



TUBECORE 3U

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

Unit is set to operate only at the voltage indicated on the PSU 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

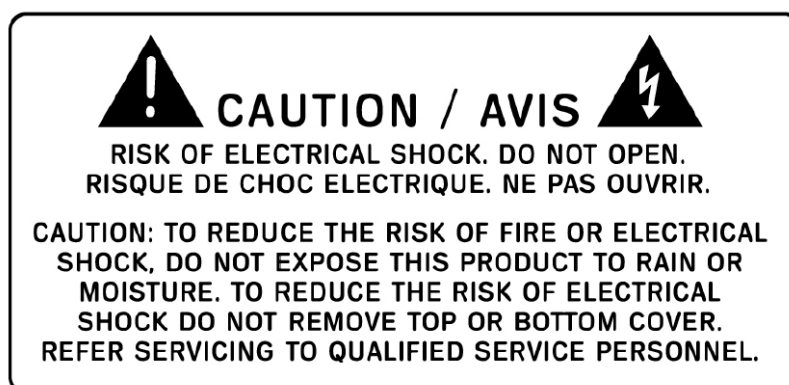
DO NOT expose the unit to rain or moisture. If the unit should become so exposed **REMOVE** the mains power immediately.

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 TUBECORE 3U 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 TUBECORE 3U packing should contain an TUBECORE 3U with IGS Audio tag, an TUBECORE 3U POWER SUPPLY unit and this manual with the Warranty and RoHS/CE/WEEE Declaration attached.

Compatibility and Power

The TUBECORE 3U uses dedicated external POWER SUPPLY unit and can't operate without it.

Never attempt to replace the external PSU with the third party one or one made by yourself.

There is a fuse socket near the power cable connector on the PSU. Ensure that the correct fuse is being used before plugging the TUBECORE 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 PSU to ensure that it is set to the proper voltage available in your country.

Connecting the PSU to the TUBECORE 3U is fairly easy, thanks to industrial standard 8-pin metal connector and long, heavy duty cable.

Always power up the PSU first and then use power switch at the front of the TUBECORE 3U. Follow the reverse order when switching off.

About the tubes

As one of the TUBECORE 3U's main features is the possibility of replacing tubes, we have placed them outside the unit. Please, be aware of this fragile parts and do not place the TUBECORE 3U close to the wall or cables hanging from the back of the other gear in your 19 inch rack.

IGS AUDIO TUBECORE 3U – stereo vari-mu mastering compressor

The TUBECORE 3U is a full symmetric transformer balanced stereo mastering compressor. The structure is based on the typical vari-mu solution. Apart from the classic INPUT, THRESHOLD and OUTPUT controls it introduces switchable high pass filter in the sidechain, parallel compression (MIX knob), independent ATTACK and RELEASE switches and an user replaceable tubes accessible from the back of the unit.

The TUBECORE 3U compressor allows you to work either in dual mono or mid/side mode (M/S). The Mode switch has two bypass positions – they both work the same, but we added them for your comfort and quick A/B comparing.

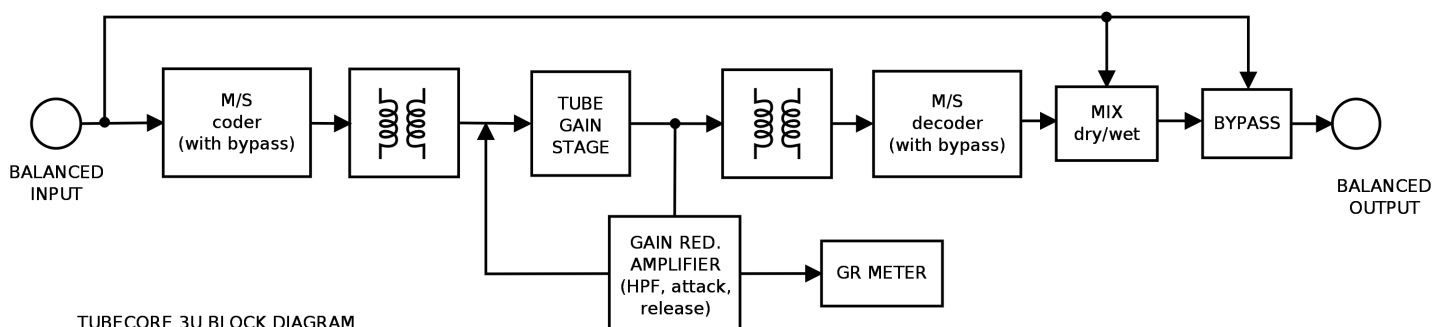
Every single TUBECORE 3U is hand made with high quality, matched components (1% metal film resistors, Wima caps). It is equipped with 6N1P-EW NOS tubes and individually calibrated to give you the unique and unspoiled experience of one of the best vari-mu compressors in the history. It is equipped with Carnhill and Sowter audio transformers. We have spent hundreds of hours designing the TUBECORE, to make sure that it is as simple to use as it is versatile.

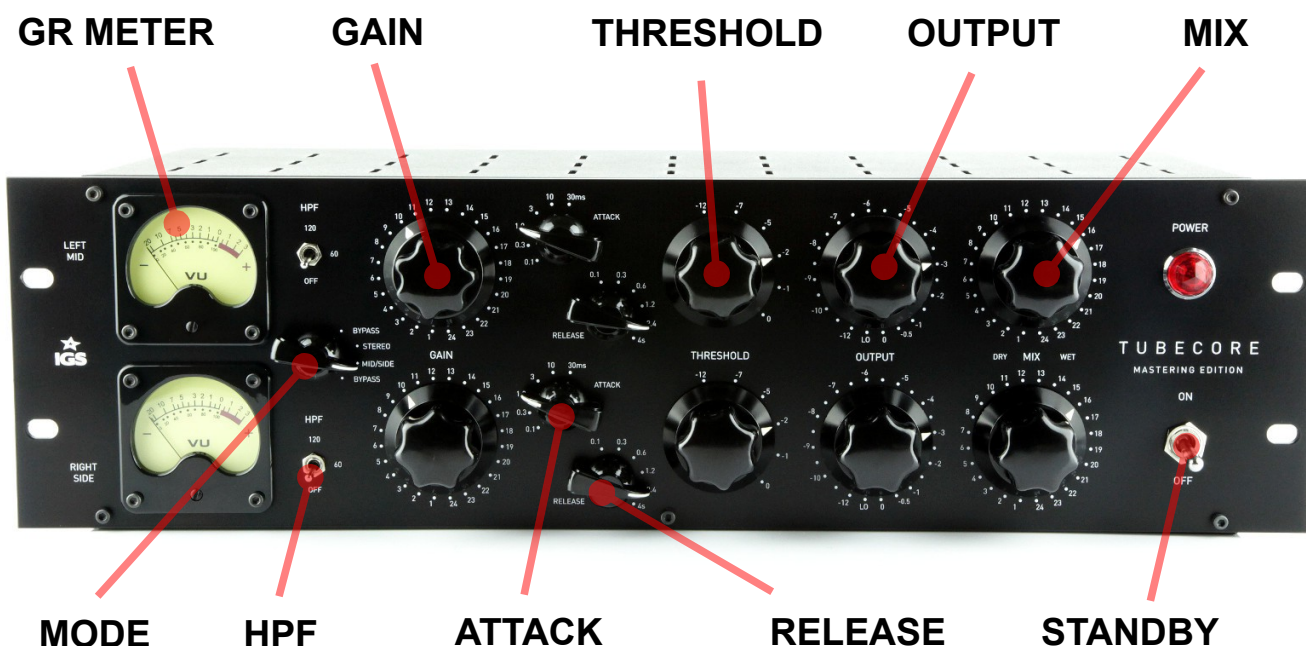
The sound qualities of the TC3U can be changed by changing the tubes in the back of the device. You can achieve the following effects:

- ✓ 6N1P-EW – standard set of tubes, “standard” compression,
- ✓ 6BC8/6BZ8 – tight, transparent, punchy compression,
- ✓ 6386 – legendary compression, by famous twin triode,
- ✓ 5670 – deep and dark tube compression.

It is important to use matched tubes for best channel convergence. You can also use different tubes for Mid and Side channels – feel free to experiment. There is no risk of damaging the Tubecore 3U once you **put correct tubes in correct sockets**. However, it might be necessary to calibrate the unit after the tube swap. You can do it on your own (follow the Calibration Procedure chapter) or let the qualified personnel to do it for you.

Block diagram





GR METER Clearly visible coil meter to ensure that the amount of gain reduction applied is easy to read.

GAIN This is the make up gain knob. You can adjust the amount of signal at the input of TUBECORE 3U.

OUTPUT Output level control.

THRESHOLD Above this level of the input signal the compression will occur. Use it to control the amount of compression. The amount of reduction applied can be read on the GR meter.

ATTACK Time delay between the appearance of the signal and the compressor reaction.

RELEASE Time delay between the disappearance of the signal and the compressor reaction.

HPF Introduce high pass filtering in the sidechain circuit.

MIX Set the balance between compressed and uncompressed signal – parallel compression.

MODE Choose between working in stereo mode or mid/side (then the left channel becomes the Mid signal, and the right becomes the side signal). In bypass mode the whole unit is bypassed.

STANDBY Master standby switch for the unit. In standby mode no signal goes thru. After switching the TC3U on, allow the unit to warm up for a couple of minutes (tubes heating)

TUBECORE 3U main functions and technical specification:

- ✓ 3U stereo unit with M/S functionality
- ✓ Fully symmetric audio path,
- ✓ Carnhill input transformer,
- ✓ Sowter output transformer,
- ✓ Hard wired bypass,
- ✓ Sidechain HPF
- ✓ Dry/Wet knob for parallel compression
- ✓ All stepped manipulators
- ✓ XLR input and output
- ✓ Large VU meter with LED back light
- ✓ External PSU unit for low noise
- ✓ 3 year warranty

Operating Level	+4dBu
Maximum Input	+22 dBu
Maximum Output	+22 dBu
Input impedance	600 Ohm
Output Impedance	600 Ohm
Standard used	6N1P
Max Gain Reduction	20 dB
Maximum Gain	35 dB
Attack Time	0,1 – 30 ms
Release Time	0.1 – 4 s
Frequency response	20Hz to 20kHz; +/- 0.2dB
THD+N @0dBu	0.002%
Noise level dBA	-110dB
Power consumption	44 Watts
Shipping weight	7kg
Dimensions	H 13,3cm x W 7,6 cm x D 18 cm

Troubleshooting

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

- Please check if the rack PSU is on and the switch at the front of the unit is in ON position
- Check the PSU and power cables
- Check the fuses

The signal plays thru but there is no change in signal when i turn the knobs:

- Please check the Mode (Stereo – m/s - bypass) switch position – it should be set to „Stereo” or “Mid/Side”.
- Check the Mix knob – it should be in Wet position (turn it fully clockwise)

With no signal applied, the VU meter doesn't show 0dB:

- Please use the small screwdriver to set the zero calibration trim under the holes at the back of the unit (check the Calibration Procedure below)

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

- Please check the cables connecting the rack.
- Check if the tubes are placed correctly

There are differences in signal level between channels after tube replacement:

- Make sure you have used matched pair of tubes
- Please follow the Calibration Procedure after the tube swap

In M/S mode the GR Meters show different reduction:

- in most cases the MID channel is louder than SIDE signal. Use the TUBECORE 3U controls to adjust the levels

Tube Replacement and Calibration Procedure:

Remember to use matched tubes of the correct type. The calibration is needed to set the bias and “zero point” on the GR meters.

1. Make sure the Tubecore 3U is turned off
2. Gently remove old tubes and replace them with new ones. Ensure you don't bend any of the pins. Place your new tubes in appropriate sockets. **Never put more than 4 tubes** in the TUBECORE 3U!
3. Turn on the unit and wait approx. 15 minutes to warm up the tubes.
4. Use small screwdriver to set 0dB (trim pots under ZERO METER holes for both channels)
5. Your Tubecore 3U is now calibrated.
6. In some cases (especially if the tubes haven't been matched) It might be impossible to set “0dB” on the meters. It is recommended to try different set of tubes.



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.

