

Kontron User's Guide



UGM-PEG-ADAPT

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1 User Information

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Kontron Embedded Modules GmbH is certified to ISO 9000 standards.

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Within the warranty period, the repair of products is free of charge as long as warranty conditions are observed.

The warranty does not apply to defects resulting from improper or inadequate maintenance or handling by the buyer, unauthorized modification or misuse, operation outside of the product's environmental specifications or improper installation or maintenance.

Kontron Embedded Modules GmbH will not be responsible for any defects or damages to other products not supplied by Kontron Embedded Modules GmbH that are caused by a faulty Kontron Embedded Modules GmbH product.

1.6 Technical Support

Technicians and engineers from Kontron Embedded Modules GmbH and/or its subsidiaries are available for technical support. We are committed to making our product easy to use and will help you use our products in your systems.

Before contacting Kontron Embedded Modules GmbH technical support, please consult our Web site at <http://www.kontron-emea.com/emd> for the latest product documentation, utilities, and drivers. If the information does not help solve the problem, contact us by telephone or email.

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2 Introduction

2.1 UGM-PEG-ADAPT

UGM-PEG-ADAPT adapter to connect a UGM board to a standard PEG- interface.

The UGM-PEG-ADAPT features the following (in abhängigkeit des verwendeten UGMs):

- DVI-I
- JILI30
- BACKLIGHT, BACKLIGHT Dimming
- VIP
- TV-OUT
- ITU656

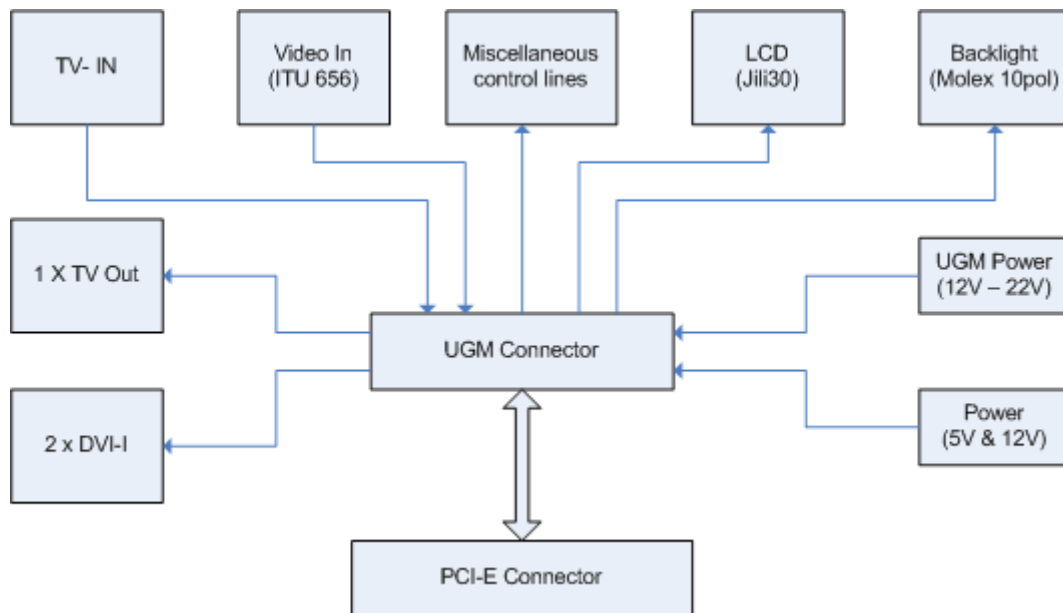
3 Getting Started

The easiest way to get the UGM board running is to use the UGM-PEG-ADAPT from Kontron Embedded Modules GmbH. Take the following steps:

- Plug the UGM board with a heatspreader to the UGM-PEG-ADAPT.
- Connect a Floppy power connector to J14.
- Plug the UGM-PEG-ADAPT to the PCI-E bus connector on the mainboard.
- Connect a DVI monitor to the DVI-I interface or a LCD panel to the JILI30 interface by using the corresponding adapter cable.

4 Specifications

4.1 Block Diagram



4.2 Mechanical Specifications

4.2.1 PEG Connector

- One PCIe x 16 bracket connector

4.2.2 UGM-Connector

- One 2x110 pin stackthrough connector

4.3 Electrical Specifications

4.3.1 Supply Voltage

- 5V DC +/- 5 %
- 12V DC +/-5%

4.3.2 Supply Voltage Ripple

- 100 mV peak to peak 0 - 20 MHz

4.3.3 Supply Current (typical)

- Power consumption is depending on the used UGM version.

5 Graphics Interface

The uses the graphics accelerator integrated in the Intel® 852GM/855GME chipset, which delivers high-

5.1 DVI-I Connector

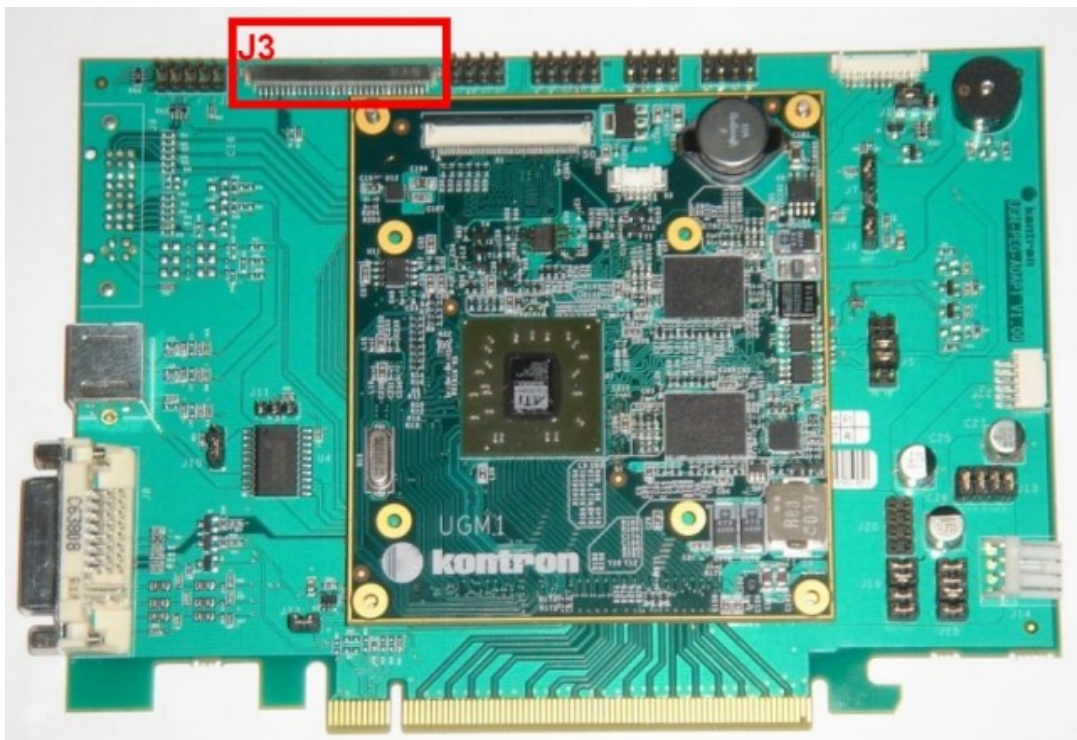
The CRT monitor interface is available through the J8 connector (30 pins). To have the signals available on a standard DSUB- 15 CRT monitor connector, an adapter is required.

Header	Pin	Signal Name	Function	DSUB- 15
	1	TMDSTX2-	TMDS data 2-	-
	2	TMDSTX2+	TMDS data 2+	-
	3	GND	Signal ground	-
	4	NC	-	-
	5	NC	-	-
	6	SCL	DDC clock	-
	7	SDA	DDC data	-
	8	VSYNC	Vertical sync	1
	9	TMDSTX1-	TMDS data 1-	-
	10	TMDSTX1+	TMDS data 1+	-
	11	GND	Signal ground	-
	12	NC	-	-
	13	NC	-	-
	14	+5V	+5V Power	-
	15	GND	Signal ground	-
	16	HP1	Hot plug	-
	17	TMDSTX0-	TMDS data 0-	-
	18	TMDSTX0+	TMDS data 0+	-
	19	GND	Signal ground	-
	20	NC	-	-
	21	NC	-	-
	22	GND	Signal ground	-
	23	TMDSTXC+	TMDS clock+	-
	24	TMDSTXC-	TMDS clock-	-
C1	RED	Analog video red	2	
C2	GREEN	Analog video green	3	
C3	BLUE	Analog video blue	7	
C4	HSYNC	Horizontal sync	14	
C5	GND	Analog signal ground	13	

5.2 LCD Panel Connector

The interface for the LCD Panel is available through the J3 connector (30 pins) on the top side of the board. This connector represents the JILI interface (JUMPtect Intelligent LVDS Interface). The implementation of this subsystem complies with the JILI Specification of Kontron Embedded Modules GmbH. A variety of cables for different display types are available from Kontron. Please refer to the actual cable list on the Kontron Website for part numbers and cable names.

When using a LCD Panel, additional voltages may be required to drive the display's logic and to supply the backlight converter. The display logic may require +5V for standard or +3.3V for low-power LCDs. Backlight converters usually are +5V or +12V types.



5.3 J3 Pinout

Pin	Name	Description
1	LVDS_A_0N	negative LVDS Data0, 1st Link
2	LVDS_A_0P	positive LVDS Data0, 1st Link
3	LVDS_A_1N	negative LVDS Data1, 1st Link
4	LVDS_A_1P	positive LVDS Data1, 1st Link
5	LVDS_A_2N	negative LVDS Data2, 1st Link
6	LVDS_A_2P	positive LVDS Data2, 1st Link
7	GND	GND
8	LVDS_A_CLKN	negative LVDS Clock, 1st Link
9	LVDS_A_CLKP	positive LVDS Clock, 1st Link
10	LVDS_A_3N	negative LVDS Data3, 1st Link
11	LVDS_A_3P	positive LVDS Data3, 1st Link
12	LVDS_B_0N	negative LVDS Data0, 2nd Link
13	LVDS_B_0P	positive LVDS Data0, 2nd Link
14	GND	GND
15	LVDS_B_1N	negative LVDS Data1, 2nd Link
16	LVDS_B_1P	positive LVDS Data1, 2nd Link
17	GND	GND
18	LVDS_B_2N	negative LVDS Data2, 2nd Link
19	LVDS_B_2P	positive LVDS Data2, 2nd Link
20	LVDS_B_CLKN	negative LVDS Clock, 2nd Link
21	LVDS_B_CLKP	positive LVDS Clock, 2nd Link
22	LVDS_B_3N	negative LVDS Data3, 2nd Link
23	LVDS_B_3P	positive LVDS Data3, 2nd Link
24	GND	GND
25	I2C_DAT	Flat Panel Detection, I2C Data Signal
26	LVDS_VDD_EN	Flat Panel Power Enable
27	I2C_CLK	Flat Panel Detection, I2C Clock Signal
28	VCC	Flat Panel Power Supply, incl.Power Sequencing
29	VCC	
30	VCC	

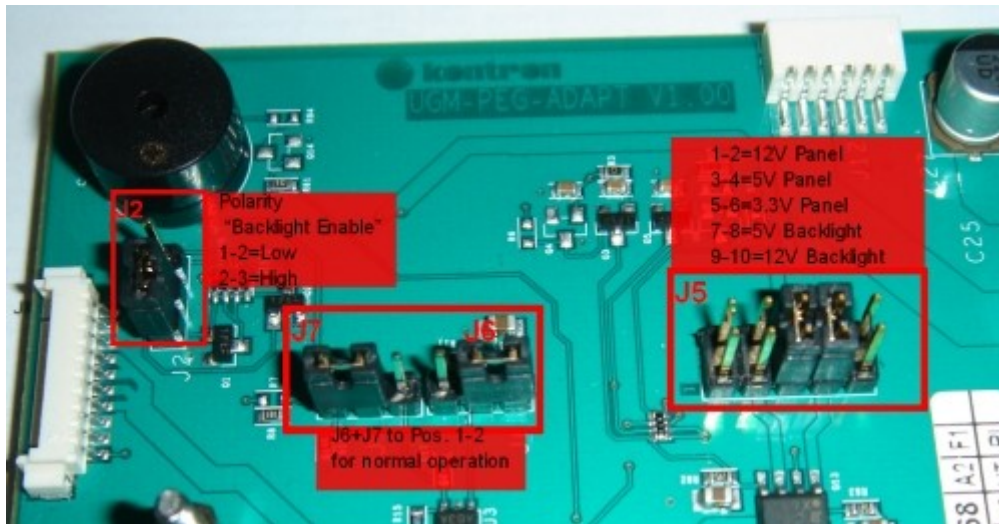
5.4 Connecting a LCD Panel

To determine whether your panel display is supported, check the Kontron Website for panel lists. We regularly update the list of panels that have been tested with the UGMs.

If you use one of those adapters supplied by Kontron, configuration is easy:

- Check whether you have the correct adapter and cable for the panel you plan to use. Inspect the cable for damages. Disconnect the power from your system.
- Check Jumper J5 for correct Panel voltage (J5 1-2 = 12V 3-4 = 5V 5-6 = 3.3V). Tip: J5 5-6 default.
- Check Jumper J5 for correct Backlight voltage (J5 7-8 = 5V 9-10 = 12V). Tip: J5 7-8 default.
- Check Jumper J2 for correct Backlight on/off polarity (J2 1-2 = Low 2-3 = High). Tip: J2 2-3 default.
- Connect the cable to the LCD Panel connector J3 on the UGM-PEG-ADAPT and connect the other end to your display.
- Connect the backlight converter to J1.
- Supply power to your system.
- If no image appears on your display, connect a CRT- or DVI monitor to the DVI-I connector.
- If you still do not see improvement, consider contacting the dealer for technical support.

5.5 Jumper Localization



6 Backlight

6.1 Connector

Backlight support is available through the J1 connector (10 pins).

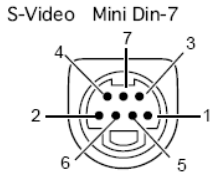
Header	Pin	Signal Name	Function
	1	BLON	Backlight control signal
	2	GND	Power ground
	3	GND	Power ground
	4	Backlight power supply	Typical + 12V
	5	Backlight power supply	
	6	Backlight power supply	
	7	Backlight power supply	
	8	GND	Power ground
	9	GND	Power ground
	10	BKLTADJ	Analog 0V to +5V

7 TV-Out Interface

The TV-Out connector J24 provides s-video and component video

7.1 Connector


To connect a TV to the UGM PEG adapt use a cable adaptor on J24

Header	Pin	Signal Name	Function
	1	GND	Signal ground
	2	GND	Signal ground
	3	TBLUMA	Y-OUT
	4	TBCHROMA	C-OUT
	5	NC	-
	6	NC	-
	7	TBCOMP	Composite

8 Power Connector

8.1 Connector

For Power up the UGM connect a floppy power connector to J14

Header	Pin	Signal Name	Function
	1	VCC	+5V
	2	GND	Ground
	3	GND	Ground
	4	+12V	+12V

9 Restrictions

- Riser cards with CE-Rev. 1.0.1 works only in combination with UGM1-boards with PCB Rev. L110!

Warning: - Use only UGM1-boards with PCB Rev. L110 in combination with Riser cards with CE-Rev. 1.0.1.

- Don't use other UGM-Boards with Riser Cards with CE-Rev. 1.0.1

10 REVISION HISTORY

Revision	Date	Edited by	Changes
0.1	10/16/2007	S. Laudan	First revision
0.2	10/19/2007	U. Geisler	Added Restrictions
0.3	11/02/2007	A.Kaudel	added J3 pinout, corrections, formatting