



SONIFEX

Redbox RB-DMX4
January 2010



www.sonifex.co.uk

t: +44 (0)1933 650 700

f: +44 (0)1933 650 726

sales@sonifex.co.uk

Redbox - Digital Mixer

RB-DMX4 4 x 4 Channel Digital Audio Mixer/Router

NEW!

RK3 **24** BIT **192** Ks/s



RB-DMX4 4 x 4 Channel Digital Audio Mixer/Router (With RB-SYD Video Sync Board)

The RB-DMX4 is a digital mixer capable of mixing or routing 4 mono input channels into 4 mono outputs, or 2 stereo inputs into 2 stereo outputs. The inputs are sample rate converted to allow sources of different sample rates to be mixed. The flexible Mix Matrix allows for a wide variety of mixing options and creativity, using 4 blocks of 4 way DIPswitches to select which inputs are mixed or routed to which outputs.

The RB-DMX4 has 4 x digital mono audio inputs, selectable in pairs via front panel INPUTS 1 & 2 and INPUTS 3 & 4 push buttons, from either AES/EBU balanced XLRs, S/PDIF unbalanced phonos or TOSlink unbalanced optical inputs. Sample rate converters on each input mean that sources of different sample rates can be used with the output sample rate being defined independently. The colour of the INPUTS 1 & 2 and INPUTS 3 & 4 push-buttons indicate whether the input source is synchronised (no colour) or not (flashing green and red).

Each input has a trim pot, which can be used to attenuate the input signal. This allows for a perfect mix of channels at different audio levels. Audio presence LEDs around each input button give an indication of input audio level. There is one LED for each channel. There are also 4 presence LEDs around the MONITOR button which give an indication of output level. Additional gain can be added by accessing the OUTPUT GAIN mode.

There are 2 stereo outputs which are available as simultaneous AES/EBU balanced XLRs, S/PDIF unbalanced phonos or TOSlink unbalanced optical outputs. The output

sample rates are selectable via rear panel DIPswitches from one of 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz or 192kHz.

The unit has TTL wordclock BNC and AES/EBU XLR synchronising inputs as standard and optionally, the RB-SYA and RB-SYD synchronisation boards can be fitted to synchronise the unit to analogue or digital video signals. A rear panel DIPswitch block is used to decide whether the unit is synchronised to Input 1 & 2, Input 3 & 4, the AES/EBU sync input, the wordclock sync input or an optional video sync board. The DIPswitch block also selects the synchronisation mode of the unit and the MONITOR button flashes whenever the unit is not synchronised to an incoming sync signal. Selectable sync modes are as follows:

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 selected 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 the selected output frequency.

Auto Lock Mode

The digital output sample rate 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. ▶

Technical Specification For RB-DMX4

Audio Specification	
Dynamic Range:	>138dB
Distortion and Noise:	<-137dB THD + N at 1kHz, ref 0dB FS
Input & Output Impedances:	110Ω ±20% AES/EBU balanced I/O 75Ω ±5% S/PDIF unbalanced I/O 75Ω ±5% TOSlink unbalanced I/O 50Ω BNC TTL word clock input
Signal Level:	Balanced: 3V/10V peak to peak min/max Unbalanced: Min 0.5V±20% peak to peak
Sample Frequencies:	32, 44.1, 48, 88.2, 96, 176.4 or 192kHz
Bit Depth:	Up to and including 24 bit

Front Panel Operational Controls & Indicators

Digital Input Select:	AES/EBU, S/PDIF or TOSlink optical via INPUT 1 & 2 or INPUT 3 & 4 push-buttons
Mix Control:	Output mix selection system via front panel DIPswitches
Input Gain:	Input gain control for four INPUT channels via potentiometers, from muted (∞) to unity gain
Output Gain:	Adjustable via front panel push switch to 0dB, 3dB, 6dB or 12dB
Monitor Select Control:	Headphone monitor channel select and output gain via push button
Indicators:	Input and output presence indicators via bicolour LEDs around each push button

Rear Panel Operational Controls

Master Select:	32, 44.1, 48, 88.2, 96, 176.4 or 192kHz Frequency via rear panel DIPswitches
Sync Source Select:	INPUTS 1&2, INPUTS 3&4, AES Sync, Word Clock, Video Sync via rear panel DIPswitches
Sync Mode Select:	Master, Auto Sync, Auto Lock, Slave via rear panel DIPswitches
Stereo Features:	Stereo gain control and monitor outputs via rear panel DIPswitches
Monitor Attenuation:	12dB Monitor attenuation via rear panel DIPswitches
Serial Mode:	Enter serial control mode via rear panel DIPswitches
Boot Mode:	Boot up base code or firmware via rear panel DIPswitches

Connections

Digital Inputs:	2 x AES/EBU XLR 3 pin female 2 x S/PDIF RCA phono 2 x TOSLink optical input
Digital Outputs:	2 x AES/EBU XLR 3 pin plug 2 x S/PDIF RCA phono socket 2 x TOSLink optical output
Sync Inputs:	1 x AES/EBU XLR 3 pin female 1 x Word Clock BNC 1 x Video Input (optional)
Remote I/O Port:	15 way D-type plug
Serial Port:	RS232, 9 pin D-type socket
Mains Input:	Universal filtered IEC, continuously rated 85-264VAC@47-63Hz, max 10W
Fuse Rating:	Anti-surge fuse 2A 20 x 5mm

Equipment Type

RB-DMX4:	4 x 4 channel digital audio mixer/router
----------	--

Physical Specifications

Dimensions (Raw):	48cm (W) x 10.8cm (D*) x 4.2cm (H) (1U) 19" (W) x 4.3" (D*) x 1.7" (H) (1U)
Dimensions (Boxed):	59cm (W) x 27.5cm (D) x 11cm (H) 23.2" (W) x 10.8" (D) x 4.3" (H)
Weight:	Nett: 1.4kg Gross: 2.0kg Nett: 3.1lb Gross: 4.4lb

Accessories

RB-SYA:	Analogue video sync board (NTSC, PAL & SECAM)
RB-SYD:	Digital video sync board (SD-SDI & HD-SDI)
RB-RK3:	1U Rear panel rack kit for large Redboxes

* Note that this product is deeper than standard Redboxes



Redbox - Digital Mixer

► **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 is a monitor socket on the front panel with a gain pot to allow you to monitor the output of each channel. The monitored channel can be selected via a push button on the front panel which, when held, can also supply up to 12dB of gain. If the level that is being monitored is close to full scale, a 12dB attenuation

can be added to the monitor output via a DIPswitch on the rear panel.

The unit can be placed in mono or stereo mode via rear panel DIPswitch. Stereo mode allows you to monitor the two input pairs as stereo channels as well as controlling the input gain as a pair, giving tied audio levels.

The RB-DMX4 has been designed to have a passive signal path through the main input, so if power to the unit fails, signal inputs 1 & 2 are routed to outputs 1 & 2 and signal inputs 3 & 4 are routed to outputs 3 & 4.

This is essential for applications such as installation at transmitter sites, where a power failure to the unit should not prevent the audio input signal from being output to the transmitter. Please note that this is not true for the TosLink outputs which are muted.

The RB-DMX4 can be controlled using Sonifex free software, SCI. Contact Sonifex for further information if you have a particular requirement that isn't catered for by the RB-DMX4 as standard.

SONIFEX

www.sonifex.co.uk

t:+44 (0)1933 650 700

f:+44 (0)1933 650 726

sales@sonifex.co.uk

61 Station Road
Irthlingborough
Northants NN9 5QE
United Kingdom

Available from

Quadrant
DIGITAL SOLUTIONS

Quadrant Digital Solutions
Unit 1 Hawthorn Road
Castle Donington
Derby
DE74 2QR
Sales: 0870 084 1166
Fax: 01332 817778
information@quadrantdigital.co.uk

