

tieLight portal PCIe

tieLight Portal PCIe – tieLight and MADI I/O Card (O_Serv_AI_MADI_TIE_a)

The tieLight Portal PCIe card provides optical tieLight and MADI audio I/O together with an external synchronization input.

Standards

- MADI interface compliant with **AES10-2008**
- Synchronization interface compliant with **AES11-2009** and the applicable audio and video synchronization standards

Audio

- 24-bit audio
- Transparent transport of PCM and compressed audio
- Supported sample rates:
 - 44.1 kHz
 - 48 kHz
 - 88.2 kHz
 - 96 kHz
- 88.2 kHz and 96 kHz use short-frame MADI operation

Important - Not all sample rates may be supported by the host system. Refer to the specifications of the respective flexAI system.

Optical Input

- Connector: LC, according to IEC 61754-20
- Audio channels:
 - 64 / 56 channels at 44.1 and 48 kHz
 - 32 / 28 channels at 88.2 and 96 kHz
- Single-mode center wavelength:
 - 1310 nm typical
 - 1270 to 1360 nm
- Multimode center wavelength:
 - 1310 nm typical
 - 1270 to 1360 nm

Optical Input Power

Optical Module	Fiber Type	Input Optical Power
O_DAP_MO_MM_a	OM2 multimode, 50/125 μm	-31 to -8 dBm
O_DAP_MO_SM_a	Single-mode	-23 to -8 dBm

Other single-mode variants may be available on request.

Maximum Cable Length

Optical Module	Fiber Type	Maximum Cable Length
O_DAP_MO_MM_a	OM2 multimode	1.5 km
O_DAP_MO_SM_a	Single-mode	2 km

The values shown for the single-mode module are the standard specifications. Other variants may be available on request.

Sync Input

The card provides a multi-standard external synchronization input supporting **AES/EBU, Word Clock, Black Burst, and Tri-Level Sync**.

- Connector: BNC
- Input impedance: 75 Ω
- AES/EBU input: 0.3 to 5 Vpp, single-ended
- Word Clock input: 1 to 5 Vpp, single-ended
- Video sync input: 1 Vpp nominal, single-ended
- Supported video frame rates:
 - 23.975 fps
 - 24 fps
 - 24.975 fps
 - 25 fps
 - 29.97 fps
 - 30 fps
 - 49.95 fps
 - 50 fps
 - 59.94 fps
 - 60 fps
- Supports applicable SD and HD synchronization formats

The synchronization interface complies with AES11-2009 and the relevant audio and video synchronization standards.

General Features

- Field-replaceable optical SFP module
 - Reference-grade Word Clock recovery
 - Master synchronization capability
 - Dedicated routing for channels that do not require audio processing
 - Audio channels can be routed to and from the host system or looped through the interface
 - Maximum routing capacity:
 - 128 MADI channels
 - 2048 tieLight channels
 - AES3 channel-status handling in MADI mode
 - Non-audio detection in MADI mode
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