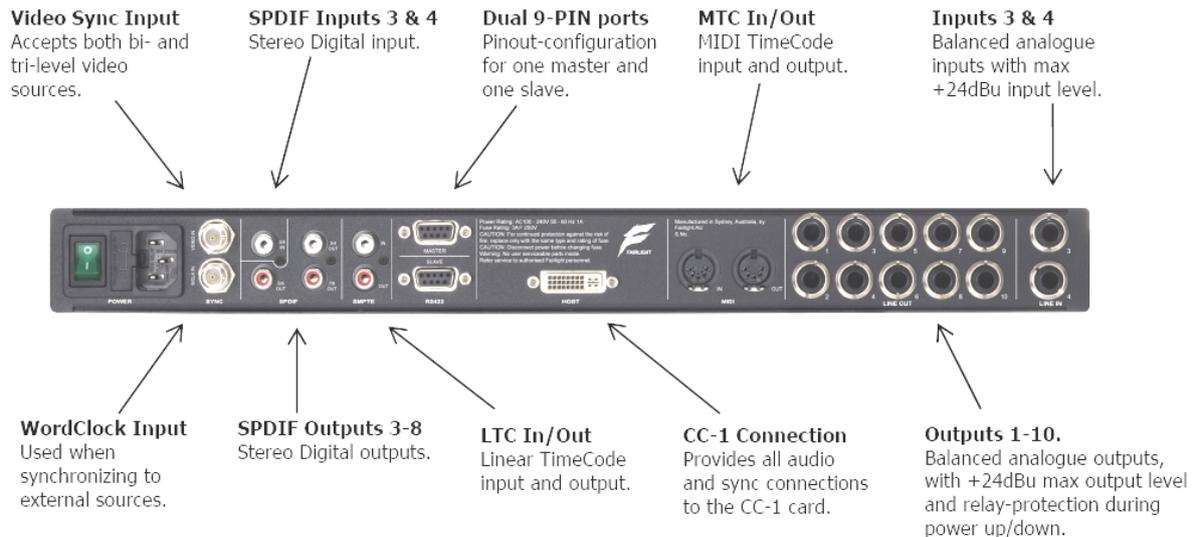# FAIRLIGHT | SX-20

Sync and I/O Toolkit

Fairlight's SX-20 is a versatile "Sync I/O Toolbox", and is a required component of any base CC-1 system. The SX-20 includes two Mic/Instrument preamps plus two additional balanced analogue inputs, twelve balanced analogue outputs, four digital inputs and eight digital outputs. In addition, SX-20 includes powerful simultaneous independent dual-machine 9-pin control. SX-20 also provides for Sync at any frame rate including HD Trilevel sync, Video Sync, Wordclock, AES and LTC. The unit also generates LTC at any standard rate. When combined with CC-1, SX-20 provides all the interface capabilities required for a wide variety of audio production and post production tasks.

Specifications	
A/D	**D/A**
Sample rate: 44.1, 48, 96, 192 kHz (+4.1667%, +0.1%, -0.1%,-4%)	**Sample rate:** As per A/D
Max Input: Inputs 1-2 (mic) : +0 dBu Inputs 1-2 (instrument) : +24 dBu Inputs 3-4 (line) : +24 dBu	**Max Output:** Outputs 1-12: +24 dBu
Gain Range: Inputs 1-2: mic setting: 50dB gain range (0dBu to -50dBu max input) Inputs 1-2: Instrument setting: 50dB gain range (+24 dBu to -26dBu max input)	**Dynamic range:** Outputs 1-12: 109 dB (unweighted)
Mic E.I.N (unweighted): Inputs 1-2: -125dBu @ max gain: 150 ohm source, 20Hz – 20kHz	**THD+N:** Outputs 1-10: 0.0010% @ 1kHz, -1dBFS Outputs 11-12: 0.0013% @ 1kHz, -1dBFS
Dynamic Range: Inputs 1-2: 101 dB @ minimum gain (unweighted) Inputs 3-4: 109 dB (unweighted)	**Frequency Response:** +0.05 / -0.5 dB, 20 Hz – 20kHz
THD+N mic input: Inputs 1-2: 0.001% @ 1kHz, -1dBFS after 0 dB gain Inputs 1-2: 0.002% @ 1kHz, -1dBFS after 25 dB gain	**Output Impedance:** Outputs 1-12: < 150 ohms
THD+N line input: Inputs 1-4: 0.001% @ 1kHz, -1dBFS	
Frequency Response: +0.05 / -0.15 dB, 20 Hz – 20kHz	
Input Impedance: Inputs 1-2 (mic): 2k ohm Inputs 1-2 (instrument): >1M ohm Inputs 3-4: 15k oh	

The SX-20 interface provides a wide variety of audio, synchronization and control interfaces. When connected to Fairlight's CC-1 card, the SX-20 becomes the natural hub of today's studio.

The SX-20 connects to the CC-1 card using the supplied DVI-I dual link cable, and to mains supply using a standard IEC lead. The backplate houses all synchronization and control ports:

Video Sync Input
Accepts both bi- and tri-level video sources.

SPDIF Inputs 3 & 4
Stereo Digital input.

Dual 9-PIN ports
Pinout-configuration for one master and one slave.

MTC In/Out
MIDI TimeCode input and output.

Inputs 3 & 4
Balanced analogue inputs with max +24dBu input level.

WordClock Input
Used when synchronizing to external sources.

SPDIF Outputs 3-8
Stereo Digital outputs.

LTC In/Out
Linear TimeCode input and output.

CC-1 Connection
Provides all audio and sync connections to the CC-1 card.

Outputs 1-10.
Balanced analogue outputs, with +24dBu max output level and relay-protection during power up/down.

The SX20 contains a complete Multifunction sync system, that supports all standard sync clocks and time code formats. The sync system can lock to 23.98, 24, 25, 29.97, 30, 50, 59.94 and 60 video frame rates. Offering full HD frame rate support.

41000, 48000, 96000, sampling frequencies. (Wordclock and AES). Slave Clock is not required on a Fairlight.

Full Sony 9 pin implementation - Fairlight can directly communicate with industry standard Sony 9 pin serial controlled machines providing control over external video (or audio) machines, directly from any Fairlight controller interface. The SX20 can control up to two machines: M1, and M2.

- TC Master – the selected machine is the 9 Pin timecode master.
- Chase (slave) - the selected machine is in 9 Pin chase mode.
- Remote (slave) – Dream II will respond to 9 Pin remote commands like a "virtual VTR".
- LTC Master – the selected machine is set to chase external Longitudinal Time Code.
- MTC Master – the selected machine is set to chase external MIDI Time Code.
- Fairlight Supports all "pull-up/pull-down" in industry standards for movie and TV.
- Individual Offsets can be set as required.