

# Soundweb™

3088

Signal Processor

## Installation Guide



## Important Safety Information - Read this carefully

This equipment has been tested and found to comply with the following European and international Standards for Electromagnetic Compatibility and Electrical Safety:

Radiated Emissions (EU):	EN55013	(1996)
RF Immunity (EU):	EN55013-2	(1996)
Electrical Safety (EU):	EN60065	(1998)
Electrical Safety (USA):	UL6500/ETL	(2000)
Electrical Safety (CAN):	CAN/CSA-E60065-00	(1994)



**Before using the apparatus, read these instructions. Follow all instructions, heed them and keep them in a safe place.**

- \* Clean only with a dry cloth.
- \* Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- \* Do not place objects filled with liquid on this apparatus.
- \* Do not defeat the safety purpose of the grounding type plug. A grounding plug has two blades and a third grounding prong. The third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- \* Protect the power cord from being walked upon or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
- \* Only use attachments/accessories specified by the manufacturer.
- \* Unplug this apparatus during lightning storms or when not in use for a long time.

**WARNING - TO REDUCE THE RISK OF FIRE OR SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.**

**DO NOT REMOVE COVERS. NO USER SERVICEABLE PARTS INSIDE - REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

### **THIS EQUIPMENT MUST BE EARTHED.**



DO NOT EXPOSE  
TO RAIN OR MOISTURE



NE PAS EXPOSER A  
LA PLUIE NI A L'HUMIDITE

**IT SHOULD NOT BE NECESSARY TO REMOVE ANY PROTECTIVE EARTH OR SIGNAL CABLE SHIELD CONNECTIONS TO PREVENT GROUND LOOPS. ANY SUCH DISCONNECTIONS ARE OUTSIDE THE RECOMMENDED PRACTICE OF BSS AUDIO AND WILL RENDER THE EMC OR SAFETY CERTIFICATION VOID.**

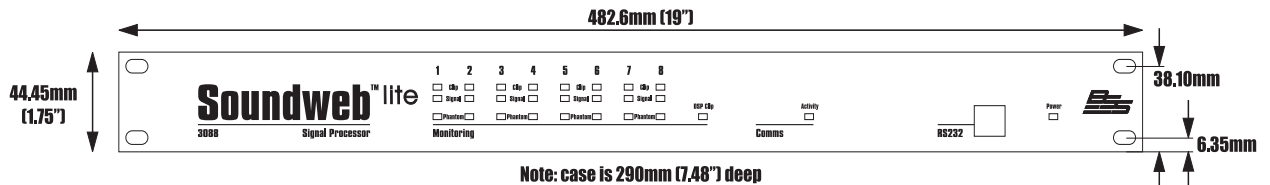
For continued compliance with international EMC regulations, it is important that all cables be screened, and connected as follows:

- Audio cable screens to their 3088 connector ground.
- Control cable screens to the ground screws adjacent to the connector.

## Mechanical Installation

If the unit is likely to undergo extreme vibration through extensive road trucking and touring, it must be supported at the rear and/or sides to lessen the stress on the front mounting flange. Use either a ready-built rack tray or mount the 3088 unit between other units. Damage caused by insufficient support is not covered by the warranty.

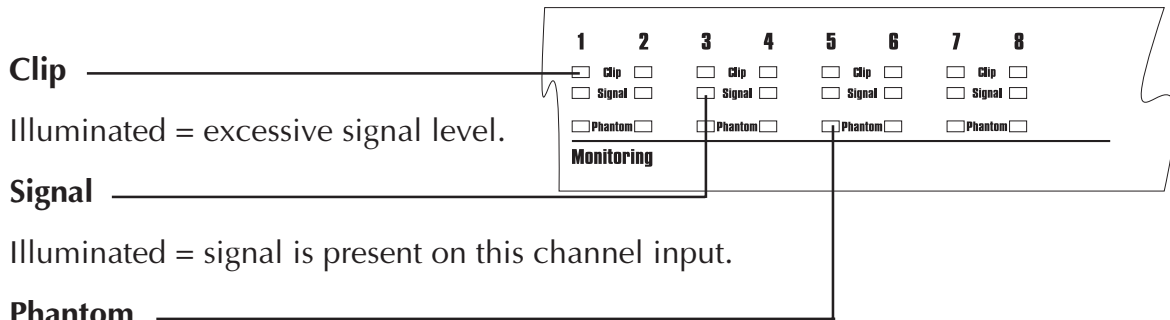
To prevent cosmetic damage to the front panel finish, use protective plastic cups under the rack mounting bolts.



## Front Panel LED Functions

### Input Monitoring

Each channel has 3 LED indicators showing:



**Clip**  
Illuminated = excessive signal level.

**Signal**  
Illuminated = signal is present on this channel input.

**Phantom**  
Illuminated = phantom power is active for this Mic channel.

Scrolling from right to left = recovery mode, the device's firmware needs reloading.

**DSP Clip**  
Illuminated = indicates that the processed signal is clipping internally.

### Comms

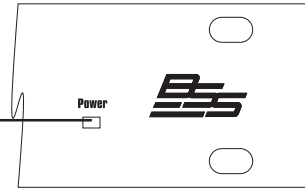
**Activity**

Flashing Yellow = indicates data transfer. The flashing is not regular, but is dependent on the rate of transfer.

Flashing Red = indicates bad data.

**Power**

illuminated = indicates that the power supply is functioning.



**Rear Panel Details**

**Audio & Control connectors**

3088 audio and control connections are via Klippon (also known as BL, Phoenix or Combicon) pluggable terminal block connectors.

12 x 6-way female Klippon connectors are supplied for making these connections.

For audio and network cables and looms, see the Product Overview catalogue from: Direct Cable Systems Ltd.

Tel: (020) 7485 0899 [www.directcable.co.uk](http://www.directcable.co.uk)

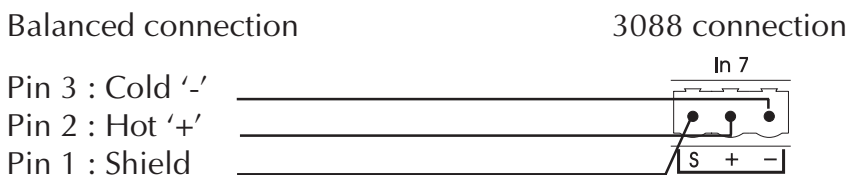
Neutricon-Neutricon tour grade network cable. P/N 1 50001

Phoenix-XLR audio cable P/N 1 00521

**Audio & AES/EBU Input and Output wiring convention**

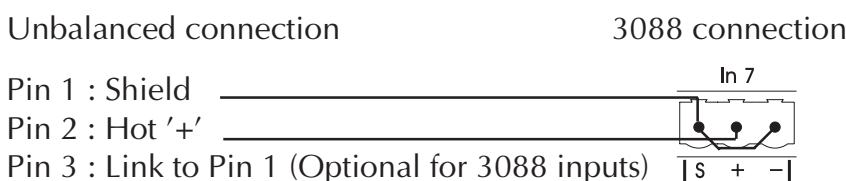
Soundweb products provide cable shielding “back from the destination” to eliminate ground loop problems. Therefore, the shield (S) connection on an input is grounded, whereas the shield connection on an output is floating (although connected via an internal network to ground for EMC compliance).

**Balanced** wiring - The convention for balanced wiring (2-core plus shield) is:



This wiring can also be applied to the AES digital interface card.

**Unbalanced** wiring (analogue audio only) - The convention for unbalanced wiring to the inputs (1-core plus shield) is:



## Mains inlet

IEC power connector, for connection to mains supply (100-270V AC, 50/60Hz).

## Mains fuse holder

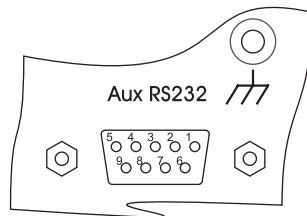
Requires a 20mm T1AL type fuse. Do not replace with anything other than the recommended fuse.

## Aux. RS232

An alternative connection for a control PC, modem or AMX/Crestron type panel. This port works at up to 115200bps. Note that AMX panels only currently connect at 38400bps.

### Pinouts

1 -DCD	6-DSR
2-RX	7-RTS
3-TX	8-CTS
4-DTR	9-N/C
5-GROUND	



## Control Inputs

Used to connect switches or potentiometers, e.g. 9012 selector wallplate (Part no. Z-SW9012). Looking at the control port connector (on the back of the unit), there are two common (ground) connections “C” to the left of the eight CONTROL INPUTS and, two software assignable reference voltage outputs “R” to the right.

The control ports now have two modes of operation. In Soundweb Designer’s Control Ports window these are labelled “2-wire” and “3-wire”.

### 2-wire mode

In this mode the eight CONTROL INPUTS are internally “pulled up” to +5V DC via a 4.7kOhm resistor. Therefore, no external voltage source is needed to create contact closure to ground for switches such as mute buttons or, resistance to ground (for other multi-state or continuous controls such as Parameter Presets or faders).

See the Soundweb Designer help for a table of resistor values for use with Parameter Presets or source selectors.

Two “common” ground connections are provided using the two “C” connectors to the left of the CONTROL INPUTS.

A 47kOhm-log potentiometer (Part no. DM10018) connected between a control input and common will allow parameters to be controlled linearly.

### 3-wire mode

This mode allows the use of linear pots or faders for continuous controls. A pot would be wired as a potential divider with the top of the track connected to the reference output “R”, the wiper to a control input and the bottom of the track to a common “C”. For good

performance pots with track resistance between 10 and 100kOhms are recommended.

## **Logic Outputs**

Used to connect 'tally' indicator LED's or relays.

There are eight standard LOGIC OUTPUTS which produce 0V or +5V DC via an internal 440 Ohm resistor and two internally connected common (ground) connections "C".

An LED connected between one output (Anode, A) and common (Cathode, K) will illuminate when the logic output is activated, without requiring any external current limiting resistor.

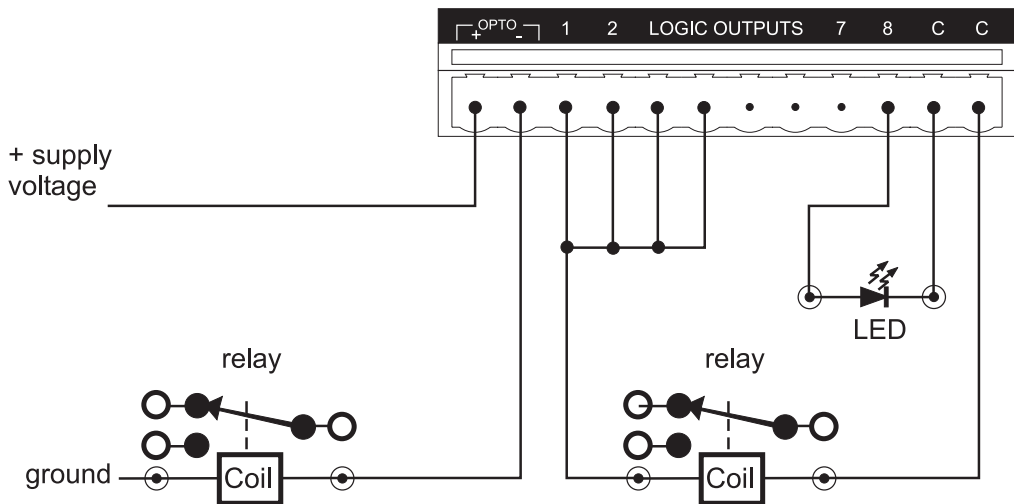
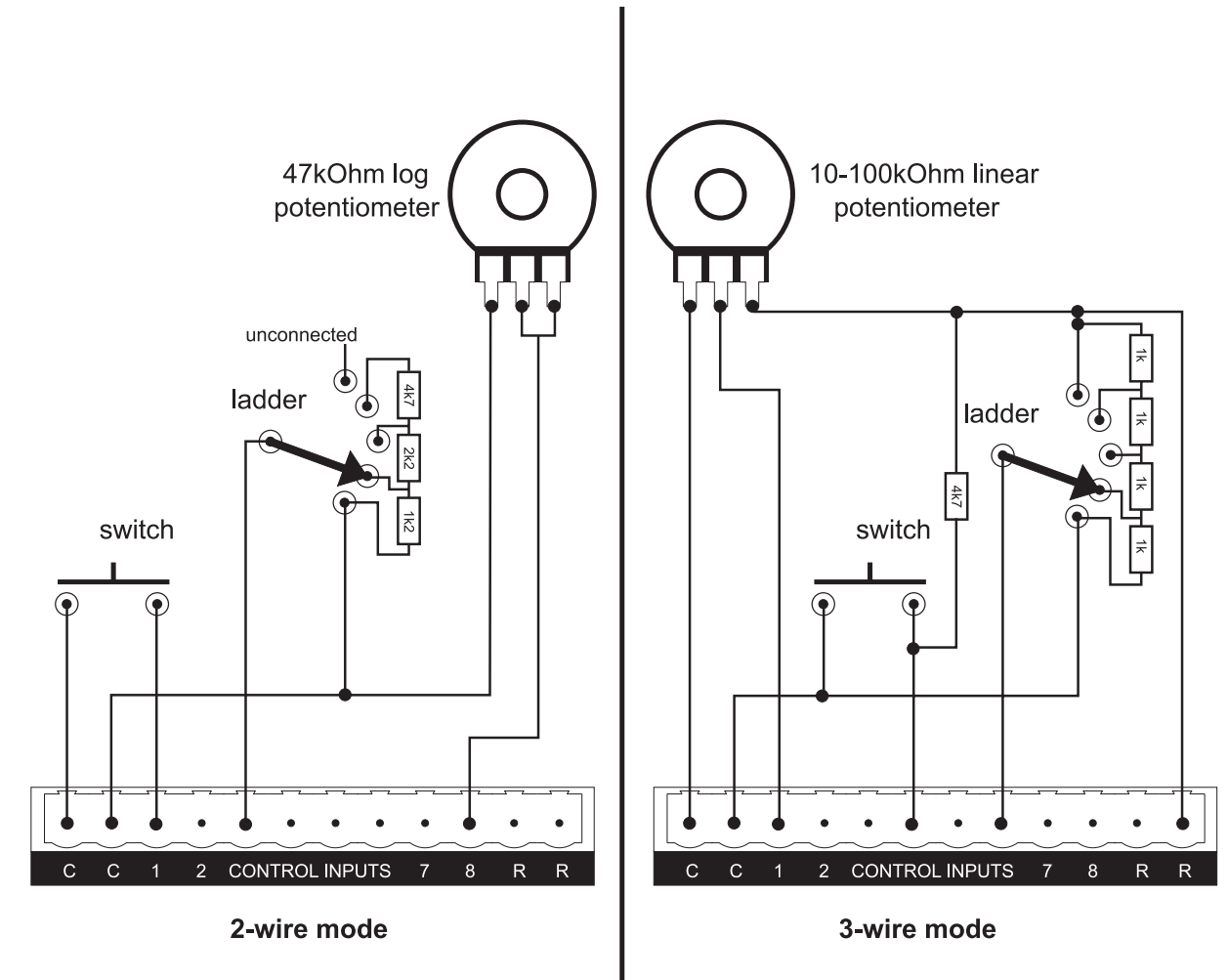
A high sensitivity relay (such as a reed relay) may be driven by connecting four outputs in parallel. This arrangement will develop 4V across a 500Ohm coil, providing that all four outputs are made logic 1 simultaneously.

## **OPTO Output**

In addition to the eight standard logic outputs, there is an isolated output, which fails safe (open circuit) if the unit becomes faulty.

This is effectively the collector-emitter of a transistor (which may be thought of as a switch), in series with a 220-Ohm protection resistor. In conjunction with an external DC power source (max 80V), this may be used to drive various loads such as relays.

## Control Inputs and Logic Outputs connection diagram



## Technical Specifications

### General

DSP capability	200MIPS (Million Instructions Per Second)
Frequency response	15Hz to 20kHz (+-0.5dB)
Total Harmonic Distortion (THD)	<0.01 % (20Hz to 20kHz, +10dBu output)
Dynamic range	105dB typical (22Hz to 22kHz unweighted) 108dB typical (A-weighted)
Maximum output level	+20dBu
Inter-channel crosstalk	<-75dB
Mains supply	85-270V AC, 50/60Hz
Power consumption	<35VA

### Control Ports

Control input voltage	0 to 4.5V
Control input impedance (2 wire mode)	4.7kOhms to +5V
Control input impedance (3 wire mode)	>1 MOhm
Logic output voltage	0 or +5V unloaded
Logic output impedance	440 Ohm
Opto output current	14mA max
Opto output withstanding voltage	80V max
Opto output series impedance	220 Ohms (isolated)

### Card Options:

#### Universal microphone/line input card

Input impedance	3.5kOhms
Maximum input level	+20dBu (with 0dB gain)
Gain range	0 to 70dB
CMRR	>75dB at 1 kHz
Equivalent (input Noise (EIN))	<-128dBu typical (with 150 Ohms source)
Phantom power	48V nominal

#### AES Digital Card

Interface standard	AES/EBU
Digital resolution	24bit
Supported input sampling rates	32-96kHz
Supported output sampling rates	44.1, 48, 88.2, 96kHz (independent for each output)
Output clock source	Internal, Inputs 1 & 2, External Word Clock or System Clock (48kHz)
Input clock source	Independent or System Clock

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BSS

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