# FERROFISH
## advanced audio applications

# Ferrofish – advanced audio applications

The incredibly successful story of Ferrofish GmbH began when Jurgen Kinder-mann, former CTO of the renowned audio manufacturer Creamware, decided to found a new company along with his buddy Klaus Hase. From the earliest days, the primary aim has always been to offer high quality audio equipment for reasonable prices – and this will never be compromised.

Located in Germany, in scenic Linz on the river Rhine, Ferrofish has built a small, dedicated and highly talented crew of developers, engineers, musicians and audiophile enthusiasts. Their desire to create innovative solutions for practical applications in the 'real' audio world is the driving force behind the manufacturer's continued growth.

Ferrofish has become known for robust build-quality combined with impressive sound. This is in evidence as soon as you use their products – like the A32 AD/DA converter, available with MADI or alternatively DANTE and MADI, and the B4000+ organ expander.

## GREAT SOUND
## BUILD QUALITY
## GREAT PRICE

# AD/DA Converter

| | Pulse16 | Pulse16 MX | Pulse16 DX | A32 | A32 DANTE |
|---|---|---|---|---|---|
| Max. Sample Rate | 96 kHz | 192 kHz | 192 kHz | 192 kHz | 192 kHz |
| Bit Depth | 24 Bit | 24 Bit | 24 Bit | 24 Bit | 24 Bit |
| Connections | 6,3 mm balanced jack | 6,3 mm balanced jack | 6,3 mm balanced jack | D-Sub 25 | D-Sub 25 |
| Analog in | 16 | 16 | 16 | 32 | 32 |
| Analog out | 16 | 16 | 16 | 32 | 32 |
| Input gain | -8 dBu to +20 dBu (switchable in 1dB steps) | | | | |
| Output level | -8 dBu to +20 dBu (switchable in 1dB steps) | | | | |
| Headphone out | 1 | 1 | 1 | 1 | 1 |
| ADAT I/O | 4 | 4 | 4 | 4 | 4 |
| MADI (LWL) | ✕ | ✓ | ✓ | ✓ | ✓ |
| MADI (BNC) | ✕ | ✕ | ✕ | ✓ | ✓ |
| DANTE I/O | ✕ | ✕ | ✓ | ✕ | ✓ |
| Wordclock I/O | ✓ | ✓ | ✓ | ✓ | ✓ |
| Active-jitter-elimination | ✓ | ✓ | ✓ | ✓ | ✓ |
| MIDI I/O | ✓ | ✓ | ✓ | ✓ | ✓ |
| Midi-over-Madi | ✕ | ✓ | ✕ | ✓ | ✓ |
| Routing matrix | ✓ | ✓ | ✓ | ✓ | ✓ |
| Internal mixer | ✕ | ✕ | ✕ | ✓ | ✓ |
| Preset managment | ✓ | ✓ | ✓ | ✓ | ✓ |
| Redundant power supply | ✕ | ✕ | ✕ | ✓ | ✓ |
| TFT-Displays | 2 | 2 | 2 | 4 | 4 |
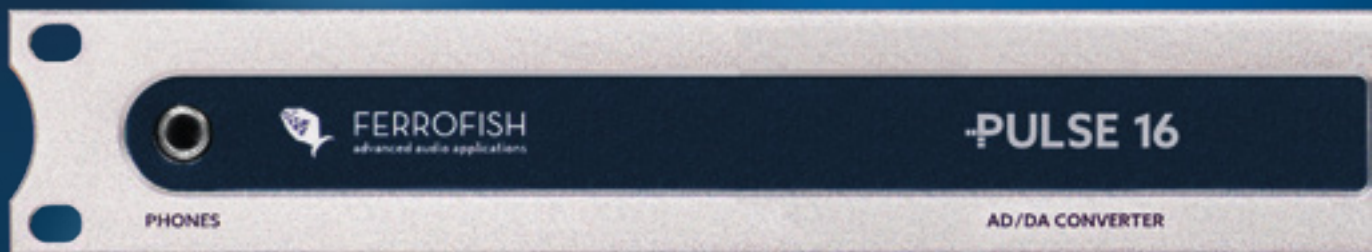
# Pulse16 • 16x16 AD/DA & ADAT converter

With the Pulse16 we are continuing our tradition of high quality but affordable AD/DA converters. The Pulse16 offers 16x16 fully balanced analog inputs and outputs and processes levels of up to +20dBu in professional studio quality. Four ADAT I/O ports are available as digital interfaces, so that all 16x16 analog channels can still be used even at 96kHz.

## FULL CONTROL AND EASY OPERATION

Via the headphone output at the front any mono or stereo signal of the Pulse16 can be listened to. The two TFT displays always allow precise control of the signals through a well-structured display of all 32 levels. The Pulse16 also has the innovative and self-explanatory operating concept that makes working with our A32 converter a straightforward process.

## SOUND QUALITY

In addition to current Cirrus Logic converter chips, the Pulse16 operates with an active digital jitter elimination, which compensates shifts (jitter) in the audio signal and thus results in a significant sound improvement.

- Cirrus Logic 24 Bit / 192 kHz converter
- 16x16 channels analog I/O
- 16x16 channels ADAT I/O (8 x TOSLINK optical for SMUX 2 operation)
- All analog I/O at 96 kHz
- Wordclock I/O (BNC)
- MIDI I/O for remote connection
- Routing matrix
- 2x TFT screens allow complete control of all levels and settings on the device
- Active-jitter-elimination circuit
- Input gain of all analog channels switchable in 1dB steps (-8dBu to +20dBu)
- Output level of all analog channels switchable in 1dB steps (-8dBu to +20dBu)
- Headphone out
- Fan-less
- 19", 1 RU

## ONE CONVERTER - THREE CONCEPTS

The Pulse16 converters are available in three different versions: as Pulse16 with ADAT, as Pulse16 MX with ADAT and MADI and as Pulse16 DX with additional DANTE interfaces. This means that 16x16 analog inputs and outputs can be integrated in almost any digital environment and, in the case of MADI, also very comfortably via SFP modules.

## SETUP (EXAMPLE)

ADAT
Audio Interface

16x16 Kanäle ADAT

Pulse16

16x16 Kanäle analog
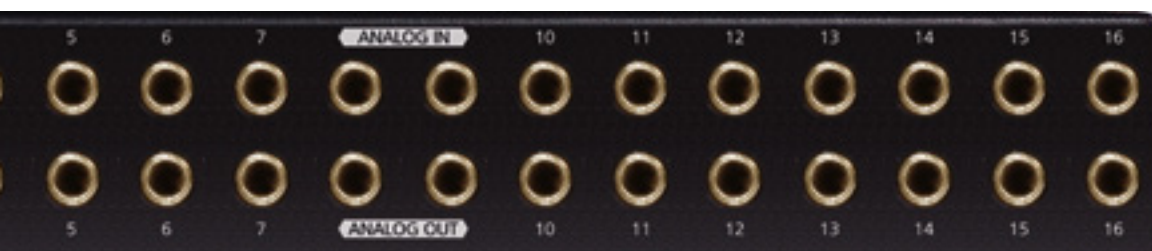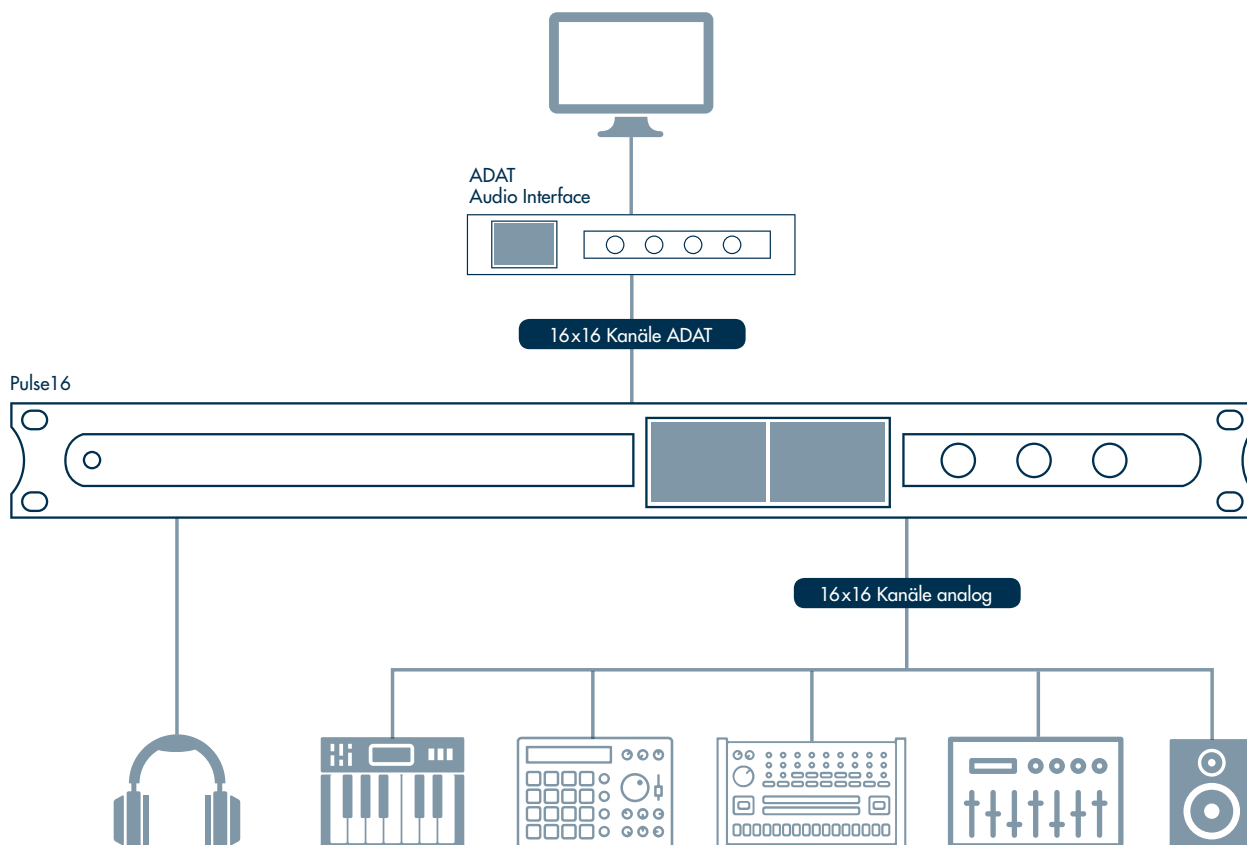
# Pulse16 MX • 16x16 AD/DA, MADI & ADAT converter

Like the Pulse16, the Pulse16 MX offers 16 fully balanced analog inputs and outputs and processes levels of up to +20dBu in professional studio quality. An optical MADI port per SFP module and four ADAT I/O ports are available as digital interfaces.

This means that all 16x16 analog channels can still be used at 192 kHz (with MADI). Thanks to the exchangeable SFP modules, singlemode and multimode MADI transmission can be selected at any time and without great effort.

- Cirrus Logic 24 Bit / 192 kHz converter
- 16x16 channels analog I/O
- All I/O (32 analog channels) via MADI at 192 kHz
- Optical MADI I/O (SFP module)
- Single- or multimode-operation via SFP module
- Wordclock I/O (BNC)
- MIDI I/O for remote control
- Routing matrix

- 2 x TFT screens allow complete control of all levels and settings on the device
- Active-jitter-elimination circuit
- Input gain of all analog channels switchable in 1dB steps (-8 dBu to +20 dBu)
- Output level of all analog channels switchable in 1dB steps (-8 dBu to +20 dBu)
- Headphone out
- fan-less
- 19", 1 RU

# Pulse16 DX • 16x16 AD/DA, DANTE, MADI & ADAT converter



Like the Pulse16 MX, the Pulse16 DX has 16 fully balanced analog inputs and outputs with ADAT and MADI interfaces. In addition, the Pulse16 DX offers two RJ45 ports for integration into a DANTE audio network.

This means that not only all 16 analog inputs and outputs can be integrated into a DANTE network, but also that the Pulse16 DX can be used as a format converter between the various digital interfaces (ADAT, MADI, DANTE).

- Cirrus Logic 24 Bit / 192 kHz converter
- 16x16 channels analog I/O
- DANTE I/O (2x RJ45 DANTE)
- Optical MADI I/O (SFP module)
- Single- or multimode-operation via SFP module
- Wordclock I/O (BNC)
- MIDI I/O for remote connection
- Routing matrix
- 2x TFT screens allow complete control of all levels and settings on the device
- Active-jitter-elimination circuit
- Input gain of all analog channels switchable in 1 dB steps (-8 dBu to +20 dBu)
- Output level of all analog channels switchable in 1 dB steps (-8 dBu to +20 dBu)
- Headphone out
- Fan-less
- 19", 1 RU

## A32 • 32x32 AD/DA, MADI & ADAT converter

Twice the number of I/O channels of our Pulse16 converter and a lot of new professional features – the A32 has everything it takes to become the new centerpiece of a studio, live-rig or OB van. 32x32 analog inputs and outputs are completed with 32x32 ADAT I/O channels (ADAT4 can be switched to S/PDIF), a head-phone output, optical and coaxial MADI I/O, redundant power inputs and four high res TFT color displays. MADI & ADAT – always the best connection

### PERFECT CONNECTIONS: MADI AND ADAT

The MADI connection enables a transfer of up to 64x64 audio channels over coaxial or optical fibre cable over a distance of up to 2000 m. Thanks to MIDI-over-MADI the device can be remote controlled over that huge distance without the need for a separate remote con-nection. Adding the ADAT I/Os to the 32 analog I/O, you get the full channel count of 64 inputs and 64 outputs over a single MADI cable connection.
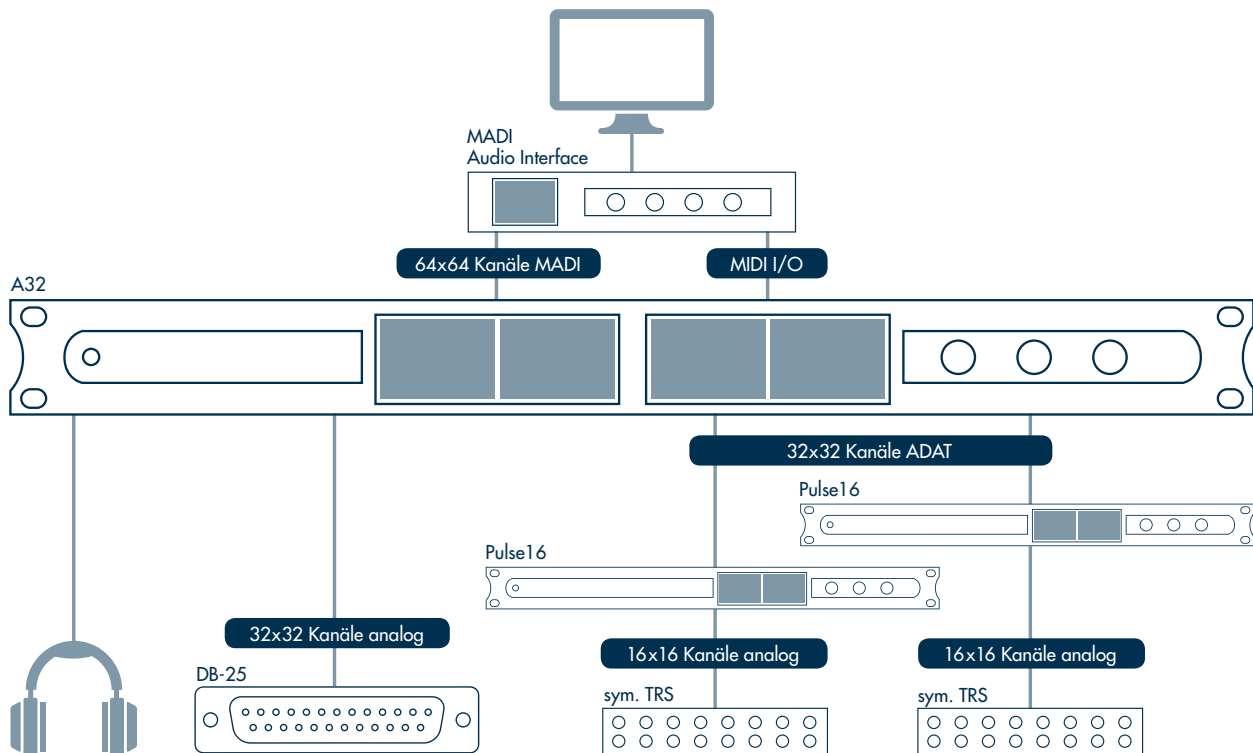
### EASY CONTROL AND ROUTING

Also the A32 offers a sophisticated routing matrix of all inputs and outputs. A powerful SHARC® DSP from Analog Devices offers enough processing power for all 258 audio channels. The headphone output can monitor every single mono, stereo or even a submix signal; switching between them in no time at all. Last but not least the four hi-res TFT color screens offer a full overview at any time.

- Sample rates from 32 kHz up to 192 kHz
- 32 x 32 analog I/O channels
- 64 x 64 MADI I/O channels (optical or coaxial)
- 32 x 32 ADAT I/O channels (8x TOSLINK optical)
- Stereo S/PDIF optical I/O with sample rate conversion
- Wordclock I/O (BNC)
- Headphones output with integrated monitoring matrix for mono-, stereo- and submix signals
- MIDI I/O and MIDI-over-MADI
- Thermally compensated oscillator with proprietary active jitter reduction circuit

## SETUP (EXAMPLE)



MADI
Audio Interface

64x64 Kanäle MADI    MIDI I/O

A32

32x32 Kanäle ADAT

Pulse16

32x32 Kanäle analog

DB-25

Pulse16

16x16 Kanäle analog

sym. TRS

16x16 Kanäle analog

sym. TRS

- Preset Management
- Analog Devices SHARC® DSP processes all 258 audio channels
- Sophisticated routing/mixing of all channels
- 4x TFT Screens give a detailed overview over all settings and levels at a glance

- Intuitive one-key-control operating system
- Multilingual self-explaining always-on help system lets you use the A32 even without the manual.
- Redundant power inputs
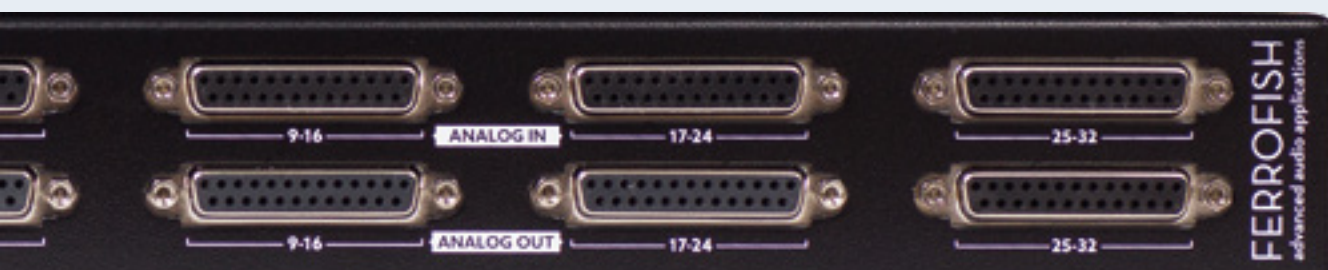
FEATURES

# A32 DANTE • 32x32 AD/DA, DANTE, MADI & ADAT converter

The A32 DANTE is the "fully loaded" Version of the A32. As well as all the I/Os of the renowned A32 this model features 64x64 I/O of DANTE channels in addition, which makes integrating the device into an existing DANTE network easy. Of course it also offers all of the various features of the original A32.

## EXTREMELY FLEXIBLE

The A32 DANTE offers an unrivaled flexibility due to its 32x32 A/D – D/A channels, optical and coaxial MADI ports, 32x32 ADAT I/Os (ADAT4 switchable to S/PDIF) and headphone output with monitoring matrix. The four hi-res TFT color screens give a detailed view of all digital and analog levels and settings. This is all complemented by an intuitive one-knob control and an always-on help system.
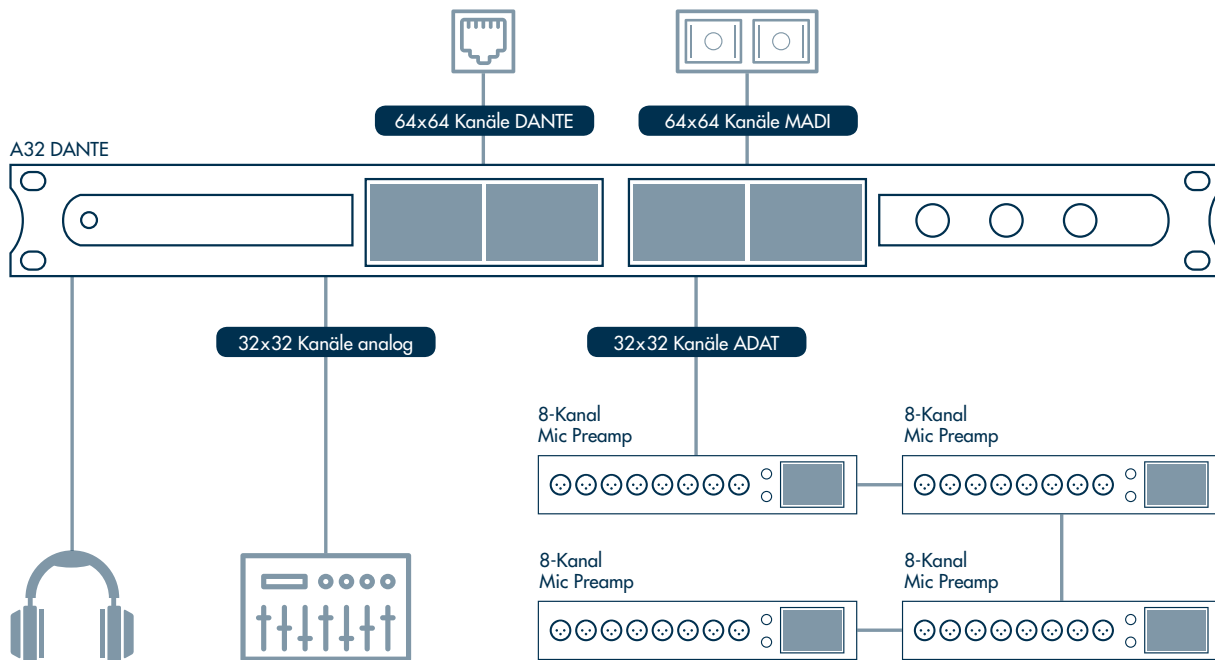
## CONVERTER AND ROUTING MATRIX

Among converting various digital formats from and to analog inputs and outputs the A32 DANTE also offers a sophisticated routing matrix. With the source-destination matrix, parallel format conversions (e.g. ADAT to MADI and Analog to DANTE) can be realized next to other complex routings in the twinkling of an eye. Also, creating a merged DANTE stream consisting of analog, ADAT and MADI signals is no problem at all. The A32 DANTE – a real problem solver!

- Sample rate from 32 kHz up to 192 kHz
- 32 x 32 analog I/O channels
- 64 x 64 DANTE I/O channels (2x RJ-45 Port)
- 64 x 64 MADI I/O channels (optical or coaxial)
- 32 x 32 ADAT I/O channels (8x TOSLINK optical)
- Stereo S/PDIF optical I/O with sample rate conversion
- Wordclock I/O (BNC)

## SETUP (EXAMPLE)



64x64 Kanäle DANTE

64x64 Kanäle MADI

A32 DANTE

32x32 Kanäle analog

32x32 Kanäle ADAT

8-Kanal Mic Preamp

8-Kanal Mic Preamp

8-Kanal Mic Preamp

8-Kanal Mic Preamp

- Headphones output with monitoring matrix for mono-, stereo- and submix signals
- MIDI I/O (5pin) and MIDI-over-MADI
- Thermally compensated oscillator with proprietary active jitter reduction circuit
- Preset Management
- Analog Devices SHARC® DSP processes all 386 audio channels

- Sophisticated routing/mixing of all channels
- 4 x TFT Screens give a detailed overview of all settings and levels at a glance
- Intuitive one-key-control operating system
- Multilingual self-explaining always-on help system lets you use the A32 even without the manual.
- Redundant power supply configuration
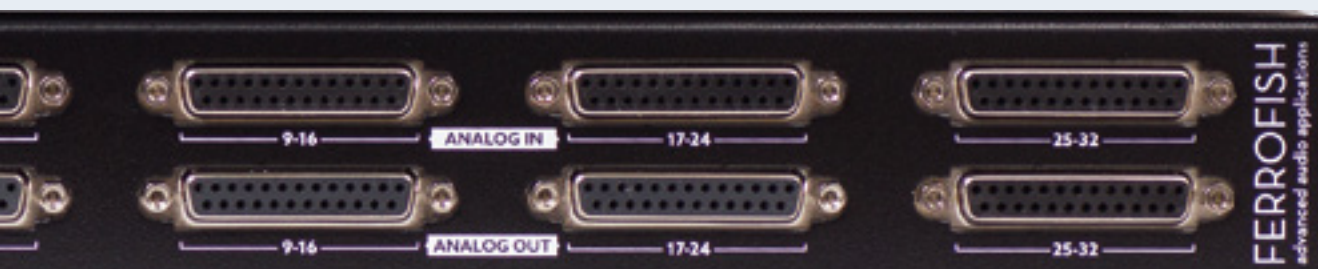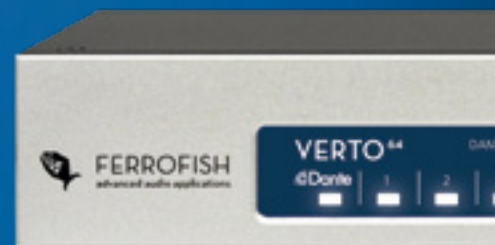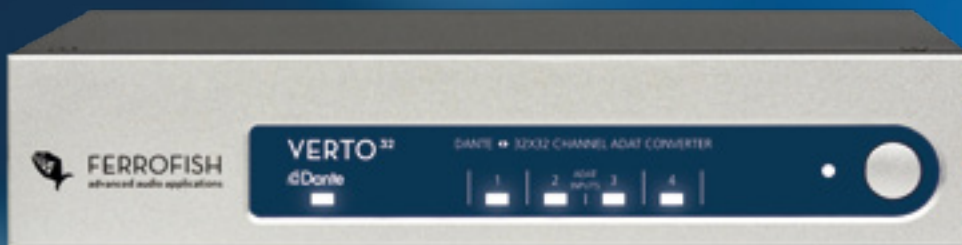
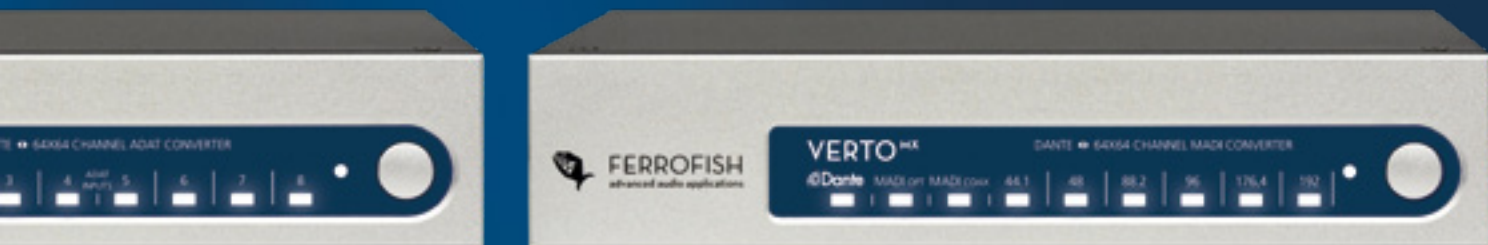# VERTO$^{32}$/VERTO$^{64}$/VERTO$^{MX}$ • DANTE Digitalconverter

The VERTO series make integration of digital ADAT and MADI into an existing DANTE network really easy. The compact enclosure of 1 RU height and a 9.5" width saves a lot of rack space. Every VERTO device features Wordclock I/O for external synchronization and is remote controllable via MIDI or MIDI-over-MADI (VERTO$^{MX}$). No matter if used together with our A16 MKII, A32 or Pulse16, or a converter from another brand – simply connect to the VERTO via ADAT or MADI – and you're ready to go!
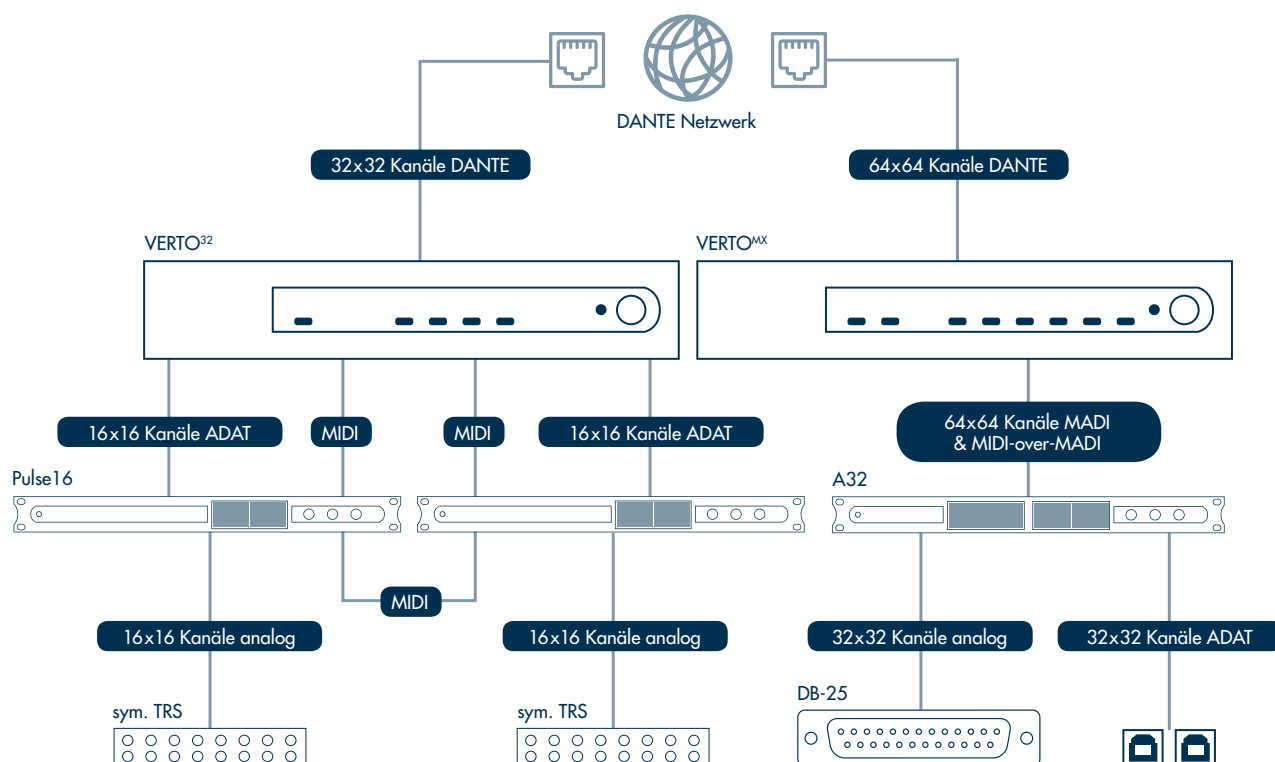
## REMOTE CONTROL VIA THE DANTE NETWORK

Both the VERTO series and all other converters from Ferrofish can be remotely controlled via the DANTE Network. If all devices are connected via MIDI, the VERTO converts all DANTE audio streams to ADAT or MADI and the control commands sent over DANTE into MIDI remote control messages. The VERTO$^{MX}$ offers an additional feature: Instead of a separate MIDI Port the MIDI messages are extracted from the MIDI-over-MADI port.

## SETUP (EXAMPLE)



DANTE Netzwerk

32x32 Kanäle DANTE          64x64 Kanäle DANTE

VERTO³²          VERTOᴹˣ

16x16 Kanäle ADAT    MIDI    MIDI    16x16 Kanäle ADAT          64x64 Kanäle MADI & MIDI-over-MADI

Pulse16          A32

MIDI

16x16 Kanäle analog    16x16 Kanäle analog    32x32 Kanäle analog    32x32 Kanäle ADAT

sym. TRS    sym. TRS    DB-25

| | VERTO³² | VERTO⁶⁴ | VERTOᴹˣ |
|---|---|---|---|
| DANTE | 2 x RJ-45 DANTE Port (Ethernet) | | |
| Samplefrequency | 44,1 kHz – 96 kHz | 44,1 kHz – 96 kHz | 44,1 kHz – 192 kHz |
| ADAT I/O | 4 x TOSLINK | 8 x TOSLINK | ✕ |
| MADI I/O | ✕ | ✕ | 1x optical |
| I/O channelcount @ 48 kHz | 32 | 64 | 64 |
| I/O channelcount @ 96 kHz | 16 | 32 | 32 |
| I/O channelcount @ 192 kHz | ✕ | ✕ | 16 |
| MIDI-over-MADI | ✕ | ✕ | ✓ |
| MIDI I/O | 1 x MIDI input, 1 x MIDI output | | |
| Wordclock | 1 x BNC input, 1 x BNC output | | |
| Dimensions | 9,5" / 1 RU | | |

FEATURES

# B4000+ • Organic Expander Module

## AN ORGAN YOU WANT TO TOUCH

An organ expander module without controls to shape the sound would be like a guitar without a neck – it just doesn't make sense. This is why we added drawbars and potentiometers – to provide you with the tools you need to find, control and tweak your favorite sounds in a fast and simple way.

## AUTHENTIC HAMMOND B3 EMULATION

The B4000+ recreates the full sonic bandwidth of the Hammond B3 organ, including all of the functions and features that made the original so special – without the weight of course! Housed in a rugged metal enclosure, the B4000+ features dedicated FX, adjustable parameters for key-click, percussion and even the ageing of the tone-wheels. All of this makes the B4000+ an authentic Hammond emulation, with full-bodied bass, defined midrange, and highs with the necessary "scream" – just like a genuine electro-mechanic B3.

## PLUG AND PLAY

The B4000+ features 128 factory-presets by default, which can be expanded by the user. With just a simple MIDI keyboard (with a MIDI 5pin output) connected to the unit, along with the combination of drawbars, endless encoders and TFT display, the B4000+ will provide you with everything you need to start creating and playing your favorite organ sounds. Just connect and enjoy!

- 128 factory presets included
- Three manuals with full polyphony
- Envelope with attack and decay adjustable for every manual
- Authentic sound thru physical circuit modelling
- Tone-wheel Emulation with adjustable ageing parameter
- Tube Amp Emulation with distortion
- Emulation of key-click and the key contact delay
- Percussion parameter with adjustable harmonics, attack and decay
- Global Tuning

- FX: Rotary speaker, Chorus/Vibrato, Reverb, Compressor
- MIDI Key-split and Velocity
- 2x MIDI inputs for connecting two MIDI keyboards
- Nine drawbars
- Six endless potentiometers
- Footswitch and pedal input
- Stereo analog input (6.3 mm TRS)
- Stereo analog output (6.3 mm TRS)
- Headphone output
- Hi-res TFT color Display
- USB input for MIDI-over-USB

# PRESS REVIEWS

"With the B4000+ the company Ferrofish has brought a really very good sounding organ module on the market. The sounds offer the right sound for all occasions and styles. If you are a live keyboarder or studio player looking for the right organ sounds and already have one or more keyboards in your setup, you should take a look at the B4000+."
Felix Thoma – amazona.de

"The B4000+ convinces with a good basic sound and its simple and intuitive operation. In addition, the appearance and handling in gaming are really excellent! The many menus (almost exclusively accessible with the push of a button) offer a lot of adjustment possibilities – in many points even much more than the competition."
Christian Frentzen – bonedo.de

"Ferrofish have crammed an astounding amount of connectivity in 1U of rack space. As well as the profusion of DB25 connectors for the analogue I/O, there are colour-coded ADAT ports, both optical and coaxial MADI, and, very unusually, two power inlets, allowing for a dual-redundant power supply configuration […] With a whopping 32 analogue inputs and outputs, there's more to this stand-alone converter than meets the eye […] For situations where it's necessary to get a lot of analogue channels back to a recorder via MADI or ADAT interfacing, or to convert from MADI to ADAT format (or vice versa), the A32 delivers conveniently and at an attractive price."
Hugh Robjohns – Sound on Sound

"32 A/D and D/A converter channels, ADAT, dual MADI, Wordclock, MIDI-over-MADI, redundancy … these are already a lot of functions that you get for the money […] Ferrofish's A32 can fully convince here – unrivalled in price and thus completely in the tradition of its successful ancestor."
Friedemann Kootz – Studio Magazin

"[…] with the Ferrofish A32 you get a converter with 32 inputs, 32 outputs, a good clock and connection possibilities via MADI and ADAT on a compact height unit […] complex setups can be set up quickly and at comparatively low cost, but with the highest sound quality."
Moritz Hillmayer – recording magazin

"The Ferrofish B4000+ is a conceptually currently unrivalled product and a hot tip for all those who want to expand their setup with convincing organ sounds with drawbar functions at low cost and space-saving."
Klaus Tenner – Tastenwelt

"The A32 is an ideal stand-alone converter for music or broadcast production. It is easy to operate without a PC and is very flexible thanks to its extensive routing functionality. The processing as well as the sound is top."
Peter Kaminski – proaudio.de

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