AES42 digital interfaces

04.03.2015

Mini-DA42

AES42/AES3 converter with analog outputs

The Mini-DA42 powers digital microphones and has both digital and analog outputs. All inputs and outputs are available through a Sub-D breakout cable.

On the Mini-DA42 there are a green Power LED and a red "Unlocked" Error LED which turns off as soon as the device successfully locks to the connected digital microphone.

Inputs:

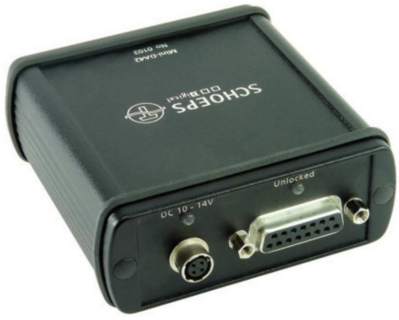
- AES42, Mode 1 (XLR-3F, 100 Ohms, black label)
- power: DC 12 - 18V / 200 - 500 mA, available through included AC adapter for 100 - 240 V, 50 / 60 Hz with HIROSE plug. Operation is also possible with other AC adapter models or batteries / rechargeable batteries.

Outputs (available through included Sub-D breakout cable):

- AES3 (XLR-3M, 100 Ohms, blue label)
- 2 * analog (XLR3-M, yellow and red label), balanced, referring to ground, maximum cable length: 300 m

Technical specifications:

- sampling rate: max. 192 kHz
- dynamic range: 112 dB (A, RMS), >98 dB(CCIR, q-peak)
- frequency range: 2 Hz .. 20 kHz (-1 dB)
- THD + N: < -95 dB @ 1 kHz
- output level: max 14.5 dBU @ 0 dBFS.
  In normal operation, the analog outputs will require some amplification, since digital input signal levels are typically rather far below full scale. When using the +30dB level boost of the SCHOEPS SuperCMIT, normal line inputs are sufficient.
- power consumption (including SuperCMIT): 200 mA
- dimensions in mm: 84 * 84 * 34; weight: 173 g



Mini-DA42:
AES42 converter with analog outputs

Breakout cable for Mini-DA42:
*input: 1 * AES42,*
*output: 1 * AES3 out, 2 * analog*

PSD 2U

Digital Phantom Powering (AES42/AES3 converter)

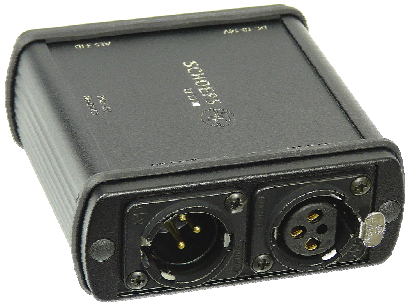
The PSD 2U provides the digital phantom power (DPP, 10V) for a digital microphone like the SuperCMIT. It can be connected to a normal digital AES3 input (XLR/RCA).

Inputs:

- AES42, Mode 1 (XLR-3F)
- power: DC 12 - 18V / 500 mA, available through included AC adapter for 100 - 240 V, 50 / 60 Hz with HIROSE plug

Outputs:

- AES3 (XLR-3M)
- AES3id (RCS)



PSD 2U:
Powering box for digital microphones with AES3 outputs (XLR/RCA)

AES42 digital interfaces

Connecting the digital microphone SCHOEPS SuperCMIT

The SuperCMIT is a digital microphone that conforms to the AES42 standard, Mode 1. You connect it to an interface offering Digital Phantom Power (DPP, 10 Volts).

The SuperCMIT runs on its own internal clock. If you run more than one SuperCMIT or if you prefer to use an external clock, your digital input must use sampling rate converters (SRC).

Furthermore, in a normal workflow, the digital input should also offer sufficient gain (20 - 30 dB) for recording and monitoring in real time.

The following chart lists some currently available devices and shows their properties with regard to the above requirements.

1. SCHOEPS PSD 2U

- powering box for 10 Volt digital phantom powering (DPP) with XLR and RCA outputs
- input: AES42, outputs: AES3 and AES-id (RCA)
- an AC adapter for 100 - 240 V, 50 / 60 Hz with HIROSE plug is included
- this device needs to be connected to an AES3 input with sample rate converter (SRC)

2. SCHOEPS MINI-DA42

- Miniature DA converter with 10 Volt digital phantom powering (DPP)
- input: AES42
- outputs: AES3 (XLR-3M), 2 * analog (symmetrical XLR-3M)
- an AC adapter for 100 - 240 V, 50 / 60 Hz with HIROSE plug is included

3. Sound Devices

a) 788T

- the AES42 inputs are available only through a *separate breakout cable* available from Sound Devices – do not use the analog inputs!
- built-in DPP and SRC (= it has an AES42/Mode1 interface)
- sufficient gain (+50 dB) in the digital input
- peak limiter and low-cut filter are available

b) **688, 664** and **633**

- built-in DPP and SRC (= it has an AES42/Mode1 interface)
- sufficient gain (+50 dB) in the digital input
- peak limiter and low-cut filter are available
- *Digital input gain is controlled by rotating the "Select Encoder" from the input's Input Settings Screen. You can see this in the PFL-mode.*

c) 744

- no DPP, need a powering device like the SCHOEPS PSD 2U or Mini-DA42
- no SRC in the digital input, the digital microphone has to be the master clock!
- no digital gain available, +30 dB gain option in the SuperCMIT should be used

4. **ZAXCOM NOMAD** and **MAXX**:

- built-in DPP and SRC (= it has an AES42/Mode1 interface)

AES42 digital interfaces

5. **AATON CANTAR**
   - no DPP, needs a powering device like the SCHOEPS PSD 2U or Mini-DA42
   - with SRC in the digital input
   - no gain adjustment in the digital inputs

6. **AETA 4MINX**
   - 2 × AES42 inputs with SRC
   - Digital gain 20 dB, Limiter, LowCut filter

7. **TASCAM HS-P82**
   - 8 AES/EBU inputs with SRC
   - no DPP, needs a powering device like the SCHOEPS PSD 2U or Mini-DA42
   - no gain adjustment available in the digital inputs, +30 dB gain option in the SuperCMIT should be used
   - peak limiter and low-cut filter

8. **RME DMC-842**
   - 8 × AES42 input (=4 two-channel inputs) with SRC, DPP and gain
   - 8 × analog output (XLR)
   - 4 × AES3 output , 2 × ADAT output
   - *For operation with SCHOEPS digital microphones, the control pulses (CP) and sync pulses (SP) have to be turned off in the setup menu of the DMC-842 or the signal-to-noise ratio may decrease. The easiest way is to activate 'Auto CP/SP' and 'Auto SRC' in the setup of the remote software.*

9. **LAKE PEOPLE DAC C462**
   - input: AES42
   - outputs: 1 × AES3 output, 2 × analog (XLR3M)
   - gain adjustable from 0 dB to 48 dB in steps of 6 dB
   - headphone monitoring options with separate gain: L/L, L/R, R/R

10. Neumann

a) NEUMANN CONNECTION KIT
- box for 10 Volt digital phantom powering (DPP); XLR output
- input: AES42, output: AES3
- needs to be connected to an AES3 input with sample rate converter (SRC)

NEUMANN DMI-2 PORTABLE
- 2 × AES42 input; 2 × AES3 output
- needs to be connected to an AES3 input with sample rate converter (SRC)

b) Neumann DMI-8
- no Mode-1 support → does neither work with the SCHOEPS SuperCMIT nor with the CMD 2!

11. ZAXCOM **TRX742** and **TRX942**
   - TRX942 digital recording transceiver for boom
   - TRX742 digital plug-on transmitter for boom
   - custom-made AES42 input for the SuperCMIT
   - transmission of one output channel only (can be selected)

AES42 digital interfaces

	Device	DPP 10V	Digital Gain	SRC	Analog output	Head-phones Out
1.	SCHOEPS PSD 2U	✓	-	-	-	-
2.	SCHOEPS Mini-DA42	✓	-	-	✓	-
3.	Sound Devices a) 788T, 688, 664 and 633	✓	✓	✓	✓	✓
	b) 744	-	-	-	✓	✓
4.	ZAXCOM Nomad and Maxx:	✓	✓	✓	✓	✓
5.	AATON Cantar	-	-	✓	✓	✓
6.	AETA 4MinX	✓	✓	✓	✓	✓
7.	TASCAM HS-P82	-	-	✓	✓	✓
8.	RME DMC-842	✓	✓	✓	✓	-
9.	LP DAC C462	✓	✓	-	✓	✓
10.	Neumann Connection Kit and DMI-2	✓	-	-	-	-
11.	Zaxcom TRX742 and 942	✓	✓	-	-	-