

DATA SHEET

DD2FR-FX

**DUAL MADI / SANE / VIDEO /
DATA MODULE WITH ETHERNET**

**OPTICAL DIGITAL
NETWORK DEVICE**



Product Features

- **2 SC multimode optical MADI inputs and 2 SC multimode optical MADI outputs**
- **Up to 128 input and 128 output MADI channels**
- **Up to 128 input and 128 output SANE channels**
- **2 x 100 Mbit Ethernet ports**
- **Four RS485 interfaces for the exchange of control data. (e.g. RS422, RS485, DMX, MIDI)**
- **Word clock in- and output**
- **Composite video in- and output**
- **2 optical 2 Gbps LINK interface with duplex LC-connectors**
- **Dual power supply with automatic switchover**
- **USB, RS232 or LAN port for configuration and control**
- **Full remote access with OPTOCORE CONTROL software**
- **Upgradeable internal logic**
- **Comprehensive status control via LED banks on the front**

The DD2FR-FX is a digital I/O unit and interface for the OPTICAL OPTOCORE® and CAT5 SANE DIGITAL NETWORK SYSTEM. The unit provides two MADI input and two MADI output ports, allowing the transmission of up to 128 input and 128 output digital audio channels. Each MADI port can be adjusted to handle different formats according to the AES standards. The DD2FR-FX is equipped with SC multimode optical interfaces. With Soundcraft, Studer, Lawo and SSL digital consoles it is possible to control Optocore mic preamps directly from the console.

The DD2FR-FX is equipped with two SANE ports, which enables to send and receive up to 256 audio channels via standard CAT5 cable. SANE ports can be used to send Ethernet data as well. DD2FR-FX is also equipped with two separate LAN ports for Ethernet transmission. DD2FR-FX unit can be used as a bridge between fiber Optocore network and CAT5 SANE.

The DD2FR-FX is the perfect I/O unit for a wide range of professional audio devices with MADI inputs and outputs such as digital consoles and I/O systems. The huge amount of channels exchanged by one DD2FR-FX makes it the ideal and most cost effective interface for digital console systems. In addition, the user can define the number of input channels received at each MADI port and allocated on the fiber for transmission. This keeps the system highly flexible in all sorts of temporary and permanent applications, especially when long distance connections and

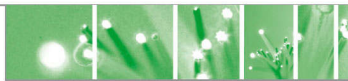
high-quality audio are required.

Redundant fiber connections can be established using the two provided optical LINK-interfaces. Depending on the fiber optic transceivers, distances from 700 m up to 70 km can be covered. The dual redundant ring structure provides maximum safety in a network with an outstanding low latency.

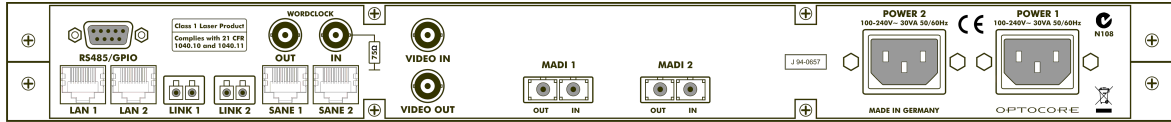
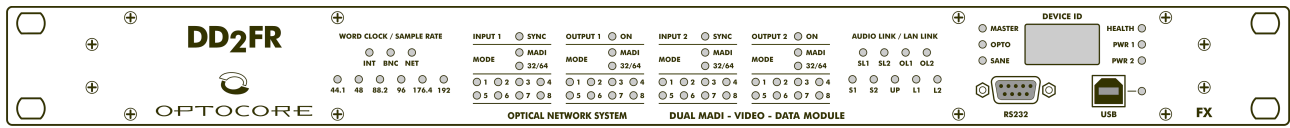
The DD2FR-FX is equipped with a word clock input and output. It includes a composite video input and output. Four RS485 ports allow the transport of a wide range of standards such as RS422, DMX and MIDI. In addition to the audio signals, video and data signals are transmitted by the fiber connection. The dual power supply unit, with automatic switchover, permits a redundant power supply and safeguards against malfunctions of the unit if one power supply fails to run.

OPTOCORE CONTROL provides easy access to all configuration and control tools, including routing, naming, storage and recall of configurations on the computer, off- and online mode with real-time level display.

Due to SMD production, the DD2FR-FX fulfills the demand of highest digital standards. The FPGA (field programmable gate array) based concept of the internal logic circuitry permits updating of the hardware, ensuring a continual state-of-the-art device.



Line Drawings



Technical Specifications

MADI Ports	Convention AES10-1991 / AES10-2003	
Inputs	Number / Connectors	2 / optical
	MADI digital audio channels	56 or 64 per Input
Outputs	Number / Connectors	2 / optical
	MADI digital audio channels	56 or 64 per Output
Data rate		125 Mbps
Wave length	Output	1310 nm (typical)
Max. cable length	50 / 125 µm	1500m / 5000ft
SANE, LAN ports	Convention	
Audio	TIA - 568A/B, Optocore	200 Mbit/s
LAN	TIA - 568A/B, IEEE - 802.3	10/100 Mbit/s
Auxiliary Ports	Convention EIA / TIA-485	
Data channels	Digital control data	4
Data rate		Up to 10 Mbps
Impedance	Termination	330 Ω
	Source	≤ 10 Ω
Word clock	Hardware standard 75 Ω / BNC	
Data rate	Depending on used sample rate	44,1 / 48 / 88,2 / 96 / 176,4 / 192 kHz
Impedance	Output	75 Ω
	Input	1k / 75 Ω software switch
Video	Hardware standard 75 Ω / BNC	
Channels		1 x input, 1 x output
Format		Composite video
Optical Link	Input, Output, Dual – Full bandwidth	
Connection		Duplex LC
Protocol		Optocore
Transmission		Full duplex
Data rate		2 x 2 Gbps
Optical wave guide cable lengths	Multimode fiber 50 µm	≤ 700 m
	Monomode fiber 9 µm	≤ 70 km (on request)
Power supply	2 independent power supplies with function check and automatic switch-over	
Type	Switch-mode, universal input	
Mains voltage	100...240VAC, 50/60Hz, 10VA-typ	
Frequency	50 ... 60 Hz	
Remote Control		
RS232	Convention EIA / TIA-232	R x D, T x D / 57 600 Baud
USB Port		Interface to PC
Dimensions	1 RU / 19"	
W x H x D	483 x 44 x 200 mm	19.2 x 1.73 x 7.87 inch
Weight	2.7 kg	6.0 lbs