SONIFEX

Redbox RB-FS82

Audio Failover Switcher, 8 Main I/O, 2 Standby I/O

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Catalogue

RB-FS82 Audio Failover Switcher, 8 Main I/O, 2 Standby I/O

Category: Synchronisers, Delays & Silence Detectors.

Product Function: To route the source audio signals in to a standby encoder in event of encoder fail. Or to route the destination audio signals from a standby decoder in event of decoder fail.

Typical Applications: As a failover switcher for multi channel audio transport over E1 or IP, typically as performed by APT Oslo, Prodys Nureus, where a N+1 topology is adopted.

Features:

- Relay based switching.
- Dual DC, or AC, power supplies (select when ordering).
- Encoder site (Set via IP): 8 stereo program inputs, 8 + 2 stereo program outputs where each program input/ Output carries: analogue L/R, stereo AES/EBU & RS232.
- Encoder site: Each program output has an alarm detect GP input.
- Decoder Site (Set via IP): 8 +2 stereo program inputs, 8 program outputs where each program input carries: analogue L/R, stereo AES/EBU & RS232.
- Decoder Site: Each program input has an alarm detect GP input.
- AES/EBU transparent (for Dolby E transport).
- Passive throughput in event of power outage.
- GPO output for signalling RB-FS82 alarm conditions: PSU 1/2 fail, Standby 1/2 active, Summary Alarm.
- Automatic or Manual reversion modes.
- LED indicators on front panel.
- IP control, including Web GUI and SNMP.

The RB-FS82 8 + 2 audio failover switcher is an important tool in many critical areas in telecommunications and broadcast chains. The device has 8 main + 2 standby, stereo analogue audio, AES/EBU digital audio and RS232 connections (both inputs and outputs) and can be configured via Ethernet for two main operational applications:

1. For switching of program sources to a standby destination in the event of a destination failure ('Standbys to outputs'). Typically this would be audio encoders at a program distribution head end (for audio over IP, E1 or other bearer networks), with "N" x programs feeding "N" x encoders. If an encoder fails the audio destined for that encoder gets routed to a standby encoder so ensuring the continuity of audio to network transport.
2. Switching of program sources, including standby sources, to destinations in the event of source failure ('Standbys to inputs'). Typically this would be audio decoders at a transmission site with "N" x programs and "N" x decoders feeding "N" x transmitters. If a decoder fails, the audio from a standby decoder, or other audio source such as an mp3 player, overrides the signal path to the transmitter so ensuring continuity on air.

The RB-FS82 supports any configuration of up to 8 main program signal paths (N ≤ 8) and there are 2 standby program signal paths, in either modes of operation. Each program path simultaneously switches analogue L/R audio, AES/EBU digital audio and RS232 data. Each of these signals is wired on D-type connectors on the rear panel.

All signal paths are passive and therefore completely transparent utilising relay based switching. This has the benefit of a "straight wire" topology during normal (alarm free) operation and also during any power outage to the device. An additional benefit of the passive signal path is AES/EBU bit transparency allowing throughput of AES/ EBU AC3 Dolby E (TM) signals.

To ensure the passive nature of the device, switching is determined by alarm (General Purpose) inputs, with this alarm signalling in turn being normally provided by the encoder or decoders (or other devices) at site. Recognising the mission critical nature of the system, a high grade of relay is used in the RB-FS82.

The passive design ensures continuity of audio in the event of any power outage. However the RB-FS82 also includes dual redundant power supplies (AC with a DC backup as standard, or dual DC by ordering RB-FS82DC). This means that if either power supply fails, the other is ready to take over. In the extremely unlikely event that both fail, the unit's passive signal path ensures a straight wire connection for all 8 program feeds (analogue, AES/EBU & RS232). This is essential for applications such as installation at transmitter sites, where a power failure to the unit will not prevent the audio input signal from being output to each of the supported 8 transmitters.

A row of LEDs on the front panel confirm the unit status, with each individual program path indicated as being in alarm with

either Standby 1 or Standby 2 programs clearly confirmed as actively over-riding the failed signal. Alarm LEDs on the front panel are also indicated for power supply 1 failure and power supply 2 failure and these are also mirrored by the device's own General Purpose Outputs so facilitating easy interfacing of the device with the addition of a summary alarm status GPO. In the event of alarm clearing, the unit will automatically revert to normal operation, but a manual reversion mode is also provided, allowing for engineering investigation without the unit 'hunting' between different signal paths. Two buttons on the front panel, RESTORE 1 and RESTORE 2, allow manual restoration of the previously failed signal paths, away from Standby 1 and Standby 2 respectively and these can be remotely controlled over Ethernet.

To facilitate integration with site management systems the RB-FS82 supports SNMP control and is configured by a simple web based GUI.

Contact Sonifex for further information if you have a particular requirement that isn't catered for by the RB-FS82 as standard.

Specification For RB-FS82

Audio Specification - Digital	
The RB-FS82 uses passive fixed switching relays which don't affect the overall audio performance	
Audio Specification - Analogue	
Crosstalk:	>86dB
Front Panel Operational Controls	
Manual Switching:	Via Restore 1 & Restore 2 push-buttons

Front Panel Indicators	
Power LEDs:	2 x Power indicators
Channel Status LEDs:	16 x Standby status indicators, 2 per channel
Standby Restore LEDs:	2 x illuminated buttons
Rear Panel Connections	
Analogue Inputs:	8 x differential stereo inputs across 2 x 25 way D-types female
Digital Inputs:	8 x inputs on 1 x 25 way D-type female
Analogue Outputs:	8 x inputs on 1 x 25 way D-type female
Digital Outputs:	8 x outputs on 1 x 25 way D-type female
RS232 Inputs:	8 x RS232 communication lines on 1 x 25 way D-type female
RS232 Outputs:	8 x RS232 communication lines on 1 x 25 way D-type female
GPI/O:	10 Inputs & 5 outputs on 1 x 25 pin D-Type female
Standby 1&2 Inputs:	2 x Analogue differential stereo inputs 2 x Stereo digital inputs 2 x RS232 communication line pairs on 1 x 25 way D-type female

Ethernet Port:	10/100Mbps on 1 x RJ45 socket for IP control, SNMP and web GUI
Mains Input (AC):	1 x Universal filtered IEC, continuously rated 85-264VAC @47- 63Hz, max 20W, plus 1 x 12V 1A DC supply, 2.5mm locking socket fused.
or (Dual DC):	2 x 18V-50V 20W max, DC supply, 2.5mm locking socket fused.
Fuse Rating (AC):	1 x Anti-surge fuse 2A 20 x 5mm
Equipment Type	
RB-FS82:	Audio failover switcher, 8 + 2 inputs
RB-FS82DC:	Audio failover switcher, 8 + 2 inputs, 2 x DC inputs
Physical Specifications	
Dimensions (Raw):	48cm(W) x 22cm(D) x 4.2cm(H) 1U 19" (W) x 8.7" (D) x 1.7" (H) 1U
Dimensions (Boxed):	55cm(W) x 28cm(D) x 17cm(H) 21.7"(W) x 11"(D) x 6.7"
Weight:	Nett: 2.2kg Gross: 3.6kg Nett: 4.8lb Gross: 8.0lb
* Note that this product is deeper than standard Redboxes	
Accessories	
RB-RK3:	1U Rear panel rack kit for large Redboxes

SONIFEX

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