

## BREAKOUT Series

### Hardware Guide



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## About This Manual

### How to Use This Manual

This manual guides you through the installation and operation of the device. Use the Table of Contents at the beginning of the manual or Index Directory at the end of the document to locate help on a particular topic. You can access more information and latest news by visiting on the DirectOut website at [www.directout.eu](http://www.directout.eu).

### Conventions

The following symbols are used to draw your attention to:

#### **TIPS**

indicate useful hints and shortcuts.



#### **NOTES**

are used for important points of clarification or cross references.



#### **WARNINGS!**

alert you when an action should always be observed.



## Chapter 1: Overview

### Introduction

The BREAKOUT series is a range of adaptor boxes available in different variants to extend the coverage of the ANDIAMO and PRODIGY series. They are equipped with XLR or BNC connectors on the front panel and DSUB-25 connectors on the rear panel. Audio signals are carried passively between the front and rear panels.

The small form factor and angle brackets also allow for mounting the devices on the back of an ANDIAMO or PRODIGY unit.



BREAKOUT.AN8 - analog input / output, 8 channels  
Article code: DOBOB0889



BREAKOUT.AN16I - analog input, 16 channels  
Article code: DOBOB0890



BREAKOUT.AN16O - analog output, 16 channels  
Article code: DOBOB0891



BREAKOUT.AES- digital input / output, 8 AES3 ports (16 channels)  
Article Code: DOBOB0887



BREAKOUT.AESID- digital input / output, 16 AESid ports (32 channels)  
Article Code: DOBOB0888

## Feature Summary

BREAKOUT.AN8	8 x XLR connector male 8 x XLR connector female 2 x DSUB-25 (AES59 analog pinout - 'TASCAM')
BREAKOUT.AN16I	16 x XLR connector female 2 x DSUB-25 (AES59 analog pinout - 'TASCAM')
BREAKOUT.AN16O	16 x XLR connector male 2 x DSUB-25 (AES59 analog pinout - 'TASCAM')
BREAKOUT.AES	8 x XLR connector male 8 x XLR connector female 2 x DSUB-25 (AES59 digital pinout - 'TASCAM')
BREAKOUT.AESid*	16 x BNC connector (75 $\Omega$ ) 4 x DSUB-25 (AES59 digital pinout - 'TASCAM')

\* Impedance and level are adapted according the specific format.  
AES3: 110  $\Omega$ , 2-7 V<sub>p-p</sub> < > AES3id: 75  $\Omega$ , 1 V<sub>p-p</sub>

## CHAPTER 2: Legal issues & facts

### Before Installing This Device



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#### **WARNING!**

**Please read and observe all of the following notes before installing this product:**

- Check the hardware device for transport damage.
- Do not use the device at extreme temperatures. Proper operation can only be guaranteed between temperatures of 5° C and 45° C and a maximum relative humidity of 80 %, non-condensing.

### Defective Parts/Modules



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#### **WARNING!**

This device contains no user-serviceable parts. Therefore do not open the device. In the event of a hardware defect, please send the device to your DirectOut representative together with a detailed description of the fault.

We would like to remind you to please check carefully whether the failure is caused by erroneous configuration, operation or connection before sending parts for repair.



## Intended Operation

The BREAKOUT series is designed for passive adaption of analog or digital audio (AES3, AES3id) signals.

## Updates

DirectOut products are continually in development, and therefore the information in this manual may be superseded by new releases. To access the latest documentation, please visit the DirectOut website:

[www.directout.eu](http://www.directout.eu)

## **WARNING!**

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No compensation can be claimed for damages caused by operation of this unit other than for the intended use described above. Consecutive damages are also excluded explicitly. The general terms and conditions of business of DirectOut GmbH are applied.

## Conditions of Warranty

This unit has been designed and examined carefully by the manufacturer and complies with actual norms and directives.

Warranty is granted by DirectOut GmbH over the period of 36 months for all components that are essential for proper and intended operation of the device. The date of purchase is applied for this period.

Consumable parts (e.g. battery) are excluded from warranty claims.

## **WARNING!**

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All claims of warranty will expire once the device has been opened or modified, or if instructions and warnings were ignored.

For warranty claims please contact the dealer where your device was acquired.

## Conformity & Certificates

### CE

This device complies with the basic requests of applicable EU guidelines. The appropriate procedure for approval has been carried out.

### RoHS

(Restriction of the use of certain Hazardous Substances)

This device was constructed fulfilling the directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment 2011/65/EU and 2015/863.

### WEEE

(Directive on Waste Electrical and Electronic Equipment)

Due to the directive 2002/96/EC for waste disposal this device must be recycled.

For correct recycling please dispatch the device to:

DirectOut GmbH,

Leipziger Str. 32

09648 Mittweida

Germany

Only stamped parcels will be accepted!

WEEE-Reg.-No. DE 64879540

### Contact

DirectOut GmbH

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Fax: +49 (0)3727 5665-101

Mail: [sales@directout.eu](mailto:sales@directout.eu)

[www.directout.eu](http://www.directout.eu)

## Contents

The contents of your BREAKOUT box package should include:

- 1 x BREAKOUT box (19", 1 RU)
- 1 x Manual

## Accessories

### Patch Chords

Cabling from Cordial provides appropriate connection of the BREAKOUT with your device to ensure proper transmission of the audio signals.

Name	Description	Article code
DSUB25.AN50	Analog patch cable for connection with BREAKOUT.AN16I, AN16O, AN8, transferring 8 audio channels, length 0.5 m	DOCAA0334
DSUB25.AN100	Analog patch cable for connection with BREAKOUT.AN16I, AN16O, AN8, transferring 8 audio channels, length 1.0 m	DOCAA0335
DSUB25.AES50	Digital patch cable for connection with BREAKOUT.AES or AESid transferring 8 audio channels, length 0.5 m	DOCAA0332
DSUB25.AES100	Digital patch cable for connection with BREAKOUT.AES or AESid transferring 8 audio channels, length 0.5 m	DOCAA0333

## Chapter 3: Installation

### Installing the Device

1. Open the packaging and check that the contents have been delivered complete and undamaged.
2. Place the device on a non-slip horizontal surface.



### NOTE

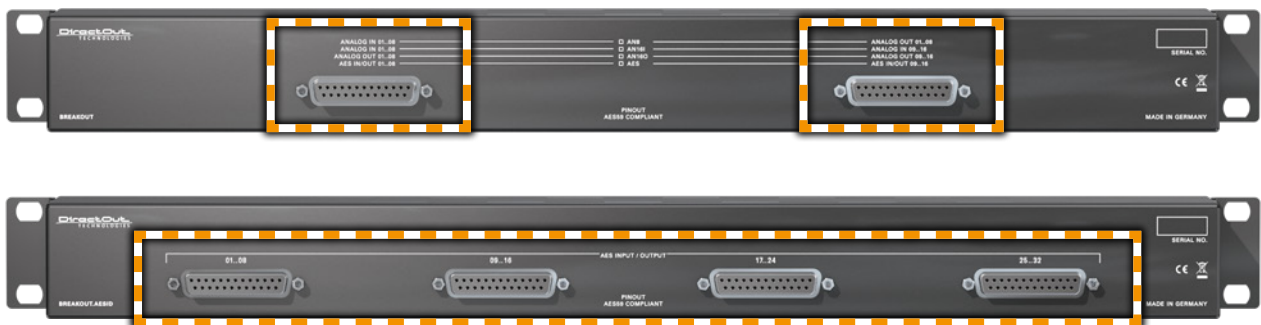
Ensure that all concerned devices are switched off before connecting.

3. Check the patch chords for appropriate pinout and impedance.

Model	Patch chord
BREAKOUT.AN8 BREAKOUT.AN16I BREAKOUT.AN16O	analog, one to one wired DSUB-25 cable e.g. DSUB25.AN50 or DSUB25.AN100 - see "Accessories" on page 11
BREAKOUT.AES BREAKOUT.AESid*	digital*, cross wired DSUB-25 cable e.g. DSUB25.AES50 or DSUB25.AES100 - see "Accessories" on page 11

\* For connecting digital signals the use of cables with 110 Ω impedance is required.

4. Connect the DSUB-25 ports using appropriate DSUB-25 cables with AES59 pinout.



For connection with PRODIGY Series or ANDIAMO Series patch chords with DSUB-25 male to DSUB-25 male connectors are required.

5. Connect the XLR or BNC ports using appropriate cables; i.e. STP for analog signals, STP 110  $\Omega$  for AES3 signals or coaxial cables 75  $\Omega$  for AES3id signals.



use shielded twisted pair (STP) cable



use shielded twisted pair (STP) cable 110  $\Omega$



use coaxial bnc cable 75  $\Omega$

6. Switch on the connected device(s).

## CHAPTER 4: Technical Data

### Dimensions

- Width 483 mm
- Height 44.5 mm
- Depth 65 mm

### Weight

- about 1 kg

### Environmental Conditions

- Operating temperature +5°C up to +45°C
- Relative humidity: 10%- 80%, non condensing

### AN8 (analog I/O)

- 8 x XLR connector female
- 8 x XLR connector male
- 2 x DSUB-25 (AES59 analog pinout, 'TASCAM')

### AN16I (analog IN)

- 16 x XLR connector female
- 2 x DSUB-25 (AES59 analog pinout, 'TASCAM')

### AN16O (analog OUT)

- 16 x XLR connector male
- 2 x DSUB-25 (AES59 analog pinout, 'TASCAM')

### AES (digital I/O)

- 8 x XLR connector female
- 8 x XLR connector male
- 2 x DSUB-25 (AES59 digital pinout, 'TASCAM')

### AESid (digital I/O)

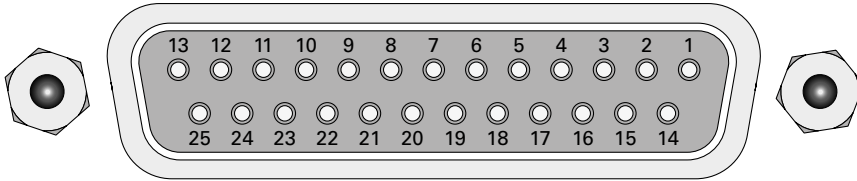
- 16 x BNC connector 75  $\Omega$  (AESid)
- 4 x DSUB-25 (AES59 digital pinout, 'TASCAM')

### Cable Specifications

- coaxial cable - impedance 75  $\Omega$ , screening attenuation better than 85 dB
- shielded twisted pair (analog)
- shielded twisted pair, impedance 110  $\Omega$  (digital)

## Appendix A - DSUB-25 Pin assignment

The pinout of the DSUB-25 connectors for the transmission of analog and AES3 audio signals follows the AES59 specification.



jack- female

PIN	Signal analog	Signal digital
1	CH 8 +	CH 4 OUT +
2	GND	GND
3	CH 7 –	CH 3 OUT –
4	CH 6 +	CH 2 OUT +
5	GND	GND
6	CH 5 –	CH 1 OUT –
7	CH 4 +	CH 4 IN +
8	GND	GND
9	CH 3 –	CH 3 IN –
10	CH 2 +	CH 2 IN +
11	GND	GND
12	CH 1 –	CH 1 IN –
13		
14	CH 8 –	CH 4 OUT –
15	CH 7 +	CH 3 OUT +
16	GND	GND
17	CH 6 –	CH 2 OUT –
18	CH 5 +	CH 1 OUT +
19	GND	GND
20	CH 4 –	CH 4 IN –
21	CH 3 +	CH 3 IN +
22	GND	GND
23	CH 2 –	CH 2 IN –
24	CH 1 +	CH 1 IN +
25	GND	GND

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