

Manual

MC1.2+



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Precautions

General Instructions

To reduce the risk of fire or electrical shock, do not expose this device to rain or moisture, direct sunlight or excessive heat from sources such as radiators or spotlights. There are no user-serviceable parts inside.

Any repair and maintenance may only be carried out by qualified personnel authorized by MUTECH GmbH. The device was designed for operation in a standard domestic environment. Do NOT expose the unit and its accessories to rain, moisture, direct sunlight or excessive heat produced by heat sources such as radiators or spotlights! A free flow of air inside and in close proximity to the unit must be ensured at all times.

Initial Operation

Prior to the initial operation of the device, the unit itself, its accessories and packaging must be inspected for any signs of physical damage that may have occurred during transit. If the unit has been damaged mechanically or if liquids have been spilled inside the enclosure, the device may not be connected to the mains power or must be disconnected from the mains immediately! If the unit is damaged, please do NOT return it to MUTECH GmbH, but notify your dealer and the shipping company immediately. Otherwise, any liability claims will not be granted.

If the device is left in a low-temperature environment for a long time and is then moved to a room-temperature environment, condensation may occur on the inside and the exterior of the device. To avoid short-circuits and electric shocks, make sure to wait one or two hours before putting the device back into operation.

Power Supply

The device contains a self-adapting, wide-range power supply supporting the majority of global standard line voltages within a range of 90-250 V, with no need for any user adjustments.

Make sure that your line voltage source provides a supply voltage within the specified range. In addition, make sure that the device is properly grounded via the local electric installation. Please use the enclosed power cable (see packaging) to connect the unit to the mains power. Switch the unit off before you attempt to connect it to the mains. Firstly, connect the power cord to the device, then to a standard 3-pin mains outlet. To remove the power cord never pull on the cable but on the mains plug!

The unit must be grounded during operation! For information on the power input module wiring, refer to the »Wiring of connectors« section in the appendix. Disconnect the device from the mains power immediately when not using it for an extended period!

Trademarks

MUTECH GmbH assumes no liability for any incorrect information provided in this manual. Please note that all software/hardware product names are registered trademarks of their respective owners. No part of this manual may be reproduced, copied or converted to a machine-readable form or electronic media without written permission by MUTECH GmbH. We reserve the right to change or improve our products without further notice.

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This symbol, a flash of lightning inside a triangle, alerts you to the presence of non-insulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.



This symbol, an exclamation mark inside a triangle, alerts you to important operating or safety instructions in this manual.

Declaration of Conformity

We herewith confirm that this product complies with the European Commission's standards on electromagnetic compatibility.

Interference emission:

EN 50081-1, 1992, Resistance to interference: EN 50082-1, 1992. Presupposed as operation condition is that all signal



outputs are connected with high-quality and well shielded cables.

Warranty Regulations

§1 Warranty

MUTEC GmbH warrants the flawless performance of this product to the original buyer for a period of two (2) years from the date of purchase. If any failure occurs within the specified warranty period that is caused by defects in material and/or workmanship, MUTEC GmbH shall either repair or replace the product free of charge within 90 days. The customer is not entitled to claim an inspection of the device free of charge during the warranty period. If the warranty claim proves to be justified, the product will be returned freight prepaid by MUTEC GmbH within Germany. Outside Germany, the product will be returned with the additional international freight charges payable by the customer. Warranty claims other than those indicated above are expressly excluded.

§2 Warranty Transferability

This warranty is extended exclusively to the original buyer who purchased the product from a MUTEC GmbH specialized dealer or distributor, and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, distributor, etc.) shall be entitled to give any warranty promise on behalf of MUTEC GmbH.

§3 Warranty Regulations

The return of the completed registration card, or online registration on one of the websites specified below, is a condition of warranty. Failing to register the device before returning it for repair will void the extended warranty.

The serial number on the returned device must match the one stated on the registration card or entered during online registration. Otherwise, the device will be returned to the sender at the sender's expense. Any returned device must be accompanied by a detailed error description and a copy of the original sales receipt issued by a MUTEC dealer or distributor.

The device must be returned free of shipping expenses and in the original package, if possible; otherwise, the sender has to provide comparably protective packaging. The sender is fully responsible for any damage or loss of the product when shipping it to MUTEC GmbH.

§4 Limitation of Warranty

Damages caused by the following conditions are not covered by this warranty:

- Damages caused by every kind of normal wear and tear (e.g. displays, LEDs, potentiometers, faders, switches,

buttons, connecting elements, printed labels, cover glasses, cover prints, and similar parts)..

- Functional failure of the product caused by improper installation (please observe CMOS components handling instructions!), neglect or misuse of the product, e.g. failure to operate the unit in compliance with the instructions given in the user or service manuals.
- Damage caused by any form of external mechanical impact or modification.
- Damage caused by the user's failure to connect and operate the unit in compliance with local safety regulations.
- Damage caused by force majeure (fire, explosion, flood, lightning, war, vandalism, etc.).
- Consequential damages or defects in products from other manufacturers as well as any costs resulting from a loss of production.
- Repairs carried out by personnel which is not authorized by MUTEC GmbH.

§5 Repairs

To obtain warranty service, the customer must call or write to MUTEC GmbH before returning the unit. All inquiries must be accompanied by a problem description and the original buyer's invoice. Devices shipped to MUTEC GmbH for repair without prior notice will be returned to the sender at the sender's expense. In case of a functional failure please contact:

MUTEC Gesellschaft für Systementwicklung
und Komponentenvertrieb mbH
Siekeweg 6/8, 12309 Berlin, Germany
Phone: +49 (0)30 746880-0
Fax: +49 (0)30 746880-99
E-Mail: tecsupport@mutec-net.com
Web: www.mutec-net.com

Introduction

General Function Description

Thank you very much for purchasing the MC1.2+, a bidirectional Digital Audio Format Converter, from MUTECH!

The MC1.2+ is a high-performance digital audio format converter designed for USB, AES3, AES3id, and S/P-DIF interfaces. It employs advanced digital audio circuits and low-jitter PLLs to regenerate and stabilize incoming digital audio signals while converting them between different formats. This device provides bidirectional conversion between USB, AES/EBU, AES3id, and S/P-DIF, with the added benefit of USB signal regeneration for improved audio performance.

The MC1.2+ ensures audio format conversion with support for sample rates up to 192.0 kHz. It features two independent signal paths for real-time bidirectional conversions and offers multiple outputs for each digital audio format, making it usable as a signal splitter or distribution amplifier. The MC1.2+ also includes flexible power supply options via mains power, DC power, and the USB interface, making it adaptable to a wide range of environments, from professional studios to high-end audio setups.



Features

- USB, AES/EBU, AES3id, and S/P-DIF (BNC/optical) interfaces in one unit.
- Bidirectional format conversion with sample rates from 32.0 kHz to 192.0 kHz.
- USB signal regeneration for enhanced audio quality, achieved through an asynchronous and self-powered USB interface.
- Simultaneous format conversion to all outputs while maintaining the original signal.
- Low-jitter PLL circuits for improved signal stability.
- AES3, AES3id, and S/P-DIF signal splitting and distribution.
- Compact 1/2 19" rack design with an aluminum front panel.
- Flexible power supply options: mains power, DC power and the USB interface.

Applications

- **Interfacing consumer and professional digital audio devices:** Interconnect various audio equipment using different digital audio interfaces, such as USB, AES/EBU, AES/EBUid and S/P-DIF coaxial and optical.
- **USB audio regeneration:** Improves the sound quality of USB-based audio playback systems.
- **Realtime bidirectional signal transfer:** Ideal for connecting digital mixing consoles and effects processors.
- **Signal splitting and distribution:** Use as a digital audio signal splitter for multiple devices.
- **Digital audio signal refreshing:** Restores audio signals for enhanced quality during long transmission distances.

Peripheral MUTECH Devices

- **MC2**
A digital audio and reference sync signal distribution amplifier for AES3/11 and AES3/11id signals. The unit distributes and converts between the mentioned AES signals and interface standards.
- **MC4**
The MC4 is a high-performance digital audio multichannel format and sampling rate converter for ADAT™, SMUX2, SMUX4, AES3 and S/P-DIF.
- **MC6**
The MC6 is a high-performance dual channel digital audio format converter for AES3, AES3id and S/P-DIF.

Accessories

- **PSC 75 RCA/RCA + PSC 75 RCA/BNC**
MUTECH's Prime Select cable series offers excellently suited coaxial cables for S/P-DIF digital audio signal transfers with 75 Ω characteristic impedance in various lengths.
- **MW02/19**
Mounting plate to install two MC products side by side into one unit of a 19" rack.
- **MW05/19**
Set of two rack mounting angles to install one MC product frontally into one unit of a 19" rack.

Product Registration for Warranty and Support

We kindly ask you to register your MUTEC product through our website immediately after buying. This ensures full warranty services over a period of three years after purchasing the product. Additionally, we provide free technical support for all registered products. We will also inform you about new products and product updates (you may opt-out at any time of course).

Please register your product at:
www.mutec-net.com > Service > Product Registration

Or for direct access type in the following URL into your browser:

<http://www.mutec-net.com/produktregistrierung.php?lng=en>

Social Media



facebook.com/mutecpro/



instagram.com/mutecpro/



linkedin.com/company/mutecpro/

Installation

Content of the Box

Your MC1.2+ was packaged carefully. Nevertheless we recommend checking the contents directly after opening the package:

- 1 x MC1.2+
- 1 x Power cable
- 1 x DC cable connector
- 2 x RCA/BNC adaptors
- 1 x Manual

In the unexpected event that there are any visible damages or missing items, please refer to the chapter »Safety Instructions« and »Warranty Regulations« for further details.

Placing the Device

Place the MC1.2+ as close as possible to the devices it will be connected to in order to avoid excessive cable lengths. Use the four rubber feet provided with the unit and attach them symmetrically to the bottom to prevent damage to both the enclosure and the supporting surface.

If rack mounting is required, the unit can be installed in a standard 19" rack. One unit of rack space is required for proper ventilation. Be sure to leave additional space above and below the device to allow for airflow. The mounting depth of the unit is 160 mm (6.7"), with an additional 60 mm (2.4") needed for the required cables.

For secure installation, it is recommended to use additional slide-in rails. This will prevent long-term mechanical deformation of the housing.

Attention

Before installing the unit the section Safety Instructions located at the beginning of this manual should be read carefully! Never expose the device and accessories to rain, moisture, direct sunlight, or excessive heat produced by radiators, heaters, or spot lights! Sufficient air circulation in the proximity of the device must be ensured!

Wiring the USB, AES/EBU, AES/EBUid, S/P-DIF Interfaces

USB: Connect the supplied USB cable to the USB I/O port of the MC1.2+ and your computer. Ensure that the USB 2.0 Audio Class Driver is installed if using a Windows PC.

AES/EBU: Use balanced electrical cables with XLR connectors to connect AES3/EBU interfaces. The cables should have a specified resistance of 110 Ω .

AES3id & S/P-DIF, coaxial: For coaxial (electrical) AES3id and S/P-DIF connections, use unbalanced electrical cables with BNC connectors for AES3id and RCA connectors for S/P-DIF. The cables should have a specified resistance of 75 Ω . For optimal signal integrity and performance, we recommend using MUTEK's high-quality PSC 75 digital coaxial cable, specifically designed for unbalanced digital audio connections.

The Prime Select cable series from MUTEK offers high-quality coaxial cables with 75 Ω characteristic impedance in various lengths and RCA/BNC connector combinations. Available are cables for AES3id and S/P-DIF connections. Ask your specialist dealer for further details!



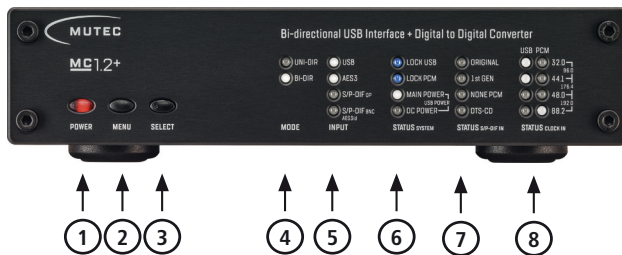
AES3id & S/P-DIF, optical: Connect the optical S/P-DIF interface with the help of Toshiba TOSLINK™ compliant optical fiber cables. You can use both plastic and glass fiber-based cables.

Attention

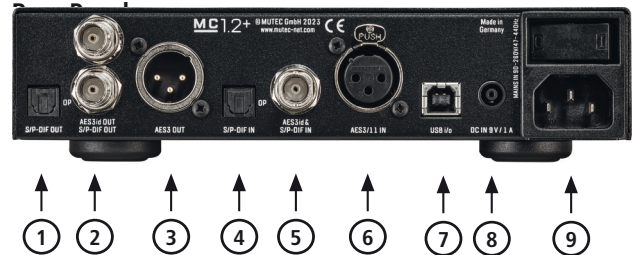
When interconnecting the optical S/P-DIF interfaces with plastic fiber cables, lengths of 10 meters should not be exceeded, to ensure reliable transmission of your digital audio signals. Glass fiber cables may transfer data reliably even over greater distances while keeping the signal's performance on a much higher level than plastic fiber cables can do during transmission!

Control Elements and Terminals

Front Panel



- 1) »POWER«
Red LED lights up when the unit is powered on.
- 2) »MENU«
Access different function menus.
- 3) »SELECT«
Selects a function within a function menu.
- 4) »MODE«
Choose digital audio format conversion modes.
- 5) »INPUT«
Select digital audio formats for conversion.
- 6) »STATUS SYSTEM«
Displays the overall system status.
- 7) »STATUS S/PDIF«
Shows the status of incoming S/P-DIF signals.
- 8) »STATUS CLOCK IN«
Indicates the clock input status.



- 1) »S/P-DIF OUT (Optical)«
Transmits an optical S/P-DIF digital audio or blank-frame signal compliant with the IEC 60958 standard. Uses a Toshiba Toslink™ connector (EIAJ standard).
- 2) »AES3id & S/P-DIF OUT«
Outputs an unbalanced AES3id digital audio or blank-frame signal (AES3id-2001 or AES11-2003). The S/P-DIF output transmits an unbalanced electrical signal (IEC 60958). Both use 75 Ω BNC connectors.
- 3) »AES3 OUT«
Transmits a balanced AES3 digital audio signal compliant with AES3–1992 (R1997). Uses a 110 Ω XLR connector.
- 4) »S/P-DIF IN (Optical)«
Receives optical S/P-DIF digital audio or blank-frame signals (IEC 60958 standard). Uses a Toshiba Toslink™ connector (EIAJ standard).
- 5) »AES3id & S/P-DIF IN«
Receives AES3id digital audio or AES11id blank-frame signals (AES3id–2001). The S/P-DIF input accepts unbalanced electrical signals (IEC 60958). Both use 75 Ω BNC connectors.
- 6) »AES3/11 IN«
Accepts AES3 or AES11 balanced electrical signals (AES3–1997 or AES11–2003). Uses a 110 Ω XLR connector.
- 7) »USB I/O«
Sends and receives data streams via USB 2.0. Install the USB 2.0 Audio Class Driver when connecting to a Windows PC (USB-B connector).
- 8) »DC IN 9 V / 1 A«
Input for an external 9 V DC power source supply.
- 9) »MAINS IN«
Power switch and mains connector (IEC). Supports 90 to 260 V at 50/60 Hz. The internal power supply adjusts automatically.

USB Driver Installation & Windows Settings

MUTEC USB Audio Class 2.0 Driver for Windows

When connecting the MC1.2+ to a Windows computer, you need to install the MUTEC USB Audio Class 2.0 Driver for Windows, which is available on the MUTEC website. This installation is required for all sample rates of the transferred audio streams.

Attention

Install the driver before connecting the MC1.2+ to your Windows computer.

No driver installation is necessary for macOS computers.

The following Windows operating systems are supported:

- Windows 11 (32 bit and 64 bit)
- Windows 10 (32 bit and 64 bit)
- Windows 8.1 (32 bit and 64 bit)
- Windows 8 (32 bit and 64 bit)
- Windows 7 (32 bit and 64 bit)

The driver is optimized for low latency and low CPU load, ensuring bit-perfect playback and recording paths. It interacts with Windows as a standard WDM/DirectX compatible sound device and is ASIO 2.2 compliant.

General Features

The MUTEC USB Audio Class 2.0 Driver supports both USB Audio Class 1.0 and Audio Class 2.0 devices. Standard sampling rates supported are:

- Class 1.0: 44.1 kHz, 48.0 kHz.
- Class 2.0: 44.1 kHz, 48.0 kHz, 88.2 kHz, 96.0 kHz, 176.4 kHz, 192.0 kHz

ASIO Features

The driver provides an ASIO 2.2 compliant driver DLL, supporting PCM 24 bit, PCM 32 bit, and Float 32 bit sampling resolutions. It enables bit-perfect playback and recording and supports simultaneous ASIO and WDM playback. This allows for multiple ASIO applications to run in parallel, with buffer depth configurable via the driver control panel. Additionally, it supports ASIO DSD mode (for playback and recording) and DSD-over-PCM (DoP) clock rates of DSD64, DSD128, DSD256, DSD512 and DSD1024 (DSD/DoP not supported by the MC1.2+).

WDM/DirectX Features

Supported Windows sound interfaces include MME, DirectSound, and WASAPI. The driver allows stereo and multi-channel playback and recording, bit-perfect playback and recording via WASAPI, and provides volume and mute control through the Windows interface. It supports PCM 16 bit, 24 bit, and 32 bit sampling resolutions.

Driver Download and Installation Procedure

Download the MUTEC USB Audio Class 2.0 Driver from the MUTEC website:

- Navigate to the product page for the MC1.2+ under "Downloads."
- Follow the installation instructions after downloading the ZIP file.

After installation, connect the MC1.2+ to your computer via USB. It should be automatically recognized by the system. For Windows, set the MC1.2+ as the default sound device in the Control Panel under "Sound" settings.

OPERATING THE MC1.2+

MODE + INPUT Menus

The MC1.2+ offers function menus to control its operation, including the MODE and INPUT menus:

1. MODE:

This menu allows you to select the general conversion mode. The available modes include unidirectional conversion (from one input format to all outputs) and bidirectional conversion (between two formats, such as USB ↔ AES3, USB ↔ S/P-DIF or USB ↔ AES3id).

2. INPUT:

This menu allows you to select which digital audio formats should be converted. The available options depend on the current mode and offer choices such as USB, AES3, S/P-DIF OP, and S/P-DIF BNC / AES3id. The system ensures that only valid format combinations are selectable.

General Operation Procedure

To operate the MC1.2+, follow these steps:

1. Press the MENU button to access the desired function menu (MODE or INPUT).
2. Use the SELECT button to navigate through the available functions within the chosen menu.
3. Once a function is selected, the corresponding LED will flash to indicate it is active. After approximately 4 seconds, the LED will stop flashing, confirming the selection.

Unidirectional Format Conversions

The MC1.2+ supports unidirectional format conversions, which convert a signal from one digital format to all available output formats. For example, the USB input can be converted to AES3, AES3id, and S/P-DIF optical/coaxial formats simultaneously while outputting the converted audio signals at all available output interfaces.

Bidirectional Format Conversions

In bidirectional mode, the MC1.2+ allows real-time conversion between the USB interface and one of the available PCM audio formats. This mode is ideal for environments where multiple format conversions are required simultaneously.

STATUS SYSTEM

The STATUS SYSTEM section provides information about the power and signal lock status of the device through the following LED indicators:

- **Lock USB:** Lights up when a valid USB signal is detected and locked. If this LED is on, the MC1.2+ has successfully synchronized with the USB audio stream, ensuring stable USB audio transmission.
- **Lock PCM:** Lights up when a valid PCM (Pulse Code Modulation) audio signal is detected and locked. This ensures the correct decoding and processing of standard PCM audio signals. If this LED is off, it may indicate that the incoming signal is either missing or not in the correct format.
- **Main Power:** Illuminates when the device is powered via the mains power input (AC). This ensures that the device is receiving stable power from a traditional electrical outlet, ensuring continuous operation.
- **DC Power:** Lights up when the device is powered via an external DC power supply. If this LED is on, it indicates that the device is receiving power through the 9V DC input, providing an alternative power option when AC power is unavailable or impractical.
- **USB Power:** The two lower LEDs in the Status System section light up together, indicating that the MC1.2+ is powered through the USB interface.

STATUS S/P-DIF IN

The STATUS S/P-DIF IN section provides important information about the incoming S/P-DIF signals through various LED indicators:

- **Original:** Lights up when the incoming S/P-DIF signal is recognized as the original source, helping users determine whether the signal is an untouched master.
- **1st Gen:** Illuminates to indicate that the incoming signal is a first-generation copy. This is useful for tracking the digital audio generation and ensuring compliance with copy protection rules.
- **None PCM:** Lights up if the incoming signal is not a standard PCM audio signal (e.g., AC-3, DTS, MPEG). This helps identify non-standard audio streams that may require special decoding.
- **DTS-CD:** Lights up when the device detects a DTS-CD bitstream. DTS-CDs contain encoded surround sound information, and this indicator confirms that the correct signal type is being processed.

STATUS CLOCK IN

The STATUS CLOCK IN area shows the clock rates of the incoming clocks embedded in the USB audio stream and the digital audio PCM signals. There are two individual LED rows, one for the USB interface (USB) and one for the selected PCM audio input (PCM). Seven different audio-related clock or sampling rates, respectively, between 32.0 kHz and 192.0 kHz can be analyzed and displayed through each LED row. These indicators help monitor the synchronization and quality of incoming clock signals.

Generic Functions

- **Front Panel Lock Out & LED Shut Down:** By pressing both front panel keys simultaneously, all LEDs except the »POWER« and »LOCK« LEDs will shut down. Additionally, the functions of both keys will be blocked to prevent unauthorized operation, which is particularly useful during live events. To check the device's settings without unlocking it, press either of the keys briefly, which will temporarily illuminate the corresponding LEDs. To reactivate all keys and LEDs, press both keys for approximately four seconds until all LEDs light up again.
- **Factory Reset:** To reset the operating system of the MC1.2+ to its initial state, switch on the unit while holding down the »MENU« key.

Appendix

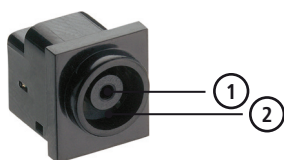
Pin Assignment of the Connectors

Mains



- 1) Neutral (N)
- 2) Protective Earth (E)
- 3) Live, Phase (P)

DC Voltage Input



- 1) Signal
- 2) Ground

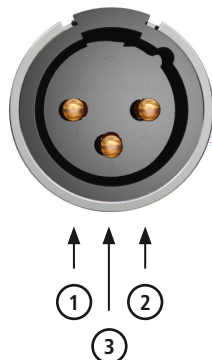
DC cable connector for
DC voltage input (included
in scope of delivery):
Lumberg 1636 05

AES/EBU, XLR, Input for AES3/11, 110 Ω



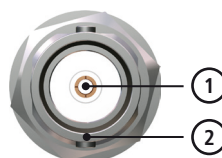
- 1) Audio ground
- 2) Conductor (hot / +)
- 3) Conductor (cold)

AES/EBU, XLR, Output for AES3/11, 110 Ω



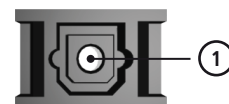
- 1) Ground
- 2) Conductor (hot / +)
- 3) Conductor (cold)

BNC Input/Output for S/P-DIF + AES3id



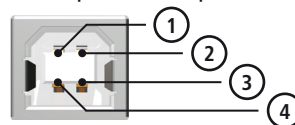
- 1) Signal
- 2) Ground

Optical TOSLINK Input/Output for S/P-DIF



- 1) Optical signal

USB Input and Output



- 1) D –
- 2) VBUS, +5 V
- 3) GND
- 4) D +

Technical Data

S/P-DIF Optical Audio Input (OP):

- Interface: 1 x Toshiba Toslink™, EIAJ RC-5720
- Format, Resolution: IEC 60958, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

S/P-DIF Coaxial Audio Input (CO):

- Interface: 1 x BNC, 200 mV–7 V, unbalanced, input impedance 75 Ω
- Format, Resolution: IEC 60958, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

AES3id Coaxial Audio Input:

- Interface: 1 x BNC, 200 mV–7 V, unbalanced, input impedance 75 Ω
- Format, Resolution: AES3id–1995/2001, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

AES3 Audio Input:

- Interface: 1 x XLR female, transformer balanced, input impedance 110 Ω , 200 mV–7.0 V
- Format, Resolution: AES/EBU3–1992/2003 + AES/EBU11–1997/2003, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

USB Audio Input/Output:

- Interface: 1 x USB 2.0 (Type-B connector), bidirectional
- Resolution: PCM 16, 24, and 32 bits (supported by USB Audio Class 2.0)
- Lock range: 32.0 kHz to 216.0 kHz
- Driver Support: ASIO, MME, DirectSound, WASAPI, Kernel Streaming (for Windows)

MC1.2+

S/P-DIF Optical Audio Output (OP):

- Interface: 1 x Toshiba Toslink™, EIAJ RC-5720
- Format, Resolution: IEC 60958, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

S/P-DIF Coaxial Audio Output (CO):

- Interface: 1 x BNC, 200 mV–7 V, unbalanced, input impedance 75 Ω
- Format, Resolution: IEC 60958, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

AES3id Coaxial Audio Output:

- Interface: 1 x BNC, 200 mV–7 V, unbalanced, input impedance 75 Ω
- Format, Resolution: AES3id–1995/2001, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

AES3 Audio Output:

- Interface: 1 x XLR female, transformer balanced, input impedance 110 Ω , 200 mV–7.0 V
- Format, Resolution: AES/EBU3–1992/2003 + AES/EBU11–1997/2003, 16–24 bits
- Lock range: 32.0 kHz to 216.0 kHz

Signal Processing:

- Digital Audio Format Conversion: AES3, AES3id, S/P-DIF (optical + coaxial) and USB in every combination and direction
- Signal regeneration through self-powered USB interface, low-jitter PLLs and low-jitter clock oscillators
- SCMS Copy Bit: Generation of original, 1st generation, SCMS pass-thru functionality
- S/P-DIF Signal Analyzing: Automatic detection of SCMS original + 1st generation status; None-PCM and DTS detection

Mains Power Supply:

- Type: internal, self-switching power supply
- Input voltages: 85–305 V, 50–60 Hz
- Power consumption: 4 W nominal operation

DC Voltage Supply:

- Input voltage: 9 V, +/-1.0 V
- Power consumption: 4 W nominal operation

Mechanical Details:

- Enclosure size/material/color: 196 x 42 x 156 mm (W x H x D, without connectors and case feet), steel sheet 1 mm, matte-black powder-coated
- Front panel size/material/surface/color: 198 x 44 x 4 mm (W x H x D), aluminum, anodized incl. screen imprint, color: silver or black
- Weight: approx. 1155 g (2 lb, 8.74 oz)

MC1.2+ Order Information:

- Front silver: item no. 8015-113, EAN Code: 4260342461228
- Front black: item no. 8015-114, EAN Code: 4260342461235

