

# SONIFEX

Redbox RB-DS2

Stereo Delay Synchroniser & Time-Zone Delay

2014-15  
Catalogue





## RB-DS2 Stereo Delay Synchroniser & Time-Zone Delay



**Category:** Synchronisers, Delays & Silence Detectors.

**Product Function:** Resynchronisation of audio to video (lip-sync) following conversion, transmission delay & network delays.

**Typical Applications:** In the broadcast chain to remove lip-sync errors, post production to synchronize audio when monitoring video signals, time zone delay to provide +1 hour programme feed.

**Features:** Analogue and digital I/O. Can be used as a fixed delay or for correction on the fly. Memory expansion option offers delay times in excess of 4 hours. 8 GPI's offer remote access/switching of pre-set delays.

The RB-DS2 is a stereo audio delay synchroniser used for resynchronising audio to video following delay processes such as standards conversion, transmission delay, logo insertion, video aspect ratio conversion and network delays.

It can be used for fixed installations to correct a permanent audio delay, or on an intermittent basis to provide occasional correction, for example for live links.

Accepting digital audio signals up to 96kHz, 24 bit, the sonic quality of the RB-DS2 is superb and silent switching is used to provide the smoothest, cleanest audio delay available.

The RB-DS2 has both balanced analogue and AES/EBU digital audio inputs and outputs on 3 pin XLR connectors. It can act as a combined A/D and D/A unit meaning that analogue inputs can be delayed and output as AES/EBU or vice-versa. It is a stereo delay, but can also be used as a dual mono delay, to process each audio path separately, or as a mono delay only.

As standard the RB-DS2 can provide up to 10.5 seconds of delay at 96kHz sampling, 24 bit (42 secs at 48kHz, 16 bit). An internal Compact Flash™ expansion allows up to 2GB of memory to be accessed providing delay times of over 4 hours, for example, to delay a programme output across different time-zones, or to shift a broadcast programme by 1 hour for a satellite rebroadcast. Delay times can be selected in samples, fields, frames, metres, milliseconds and with the Compact Flash™ expansion, in hh:mm:ss. Frame and field definitions can be for PAL (25 frame) or NTSC (30 frame) signals.

A front panel blue vacuum fluorescent display with rotary controller is used for selecting the various settings of the delay, which include the source (analogue or digital), channels, sample rate, sample bit width, format (PAL or NTSC), delay units and the delay itself. Additionally, input peak

digits can be selected from +12dBu, +18dBu and +24dBu for FSD and two left and right pre-set potentiometers on the rear panel allow the input gain range to be altered by ±3dB around the selected peak digits.

The analogue output gain range can be altered in software from -6dBu to +24dBu output level, ref FSD.

Both analogue and digital outputs can be separately muted and a front panel Bypass button disengages electro-mechanical relays to divert both analogue and digital inputs to their outputs. This is also disengaged automatically when a power-fail occurs.

All of the settings in the unit can be saved to one of 8 configuration settings. These Configs can be viewed, edited, saved and loaded, and also remotely loaded by using one of the 8 GPI contacts, meaning that any setting, such as delay time or Bypass, can be altered instantaneously using a GPI signal.

The RB-DS2 also has an RS232 serial port for remotely controlling the unit and there are 4 remote outputs which can be used for signalling. The front panel controls can be locked-out for situations where remote control is being used to run the unit, or where physical security is required.

### Specification For RB-DS2

#### Audio Specification

A/D Specification	
Maximum Input Level:	+28dBu
Input Impedance:	> 10kΩ bridging
Analogue & Digital Input Levels:	Selectable +12dBu, +18dBu, +24dBu for FSD
Analogue Pre-set Input Gain Range:	Adjustable 3dB loss to 3dB gain (L & R adjust)
Signal to Noise:	Better than -101dBFS (RMS A-weighted at 24bit)
Dynamic Range:	> 110dB
Distortion & Noise:	> 96dB THD + N at 1kHz

#### D/A Specification

Maximum Output Level:	+24dBu
Output Impedance:	< 50Ω
Dynamic Range:	> 100dB
Analogue Output Gain Range:	Selectable -6dBu to +24dBu output level, ref FSD
Sampling Frequency:	Selectable 32kHz, 44.1kHz, 48kHz, 64kHz, 88.2kHz or 96kHz
Sample Width:	Selectable 16bit or 24bit
Channels:	Stereo or dual mono
Format (Fields & Frames):	PAL, NTSC
Delay Units:	Samples, fields, frames, milliseconds, hh:mm:ss, (with CF expansion)
Maximum Delay:	10.5 seconds @ 96kHz, 24bit, stereo (excluding memory expansion)

#### Rear Panel Connections

Analogue Inputs:	2 x XLR 3 pin female (balanced) (L & R)
Analogue Outputs:	2 x XLR 3 pin male (balanced) (L & R)
Digital Inputs:	1 x AES/EBU XLR 3 pin female
Digital Outputs:	1 x AES/EBU XLR 3 pin male
Remote I/O Port:	15-way 'D'-type plug, 8 GPI inputs, 4 GPI outputs
Serial Comms Port:	9-way 'D'-type plug
Memory Expansion:	Internal Compact Flash™ storage card supporting up to 2GB. CF cards must be PIO Type 4 or higher.
Mains Input:	Filtered IEC, continuously rated 85-264 VAC, 47-63Hz, fused, 60W peak, 30W average

Fuse Rating: Anti-surge fuse 2A 20 x 5mm

#### Front Panel Controls

Display:	Vacuum fluorescent display
System Navigation:	Rotary selector with integral push-switch
Audio Bypass:	Via push-button

#### Equipment Type

RB-DS2:	Stereo delay synchroniser & time-zone delay
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#### Physical Specification

Dimensions (1U)	48cm (W) x 15.8cm (D *) x 4.2cm (H)
(Raw):	19" (W) x 6.2" (D *) x 1.7" (H) (1U)
Dimensions (Boxed):	59cm (W) x 27.5cm (D *) x 11cm (H)
(Boxed):	23.2" (W) x 10.8" (D *) x 4.3" (H)Weight
Weight:	Nett: 1.6kg Gross: 2.3kg Nett: 3.5lbs Gross: 4.8lbs

\* Note that this product is deeper than standard Redboxes



## RB-DS2R Remote Switch Panel For RB-DS2



**Category:** Synchronisers, Delays & Silence Detectors.

**Product Function:** Remote control unit

for up to 4 x RB-DS2 units.

**Typical Applications:** Remote control of multiple RB-DS2 units from another location, where quick delay time changes are needed.

**Features:** Quick and simple control of delay times in frames from 0 to 7

The RB-DS2R is a remote panel for controlling up to 4 separate RB-DS2 units from a single 1U 19" rack-mount panel.

The unit has 4 rotary switches, each with 8 available selections numbered 0 to 7, used for selecting the delay time in frames.

On the rear of the unit are 4 x 15-way D-type connectors used for connecting directly to the remote input of 4 x RB-DS2 units.

The RB-DS2R is a passive unit, i.e. there is no power supply.

### Specification For RB-DS2R

#### Audio Specification

##### Rear Panel Connections

Remote I/O Port: 4 x 15-way 'D'-type socket, 8 GPI outputs

##### Front Panel Controls

Selector Switches: 4 x 8 way rotary selectors

##### Equipment Type

RB-DS2R: Remote switch panel for 4 x RB-DS2

##### Physical Specification

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): 58.5cm (W) x 22.5cm (D) x 7cm (H)  
23" (W) x 8.9" (D) x 2.8" (H) Weight

Weight: Nett: 1.2kg Gross: 1.6kg  
Nett: 2.6lbs Gross: 3.5lbs



# **SONIFEX**

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