

# SONIFEX

Redbox RB-IPE

IP Extender for GPIO & Analogue Control Signals

2014-15  
Catalogue





## RB-IPE IP Extender for GPIO & Analogue Control Signals



**Category:** Talkback & Communications.

**Product Function:** Provides remote control and telemetry of GPIO and analogue control voltages over an Ethernet network.

**Typical Applications:** It allows any

tallies & control signals, together with analogue potentiometer movements, to be sent across a network, e.g. for remote alarm points, to trigger failure alarms at transmitter sites and to control remote equipment at unmanned posts, outstations or transmitter sites.

**Features:**

- 8 x isolated current sink inputs.
- 8 x pull to ground protected inputs.

- 8 x isolated relay change-over output contacts.
- 8 x opto-isolated output contacts.
- 8 x 0 to 3.3V/5V/12V input signals.
- 8 output signals nominally at 0 to 3.3V.
- Two units can act as master and slave.
- Input & output voltages can be mapped.
- Webserver configuration and control.

The RB-IPE is a 1U rackmount unit designed to provide remote control of GPIO and analogue control voltages over an Ethernet network. Configured using a built-in web server, two units can control each other across an Ethernet network, or a single unit can be controlled via Ethernet commands and the web server interface.

The unit can be used in any position where you need to remotely acquire GPO signals or remotely control equipment, for example controlling equipment at unmanned posts, outstations or transmitter sites.

Each unit has 16 x general purpose inputs on 8 x RJ45 connectors, consisting of 8 x isolated current sink inputs and 8 x pull to ground



protected inputs; and 16 x general purpose outputs on 8 x RJ45 connectors using 8 x isolated relay change-over contacts and 8 x opto-isolated contacts. These rear panel RJ45 connectors have an LED for each GPIO which shows its state.

On another 8 x RJ45 connectors there are also 8 x 0 to 3.3V/5V/12V input signals and 8 output signals nominally at 0 to 3.3V output, with other output voltage configurations possible. The outputs can all be controlled from the inputs of another RB-IPE, or from Ethernet commands.

This allows any tallies and control signals, together with analogue potentiometer movements, to be sent across a network, e.g. for remote alarm points, to trigger failure alarms at a transmitter site and to control remote equipment.

When two units are connected together at different sites, if a general purpose input state changes at one site the unit sends the new state to the other site and the appropriate opto-isolator output changes on that unit. Similarly input voltage controls are monitored and the changing voltage is sent to the remote unit where an output voltage changes accordingly.

The signals can be routed and distributed such that a single input signal to a unit on

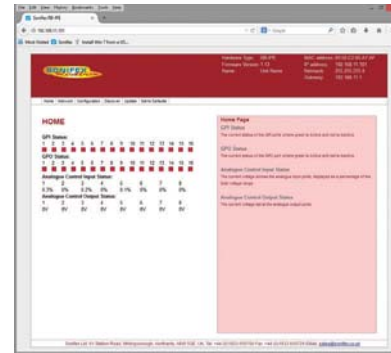
one site can be routed to multiple outputs in a unit on another site and/or have the logic inverted and distributed to multiple outputs. Also, the state of the GPOs when the unit is powered on can be configured, allowing more reliable recovery of external connected equipment from a power-fail condition.

The analogue I/O control signals can be mapped to give different ranges between the incoming and outgoing signal, e.g. 0V to 5V input giving a 0V to 12V output, or a linear input mapped to a log scale output. Also, by programming threshold values, analogue input voltages can be mapped to GPO pins, e.g. for sending a signal to a GPO when a volume knob is turned too high.

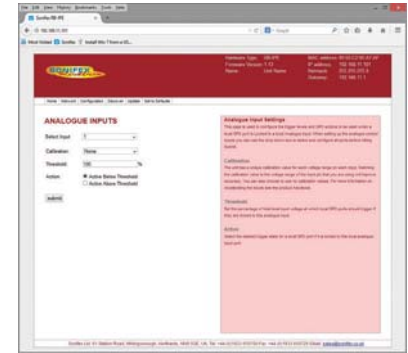
The web server in the RB-IPE can be configured with a static IP address or by using DHCP.

The three front panel green LEDs give an indication of Ethernet connectivity, i.e. they show when commands are being sent/received. The CONNECTED LED shows link status, the GPIO LED illuminates whenever a GPIO state changes and the ANALOGUE LED indicates a change in state of the analogue voltage signals.

The RB-IPE is powered from a universal mains input between 85-264V AC at 47-63Hz.



RB-IPE Home Page.



RB-IPE Configuration of Analogue Inputs Page.

### Specification For RB-IPE

#### Audio Specification

#### Rear Panel Connections

Isolated GPI:	4 x RJ45 sockets, with LED status indicator per input
Active Low GPI:	4 x RJ45 sockets, with LED status indicator per input
Relay GPO:	4 x RJ45 sockets, with LED status indicator per output
Isolated GPO:	4 x RJ45 sockets, with LED status indicator per output
Analogue Control Inputs:	4 x RJ45 sockets
Analogue Control Outputs:	4 x RJ45 sockets
Ethernet Port:	RJ45 with status LEDs
Mains Input:	Filtered IEC, continuously rated 85-264VAC @ 47-63Hz, 10W max
Fuse Rating:	Anti-surge fuse 1A 20 x 5mm

#### Input & Output Detail

General Purpose Inputs:	8 x isolated current sink inputs from 3.3V to +24V (Max input range: 0V to +24V) 8 x pull to ground protected inputs (Max input range -24V to +24V)
General Purpose Outputs:	8 x isolated relay change-over contacts: Nominal switching capacity (resistive load): 1A @ 30V DC (0.5A @ 125V AC) 8 x opto-isolated contacts:

Maximum collector/emitter voltage peak: 35V DC @ 7mA  
Maximum collector/emitter current: 80mA @ 2.5V DC  
(Note: There is a 200 mA fused +5V power supply available on GPI ports 1 – 8 and GPO ports 9 – 16.)

Analogue Control Inputs:	8 x 0V-3.3V, 5V or 12V input signals
Analogue Control Outputs:	8 x output signals, nominally 0V-3.3V, 5V or 12V

#### Front Panel Indicators

Power On:	Red LED
CONNECTED:	Green link status LED
GPI0:	Green GPIO change status LED
ANALOGUE:	Green analogue control I/O change status LED

#### Equipment Type

RB-IPE:	IP extender for GPIO & analogue control signals
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#### 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 2.75" (H)
Weight:	Nett: 1.6kg Gross: 2.2kg Nett: 3.5lbs Gross: 4.8lbs

#### Accessories

RB-RK3	1U Rear panel rack kit for large Redboxes
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# **SONIFEX**

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