DRAWMER

DS201

DUAL NOISE GATE

OPERATOR'S MANUAL

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SAFETY CONSIDERATIONS





CAUTION - MAINS FUSE

TO REDUCE THE RISK OF FIRE REPLACE THE MAINS FUSE ONLY WITH THE SAME TYPE, WHICH MUST BE A CLASS 3, 230 VOLT, TIME DELAY TYPE, RATED AT 32mA WHERE THE MAINS INPUT VOLTAGE SWITCH IS SET TO 230 VOLTS AC. AND 63mA WHERE THE MAINS INPUT VOLTAGE IS 115 VOLTS AC.
ALL FUSES MUST COMPLY WITH IEC 127-2.
THE FUSE BODY SIZE IS 20mm x 5mm.

CAUTION - MAINS CABLE

DO NOT ATTEMPT TO CHANGE OR TAMPER WITH THE SUPPLIED MAINS CABLE.

CAUTION - SERVICING

DO NOT PERFORM ANY SERVICING. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.



INSTALLATION

This product is designed for standard 19" rack mounting and occupies 1U of rack space. Use four M6 pan head screws to secure the unit into the rack. Fibre or plastic washers may be used to prevent the front panel becoming marked by the mounting bolts.

- Care should be taken in the choice of positioning. The unit should not be mounted where other equipment obstructs the normal air flow. The unit should not be situated near any heat source, such as a radiator, stove or a high power amplifier that would generate heat.

- The DS201 should not be operated near any water or in a location where moisture might be present.

INTRODUCTION

The Drawmer DS201 is a sophisticated dual channel noise gate, which may be used as two independent channels or linked for true stereo operation. It incorporates a number of impressive features, many pioneered by Drawmer, which are invaluable to the sound engineer and not found on conventional noise gates:

- Variable high-pass and low-pass filters for 'frequency conscious' gating;
- Comprehensive envelope control, attack, hold, decay and range;
- Extremely low-noise and low-distortion circuitry;
- Ultra-fast response time;
- Comprehensive side-chain filtering;
- 'Key listen' facility;
- 'Traffic light' display giving clear indication of gate status;
- Balanced inputs and outputs.

These features and the DS201's user-friendliness have helped it to become the worldwide 'industry standard' noise gate.

AUDIO CONNECTIONS

All input and output connectors are balanced XLRs, with the wiring convention being: pin 2 hot, pin 3 cold and pin 1 ground. For unbalanced operation, it is important to short pin 3 of the XLR connector to ground (pin 1) at both input and output.

Key inputs are made via ¼" mono jack connectors. If the Key jack sockets are permanently wired to a patch bay, it is important that the patch bay sockets are fully normalised to prevent random unwanted triggering.

If earth loop problems are encountered, **never** disconnect the mains earth but instead, try disconnecting the output signal screen at one end of the cables connecting the DS201 to the patchbay, we suggest inside the XLR connector itself. If such measures are necessary, balanced operation is recommended.



POWER CONNECTION

The unit will have been supplied with a power cable suitable for domestic power outlets in your country. For your own safety it is important that you use this cable. The unit should **always** be connected to the mains supply earth using this cable, and no other.

If for some reason the unit is to be used at a mains input operating voltage which is different to that as supplied, the following procedure must be carried out.

1: Disconnect the unit from the mains.

2: Remove the two self-tapping screws that hold the voltage selection switch cover-plate onto the rear panel.

3: Remove the cover plate and slide the switch fully to its opposite end.

4: Rotate the cover plate one half turn, (180°) and refit the two screws.

5: Replace with a correctly rated fuse for the selected operation voltage.

6: Re-connect to mains power source.

Never disconnect the earth from the mains supply



CONTROL DESCRIPTION

L.F. 

25Hz - 4kHz
The Low Frequency filter works by severely attenuating frequencies below the cut-off frequency selected.

H.F. 

250Hz - 35kHz,
The High Frequency filter attenuates frequencies above the selected cut-off value.
In other words, when both filters are set, it is the range between the two settings that is allowed to pass.

Threshold 

-50dBFs - infinate
Sets the level at which the gate opens.

Attack

10uS - 1 Second
This control determines how quickly the gate opens. The fastest Attack time ensures that the gate does not clip the leading edge of extremely fast transients.

Note: See section on using Attack under 'OPERATION'

Hold 

2mS - 2 Second
Determines the amount of time the gate is held open after the signal falls below the Threshold.

Decay 

2mS - 4 Second
Determines the rate at which the gate closes, once the signal has fallen below the Threshold and the Hold time has expired.

Range 

0dB - 90dB
Sets the amount of attenuation applied to the signal when the gate is closed. This enables the gate to remove unwanted signals entirely, or simply to attenuate signals which are too loud.

Note: This control is active on both channels, even in stereo linked operation

Ext/Int 

In the **Int** position, this switch causes the gate to respond to the dynamics of the signal being processed.
In the **Ext** position, an external audio signal fed to the key input is used to control the gate, making it possible to gate one sound using another, independent signal.

Gate/Duck 

Switches from normal Gating to Ducking, for applications such as voice-over or the removal of 'clicks' and 'pops'.

Note: See later sections on Ducking under 'OPERATION' and 'APPLICATIONS.'

Key Listen/ Gate/Bypass

When this switch is set to **Key Listen**, the effect of the key filters on the programme material is heard at the output. In normal operation, the **Gate** position is selected; the filters only affect the way the DS201 responds to the incoming programme material - they do not have any direct effect on the output signal. The **Bypass** position routes the input signal to the output with no processing.

Note: It is possible to leave the switch in the Key Listen position in order to use the DS201 simply as a filter rather than a gate.

Display

The famous Drawmer “traffic light” display shows gate status.



Gate Closed Hold Time Gate Open

Stereo Link

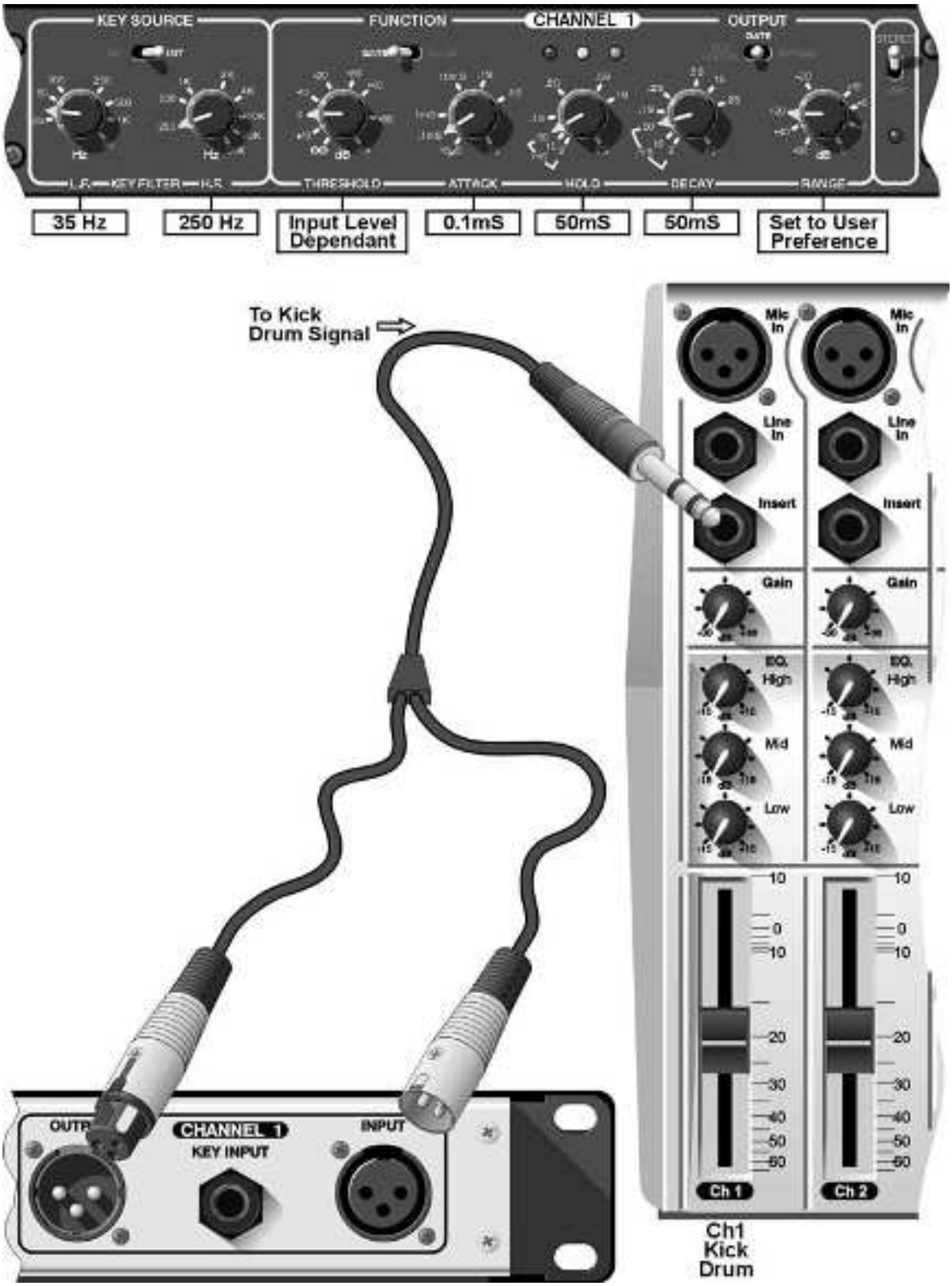
This switch links both channels for two tracking channel operation, with channel one being master. The trigger source selected for channel one will actuate both channels' envelopes when this mode is selected.

Note: See section on Linking under 'APPLICATIONS'.

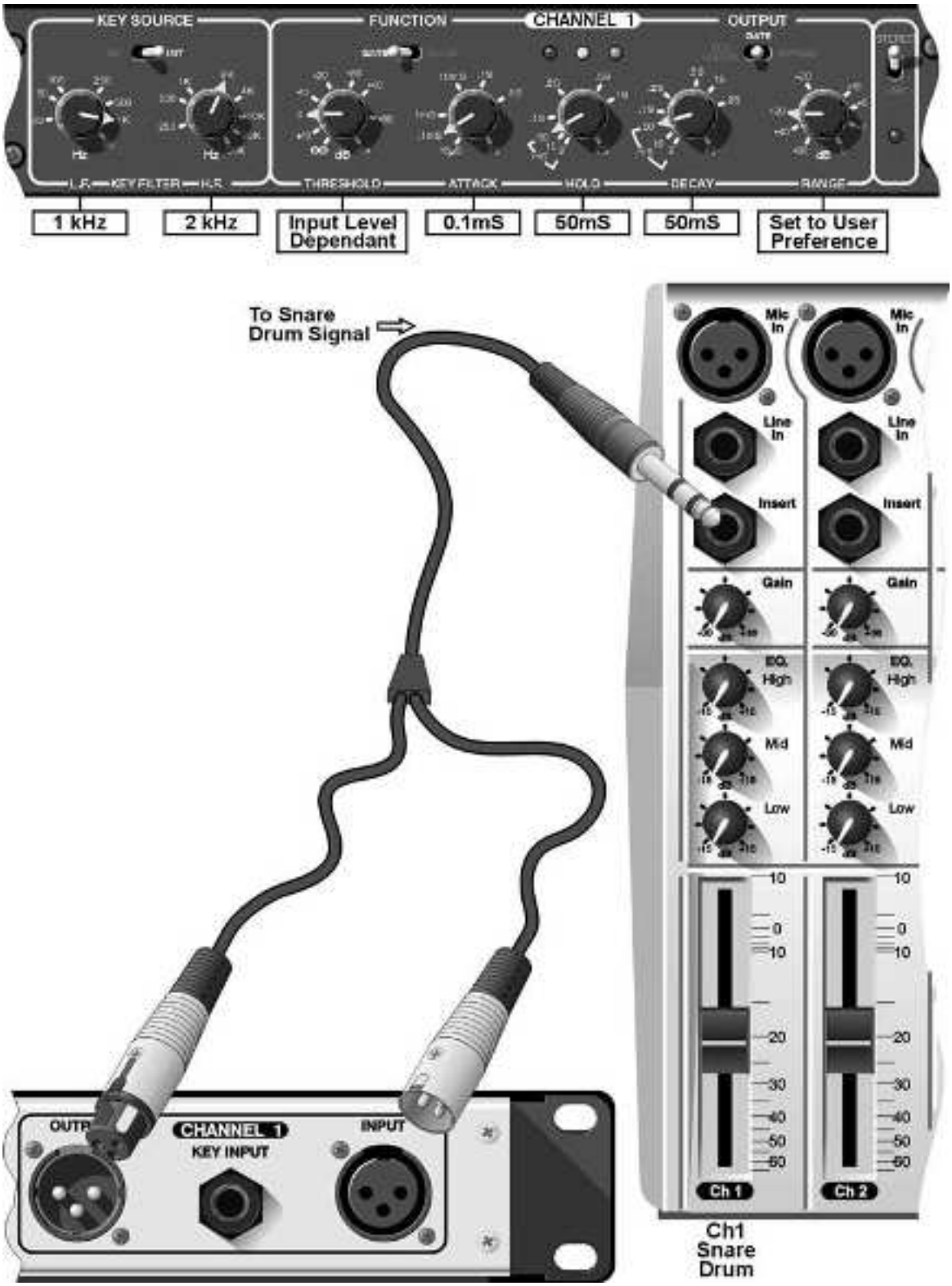
OPERATION

Use the following diagrams as a guide when operating the DS201.

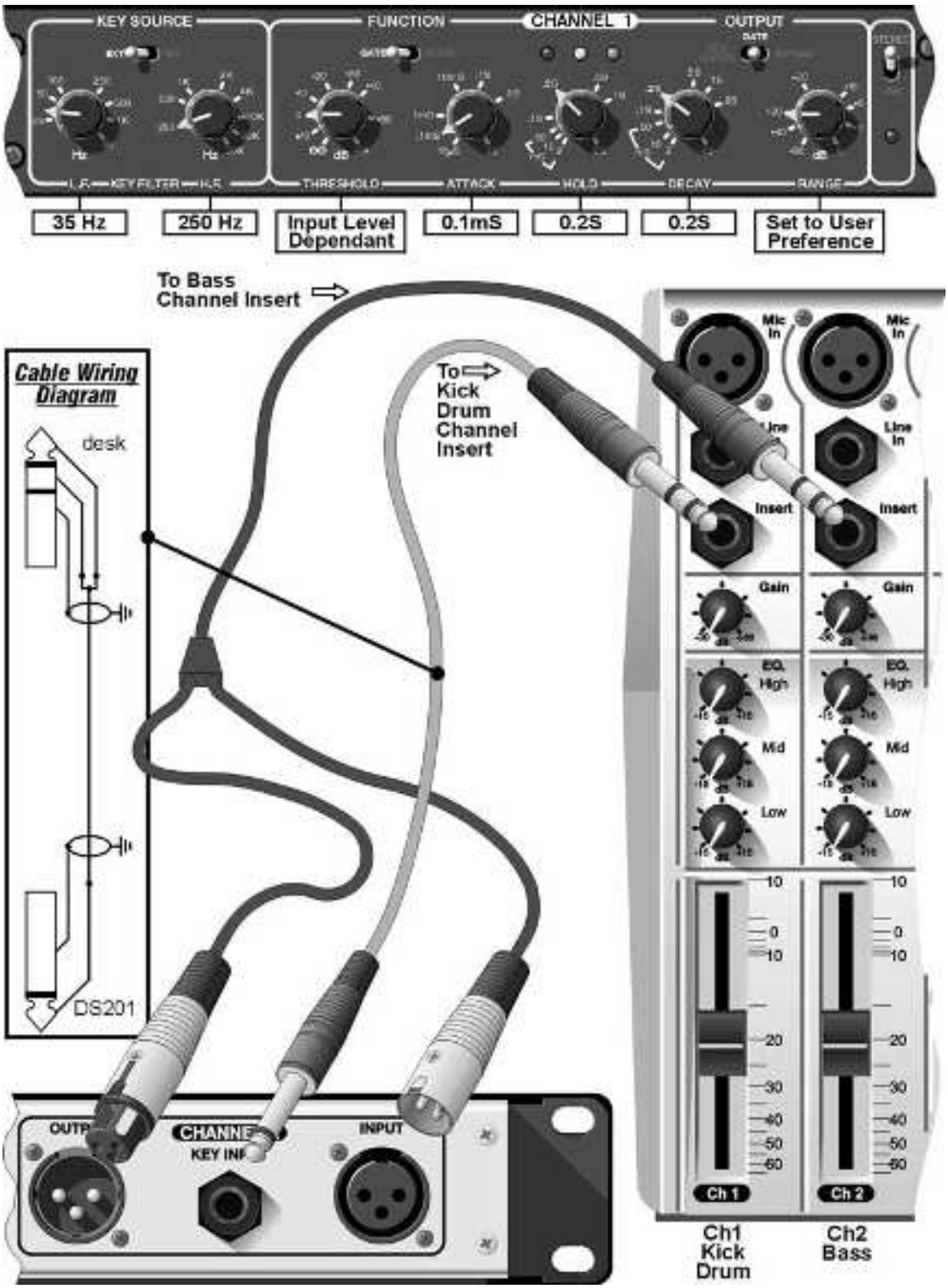
Gating a Kick Drum



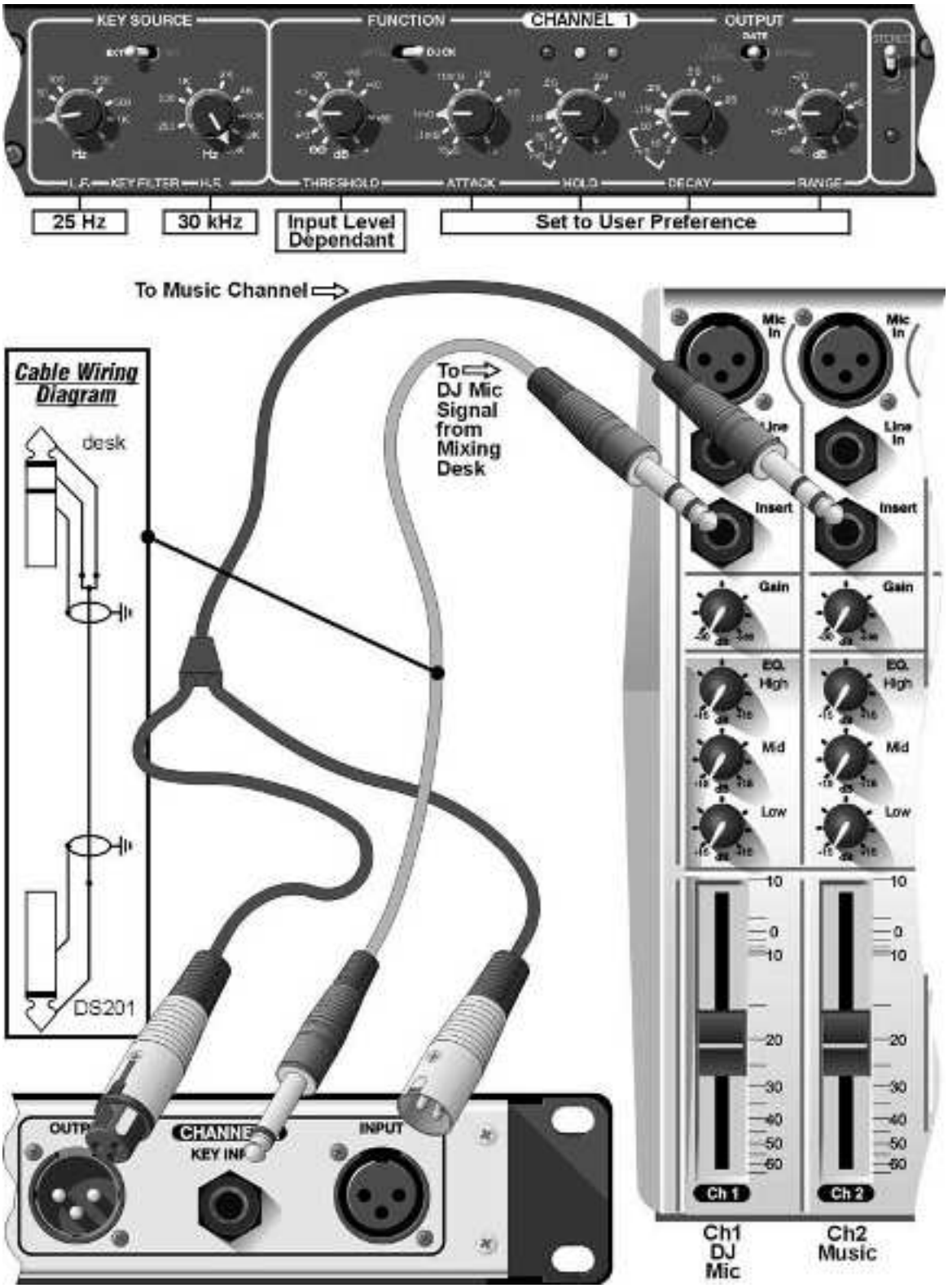
Gating a Snare Drum



Triggering a Bass Guitar from a Kick Drum



Ducking Music from Vox



IF A FAULT DEVELOPS

For warranty service please call Drawmer Electronics Ltd. Or their nearest authorised service facility, giving full details of the difficulty. On receipt of this information, service or shipping instructions will be forwarded to you. No equipment should be returned under the warranty without prior consent from Drawmer or their authorised representative.

For service claims under the warranty agreement a service Returns Authorisation (RA) number will be given. Write this RA number in large letters in a prominent position on the shipping box. Enclose your name, address, telephone number, copy of the original sales invoice and a detailed description of the problem.

Authorised returns should be prepaid and must be insured. All Drawmer products are packaged in specially designed containers for protection. If the unit is to be returned, the original container must be used. If this container is not available, then the equipment should be packaged in substantial shock-proof material, capable of withstanding the handling for the transit.

CONTACTING DRAWMER

Drawmer Electronics Ltd., will be pleased to answer all application questions to enhance your usage of this equipment. Please address correspondence to:

Drawmer (Technical Help line) : Coleman St.: Parkgate : Rotherham : S62 6EL : UK

or, E-mail us on : tech@drawmer.com

Drawmer dealers, Authorised service departments and other contact information can be obtained from our web pages on http://www.drawmer.com

TECHNICAL SPECIFICATIONS

INPUT IMPEDANCE 20KΩ

MAXIMUM INPUT LEVEL +17dB

OUTPUT IMPEDANCE 50Ω (bal) 100Ω (unbal)

MAXIMUM OUTPUT LEVEL +17dB

BANDWIDTH 23Hz to 31KHz -1dB

NOISE AT UNITY GAIN ref 0dB, GATE open

	Wideband	22Hz - 22KHz	CCIR ARM	IEC A	Q-Pk CCIR
AV	-90dB	-95dB	-95dB	-97dB	-84dB
RMS	-88dB	-93dB	-93dB	-95dB	

DISTORTION

	100Hz	1KHz	10KHz
0dB input	< 0.025%	< 0.025%	<0.025%

POWER REQUIREMENTS 93-125Volt or 185-250Volt at 50-60Hz, 9 Watts

FUSE RATING 32mA for 230Volt, 63mA for 115Volt

FUSE TYPE 20mm x 5mm, Class 3 Time delay, 250 Volt working. CONFORMING TO IEC127-2

CASE SIZE 482mm (w) x 44mm (h) x 200mm (d)

WEIGHT (incl packaging) 3.4 Kgs

202 Block Diagram

BLOCK DIAGRAM

