



# Passive Breakout box

for Series 61 MOST Controllers

User Manual

(Translation of Original docu)

Document Version 1.2



GOPEL electronic GmbH

Goeschwitzer Str. 58/60 • D-07745 Jena

+ 49-3641-6896-597 • ats\_support@goepel.com • www.goepel.com

**© 2015 GOEPEL electronic GmbH. All rights reserved.**

The software described in this manual as well as the manual itself are supplied under license and may be used or copied only in accordance with the terms of the license.  
The customer may make one copy of the software for safety purposes.

The contents of the manual is subject to change without prior notice and is supplied for information only.

The hardware and software might be modified also without prior notice due to technical progress.

In case of inaccuracies or errors appearing in this manual, GOEPEL electronic GmbH assumes no liability or responsibility.

Without the prior written permission of GOEPEL electronic GmbH, no part of this documentation may be transmitted, reproduced or stored in a retrieval system in any form or by any means as well as translated into other languages (except as permitted by the license).

GOEPEL electronic GmbH is neither liable for direct damages nor consequential damages from the company's product applications.

Printed: 18.02.2015

All product and company names appearing in this manual are trade names or registered trade names of their respective owners.

**Issue: February 2015**

<b>1</b>	<b>CONCEPT OF THE DEVICE.....</b>	<b>1-1</b>
<b>2</b>	<b>CONNECTORS .....</b>	<b>2-1</b>
2.1	UUT CONNECTOR.....	2-2
2.2	DVI CONNECTOR .....	2-3
2.3	DIGITAL IN/ OUT CONNECTOR.....	2-4
2.4	CAN/ LIN/ KLINE CONNECTORS .....	2-5
2.5	INDIVIDUAL FEMALES.....	2-6
<b>3</b>	<b>SUPPLY NOTE .....</b>	<b>3-7</b>



# 1 Concept of the Device

The Breakout box for 6161 provides an extra connectors access to the signals of the connected GOPEL electronic hardware (PXI 6161 or basic MOST 6161). The signals might be different according to the connected device.



*Figure 1-1: Breakout box for 6161 with a connected basic MOST 6161*



The Breakout box for 6161 DOES NOT distribute MOST signals.



## 2 Connectors

On the top side of a Breakout box for 6161 there are the following components:

- Individual banana sockets  $U_{BAT}$  and  $GND_{ISO}$  to supply the voltage for the transceivers of the 6161 hardware as well as the reference voltage for the Ring break diagnosis
- Interface 1 and Interface 2  
Females for two communication interfaces  
(per female CAN/ LIN/ KLine possible)
- Digital IN/ OUT – female connector for digital signals
- ECL Individual banana socket for the control line of the Ring break diagnosis
- SPDIF IN Individual cinch socket, digital Audio Input
- SPDIF OUT Individual cinch socket, digital Audio Output



Figure 2-1:  
Top view

Frontal view:

- DVI connector (left)
- UUT Connector Central UUT connector (right)



Figure 2-2:  
Frontal view

## 2.1 UUT Connector

On the pins of the central UUT Connector (frontal side, right) you find the same signals as on the Extended Signals connector of the GOEPEL electronic MOST150 hardware (in the same order).

Type: Samtec VRDPC-50-01-M-RA

Pin	Signal			Pin	Signal		
1	GND			26	GND		
2	CAN1_H	LIN1	K Line1	27	CAN2_H	LIN2	K Line2
3	CAN1_L		L Line1	28	CAN2_L		L Line2
4	GND			29	GND		
5	UBAT <sub>externCAN1</sub>			30	UBAT <sub>externCAN2</sub>		
6	GND <sub>ISO</sub>			31	GND <sub>ISO</sub>		
7	GND			32	GND		
8	DIGITAL_OUT1			33	DIGITAL_IN1		
9	DIGITAL_OUT2			34	DIGITAL_IN2		
10	GND			35	GND		
11	DIGITAL_OUT3			36	DIGITAL_IN3		
12	DIGITAL_OUT4			37	DIGITAL_IN4		
13	GND			38	GND		
14	RingBreakDiagnosis			39	GND <sub>ISO</sub>		
15	UBAT <sub>externRBD</sub>			40	N.C.   DVI.+5Vout		
16	GND			41	GND		
17	N.C.   S/PDIF in			42	N.C.   DVI.SDA		
18	N.C.   S/PDIF out			43	N.C.   DVI.SCL		
19	GND			44	GND		
20	N.C.   DVI.TX0_p			45	N.C.   DVI.TX2_p		
21	N.C.   DVI.TX0_n			46	N.C.   DVI.TX2_n		
22	GND			47	GND		
23	N.C.   DVI.TX1_p			48	N.C.   DVI.TXC_p		
24	N.C.   DVI.TX1_n			49	N.C.   DVI.TXC_n		
25	GND			50	GND		

The pinout of the **Communication interfaces** depends on the plugged-in transceivers of the 6161 hardware, while the **Pins 17..24** and **40..49** remain empty (but not the GND pins) OR, if the AV Extension board Type 1 is mounted, have a Pinout to the table above (see also basic MOST 6161 or PXI 6161 Manual).



## 2.2 DVI Connector

Type: DVI/ RA female 24 poles (+5)

Pin	Signal	Remarks
1	DVI.TX2_n	
2	DVI.TX2_p	
3	GND	
4	empty	
5	empty	
6	DVI.SCL	
7	DVI.SDA	
8	empty	
9	DVI.TX1_n	
10	DVI.TX1_p	
11	GND	
12	empty	
13	frei	
14	DVI.+5Vout	
15	GND	
16	empty	
17	DVI.TX0_n	
18	DVI.TX0_p	
19	GND	
20	empty	
21	empty	
22	GND	
23	DVI.TXC_p	
24	DVI.TXC_n	



Die Analog pins of this female (front side right) are not used for the Breakout box for 6161.

## 2.3 Digital IN/ OUT Connector

Type: DSub 15 poles female

Pin	Signal	Remarks
1	DIGITAL_IN1	
2	DIGITAL_IN2	
3	DIGITAL_IN3	
4	DIGITAL_IN4	
5	DIGITAL_OUT1	
6	DIGITAL_OUT2	
7	DIGITAL_OUT3	
8	DIGITAL_OUT4	
9	GND <sub>ISO</sub>	
10	GND <sub>ISO</sub>	
11	GND <sub>ISO</sub>	
12	empty	
13	U <sub>BAT</sub>	
14	U <sub>BAT</sub>	
15	U <sub>BAT</sub>	

## 2.4 CAN/ LIN/ KLine Connectors

### Interface 1

Type: DSub 9 poles female

Pin	Signal	Remarks
1	U <sub>BAT</sub>	
2	CAN1_L   -   L Line1	Depends on 6161 Transceiver
3	GND <sub>ISO</sub>	
4	empty	
5	empty	
6	GND <sub>ISO</sub>	
7	CAN1_H   LIN1   K Line1	Depends on 6161 Transceiver
8	empty	
9	empty	

### Interface 2

Type: DSub 9 poles female

Pin	Signal	Remarks
1	U <sub>BAT</sub>	
2	CAN2_L   -   L Line2	Depends on 6161 Transceiver
3	GND <sub>ISO</sub>	
4	empty	
5	empty	
6	GND <sub>ISO</sub>	
7	CAN2_H   LIN2   K Line2	Depends on 6161 Transceiver
8	empty	
9	empty	

## 2.5 Individual Females

Female	Signal	Remarks
ECL	RingBreakDiagnosis	Banana female 4 mm green RBD control line Reference potentials: $U_{BAT}$ and $GND_{ISO}$
$U_{BAT}$	$U_{BAT}$	Banana female 4 mm red
$GND_{ISO}$	$GND_{ISO}$	Banana female 4 mm blue
SPDIF In <sub>inside</sub>	S/PDIF in	Cinch female yellow Digital Audio input
SPDIF In <sub>outside</sub>	GND	
SPDIF Out <sub>inside</sub>	S/PDIF out	Cinch female yellow Digital Audio output
SPDIF Out <sub>outside</sub>	GND	



The  $U_{BAT}$  voltage can be supplied via the  $U_{BAT}$  individual banana female or via the corresponding contacts of the Interfaces 1/ 2 or Digital IN/ OUT.

It is used for supplying the transceivers of the 6161 hardware and as reference potential for the Ring break diagnosis.

## 3 Supply Note

To a Breakout box for 6161 belongs also the connection cable to the GOPEL electronic 6161 hardware.



---

**6**

- 6161
  - Ring break diagnosis .....2-1
  - Transceivers .....2-1

---

**A**

- AV Extension .....2-2

---

**B**

- Breakout box for 6161
  - Concept of the Device ....1-1
  - Connectors .....2-1
  - Frontal view.....2-1
  - Individual females.....2-6
  - Top view .....2-1

---

**C**

- Communication interfaces ..2-2
- Connectors
  - CAN/ LIN/ K Line.....2-5
  - Digital .....2-4
  - DVI .....2-3
  - UUT Connector .....2-2

---

**F**

- Females
  - CAN/ LIN/ KLine.....2-1

---

**R**

- Ring break diagnosis.....2-6

---

**S**

- SPDIF .....2-6
- Supply note.....3-7

---

**U**

- U<sub>BAT</sub> .....2-6