



SHADOW

1RU STEREO MIXER

USERS MANUAL

SHADOW

Introduction

The SHADOW is a 4 stereo + 1 mono (MIC) channel mixer with headphone monitoring and a crossfader in a 19" 1RU package. Two of the stereo inputs can be set as phono (RIAA) or line inputs and the other two stereo inputs are line inputs.

Each stereo input has a volume control and is routed to the main output unless the XFADE switch is pressed when two stereo channels are assigned to each side of the crossfader.

Each stereo channel has a cue select switch for headphone monitoring, an internal setting allows split monitoring so that the output is on one side of the headphones and any inputs selected are on the other side (factory setting is monitoring stereo inputs on both sides).

The mono (MIC) channel has a mute button and a 2 band EQ that is preset through the rear panel. All inputs have gain trims that are set through the rear panel.

Each input and output is connected to a relay, when the unit is switched off the relays route each input/output to a second input/output connector allowing the SHADOW to be completely bypassed when switched off. This enables the SHADOW to be used as an emergency or standby mixer, automatically re-routing the signals to itself when the SHADOW is switched on.

Settings

Changing settings require access to the inside of the equipment, this should only be done by audio professionals who have experience of changing internal settings of audio equipment.

Either or both channels 2 & 3 can be set for LINE or PHONO (RIAA) input, factory setting is for PHONO (RIAA) on both channels 2 and 3.

The headphone monitoring can be set for either any cue selected inputs in both sides of the headphones or for cue selected inputs in one side and the master output in the other side (a split setting), the factory setting is with any cue selected inputs in both sides of the headphones.

To change either of these settings, with the unit switched off and disconnected from the mains, remove the cover by undoing the upper screws at either side of the top cover and the two screws through the top of the cover.

Remove the cover and referring to drawing 781 (towards the end of the manual) move the jumpers indicated to achieve the required setting.

Refit the cover, ensuring screws are left inside the unit and no wires are trapped during refitting of the cover.

Installation

Factory set channels 2 and 3 are phono (RIAA) inputs, to set either or both to line level inputs refer to the settings section above in the manual.

Connect inputs (sources such as mic, CD, record etc) to the connectors marked "IN" on the input section shown in fig 1 and fig 2 on the next page.

In the output section the connectors marked "OUT" provide the drive to amplifiers.

If the SHADOW is to be used for emergency/standby applications the inputs all have adjacent connectors marked "OUT", when the mixer is switched off the input is routed to its adjacent output connector and can then be connected to a master mixer input.

Similarly the outputs have adjacent connectors marked "IN", when the mixer is switched off the output is routed to its adjacent input connector and can then be connected to a master mixer output.

While the SHADOW is switched off the inputs are routed in and out of the SHADOW to the master mixer, similarly the master mixer output is routed in and out of the SHADOW to the amplifiers.

When the SHADOW is switched on the master mixer is bypassed and the SHADOW instantly takes over.

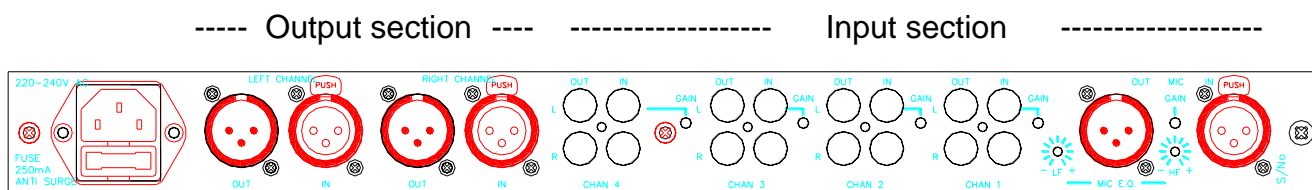


Fig 1

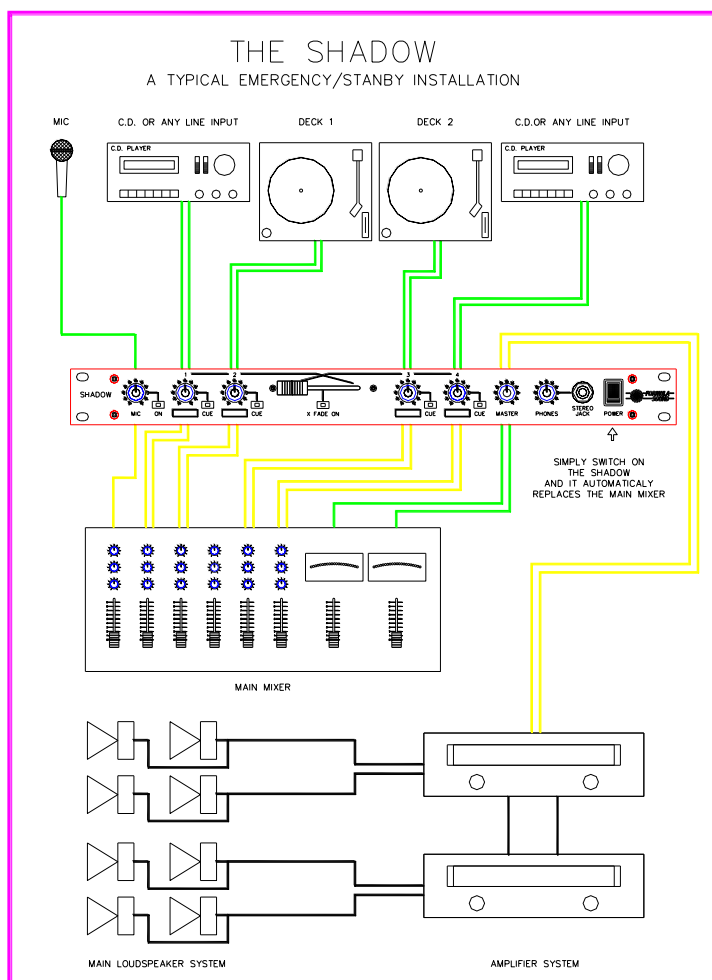


Fig 2

The location of gain trims for each input and the microphone two band EQ on the back panel can be seen on fig 1 above.

Operation

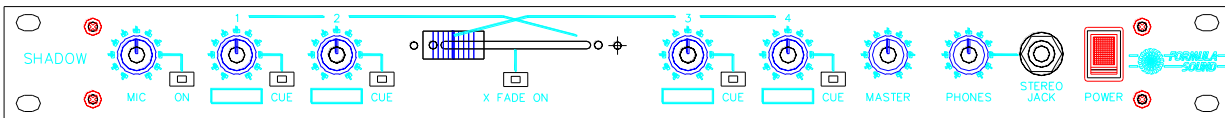


Fig 3

With the inputs and output connected as required switch on the SHADOW and set the front panel volume controls fully anti-clockwise and set all switches to off.

Set the MIC switch to on and set the MIC and master volume to three quarter position, speak into the microphone and adjust the rear panel mic gain trim for the required level. Adjust the rear panel mic EQ for the required sound (this is subjective). Switch the MIC off.

Set the channel 1 volume control to three quarters position and play music into channel 1, adjust the rear panel gain trim for the required level. Set the channel 1 volume control fully anti-clockwise when finished.

Repeat for channels 2 – 4.

Play music into all 4 channels, all volume controls to be fully anticlockwise, connect headphones and set the headphone volume control to mid position. Select and deselect cue on channels 1 – 4 in turn and check the music from the selected channel is present in the headphones (if the headphones are set for split operation one side will be silent). If split operation has been select cue on channel 1 and check channel 1 music is present on one side of the headphones, increase the volume of channel 2 and check the music from channel 2 appears on the other side of the headphones.

Set all volume controls anticlockwise, select the XFADE, with the crossfader to the left increase the volume of channel 1 and check it appears at the output, now set the channel 1 volume control fully anti clockwise. Increase the volume of channel 2 and check it appears at the output, now set the channel 2 volume control fully anticlockwise.

Increase the volume of channels 3 and 4 and check no music appears at the output.

Set all volume controls anticlockwise, select the XFADE, with the crossfader to the right increase the volume of channel 3 and check it appears at the output, now set the channel 3 volume control fully anti clockwise. Increase the volume of channel 4 and check it appears at the output, now set the channel 4 volume control fully anticlockwise.

Increase the volume of channels 1 and 2 and check no music appears at the output.

All functionality has now been checked.

www.formula-sound.co.uk

Formula Sound Limited
Unit 23; Stadium Business Centre
North End Road
Wembley
HA9 0AT

Tel: +44 (0) 208 900 0947 Fax: +44 (0) 208 903 8657 email: info@formula-sound.co.uk

TECHNICAL SPECIFICATION

All inputs and outputs are paired with a second set of connectors, when the SHADOW is switched off these connectors are connected together by a relay. Once the SHADOW is switched on the second set of connectors are disconnected and the SHADOW is active.

Main output on XLR connectors (EQ set flat)

Distortion THD @ 1 KHz +10dBV	<0.005%
Output impedance (Balanced)	<100R
Max O/P (Into 600R)	+25dBV
20Hz – 20KHz	+/- 0.5dB

Microphone input on XLR connector

Gain maximum	70dB
Noise ref 150R	EIN<-125dB
Input impedance	>2K ohm

Mic EQ (via presets on the rear panel)

Treble	+/- 10dB @10KHz
Bass	+/- 10dB @120Hz

Stereo inputs 1 – 4 on gold plated phono sockets

Gain max	+20dB
Noise	EIN < -90dBV
Max input level	+20dBV
Input impedance	
Line	10KOhms
RIAA If selected on channels 3 and/or 4	47KOhms

Headphones

On ¼" 3 pole jack socket, use no less than 32 Ohms headphones

Power

220-240V AC standard (115V to order. Or consult user manual to change)
Mains fuse 220-240v operation 250mA slow blow
Mains fuse 110-115v operation 500mA slow blow
I.E.C. Mains connector

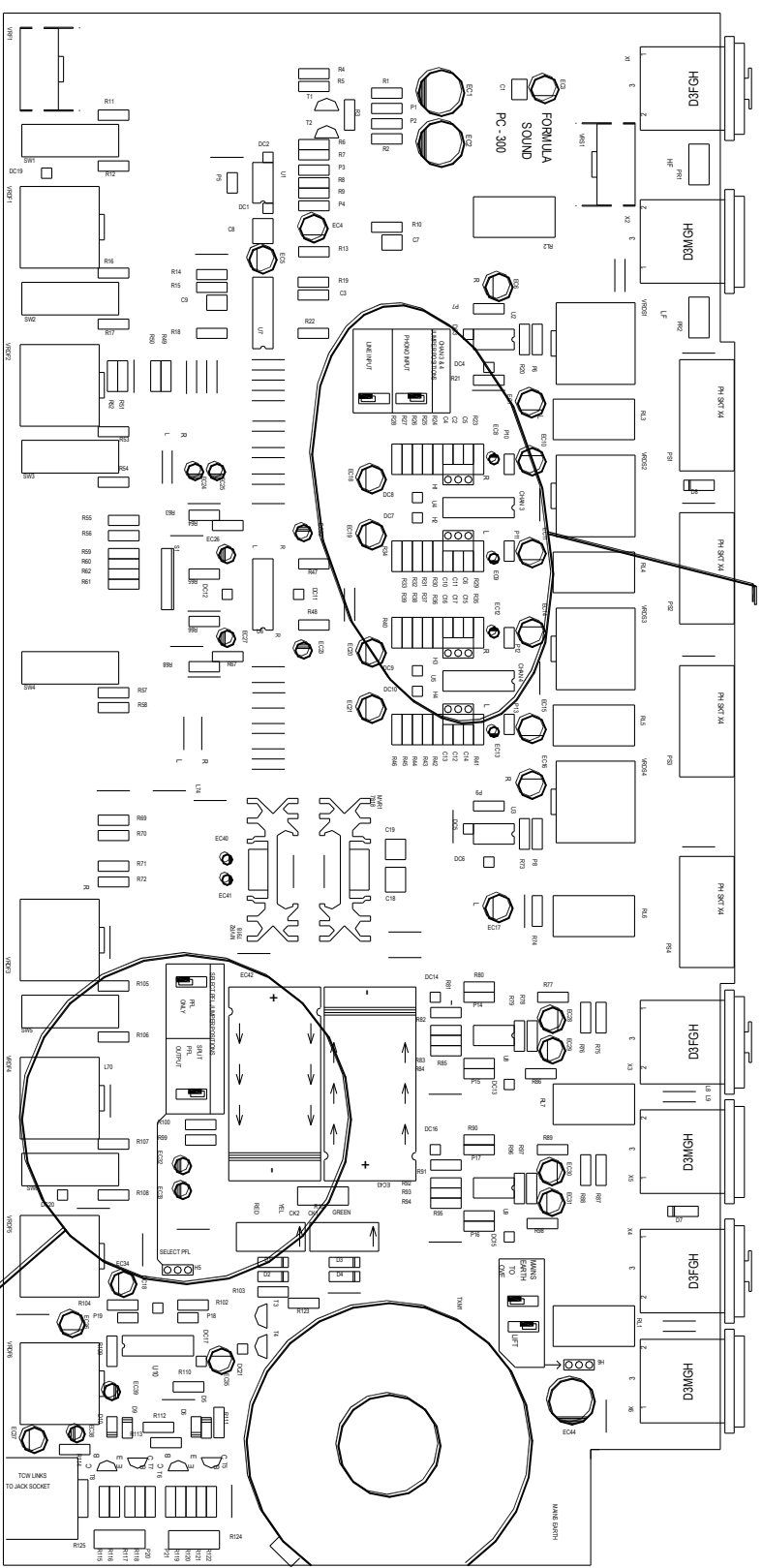
Finish

Front and Rear panels Bordeaux anodised aluminium with silver notation
Case black plastic coated steel

Dimensions

19" rack mounting. 1RU Width 482mm (19") Depth 200mm (7.9") Height 44mm (1.75")

Formula Sound reserve the right to alter the specification without notice.



1. Channel 2 and 3 LINE or PHONO (RIAA) setting.
2. Headphone monitoring, input only or split input and output.
Move jumpers as silk screen legend on PCB indicates for required settings



www.formula-sound.co.uk

TITLE	SHADOW Internal settings	DRG No.	781
		DATE	13-07-2012
		ISSUE	2



FORMULA SOUND LIMITED

UNIT 23; STADIUM BUSINESS CENTRE; NORTH END ROAD; WEMBLEY; MIDDLESEX; HA9 0AT

TELEPHONE +44 (0)208-900-0947 FAX +44 (0)208-903-8657

www.formula-sound.co.uk email info@formula-sound.co.uk



E.U. CERTIFICATE OF CONFORMITY

We declare that the products listed conform to the following directives and standards

89/336/EEC amended by 92/31/EEC and 93/68/EEC

BS EN 50082-1 BS EN 50081-1

PRODUCT TYPE

SHADOW

The CE mark was first applied in 1995

Signed

B. J. Penaligon General Manager

Attention

The attention of the specifier, purchaser, installer, or user is drawn to the fact that good wiring practice must be observed when connecting the above equipment. Good quality connectors and screened cables must be used for all audio connections. Twin screened cables should be used for all balanced lines.

THIS EQUIPMENT MUST BE EARTHED

CONSULT THE USERS MANUAL FOR TECHNICAL DETAILS