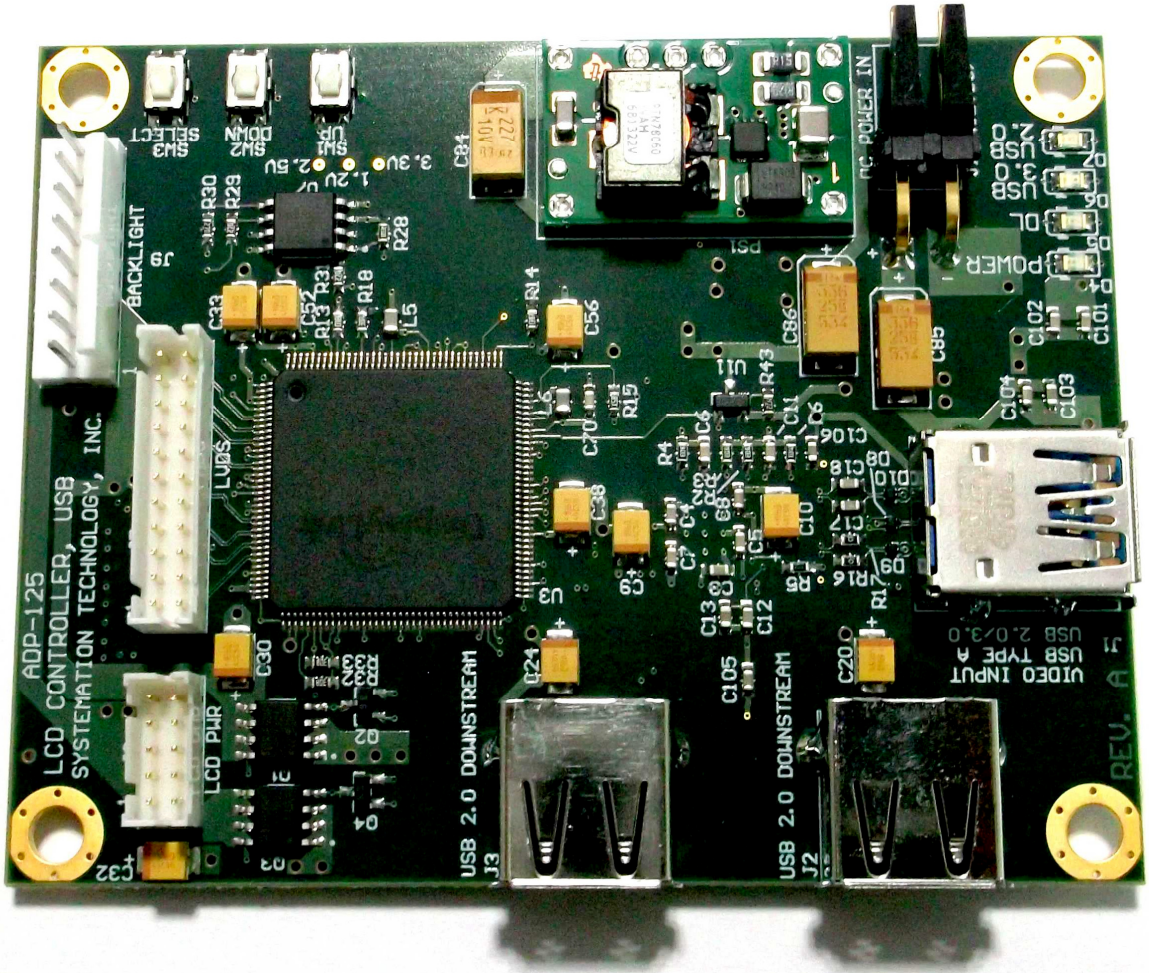
ADP-125
User's Manual
USB 2.0 or USB 3.0 to LVDS Adapter Board

The Systemation ADP-125 board receives USB 2.0 or USB 3.0 and converts this into LVDS video to drive an LCD. Using the DisplayLink DL-4120 video controller this board can drive a single channel or a dual channel LVDS LCD. Control and power are provided to drive a backlight driver interface.

Buttons on the board allow the backlight brightness to be adjusted up, down, or off. The board operates on an external 12VDC power supply.



ADP-125 S P E C I F I C A T I O N S

- Inputs:	USB 2.0 or USB 3.0 If USB 3.0 is active the board uses USB 3.0. If only USB 2.0 is active, then the board uses USB 2.0 It is possible for the Video to be USB 3.0 and the Audio and downstream to be USB 2.0, OR all to be USB 2.0.
- Input Power:	12VDC using external power input
- Input Current:	0.15A (12VDC) with No LCD Attached
- Outputs:	LVDS single or dual channel using Systemation 22-pin 2mm Connector pinout or 40-pin micro-coax VESA standard.
- Backlight:	12VDC output with enable and PWM
- Connectors:	1 - 12VDC Input (2-pin 0.156) 2 - USB 2.0/3.0 Type A 3 - LVDS (22-pin 2mm, 10-pin 2mm) 4 - Backlight (8-pin 0.1” Vert Molex)
- Controls:	3 on-board pushbuttons for Select, Up, and Down to allow Brightness and Contrast to be adjusted.
- LED Indicators:	D4 (Power) - 3.3V Power Good D5 (DL) - Displaylink chip is running D6 (USB 3.0)- DL is using the USB 3.0 Link D7 (USB 2.0)- DL is using the USB 2.0 Link

- Software: Displaylink provides drivers for:

  Windows (7 thru 10)
  MAC (OS X and up)
  Ubuntu (14 and up)
  Chrome OS
  Android (5.0 and up)
  Note: (Not all Android devices supported, consult Systemation for compatibility).

Initial Operation:

If your computer is connected to the internet, the DisplayLink driver should automatically download and install. Alternatively, the driver for the ADP-125 can be found on DisplayLink's website www.DisplayLink.com\downloads
DisplayLink drivers can be found for Windows, Ubuntu, Mac, Chromebook, and select Android devices. Not all Android devices are supported. Consult Systemation for potential compatibility.

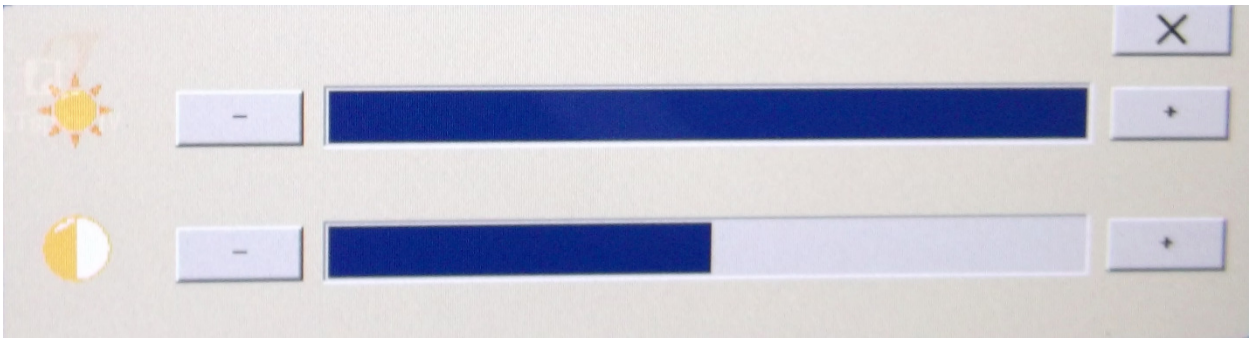
Once downloaded run the program to install the software. Once the software is installed you apply 12 Volts to the board via the J10 header and plug the USB cable into the host device. The display should start displaying video within 30 seconds.

A Displaylink (DL) icon will be displayed on the task bar.

Brightness & contrast control:

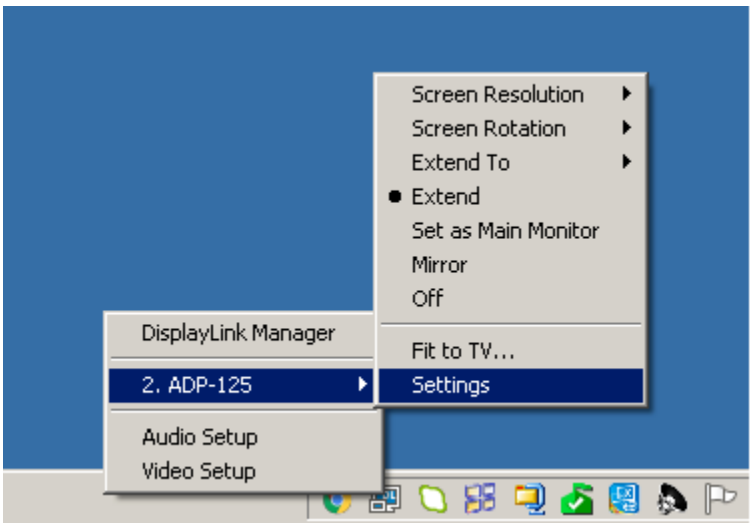
Button Control**:**

Buttons on the board are as follows, Select, up and down. The buttons control Brightness up and down and contrast up and down. Any of the buttons will bring up the on screen status shown below. The select button will swap between the brightness and contrast options. The up and down buttons will increase or decrease the selected option.



Software Control:

Brightness can also be controlled by the DisplayLink driver. This can be done by right clicking on the DisplayLink icon as shown below, then selecting settings. This will bring up the same brightness and contrast controls on the display as shown above.



In addition to the DisplayLink drivers ability to control the brightness and contrast there is another application called screenbright that offers the same functionality.

Frequently asked questions:

Can the board be setup to display portrait instead of landscape?

Yes, you can manage the rotation within Windows Display manager. As far as other devices supporting rotation it will depend on the device.

Can I run multiple displays with multiple boards?

Yes, with Windows, Ubuntu or Mac.

Can I change the display connected to the board?

No, the board is preconfigured with the proper timing for the display you intend on using prior to shipping. The board will need to be reprogrammed in order to run a different display. Systemation can assist if you need to change the display.

Can I run multiple displays from one board?

No, Multiple boards are needed to run more than one display simultaneously.

Will this work with my Android Phone?

The answer is, maybe, but you have to have a USB port and the phone has to support USB devices in Android. We will help the best we can with devices we know are compatible.

Does DisplayLink have drivers for other Linux distributions?

DisplayLink only officially supports Ubuntu 16.04 and Ubuntu 14.04. The Software consists of an open-source kernel mode driver (EVDI) with an accompanying library (libevdi), and a supporting binary application compatible with Intel x86 platform. Source code for the open-source components can be found at DisplayLink's GitHub, https://github.com/DisplayLink

Board connectors and pinouts:

J7	**LVDS Data Output**		**MFG**	**MFG P/N**
			Hirose	**DF11-22DP-2DSA**
J7-1	Ain3+			
J7-2	Ain3-			
J7-3	Aclk+			
J7-4	Aclk-			
J7-5	Ain2+			
J7-6	Ain2-			
J7-7	Ain1+			
J7-8	Ain1-			
J7-9	Ain0+			
J7-10	Ain0-			
J7-12	Bin3-			
J7-13	BClk+			
J7-14	BClk-			
J7-15	Bin2+			
J7-16	Bin2-			
J7-17	Bin1+			
J7-18	Bin1-			
J7-19	Bin0+			
J7-20	Bin0-			
J7-21	3.3V			
J7-22	Ground			
		Mating Hardware	**MFG**	**MFG P/N**
		Housing	**Hirose**	**DF11-22DS-2C**
		Chimp Pin	**Hirose**	**DF11-2428SC**
J8	**LCD Power**		**MFG**	**MFG P/N**
			Hirose	**DF11-10DP-2DSA**
J8-1	12VDC			
J8-2	Ground			
J8-3	12VDC			
J8-4	Ground			
J8-5	3.3V			
J8-6	Ground			
J8-7	3.3V			
J8-8	Ground			
J8-9	3.3V			
J8-10	Ground			
		Mating Hardware	**MFG**	**MFG P/N**
		Housing	**Hirose**	**DF11-10DS-2C**
		Chimp Pin	**Hirose**	**DF11-2428SC**

J9	**Backlight Interface**		**Molex**	**22-23-2081**
J9-1	+12VDC Switched			
J9-2	+12VDC Switched			
J9-3	+5VDC Switched			
J9-4	+5VDC Switched			
J9-5	PWM			
J9-6	Not Used			
J9-7	GND			
J9-8	GND			
		Mating Hardware	**MFG**	**MFG P/N**
		Shell	**Molex**	**22-01-3087**
		Crimp	**Molex**	**08-52-0123**

J10	Power Connector		**Molex**	**26-48-2026**
J10-1	+12VDC			
J10-2	GND			
		Mating Hardware	**MFG**	**MFG P/N**
		Shell	**Molex**	**09-50-8023**
		Crimp	**Molex**	**08-52-0072**

J6	VESA LVDS LCD Output		MFG	MFG P/N
			Ipex	20455-040E-12
J6-1	VLED			
J6-2	VLED			
J6-3	VLED			
J6-4	No Connect			
J6-5	Backlight Enable			
J6-6	Backlight PWM			
J6-7	No Connect			
J6-8	Ground			
J6-9	Ground			
J6-10	Ground			
J6-11	No Connect			
J6-12	No Connect			
J6-13	Ground			
J6-14	No Connect			
J6-15	No Connect			
J6-16	Ground			
J6-17	No Connect			
J6-18	No Connect			
J6-19	Ground			
J6-20	No Connect			
J6-21	No Connect			
J6-22	Ground			
J6-23	LVDS Clock +			
J6-24	LVDS Clock -			
J6-25	Ground			
J6-26	LVDS A2+			
J6-27	LVDS A2-			
J6-28	Ground			
J6-29	LVDS A1+			
J6-30	LVDS A1-			
J6-31	Ground			
J6-32	LVDS A0+			
J6-33	LVDS A0-			
J6-34	LCD EDID SDA			
J6-35	LCD EDID SCL			
J6-36	No Connect			
J6-37	LCD EDID 3.3V			
J6-38	LCD Power 3.3V			
J6-39	LCD Power 3.3V			
J6-40	No Connect			

Systemation Technology
1321 3rd Street
League City, Texas 77573
Tel 281.332.7187 / Fax 281.332.7188
www.systemation-inc.com
support@systemation-inc.com