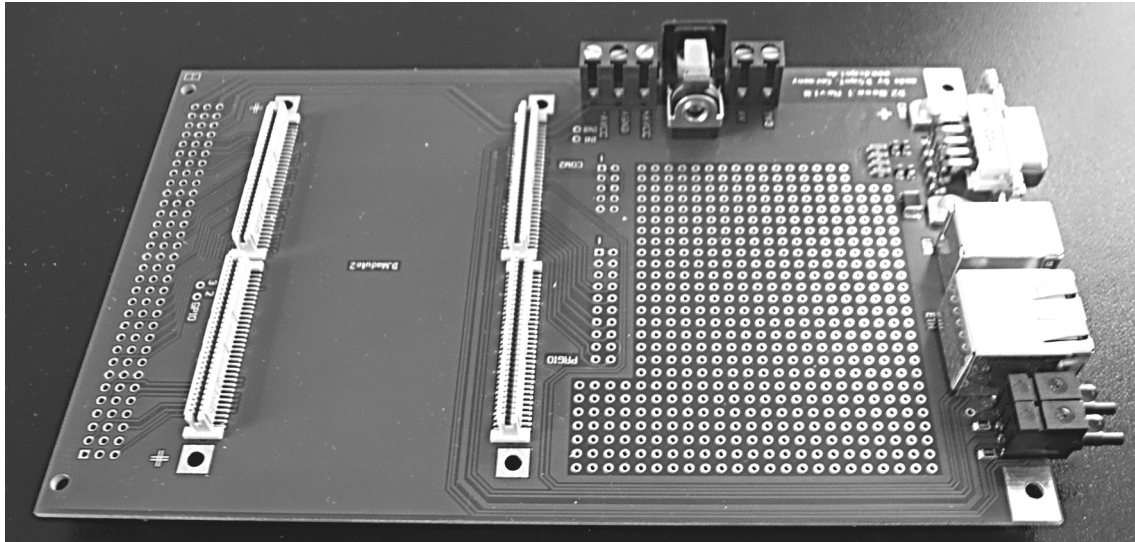


SUMMARY

- evaluation board for the D.Module2 family
- supports stand-alone and rack-mount operation
- VG96 backplane connector
- USB, RS232, Ethernet , and Power connectors
- bread-board area
- Euro-card size 160 x 100 mm



The D2.Base.I Board is an evaluation platform for D.Module2 DSP cards and peripherals. It is designed for stand-alone operation and for use in a 3-unit rack-mount cabinet. A VG-96 backplane connector provides access to a 16-bit wide parallel bus interface, two synchronous serial ports

(McBSP or SPORT), and power supply. RS232, USB and Ethernet connectors are located on the front side, as well as two indicator LEDs and two pushbuttons. A breadboard area can be used for small add-ons like user-specific connectors and interface circuits.

VG96 BUS

This connector carries the most important signals to use the D.Module2 in backplane bus systems:

- 16-bit data bus
- 10 address lines
- two chip select signals
- read and write strobes
- bus clock
- reset output to initialize external peripherals
- two interrupt inputs
- two GPIO signals
- two synchronous serial interfaces
- digital and analog power supply
- wait state request input

The VG96 bus can be used to interface additional daughter cards and peripherals via a backplane. The DSP module is always the master and controls the bus interface. Slave- or Multi-Master modes are not supported.

The bus signals are routed to the a- and c-rows of the VG connector. The b-row is left unconnected except some reserved GND pins. The spare pins can be used for additional bus signals. We recommend to connect as many free b-row pins to GND as possible. This will minimize the loop area of the signal currents, improve signal quality and reduce EMI. Use a VG96 connector to connect to the backplane.

The VG96BUS signals are identical to the corresponding D.Module2 signals on connectors BUS1 and BUS2. Please refer to the D.Module2 User's Guide for a detailed description and timings.

COM PORT CONNECTORS

COM1 is a standard male 9-pin D-Sub connector on the front panel. Additional EMC and ESD protection is provided on the base board. This port can be connected to a PC COM port with a 1:1 cable.

COM2 is routed to a double row 10 pin header. If the DSP module is equipped with RS232 drivers on COM2, a 9-pin D-Sub can be attached with a standard 10-pin 1:1 ribbon cable.

PRGIO CONNECTOR

These 16 I/O signals are connected to an in-system programmable CPLD and/or to GPIO signals on the DSP module. Signal level is LVTTTL. Please refer to the DSP module documentation for detailed specifications.

USB CONNECTOR

Located on the front panel, this B-type device connector interfaces the D.Module2 to a PC via a high-speed USB2.0 interface at a maximum transfer rate of 480 MBit/s.

ETHERNET CONNECTOR

A shielded CAT-5 jack on the front panel for 10Base-T and 100Base-Tx Ethernet network connection.

POWER SUPPLY

If the base board is used stand-alone, power can be supplied via the DC jack and/or the spring clips.

3V3 and 0V are the DSP power supply and are also used for the logic supply of daughter cards. 0V connects to GND via an EMI filter on the DSP module.

+AVCC, AGND, and -AVCC are not used on DSP modules, but are fed-through to data acquisition boards requiring a separate analog power supply.

POWER SUPPLY ADAPTER D2.PS-DCCONV

To generate a +/-5V supply for analog peripheral boards, (like the D.Module2.ADDA8M12) from the 3V3 input voltage, an optional power supply adapter is available. This adapter is connected to the power supply spring clips as shown in the diagram next page. The 3V3 DC jack input is then used to power the entire system

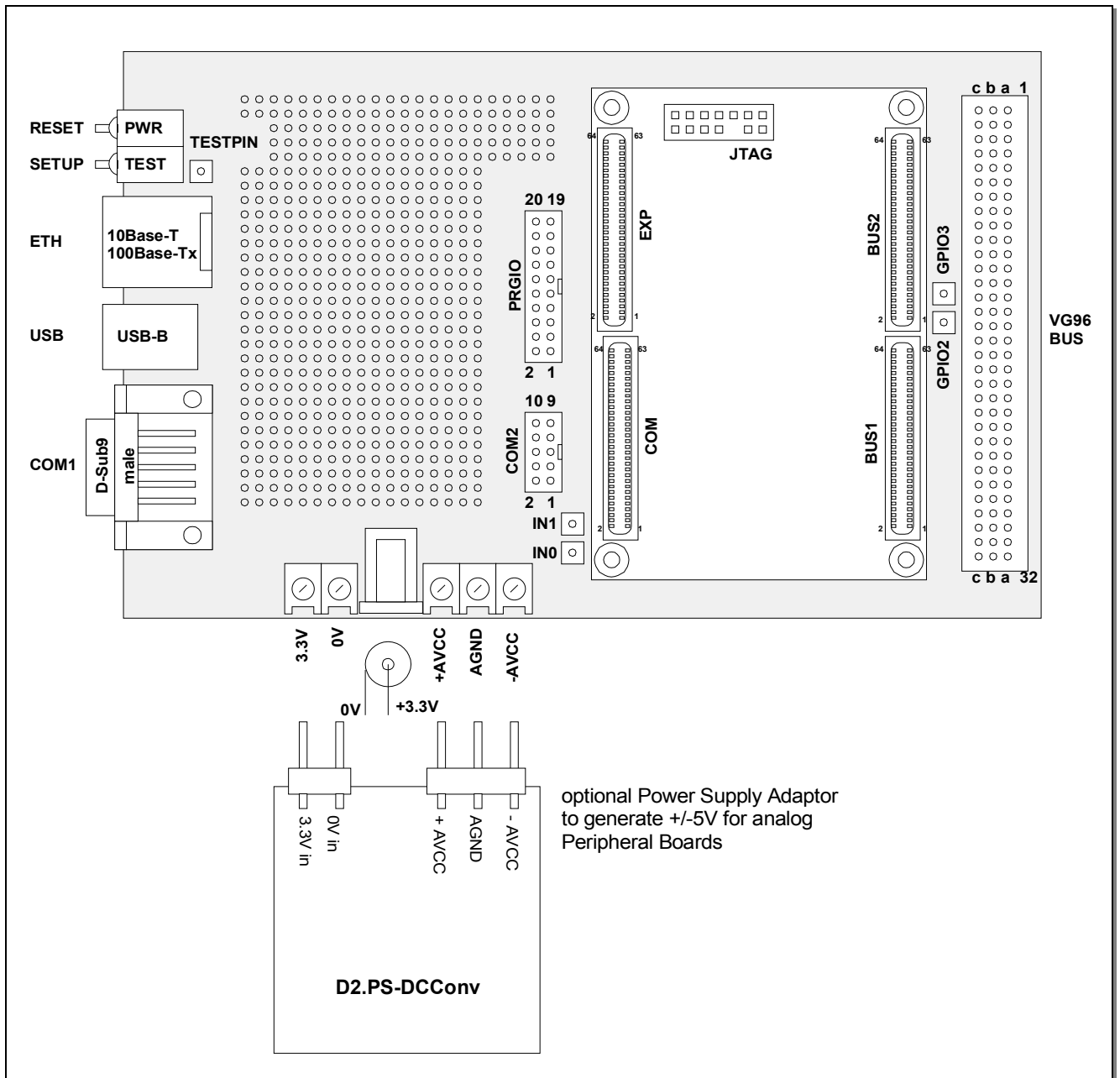
Alternatively the adapter can be mounted on the D.Module2.Base breadboard area, and hand-wired to the power supply terminals. Input and Output pins are labelled on the adapter PCB. Two spare and unconnected pins can be mounted on the opposite side for further mechanical support.

INDICATOR LEDS AND PUSHBUTTONS

The RESET push-button directly connects to the DSP module RESIN input. The SETUP push-button is connected to the DSP module SETUP input. To start the Setup Utility program on the DSP module, hold down the SETUP button and press and release the RESET button.

The PWR LED indicates the presence of the 3.3V supply. The TEST LED can be used to indicate the state of any logic signal, typically a GPIO or PRGIO signal..

CONNECTOR LOCATIONS



PINOUT AND SIGNAL DESCRIPTION

VG96 Bus Connector

Pin	a	b	c
1	FSR1 (serial receiver 1 frame sync)	nc	FSX1 (serial transmitter 1 frame sync)
2	CLKR1 (serial receiver 1 clock)	nc	CLKX1 (serial transmitter 1 clock)
3	DATR1 (Serial receiver 1 data input)	nc	DATX1 (serial transmitter 1 data output)
4	FSR0 (serial receiver 0 frame sync)	nc	FSX0 (serial transmitter 0 frame sync)
5	CLKR0 (serial receiver 0 clock)	nc	CLKX0 (serial transmitter 0 clock)
6	DATR0 (serial receiver 0 data input)	nc	DATX0 (serial transmitter 0 data output)
7	GND	GND	GND
8	GPIO0 (general purpose I/O)	nc	GPIO1 (general purpose I/O)
9	D30 (data bus in/out/high-Z)	nc	D31 (data bus MSB in/out/high-Z)
10	D28 (data bus in/out/high-Z)	nc	D29 (data bus in/out/high-Z)
11	D26 (data bus in/out/high-Z)	nc	D27 (data bus in/out/high-Z)
12	D25 (data bus in/out/high-Z)	nc	D25 (data bus in/out/high-Z)
13	D22 (data bus in/out/high-Z)	nc	D23 (data bus in/out/high-Z)
14	D20 (data bus in/out/high-Z)	nc	D21 (data bus in/out/high-Z)
15	D18 (data bus in/out/high-Z)	nc	D19 (data bus in/out/high-Z)
16	D16 (data bus LSB in/out/high-Z)	nc	D17 (data bus in/out/high-Z)
17	GND	GND	GND
18	A18 (address bus output)	nc	A19 (address bus output)
19	A16 (address bus output)	nc	A17 (address bus output)
20	A4 (address bus output)	nc	A5 (address bus output)
21	A2 (address bus output)	nc	A3 (address bus output)
22	A0 (address bus output)	nc	A1 (address bus output)
23	GND	nc	GND
24	CS0_N (chip select 0 output)	nc	CS1_N (chip select 1 output)
25	RD_N (read strobe output)	nc	WR_N (write strobe output)
26	WAIT_N (wait state request input)	nc	RESOUT_N (reset output)
27	INT0_N (interrupt input 0)	nc	INT1_N (interrupt input 1)
28	BUSCLK (output)	GND	GND
29	3V3 (digital supply input)	3V3 (digital supply input)	3V3 (digital supply input)
30	0V (digital supply input)	0V (digital supply input)	0V (digital supply input)
31	AGND (analog supply)	AGND (analog supply)	AGND (analog supply)
32	-AVCC (neg. analog supply)	nc	+AVCC (pos. analog supply)

COM1 Connector

Pin		Pin	
1	connected to pins 4,6 (Null-Modem wiring)	6	connected to 1, 4
2	TxD (RS232 transmitter data output)	7	CTS (RS232 Clear to Send Input)
3	RxD (RS232 receiver data input)	8	RTS (RS232 Request to Send output)
4	connected to 1, 6	9	nc
5	GND		

COM2 Connector

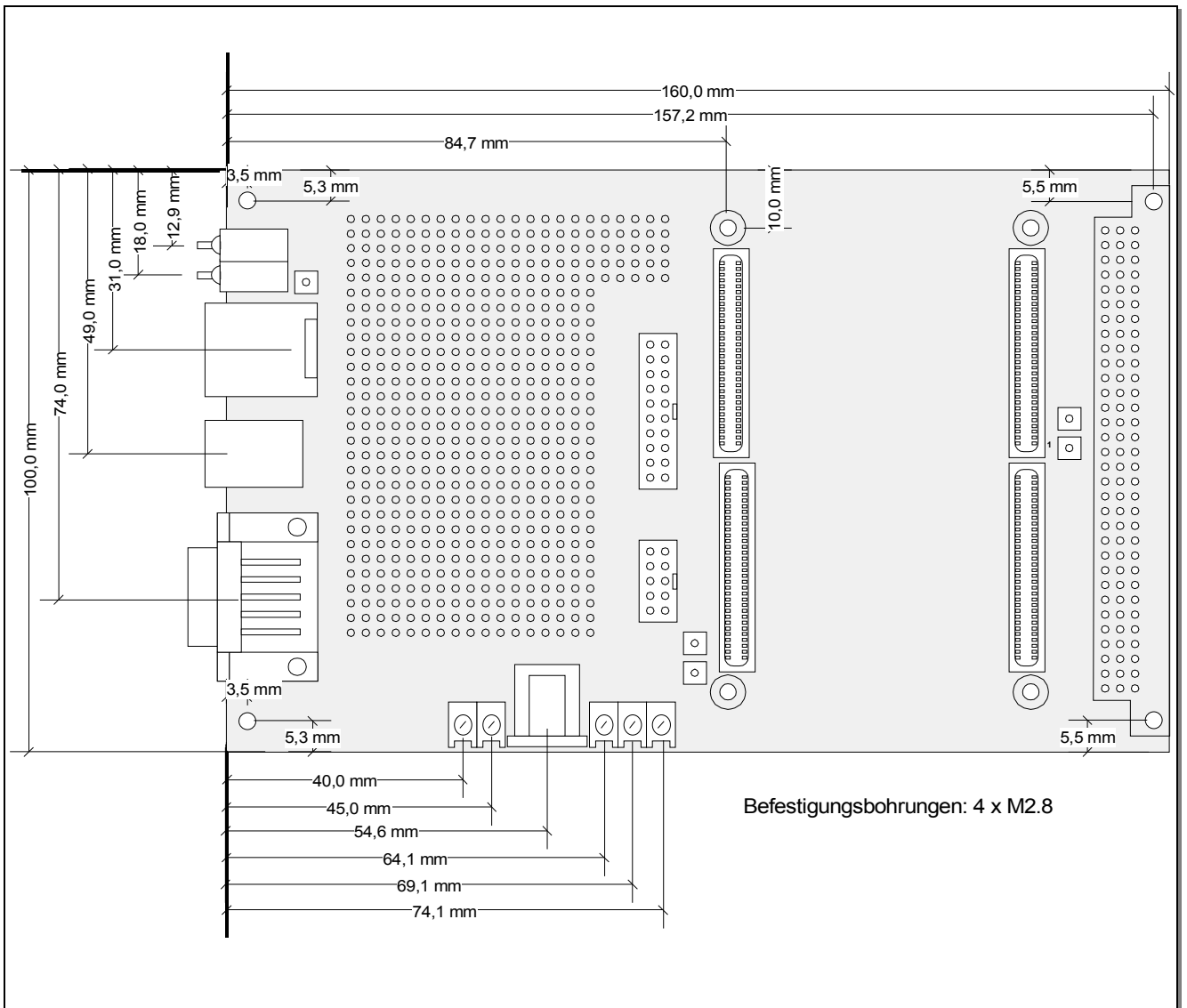
Pin		Pin	
1	connected to pins 2,7 (Null-Modem wiring)	2	connected to 1, 7
3	TxD + (RS422 transmitter data output)	4	RxD - (RS422 receiver data input)
5	RxD + (RS422 receiver data input)	6	TxD - (RS422 transmitter data output)
7	connected to 1, 2	8	nc
9	GND	10	nc

If the DSP module is equipped with an RS232 interface on COM2, RxD- changes to CTS, TXD- changes to RTS

PRGIO Connector

Pin		Pin	
1	3V3 (auxiliary power output)	2	3V3 (auxiliary power output)
3	GND	4	GND
5	PRGIO0 (LVTTTL in/out)	6	PRGIO1 (LVTTTL in/out)
7	PRGIO2 (LVTTTL in/out)	8	PRGIO3 (LVTTTL in/out)
9	PRGIO4 (LVTTTL in/out)	10	PRGIO5 (LVTTTL in/out)
11	PRGIO6 (LVTTTL in/out)	12	PRGIO7 (LVTTTL in/out)
13	PRGIO8 (LVTTTL in/out)	14	PRGIO9 (LVTTTL in/out)
15	PRGIO10 (LVTTTL in/out)	16	PRGIO11 (LVTTTL in/out)
17	PRGIO12 (LVTTTL in/out)	18	PRGIO13 (LVTTTL in/out)
19	PRGIO14 (LVTTTL in/out)	20	PRGIO15 (LVTTTL in/out)

MECHANICAL DIMENSIONS



ORDERING INFORMATION

D2.Base I	standard base board for D.Module2 family
D2.PS-DCCnv	2.5W Power Supply Adapter, 3.3V to +/-5V

Additional Options On Volume Purchase

For volume purchase D.SignT offers customer specific modifications of the hardware either to reduce costs through reduced functionality or to increase functionality to meet the customers application requirements. Extensive experience in custom designs and the powerful engineering tools of our development department bring your application and our DSP know how together for your solution. Please contact D.SignT directly.

Technical Support

Our products include free of charge technical support. You can reach the technical support by e-mail (support@dsigt.de) phone or fax.

Pricing

Please ask for our current price list and volume discounts.

Availability

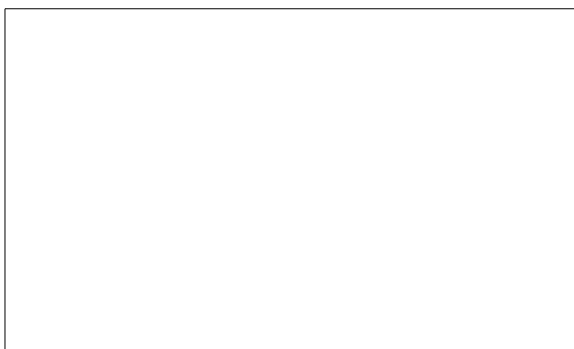
Our standard D.Modules are available typically ex-stock.- For special modifications or non-standard D.Module2 please consult our sales department.

Warranty

All D.Module2 boards come with a 12 month warranty .

For additional information contact your local distributor or D.SignT directly.

Distributed and supported locally by



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