

SX-48



SIGNAL EXCHANGE

I/O MANAGEMENT SYSTEM

Fairlight's SX-48 Signal Exchange unit provides flexible I/O management of both analog and digital audio inputs and outputs and a packing density of up to 48 channels in each single 2U frame. A standard SX-48 frame ships with a MADI I/O card to provide a multiplexed bi-directional signal flow for each 48 channel unit. Digital signals can be referenced to external AES, World Clock or Video at any standard frame rate including tri-level references if used in a Hi Definition production environment. If AES digital inputs are present these inputs can also be used as a reference for the system. The front panel LED's provide a clear indication as to the reference currently in use. SX-48 is designed to accommodate all standard sampling frequencies from 44.1Khz to 192 KHz.* LED indicators on the front panel display the currently selected frequency. Flashing LEDs indicate that the sampling frequency has been pulled down to accommodate Drop Frame when required meaning a 48khz signal will be passed through at 47.952 KHz.

* 192 KHz sampling frequencies supported in future I/O card releases.



FLEXIBLE

Central to the SX-48 design is the ability to flexibly configure units with any combination of up to six 8 channel I/O cards in the top of the 2U frame.

These cards may be selected in any combination from the following options-

- 8 x AES I/O (4 pairs)
- 8 x AES SRC I/O (4 pairs with Sample rate conversion)
- 8 x Analog Inputs
- 8 x Analog Outputs
- 8 x Analog Outputs with Relay protection for speakers

Microphone Card

4 x Hi Quality Microphone Pre-amplifier* (one per frame)

*Requires at least one analog input to be fitted to the frame.

Six slots on the top of the unit are used to support the above 8 channel I/O cards whilst the Microphone preamplifier card is installed on the underside of the unit.

SIGNAL STATUS

SX-48 front panel also provides 96 LEDs to indicate channel status for each input and output fitted to the frame.

LED States indicate the following signal status*

- | | |
|---------------------|---|
| OFF | OFF |
| DIM GREEN | Signal Present |
| BRIGHT GREEN | Signal between minus 20dBFS and minus 8dBFS |
| YELLOW | Signal between minus 8dBFS and minus 2dBFS |
| RED | Signal between minus 2dBFS and Zero |

* User defined ranges may be accommodated in future releases.

TSCP

Unlike most other common isolated I/O systems, SX-48 introduces Fairlight's "Total Studio Connection Protocol" (TSCP). When connected to a PC management system via an Ethernet, up to 254 SX-48 systems can be managed from one central location to deliver a staggering routing and patching infrastructure of over **Twelve Thousand** analog and digital audio channels. Using an intuitive Windows control application, the SX-48's sample rate and synchronization source can be set up. The unit's patching is also controlled from this application, with completely free patching between all signal sources present within the unit – up to 56 channels of MADl, and up to 48 local inputs and outputs. SX-48 makes the redundant overuse of Audio I/O connections a thing of the past. Now audio I/O combinations can be mounted only where they are needed and easily routed to and from their desired sources and destinations. LEDs are also provided to indicate connection to the TSCP host when enabled and also when communication is present.



SX-48 Specs at a glance

8 Channel Analog Inputs and Outputs

- Input impedance = 10k Ohms
- Output impedance < 55 Ohms
- Maximum input level +24dBFS
- Maximum output level +24dBFS
- Standard operating level adjustable from +14dBFS to +24dBFS
- Input signal to noise > 113dB A-weighted (A/D conversion)
- Output signal to noise > 113dB A-weighted (D/A conversion)
- Through system signal to noise > 110dB A-weighted
- Through system THD < 0.0008% typical
- Bandwidth (.25dB) 20Hz to 20kHz

General

System Sample Rates

- 44.1, 48 and 96kHz (user selectable)

Run-up/Run-down Sample Rates

- 44.056, 44.144, 47.952, 48.048, 95.904, 96.096kHz

SRC Range (with optional SRC I/O module)

- Input: 0.33 to 3.0x system sample rate with range limits of 15kHz to 108kHz

Clock References

- Internal, AES reference, MADl, WCLK, any Digital Input, Video Reference. Output, AES, Wordclock.
- The system may be run at 96kHz locked to a 48kHz reference, or at 48kHz locked to a 96kHz reference.

Specifications subject to change without notice.

8 Channel AES Cards

AES/EBU Inputs

- Input impedance 110 Ohms transformer isolated
- Channel status SX-48 systems are insensitive to channel status

AES/EBU Outputs

- Output level 4V
- Output impedance 110 Ohms transformer isolated
- Channel status, professional, normal audio, source locked
- sample frequency set to project sample rate, stereophonic, 24-bit word length

System Sample Rates

- 44.056, 44.1, 48 and 96kHz (user selectable)

Run-up/Run-down Sample Rates

- 44.056, 44.144, 47.952, 48.048, 95.904, 96.096kHz

SRC Range (with optional SRC I/O module)

- Input: 0.33 to 3.0x system sample rate with range limits of 15kHz to 108kHz



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