



# Soundweb™

## Installation Guide

SW9016 Video/Audio Matrix Switcher



## 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+A11	(1998)
Electrical Safety (USA):	UL6500/ETL	(2000)
Electrical Safety (CAN):	CAN/CSA-E65/ETLc	(1994)



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

- \* Clean only with a damp cloth.
- \* Do not block any of the ventilation openings. Install in accordance with the manufacturers 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.**



**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 9016 connector ground.
- Control cable screens to the ground screws adjacent to the connector.



## Mechanical Installation

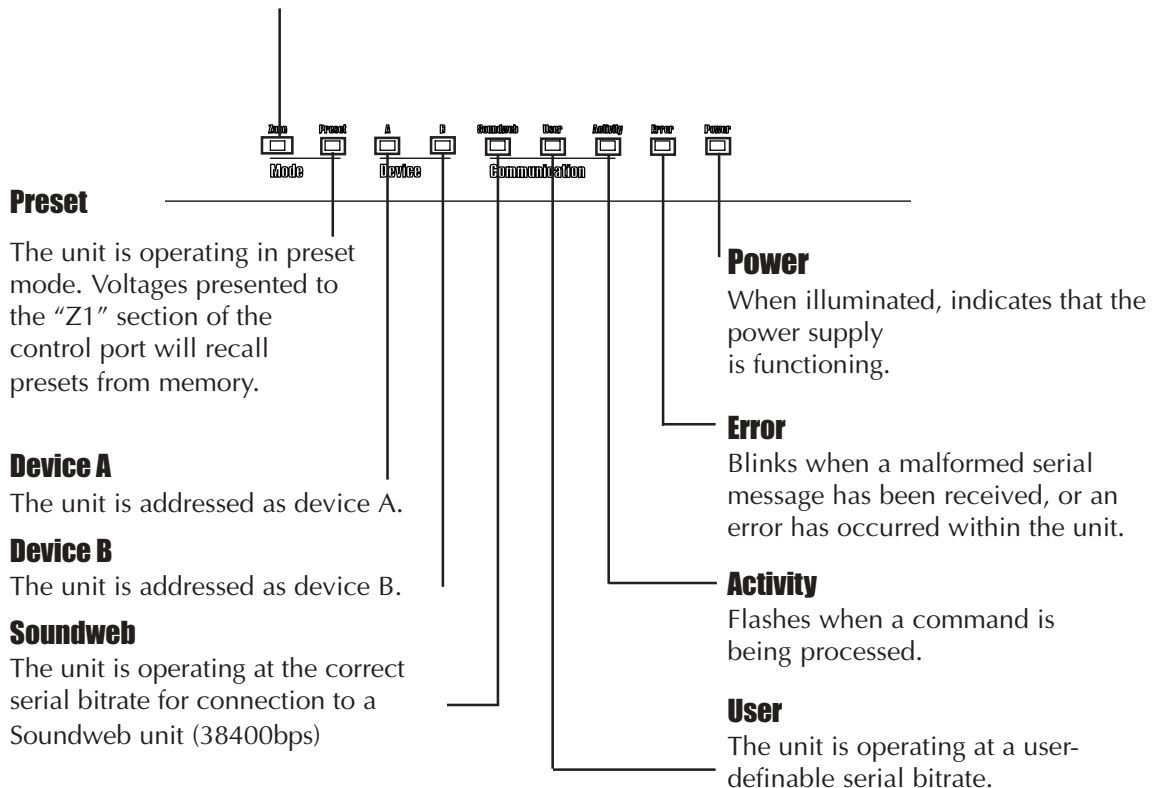
If the unit is likely to undergo extreme vibration through extensive road trucking and touring, it must be supported at the rear and/or sides to lessen the stress on the front mounting flange. Use either a ready-built rack tray or mount the 9016 unit between other units. Damage caused by insufficient 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.



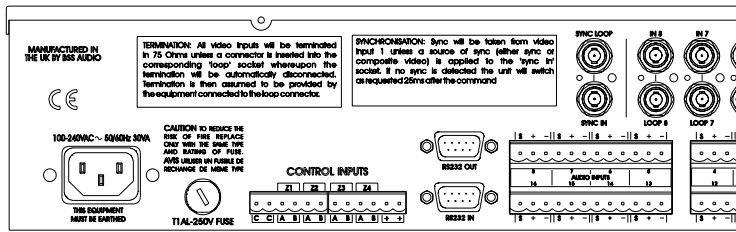
## Front Panel LED Functions

### Zone

The unit is operating in zone mode with no presets loaded into it. Voltages presented to the control port switch stereo pairs of inputs to stereo pairs of outputs, with video following audio.



## Rear Panel Details



The 9016 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 cables and looms, see the Product Overview 2000 catalogue from:

Direct Cable Systems Ltd.

Tel: (020) 7485 0899

[www.directcable.co.uk](http://www.directcable.co.uk)

Phoenix-XLR audio cable

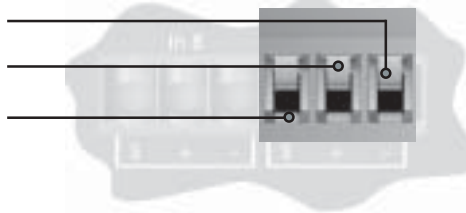
P/N 100521

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

**Balanced connection**

**9016 connection**

Pin 3 : Cold '-'  
Pin 2 : Hot '+'  
Pin 1 : Shield

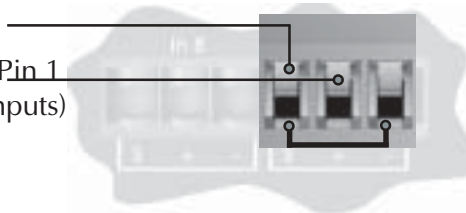


**Unbalanced** wiring - The convention for unbalanced wiring to the inputs (1-core plus shield) is:

**Unbalanced connection**

**9016 connection**

Pin 1 : Shield  
Pin 2 : Hot '+'  
Pin 3 : Link to Pin 1  
(Optional for 9016 inputs)



### Mains inlet

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

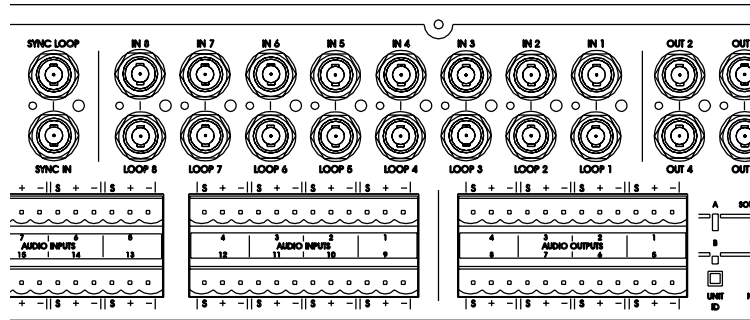
### Mains fuse holder

Requires a 20mm T1A type fuse. Do not replace with anything other than the recommended fuse.



## Video Inputs and Outputs

The video connections are on BNC connectors on the rear of the unit.



There are 8 inputs, each with a loop-through socket. If nothing is plugged into the loop connectors, then the video signal will be 75-ohm terminated inside the unit. If the loop sockets are connected, then whatever is plugged into them will have to provide 75-ohm termination itself. There are four video outputs.

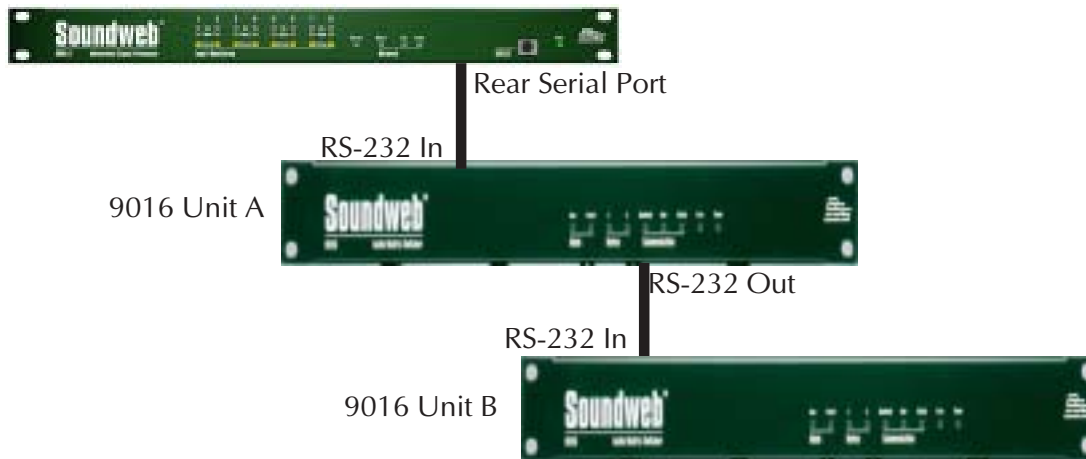
The “sync in” socket should be connected to a pure sync or composite video source of synchronisation which the unit will use when instructed to set a video crosspoint. If nothing is plugged into this socket, the unit will take it’s synchronisation from the composite video source connected to video input 1. If the unit does not receive a sync pulse within 25ms of a command to switch being received, it will switch anyway. The “sync loop” socket outputs whatever has been used as the sync source.

## RS-232

The RS232 port is for connecting the unit directly to a PC, or the rear port of a Soundweb 9088ii, 9000, 9000ii or 9008 device.

Soundweb devices can be connected to two 9016 units as follows:

Soundweb 9088ii, 9008, 9000 or 9000ii



Soundweb™



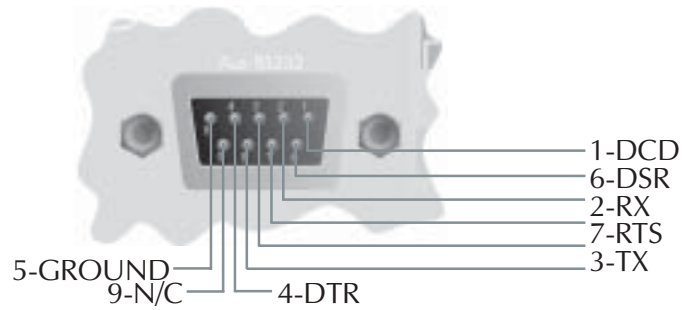
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Note: if there is only one 9016 device, it must be addressed as unit A.

For use with the PC control application, or any other device capable of implementing the unit's protocol through its RS232 port, four devices can be connected like this:



## RS-232 Port Connection Information



## Control Inputs

The control ports are designed to be used with a 9012 wall panel or simple switches and faders or potentiometers. There are four sets of ports, or “zones”, marked Z1 - Z4. The control port facilities are used in conjunction with the PC setup software; see its online help for more details, and for electrical specifications of the 9012 and its resistor values, see Soundweb Designer’s online help (under “control inputs and logic outputs”).

The “A” pin of any given zone should be connected to a potentiometer for gain control. The “B” pin should be connected to a resistor ladder for preset recall/individual crosspoint control.

The unit is in “zone mode” when there are no presets loaded. (Note that these are presets within the unit and nothing to do with Soundweb Designer presets). With each 9012, you can control the routing of a stereo pair of audio channels and one video channel (a “zone”). Up to four 9012s can be connected, so all the outputs can be controlled.

The outputs controlled by each 9012 are dictated by which “Z” pair of terminals (see wiring section) they are connected to.

For example, a 9012 plugged into Z1 with the unit in zone mode will:



- let you control the gain on outputs 1&2 (stereo pair) with the pot
- let you control the source of the signals routed to audio out 1&2 and video out 1 using the selector switch. With a 9012, this can be any of the first 5 inputs.

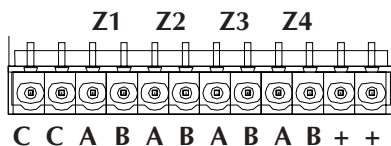
So with the selector in position ‘2’ in the example above:

- Audio input 5 would be routed to audio output 1.
- Audio input 6 would be routed to audio output 2.
- Video input 3 would be routed to video output 1.

The pair of inputs routed to a given output corresponds to the number printed on the 9012 control +1 e.g 0 = inputs 1+2

In “preset mode”, only the 9012 wall panel connected to “Z1” has any effect. The selector will recall the unit’s five internally installed presets. (again, position 0 on the selector means preset 1 will be recalled).

## Control port pin-outs



### Preset/Zone Trigger Inputs

Pin 1 is on right when viewed from rear:  
 Pin 1, 2, : +5V. Pin 11, 12 : Common  
 Zone Mode  
 Pin A Gain, Pin B Source Select  
 Preset Mode  
 Use Z1 connections only



## 9016 Technical Specifications

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<b>Video Inputs</b>	8 Composite Video inputs (CBVS or SVideo) on BNC connectors with BNC loopthrough connectors
Video Standard	PAL or NTSC (auto selected)
Video Bandwidth	150Mhz
Video Crosstalk	<70dBR up to 10MHz
Sync	Automatically either Channel 1 or 'Sync' input
Impedance	75 Ohm self-terminating
Routing	8x4 Video Matrix
<b>Video Outputs</b>	4 x 75Ohm Composite Video Outputs on BNC connectors
<b>Audio Inputs</b>	16 Balanced Audio inputs on Phoenix Combicon removable screw connectors.
Routing	16x8 Audio Matrix, each channel independently addressable
Input Impedance	10kOhm
Maximum Input Level	+20dBu
Input gain	adjustable, -inf to +20dB (via PC App or 9012 in zone mode)
THD	<0.02%
Frequency Response	20Hz-20kHz +0/-0.2dB
S/N Ratio	>110dBR at unity gain
Crosstalk	<-100dB
CMRR	>40dBR
<b>Audio Outputs</b>	8 Balanced Audio Outputs on Phoenix/Combicon removable screw connectors.
Output gain	adjustable, -inf to +20dB
<b>Control &amp; Presets</b>	
Presets	8 presets per video output zone when used with standalone PC application
Serial Control Port	RS-232 connects to Soundweb 9088ii, 9008ii, 9000 or 9000ii or PC
Dimensions	2RU (3.5") high, 19" wide, 6.6" deep (89mm x 445mm x 168mm)
Weight	3kg (6.6lbs) unpacked

*BSS Audio have a policy of continued product improvement and accordingly reserve the right to change features and specifications without prior notice.*

BSS Audio

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