

DRAWMER



1971

DUAL PARAMETRIC EQUALISER

OPERATOR'S MANUAL

CONTENTS

Warranty	3
Safety Consideration	3
<i>Chapter 1 - Introduction</i>	
Introduction	4
Installation	6
Power Connection	6
Audio Connections	7
<i>Chapter 2 - Control Description</i>	
Control Description	8
Tips	10
<i>Chapter 3 - General Information</i>	
If a fault develops	12
Contacting Drawmer	12
Specification	12
Block Diagram	13
Session Recall	14



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ONE YEAR LIMITED WARRANTY

Drawmer Electronics Ltd., warrants the Drawmer 1971 Dual Parametric Equaliser to conform substantially to the specifications of this manual for a period of one year from the original date of purchase when used in accordance with the specifications detailed in this manual. In the case of a valid warranty claim, your sole and exclusive remedy and Drawmer’s entire liability under any theory of liability will be to, at Drawmer’s discretion, repair or replace the product without charge, or, if not possible, to refund the purchase price to you. This warranty is not transferable. It applies only to the original purchaser of the product.

For warranty service please call your local Drawmer dealer. Alternatively call Drawmer Electronics Ltd. at +44 (0)1709 527574. Then ship the defective product, with transportation and insurance charges pre-paid, to Drawmer Electronics Ltd., Coleman Street, Parkgate, Rotherham, S62 6EL UK. Write the 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. Drawmer will not accept responsibility for loss or damage during transit.

This warranty is void if the product has been damaged by misuse, modification or unauthorised repair.

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In the interests of product development, Drawmer reserve the right to modify or improve specifications of this product at any time, without prior notice.

DRAWMER

1971

Dual Parametric Equaliser

SAFETY CONSIDERATIONS

CAUTION - MAINS FUSE

TO REDUCE THE RISK OF FIRE
 REPLACE THE MAINS FUSE ONLY WITH
 A FUSE THAT **CONFORMS TO IEC127-2.**
 250 VOLT WORKING, TIME DELAY TYPE
 AND BODY SIZE OF 20mm x 5mm.
 THE MAINS INPUT FUSE MUST BE
 RATED AT 230V=T250mA and 115V=T500mA.

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.



CAUTION
 RISK OF ELECTRIC SHOCK
 DO NOT OPEN



DRAWMER 1971 DUAL PARAMETRIC EQUALISER



INTRODUCTION

The 1971 offers 2 channels of fully featured 4-band parametric EQ. It has the ability to perform subtle shaping for mastering purposes that require a delicate touch and easy recall, but is just as capable of tonal sculpting, adding the analogue warmth and character that is near impossible to emulate in the digital domain.

The versatile design features dual channel precision stepped potentiometers, providing exceptional accuracy for fast and simple recall. All four bands have fully variable frequency controls and each offer a cut and boost function. Additionally, the two mid bands have completely variable filter bandwidth controls, enabling the user to focus on very narrow sections of the audio spectrum, or apply a broad natural sounding filter, and anything in between. Fully adjustable low and high cut filters are also included, ideal for tuning out undesirable signals at the frequency extremes. It also features switchable slopes on the low and high bands, allowing you to alter the focus at the top and bottom frequencies plus a low peak setting that magnifies the bottom end. The 1971 is perfect for tonal shaping, staying true to the sound of the 70s and ideal for any recording engineer or musician.

Fully Parametric with Totally Variable Bandwidth.

The 1971 is a true 'parametric' equaliser, with the four bands having fully variable frequency controls and offer cut and boost of +/-12dB's. However, unlike EQ's with a no bandwidth adjustment, or a simple switch, the two mid bands have completely variable filter bandwidth controls enabling the user to focus in on very narrow sections of the audio spectrum or apply a broad natural sounding filter, or, of course, anything in between the two. This makes the 1971 incredibly versatile and capable of modifying everything from subtly fine tuning mixes to tone sculpting problematic recordings.

Variable Low and High Cut Filters.

The 1971 includes fully variable low and high cut filters (10Hz-225Hz and 4kHz-32kHz respectively), ideal for tuning out undesirable signals. The beauty of being fully variable is that, unlike fixed frequency filters, it is easy to sweep both controls to find the perfect setting and remove sounds with pinpoint accuracy. This is especially useful when bracketing individual tracks and remove sounds with pinpoint accuracy. This is especially useful when bracketing individual tracks where it will be necessary to cut the bass to remove rumble and top to remove hiss, as these undesirable signals will add up as the tracks are layered.



Switchable Slope Setting.

Very few analogue parametric equalisers have an adjustable slope on the low and high band filters, and is yet another feature of the 1971 that allows you to take control of your audio. The filter slopes of the 1971 have been chosen for their musicality - allowing you to adjust the focus of the audio at the bottom and top ends of your recording but not so harsh as to be a very noticeable brick wall filter. At the bottom end filter slopes of 6, 9 and 12dB per octave plus a Peak setting are available, and at the high end 6 and 12dB's per octave.

The Peak setting adds a narrow bell shape to the 12dB per octave low band filter at the knee frequency just before it rolls off. Especially useful on kick drums, it magnifies and gives extra weight to the hit whilst still filtering out any subsonic junk and without muddying the lower mid. It'll give your kick an added sense of power and precision.

Crush.

A feature that is unique to the 1971 is the CRUSH button. A switchable option available on each band, it adds a fixed time constant, auto gain makeup compressor, whilst also giving a wider rounder bandwidth. In addition it introduces some musically pleasing harmonics.

The effectiveness of the Crush button will vary depending on the frequency band that it is used in and also on the instrument that it is applied to. Use it in the lower frequencies to fatten up the kick, tom or snare drums, bass guitar and other elements of the rhythm section. In the mid frequencies it will help to warm the mix and enhance the presence. It will thicken the guitars and add punch to the percussion, increase the attack of a piano, as well as help to bring out the raspiness in a vocal, for example. At the high frequencies it will bring out the shimmer of cymbals and brighten the string instruments.

The effect is progressive, so as more boost is added to the band the CRUSH effect is more apparent. If you wish to apply much more boost to a band in order to obtain more 'crush' be sure to keep an eye on the EQ O/L Led to ensure that the band level doesn't reach the rails. Use the switch to listen to A/B comparisons to hear the effectiveness of the feature.



The key features are as follows:

- Vintage-style dual four band Parametric Equalisation which takes its inspiration from 1970's-era analogue gear.
- Delivers classic sonic clarity and control at an affordable price.
- Indented and accurate potentiometers, providing precision for quick and simple recall.
- Variable low and high cut filters allow you to perfectly tune out any undesirable signals.
- Fully variable bandwidth provides absolute control for the parametric mid bands.
- Switchable slope plus low peak settings allows you to adjust the focus and magnify the bottom end.
- Switchable Crush on each band provides Fattness, Presence and Shimmer.
- True hardware bypass for each band and also the unit provides accurate A/B comparisons.
- Internal Low Hum Toroidal Linear Power Supply with Voltage Selector Switch.
- Classic Drawmer Build Quality with Rugged Steel Chassis and Aluminium Front Panel.
- Designed and manufactured by Drawmer in the UK.

INSTALLATION

The 1971 is designed for standard 19" rack mounting and occupies 2U of rack space. 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 appliance should not be operated near any water or in a location where moisture might be present.
- Always connect the mains earth to the unit.

If the 1971 is to be continuously moved from one location to another, we suggest using additional support in the rack at the rear of the unit.

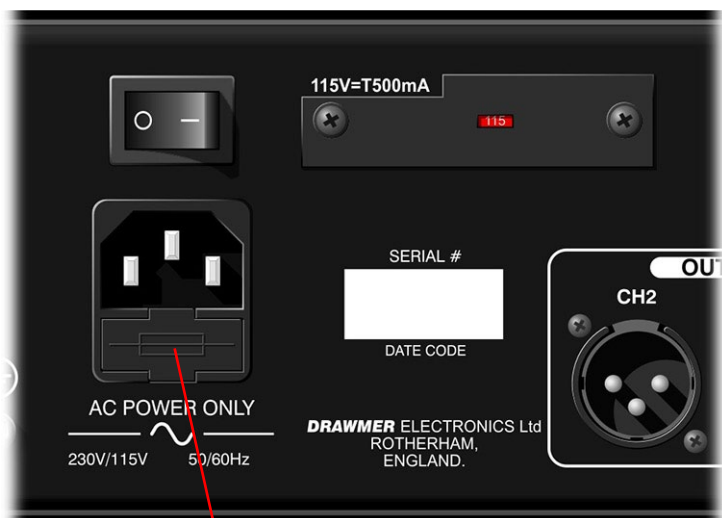
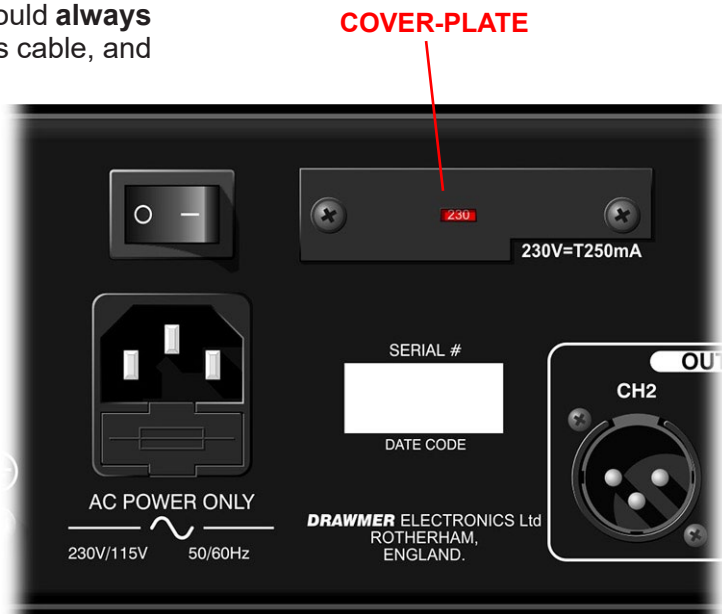
POWER CONNECTION

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 screws holding the voltage selection cover-plate.
- 3: Remove the cover plate and slide the switch fully to its opposite end.
- 4: Rotate the cover plate one half turn (180 degrees) and refit the two screws.
- 5: Replace with a correctly rated fuse for the selected operation voltage in the IEC socket:
230V-T250mA and 115V-T500mA
- 6: Re-connect to mains power source.

**Never disconnect the earth
from the mains supply**



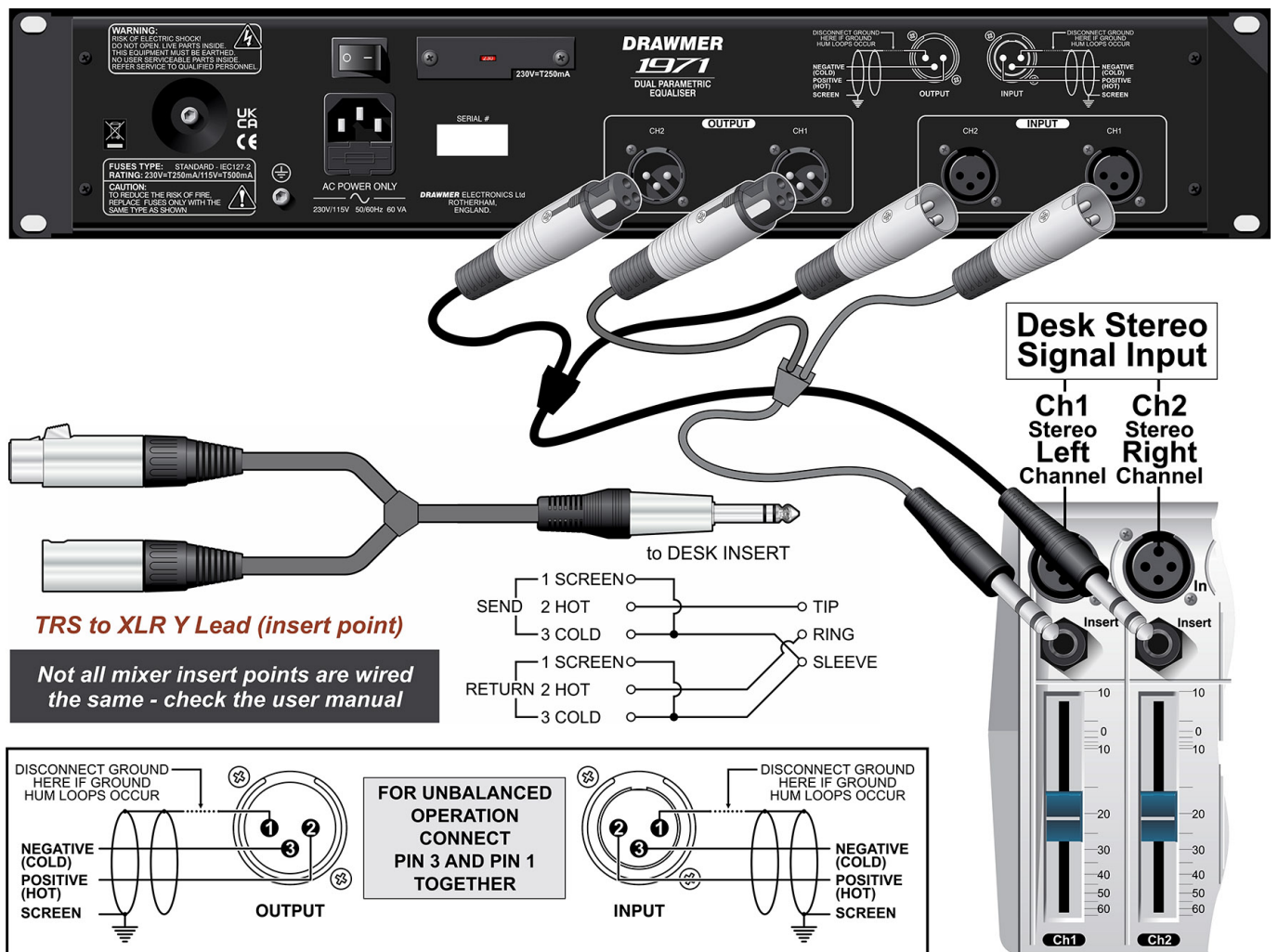
IEC SOCKET FUSE DRAWER

AUDIO CONNECTIONS

A typical setup for connecting the 1971 would be by the use of a Y-lead between the two input and output xlr's on the rear of the 1971 and insert point for the respective channel of the desk or interface for the digital workstation - this would be repeated for both channels. The wiring of the Y-lead can be seen below.

The inputs and outputs are electronically balanced on conventionally wired XLRs (pin 1 screen, pin 2 hot, pin 3 cold and XLR shell is connected to chassis). The operating level is nominally +4dBu. Balanced use is recommended.

For connecting the 1971 to a mixing desk use the insert points as shown in the following diagram: Alternatively, if you are using a digital workstation and have an audio interface that does not have insert points, connect it to the analogue send (out) and return (in) of the relevant channels via four XLR to XLR/jack cables. See your interface and software user manuals for the best procedure.



- **Ground Loops:**

If ground loop problems are encountered, never disconnect the mains earth, but instead, try disconnecting the signal screen on one end of each of the cables connecting the outputs of the 1971 to the patchbay. If such measures are necessary, balanced operation is recommended.

- **Interference:**

If the 1971 is to be used where it maybe exposed to high levels of disturbance such as found close to a TV or radio transmitter, we advise that it is operated in a balanced configuration. The screens of the signal cables should be connected to the chassis connection on the XLR connector as opposed to connecting to pin1.

The 1971 conforms to the EMC standards.

CONTROL DESCRIPTION



1 INPUT



INPUT GAIN: **-15dB - +15dB**

Typically, the Input Gain control is used to match the output of the preceding device to the input needs of the four e.q. bands that the signal will pass through. Use the VU meter above as a guide.

If the input is too low the signal of every e.q. band will need to be boosted just to reach the optimum output level. If the input is too high every band will have less headroom to boost the signal before clipping occurs.



2 LOW CUT



FREQUENCY: **10Hz - 240Hz**

This continually variable control attenuates the signal below the frequency set. Use it to remove extraneous content at the lower end of the audio range such as mechanical rumble or to tighten the mix.

IN: **OFF - ON**

This Bypass switch, when pushed in will illuminate the LED, indicating that the Low Cut Filter is in circuit.



3 LOW



FREQUENCY: **35Hz - 700Hz**

This continually variable control sets the centre frequency where the signal is boost/cut. As it's completely variable it allows you to sweep the signal to pin point problematic frequencies providing greater flexibility and accuracy than lesser equalisers.

SLOPE: **6dB / 9dB / 12dB / PEAK**

Sets by how much or 'fast' the signal is attenuated in dB's per octave at the Low frequencies. For example, a 6dB per octave Low slope located at 100Hz would accomplish 6dB of attenuation at 50Hz, and 12dB at 25Hz and so on until the signal is fully attenuated. 6dB per octave is more gentle and therefore more musical than 12dB, however, at 12dB per octave the signal is 'focused' but attenuation more noticeable. The Peak setting adds a narrow bell shaped boost to the 12dB per octave low band filter at the knee frequency just before it rolls off. Especially useful on kick drums, it magnifies and gives extra weight to the hit whilst still filtering out any subsonic junk.



CUT/BOOST: **-12dB - +12dB**

The amount of gain (boost) or reduction (cut) that is applied at the frequencies set within the band. The control is non-linear and so is capable of subtle adjustments for mastering or larger variations for tone shaping.



CRUSH: **OFF - ON**

Available on each band, it adds a fixed time constant compressor, with auto gain makeup, provides a wider rounder bandwidth, along with some musically pleasing harmonics. The effect is progressive, so as more boost is added to the band the CRUSH effect is more apparent. It will thicken the audio and add Fatness, Presence or Shimmer depending on the frequency band that it's used in.



IN: **OFF - ON**

This Bypass switch, when pushed in will illuminate the LED, indicating that the Low Band EQ is in circuit.

4

LOW-MID



FREQUENCY: 60Hz - 2.1kHz
See 3



BANDWIDTH: 0.33 - 3.3 Octaves
Bandwidth is defined as the range of frequencies (width) centred around that set by the frequency knob allowing you to attenuate or boost a very narrow or wide range of frequencies within each EQ band.



On the 1971 the width of the effected signal is measured as Bandwidth (as opposed to 'Q', which it is inversely related to) and on the Low-Mid and High-Mid bands are fully parametric (as opposed to semi, quasi or fixed that you may find on other eq's) meaning that the bandwidths are fully adjustable across their entire range providing greater control.



CUT/BOOST: -12dB - +12dB
See 3



CRUSH: OFF - ON
See 3

IN: OFF - ON
See 3



5

HIGH-MID



FREQUENCY: 450Hz - 13.7kHz
See 3



BANDWIDTH: 0.33 - 3.3 Octaves
See 4



CUT/BOOST: -12dB - +12dB
See 3



CRUSH: OFF - ON
See 3



IN: OFF - ON
See 3



6

HIGH



FREQUENCY: 1.2kHz - 20kHz
See 3



SLOPE: 6dB / 12dB
Sets by how much or 'fast' the signal is attenuated in dB's per octave at the High frequencies. 6dB per octave is more gentle and therefore more musical than 12dB, however, at 12dB per octave the signal is 'focused' but attenuation more noticeable.



CUT/BOOST: -12dB - +12dB
See 3



CRUSH: OFF - ON
See 3



IN: OFF - ON
See 3



7 HIGH CUT



FREQUENCY: *4kHz - 31kHz*

This continually variable control attenuates the signal above the frequency set. Use it to remove extraneous content at the higher end of the audio range such as hiss, taming an overly bright instrument or separating bleed when recording drums.



IN: *OFF - ON*

This Bypass switch, when pushed in will illuminate the LED, indicating that the High Cut Filter is in circuit.



E.Q. O/L LED: *OFF - ON*

Will illuminate when the signal across all for bands is just 6dB below the maximum output. If this occurs either lower the boost across each of the four bands or, more simply, lower the Input gain control to suit.



8 OUTPUT



OUTPUT GAIN: *-15dB - +15dB*

Adjust the control to the required output level using the meter above as a guide.



BYPASS *OFF - ON*

A hard-wire bypass will bypass the 1971 when active.



POWER LED *OFF - ON*

Will illuminate when the unit has power and is switched on via the switch on the rear.



1971 PARAMETRIC EQUALISER TIPS

The following are a few handy tips to help get the most out of the 1971:

Narrow Cut / Wide Boost

The classic method for equalisation is to use a narrow bandwidth when removing/cutting problematic sounds and a broad bandwidth is used when tonal shaping.

A narrow bandwidth is used to remove unwanted frequency noise (see 'Sweep it Up' below), in addition, when the 1971 is being used in boost mode, it can also be used to emphasize specific instruments with a narrow frequency range such as the hit of bass drums or hi-hats, for example, but care must be taken not to use so much Boost so as to create an unnatural honky or peaky sound - unless this is the intention!

Medium to wide bandwidth settings, combined with modest degrees of Boost and Cut, produce the most musical results and are best used for tonally shaping the sound. Be careful not to suck out too much of the signal and make it sound hollow. Note that if large amounts of Boost are applied using one or more equaliser sections, there is a possibility that the signal will be amplified to a point where there is a danger of clipping. If this occurs, monitor the output O/L led and adjust the Input gain accordingly.

Sweep it Up

If you are finding it difficult to identify which are problematic frequencies in your recordings the sweeping technique can help to locate them. Setting up is best approached, initially, by switching in one EQ band at a time.

1. Start by reducing the bandwidth of one of the bands, creating a narrow peak.
2. Add a high amount of boost to this band.
3. Using the frequency control slowly sweep through the frequencies within that band listening for a sudden increase in volume - this is the problem frequency.
4. Reset the gain and bandwidth and cut (attenuate) the frequency to taste.

You may find it useful to do this technique for all four bands on any given recording.

Cut it Out

A great way to improve your audio so that instruments sit better in the mix is by removing any unnecessary frequencies using the Low Cut and High Cut filters. The 1971 is the perfect tool for this because it has fully variable low and high cut filters and also variable slope, allowing you to tune in to precise frequencies. The low end of your mix will be dominated by instruments such as the kick drum and bass guitar so any other noise at around 100Hz and below only go towards muddying the mix and add unnecessary level, giving you less headroom. To remove any rumble and unwanted low end artefacts on any given track sweep the low cut filter until you notice the sound getting thinner and then back it off a little, you can then set the slope to taste. The same technique can be used for the High Cut, if you back off the filter when the sound becomes bassier it will allow any other instrument with high frequency content to cut through the mix better. The idea is to remove extraneous sound from a track whilst retaining the fundamentals.

Slope

The slope switch settings of 6, 9 & 12dB's per octave of the 1971 have been chosen to retain a transparent, musical quality to the audio whilst still attenuating the signal, rather than a steeper, brick wall filter which would be very noticeable. Set your low and high band filters to the desired frequency and then switch through the slope settings to see which works best for that particular instrument/track.

The Peak setting, a unique feature to Drawmer products, is especially useful on kick drums. It works by adding a narrow bell shaped boost to the 12dB per octave low band filter at the knee frequency just before it rolls off. It'll magnify and give extra weight to the hit of the kick drum whilst still filtering out any subsonic junk and without muddying the lower mid, giving your kick an added sense of power and precision.

EQ in the Mix

It's OK to EQ in solo when you are trying to find problematic frequencies when setting up a track, if you are using the low and high cut filters to remove unwanted rumble and hiss for example, however, in general, its better to EQ individual tracks within the contents of the mix. No one else will ever listen to the tracks of your mix in isolation so why eq them in solo. When you EQ within the mix it helps you to make informed decisions about where the mix needs to be improved, how all the instruments find space, whether there is muddiness etc. that will not be heard with individual tracks.

If you struggle to hear the subtle changes on a track when you EQ within the mix, rather than soloing raise the level of the entire track a little so that it stands out. Make the alterations and then return it to the original level.

Deep Space

The 1971 is great for achieving space and depth within a mix. By boosting the mid and high frequencies you bring them forward in the mix and accentuate the stereo width that may be present. Cutting the same frequencies will make them seem more distant and further back in the mix. The effect on the low frequencies is different however, boosting these will give warmth and fullness to the mix, whilst cutting them will make the audio sound thinner and less powerful.

Crush

A feature that is unique to the 1971 is the CRUSH button. A switchable option available on each band, it adds a fixed time constant, auto gain makeup compressor, whilst also giving a wider rounder bandwidth. In addition it introduces some musically pleasing harmonics.

The effectiveness of the Crush button will vary depending on the frequency band that it is used in and also on the instrument that it is applied to. Use it in the lower frequencies to fatten up the kick, tom or snare drums, bass guitar and other elements of the rhythm section. In the mid frequencies it will help to warm the mix and enhance the presence. It will thicken the guitars and add punch to the percussion, increase the attack of a piano, as well as help to bring out the raspiness in a vocal, for example. At the high frequencies it will bring out the shimmer of cymbals and brighten the string instruments.

The effect is progressive, so as more boost is added to the band the CRUSH effect is more apparent. If you wish to apply much more boost to a band in order to obtain more 'crush' be sure to keep an eye on the EQ O/L Led to ensure that the band level doesn't reach the rails. Use the switch to listen to A/B comparisons to hear the effectiveness of the feature.

Useful Frequencies

Mains hum in the UK and Europe has a fundamental frequency at 50Hz and harmonics at 50Hz intervals stretching up throughout the audio spectrum. By filtering at 50Hz and 100Hz using the narrowest bandwidth setting, it is often possible to significantly reduce the perceived level of hum without unduly affecting the wanted signal. On signals containing no very low frequencies, the Low Cut filter may also be used. Its frequency should be set by experimentation so that it is tuned as high as possible without affecting the bass end of the wanted signal.

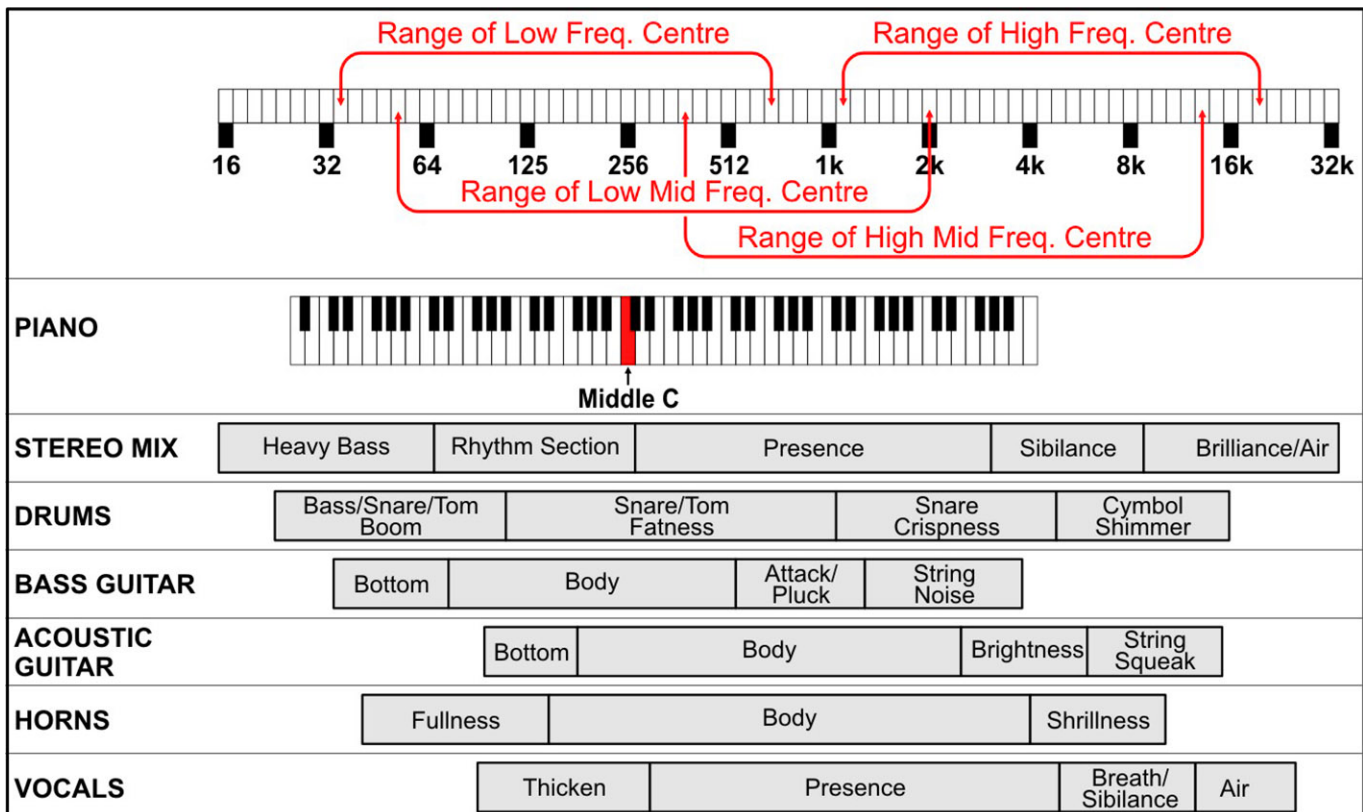
Kick Drums: Cut any frequencies below 20-30Hz as these will be almost inaudible to most listeners. Rock kick drums often benefit from a slight boost at 80Hz which produces a tight, punchy sound - add the Peak slope for added power. However, a deeper sound, more suited to dance music production, can be achieved by boosting the bass at 32Hz or 50Hz using a medium bandwidth setting and simultaneously applying cut at 160Hz to prevent the mid-range from becoming too boxy (or honky). By applying a High Cut filter around 10 kHz – 12 kHz, you can get rid of more noise and cymbal bleed that don't belong on a kick drum track.

Electric guitars often need a little EQ to add bite or presence. The High Mid equaliser is ideally suited to this purpose and, depending on the guitar sound sought, the 1.2kHz, 2kHz or 3kHz setting might be most suitable. The degree of boost should be set by ear and the starting bandwidth setting should be 1 Octave, though this may also be fine-tuned. Equalisation at the low end of the spectrum (80 - 125Hz) may also be beneficial in controlling the amount of cabinet resonance added to the sound. Low Cut anything below 80Hz and High Cut above 10kHz will be useful in removing hum and noise from the sound.

Acoustic guitars can sound boxy if miked from too close and a little cut at 100Hz or 160Hz can help to even things out. If the sound is too 'flat', try adding a little boost between 5kHz and 8kHz, and to thin out the sound to make it sit nicely in a busy track, try using the Low Cut filter to shave a bit off the bottom end.

Vocals: different vocalists require different treatment, but it is worth keeping in mind that the human voice is a familiar sound to all of us, and we soon notice if it has been over-treated. In general, use a Low Cut at around 100Hz and High Cut at around 10kHz, both with 12dB/Octave slopes, and sweep to find the perfect settings to remove any unwanted noise and use wide bandwidth settings with gentle amounts of boost to polish the sound.

The following diagram provides a general idea of some useful frequencies that will aid in setting the eq. They are by no means definitive and should be used as a guide only:



GENERAL INFORMATION

IF A FAULT DEVELOPS

For warranty service please call Drawmer Electronics Ltd. or their nearest authorised service facility, giving full details of the difficulty.

A list of all main dealers can be found on the Drawmer webpages.

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 issued.

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 Street
Parkgate
Rotherham
S62 6EL
UK

Alternatively contact us by E-mail on :

tech@drawmer.com

Further information on all Drawmer dealers, Authorised service departments and other contact information can be obtained from our web pages on:

<http://www.drawmer.com>

1971 DUAL PARAMETRIC EQUALISER DATA SPECIFICATION

INPUT

Input Impedance 20k Ohms or greater
Maximum Input Level +21dBu

OUTPUT

Output Impedance <100 Ohms
Maximum Output Level +21dBu into 10k Ohms Load

FREQUENCY RESPONSE

20Hz to 20kHz +/-0.5dB

CROSSTALK

< -90dB @ 1kHz

% DISTORTION (THD & NOISE) @ 1kHz
0dB 0.003%

POWER REQUIREMENTS

230Volt or 115V at 50-60Hz, 15VA

FUSE RATING

T250mA for 230Volt,
T500mA for 115Volt
Conforming to IEC 127-2

FUSE TYPE

20mm x 5mm, Class 3 Timed-Blo, 250Volt working

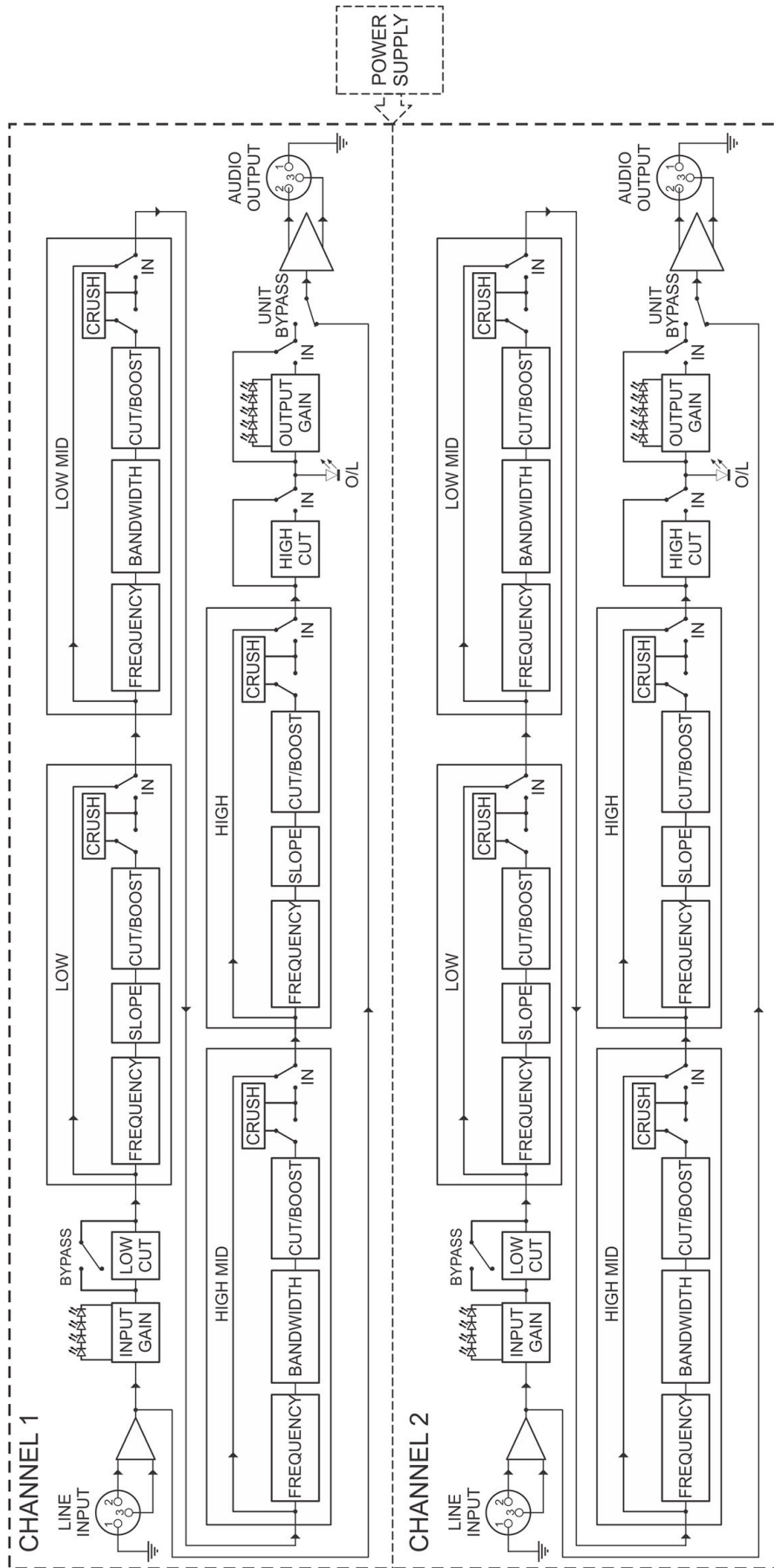
CASE SIZE

482mm (W) x 88mm (H) x 270mm (D)

WEIGHT

24.2Kgs

BLOCK DIAGRAM



CH 1

INPUT -10 0 +10 **CLIP**

7.5 12 14 15 dB +

3 0 3

LOW CUT 60 80 100 Hz

10 12 18 35

150 200 220

LOW 125 170 240 Hz

350 500 800 1200

10 11 12 15 dB +

CRUSH 2 0 2

LOW MID 1.5 2 2.4 Octave

60 Hz 2.1k 2.0k 75 120 250 370 500 650

1k 1.5 2.8 5 10 11 12

CUT/ BOOST 2 0 2

HIGH MID 2.6k 3.9k 4.5k Hz

1.7k 3.0k 4.5k 520 830 17k 18.2k

1.5 2 2.4 Octave

CUT/ BOOST 2 0 2

HIGH 4 5 7 10 12 15 20 kHz

1.2 2.5 4 5 7 10 11 12

CUT/ BOOST 2 0 2

FREQUENCY-SLOPE 12dB 6dB 10/Octave

HIGH CUT 8.7 11.5 14 kHz

4 4.1 6.6 11.5 14

E.Q. OIL IN O

OUTPUT -10 0 +5 +10

7.5 12 14 15 dB +

3 0 3

CH 2

INPUT -10 0 +10 **CLIP**

7.5 12 14 15 dB +

3 0 3

LOW CUT 60 80 100 Hz

10 12 18 35

150 200 220

LOW 125 170 240 Hz

350 500 800 1200

10 11 12 15 dB +

CRUSH 2 0 2

LOW MID 1.5 2 2.4 Octave

60 Hz 2.1k 2.0k 75 120 250 370 500 650

1k 1.5 2.8 5 10 11 12

CUT/ BOOST 2 0 2

HIGH MID 2.6k 3.9k 4.5k Hz

1.7k 3.0k 4.5k 520 830 17k 18.2k

1.5 2 2.4 Octave

CUT/ BOOST 2 0 2

HIGH 4 5 7 10 12 15 20 kHz

1.2 2.5 4 5 7 10 11 12

CUT/ BOOST 2 0 2

FREQUENCY-SLOPE 12dB 6dB 10/Octave

HIGH CUT 8.7 11.5 14 kHz

4 4.1 6.6 11.5 14

E.Q. OIL IN O

OUTPUT -10 0 +5 +10

7.5 12 14 15 dB +

3 0 3

DRAWMER ¹⁹⁷¹ Session Recall

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