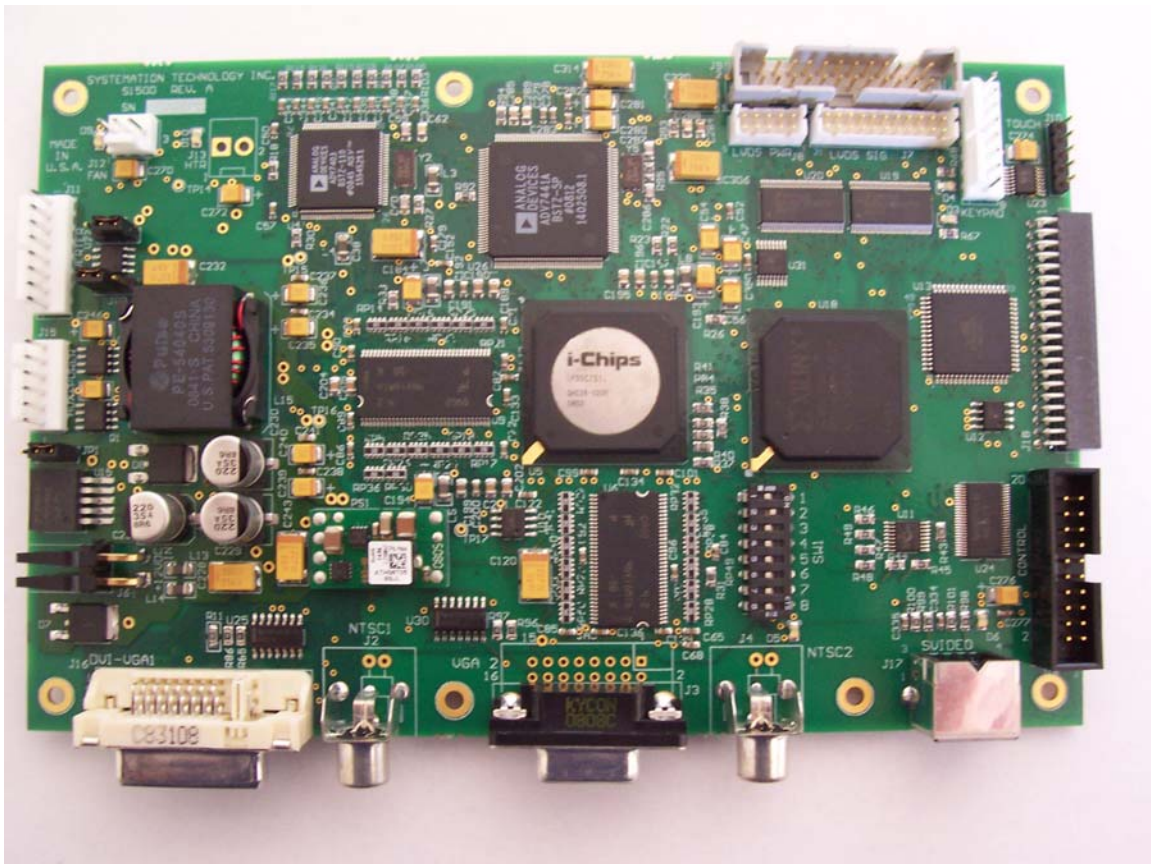


S1500 Multiple Input Picture in Picture LCD Controller Board

The S1500 LCD Controller board from Systemation Technology, Inc. provides a full function general purpose LCD Controller that can accept a variety of different video inputs including, Analog VGA (up to 1920 X 1200), DVI (up to 1920x1200), and Composite NTSC or PAL video. The S1500 can drive any 1ch/2ch LVDS type LCD, up to a maximum resolution of 2048x2048.

User controls are provided using either a 3-button, or a 4-button board or a customer defined button board to operate the On-Screen Menu (OSD). Additional user controls are provided on a separate connector.



S P E C I F I C A T I O N S

- 1 – Video Input A: VGA Analog (up to 1920x1200) HD-15 connector or
 a 16-pin header
 RGBHV Format
 RGBS Format
 RGsB Format
 DVI-I Type connector (DVI & VGA)
 Composite NTSC/PAL (Phonojack Connector)
- 2 – Video Input B: VGA Analog (up to 1920x1200) HD-15 connector or
 a 16-pin header
 RGBHV Format
 RGBS Format
 RGsB Format
 Composite NTSC/PAL (Phonojack Connector)
 S-Video NTSC/PAL (4-Pin Header)
 Optional input from external video board (Tuner, etc)
- 3 – Output Resolution: 1 or 2 channel LVDS
 Maximum Resolution 2048x2048
 Maximum clock 165MHz
- 4 – Colors: 8 bits per color (16.67M colors)
- 5 – Input Power: 12VDC (Typical)
 9VDC to 14VDC (Range)
 Reverse voltage protected
- 6 – User Controls: 3-button board (Up, Down, Select)
 or
 4-button board (Up, Down, Select, Power)
 or
 User defined multiple input button board
- 7 – Optional User Controls:
 Serial port for remote control
 Inputs for Analog Control
 GPIO for digital controls
 12VDC Fan Control
 12VDC Heater Control

- 8 – Image Processing: Any image of any resolution can fit automatically on any resolution LCD.
- 9 – Backlight Control: The Backlight Inverter Connector provided the following:
1 – 12VDC switched at 6A (2 pins)
2 – 5VDC switched at 1A (1 pin)
3 – Ground (2 pins)
4 – Vertical Sync
5 – Brightness Control Signal:
0V-> 5VDC
5VDC -> 0V
0V -> 2.5VDC
2.5VDC -> 0V
0 ohm -> 10Kohm
10K ohm-> 0 ohm
PWM (TTL level)
- 10 – Temperature Sensor: An on-board temperature sensor displays the S1500 board temperature as well as controlling the heater and fan controls. The fan control is turned ON at 45C and OFF at 40C. The heater control is turned ON at – 5C and OFF at 0C.
- 11 – Environmental: All components used are 0C to 70C, however, extended temperature is available (-40C to +85C).
- 12 – Display Capabilities Any video on either A or B can be displayed full screen. If an input on A is displayed then a PIP window from B can be displayed on top. An A and B input can be displayed side-by-side PBP. Image “blending” is possible.

NOTE: The 3.3 Volt output from this board is limited to 1Amp. If more current is needed please contact Systemation.

	Description		MFG	MFG P/N
J3	VGA Input - HD DSUB15		AMP	787066-1
1	Red			
2	Green/Sync			
3	Blue			
4	NC			
5	GND			
6	GND			
7	GND			
8	GND			
9	NC			
10	GND			
11	NC			
12	SDA			
13	HSYNC			
14	VSYNC			
15	SCL			

	Description		MFG	MFG P/N
J16	DVI-D Video Input Connector		Molex	74320-4004
1	RX2-	13	RX3+	
2	RX2+	14	5VDC	
3	GROUND	15	GROUND	
4	RX4-	16	HOT PLUG	
5	RX4+	17	RX0-	
6	SCL	18	RX0+	
7	SDA	19	GROUND	
8	NO CONNECT	20	RX5-	
9	RX1-	21	RX5+	
10	RX1+	22	GROUND	
11	GROUND	23	RXC+	
12	RX3-	24	RXC-	

J2	Composite Video - Phono Jack		DigiKey	901K-ND
1	Center - Composite Video			
2	Shell - GND			
		Mating Hardware	MFG	MFG P/N
		Phono Plug	Keystone	565K

J4	Composite Video - Phono Jack		DigiKey	901K-ND
1	Center - Composite Video			
2	Shell - GND			
		Mating Hardware	MFG	MFG P/N
		Phono Plug	Keystone	565K

J17	S-Video Header			Not Populated
1	Luminance			
2	Chromanance			
3	Ground			
4	Ground			

J9	PROGRAMMING/I-O		MFG	MFG P/N
			3M	2524-6002UB
1	CPU TCK	13	CPLD TDI	
2	NC	14	NC	
3	CPU TDI	15	CPLD TDO	
4	NC	16	NC	
5	CPU TDO	17	CPLD TMS	
6	NC	18	GND	
7	CPU TMS	19	TXD0	
8	NC	20	RESET#	
9	GND	21	RXD)	
10	NC	22	GND	
11	CPLD TCK	23	CPLD LED	
12	5.0V	24	CPU LED	

J6	Power Connector		Molex	26-65-5020
1	+12VDC			
2	GND	Mating Hardware	MFG	MFG P/N
		Shell	Molex	09-50-8023
		Crimp	Molex	08-52-0072

J15	Aux Power Connector		Molex	22-23-2061
1	12V-SW			
2	5V	Mating Hardware	MFG	MFG P/N
3	VCC-SW	Shell	Molex	22-01-3067
4	GND	Crimp	Molex	08-52-0123
5	GND			
6	GPIO			

J5	Button Board Interface		Molex	22-23-2081
1	UP Button			
2	DOWN Button	Mating Hardware	MFG	MFG P/N
3	SELECT Button	Shell	Molex	22-01-3087
4	LED	Crimp	Molex	08-52-0123
5	5VDC			
6	GND			
7	POWER Button			
8	GND			

J11	Inverter Interface		Molex	22-23-2081
1	+12VDC Switched			
2	+12VDC Switched			
3	+5VDC			
4	+5VDC	Mating Hardware	MFG	MFG P/N
5	Inverter Brightness Control	Shell	Molex	22-01-3087
6	VSYNC	Crimp	Molex	08-52-0123
7	GND	Tooling US	Molex	11-01-0185
8	GND	Tooling Europe	Molex	69008-0955

	Description		MFG	MFG P/N
J7	LVDS Data Output		Hirose	DF11-22DP-2DSA
1	Ain3+	12	Bin3-	
2	Ain3-	13	Bclk+	
3	Aclk+	14	Bclk-	
4	Aclk-	15	Bin2+	
5	Ain2+	16	Bin2-	
6	Ain2-	17	Bin1+	
7	Ain1+	18	Bin1-	
8	Ain1-	19	Bin0+	
9	Ain0+	20	Bin0-	
10	Ain0-	21	VCC-SW	
11	Bin3+	22	Ground	VCC-SW is selected by JP2

	Description		MFG	MFG P/N
J8	LVDS LCD POWER		Hirose	DF11-10DP-2DSA
1	12VDC	VCC-SW is selected by JP2		
2	Ground			
3	12VDC			
4	Ground			
5	VCC-SW			
6	Ground			
7	VCC-SW			
8	Ground			
9	VCC-SW			
10	Ground			

	Description		MFG	MFG P/N
J12	FAN CONTROL POWER		Molex	22-23-2031
1	12VDC Fan Voltage			
2	Fan Speed Tachometer			
3	Ground			

	Description		MFG	MFG P/N
J13	HEATER CONTROL POWER		Molex	22-23-2021
1	12VDC Heater Voltage			
2	Ground			

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