BRUTO MKII

CICOGNANI ENGINEERING
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INFORMATIONS

BRUTO MKII wants to combine the sounds of the past with modern ones without making those features easy to use and powerful sound exploitable since low volumes.

The final stage has been designed so as to obtain three great qualities:
1) Very high signal dynamics;
2) Better sound elasticity at medium/low volume levels;
3) High sound pressure;

BRUTO MKII is for:
To study: Practice constantly with a tube amp (great dynamics, grit, pure tone, etc) bringing incredible benefits to your touch. The power delivered by the final stage, thanks to a circuit of latest evolution, provides great signal dynamics from contained volumes.

The live: High sound pressure to guarantee an adequate volume level in the most demanding stage guitar conditions. The three channels, the solo and the mute to tune the instrument, can be memorized on presets and recalled using midi standard pedals.

To record: Recording the sound of a "high volume" wide amp is a privilege to today of a lucky few. Thanks to a high performance ratio BRUTO MKII is gritty, easy to play, and capable of emanating great emotions.

Portability: Although not in its primary purposes, **BRUTO MKII** has a limited size and weight, with an all-aluminum structure so as to offer you the opportunity to comfortably carry the tubes sounds amplifier.

DESIGNED AND HAND-BUILT IN ITALY

WARNING

To reduce the risk of electric shock don't remove this cover. Don't use any tools inside refer to qualified service personnel. To reduce the risk of fire or electric shock don't expose this equipment to rain or moisture.

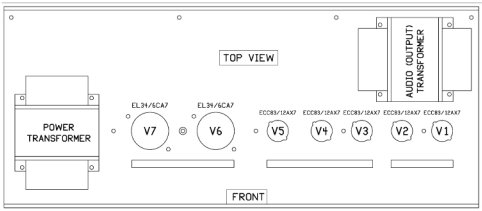
USING RULES:
* be sure that the electric network power supply voltage is the same indicated on rear panel of your **BRUTO MKII** head.
* turn on the amp by the power switch and wait 30 seconds to give time to warm up tubes.
* check the correct connection of the external devices (if used).
* guitard-amp connection by plug guitar cable into the "instrument" jack socket.

BRUTO MKII is an Italian hand-built tube guitar amplifier undergoing to strict control methods, able to guarantee a lifetime use; in case of technical problems, don't try to repair the amp by yourself. Inside the equipment there are dangerous areas with hi-current and hi-voltage. The product servicing must be carried out by specialized technicians and authorized by Cicognani Engineering.

Inside the equipment there are no parts for which the adjustment is at user's care. Be sure to have correctly carried out all the connections and to have read this simple and swift instruction manual, before contacting thetechnical service.

CICOGNANI ENGINEERING reserves the right to modify the technical characteristics and layout of the products at any time and without notice. This product is built to the rule of art and observes the technical requirements of the Directives Europee 89/366EEC.

THE TUBES



V1,V2,V3,V4,V5: ECC83/12AX7
V6,V7: EL34B/6CA7

What to know about the tubes:
The pre-amp tubes (12AX7/ECC83) do not require bias adjustments. The V1 is definitely the most important as it is the first stage preamplifier common to all channels and sounds could be a "LOW MICROPHONIC". Remember that it is an amplifier that can achieve high gain values so if the V1 is not perfect you will find anomalies like:
1) By tapping on the chassis we also hear on the speaker.
2) High hum noise even with closed guitar volume.
3) Unwanted sound interference

The V2 manages only channel 2, increasing the gain by two stages. Also in this position a "LOW MICROPHONIC" tube is required. The V3 has two functions; common gain stage for overdrive channels and low impedance generator for OD tone control. In this position normally a good and efficient tube can be used where it does not have priority in the importance to be very low microphonic. The V4 is the channel mixer with functionality to bring the signal to the send in low impedance. V5 is the phase shifter driver necessary to prepare the signal for the output tubes.

The "big" ones are the output tubes (EL34/6CA7) position V6, V7. Pair selection is necessary. Since (deliberately) only the regulation of the bias requires a replacement of two identical valves in order to ensure reliability and high sound performance.

THE TUBES

ABOUT TUBES:
V1 12AX7/ECC83 (HI GRADE)
V2 12AX7/ECC83 (HI GRADE)
V3 12AX7/ECC83 (BALANCED TRIODES)
V4 12AX7/ECC83 (BALANCED TRIODES)
V5 12AX7/ECC83 (BALANCED TRIODES)
V6 EL34
V7 EL34

*output stage valves: EL34, 6CA7, 5881, 6L6GC, 6550, KT88
TUBES POSITION: Front view, from right to left V1-V7

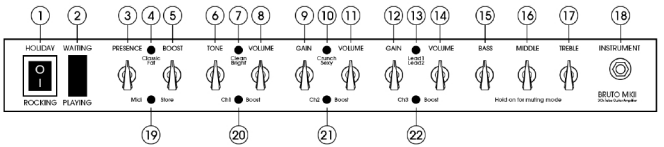
TUBES REPLACEMENT:
As the **BRUTO MKII** operates in power Class A-AB Push/Pull configuration, it is needed to set the BIAS when swapping power tubes, so it is strictly recommended to be done by a technician.

The most common signs of run-down tubes could be: excessive noise, hi microphonic, power loss, loss of high frequencies, bad bottom end or/and uncontrolled changes of the output volume level.

Tubes Life is estimated to more than 3000 hours. This depends by tube production quality.

THE REPLACEMENT OF THE VALVES MUST ALWAYS BE CARRIED OUT WITH THE AMPLIFIER DISCONNECTED FROM THE POWER SUPPLY.

FRONT PANEL



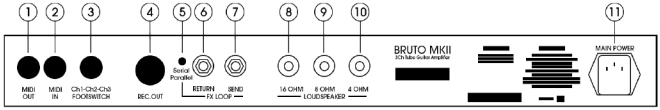
1. **Holiday/Rocking**: Amplifier turning on/off.
2. **Waiting/Playing**: Stand by.
3. **Presence**: presence control.
4. **Classic/Fat**: resonance deep bass
5. **Solo**: volume level of solo function.
6. **Tone**: Treble control of Clean Channel (Ch1).
7. **Clean/Bright**: Voicing Ch1
8. **Volume**: Volume level of Clean Channel (Ch1).
9. **Gain**: Gain control of Crunch/Sexy Channel (Ch2).
10. **Crunch/Sexy**: Voicing Ch2
11. **Volume**: Volume level of Crunch/Sexy Channel (Ch2).
12. **Gain**: Gain control of Lead1/Lead2 Channel (Ch3).
13. **Lead1/Lead2**: Voicing Ch3
14. **Volume**: Volume level of Lead1/Lead2 Channel (Ch3).
15. **Bass**: Bass control in common with Ch2, Ch3.
16. **Middle**: Middle control in common with Ch2, Ch3.
17. **Treble**: Treble control in common with Ch2, Ch3.
18. **Instrument**: Guitar input
19. **Midi Store**: memory switch (on/on) of the midi preset.
20. **Ch1 Boost**: switch (on/on) of Ch1. Push two time for solo function.
21. **Ch2 Boost**: switch (on/on) of Ch2. Push two time for solo function.
22. **Ch3 Boost**: switch (on/on) of Ch3. Push two time for solo function.

MIDI PRESETS STORAGE:
With a midi pedalboard connected (Transmission channel settled as Omnimode)

SELECT A PRESET FROM MIDI PEDAL > THEN SELECT A CHANNEL AND PRESSING ONE OR TWO TIMES THE CHANNEL SWITCHES (20,21,22) > NOW SAVE IT PRESSING THE STORE SWITCH (19)

Any Ch1, Ch2, Ch3: Hold “On” for muting mode. The mute function is storable on midi presets. Preset are rewritable, don’t need to clean memory.

REAR PANEL



1. Midi thru: midi out connection. (the midi thru repeats the midi preset sent to the amplifier by the external midi pedal board).
2. Midi in: midi main input. (to be connected to the midi pedalboard).
3. Footswitch: Remote In (to be connected with analog external switchers or passive pedals (on / on) switch
4. Rec.Out: Speaker Simulator Out
5. Serial Parallel: Fx loop selectable from pure "serial" to 50% of parallel mode.
6. Return: Amp In
7. Send: Preamp Out
8. Speaker 16 Ohm: to be connected with a 16 Ohm guitar cabinet.
9. Speaker 8 Ohm: to be connected with a 8 Ohm guitar cabinet.
10. Speaker 4 Ohm: to be connected with a 4 Ohm guitar cabinet.
11. Main Input: socket for connection to the mains power, the plug contains a slot for the fuse of power supply circuit. In case of failure of a fuse, replace only with same specs fuses.

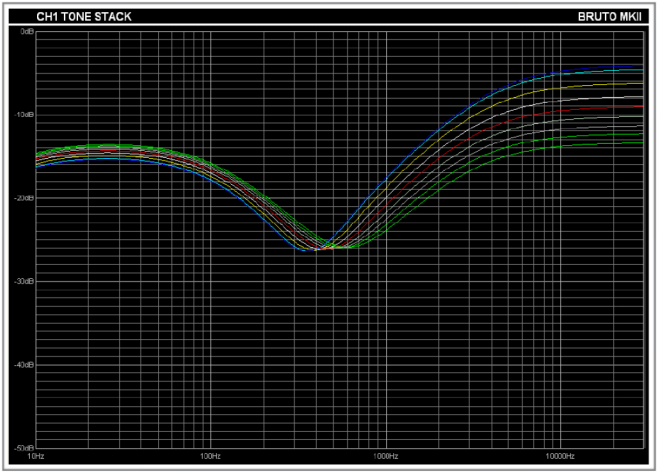
The voltage change between 220/240Vac and 110/117Vac 50 / 60Hz is located inside the amplifier and can be accessed by removing the bottom closing plate of the chassis. These operations must be performed by specialized technical personnel.

The correct value of the fuse is: 2A slo-blo for the main power of 220/240 Volt and 3,15A slo-blo for 110/117 Volt.

CHANNEL 1 - TONE CONTROL

It's a passive Hi-Z control that changes the EQ curve acting on the entire range of frequencies, is in fact easy to note that by acting on the amount of high, at the same time you have a shift in the shape of the medium and a sensitive intervention but very linear in the low frequency, that are always rounded and focused.
The advantages of this kind of control, are to merge into a practical single potentiometer a true multi-band filter, able to respond to requests that our ear tells us, without ever deviate too much from best sounds of your amp.

Tone control filter diagrams:

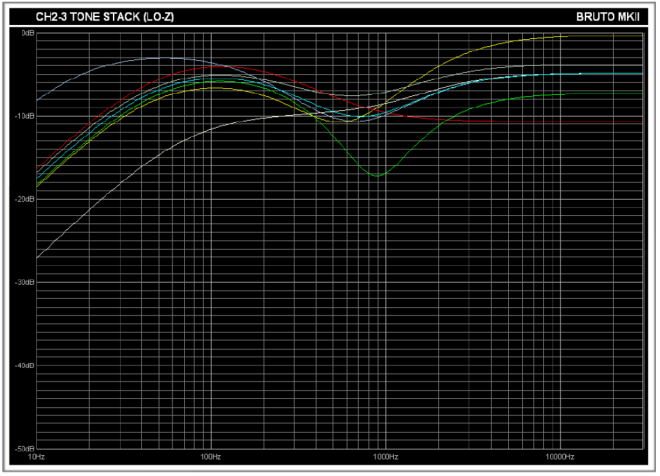


CHANNEL 2/3 - TONE STACK

A traditional LO-Z Bass, Middle, Treble tone stack is dedicated to overdrive channels: 2 /3. In the diagram, you can see how effective the controls are.

The advantages of this typical tone control are to get maximum performance on overdrive sounds. A great deal of work has been done on the sound tuning of the filters to ensure maximum performance and ease of use.

Stack tone control filter diagrams:

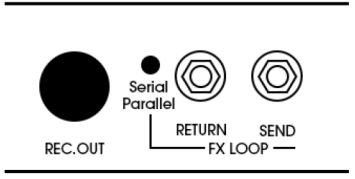


LOOP EFFECT

The effects loop is built in low impedance so as to preserve the maximum sound and dynamics characteristics of the amplifier in combination with external devices. It is possible to select the "serial" or "parallel" effect mode. In the case of "parallel" mode, the value of wet is the 50% on 50% of the direct signal. The send is a signal output of the preamplifier that can also be used individually without the final stage being muted. The solo function is not active on the “send out” as it would change the volume levels with connected external effect units.

RECORDING OUT

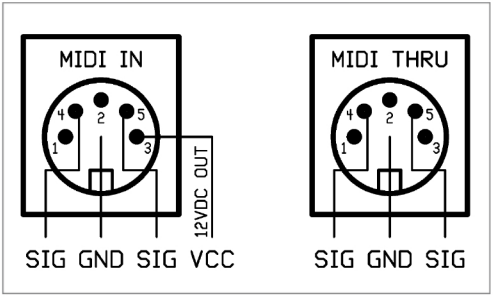
The effects loop is built in low impedance so as to preserve the maximum sound and dynamics characteristics of the amplifier in combination with external devices. It is possible to select the "serial" or "parallel" effect mode. In the case of "parallel" mode, the value of wet is the 50% on 50% of the direct signal. The send is a signal output of the preamplifier that can also be used individually without the final stage being muted. The solo function is not active on the “send out” as it would change the volume levels with connected external effect units.



MIDI IN - MIDI THRU

The **Midi In** is a useful input to recall the amplifier's functionality through midi pedals. There is not a particular setting of the midi receiving channel; it's in "omnimode" standard. If your pedal board does not offer this functionality you can set channel 1 or 16. The type of connection is: 5 pole 180 ° din connector where inside the phantom power is provided. For this reason, if the active phantom power is desired, it is necessary to use a 5-pin midi cable connected pin to pin.

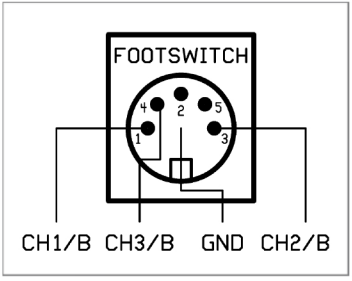
The **Midi Thru** is an output that repeats the preset sent to the Midi In, useful to simultaneously control external devices.

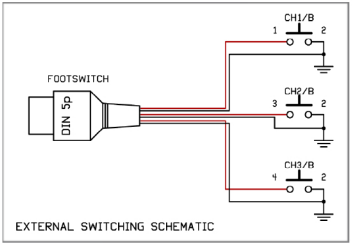


Phantom Power: The phantom power is 12vdc with maximum current of 1 Ampere. Inside the amplifier there is a stabilization circuit, complete with protections for over-temperature and accidental short-circuits.

FOOTSWITCH

The footswitch connection offers the possibility to connect external switcher systems or passive pedals able to recall the amplifier channels. The inputs are of the momentary multifunction type switch: first function (push "on" one time) to re-calls the channel; second function (push "on" two time) for the solo of the same channel; third function (hold on) to active the mute.





OUTPUT STAGE

The 35W output stage, constructed in a more traditional way in the "Italian red" version, offers the possibility of being able to replace the output tubes with many different types on the market. Obviously this involves having to calibrate the appropriate bias.

OUTPUT TRANSFORMER

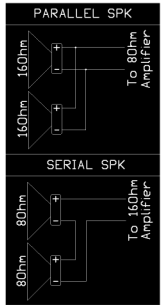
The project of the output transformer follows my recent policy of non perfection. This does not mean that there are materials of lower quality but that the project is inspired by those times (plexi) where not yet used special strategies that lead to amazing linearity of the audio transformer. In reality it is built with the criteria of the power transformer, compensating the primary with some extra turns. The result is of the type "DIRECT TO SOUND", well detailed on the medium frequencies and very generous on the bass.

ABOUT SPEAKERS

The connection between amplifier and speaker must be done with a good quality "SPEAKER" cable of the JACK / JACK type mono 6.3mm. However, it's necessary to always respect the impedance indicated on the guitar cabinet or in the case of a multiple connection see the guide below.

CONNECTION 2 BOXES IN "PARALLEL":
The connection of two speakers in parallel provides an overall impedance of half. Example: two 16Ohm speakers in parallel must be connected to the amp 8Ohm output.

CONNECTIONS 2 BOXES IN "SERIAL":
The connection of two loudspeakers in serial provides an overall double impedance. Example: two 8Ohm speakers in series must be connected to the amp 16Ohm output.



SPECIFICATIONS

Main Power	110/117 or 220/240V - 50/60Hz
Max Consumption	200VA
Output Power	35 or 100W RMS to 4/8/16Ohm
Class	A-A/B
Input Impedance	<1M Ohm
Max Gain CH1	40db
Max Gain to CH2	68db
Max Gain CH3	160db
Boost Level	+4db
CH1 Tone	High self 2800Hz (Hi Impedance)
CH3/3 Tone Stack	High self B120Hz - M780Hz - T2800Hz (Lo Impedance)
Presence	High self 5000Hz
Fat	+4db at 110Hz
Send Level	Max 1Vpp. a 100K Ohm
Return Level	Max 1Vpp. a 100K Ohm
Parallel Fx Loop	50% Max
Phantom Power to Midi In	12,6Vdc 1A
Output Tubes	2xEL34/6CA7
Preamp Tubes	5x12AX7/ECC83
Weight	11.0kg (24.25 lbs)
Dimensions	540mm x 240mm x 200mm

Midi Setting	Omnimode or CH1, CH16
Main Power Fuse	110/117Vac 3,13A - 220/240Vac 2A (Slo-Blo)
Ht internal Fuse	0,5A (Slo-Blo)
Bt internal Fuse	6,3A (Slo-Blo)

DESIGNED AND HAND-BUILT IN ITALY

WARRANTY TERMS

The guarantee of the products is two years from the purchase data. Switches, buttons, relays are one year. The thermionic valves, indicator lights, wiring cables are guaranteed for three months.

Responsibility of **CICOGNANI ENGINEERING** is limited to repair of replacement of the product at our discretion.

CICOGNANI ENGINEERING not be liable for damages resulting from loss of use of the product, lost time operation interrupted by non-use, loss of business or any other damages or incidental, consequential or otherwise; damage in transit or damage caused by inadequate packaging.

How to receive assistance: Send an email to sales@cicognani.eu in order to make agreements on how and where to send the product. The product must be sent together with a copy of the receipt/sales receipt. Shipping and packing costs are the responsibility of the purchaser.

THE WARRANTY IS NOT VALID WITHOUT A COPY OF YOUR RECEIPT OF SALE CERTIFYING THE DATE OF PURCHASE.

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