EPM-1522 Series

18/24-bit TTL/LVDS to DVI transmitter

Quick Installation Guide

1ˢᵗ Ed – 26 Feburary 2007

If any of the above items is damaged or missing, contact your retailer.

To receive the latest version of the quick installation guide, please visit our Web site at:

http://www.avalue.com.tw

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Packing List

- 1 x EPM-1522 series TTL/LVDS to DVI transmitter
  Note: Available for 18-bit or 24-bit
- 1 x Quick Installation Guide for EPM-1522
- 1 x LCD cable (40P/1.25 mm – 40P/1.25 mm)

1. Hardware Configuration

PWR1   LCD1

DVI1

J2

J1

CN1

LVDS1
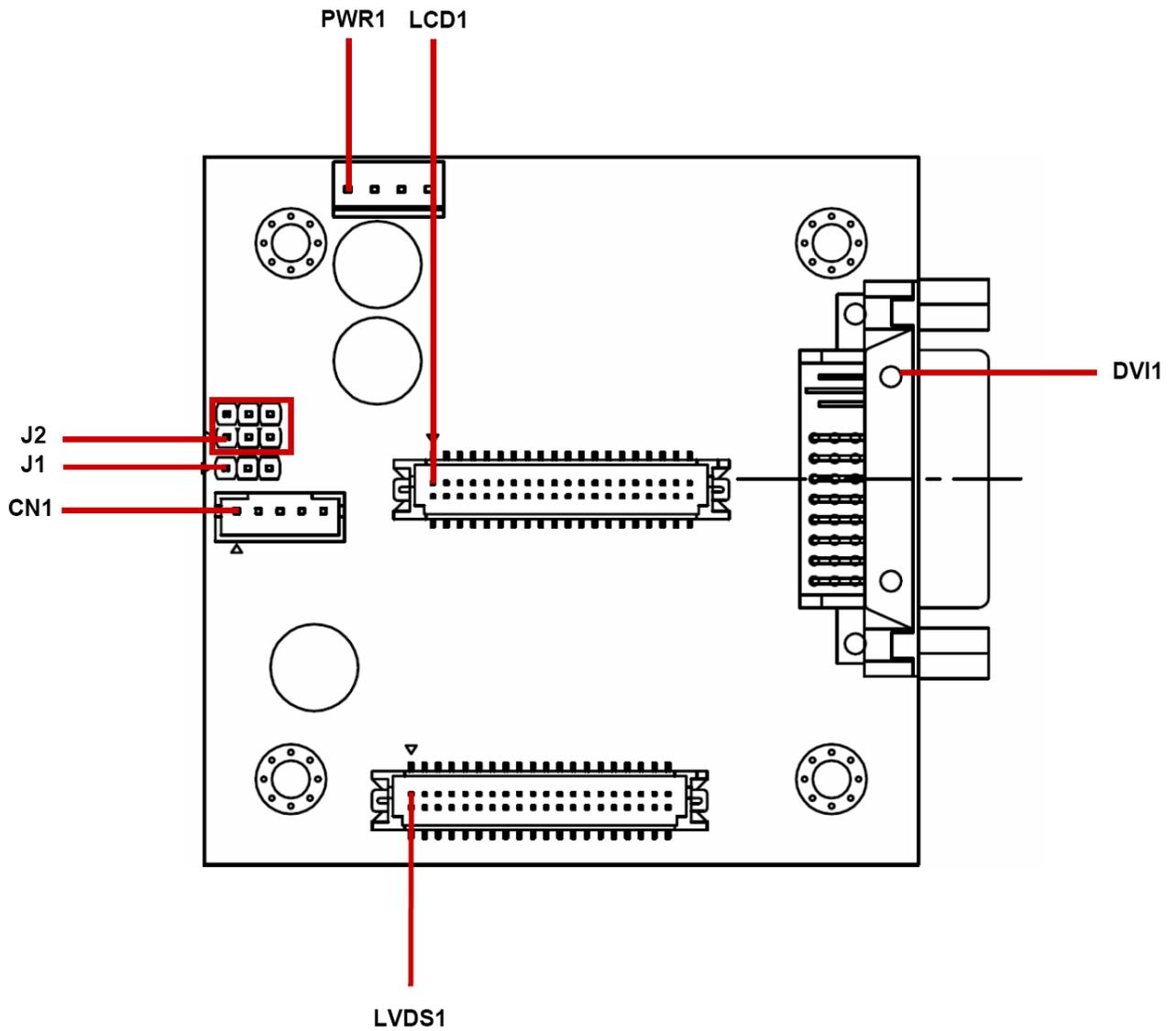
1.1 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip. To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.
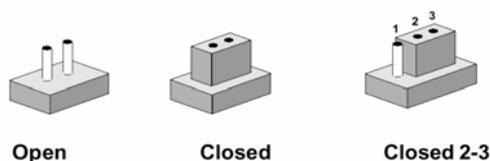
The jumper settings are schematically depicted in this manual as follows:

A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

The following tables list the function of each of the board's jumpers and connectors.

Jumpers

| Label	Function	Note
J1	LCD backlight brightness adjustment connector	3 x 1 header, pitch 2.0mm
J2	VDD voltage select	3 x 2 header, pitch 2.0mm

Connectors

| Label	Function	Note
CN1	LCD inverter connector	5 x 1 wafer, pitch 2.0mm
DVI1	DVI-D connector	DVI 24P 90D(F)
LCD1	TTL panel connector	HIROSE DF13-40DP-1.25V
LVDS1	LVDS connector	HIROSE DF13-40DP-1.25V
PWR1	Power connector	4 x 1 wafer, pitch 2.54mm

1.2 Setting Jumpers & Connectors

1.2.1 LCD Backlight Brightness Adjustment Connector (J1)

| Signal	PIN
+5V	1
VR	2
GND	3
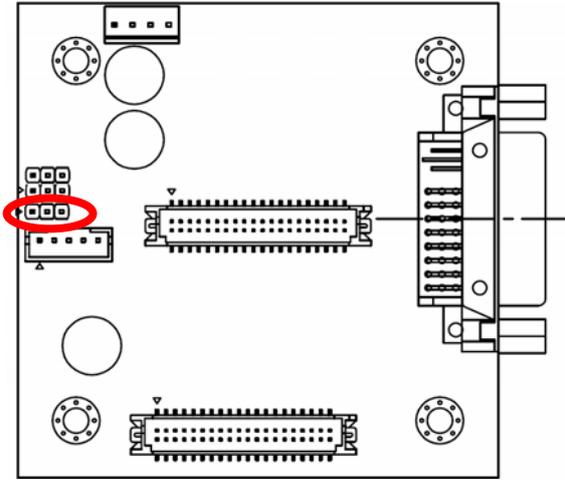


Note: Please use pin 2-3 as default.
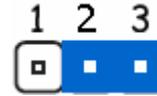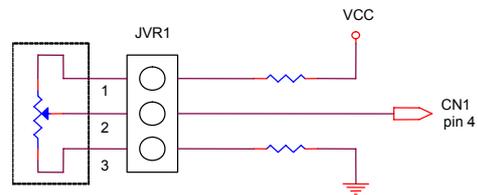
Variation Resistor

(Recommended: 4.7KΩ, >1/16W)

1.2.2 VDD Voltage Select(J2)
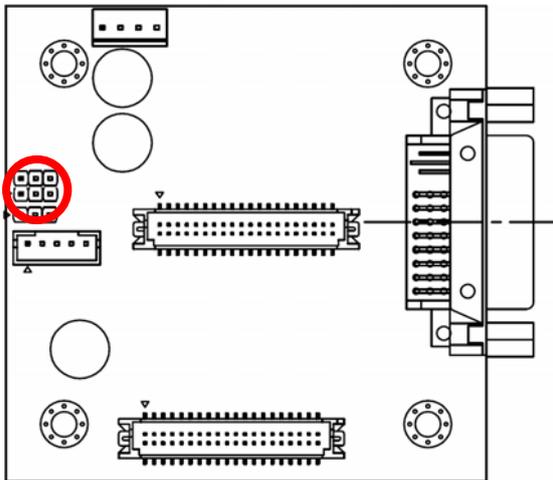
* **Default**

From LVDS1
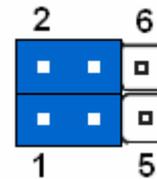
From system board*
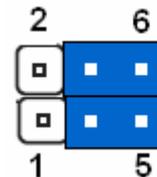
1.2.3　　LCD Inverter Connector (CN1)
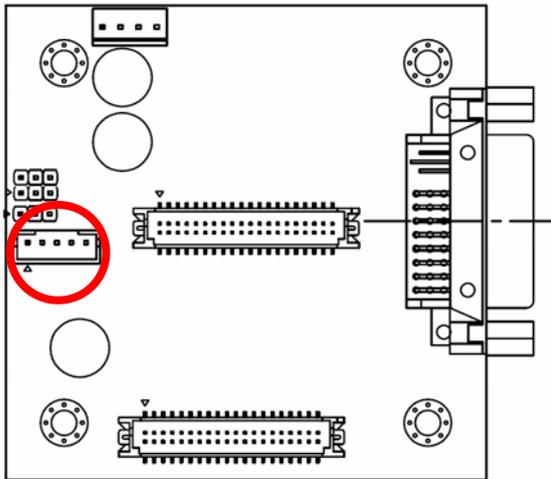
Signal	PIN
+12V	1
GND	2
ENBKL	3
VR	4
+5V	5

Note:

For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by **J1**. Please see the **J1** section for detailed circuitry information.

1.2.3.1　Signal Description – LCD Inverter Connector (CN1)

Signal	Signal Description
VR	Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)
ENBKL	LCD backlight ON/OFF control signal

1.2.4 TTL Panel Connector (LCD1)
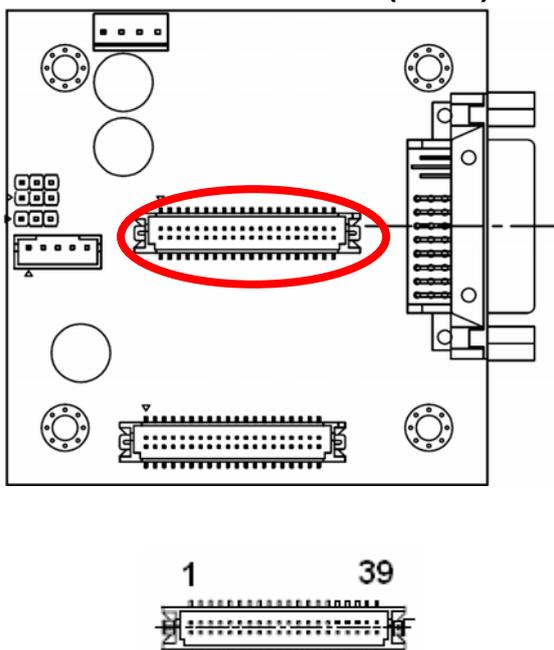
Signal	PIN	PIN	Signal
+5V	2	1	+5V
GND	4	3	GND
+3.3V	6	5	+3.3V
GND	8	7	NC
P1	10	9	P0
P3	12	11	P2
P5	14	13	P4
P7	16	15	P6
P9	18	17	P8
P11	20	19	P10
P13	22	21	P12
P15	24	23	P14
P17	26	25	P16
P19	28	27	P18
P21	30	29	P20
P23	32	31	P22
GND	34	33	GND
FLM	36	35	SHFCLK
LP	38	37	M
NC	40	39	ENBKL

1.2.4.1 Signal Description – TTL Panel Connector (LCD1)

| Signal	Signal Description
P [0:23]	Flat panel data output for 18/24 bit TTL flat panels. Refer to table below for configurations for various panel types. The flat panel data and control outputs are all on-board controlled for secure power-on/off sequencing
SHFCLK	Shift Clock. Pixel clock for flat panel data
LP	Latch Pulse. Flat panel equivalent of HSYNC (horizontal synchronization)
FLM	First Line Marker. Flat panel equivalent of VSYNC (vertical synchronization)
M	Multipurpose signal, function depends on panel type. May be used as AC drive control signal or as BLANK# or Display Enable signal
ENBKL	LCD backlight ON/OFF control signal

1.2.4.2 Signal Description – TTL Panel Display (LCD1)

Signal	18-bit TTL	24-bit TTL
P0	-	B0
P1	-	B1
P2	B0	B2
P3	B1	B3
P4	B2	B4
P5	B3	B5
P6	B4	B6
P7	B5	B7
P8	-	G0
P9	-	G1
P10	G0	G2
P11	G1	G3
P12	G2	G4
P13	G3	G5
P14	G4	G6
P15	G5	G7
P16	-	R0
P17	-	R1
P18	R0	R2
P19	R1	R3
P20	R2	R4
P21	R3	R5
P22	R4	R6
P23	R5	R7

Note: The principle of attachment of TTL panels is that the bits for red, green, and blue use the most significant bits and skip the least significant bits if the display interface width of the TTL panel is insufficient.

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1.2.5 LVDS Connector (LVDS1)
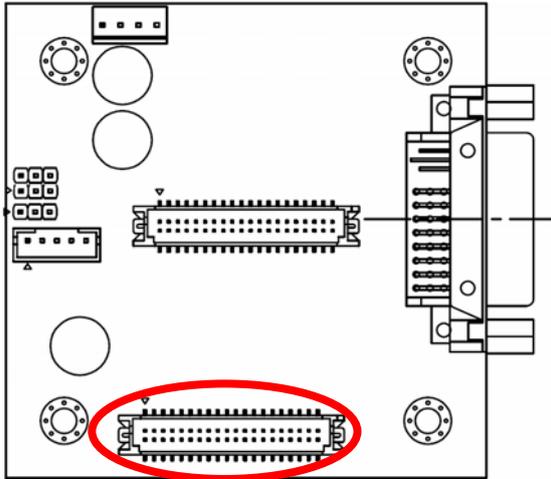
Signal	PIN	PIN	Signal
+5V	2	1	+3.3V
+5V	4	3	+3.3V
I^2C_DAT	6	5	I^2C_CLK
GND	8	7	GND
Txout0	10	9	Txout1
Txout0#	12	11	Txout1#
GND	14	13	GND
Txout2	16	15	Txout3
Txout2#	18	17	Txout3#
GND	20	19	GND
NC	22	21	NC
NC	24	23	NC
GND	26	25	GND
NC	28	27	NC
NC	30	29	NC
GND	32	31	GND
Txclk	34	33	NC
Txclk#	36	35	NC
GND	38	37	GND
NC	40	39	NC

1.2.6 Power Connector (PWR1)
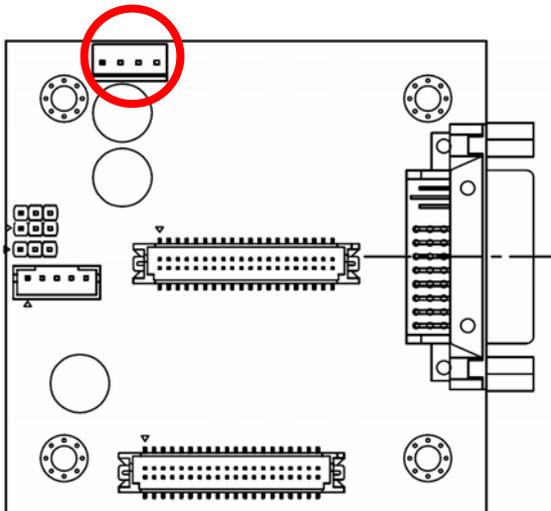
PIN	Signal
1	+12V
2	GND
3	GND
4	+5V