Appsys ProAudio

flexiverter

AUX-MADI-TP
AUX-MADI-TP-DUAL

MADI-TP Extension Card for FLX devices
DiGiCo/Soundcraft/Studer Cat5-MADI

User's Manual

((en))

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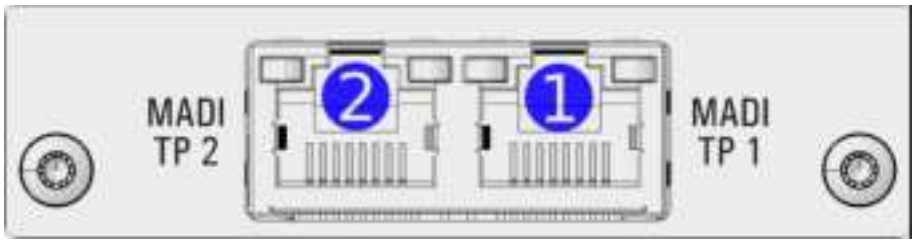
1. CONNECTORS



❶	MADI twisted pair input 1
❷	MADI twisted pair input 2 (only in AUX-MADI-TP-DUAL)

2. DESCRIPTION

The **AUX-MADI-TP** card provides 64x64 channels of MADI over Twisted pair (Cat5). The format is compatible with the DiGiCo and Soundcraft/Studer variants of MADI-TP (MADI over Cat5) and can directly be connected to this equipment.

The **AUX-MADI-TP-DUAL** card provides a dual port for 64ch@96k in the FLX-DANTE/SRC devices only. In other FLX devices, it works as single-port AUX-MADI-TP card with port 1 active only.

It can be fitted into every **flexiverter (FLX)** device for the following purposes:

- to use the **FLX as standalone converter** between the built-in interface and this extension card
- to **add extra output splits** to existing FLX devices by "tapping" channels of another conversion
- to **add additional channels/protocols to the FLX** when it is used in double-flexiverter or flexiverter + multiverter configurations

For a detailed description of possible configurations, please refer to the manual of your base FLX device.

2.1. Box Contents

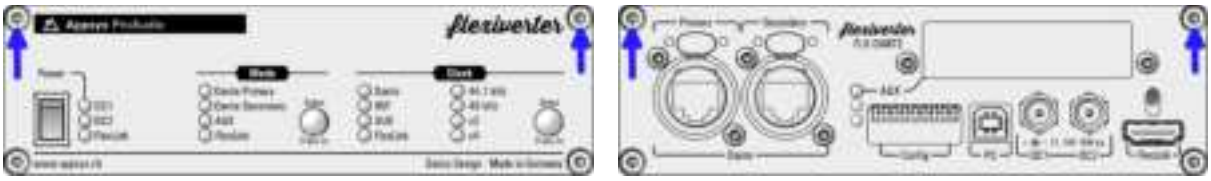
- 1 AUX-MADI-TP(-DUAL) card

- 1 Slot cover plate
- This manual

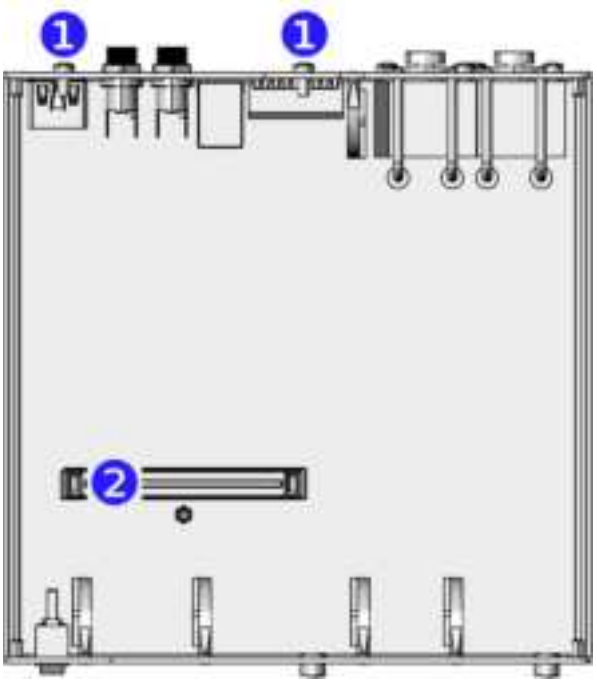
3. INSTALLATION

3.1. Opening the flexiverter

- Required: Torx T10 screwdriver
- Power off the device and detach all cables to avoid short-circuit or damage
- Detach the device from the rack-mount kit
- Remove the four top screws and the top cover by pulling it upwards:



3.2. Flexiverter Inside View



1 Screws for AUX cover plate

2 AUX card connector

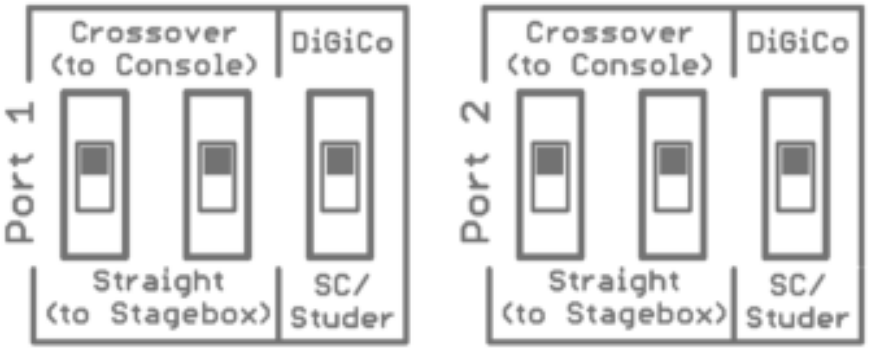
3.3. Installing the card

- Remove the screws holding the cover plate, and the blank cover plate 1
- Insert the AUX card from inside, using the supplied cover plate.
  Make sure it is correctly fitted to the card connector 2

- Secure the card using two cover screws ❶
- The card has been installed correctly if you are able to select an audio routing mode involving AUX (long-press MODE button to enter Route Mode Selection).

3.4. Selecting the pinout

The pinout must be set according on the connected device. Use the slide switches on the card to select the desired pinout for each port:



Always check and test the pinout settings before re-mounting the top cover.

4. DIP SETTINGS

The behavior of the card can be controlled by DIP switches 4..6 on the FLX device. Changing the DIP settings will come immediately into effect.

AUX-MADI-TP **AUX-MADI-TP-DUAL**	4 96k frame* [1]	5 6 64ch output* [1]
	4 48k frame [1]	5 6 57ch (use for DiGiCo stagebox control) [1]
		5 6 56ch output [1]
		5 6 reserved

* Default setting

1 Applies to outputs only. Input format is always auto-detected, regardless of the switch setting

5. SELF-TEST

The card can be tested for correct operation by the user. This is done using the self-test mode, in which a special random test pattern is output on all channels. This pattern is looped back via an external cable into the corresponding inputs, where it is checked for consistency.

- You need a special RJ45 loopback plug to test. This must have the following pins connected:1-3-7 and 2-6-8
- Turn off the FLX, and hold down Mode button while switching on again Press Mode again until the "CLOCK" LEDs show "INT/48kHz" in cyan color. The device is now in self-test mode.
- The selftest should work in slide switch positions "Crossover" and "Straight" as well as "DiGiCo" and "SC/Studer"
- The "AUX" LED in the MODE sections shows the result of the self-test:
  red: error/no connection
  green (loopback data received ok)
  Press Mode again or power off the device to exit self-test mode.

6. SPECIFICATIONS

Parameter	Value	
Dimensions	118x80mm (WxH)	
Weight	83g	
Operating temperature	0..+55°C, non-condensing	
Storage temperature	-40..+85°C, non-condensing	
Cable lengths	Max. 70m, depending on a variety of factors. Use high-quality Cat5 cable only. When transmission errors occur, try reducing the cable length.	
Channel count	AUX-MADI-TP	64x64 @ 48kHz (56/57ch modes can be configured) 32x32 @ 96kHz (28ch mode can be configured) 16x16 @ 192kHz (14ch mode can be configured)
	AUX-MADI-TP-DUAL	64x64 @ 48kHz (56/57ch modes can be configured) 64x64 @ 96kHz (28ch mode can be configured) 32x32 @ 192kHz (14ch mode can be configured)
Sample rates	44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz	
Latency	Interface <> Flexiverter internal: 2 samples	
Connector pinout	**Mode**	**RJ45 Pin assignment**
	DiGiCo Straight	1:TX+, 2:TX-, 7:RX+, 8:RX-
	DiGiCo Crossover	1:RX+, 2:RX-, 7:TX+, 8:TX-
	SC/Studer Straight	1:TX+, 2:TX-, 3:RX+, 6:RX-
	SC/Studer Crossover	1:RX+, 2:RX-, 3:TX+, 6:TX-

7. APPENDIX

7.1. Available AUX cards

At the time of writing (2025-02), the following AUX cards are available. More will come, please check www.appsys.ch for updates.

Item	Description
AUX-ADAT	16x16ch ADAT I/O (2x Toslink In + 2x out). Supports also S/PDIF
AUX-AES3	8x8ch AES3 I/O on 1x DB25, fully transformer isolated
AUX-DANTE	64x64ch DANTE network card
AUX-MADI-COAX	64x64ch MADI for coaxial cable (BNC connectors)
AUX-MADI-COAX-DUAL	64x64ch@96k dual-Link MADI coaxial
AUX-MADI-OPTO	64x64ch MADI optical, SC connector (Multimode 125um 1310 nm)
AUX-MADI-SFP	64x64ch MADI for SFP (Small-Factor Pluggable) modules
AUX-MADI-SFP-DUAL	64x64ch@96k dual-Link MADI SFP
AUX-MADI-TP	64x64ch MADI-TP (Cat5) for DiGiCo, Soundcraft, Studer
AUX-MADI-SFP-DUAL	64x64ch@96k dual-Link MADI TP
AUX-WORDCLOCK	BNC wordclock I/O

7.2. Available FLX devices

At the time of writing (2025-02), the following FLX devices are available. More will come, please check www.appsys.ch for updates.

Item	Description
FLX-AES3	16x16 channel AES3 flexiverter (with AUX slot)
FLX-AES3/SRC	16x16 channel AES3 flexiverter (with AUX slot) with 8 built-in, independent stereo SRCs on the AES3 inputs
FLX-AES50	96x96 channel AES50 flexiverter (with AUX slot)
FLX-DANTE	64x64 channel DANTE flexiverter (with AUX slot)
FLX-DANTE/SRC	64x64 channel DANTE flexiverter (with AUX slot) and built-in bi-directional 64x64ch Sample Rate Converter
FLX-MADI	128x128 channel MADI SFP & MADI coaxial module (with AUX slot)

7.3. Warranty

We offer a full two (2) year warranty from the date of purchase. Within this period, we repair or exchange your device free of charge in case of any defect*. If you experience any problems, please contact us first. We try hard to solve your problem as soon as possible, even after the warranty period.
* Not covered by the warranty are any damages resulting out of improper use, willful damage, normal wear-out (especially of the connectors) or connection with incompatible devices.

7.4. Manufacturer contact

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7.5. Recycling

According to EU directive 2002/96/EU, electronic devices with a crossed-out dustbin may not be disposed into normal domestic waste. Please return the products back for environment-friendly recycling, we'll refund you the shipping fees.

7.6. Document Revision History

1: Initial release

7.7. About this document

Document Revision: 1 · 2025-02-25

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