SONIFEX

Redbox RB-SC1
Sample Rate Converter

Catalogue 2014-15

RB-SC1 Sample Rate Converter

Category: Digital Audio Converters.
Description: Sample Rate Converter (24 bit, 96kHz Capable).
Product Function: Transferring digital audio between digital equipment.
Typical Applications: Converting an audio library from 44.1kHz to 48kHz, transferring digital audio from a recorder at 48kHz to a digital mixer at 96kHz.

Ideal for the transfer of digital audio between different digital equipment, the RB-SC1 sample rate converter standardises the sample rate of a digital audio signal to one of 32kHz, 44.1kHz, 48kHz or 96kHz, or to a synchronising input.

Both audio inputs and outputs have push-button switches to select either AES/EBU or S/PDIF. The synchronising input can be selected from one of AES/EBU, S/PDIF or TTL word clock.

There are four modes of operation of the RB-SC1 dependent on how you want to synchronise the output to the input :

Master Mode - In this mode the digital output sample rate is simply set by, and locked to, the internal on-board clock generator. No sync signal is used or required.

Auto Sync Mode - In this mode the digital output sample rate follows the sync input. When the sync signal is not present the output sample rate will be set by, and locked to, the internal on-board clock generator at a frequency determined by the switch position.

Auto Lock Mode - In this mode no output will be generated until lock is achieved with a sync signal. The digital output sample rate now follows the sync input. If the sync signal is removed then the output sample rate will be set by, and locked to, the internal on-board clock generator at the closest frequency available to the previous sync input.

Slave Mode - In this mode the digital output sample rate follows the sync input. When the sync signal is not present the digital output is turned off.

There are also switches available to define the content of the channel status bits embedded within the digital audio stream. The channel status bits will be forced to Professional Mode for sample rates above 48kHz as they are not supported by the Consumer Mode. For sample rates of 32kHz, 44.1kHz and 48kHz, the status bits can be

either set to follow the input signal type, or can be forced to either Professional or Consumer Mode.

As well as indicating that power is present on the unit, the LED on the front panel has a secondary role to indicate the status of the digital inputs. Fast flashing between red and amber indicates a loss of a digital input signal and slow flashing between red and amber indicates the absence of a synchronising input when not in Master Mode.

Specification For RB-SC1

Audio Specification

Dynamic Range:	120dB
Distortion and Noise:	-114dB THD + N at 1kHz, ref 0dB FS
Input Impedance:	75Ω S/PDIF inputs 110Ω AES/EBU input 50Ω BNC TTL word clock input
Sample Frequency Range:	Master rates of 32kHz, 44.1kHz, 48kHz or 96kHz, or can synchronise to incoming 32kHz to 100kHz sample rate
Bit Depth:	Up to and including 24 bit

Rear Panel Connections and Controls

Inputs:	2 x AES/EBU XLR 3 pin female (audio and sync) 2 x S/PDIF RCA phono (audio and sync) 1 x TTL BNC female (sync)
Outputs:	1 x AES/EBU XLR 3 pin male 1 x S/PDIF RCA phono
Input Select:	Push-button switch between AES/EBU and S/PDIF

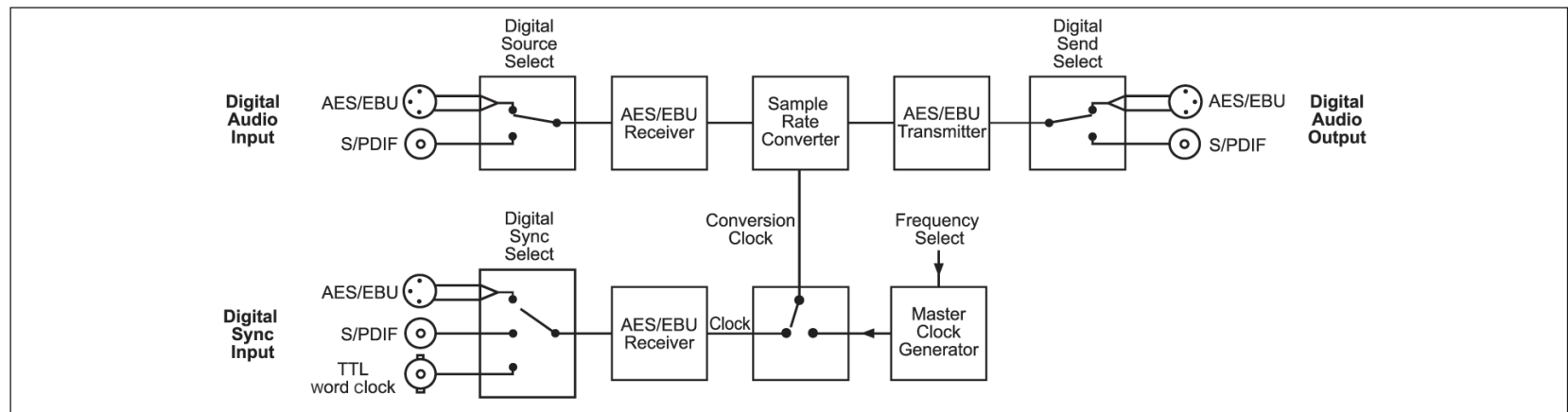|	
Output Select:	Push-button switch between AES/EBU and S/PDIF
Sync Select:	Push-button switch between AES/EBU and S/PDIF, with DIP switch selection between TTL and the other two inputs.
Operational Modes:	Master mode, auto sync mode, auto lock mode and slave mode, set via rotary switch
Status Bits:	Forced to consumer mode, professional mode, or set to follow input with DIP switch selection.
Mains Input:	Filtered IEC, continuously rated 85-264VAC @ 47-63Hz, max 10W
Fuse Rating:	Anti-surge fuse 100mA 20 x 5mm (230VAC) Anti-surge fuse 250mA 20 x 5mm (115VAC)

Equipment Type

RB-SC1:	Sample rate converter

Physical Specification

Dimensions (Raw):	28cm (W) x 10.8cm (D) x 4.2cm (H) (1U) 11" (W) x 4.3" (D) x 1.7" (H) (1U)
Dimensions (Boxed):	36cm (W) x 20.5cm (D) x 6cm (H) 14.2" (W) x 8" (D) x 2.4" (H)
Weight:	Nett: 1.0kg Gross: 1.4kg Nett: 2.2lbs Gross: 3.1lbs

RB-SC1 Sample Rate Converter Flowchart.

SONIFEX

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