Appsys ProAudio

SWISS DESIGN
Made in Germany

Flexible Converter Solutions

FOR AUDIO PROFESSIONALS

multiverter
MVR-64

flexiverter
Series

HIGHEST QUALITY CONVERSION BETWEEN ALL INDUSTRY FORMATS

Now with AES67 Dante™ SPOKEN HERE

MADI
OPTICAL/COAXIAL/SFP

MADI TP
DIGICO / STUDER

AES67
ST2110

adat

AES50

AES3

Appsys ProAudio

SWISS DESIGN
Made in Germany

flexiverter Series =
Ultra-compact converters (FLX) + Switchable format boards (AUX)

A *flexiverter* is an ultra-compact box with a main format, dual power supply and a slot for a switchable AUX board, which adds the conversion format to the FLX unit.

At the moment **5 FLX** units and **10 AUX** boards are available (see next page). Format combinations provide the most common conversions with improved features and unique pairings (e. g. AES50 <> Dante, Dante <> Dante SRC, Dante <> AVB).

There is more: Thanks to the FlexLink technology, multiple FLX devices can easily be connected via usual HDMI cables, adding more conversion flexibility and a redundant power supply to the pack.

ClockShield technology delivers a reliable multichannel conversion between all established digital audio formats at maximum clock integrity. A loss of the clock signal can be bridged seamlessly and silently for up to a second.

Pick **two** of these formats and combine them in **one** 9.5 inch Flexiverter box:

Now with AES67
Dante™ SPOKEN HERE

MADI
OPTICAL/COAXIAL/SFP

adat

AES3

AES50

AVB

AES67
ST2110

Analog Out

Appsys ProAudio

The *flexiverter* Series

SWISS DESIGN
Made in Germany

Ultra-compact converters (FLX) + Switchable format boards (AUX)

FLX-MADI

128 x128 ch. MADI SFP
& coaxial I/O

FLX-AES3

16 x 16 ch. AES/EBU

FLX-DANTE

64 x 64 ch. Dante

Now with AES67
Dante™ SPOKEN HERE

FLX-AES50

96 x 96 ch. AES50

prepared for MIDAS/
Behringer stagebox
remote control

FLX-AES67

64 x 64 ch. AES67

AVAILABLE AUX BOARDS

- Dante
- MADI optical
- MADI coaxial
- MADI SFP
- ADAT
- AES3
- AES67
- AVB*
- Analog*
- WordClock I/O

* upcoming 2022

3 possible Flexiverter applications

1 **STAND ALONE**
A SINGLE FLEXIVERTER WITH
AUX EXTENSION CARD

2 **DUAL MODE: TWO FLEXIVERTERS CONNECTED**
AS 1-TO-1 CONVERTER WITH MORE CHANNELS
(FITS INTO 1RU)

3 **MULTIVERTER EXTENSION**
A SINGLE FLEXIVERTER WITH AUX EXTENSION CARD

APPLICATION

1

STAND ALONE

A SINGLE FLEXIVERTER WITH FORMAT EXTENSION CARD

FLX-DANTE

64 x 64 ch. Dante

FLX-MADI

128 x 128 ch. MADI SFP
& coaxial I/O

FLX-AES3

16 x 16 ch. AES/EBU

FLX-AES50

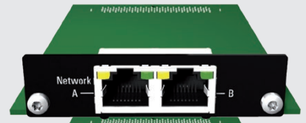
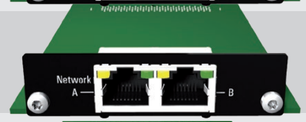
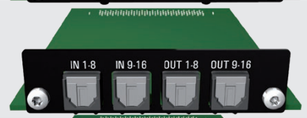
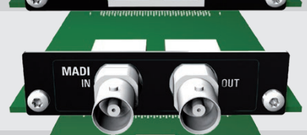
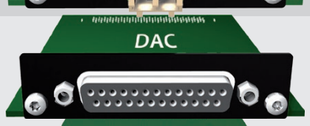
96 x 96 ch. AES50

prepared for MIDAS/Behringer
stagebox remote control

FLX-AES67

64 x 64 ch. AES67

Insert and switch any **AUX board** in every main **FLX unit**
and create the **converter of your choice**.

AUX-DANTE		64 x 64 ch. DANTE 16 x 16 ch. @ 192kHz
AUX-AES67		64 x 64 ch.
AUX-AES3		8 x 8 ch. AES3 I/O on 1x DB25, fully transformer isolated
AUX-AVB[1]		16 x 16 / 32 x 0 / 0 x 32 ch. MILAN-approved
AUX-ADAT		16 x16 ch. ADAT I/O (S/PDIF) (2x Toslink In + 2x out)
AUX-MADI OPTO		64 x 64 ch. MADI optical, SC (Multimode 125um 1310 nm)
AUX-MADI COAX		64 x 64 ch. MADI for coaxial cable (BNC connectors)
AUX-MADI SFP		64 x 64 ch. MADI for SFP modules
AUX-DAC[1]		8 ch. analog outputs (1 x DB25)
AUX-WordClock		BNC WordClock I/O

[1] Available Q2 2022. More AUX modules in preparation.

APPLICATION

2

TWO FLEXIVERTERS CONNECTED

AS 1-TO-1 CONVERTER WITH REDUNDANT POWER SUPPLY

Possible converter pairings:

DANTE <> MADI
DANTE <> AES50
DANTE <> AES67
DANTE <> AES3
MADI <> AES67
MADI <> AES50
MADI <> AES3
AES3 <> AES67
AES3 <> AES50

Convert up to 4 formats with one pairing:

MADI <> Dante <> AVB <> AES3 <> AES67 <> AES50 <> ADAT

Signal splitting to AUX or FlexLink

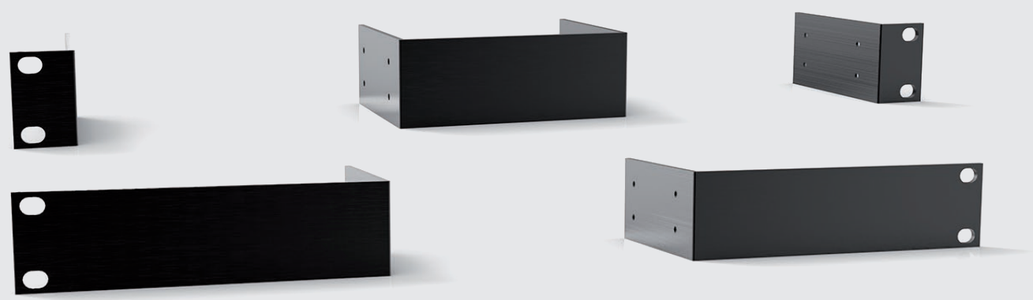
The FlexLink connection

The FlexLink connection is designed to connect two Flexiverters, or one Flexiverter with the Multiverter. It provides:

- 192x192 channels bi-directional transmission of 24-bit uncompressed audio (fully transparent to AES3 compatible metadata bits)
- Super-low link latency of 4 samples (ca. 83μs)
- Dedicated, high-quality reference clock signal with automatic configuration
- Power supply for connected devices (to reduce cabling), alternatively serves as redundancy scheme when both devices are powered: in case of power failure, both devices keep working from the remaining power supply.
- Uses standard HDMI cables (with locking screws), to provide easy field replacement in case of defects.

Optional rackmounts available.

Devices can be mounted “face-to-front” or “back-to-front”.



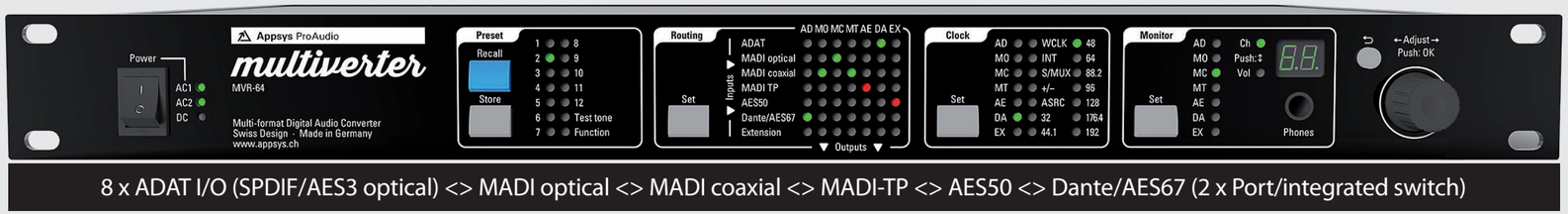
APPLICATION

3

MULTIVERTER EXTENSION

PROVIDING CHANNEL WISE ROUTING & OPTIONAL SRC

Connect one *flexiverter* via FlexLink to the *multiverter* MVR-64 to add an additional format conversion, SRC or more channels.



FlexLink

FLX-DANTE

Dante <> Dante SRC
Dante <> MADI 128 Ch.

FLX-MADI

MADI <> MADI bi-directional
64 Ch. @ 96k MADI SRC

FLX-AES3

AES3 <> all formats
with optional SRC

FLX-AES50

AES50 <> all formats
with optional SRC

FLX-AES67

AES67 <> all formats
with optional SRC

THE BACK PANEL: MOST FLEXIBLE

I/O ports for main format

e.g. 2 x Network for Dante,
MADI coaxial, AES3 D-SUB25

AUX port for optional format module

e.g. Dante, AES67, AVB, ADAT, AES3,
MADI optical/coaxial/SFP, Wordclock

Status LEDs for each port

DIP switches for advanced configuration

USB for firmware updates

Power Supply

FlexLink port (HDMI) to connect to Multiverter or other Flexiverter

SPECIFICATIONS

Dimensions	152x44x153mm (WxHxD) excluding connectors/buttons 152x44x169mm (WxHxD) including device-side connectors/buttons
Weight	560g
Power Consumption	+15V DC, 9W max (18W to power two devices via FlexLink)Triple-redundant input (2x DC, 1x via FlexLink)
Cable length	FlexLink 1m / 3ft. max. recommended
Sample rates	44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
Channel Counts	**FLX-Dante** 64x64 @ 48kHz 32x32 @ 96kHz 16x16 @ 192kHz plus additional AUX channels depending on AUX card **FLX-MADI** 128x128 @ 48kHz 64x64 @ 96kHz, 32x32 @ 192kHz **FLX-AES3** 16x16 @ 48/96/192 kHz (Single-wire) 8x8 @ 96kHz, 8x8 @ 192kHz (Dual wire), 4x4 @ 192 kHz (Quad wire) **FLX-AES50** 96x96 @ 48kHz 32x32 @ 96kHz **FLX-AES67** 64x64 @ 48kHz 32x32 @ 96kHz 16x16 @ 192kHz **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-AES67** 64x64ch AES67 network card **AUX-AVB** 16x16ch / 32x0ch / 0x32ch MILAN-approved AVB **AUX-DANTE** 64x64ch DANTE network card **AUX-MADI-COAX/OPTO/SFP** 64x64ch, supports 56/57/64 channel mode + user bit transparency

The *multiverter*

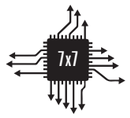
576x576 CHANNEL UNIVERSAL FORMAT CONVERTER

64 x 64 Channels. Each!

Now with AES67 Dante SPOKEN HERE · MADI OPTICAL+COAXIAL · MADI TP DIGICO/STUDER · adat 8 x 8 · AES50

What the *multiverter* will do for you:

- Interface your recording gear to any digital signal source.
- 576x576 channel-wise routing between all interface formats (192x192 with FlexLink).
- Adds *any* format to your production truck or OB.
- Use your ethernet port as 64x64 recording interface with the Dante® Virtual Soundcard technology
- Sample-rate conversion between any interfaces using the additional SRC-64 plugin module.
- Send and receive low-latency, 64x64 audio over your standard ethernet networks.
- Lifts your legacy gear up to date.



7 x 7 Interface Conversion & Routing

Integrated Headphone out +Test tone generator

Network Remote USB Remote

Triple redundant Power Supply

INPUTS / OUTPUTS

- 8 x ADAT I/O, SPDIF/AES3 optical capable
- MADI optical
- MADI coaxial
- MADI-TP (up to two ports)
- AES50 (up to two ports)
- Dante/AES67 (two ports/integrated switch)
- FlexLink port for connection to any Flexiverter

Remote Control included

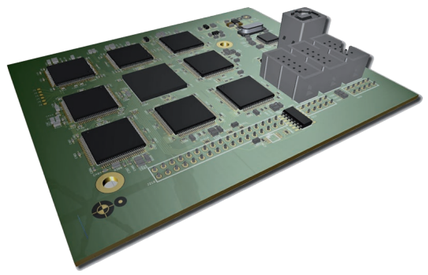
- Integrated web server (see Live Demo on our website)
- Integrated telnet server
- USB UART

All the magic in just 1 RU.

- Multiple conversions (i.e. Dante <> MADI and ADAT <> AES50) with each using the full channel count can run simultaneously.
- Preset store/recall (12 different setups)
- Headphone amplifier to monitor any incoming signal
- Asynchronous Sample Rate Conversion (64x64 channels) supported using the SRC-64 plugin module
- Test tone generator simplifies troubleshooting of complex setups
- Can be powered alone from industry standard 4-pin XLR plug battery packs
- MIDI embedding/de-embedding from MIDI jacks into MADI streams (RME-compliant)
- Transparent forwarding of MADI control data (i.e. headamp control, MIDI over MADI)
- Prepared for Headamp remote control (Yamaha, Behringer, MIDAS) *
- AES50 AUX data (headamp control) passthru
- RS485 over MADI (DirectOut(R) compatible)

Optional Plug-in Module

SAMPLE RATE CONVERTER



Convert sample rates between all of your interfaces! To add even more power to your ***multiverter***, a sample rate converter hardware module is available. The module features 64x64 channel bi-directional, asynchronous sample rate conversion between two arbitrary sample rates and interfaces.

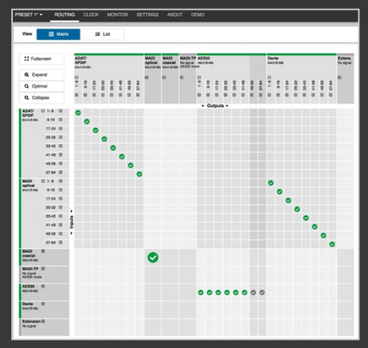
- Top-notch performance: THD+N = -133dB typ, -120dB max.
- True asynchronous, bi-directional conversion of 64x64 channels
- Supports arbitrary sample rates in the range from 32...192kHz
- Special aggregation modes exist to handle 64ch@96k by using two inputs and/or outputs together
- Handles up to 64ch@48k, 64ch@96k, 32ch@192k
- Free selection of any multiverter interface as asynchronous input and/or asynchronous output

Adapter for DiGiCo and Soundcraft/Studer

MTA-64 MADI-TP EXTENSION

The small Extender inline box enables the Multiverter to connect directly to DiGiCo and Soundcraft/Studer MADI-TP ports.
On the Multiverter side, audio is connected to the MADI-TP port, while power and configuration is taken from the Extension port (which is still available because it´s fed thru).

Supported are all known pin-outs as well as an built-in MDIX feature which allows you to use straight Cat5 cables where normally crossover cables were required.



MVR-64 Network-based Remote Control

Thanks to the integrated web server, the multiverter can be remotely operated from any browser. This is completely self-contained, platform independent and does not need any additional software. Web control is the preferred method because it offers channel-wise routing and provides the most convenient graphical interface.

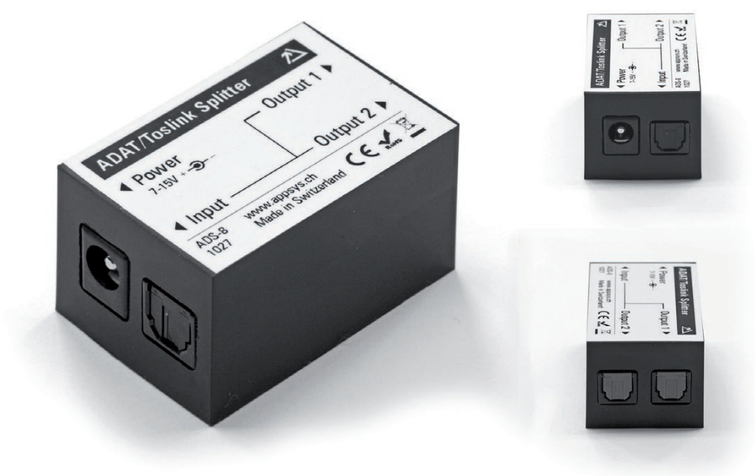
The web server runs on the Dante module, and can be configured to run on the Dante network or a on a separate network, isolated from the Dante audio.

SPECIFICATIONS

Dimensions / Weight	482x45x230mm (BxHxD) / 2.25 kg
Power consumption	8W typ., 30W max. Each AC input: 85..264VAC, 50-60Hz, 0.75A@115VAC / 0.5A@230VAC DC input: 9-18VDC (up to 30V tolerant), 2.5A peak
Channel count	Up to 64 per interface in x1 modes Up to 32 per interface in x2 modes Up to 16 per interface in x4 modes Multiple conversions (i.e. Dante <> MADI and ADAT <> AES50) with each using the full channel count can run simultaneously.
Sample rates	32 / 44.1 / 48 / 64 / 88.2 / 96 / 128 / 176.4 / 192 kHz +/-100ppm, Varispeed operation is not supported
ADAT ports	8 input+8 output ports 64ch@44.1/48kHz, 32ch@88.2/96kHz Each port may be alternatively used as SPDIF or AES3 optical port with 2 channels @44.1/48kHz
RS485 port	Male D-Sub 9pin, Yamaha AD8HR compatible; Pinout: 2=RX-, 3=TX-, 4=TX+, 5=GND, 6=RX+
Extension port	"FlexLink port" HDMI connector type. 192ch@32/44.1/48kHz, 96ch@64/88.2/96kHz, 48ch@128/176.4/192kHz
MADI optical port	SC connector, 50/125 μm or 62.5/125 μm multi-mode fibre (MM fibre), 1300nm, up to 2km total length. Transceiver can be changed to Single mode (9/125μm) at the factory on request. 64ch@32/44.1/48kHz, 32ch@64/88.2/96kHz, 16ch@128/176.4/192kHz MIDI-over-MADI; Transparent user bit forwarding
MADI BNC port	Standard AES10 coaxial port. Use with up to 100meters of 75 ohm coaxial cable 64ch@32/44.1/48kHz, 32ch@64/88.2/96kHz, 16ch@128/176.4/192kHz
MADI TP port	AES-X 213 (upcoming MADI specification) compatible. 64ch@32/44.1kHz, 56ch@48kHz, 32ch@64/88.2, 28ch@96kHz, 16ch@128/176.4kHz, 14ch@192kHz Pinout: MADI-TP on 4/5, 7/8 MIDI-over-MADI Transparent user bit forwarding
AES50 port	AES50 3.1 compatible 48ch@44.1/48kHz, 24ch@88.2/96kHz Pinout: Data on 1/2, 3/6; Sync on 4/5, 7/8 Alternative use: Second MADI-TP with Pinout: 1/2, 3/6 (adapter cable required)
Wordclock port	Output: 5.0Vpp nominal, able to drive two parallel 75 Ohm terminations; Input: 2.0Vpp...5.0Vpp
Dante/AES67 port	2x Gigabit Ethernet, configurable either as Switch or as Redundant connection in the Dante controller. Device prefix: MVR64 64ch@32/44.1/48kHz, 32ch@64/88.2/96kHz, 16ch@128/176.4/192kHz
MIDI port	Standard isolated input, standard MIDI output
Headphones	2x125mW into 32Ohm (@0.01% THD+N) Bandwidth: 22Hz to 22kHz

ADS-8

ACTIVE 1:2 SPLITTER FOR ADAT AND OTHERS



- Doubles any optical signal.
- Single-input, double-output: both outputs replicate exactly the input signal
- Works with all formats (ADAT, SPDIF, AC-3 etc.) up to 96kHz
- Near-zero latency (nanoseconds range)
- Fully bit transparent
- Acts also as signal repeater for double reach
- Active design overcomes the limitations of cheap passive splitters where the signal gets too weak for high-speed data

ADX-8

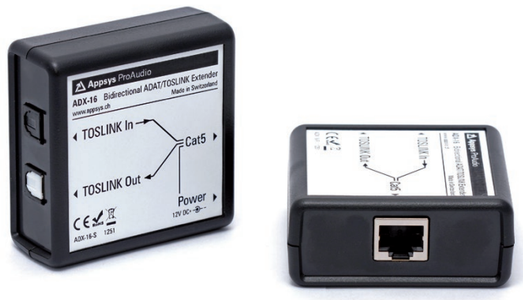
OPTICAL-OVER-CAT5 EXTENDER FOR ADAT AND OTHERS

- Extends optical cables over up to 100m / 330ft of Cat5.
- Converts optical > Cat5 > optical
- Works with all formats (ADAT, SPDIF, AC-3 etc.) up to 96kHz
- Near-zero latency (nanoseconds range)
- Fully bit transparent
- Requires a single power supply only: Receiver is powered through Cat5

ADX-16

BIDIRECTIONAL ADAT-OVER-CAT5 EXTENDER

- Converts optical <> Cat5 <> optical
- Works with ADAT up to 192kHz
- Integrated Reclocking for superior signal integrity
- Near-zero latency (nanoseconds range)
- Fully bit transparent
- Requires a single power supply only: Receiver is powered through Cat5



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