KAB-ADAPT-LVDS

Document Revision 1.0

kontron

Contents

1. User Information

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2. Introduction

2.1 KAB-ADAPT-LVDS

KAB-ADAPT-LVDS is an Evaluation Board (only for development) vor VGA-, SVGA-, XGA-, SXGA-LVDS TFT flatpanels to Kontron JILI interface.

2.2 JILI Family

JILI (**J**umptec **I**ntelligent **L**VDS **I**nterface) is a Kontron hardware standard that interfaces the host computer system via LVDS to flat-panel displays. The target displays are usually medium- to high-resolution TFT displays with parallel (CMOS, non-LVDS) interfaces. A detailed description of the JILI interface standard also is available in a separate document JILIM???.PDF. The three question marks represent the document's revision number. You can download the document from the Kontron Web site, or contact your local Kontron technical support to receive it.

2.3 JILI30 Family

JILI30 (**J**umptec **I**ntelligent **L**VDS **I**nterface) is a Kontron hardware standard that interfaces the host computer system via LVDS to flat-panel displays. The target displays are usually medium- to high-resolution TFT displays with parallel (CMOS, non-LVDS) interfaces.

2.4 JILI40 Family

JILI40 (**J**umptec **I**ntelligent **L**VDS **I**nterface) is a Kontron hardware standard that interfaces the host computer system via LVDS to flat-panel displays. The target displays are usually medium- to high-resolution TFT displays with parallel (CMOS, non-LVDS) interfaces.

3. Specifications

3.1 Mechanical Specifications

3.1.1 Cable lengthens

- 500mm ±10mm

3.1.2 Module Dimensions (PCB)

- 50x 80 mm, without Cable
- Height approx. 12mm without Cable

3.1.3 Weight

- 50 g

3.2 Electrical Specifications

3.2.1 Supply Voltage

- 5 V DC ±5%, 12V DC ±5%

3.2.2 Supply Voltage

- 500 mV peak to peak 0 – 20 MHz

3.2.3 Supply Current

- See Datasheet from Panel

3.2.4 Panel Current

- Maximum curent: 600mA* by 3.3V Panel VCC
- Maximum curent: 2A* by 5V Panel VCC
- Maximum curent: 1.5A* by 12V Panel VCC
- Maximum curent: 1A* by 5V Backlight VCC
- Maximum curent: 1A* by 12V Backlight VCC
- * The max.current on the standard JILI FFC cable is 2A (5V) and 1,5A (12V). If the panel or backlight power exceeds these values an external power supply should be implemented.

4. Environmental Specifications

4.1 Temperature

- Operating (with appropriate airflow):
  - Maximum operating temperature: 0 to +60 °C (*)
- Non operating: -10 to +85 °C

Note:	(*) The maximum operating temperature is the maximum measurable temperature on any spot on a mo- dule's surface. You must maintain the temperature according to the above specification.

4.2 Humidity

- Operating: 10% to 90% (non condensing)
- Non operating: 5% to 95% (non condensing)

5. Connector

5.1 JILI Connector (X1)

Flatfoil connector, Right Angle, Bottom Contact, 0.5 mm pitch, 40 contacts.

Pin	Signal Name	Function	Pin	Signal Name	Function
1	DETECT	Not connected	2	FTX0-	First Transmitter Signal
3	FTX0+	First Transmitter Signal	4	ENAVDD	Panel Power Enable
5	FTX1-	First Transmitter Signal	6	FTX1+	First Transmitter Signal
7	NC	Not connected	8	FTX2-	First Transmitter Signal
9	FTX2+	First Transmitter Signal	10	GND	Power Gound
11	FTXC-	First Transmitter Clock	12	FTXC+	First Transmitter Clock
13	GND	Power Gound	14	FTX3-	First Transmitter Signal
15	FTX3+	First Transmitter Signal	16	DDCDAT	I2C Data
17	STX0-	Second Transmitter Signal	18	STX0+	Second Transmitter Signal
19	DDCCLK	I2C Clock	20	STX1-	Second Transmitter Signal
21	STX1+	Second Transmitter Signal	22	GND	Power Gound
23	STX2-	Second Transmitter Signal	24	STX2+	Second Transmitter Signal
25	GND	Power Gound	26	STXC-	Second Transmitter Clock
27	STXC+	Second Transmitter Clock	28	GND	Power Gound
29	STX3-	Second Transmitter Signal	30	STX3+	Second Transmitter Signal
31	+5V	+5V Power	32	+5V	+5V Power
33	+5V	+5V Power	34	+5V	+5V Power
35	/BLON	Backlight Power Enable	36	GND	Power Gound
37	GND	Power Gound	38	+12V	+12V Power
39	+12V	+12V Power	40	+12V	+12V Power

5.2 JILI30 Connector (X2)

Connector single row, 1.00mm pitch, 30 contacts (JAE, FI-X30S-HF or equivalent).

Pin	Signal Name	Function
1	FTX0-	First Transmitter Signal
2	FTX0+	First Transmitter Signal
3	FTX1-	First Transmitter Signal
4	FTX1+	First Transmitter Signal
5	FTX2-	First Transmitter Signal
6	FTX2+	First Transmitter Signal
7	GND	Power Gound
8	FTXC-	First Transmitter Clock
9	FTXC+	First Transmitter Clock
10	FTX3-	First Transmitter Signal
11	FTX3+	First Transmitter Signal
12	STX0-	Second Transmitter Signal
13	STX0+	Second Transmitter Signal
14	GND	Power Gound
15	STX1-	Second Transmitter Signal
16	STX0+	Second Transmitter Signal
17	GND	Power Gound
18	STX2-	Second Transmitter Signal
19	STX2+	Second Transmitter Signal
20	STXC-	Second Transmitter Clock
21	STXC+	Second Transmitter Clock
22	STX3-	Second Transmitter Signal
23	STX3+	Second Transmitter Signal
24	GND	Power Gound
25	I2CDAT	Not connected
26	ENAVDD	Panel Power Enable
27	I2CCLK	Not connected
28	PANEL_VCC	Panel VCC
29	PANEL_VCC	Panel VCC
30	PANEL_VCC	Panel VCC

5.3 JILI40 Connector (X3)

Connector double row, 1.00mm pitch, 40 contacts.

Pin	Signal Name	Function	Pin	Signal Name	Function
1	BACK_VCC	Backlight VCC	2	BACK_VCC	Backlight VCC
3	BRIGHT	Brightness (0-5V)	4	STX3+	Second Transmitter Signal
5	STX3-	Second Transmitter Signal	6	+12V	Not connected
7	STXC+	Second Transmitter Clock	8	STXC-	Second Transmitter Clock
9	+12V	Not connected	10	STX2+	Second Transmitter Signal
11	STX2-	Second Transmitter Signal	12	+12V	Not connected
13	STX1+	Second Transmitter Signal	14	STX1-	Second Transmitter Signal
15	+12V	Not connected	16	STX0+	Second Transmitter Signal
17	STX0-	Second Transmitter Signal	18	+12V	Not connected
19	FTX3+	First Transmitter Signal	20	FTX3-	First Transmitter Signal
21	GND	Power Gound	22	GND	Power Gound
23	I2CCLK	Not connected	24	I2CDAT	Not connected
25	GND	Power Gound	26	FTXC+	First Transmitter Clock
27	FTXC-	First Transmitter Clock	28	GND	Power Gound
29	FTX2+	First Transmitter Signal	30	FTX2-	First Transmitter Signal
31	GND	Power Gound	32	FTX1+	First Transmitter Signal
33	FTX1-	First Transmitter Signal	34	GND	Power Gound
35	FTX0+	First Transmitter Signal	36	FTX0-	First Transmitter Signal
37	GND	Power Gound	38	GND	Power Gound
39	PANEL_VCC	Panel VCC	40	PANEL_VCC	Panel VCC

5.4 Backlight Connector (X5)

Connector single row, 1.25mm pitch, 7 contacts (Molex, 53261-0771 or equivalent).

Pin	Signal Name	Function
1	NC	Not connected
2	BRIGHT	Brightness (0-5V)
3	GND	Power Gound
4	BACK_VCC	BACK_VCC
5	BACK_VCC	BACK_VCC
6	GND	Power Gound
7	ENABKL	Backlight Power Enable

6. Configuration

6.1 Panel Power (J1)

Caution! Only one configuration for backlight and flatpanel is allowed, otherwise the board is permanently damaged.

Pin	Function
5-6	Panel +12V
7-8	Panel +5V
9-10	Panel +3.3V

6.2 Backlight Power (J1)

Caution! Only one configuration for backlight and flatpanel is allowed, otherwise the board is permanently damaged.

Pin	Function
1-2	Backlight +12V
3-4	Backlight +5V

6.3 Backlight Power Enable (J2)

Pin	Function
1-2	Backlight Power Enable (low active)
2-3	Backlight Power Enable (high active)

APPENDIX A: REVISION HISTORY

Revision	Date	Edited by	Changes
1.0	06/11/2007	S.Leuchtenberger	First revision