Dave Langer (Creative Services)


# Range of Audio Interfaces

# July 2004

## Analogue & Digital Audio Interface Equipment

Designed and manufactured to the highest specifications, Redbox comprises of a range of analogue and digital audio interfaces for use in a multitude of professional audio applications, including installations at radio stations, TV studios, home studios, video suites, production houses and recording studios.

Started in 1999, the Redbox range has expanded, by customer demand, to include over 30 high quality, useful and reliable units. All of the ideas for new products have come from you, the customers, so if you have a requirement for a new interface, or modifications to an existing one, then let us know by sending an email to sales@sonifex.co.uk. There is more information on our design services on page 37 of this brochure.

Manufactured to the highest standards in our UK offices, utilization of the finest components and critical quality control techniques ensure that your Redboxes will work every time for years to come. Each Redbox is tested twice by skilled audio engineers, before being carefully assembled and packed. The Redbox range of products are "fit and forget" because you can set them up, fit them in your installation and then forget about them - they won't trouble you.

Features of the Redbox range :

- All are equipped with IEC mains lead and instruction manual.
- In-house design and manufacture ensures high quality control standards.
- They are manufactured as either 115V 60Hz or 230V 50Hz and all have a front panel LED power indicator.
- Manufactured within ISO9000 standards and guaranteed CE compliant.
- Housed in eye catching red anodised aluminium cases.

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Brochure Stock Code: 30-210 Version: 1.2 Artwork No.: AW10126C

**www.sonifex.co.uk**

# Ordering

All the Redboxes are screw mountable as standard and are either rack-mounted or have the option to be rack-mounted. The RB-RK rack mount kits can be attached to the front or the rear of the Redbox products so that they can be rack mounted into a standard 19 inch rack frame in 1U of space.

For rack mounting smaller (28cm) units the optional RB-RK1 (Red) or RB-RK1B (Black) kit can be used (which include 4 off M6 panel fixing screws).

The RB-RK1 can be used with the following products:-

| | |
|---|---|
| RB-UL1 | Unbalanced to balanced single converter |
| RB-UL2 | Dual unbalanced to balanced converter |
| RB-BL2 | Unbalanced to balanced bi-directional converter |
| RB-MA1 | Single microphone amplifier |
| RB-MA2 | Dual microphone amplifier |
| RB-SM1 | Single stereo to mono converter |
| RB-SM2 | Dual stereo to mono converter |

| | |
|---|---|
| RB-DDA6A | AES/EBU digital distribution amplifier |
| RB-DDA6S | S/PDIF digital distribution amplifier |
| RB-DDA6W | Wordclock distribution amplifier |
| RB-SC1 | Sample rate converter |
| RB-SL2 | Twin mono, or stereo, limiter |
| RB-LC3 | Light/Power controller |
| RB-LI2 | Stereo Line Isolation Unit |

For rear panel mounting you can use either the RB-RK2, or RB-RK3, depending on the size of your Redbox.

RB-RK2 1U rear panel rack kit for small Redbox range, e.g., RB-BL2

RB-RK3 1U rear panel rack kit for large Redbox range, e.g., RB-DA6


Wherever you see this symbol an RB-RK1 rackmount kit can be used.


Wherever you see this symbol an RB-RK2 small Redbox rear panel rack kit ears can be used.


Wherever you see this symbol an RB-RK3 large Redbox rear panel rack kit ears can be used.

When ordering a Redbox from Sonifex it is helpful if you can specify your required operating voltage. After the product code add:-

UK for 230V, UK 3 pin to IEC lead 

EC for 230V, EEC Schuko 2 pin to IEC lead 

US for 115V, US 3 pin to IEC lead 

AU for 230V, Australasian 3 pin to IEC lead 

e.g: RB-BL2 UK

**For more information go to the Sonifex website at www.sonifex.co.uk or for technical enquires email technical.support@sonifex.co.uk**

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# RB-ADDA Combined A/D and D/A Converter


The RB-ADDA A/D and D/A converter is a 1U rack-mount which produces an AES/EBU or S/PDIF level digital audio output from a balanced XLR or unbalanced phono stereo audio input. It also produces a stereo balanced XLR or unbalanced phono output from an incoming AES/EBU or S/PDIF digital input signal.

The unit operates in four modes:

**Master Mode** - In this mode the unit receives an analogue audio signal, which is digitised and formatted for digital serial transmission (IEC958). The necessary clock signals are generated internally from an on board master clock at a selectable rate (32kHz, 44.1kHz, 48kHz, 88.2kHz or 96kHz).

**Slave Mode** - In this mode the unit automatically detects the presence of a digital audio sync signal, if present at the digital input, and synchronises the digital output to it. If no sync is present, no output will be generated.

**Auto Mode** - Here the unit synchronises to the digital audio sync signal if present at the digital input and uses the internal master clock only if no sync input signal is detected. In this case, the internal master clock is used at the selected sample rate.

**Auto Lock Mode** - This operates like the auto mode except that if no sync input signal is detected, it will use the internal master clock to sync to the sample rate which was last clocked to.

When operating in sync modes, the front panel power LED flashes whenever the unit is not synchronised to the incoming digital signal.

The analogue inputs have left and right level controls using pre-set potentiometers and DIP switches allowing a signal range from +9dBu to +27dBu. The RCA phono inputs have a further 10dBu gain incorporated to give a total gain range of -1dBu to +17dBu for full-scale digits. The analogue outputs have an output level control, allowing full-scale settings selectable from +12dBu, +18dBu or +24dBu. There are factory-set internal level controls for the analogue outputs allowing gain adjustment of ±1dB.

There are buttons to select either the AES/EBU or S/PDIF input or output for the D/A and A/D sections respectively.

The output bit depth can be selected from 16, 20 or 24 bits. Inputs of a different bit depth to the output are dithered using a psychoacoustic noise filter.

For the digital output, there is a switch 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 forced to either Professional or Consumer Mode.

Additionally, if de-emphasis is selected, the RB-ADDA will decode

50/15µs emphasis when indicated by certain channel status bits in the incoming digital audio data.

The RB-ADDA has a calibration routine for optimum performance, which allows the noise floor and dynamic range to improve by 1-2dB. The calibration cycle operates by calibrating the gain and the zero reference of the A/D converter.

## Analogue to Digital Conversion

### A/D Audio Specification

| | |
|---|---|
| Maximum Input Level: | +27dBu balanced inputs, +17dBu unbalanced inputs |
| Input Impedance: | >10kΩ unbalanced, >20kΩ bridging balanced |
| Dynamic Range: | >110dB |
| Gain Range: | Adjustable input gain of ±3dB on 12dBu, 18dBu or 24dBu, ref FSD |
| Distortion and Noise: | >96dB THD + N at 1kHz |

### A/D Connections

| | |
|---|---|
| Analogue Inputs: | 2 x XLR 3 pin (balanced)<br>2 x RCA phono (unbalanced) |
| Digital Outputs: | 1 x AES/EBU XLR 3 pin male<br>1 x S/PDIF RCA phono |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 10W max |

### Operational Controls

| | |
|---|---|
| Analogue Input Select: | XLR or phono, via push-switch |
| Digital Output Select: | AES/EBU or S/PDIF, via push-switch |
| Digital Input Select: | AES/EBU or S/PDIF, via push-switch |
| De-emphasis On/Off: | DIP switch |
| Input Level Adjust: | DIP switch & preset pots |

### Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.6kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

### Equipment Type

| | |
|---|---|
| RB-ADDA: | Combined A/D and D/A converter |

## Digital to Analogue Conversion

24 BIT 96 KS/s

### D/A Audio Specification

| | |
|---|---|
| Maximum Output Level: | +24dBu balanced output, +14dBu unbalanced output |
| Output Impedance: | <50Ω balanced, <75Ω unbalanced |
| Dynamic Range: | >100dB |
| Gain Range: | Selectable 12dBu, 18dBu or 24dBu output level, ref FSD |

### D/A Connections

| | |
|---|---|
| Digital Inputs: | 1 x AES/EBU XLR 3 pin female<br>1 x S/PDIF RCA phono |
| Analogue Outputs: | 2 x XLR 3 pin male (balanced)<br>2 x RCA phono (unbalanced) |

| | |
|---|---|
| Bit Depth: | 16, 20 or 24 bits via DIP switch |
| Modes & Frequencies: | 16 way rotary DIP switch |
| Channel Status Bits: | Forced to consumer mode or professional mode, via DIP switch |
| Output Level Adjust: | DIP switch |

RK3

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, 64kHz, 88.2kHz 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 Wordclock.

There are four modes of operation of the RB-SC1 dependant 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.

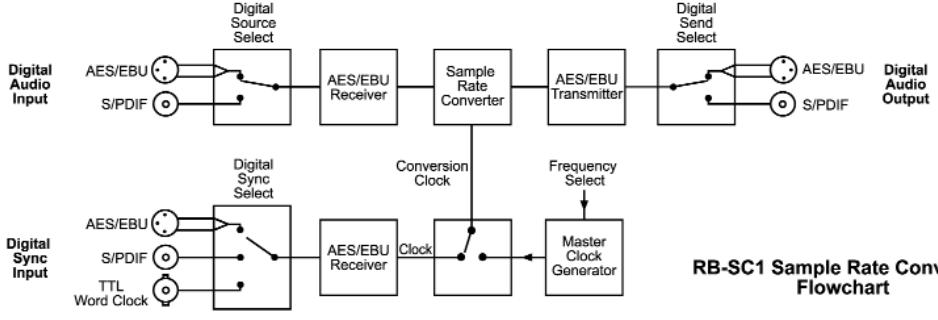
**Auto Sync Mode** - In this mode the digital output sample rate follows the sync input. When the sync signal is not present the output sample rate will be set by, and locked to, the internal on-board clock generator at a frequency determined by the switch position.

**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.




**RB-SC1 Sample Rate Converter Flowchart**

## Audio Specification

| | |
|---|---|
| Dynamic Range: | 120dB |
| Distortion and Noise: | -114dB THD + N at 1kHz, ref 0dB FS |
| Input Impedance: | 75Ω S/PDIF inputs<br>110Ω AES/EBU input<br>50Ω BNC TTL word clock input |

| | |
|---|---|
| Sample Frequency Range: | 30kHz - 100kHz |
| Bit Depth: | Up to and including 24 bit |

24 BIT 96 kS/s

## Rear Panel Connections and Controls

| | |
|---|---|
| Inputs: | 2 x AES/EBU XLR 3 pin female (audio and sync)<br>2 x S/PDIF RCA phono (audio and sync)<br>1 x TTL BNC female (sync) |
| Outputs: | 1 x AES/EBU XLR 3 pin male<br>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 |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.4kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

## Equipment Type

| | |
|---|---|
| RB-SC1: | Sample rate converter |

# RB-DAC1 Digital To Analogue Converter


Using 24 bit, 96kHz capable devices, the RB-DAC1 D/A Converter is a 1U rack-mount which produces a stereo balanced XLR or unbalanced phono output from an incoming AES/EBU or S/PDIF digital input signal. There is also a headphone output with volume control for monitoring purposes.

The analogue outputs have an output level control, allowing full-scale settings selectable from +12dBu, +18dBu or +24dBu. The RCA phono outputs have a further 8.5dBu attenuation incorporated.

There is a button to select either the AES/EBU or S/PDIF input for the D/A converter, which is located on the rear panel. Additionally, if de-emphasis is selected, the RB-DAC will decode 50/15µs emphasis when indicated by certain channel status bits in the incoming digital audio data.

When operating, the front panel power LED flashes whenever the unit is not synchronised to the incoming digital signal.

## Audio Specification

| | |
|---|---|
| Maximum Output Level: | +24dBu balanced, +14dBu unbalanced<br>+12dBu headphone |
| Output Impedance: | <50Ω balanced, <75Ω unbalanced |
| Dynamic Range: | >100dB |
| Gain Range: | Selectable 12dBu, 18dBu or 24dBu output level, ref FSD |
| Headphone Output: | Drives 150mW into 32Ω to 600Ω professional headphones |
| Distortion & Noise: | <0.01% THD + N @1kHz, ref 0dBu |
| Sample Freq. Range: | 30kHz - 100kHz |

## Operational Controls

| | |
|---|---|
| Digital Input Select: | AES/EBU or S/PDIF, via push-switch |
| Gain Select: | DIP switch |
| De-emphasis On/Off: | DIP switch |

## Equipment Type

| | |
|---|---|
| RB-DAC1: | Digital to analogue converter |

## Connections

| | |
|---|---|
| Digital Inputs: | 1 x AES/EBU XLR 3 pin female<br>1 x S/PDIF RCA phono |
| Analogue Outputs: | 2 x XLR 3 pin male (balanced)<br>2 x RCA phono (unbalanced) |
| Headphone Output: | 1 x 1/4" (6.35mm) A/B-gauge 3-pole stereo jack sockets |
| Mains Input: | Filtered IEC, 110V-120V, or 220-240V, fused, 10W max |

24 BIT 96 kS/s

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.4kg Gross: 2.0kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

RK2

# RB-SP1 Digital Splitter & Combiner




The RB-SP1 Digital Splitter & Combiner is used to interface various double sampling pieces of equipment. Some older equipment uses 2 AES/EBU connectors for double sampling with each connector carrying an audio signal at a normal frame rate, whilst other equipment has a single connector using twice the frame rate. The RB-SP1 can interface between them, either combining the signals from 2 XLR's into 1, or splitting the signal from 1 XLR into 2.

The RB-SP1 can also be used for interfacing stereo and mono signals to digital mixing desks by splitting the left and right signals of a stereo XLR to two separate XLR's, and vice versa by combining them.

Additionally, a sample rate converter on the second digital input can be used to convert the sample rate of the secondary input to that of the primary input. The RB-SP1 can handle sample rates up to 96kHz and sample sizes of 16, 20 and 24 bit.

There are two types of operation : Split 96, and Stereo/Mono. These each have three different switch modes : Split, Bypass and Combine.

Both inputs and outputs can be selected as either AES/EBU or S/PDIF with the resultant digital level following the switch selection.

24 BIT 96 kS/s

## Audio Specification

| | |
|---|---|
| Input Impedance: | 110Ω ±20% balanced (AES/EBU) |
| Input Impedance: | 75Ω ±5% unbalanced (S/PDIF) |
| Signal Level: | 3V/10V peak to peak min/max (AES/EBU) |
| | 0.5V ±20% peak to peak (S/PDIF) |
| Bit Depth: | Up to and including 24 bit |
| Distortion & Noise: | -114dB THD + N at 1kHz, ref 0dB FS |
| Output Impedance: | 110Ω ±20% balanced (AES/EBU) |
| Output Impedance: | 75Ω ±5% unbalanced (S/PDIF) |
| Sample Freq Range: | 30-100kHz (i.e. including 32kHz, 44.1kHz, 48kHz, 64kHz, 88.2kHz and 96kHz) |
| Dynamic Range: | 120dB |

## Connections

| | |
|---|---|
| Audio Inputs: | 2 x AES/EBU XLR 3 pin female (balanced) |
| | 2 x S/PDIF RCA phono female (unbalanced) |
| | (Input button selects between AES/EBU and S/PDIF) |
| Audio Outputs: | 2 x AES/EBU XLR 3 pin male (balanced) |
| | 2 x S/PDIF RCA phono female (unbalanced), (Output button selects between AES/EBU and S/PDIF) |
| Mains Input: | Filtered IEC, continuously rated 85-264VAC @ 47-63Hz, max 10W |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.6kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H)(1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

## Equipment Type

| | |
|---|---|
| RB-SP1: | Digital splitter & combiner |

RK2

**www.sonifex.co.uk**

# RB-UL1 Single Stereo Unbalanced To Balanced Converter

The RB-UL1 is a single stereo unit for interfacing domestic or semi-professional unbalanced equipment, such as a CD player, to professional balanced line levels.

The two RCA unbalanced inputs have an impedance of 10kΩ and are routed to two balanced XLR-3 outputs with an output impedance of <50Ω.

The output gain can be individually adjusted for left and right channels by using pre-set potentiometers accessible through the rear panel.


Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Input Impedance: | >10kΩ |
| Maximum Output Level: | +28dBu |
| Output Impedance: | <50Ω |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |
| Common Mode Rejection: | >66dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Balanced output : -15dBu to +15dBu, ref -15dBu into unbalanced RCA input |

Connections

| | |
|---|---|
| Inputs: | 2 x RCA phono (Unbalanced) |
| Outputs: | 2 x XLR 3 pin male (Balanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.45kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

Equipment Type

| | |
|---|---|
| RB-UL1: | Single stereo unbalanced to balanced converter |

RK1

RK2

# RB-UL2 Dual Stereo Unbalanced To Balanced Converter



The RB-UL2 is a dual stereo unit for interfacing domestic or semi-professional unbalanced equipment to professional balanced line levels.

All connections are on the rear panel. Four RCA unbalanced inputs have an impedance of 10kΩ and are routed to four balanced XLR-3 outputs with an output impedance of <50Ω.

The output gain can be individually adjusted for left and right channels by using pre-set potentiometers accessible through the rear panel, allowing you to feed both balanced and unbalanced equipment.


Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Input Impedance: | >10kΩ |
| Output Impedance: | <50Ω |
| Maximum Output Level: | +28dBu |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |
| Common Mode Rejection: | >66dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Balanced output : -15dBu to +15dBu, ref -15dBu into unbalanced RCA input |

Connections

| | |
|---|---|
| Inputs: | 4 x RCA phono (Unbalanced) |
| Outputs: | 4 x XLR 3 pin male (Balanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.05kg Gross: 1.5kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

Equipment Type

| | |
|---|---|
| RB-UL2: | Dual stereo unbalanced to balanced converter |

RK1

RK2

# RB-UL4 Quad Stereo Unbalanced To Balanced Converter


The RB-UL4 is a 1U rack-mount quad stereo unit for interfacing domestic or semi-professional unbalanced equipment to professional balanced line levels.

All connections are on the rear panel. The eight RCA unbalanced inputs have an impedance of 10kΩ and are routed to eight balanced XLR-3 outputs with an output impedance of <50Ω.

The output gain can be individually adjusted for left and right channels by using pre-set potentiometers accessible through the rear panel.

## Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Input Impedance: | >10kΩ |
| Output Impedance: | <50Ω |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |
| Common Mode Rejection: | >66dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Balanced output : -15dBu to +15dBu, ref -15dBu into unbalanced RCA input |

## Connections

| | |
|---|---|
| Inputs: | 8 x RCA phono (Unbalanced) |
| Outputs: | 8 x XLR 3 pin male (Balanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.3kg Gross: 1.9kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

## Equipment Type

| | |
|---|---|
| RB-UL4: | Quad stereo unbalanced to balanced converter |

RK3

# RB-LU4 Quad Stereo Balanced to Unbalanced Converter




The RB-LU4 is a 1U rack-mount quad stereo unit for interfacing professional balanced line levels to domestic or semi-pro unbalanced equipment, e.g. for connecting a pro satellite receiver to a consumer hi-fi system.

All connections are on the rear panel. The eight balanced XLR-3 inputs have an impedance of 20kΩ and are routed to eight unbalanced RCA outputs with an output impedance of <50Ω.

The output gain can be individually adjusted for left and right channels by using pre-set potentiometers accessible through the rear panel.

A LED power indicator on the front panel displays the power supply connection.

## Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Input Impedance (XLR): | >20kΩ balanced bridging |
| Output Impedance (RCA): | <50Ω |
| Maximum Output Level: | +22dBu |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |
| Common Mode Rejection: | >66dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Unbalanced Output : -28dBu to +15dBu, ref -15dBu into balanced XLR input |

## Connections

| | |
|---|---|
| Inputs: | 8 x XLR 3 pin female (Balanced) |
| Outputs: | 8 x RCA phono (Unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.3kg Gross: 1.9kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

RK3

## Equipment Type

| | |
|---|---|
| RB-LU4: | Quad stereo balanced to unbalanced converter |

# RB-BL2 Single Stereo Bi-Directional Matching Converter

The RB-BL2 is a bi-directional stereo unit for interfacing domestic or semi-pro unbalanced equipment to professional balanced line levels, and vice-versa.

The two XLR-3 electronically balanced inputs have an impedance of 20kΩ bridging and are routed to two unbalanced RCA (phono) outputs with an output impedance of <50Ω.

The two RCA unbalanced inputs have an impedance of 20kΩ and are routed to two balanced XLR-3 outputs with an output impedance of <50Ω. All connections are on the rear panel.

The output gain can be adjusted for left and right channels by using preset potentiometers accessible through the rear panel.

## Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Input Impedance (RCA): | >10kΩ unbalanced |
| Input Impedance (XLR): | >20kΩ balanced bridging |
| Output Impedance (RCA): | <50Ω |
| Output Impedance (XLR): | <50Ω |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |
| Common Mode Rejection: | >66dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Unbalanced Output : -28dBu to +15dBu, ref -15dBu into balanced XLR input<br>Balanced Output : -15dBu to +15dBu, ref -15dBu into unbalanced RCA input |

## Connections

| | |
|---|---|
| Inputs: | 2 x RCA phono (Unbal), 2 x XLR 3 pin female (Bal) |
| Outputs: | 2 x XLR 3 pin male (Bal), 2 x RCA phono (Unbal) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.4kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

## Equipment Type

| | |
|---|---|
| RB-BL2: | Single stereo bi-directional matching converter |

# RB-BL4 Dual Stereo Bi-Directional Matching Amplifier




The RB-BL4 is a dual bi-directional stereo unit for interfacing domestic or semi-pro unbalanced equipment to professional balanced line levels, and vice versa.

The four XLR-3 electronically balanced inputs have an impedance of 20kΩ bridging and are routed to four unbalanced RCA (phono) outputs with an output impedance of <50Ω.

The four RCA unbalanced inputs have an impedance of 20kΩ and are routed to four balanced XLR-3 outputs with an output impedance of <50Ω. All connections are on the rear panel.

The output gain can be adjusted for left and right channels by using pre-set potentiometers accessible through the rear panel.

## Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Input Impedance (RCA): | >10kΩ unbalanced |
| Input Impedance (XLR): | >20kΩ balanced bridging |
| Output Impedance (RCA): | <50Ω |
| Output Impedance (XLR): | <50Ω |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |
| Common Mode Rejection: | >66dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Unbalanced Output : -28dBu to +15dBu, ref -15dBu into balanced XLR input<br>Balanced Output : -15dBu to +15dBu, ref -15dBu into unbalanced RCA input |

## Connections

| | |
|---|---|
| Inputs: | 4 x RCA phono (Unbal), 4 x XLR 3 pin female (Bal) |
| Outputs: | 4 x XLR 3 pin male (Bal), 4 x RCA phono (Unbal) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.3kg Gross: 1.9kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

RK3

## Equipment Type

| | |
|---|---|
| RB-BL4: | Dual stereo bi-directional matching converter |

# RB-LI2 Stereo Line Isolation Unit


The RB-LI2 stereo line isolation unit is used to isolate audio signals from inter area ground hum loops, which could be caused by equipment being powered by different mains power supplies, or different phases on the same supply.

The input and output are connected together through a transformer, which has internal jumpers allowing the outputs to be balanced about ground.

There is also a loop-through output, so that the RB-LI2 can be inserted into a line, forming a transformer balanced distribution point.

This unit is useful where audio is required to be driven over a relatively long length of cable. By isolating the signal using transformers, ground loop currents that can be present in non-isolated signals, are eradicated completely.

Audio Specification

| | |
|---|---|
| Output Impedance: | <150Ω |
| Distortion: | 0.5% THD @ 40Hz, ref +17dBu output |
| Common Mode Rejection: | <64dB typically |
| Frequency Response: | 10Hz to 36kHz ±0.5dB |

Connections

| | |
|---|---|
| Inputs: | 2 x XLR 3 pin female (Bal) |
| Isolated Outputs: | 2 x XLR 3 pin male (Bal) |
| Loop Outputs: | 2 x XLR 3 pin male (Bal) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Equipment Type

| | |
|---|---|
| RB-LI2: | Stereo line isolation unit |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.50kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

# RB-PLI6 6 Way Mono Passive Line Isolation Unit

Matching Converters


The RB-PLI6 Passive Line Isolation Unit is used to isolate audio signals from inter-area ground hum loops, which could be caused by equipment being powered by different mains power supplies or phases on the same supply.

The input and output are connected together through a transformer, and the unit has internal jumpers allowing the inputs and/or outputs to be balanced about ground. The unit requires no mains power for operation.

This unit is useful where audio is required to be driven over a relatively long length of cable. By isolating the signal using transformers, ground loop currents which can be present in non-isolated signals, are eradicated completely.

Audio Specification

| | |
|---|---|
| Output Impedance: | <150Ω |
| Distortion: | 0.5% THD @ 40Hz, ref +17dBu output |
| Common Mode Rejection: | >64dB typically |
| Frequency Response: | 10Hz to 36kHz ±0.5dB |

Connections

| | |
|---|---|
| Inputs: | 6 x XLR 3 pin female (Balanced) |
| Outputs: | 6 x XLR 3 pin male (Balanced) |

Equipment Type

| | |
|---|---|
| RB-PLI6: | 6 way mono passive line isolation unit |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.5kg Gross: 1.9kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H)(1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

RK3

# RB-DA6 6 Way Stereo Distribution Amplifier


The RB-DA6 is a 1U rack-mount high performance 6 way stereo distribution amplifier for splitting a source into a number of different outputs.

The RB-DA6 has 1 stereo input and 6 stereo outputs. It can also be configured so that 1 mono input can be distributed to 12 outputs by use of a switch which is recessed on the front panel to prevent it being accidentally knocked.

The XLR-3 inputs and outputs are electronically balanced and can be wired unbalanced. Each output is individually buffered so that a short circuit on one output won't affect the others.

The left and right input gain controls (normalising) are pre-set potentiometers accessible through the front panel.

The output gain may be varied from -8dB to 18dB which is useful for normalising consumer and professional signals to give outputs of -15dBu and 0dBu respectively.

## Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Adjustable 8dB loss to 18dB gain (L & R adjust) |
| Common Mode Rejection: | >66dB typically |
| Input impedance: | >20kΩ bridging |
| Output impedance: | <50Ω |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB unity gain, ref +8dBu output |

## Connections

| | |
|---|---|
| Inputs: | 2 x XLR 3 pin female (balanced, can be unbalanced) |
| Outputs: | 12 x XLR 3 pin male (balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.3kg Gross: 1.9kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H)(1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

## Equipment Type

| | |
|---|---|
| RB-DA6: | 6 way stereo distribution amplifier |

RK3

# RB-DDA6A 6 Way Stereo AES/EBU Digital Distribution Amplifier



The RB-DDA6A digital distribution amplifier is used for distributing digital audio data in AES/EBU format, repeating both the audio data and the status information of the input whilst re-normalising to standard digital audio levels.

It has a single XLR-3 female AES/EBU audio input which is distributed to 6 XLR-3 male AES/EBU outputs.

Applications include distributing audio from a digital mixing desk to multiple digital recorders, or feeding multiple studios with an output from a DAT machine.

It can accept input sample rates in the range of 30kHz - 100kHz, and bit rates of 16, 20 and 24 bit. So, it can be used for standard CD signal distribution at 16 bit 44.1kHz, as well as for high quality 24 bit 96kHz recording.


Audio Specification

| | |
|---|---|
| Input Impedance: | 110Ω ±20% balanced |
| Output Impedance: | 110Ω ±20% balanced |
| Sample Freq Range: | 30-100kHz (i.e. including 32kHz, 44.1kHz, 48kHz, 64kHz, 88.2kHz & 96kHz) |
| Signal Level: | 3V/10V peak to peak min/max |

Connections

| | |
|---|---|
| Input: | 1 x AES/EBU XLR 3 pin female (Balanced) |
| Outputs: | 6 x AES/EBU XLR 3 pin male (Balanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Equipment Type

| | |
|---|---|
| RB-DDA6A: | 6 way stereo AES/EBU digital distribution amplifier |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 0.95kg Gross: 1.4kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

24 BIT 96 KS/s

RK1

RK2

# RB-DDA6S 6 Way Stereo S/PDIF Digital Distribution Amplifier

The RB-DDA6S digital distribution amplifier is similar to the RB-DDA6A except that it is used for distributing digital audio data in S/PDIF format.

It has a single S/PDIF audio input which is distributed to 6 S/PDIF audio outputs at the same level and condition as the input signal. It can accept input sample rates in the range of 30kHz - 100kHz, and bit rates of 16, 20 and 24 bit.

Uses include audio distribution at 16 bit 44.1kHz from a consumer CD player to multiple digital recorders, distribution of high quality 24 bit 96kHz signals from digital mixing desks to recorders and connection of the output of, say, a DVD player to multiple studios.


Audio Specification

| | |
|---|---|
| Input Impedance: | 75Ω ±5% unbalanced |
| Output Impedance: | 75Ω ±5% unbalanced |
| Sample Freq. Range: | 30-100kHz (i.e. including 32kHz, 44.1kHz, 48kHz, 64kHz, 88.2kHz & 96kHz) |
| Signal Level: | Balanced min 0.5V ±20% peak to peak |

24 BIT 96 kS/s

Connections

| | |
|---|---|
| Input: | 1 x S/PDIF RCA phono (unbalanced) |
| Outputs: | 6 x S/PDIF RCA phono (unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 0.9kg Gross: 1.35kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1 RK2

Equipment Type

| | |
|---|---|
| RB-DDA6S: | 6 way stereo S/PDIF digital distribution amplifier |

# RB-DDA6W 6 Way Word Clock Distribution Amplifier

The RB-DDA6W Word Clock Distribution Amplifier distributes a word-clock BNC input signal to 6 word clock BNC outputs re-conditioned. It is used to distribute reference clocks for digital audio systems.

It has a single female BNC audio input which is distributed to 6 female BNC outputs.

The units primary application is to distribute a master TTL word clock source to multiple pieces of equipment that need to be synchronised from the master.


Audio Specification

| | |
|---|---|
| Input Impedance: | 75Ω |
| Output Impedance: | <50Ω |

Connections

| | |
|---|---|
| Input: | 1 x BNC female |
| Outputs: | 6 x BNC female |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Equipment Type

| | |
|---|---|
| RB-DDA6W: | 6 way word clock distribution amplifier |

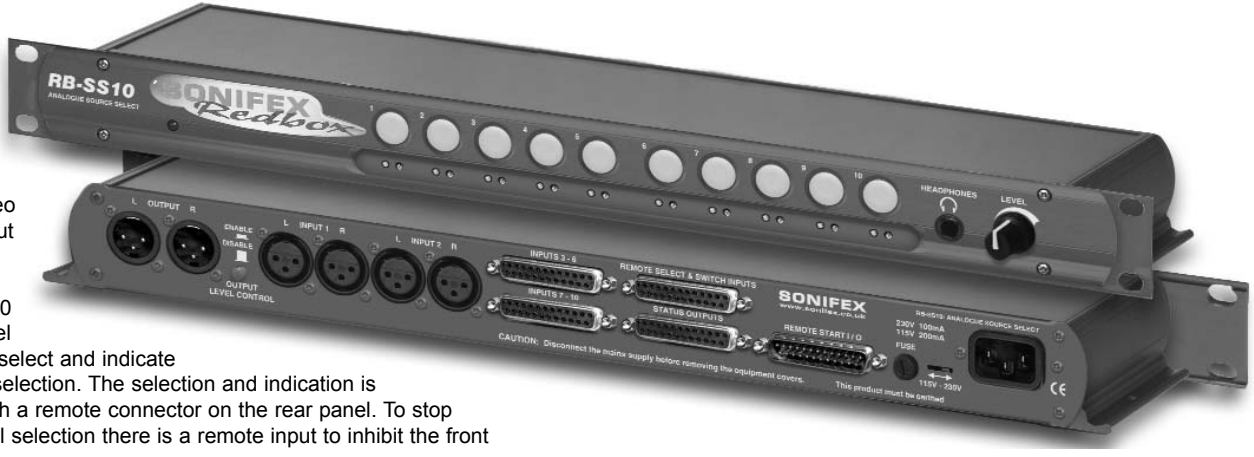
Physical Specification

| | |
|---|---|
| Weight: | Nett: 0.9kg Gross: 1.35kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

# RB-SS10 10 Way Stereo Analogue Source Selector/Mixer




The RB-SS10 10 Way Stereo Analogue Source Selector/Mixer is a 1U rack-mount unit that produces a stereo analogue audio output from 10 selectable stereo analogue sources. There are 10 illuminated front panel push buttons, which select and indicate the current channel selection. The selection and indication is also available through a remote connector on the rear panel. To stop accidental front panel selection there is a remote input to inhibit the front panel buttons.

Two of the stereo inputs are on XLR so that you can hot-plug audio sources, e.g. portabel recorders.

As well as being able to act as a source select module, the RB-SS10 can act as a mixer, by enabling the mix mode (using the remote input).

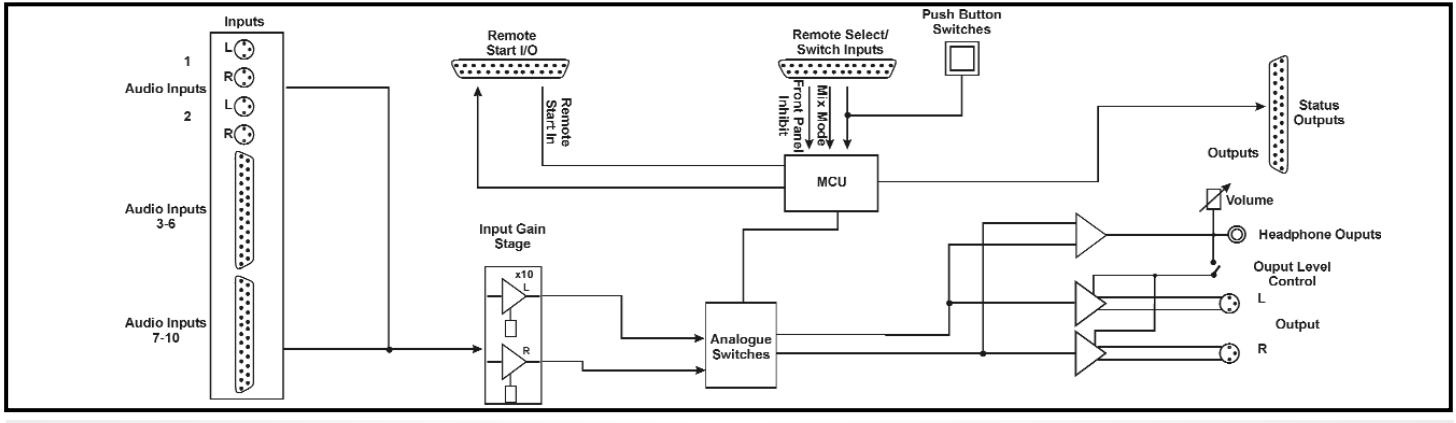
The gain for left and right inputs can be individually adjusted by using the preset potentiometers on the front panel.

As well as routing the selected audio signal, the unit will also route a remote signal input through the remote connector to the selected input source, for starting external audio equipment such as a CD player.

The front panel headphone output has its own volume control, which is independent of the level adjustment for the main outputs, and has a maximum output level of +12dBu. The volume control can be made to also alter the output level of the main XLR outputs by using a switch on the rear panel to enable/disable this feature.

There is a designation strip on the front panel, useful for giving the buttons a meaningful description. The strip covers the input gain controls so that once configured, they can't easily be altered - ideal for installation work.

The LED on the front panel is used to indicate that power is present on the unit.




## Audio Specification

| | |
|---|---|
| Input Impedance: | 20kΩ bridging |
| Output Impedance: | <50Ω |
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Input Gain Range: | Adjustable 8dB loss to 20dB gain (L & R adjust). |
| Common Mode Rejection: | >66dB typically |
| Noise: | -96dB unity gain ref +8dBu |
| Max Headphone Output Level: | +12dBu |

## Physical Specifications

| | |
|---|---|
| Weight: | Net: 1.6kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H - 1U nominally) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm |

## Connections

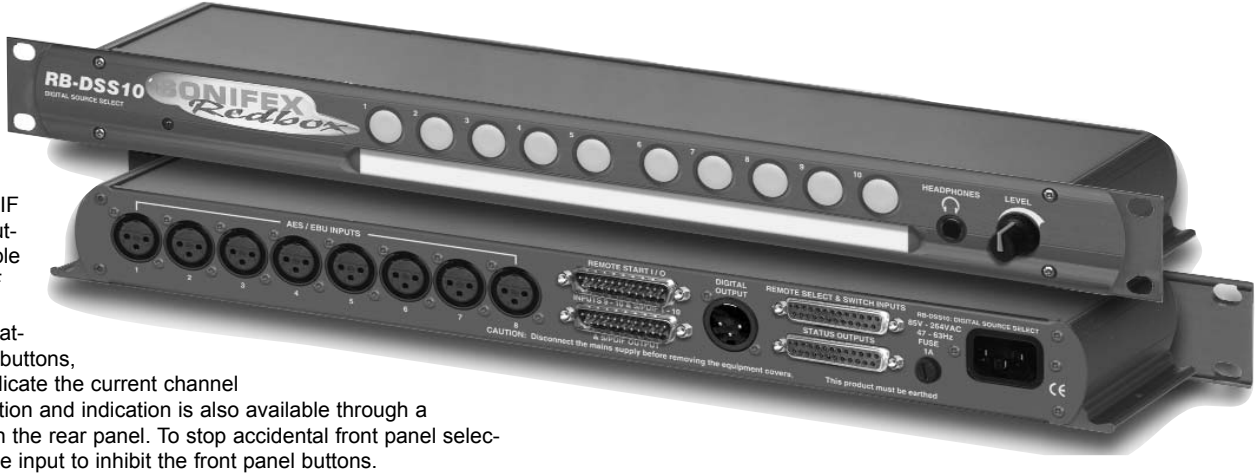
| | |
|---|---|
| Inputs: | 4 x XLR 3 pin female (balanced, can be unbalanced)<br>2 x 25 way D-type socket (female) (3 stereo balanced channels on each) |
| Outputs: | 2 x XLR 3 pin male (stereo balanced, can be unbalanced) |
| Remote Start I/O: | 25 way D-type plug (male) |
| Remote Select/Switch Inputs: | 25 way D-type socket (female) |
| Status Outputs: | 25 way D-type socket (female) |
| Mains Input: | Filtered IEC, 110V-120V, or 220-240V switchable, fused, 6W maximum. |

## Equipment Type

| | |
|---|---|
| RB-SS10: | 10 way stereo analogue source selector/mixer |

RK3

# RB-DSS10 10 Way Stereo Digital Source Selector




The RB-DSS10 Digital Source Selector is a 1U rack-mount which produces an AES/EBU and S/PDIF level digital audio output from 10 selectable AES/EBU or S/PDIF digital input signals. There are 10 illuminated front panel push buttons, which select and indicate the current channel selection. The selection and indication is also available through a remote connector on the rear panel. To stop accidental front panel selection there is a remote input to inhibit the front panel buttons.

The digital receivers in this unit are fully 24 bit, 96kHz capable. When an input is selected from the front panel, or remotely, the unit will attempt to capture the incoming signal on either the AES/EBU or the S/PDIF signal inputs, with priority given to the AES/EBU input. If the AES/EBU signal becomes locked while the S/PDIF signal is routed, the unit will automatically switch to the incoming AES/EBU signal.

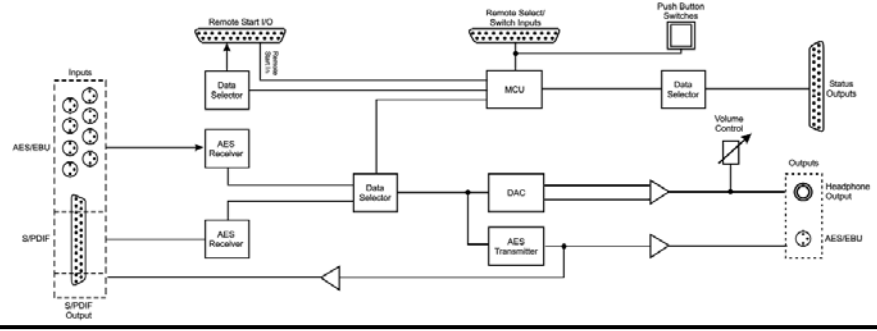
Once the receiver has successfully locked to a digital input, the LED illuminates, the tally is made, and the audio is routed simultaneously to both the digital audio outputs and converted to analogue audio for monitoring on the front panel headphone socket. If the incoming audio signal is not present, the push button LED and remote tally flash to indicate that the incoming digital signal is missing.

The headphone output has its own volume control, which is independent of the level adjustment for the main outputs, and has a maximum output level of +12dBu.

As well as routing the selected audio signal, the unit will also route a remote signal input through the remote connector to the selected input source, for starting external audio equipment, such as a CD player.

There is a designation strip on the front panel, useful for giving the buttons a meaningful description.

The LED on the front panel is used to indicate that power is present on the unit. However, it also has a secondary role to indicate whether the selected channel is routing the AES/EBU (red LED) or S/PDIF input (amber LED).




## Audio Specification

| | |
|---|---|
| Input Impedance: | 110Ω ±20% balanced (AES/EBU)<br>75Ω ±5% unbalanced (S/PDIF) |
| Output Impedance: | 110Ω ±20% balanced (AES/EBU)<br>75Ω ±5% unbalanced (S/PDIF) |
| Signal Level: | 3V/10V peak to peak min/max (AES/EBU)<br>0.5V ±20% peak to peak (S/PDIF) |
| Sample Freq Range: | 30-100kHz (i.e. including 32kHz, 44.1kHz, 48kHz, 64kHz, 88.2kHz and 96kHz), following input signal |

## Connections

| | |
|---|---|
| Audio Inputs: | 8 x AES/EBU XLR 3 pin female<br>2 x AES/EBU (part of 1 x 25 way D-type plug)<br>10 x S/PDIF (part of 1 x 25 way D-type plug) |
| Audio Outputs: | 1 x AES/EBU XLR 3 pin male<br>1 x S/PDIF (part of 1 x 25 way D-type plug) |
| Remote Start I/O: | 1 x 25 way D-type plug (male) |
| Remote Input Select & Switch Inputs: | 1 x 25 way D-type socket (female) |
| Status Outputs: | 1 x 25 way D-type socket (female) |
| Mains Input: | Filtered IEC, continuously rated 85-264VAC @ 47-63Hz, max 10W |

## Equipment Type

| | |
|---|---|
| RB-DSS10 | 10 way stereo digital source selector |

| | |
|---|---|
| Bit Depth: | Up to and including 24 bits, following input signal |
| Max Headphone Output Level: | +12dBu |

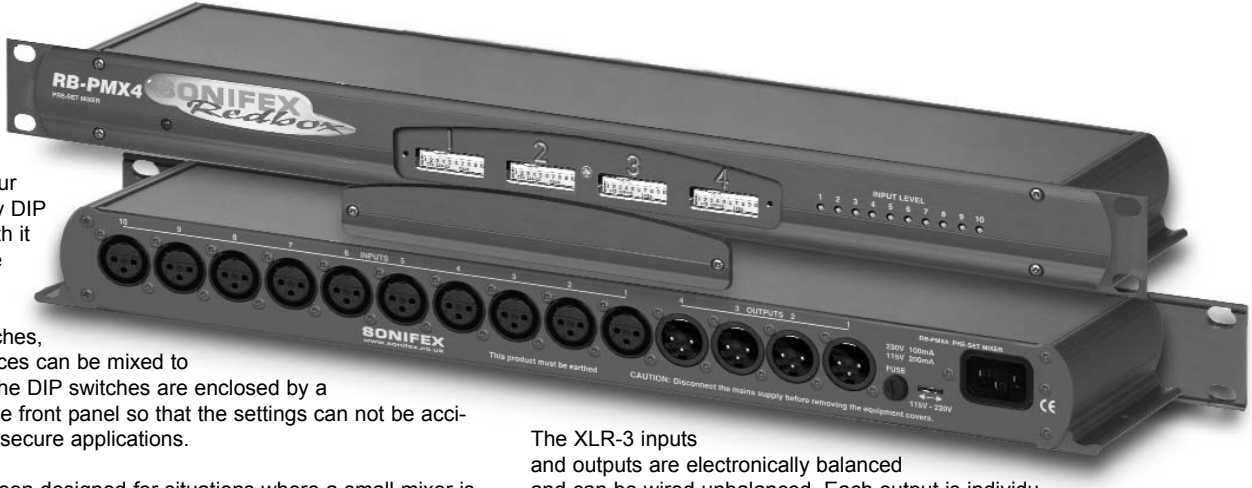
## Physical Specifications

| | |
|---|---|
| Weight: | Net: 1.6kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H - 1U nominally) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm |

24 BIT 96 kS/s

RK3

# RB-PMX4 10 Input, 4 Output Analogue Preset Mixer




The RB-PMX4 is a high performance 10 mono input to 4 mono output preset mixer. Each of the four outputs has a 10 way DIP switch associated with it to select which of the 10 inputs are routed to it. So, by altering the DIP switches, any of the input sources can be mixed to any of the outputs. The DIP switches are enclosed by a screw-on cover on the front panel so that the settings can not be accidentally changed for secure applications.

The RB-PMX4 has been designed for situations where a small mixer is needed for installations where it will be configured and then only altered occasionally, or never altered at all. Uses for this product are numerous including a four bus mini-mixer, a multiple clean-feed generator, a 4 zone mixer for pubs and clubs and a quad stereo to mono converter to name a few.

The XLR-3 inputs and outputs are electronically balanced and can be wired unbalanced. Each output is individually buffered so that a short circuit on one won't affect the others. Each input has its own gain control which is a pre-set potentiometer accessible through the front panel. This provides gain adjustment of -8dB to 18dB. This is useful for normalising consumer and professional signals to give outputs of -15dBu and 0dBu respectively.

## Audio Specification

| | |
|---|---|
| Input Impedance: | >20kΩ balanced bridging |
| Maximum Input Level: | +36dBu |
| Frequency Response: | 20Hz to 20kHz ±0.1dBu (600Ω load,@ 1kHz) |
| Common Mode Rejection: | >60dBu typically |
| Noise: | -86dBu RMS 22Hz-22kHz unity gain, ref +8dBu |

## Connections

| | |
|---|---|
| Inputs: | 10 x XLR 3 pin female (Balanced, can be unbalanced) |
| Outputs: | 4 x XLR 3 pin male (Balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W maximum |

## Equipment Type

| | |
|---|---|
| RB-PMX4: | 10 input, 4 output analogue preset mixer |
| Output Impedance: | <50Ω |
| Maximum Output Level: | +28dBu |
| Gain Range: | Adjustable -8dBu to +18dBu gain. |
| Off-isolation/Crosstalk: | >90dBu @ 1kHz |
| Distortion: | <0.01% @ 1kHz, 0dBu to +26dBu |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.5kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H)(1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

RK3

# RB-HD1 Stereo Headphone Amplifier


The RB-HD1 is a 1U rack-mount stereo headphone amplifier for driving up to two pairs of professional stereo headphones from a single stereo or mono input. One headphone socket is on the front panel with one on the rear.

The main stereo input uses electronically balanced XLR-3 connectors on the rear panel, which can be wired un-balanced. The output volume for the headphones can be controlled either by a pot situated on the front panel or a VCA signal supplied externally via the remote connector.

A mono input can be mixed into the main headphone feed, for example, for mixing in talkback to the headphones. This has an input level control via a recessed adjustable potentiometer. The mono mix input can also be controlled remotely.

A stereo/mono switch is recessed on the rear panel to prevent accidental knocking. With mono selected, audio is sent to both left and right ear pieces. A LED power indicator on the front panel displays the power supply connection.

### Audio Specification

| | |
|---|---|
| Input Impedance: | >20kΩ balanced bridging (main) |
| Output Level: | Drives 150mW into 32Ω to 600Ω headphones |
| Mono Mix Input Gain Range: | 22dBu |
| Max Input Level: | +28dBu |
| Volume Control: | -80dB to +11dB gain |

### Connections

| | |
|---|---|
| Main Stereo Inputs: | 2 x XLR 3 pin female (balanced, can be unbalanced) |
| Mono Mix Input: | 1 x XLR 3 pin female (balanced, can be unbalanced) |
| Outputs: | 2 x ¼" (6.35mm) A/B-gauge 3-pole stereo jack sockets |
| Remote Control: | 9-pin D-type socket |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 9W max |

### Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.35kg Gross: 2.0kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H)(1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

### Equipment Type

| | |
|---|---|
| RB-HD1: | Stereo headphone amplifier |

RK2

# RB-HD6 6 Way Stereo Headphone Distribution Amplifier


The RB-HD6 headphone distribution amplifier is a 1U rack-mount which distributes stereo audio to up to 6 different sets of headphones, or can be used as 6 independent headphone amplifiers, each with their own input and volume control. A typical application might be to provide common headphone feeds for guests in a radio studio, with a separately derived feed, perhaps including talk-back, for the presenter.

The main stereo input is on XLR-3 connectors on the rear panel which are electronically balanced and can be wired unbalanced. A stereo/mono input select switch on the rear panel sums left and right outputs to provide a mono feed to the headphones. The unit can receive an override audio signal via a jack socket for each output channel. Plugging in the jack plug will divert the headphone output from the master audio signal to the audio present on the jack plug. The override audio inputs can also be individually configured as parallel outputs, by setting internal jumpers.

The master volume control adjusts overall level of the 6 outputs and does not affect the level of channels using the override inputs. The master volume can be disabled by internal jumpers.

## Audio Specification

| | |
|---|---|
| Input Impedance: | >20kΩ balanced bridging, >10kΩ unbal override |
| Output Level: | Drives 150mW into 32Ω to 600Ω headphones |
| Individual Volume Control: | -60dB to +18dB gain |
| Max Input Level: | +28dBu |
| Override Inputs: | +3dBu for full volume at +18dB gain |
| Master Vol Control: | ±10dB gain |

## Connections

| | |
|---|---|
| Main Stereo Inputs: | 2 x XLR 3 pin female (balanced, can be unbalanced) |
| Override Inputs/Outputs: | 6 x ¼" (6.35mm) A-gauge 3-pole stereo jack sockets (unbal) |
| Outputs: | 6 x ¼" (6.35mm) A-gauge 3-pole stereo jack sockets |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 9W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.35kg Gross: 2.0kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H)(1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

## Equipment Type

| | |
|---|---|
| RB-HD6: | 6 way stereo headphone distribution amplifier |

RK3

# RB-DHD6 Digital 6 Way Stereo Headphone Distribution Amplifier


The RB-DHD6 digital 6 way headphone distribution amplifier is a 1U rack-mount which receives a digital input signal, as either AES/EBU or S/PDIF and converts it to 6 individually buffered, jack-plug, headphone outputs, each with their own volume control.

Useful for connection to digital mixing desks, digital routers and matrices, the RB-DHD6 connects directly to an AES/EBU or S/PDIF output to provide the highest quality audio directly to the headphones.

The input connectors consist of a single balanced XLR-3 for the AES/EBU input and a single unbalanced phono connector for the S/PDIF input.

A button located on the rear panel is used to select either the AES/EBU, or S/PDIF, input and de-emphasis on the output can be controlled via dipswitch. If de-emphasis is On the RB-DHD6 will decode 50/15µs emphasis when indicated by certain channel status bits in the incoming digital audio data.

When operating, the front panel power LED flashes red and amber whenever the unit is not synchronised to the incoming digital signal.

## Audio Specification

| | |
|---|---|
| Output Level: | Drives 150mW into 32 to 600Ω headphones |
| Dynamic Range: | >100dB |
| Input Impedance: | 110Ω ±20% AES/EBU<br>75Ω ±15% S/PDIF |

## Connections

| | |
|---|---|
| Digital Inputs: | 1 x AES/EBU XLR 3 pin female, 1 x S/PDIF RCA phono |
| Headphone Outputs: | 6 x 1/4" (6.35mm) A/B-gauge 3-pole stereo jack sockets |
| Mains Input: | Filtered IEC, 110V-120V, or 220-240V, fused, 10W max |

## Operational Controls

| | |
|---|---|
| De-emphasis On/Off: | DIP switch selection |

## Equipment Type

| | |
|---|---|
| RB-DHD6: | Digital 6 way stereo headphone distribution amplifier |

| | |
|---|---|
| Maximum Output Level: | +12dBu unbalanced |
| Headphone Gain Range: | -80dBu to +12dBu |
| Sample Frequency Range: | 30kHz-100kHz |

24 BIT 96 kS/s

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.6kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

| | |
|---|---|
| Digital Input Select: | AES/EBU or S/PDIF, via push-switch |

RK3

**www.sonifex.co.uk**

# RB-MA1 Single Microphone Amplifier

The RB-MA1 consists of a low noise microphone pre-amplifier for converting mic level signals to line level, or for driving long lines from microphones to mixing equipment.

The connections and controls are on the rear panel. The microphone input is an XLR-3 type and is electronically balanced. The gain for the input can be adjusted by a recessed pre-set potentiometer which allows for the use of both dynamic and powered microphones.

The line output is of an XLR-3 type and is electronically balanced. It can be wired unbalanced by grounding the non-phase signal, allowing you to feed both balanced and unbalanced equipment.

There is a switch to control a high pass filter (low frequency roll-off at 125kHz) and to provide phantom power at +48V to the connected microphone.


## Audio Specification

| | |
|---|---|
| Maximum Input Level: | -10dBu |
| Maximum Output Level: | +28dBu |
| Low Frequency Roll-Off: | 125Hz @ 6dB/octave |
| E.I.N.: | 130dB |
| Common Mode Rejection: | >60dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Input Impedance: | 2kΩ nominal balanced |
| Output Impedance: | <50Ω |
| Gain Range: | Adjustable 36dB to 75dB gain |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Phantom Power: | 48V |

## Connections

| | |
|---|---|
| Input: | 1 x XLR 3 pin female (Balanced) |
| Output: | 1 x XLR 3 pin male (Balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 0.9kg Gross: 1.35kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

## Equipment Type

| | |
|---|---|
| RB-MA1: | Single microphone amplifier |

RK1

RK2

# RB-MA2 Dual Microphone Amplifier

The RB-MA2 consists of two independent low-noise microphone pre-amplifiers for converting mic level signals to line level, or for driving long lines from microphones to mixing equipment.

All connections and controls are on the rear panel. The microphone inputs are XLR-3 type and are electronically balanced. The input gain for each input can be adjusted individually by a recessed pre-set potentiometer which allows for the use of both dynamic and powered microphones.

The XLR-3 line outputs are electronically balanced and can be wired unbalanced by grounding the non-phase signal, allowing you to feed both balanced and unbalanced equipment.

For each channel there are independent switches to control a high pass filter (low frequency roll-off at 125Hz) and to provide phantom power at +48V to the connected microphones.


## Audio Specification

| | |
|---|---|
| Maximum Input Level: | -10dBu |
| Maximum Output Level: | +28dBu |
| Low Frequency Roll-Off: | 125Hz @ 6dB/octave |
| E.I.N.: | 130dB |
| Common Mode Rejection: | >60dB typically |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Input Impedance: | 2kΩ nominal balanced |
| Output Impedance: | <50Ω |
| Gain Range: | Adjustable 36dB to 75dB gain (each input) |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Phantom Power: | 48V |

## Connections

| | |
|---|---|
| Inputs: | 2 x XLR 3 pin female (Balanced) |
| Outputs: | 2 x XLR 3 pin male (Balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Equipment Type

| | |
|---|---|
| RB-MA2: | Dual microphone amplifier |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.45kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

# RB-DMA2 Dual Digital Microphone Amplifier


The RB-DMA2 consists of two independent low-noise microphone pre-amplifiers for converting microphone level signals to a digital AES/EBU or S/PDIF output. Individual analogue balanced line level outputs are also produced for use, for example, to feed talkback systems. The unit can either be used as two independent microphone amplifiers, or one mic input can be copied to both channels of the digital output.

The microphone inputs are XLR-3 type and are electronically balanced. The input gain for each input can be adjusted individually by a volume control on the front panel enabling the use of dynamic and powered microphones and each has a LED level indicator. For each channel there are independent switches to control a high pass filter (low frequency roll-off at 125Hz) and to provide phantom power at +48V to the connected microphones.

The RB-DMA2 has AES/EBU, S/PDIF and TTL Word Clock sync inputs and has the same sync modes, bit depth selection, channel status bit adjustment, front panel LED synchronisation and calibration routine as the RB-ADDA. Please refer to that product for further information.

## Audio Specification

| | |
|---|---|
| Input Level: | Max -25dBu, Min -62dBu to give FSD |
| Input Impedance: | 2kΩ nominal |
| Input Gain Range: | 37dB |
| Low Frequency Roll-off: | 125Hz @ 6dB/octave |
| Signal To Noise: | 130dB EIN |
| Dynamic Range: | >110dB |
| Distortion And Noise: | <0.01% THD + N absolute @ 1kHz |
| Phantom Power: | 48V |

24 BIT 96 kS/s

## Connections

| | |
|---|---|
| Microphone Inputs: | 2 x XLR 3 pin female (balanced) |
| Sync Inputs: | 1 x AES/EBU XLR 3 pin female (balanced)<br>1 x S/PDIF RCA phono socket, 1 x TTL BNC female |
| Analogue Outputs: | 2 x XLR 3 pin male (balanced) |
| Digital Outputs: | 1 x AES/EBU XLR 3 pin male (balanced), 1 x S/PDIF RCA phono socket |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 10W max |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.6kg Gross: 2.2kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

RK3

## Equipment Type

| | |
|---|---|
| RB-DMA2: | Dual digital microphone amplifier |

# RB-SM1 Single Stereo To Mono Converter

The RB-SM1 converts a stereo input to a fully buffered and balanced mono line output.

The connections, which are on the rear panel, are of an XLR-3 type. The input is electronically balanced with an impedance of 20kΩ bridging. This can be wired unbalanced to accept an output from domestic equipment.

The output is electronically balanced with an output impedance of <50Ω. The output can be wired unbalanced by grounding the non-phase signal, allowing you to feed both balanced and unbalanced equipment.

Output gain adjustment using a pre-set potentiometer for the converter allows a normalised mono output from domestic stereo equipment. This potentiometer is accessible through the rear panel.


| Audio Specification | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Input Impedance: | >20kΩ balanced bridging |
| Output Impedance: | <50Ω balanced |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Adjust -8dB to +18dB gain, ref. 0dB input on L and R |
| Common Mode Rejection: | >66dB typically |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |

| Connections | |
|---|---|
| Inputs: | 2 x XLR 3 pin female (Balanced, can be unbalanced) |
| Output: | 1 x XLR 3 pin male (Balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

| Equipment Type | |
|---|---|
| RB-SM1: | Single stereo to mono converter |

| Physical Specification | | |
|---|---|---|
| Weight: | Nett: 1.0kg | Gross: 1.45kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) | |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) | |

RK1

RK2

# RB-SM2 Dual Stereo To Mono Converter

The RB-SM2 is a dual version of the RB-SM1, consisting of two independent converters which will produce two fully buffered and balanced mono line outputs from two stereo inputs.

All connections are on the rear panel. The XLR-3 inputs are electronically balanced with an impedance of 20kΩ bridging. These can be wired unbalanced to accept an output from domestic equipment.

The XLR-3 line outputs are electronically balanced with an output impedance of <50Ω. The outputs can be wired unbalanced by grounding the non-phase signal, allowing you to feed both balanced and unbalanced equipment.

Output gain adjustment using pre-set potentiometers for both converters allows a normalised mono output from domestic stereo equipment. The potentiometers are accessible through the rear panel.


Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Input Impedance: | >20kΩ balanced bridging |
| Output Impedance: | <50Ω balanced |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Gain Range: | Adjust -8dB to +18dB gain, ref. 0dB input on L and R |
| Common Mode Rejection: | >66dB typically |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output |
| Noise: | -100dB, unity gain, ref +8dBu output |

Connections

| | |
|---|---|
| Inputs: | 4 x XLR 3 pin female (Balanced, can be unbalanced) |
| Outputs: | 2 x XLR 3 pin male (Balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

Equipment Type

| | |
|---|---|
| RB-SM2: | Dual stereo to mono converter |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.05kg Gross: 1.50kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

# RB-LC3 3 Way Light/Power Controller



The RB-LC3 is a triple output switching unit for controlling external mains indicators, primarily studio status lights for broadcasting applications, such as On-Air, Mic-Live and Rehearsal/Live lights. Each output can be individually controlled by one of three remote inputs (pulled high, or low), by a telephony input (when ringing, or off-hook, or both), or a combination of two inputs (to control two outputs, e.g. for Rehearsal/Live situations). The type of control is set using the 12 way DIP switch (4 switches for each output, allowing 16 different settings).

All connections are on the rear panel. The three IEC outputs are controlled by zero-cross point drivers. When an output is activated, the A.C. voltage level at that output will be equal to the mains input voltage used to power the unit.

External control of the switched mains outputs is via the 15 way D-type plug connector.

The telephone Line input and Handset output are via two RJ11-4 type connectors. The telephone connections are wired pin to pin from Line to Handset except when the remote Ring Mute control input is asserted. In this case the ring signal to the Handset is muted.

The status of the telephone Line is continually monitored so that Handset ringing and off-hook conditions can be indicated.

A pre-set potentiometer on the rear panel controls the flash rate of the output when the appropriate mode is selected. Neon indicators on each power socket show the status of the mains output.

Connections

| | |
|---|---|
| Mains Input: | Non-filtered IEC, 110V-240V auto-adjusting, fused, 6W maximum |
| Mains Outputs: | 3 x Non-filtered IEC plugs, 1A fused |
| Telephone: | 2 x RJ11-4 sockets |
| Control Inputs & Outputs: | 15 way D-type plug<br>Inputs: 0V- 5V DC<br>Outputs: Open collector 20mA sink capability |

Equipment Type

| | |
|---|---|
| RB-LC3: | 3 way light/power controller |

Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.45kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

# RB-SD1 Silence Detection Unit


The RB-SD1 Silence Detection Unit is a 1U rack-mount device used to monitor an unattended stereo studio feed and in the event of the signal going “quiet” after a given period the unit will switch through an alternative stereo audio signal. This signal could be a recorded message (e.g. “normal service will be resumed”, etc), a feed from a CD player or minidisc machine, or an alternative recorded program. Controls are provided to start external equipment and to provide remote status indication.

It has 2 balanced stereo audio inputs with the maximum input level being +28dBu. Each input is user-defined as either the main source or auxiliary source and both sources are monitored for failure, each having a remote failure alarm. In the event of the main source dropping below a pre-set level for a pre-determined amount of time, the unit will automatically switch through to the auxiliary signal. The silence detect level is adjustable between -60dBu and -15dBu in 3dB steps via a 16 position rotary switch on the rear panel. The silence interval can be adjusted between 2 seconds to 30 seconds in 2 second steps, or, alternatively, set to 2 minutes 5 seconds also via a 16 position rotary switch on the rear panel. The audio outputs use stereo professional balanced XLR-3 male connectors.

The unit can operate in 2 modes - automatic or manual. In both modes it will automatically switch over to the auxiliary source on detecting silence. When the main signal is again detected it will either return to the main signal automatically or manually depending on the mode chosen.

The RB-SD1 has a number of remote operational features. Remote outputs provide separate relay contact closures for failure of the main and auxiliary inputs. You can also control remotely all of the front panel switches for source selection, mode selection and signal Restore. You can remotely start and stop another piece of equipment on alarm failure and main signal return respectively. Also, the longest silence time (2min 5sec) can be set remotely, which is useful if you are expecting to broadcast a long silence.

The unit can be configured to alarm when either the left or right channel of the main input source fails, or if the whole stereo signal fails. There are also options to set the remote start output as momentary or latched, to disable switching to the auxiliary input on alarming and to increase the gain on the auxiliary input so that an unbalanced input can be used, for example, from a domestic minidisc player.

Front panel LED indicators show individually left and right programme and alarm conditions for both the main and auxiliary inputs. The status of the source, mode and alarm state are also shown on the front panel with

LED indicators.

Additionally, the RB-SD1 can be programmed for specific applications which can be defined on power-up of the unit. Contact Sonifex for further information if you have a particular requirement. (Refer to the handbook on the website for information on current configurations).

The RB-SD1 has been designed to have a passive signal path through the main input, so if power to the unit fails, the signal input will still be routed through to the output. 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.

### Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Frequency Response: | 20Hz - 20kHz ±0.1dB |
| Gain: | +12dB (for unbal input B - optional) |
| Distortion: | As input for balanced input, <0.05% ref +8dBu output for unbalanced input |
| Input Impedance: | >100kΩ balanced |
| Output Impedance: | As input, except when using unbalanced auxiliary input where output impedance <50Ω |
| Noise: | <-87dB, unity gain, ref +8dBu output for unbal input |

### Rear Panel Connections and Controls

| | |
|---|---|
| Inputs (Main & Auxiliary): | 4 x XLR 3 pin female (balanced, auxiliary can be unbalanced) |
| Output: | 2 x XLR 3 pin male (balanced) |
| Remotes: | 15 way D-type plug |
| Alarm Threshold: | -15dBu to -60dBu in 3dB steps via rotary switch |
| Silence Detect Duration: | 2 - 30 seconds in 2 second intervals & 125 second option via rotary switch |
| Detection Type: | Mono or stereo, via DIP switch |
| Silence Switch Defeat: | Disable/enable silence switching, via DIP switch |
| Remote Start: | Latched or momentary, via DIP switch |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 9W max |

### Front Panel Controls and Indicators

| | |
|---|---|
| Controls (with indicators): | Source select, mode select and restore |
| Indicator: | Program and alarm indicators for left and right source for both main and auxiliary channels |

### Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.4kg Gross: 2.0kg |
| Dimensions (Raw): | 48cm (W) x 10.8cm (D) x 4.2cm (H) (1U) |
| (Boxed): | 53cm (W) x 20.5cm (D) x 6cm (H) |

### Equipment Type

| | |
|---|---|
| RB-SD1: | Silence detection unit |

# RB-SL2 Twin Mono, Or Stereo Limiter

The RB-SL2 is a stereo, or twin independent mono, VCA limiter for use in news-rooms and other locations where the correct level into recording equipment is required, but not necessarily under the control of an engineer, for example, for overload protection. It can also be used as an inexpensive main output limiter for small scale radio stations, hospital radio and student radio.

The XLR-3 electronically balanced inputs and outputs can be wired unbalanced to accept an output from domestic equipment.

For each channel there is an input gain and a threshold level control. With the limit threshold set to maximum, the input through to output can be normalised using the input potentiometers. Once the unit is acting as a buffer with gain/attenuation, the limit threshold level can be set, with the recovery adjusted for the application. The power LED indicates limiting by flashing.


The rear panel mode switch changes the unit from dual mono to stereo, when only the pre-sets for channel 1 (left) are active and apply to both channels. Stereo limiting operates by limiting both left and right outputs if either left or right input needs to be limited. Dual mono limiting operates by limiting left and right signals individually, so you can use the RB-SL2 as two separate mono limiters.

## Audio Specification

| | |
|---|---|
| Maximum Input Level: | +28dBu |
| Maximum Output Level: | +28dBu |
| Input Gain: | Adjustable -8dBu to +18dBu gain |
| Limit Threshold: | Adjustable -8dBu to +28dBu |
| Frequency Response: | 20Hz to 20kHz ±0.1dB (600Ω load, ref 1kHz) |
| Noise: | -100dB unity gain, ref +8dBu output |
| Distortion: | 0.01% THD @ 1kHz, ref +8dBu output, threshold set at +10dBu |
| Common Mode Rejection: | >66dB typically |
| Input impedance: | >20kΩ balanced bridging |
| Output impedance: | <50Ω balanced |

## Connections

| | |
|---|---|
| Inputs: | 2 x XLR 3 pin female (Balanced, can be unbalanced) |
| Outputs: | 2 x XLR 3 pin male (Balanced, can be unbalanced) |
| Mains Input: | Filtered IEC, switchable 110-120V, or 220-240V, fused, 6W max |

## Equipment Type

| | |
|---|---|
| RB-SL2: | Twin mono, or stereo, limiter |

## Physical Specification

| | |
|---|---|
| Weight: | Nett: 1.0kg Gross: 1.45kg |
| Dimensions (Raw): | 28cm (W) x 10.8cm (D) x 4.2cm (H) |
| (Boxed): | 36cm (W) x 20.5cm (D) x 6cm (H) |

RK1

RK2

# Bespoke Product Design Services

Sonifex has been at the forefront of audio design and manufacture for more than 35 years and has a reputation for building high quality, reliable products.

Many of the Redboxes in this catalogue, such as the RB-HD1, RB-LI2, RB-LC3 and RB-LU4 were initially commissioned by Sonifex customers. who were interested in ordering between 10 and 20 of a certain type of product. Provided that we can use the product as a Redbox in the future, then we'll produce the product with absolutely **no design charges** at all. So, if you have the need for a special product design, or like a current product but need a missing feature, then let us know.

As well as designing in-house award-winning products, such as the Courier portable recorder, Sonifex have also undertaken a number of projects for other clients. Recent work includes a changeover unit for the GWR Group, digital audio workstations (DAWs) for BBC World Service, PCXtender units for Danish Radio, logging systems for the Finnish parliament, telephony systems for Northern Telecom, interface systems for entertainment venues and automated hard disk announcement systems for both Channel 4 TV and BBC World Service. Sonifex runs an ISO9002 quality system and is a BABT approved manufacturer.

Sonifex has years of experience in meeting the demands of our customers. However complex the problem our sales and technical support staff will answer any questions you may have regarding what is and is not possible. It may be that your requirements could be met by adapting one of our existing products saving you the time and expense of commissioning a bespoke one. Additionally, our continuous investment in new technology and other resources ensure that any cost savings are passed onto you, which means that you receive state of the art products that match your needs without damaging your pocket.

We perform the majority of the manufacturing in-house, using our team of skilled technical staff. This means that we have detailed knowledge of the costs of designs and a knowledge of which designs can, and can not, be implemented in practise. We ensure that only the most cost-effective, efficient and streamlined solutions are implemented, saving you time and money. More importantly, we can control the quality of each stage of the design and manufacturing process to ensure that the products meet your specification.

If you have a specific requirement for bespoke audio equipment and want a reasonably priced, efficient and high quality product produced to a deadline, then call the sales team for further information.

**Design**
- Analogue and digital electronic hardware design.
- 3D CAD software for aesthetic product design & solid modelling.
- PCB routing and design.
- Embedded software design on a number of processor platforms.
- DSP design.
- Windows based PC software design.
- Telephony/telecommunications product design.

**Industrial Design**
- 3D CAD solid modelling, fixing & construction methods.
- Pad and screen printing.
- Chemical & laser etching.
- Aluminium extrusion techniques, component design .
- Plastic injection moulding component design.
- Rubber moulding component design.
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