DRAWMER 1979

Channel Strip

OPERATOR'S MANUAL

CONTENTS

ONE YEAR LIMITED WARRANTY

Drawmer Electronics Ltd., warrants the Drawmer 1979 Channel Strip 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 prepaid, 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.

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES, WHETHER ORAL OR WRITTEN, EXPRESSED, IMPLIED OR STATUTORY. DRAWMER MAKES NO OTHER WARRANTY EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE REPAIR OR REPLACEMENT AS SPECIFIED HEREIN.

IN NO EVENT WILL DRAWMER ELECTRONICS LTD. BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PRODUCT, INCLUDING LOST PROFITS, DAMAGE TO PROPERTY, AND, TO THE EXTENT PERMITTED BY LAW, DAMAGE FOR PERSONAL INJURY, EVEN IF DRAWMER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states and specific countries do not allow the exclusion of implied warranties or limitations on how long an implied warranty may last, so the above limitations may not apply to you. This warranty gives you specific legal rights. You may have additional rights that vary from state to state, and country to country.

DRAWMER

1979
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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=T160mA and 115V=T315mA.

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.

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

1979

CHANNEL STRIP

INTRODUCTION

For classic Drawmer utility and analogue musicality in your recordings, the 1979 Channel Strip is the perfect choice. The 1979 provides the clarity of an ultra clean preamplifier, an auto low level makeup gain module in the LIFT feature, the precision of a three band parametric equaliser, and the silkiness of a soft knee compressor - all in just 1U of rack space.

The pristine preamplifier offers mic, line, and instrument DI with 66dB of stepped gain, enabling you to create ultra clean, transparent, and precise recordings as well as enhance dull audio or perfect your guitar sound. Additionally, the preamplifier features mic matching via switched impedance, allowing you to bring out the best in every mic in your studio - whether it's high-end, ribbon, or even your dullest mic, you'll be able to find its sweet spot.

LIFT is a dynamic gain module that boosts signals below 0dB while leaving signals above untouched, effectively reducing the dynamic range in the low levels. By adjusting the gain value based on the signal's dB, LIFT provides a natural and sonically pleasing volume control, making it a 'set and forget' solution. Whether you are recording vocals, finger picked acoustic guitar, piano or any other very dynamic source the Lift feature is wonderful at bringing up the details in the quieter moments.

The 1979 features a true 'parametric' equaliser with three bands of fully variable frequency control and cut/boost of +/-12dB, along with a switchable bandwidth control for the mid band, making it incredibly versatile and capable of modifying everything from subtle fine tuning to tone sculpting problematic recordings.

The full-featured compressor allows for precise control of dynamics, suitable for anything from subtle vocal compression to intense drum processing.

The output section includes a wet/dry mix for parallel processing that allows you to easily dial in how much EQ and compression is used via a single knob, plus an output gain control to act as a makeup gain for the compressor, or to match high end audio interface audio input levels, measured by the backlit VU meter for accurate monitoring. And finally, a switch that bypasses the EQ, and compressor completely to provide an ultra clean microphone output.

Overall, these features provide a modern interpretation of vintage gear, offering extensive control over the clarity, tone, and levels of recordings, ensuring perfect audio capture every time.

Features:

- A THAT Corporation ultra clean mic preamplifier with 66dB of gain with phantom power
- Switchable mic impedance for accurate mic matching.
- Separate Line & Mic input XLR's and instrument DI input. Plus XLRs for the dedicated ultra clean direct pre-amp output and also for the overall output.
- FETs can be bypassed to provide ultra clean outputs.
- Lift feature for boosting very low signals without impacting on those above 0dB.
- A low cut filter control removes any rumble and allows you to tighten up the bottom end
- Phase reverse.
- Vintage-style three band parametric EQ which takes its inspiration from 1970's-era analogue gear, with variable frequency, +/-12dB cut and boost and variable bandwidth.
- Compressor includes standard control and is intuitive to use.
- Rear panel Side-chain insert point provides even further control.
- The order of the EQ and Compressor can be swapped and also each can bypassed to allow for comparisons.
- Variable Wet/Dry Mix plus Output Gain knobs give a 'Parallel EQ and Compression' function without the need for external mixing devices, providing complete and effortless control over the amount of equalisation and compression used and output levels.
- A backlit Analogue VU Meter with Switchable +10dB Re-scale Mode.
- Time delay relays on the output for clean power up/down.
- 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 handmade by Drawmer in the UK.

INSTALLATION

The 1979 is designed for standard 19" rack mounting and occupies 1U of rack space. Avoid mounting the unit directly above power amplifiers or power supplies that radiate significant amounts of heat and always connect the mains earth to the unit. Fibre or plastic washers may be used to prevent the front panel becoming marked by the mounting bolts. It is also advisable to leave space above the unit to allow the heat to dissipate.

POWER CONNECTION

The 1979 unit will be 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 to connect to the mains supply earth. The cable must not be tampered with or modified.

The power supply socket has an integral fuse drawer containing the power fuse of the same value, to suit the mains voltage for which the unit has been supplied. Removal of the drawer is only possible with the power cord removed. The fuse should never blow under normal operation. If the fuse is suspected of having blown, then a fault will have occurred and this fault condition should be inspected by a qualified service engineer. When replacing the fuse, always comply with the Safety Instructions.

If the unit is to be used with a mains input operating voltage different to that for which the unit is supplied, the following procedure must be carried out by a technically competent person, *(see following diagrams)*

1: Disconnect the unit from the mains.

2: Using a number 1 size pozidrive screwdriver, remove the seven self -tapping screws that retain the top cover. Two screws are found along each side; two along the top edge at the rear; and the upper central screw on the front facia panel.

3: Slide the voltage change-over switch **(S11)** until the correct (or nearest) mains input voltage is visible on the switch actuator.
(see fig.1)

fig.1 **The Voltage Selector Switch**

For conversion to 115Volt AC (previously set to 230Volt AC).....

4a: Exchange the 160mA fuse below the mains socket for a similar type rated at 315mA

For conversion to 230Volt AC (previously set to 115Volt AC).....

4b: Exchange the 315mA fuse below the mains socket for a similar type rated at 160mA

In all cases:

5: Replace the top cover using the seven screws.

6: Re-connect to mains power source.

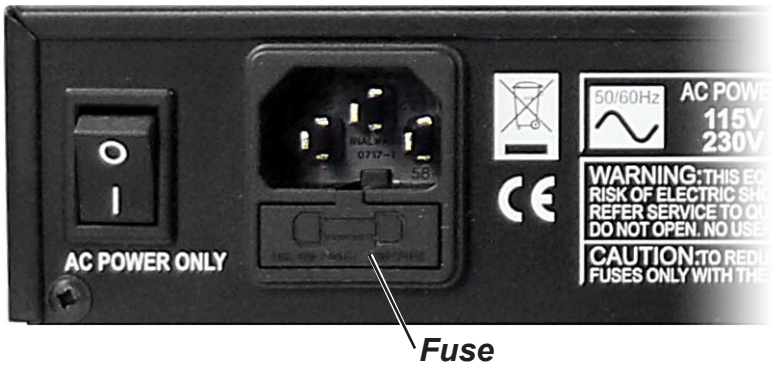


fig.2 **The Location of the Fuse**

AUDIO CONNECTIONS

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 1979 fully conforms to the EMC standards, if the unit is used where it maybe exposed to high levels of disturbance such as found close to a TV or radio transmitter we suggest that the screen of the signal cable is connected to the chassis connection on the XLR type connector. The operating level is nominally +4dBu.

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 1979 to the patchbay. If such measures are necessary, balanced operation is recommended.

In addition to the instrument input 1/4" jack connector located in the instrument section on the front panel there are also several found on the rear panel:

Mic and Line Input

A dedicated microphone and also Line input via balanced XLR connector per channel located on the rear panel.

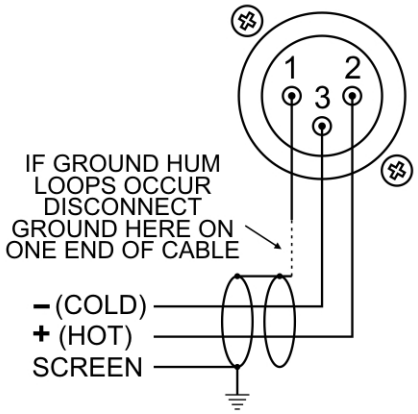
Side Chain Insert

A side chain insert is via a 1/4" jack connector, send = ring / return = tip.

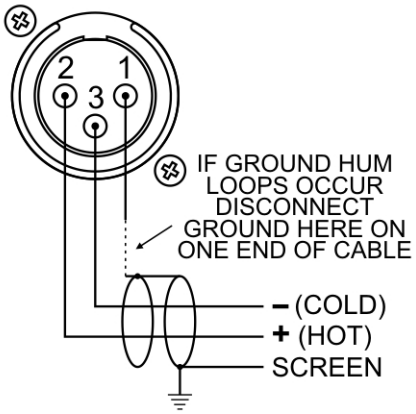
Direct Output and Main Output

A direct output is available that is derived directly from the preamplifier (before the compressor and EQ). A second output is available that incorporates the full signal. Both are via balanced XLRs.

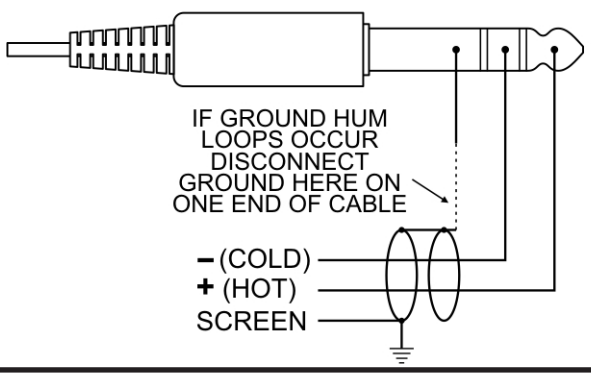
XLR - OUTPUT (MALE)



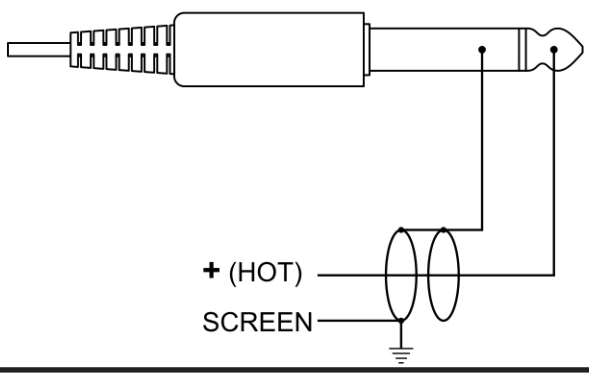
XLR - INPUT (FEMALE)



1/4" JACK - BALANCED INPUT



1/4" JACK - INSTRUMENT INPUT



CONTROL DESCRIPTION

1 PREAMPLIFIER

Select *Mic +48V/Mic 200 Ohm/Mic 600 Ohm/Mic 2.4 kOhm/Line/Instrument*

The source select is a six position rotary switch that, as well as setting the input source, also sets the load impedance of the microphone.

In the +48V Phantom Power switch position the red LED will illuminate to indicate that 48V of DC voltage is being sent down the XLR cable in order to power the electronics of a condenser microphone.

NOTE: DO NOT ACTIVATE THE +48V SETTING UNLESS THE MICROPHONE REQUIRES IT.

The switch can also provide three settings of load impedance in order to aid the matching for a dynamic microphone, at settings of 200, 600 and 2.4k Ohms.

In addition the same switch sets the source to Instrument (via the front panel instrument DI section) and Line (via the dedicated input on the rear panel).

Instrument Input

A 1/4" jack provides a specialised instrument input stage suitable for use with both active and passive guitar pickup systems as well as with electronic keyboards.

Phase Reverse *Off - On*

This switch reverses the signal polarity, and is often useful when recording an instrument with more than one microphone. If, for example, you record a guitar cabinet with two mics, the two signals could be so similar that they would cancel each other out partially, resulting in a very thin sound. Reversing the phase of one channel would rectify this.

Gain *0 - +66dB (Mic) or -24 - +42dB (Instrument)*

A twelve position preamplifier switch adds gain in 6dB steps from 0dB to +66dB in Mic mode, making it incredibly easy to replicate previous settings and have total control over levels.

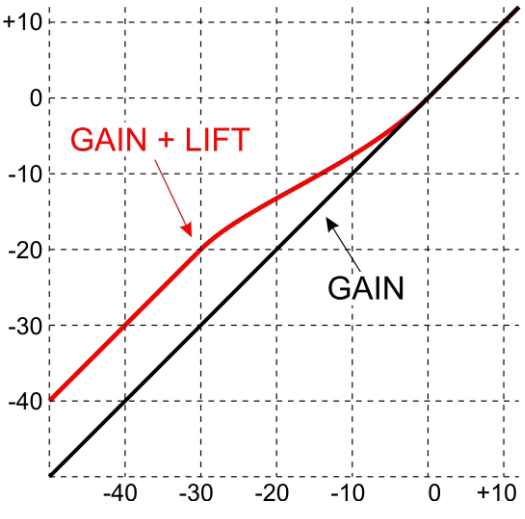
Note that when the Instrument and Line is selected as the source they have an automatic 24dB pad and so a gain range of -24 to +42dB is achievable via this switch, as shown by the highlighted graticule markings.

Low Cut (High Pass Filter) *Off, 30Hz, 80Hz, 110Hz*

Two switches set the frequencies that the Low cut occurs. With neither switch in no low cut occurs and the full frequency range is heard, with the 30Hz switch active the signal is cut below 30Hz, with the 80Hz switch active the signal is cut below 80Hz, and with both active the signal is cut below 110Hz. The rate at which this attenuation occurs is 6dB's per octave.

LIFT

LIFT is a single switch solution to recording low signal levels. Seamless in it's operation, LIFT is, in essence, a low level dynamic gain module which has no effect on signals above 0dB, but increases gain dynamically on levels between 0dB and -30dB, up to a maximum of 10dB, and then continues to add 10dB of gain to signals below -30dB.



You may ask yourself: why would this be necessary?

When recording very quiet passages the most common answer to obtain a loud enough recording is to simply add more gain, however, as this occurs throughout the entire audio level range, increasing the loud signals also, clipping and distortion can easily occur. The cleverness of the LIFT switch is that it dynamically increases only the volume of the very quiet signals below the threshold of 0dB, leaving anything above untouched, meaning that no unnecessary clipping occurs during loud passages.

If done crudely the effect would be obvious and unnatural, however the parameters of the 1979 LIFT feature have been fixed at settings that provide as transparent, smooth and musical quality as possible, whilst making the operation as simple as a single switch press. The feature will find many uses in the studio, radio, TV sound, conferences and public address. It is of great value on piano, drum ambience as well as other types of percussion, and on all vocals including speech. Mic technique is used to compensate for vocal intensity and one can often see singers move closer to the mic during quiet passages. LIFT reduces or even eliminates the need to do this.

Please note that, just like any other gain increase, the noise floor will also be increased by 10dB, and in addition, in a live situation, acoustic feedback is more likely to occur and should be considered during sound check.

2 EQUALISER

LOW BAND

Frequency: *50Hz - 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.

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 capable of subtle adjustments for mastering or larger variations for tone shaping.

MID BAND

Frequency: *75Hz - 10kHz*

See Low Band Frequency

Bandwidth: *Narrow - Wide*

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 (switch inactive) or wide range (switch active) of frequencies within the mid EQ band.

Cut/Boost: *-12dB - +12dB*

See Low Band Cut/Boost

HIGH BAND

Frequency: *1.25kHz - 12kHz*

See Low Band Frequency

Cut/Boost: *-12dB - +12dB*

See Low Band Cut/Boost

EQ Switch *Off - On*

A fully hard-wired bypass switch toggles the EQ section to be active or not, and is best used for A/B comparisons, or to remove the EQ stage from the signal path altogether.

Swap - EQ>Comp / Comp>EQ

Swap *Off - On*

The 1979 has very comprehensive Equaliser and Compressor stages that follow the Gain stage. This switch allows the signal path to either route the signal as Gain-Equaliser-Compressor-Output or alternatively route it as Gain-Compressor-Equaliser-Output, as each creates a distinctly different tonal quality, and coloration depending on the setting and allows the engineer to operate the 1979 to their own personal taste. As a very general rule, using EQ in front of your compressor produces a warmer tone, while using EQ after your compressor produces a cleaner sound, though this will depend on a number of factors.

3 COMPRESSOR

Threshold *-30.0dB - +20dB*

Determines the input level above which gain reduction will be applied. Soft knee compression takes place for signals exceeding the threshold level by a few decibels, above which level conventional 'ratio' compression is applied.

Ratio *1:1 - 20:1*

Ratio determines the amount of compression (attenuation) to be used once the 'soft-knee' region is exceeded. If the ratio is set to 5:1 a signal exceeding the threshold by 5dB will be attenuated down to 1dB above the threshold, and likewise, a signal exceeding the threshold by 15dB will be attenuated down to 3dB above it. A ratio of 1:1 provides no compression, 4:1 is moderate, 8:1 strong, whilst 10:1 would be seen as approaching limiting.

Attack *0.2mS - 200mS*

Sets the rate at which the compressor will respond to input signals that exceed the threshold level.

Release *0.01S - 2.5S*

Sets the time taken for the signal to return to normal after the input level has fallen below threshold.

Gain Reduction Meter *1, 2, 3, 5, 7, 10, 15, 20 -dB*

An eight segment LED bargraph meter continuously monitors the gain reduction applied by the compressor and gives an indication of the amount of gain required to bring the signal back to its input level after it has been compressed.

Comp. Switch *Off-On*

A fully hard-wired bypass switch toggles the Compressor section to be active or not, and is best used for A/B comparisons, or to remove the compressor stage from the signal path altogether.

4 OUTPUT

Mix *Wet / Dry*

A variable control that mixes a user defined amount of 'uncompressed' signal (dry) with the equalised /compressed signal (wet) to create a 'parallel compression effect' without the need for external mixing devices. In this way, the amount of overall equalisation and compression on the signal is under complete control.

Gain *-10dB - +20dB*

After EQ and compression gain may be required to produce the required output level. Adjust so that the output signal approaches the desired level only on signal peaks.

Bypass *Off-On*

A fully balanced hard-wire bypass connects the preamplifier directly to the output without passing through the EQ, the compressor, the mix and gain controls at all. Use this to provide an ultra clean microphone signal or to hear the effects of the EQ and compressor in an A/B comparison.

VU Meter

A backlit moving coil VU meters monitor the level of the output signal.

+10dB Pad *VU - +10dB*

Adjusts the meters to show either normal output level, (and for those working at 'hot' output levels) VU +10dB i.e. with the switch at VU +10dB, when the VU meter reads 0dB the actual level is +10dB.

REAR CONNECTIONS

In addition to the instrument jack connector located in the instrument section on the front panel there are also:

Mic Input

A dedicated microphone input via balanced XLR is located on the rear panel.

Mic Input

A dedicated line level input via balanced XLR.

Direct Output

A dedicated output via balanced XLR. The signal is derived directly from the preamplifier and does not pass through the EQ, compressor or output circuitry at all, providing an absolute clean signal.

Side Chain

The side chain connector is part of the compressor feedback stage and would normally be connected to a normalised or semi-normalised pair of patchbay contacts. This would allow the user to insert additional EQ for de-essing, or frequency conscious compression. Connection is via an unbalanced stereo ¼" jack: ring is signal send, tip is signal return and sleeve ground.

Output

A dedicated output via balanced XLR.

POWER

I.E.C./Power Switch/Voltage Selector Switch

See the Power Connection section of the manual

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 web pages.

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 shockproof 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 :

for sales enquiries: sales@drawmer.com
or for technical issues: 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

1979 CHANNEL STRIP
DATA SPECIFICATION

INPUT

Input Impedance	20k Ohms or greater
Maximum Input Level	+25dBu

OUTPUT

Output Impedance	100 Ohms
Maximum Output Level	+22dBu into 10k Ohms Load

FREQUENCY RESPONSE
20Hz to 20kHz +/-0.2dB

NOISE AT UNITY GAIN
20Hz - 20kHz >91dB

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

MIC EIN Aweighted

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

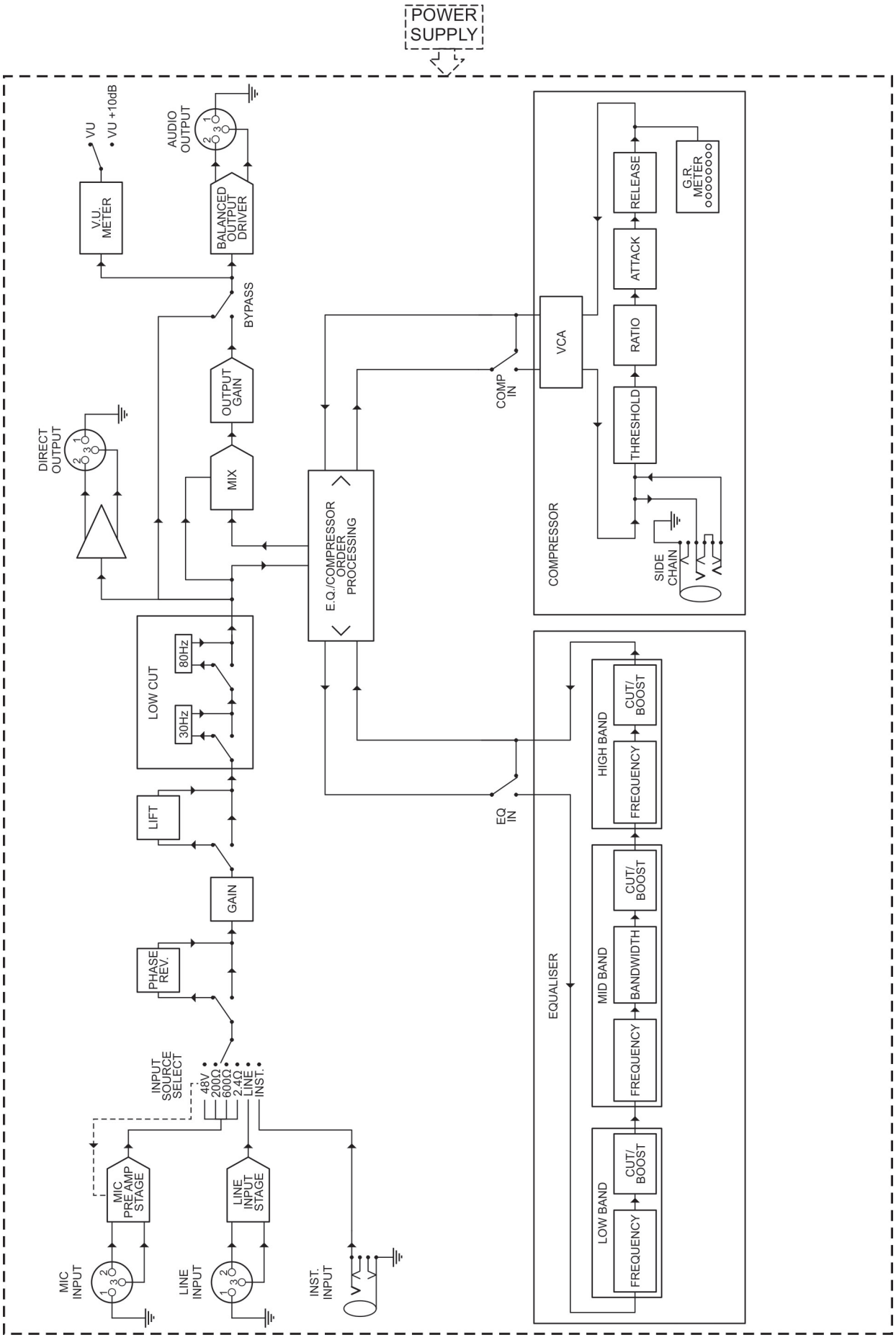
FUSE RATING
T160mA for 230Volt,
T315mA for 115Volt
Conforming to IEC 127-2

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

CASE SIZE
482mm (W) x 44mm (H) x 200mm (D)

WEIGHT 2.8Kgs

BLOCK DIAGRAM



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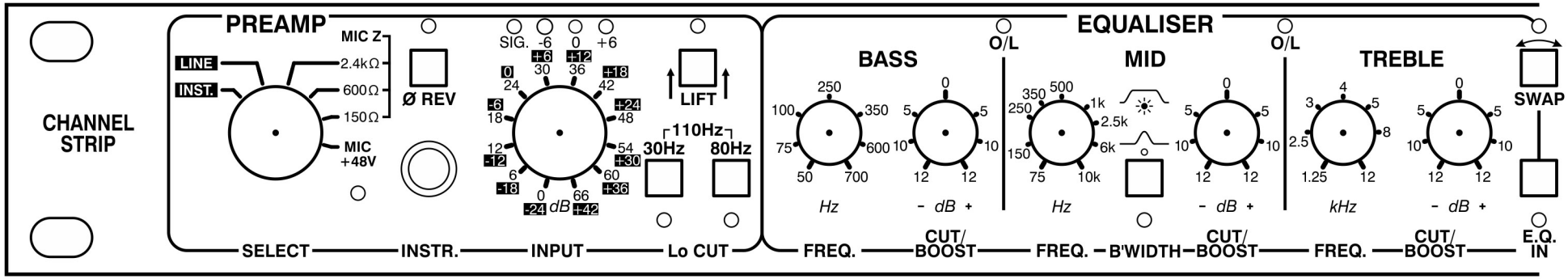

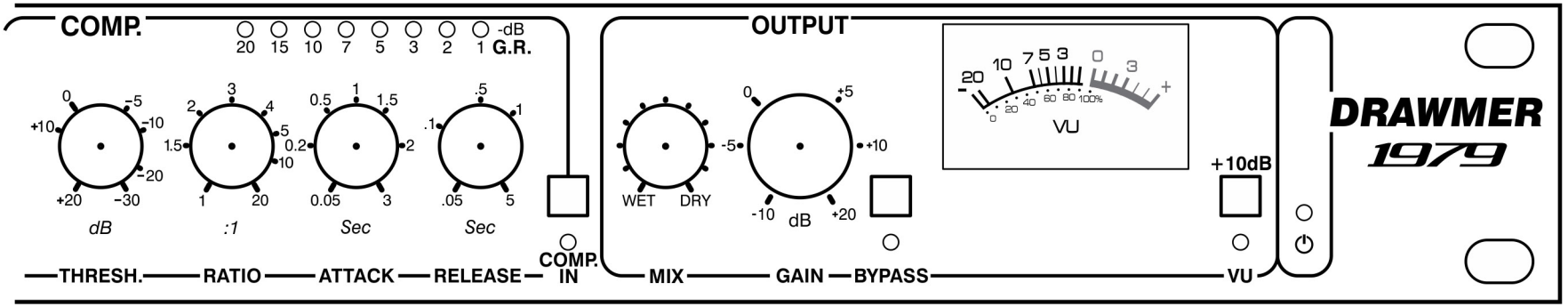

DRAWMER **1979** **Session Recall**

DRAWMER ELECTRONICS LTD ~ Coleman Street
Rotherham ~ S. Yorkshire ~ UK

Session No.	
Date	
Artist	
Tape Location	