



DTL

USER'S MANUAL

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Please read all of the following instructions and save them for later reference before attempting to connect the unit to the mains.

EARTH

This unit is connected via its power cord to the mains safety earth.
NEVER OPERATE THE UNIT WITH THIS EARTH CONNECTION REMOVED.

COVERS

DO NOT remove the covers. Refer servicing to qualified personnel only.

VOLTAGE

Equipment is set to operate only at the voltage indicated on the back of the unit.
CHECK that the correct voltage is selected before connecting the AC mains supply.

FUSES

CHECK that the fuse fitted is the correct type for the local mains voltage.
ALWAYS replace fuse with the correct type.

MOISTURE

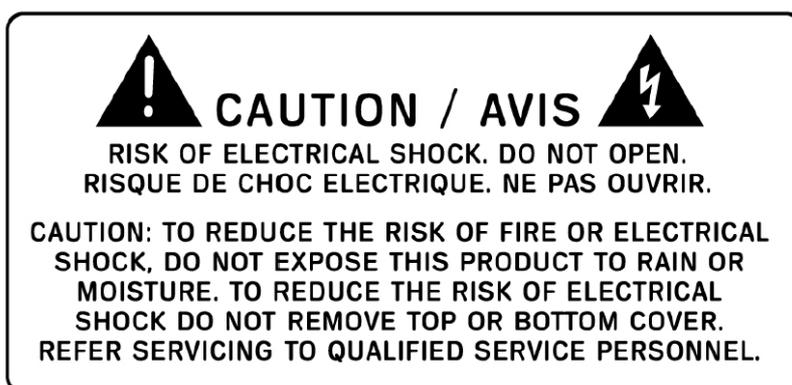
DO NOT expose the unit to rain or moisture. If the unit should become so exposed **REMOVE** the mains power immediately.

CABLES

PROTECT the mains power cord from damage through impact or abrasion.

HEAT

ALWAYS site the unit away from sources of heat including direct sunlight and ensure adequate ventilation around the unit.



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Thank you for buying this IGS Audio product.

Please read the information provided below very carefully before using your IGS unit.

Unpacking

Your DTL has been carefully and meticulously tested and inspected before dispatch. Please check for any signs of transit damage. If any signs of mishandling are found please notify the carrier and your dealer immediately.

Your DTL packing should contain an DTL with IGS Audio tag and power cord and this manual with the Warranty and RoHS/CE/WEEE Declaration attached.

Compatibility and Power

There is a fuse socket near the power cable connector on the on the back of the unit. Ensure that the correct fuse is being used before plugging the DTL to the power outlet.

- For US area (115V) use 2A Slow Blow (Type T).
- For Europe and rest of the world area (230V) use 1A Slow Blow (Type T).

Always check the voltage selector on the back of the unit to ensure that it is set to the proper voltage available in your country.

IGS AUDIO DTL – dual microphone tube preamplifier

The Double Triode Limiter (DTL) is an expanded version of the Double Triode microphone preamp.

The design was upgraded with a opto-limiter. The limiter is based on classic solutions used in the 60's and 70's. The component in charge of compression is a IGS Audio custom designed photocell. It consists of a electroluminescent panel and a photo resistor. This panel illuminates the photo resistor that attenuates audio signal. Working of the limiter is indicated by a LED labeled "Limit" on the front panel.

Audio path of the preamp is a two stage tube amplifier with individual drive of both steps. The saturation at the first step depends on the input signal level (with possibility to use Pad -20dB). The saturation of the second step is dependent on the Output regulator. Inputs and outputs are balanced with Sowter and Edcor (USA) transformers. The anode voltage is set close to 300V DC.

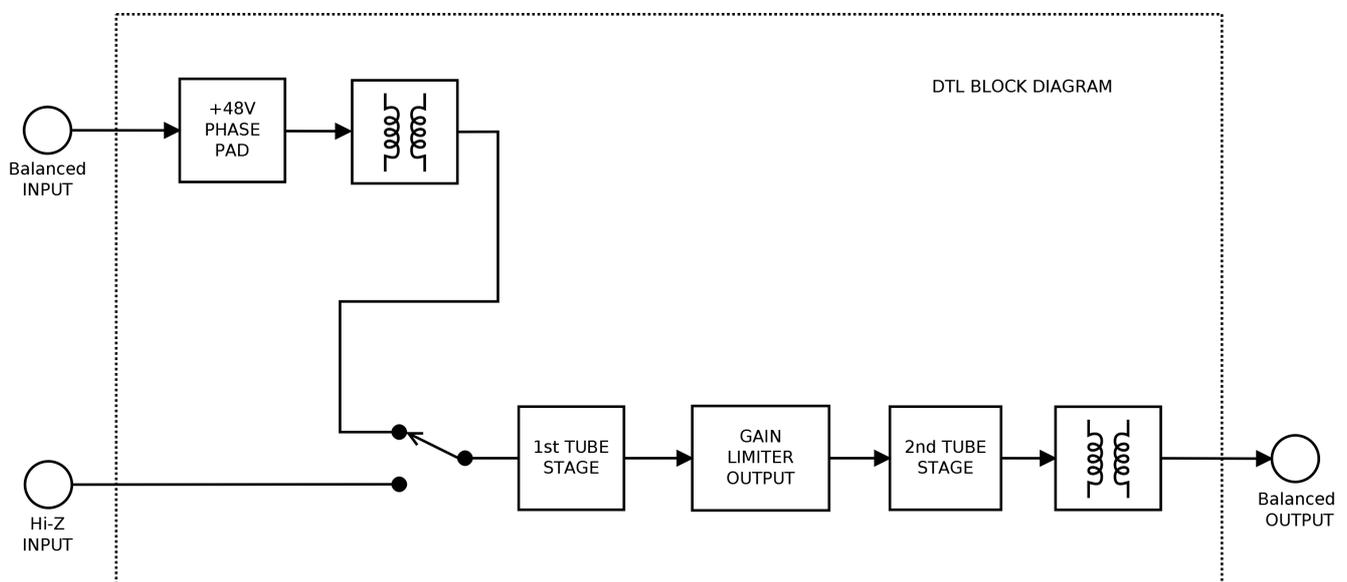
For each of the channels Output and Limiter threshold can be regulated smoothly. The featured switches are: GAIN, +48V, Mic/HiZ, Phase, Pad -20dB. Hi-Z inputs are located on the front panel. The meters show output signal level.

Usage:

The DTL is a typical tube microphone preamp. It is adapted to work with any type of microphone. A wide range of amplification makes it possible to record drums as well as the quietest ribbon microphone. The Pad -20dB makes it possible to work with line signals as well. In this case the DTL does a great job of recording tracks from external devices such as synthesizers or drums machines (like Akai MPC). Great results are achieved with reamping tracks from DAWs. The DTL adds a nice tube saturation to the sound. The high impedance inputs (HiZ) allow connecting a electric or bass guitar directly into the grid of the first step of amplification (Typical HiZ solution).

Additional device capabilities are activated by the Limiter section. This can be used to limit peak levels of the input signal. The wide range of Limiter settings goes from slight compression to hard limiting. This is especially useful in vocal recording where the wide range of signal dynamics is controlled. The limiter controls the louder parts and prevents from the digital clipping at the inputs of you ADC. Another trick could be using the DTL as a drum compressor or mix buss compressor. It can improve the overall dynamics of the mix and give it a brighter sound. This is a very versatile device for audio processing.

Block diagram





VU METER Big VU meter showing the level of output signal.

GAIN KNOB Preampifier gain setting.

LIMITER Allows to adjust the amount of limiting applied to the signal.

HIZ INPUT High impedance guitar input.

INPUT SELECTOR Choose between microphone or Hi-Z input

PAD and PHASE PAD switch allows to attenuate the microphone input by 20 dB. PHASE switch simply flips the signal phase.

OUTPUT Output signal level.

LIMITER INDICATOR LED glows when the limiter is working.

DTL technical specification:

- Inputs: 2 Mic/Line XLR and 2 Hi-Z Jacks on the front
- Outputs: 2 balanced XLR
- Tube Only audio path
- Meters read Output VU
- Soft Start Power Tube Timer

Operating Level	+4dBu
Maximum Output	+22dBu
Input impedance	300 ohm (MIC), 1Mohm (Hi-Z)
Output Impedance	600 ohm
Tubes Used	6N1P-EW, 6N2P-EW
Max Gain Reduction	18 dB
Max Gain	60 dB
Frequency response	20Hz - 20kHz
THD+N @0dBu	80 dB (A)
Power consumption	40 W
Shipping weight	7kg
Dimensions	19" 2U, 230mm deep

Troubleshooting

My unit doesn't light up (the VU meter is dark):

- Please check the power cord and the switch at the front of the unit is in ON position
- Check the fuses

The signal plays thru when i plug a microphone in:

- Please check the input selector switch
- Please check the +48 switch (if you are using condenser microphone)
- Please check the gain and output knob

No signal plays thru the unit, regardless the settings at the front panel:

- Please check the cables connecting the rack.

Limiter doesn't work:

- Please turn the Limiter knob to adjust the limiter threshold

Warranty:

This device is declared to be free from defects in material and workmanship for a period of three years. Any device found defective within three years from the delivery date and returned to the factory, will be repaired, adjusted, or replaced and sent to the customer with no charge. The customer always pays the shipping cost to us. This warranty does not cover expendable items such as tubes or fuses. If the defect has been caused by a misuse or abnormal operation conditions, the repair will be billed at a nominal cost. The product should be returned in its original package, if this is possible, or packed in such a way that it is not damaged during the shipment. We are not to be held responsible for any damages during the shipment. 19" units shall always be packed in a box with support for the rack ears. All 500 series modules need to be secured in ESD bag and protected with foam. We will charge the customer €20 + VAT if the packing material needs to be replaced. If we find that the product works perfectly, the customer will be invoiced €50 + VAT to cover our costs of examination and handling plus the cost for returning the product to the customer.

