

~Sebatron~

Innovative Australian Audio



VMPQuadPlus operating manual

Copyright Sebatron 2017

Table of Contents:

VMPQuadPlus

High Voltage Four Channel Valve Microphone Preamplifier
with Direct Input



1/Introduction

2/Features

3/Functions and dials

4/Connections: inputs and outputs

5/Operation: mic, Direct Input

6/Operation: processing line level signals

7/Maintenance: valve type, replacement

8/Specifications

9/Safety and precautions

1. Introduction

The preamplifier is arguably the second most important piece of equipment in any audio signal chain configured for recording. The most important piece is the microphone. However performance of the microphone is very much dependent on the performance of the preamplifier so in one sense they are co-dependent and both equally crucial in creating well recorded material.

The VMPQuadPlus is a preamplifier that not only serves its purpose in amplifying microphone and direct input signals to a suitable recordable line level but also has the ability to musically enhance and enrich signals either subtly or heavily so that they are both more pleasing and more exciting to the ear. This is done via the interaction of the valve (or vacuum tube) and its carefully matched associated circuitry.

The VMPQuadPlus was designed to take full advantage of the positive attributes of audio valves by giving the user a wider range of textures obtainable through the careful use and setting of three different gain and level parameters - the pad/gain control, the normal/+12db toggle and the final output level control. Each has a different function in the preamplifying circuit and they can be used to not only optimize the signal level for recording but to enhance and thicken signals which would otherwise sound ordinary or thin when recorded through conventional preamplification.

This is because the VMPQuadPlus contains no integrated circuits or 'chips' and uses the valve for all the active voltage gain. All circuitry is totally discrete comprising of carefully chosen quality components, switches and sockets etc. Additionally the VMPQuadPlus design is completely single-ended true Class A which creates a musically rich open tone and also means there is absolutely no possibility of any of the crossover distortion that plagues Class B and its associated designs.

By cutting down the signal path from excessive features we have provided a purer more direct path for the signal that preserves its integrity and leaves any characterful attributes to the harmonics and colours generated within the valve itself.

We know that the VMPQuadPlus will provide you and your audience endless hours of listening pleasure from the recordings that were produced using it.

Congratulations on your purchase.
Sebastian.F.Sebatron

2. Features



VMPQuadPlus

- True Class A discrete circuit** for wide crystal clear frequency response
- Full high tension plate rail voltage** for extended dynamic range
- DC filament rail** for low noise operation
- Quality 12AT7/ecc81 dual triode valve** per channel
- Two band passive EQ** on each channel
- Totally variable valve gain range** from transparently clean to coloured
- Phase reversal switch** on each channel
- Switchable +48vdc phantom power** for condenser mics
- LED signal level indicator** on each channel
- Direct input for electric instruments** (Bass, Guitar, Keys etc.)
- No integrated circuits** in the audio signal path for organic quality
- Fully balanced transformer coupled XLR inputs** for warmth and depth
- Electronically balanced outputs** increased clarity and headroom
- Fully balanced TRS outputs**
- Heavy duty shielded internal power supply**
- Switchable mains voltage** ~110/120 or ~220/240
- Meticulous soldering, layout and build**
- Quality components** used throughout
- Solid 1.2mm mild steel powder coated chassis**

3. Functions and Dials

-phantom on/off toggle

Activates the +48vdc power for condenser microphones.

-LED signal indicator

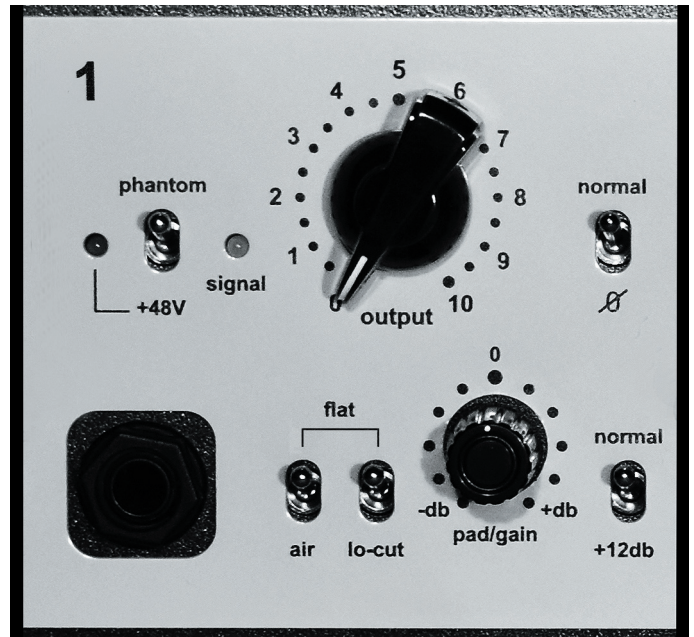
Indicates when an audio signal is present on the channel.

-Direct Input socket

A high impedance unbalanced phono plug input that goes to the grid of the valve.

Suitable for direct injection of electric instruments (bass,guitars,keyboards etc.) and up to line level signals from soundcards etc.

Can also accept TRS balanced cables.



-air eq toggle

Upper frequency enhancement using passive circuitry.

Subtle boost at around 10khz and above.Situated at the front end of the circuit so as not to boost valve noise.

Particularly useful for dynamic and ribbon microphones.

-low cut eq toggle

A mild cut of low frequency information starting at around 80hz.

Recommended for acoustic guitars, certain vocals etc.

-pad/gain control

Controls triode interstage coupling level. Used to either pad signals down to avoid distortion and run the circuit transparently or to drive the circuit and colour the signal with mild to heavy harmonic distortion.

-normal/+12db toggle

Runs the valve cleanly with some negative feedback (normal) or in open loop (+12db) which introduces increased gain and valve colour.

-output level control

Final output level control of signal.Allows the circuit to be driven yet held back so not as to overload the next piece of equipment.

-phase toggle

Switches output polarity of signal from normal to 180 degrees phase.

4. Connections

-XLR inputs (4)

Fully balanced transformer coupled floating input.Pin two hot.

-XLR outputs (4)

Fully balanced actively buffered output.Pin two hot.

XLR inputs/outputs



TRS outputs

-TRS phono outputs (4)

Seperate balanced phono outputs that can be used independently of the XLR outputs.Tip hot ,sleeve cold.

Can be used with unbalanced cables.



-Mains input

IEC style plug connector.

Input for mains power.

-Mains voltage selector

Switches unit mains voltage between ~220/240v and ~110/120v.

-Fuse holder

~240v@0.8amp or ~110v@1.6amp small fast blow fuse.

5. Operation

The VMPQuadPlus is very straightforward in operation. Ribbon, Dynamic and Condenser microphones are all suitable to use.

For mic recording :

1. Plug mic into appropriate channel using xlr connector on back as input. If mic is condenser type then turn down output level control and activate phantom power switch.
2. Plug output of the VMPQuadPlus preamp (using balanced XLR or unbalanced/balanced phono output cables) into soundcard etc.
3. For default setting the pad/gain control is usually best set in the middle (12o'clock) and gain toggle set to normal. Confirm signal is in a good range when signal LED lights up in correlation to input signal.
4. Adjust output level control to get healthy reading on recording device. You have a choice to record cleanly or with colour by adjusting the toggle and pad/gain control.

If more gain is required or more colour desired then set gain toggle to +12db and increase/decrease pad/gain control to taste and output level control to get optimum signal level to the connected recording device.

Direct Input (D.I.) Recording :

1. Plug Bass, Guitar, Keyboard or any other electronic instrument into the Direct Input socket on the front panel.
2. Plug output of the VMPQuadPlus preamp (using balanced XLR or unbalanced/balanced phono output cables) into soundcard etc.
3. Start with pad/gain control in the middle (12o'clock) and slowly bring up the output level control until the desired recording level is attained. Confirm signal is in a good range when signal LED lights up in correlation to input signal.
4. Adjust output level control to get healthy reading on recording device. You have a choice to record cleanly or with colour by adjusting the toggle and pad/gain control.

If more gain is required or more colour desired then set gain toggle to +12db and increase/decrease pad/gain control to taste and output level control to get optimum signal level to the connected recording device.

6. Operation (cont.)

Processing Line Levels :

The VMPQuadPlus is capable of handling strong line level signals. By carefully running line level signals into the VMPQuadPlus preamp it is possible to warm up your mixes and give them that special sonic texture that they may require. If using the VMPQuad Plus for mastering purposes just activating the 'air' switch and running the material with a slight amount of colour may be all that's needed. Careful adjustment of the pad/gain, toggle and output level controls will set the range at which the signal is being driven.

The subtle organic compressing characteristics of the valve will start to become apparent when signal levels are pushed slightly hot. We suggest dialing in a suitable amount of colour and then backing off slightly so as to not bring on the onset of too much distortion.

As with mic or direct input recording the same techniques apply regarding getting your signals sounding more organic and colourful.

There are two inputs to choose from when running line level signals into the VMPQuadPlus preamplifier. You can either use the XLR balanced line inputs on the back or the Direct Input socket on the front. Neither has any special sonic advantages as the bulk of the colouration is obtained from the valve. Generally speaking though, we recommend the direct input socket on the front panel as this is a direct path to the grid of the valve.

1. Plug line level signal into VMPQuadPlus by either using balanced XLR input on back or unbalanced phono Direct Input on front.
2. Plug output of the VMPQuadPlus preamp (using balanced XLR or unbalanced/balanced phono output cables) into soundcard etc.
3. Start with pad/gain control fully left and gain toggle switch to 'normal' then slowly bring up the output level control until the desired optimum recording level is obtained. Confirm signal is in a good range when signal LED lights up in correlation to input signal.
4. Adjust output level control to get healthy reading on recording device. You have a choice to record cleanly or with colour by adjusting the toggle and pad/gain control.

If more gain is required or more colour desired then set gain toggle to +12db and increase/decrease pad/gain control to taste and output level control to get optimum signal level to the connected recording device.

7. Maintenance

Valve Type : 12AT7 (equivalents : ECC81 , CV4024)

The VMPQuadPlus preamp comes stocked with brand new J.J valves. Sebatron uses J.J (Brand) 12AT7 valves exclusively in all the currently produced designs. These valves are favoured because of their realistic representation of the audio spectrum as well as their low-microphony and open-ended frequency response. Please note-valves vary greatly not just in frequency response or sound quality but also in noise floor and microphony.

Other recommended brands include: Amperax, Telefunken, Phillips, JAN, National Electric, Mullard.

Valve life :

As the VMPQuadPlus is a preamp then valve wear is not as severe as standard guitar amplifiers etc. Valve life also varies from valve to valve but is generally three to five years with average useage and up to ten years if used sporadically. As valves approach the end of their lifespan there usually is a rise in noisefloor (hiss-noise) and a narrowing of the sonic bandwidth.

If useage is minimal and within 10 hours a week on average then we would recommend valve replacement around the four to five year mark. Heavier useage, twenty hours a week and upwards for example , we would recommend valve replacement around three years.

One should keep in mind the fact the VMPQuadPlus is a pure Class A design which means the valves are active even when no signal is going through so it is a good idea only to power up for useage and not leave the unit on for hours for no reason. This will minimize wear and therefore increase valve life.

If possible allow approximately 1 to 3 minutes for a complete warm up of the valves before commencing recording. This is so the valves can stabilize in the conditions the unit is powered up in. It's not crucial of course and you may wish to use the unit immediately which is fine also but there still will be a warm up time of at least 30 secs before the valves will begin to pass a decent signal.

Replacing Valves :

Replacing valves is easy - simply take off the lid of the unit and pull the offending valve upwards with a slight wobble to get it out of the socket.

Plug the replacement valve into the socket keeping in mind the orientation of the gap in the pins so that they line up correctly.

8. Specifications

Inputs :

Balanced XLR (pin 2 hot) and (direct input) unbalanced 6.5mm phono.

Outputs :

Balanced XLR (pin 2 hot) and balanced TRS 6.5mm phono (tip hot).

Gain: 70db per channel

Frequency response: 20hz-60khz +/- 2db , 20hz-110khz +/- 3db 'air' on

Mic input impedance: 1K ohm

Direct Input impedance: 1M ohm

Maximum input level: +10dbu mic input , +16dbu Direct Input

Maximum output level : +30dbu

Noise (EIN): -126db

Total Harmonic Distortion: variable 0.05%-1% approx.

Mains power input: 110/120VAC-220/240VAC.Switchable on back.

Current consumption: 0.8amp ~220/240 or 1.6amp ~110/120

Dimensions: 482mmX190mmX89mm (W-D-H)

Weight: Approx. 6kg.

Mains Voltage Selector :

On the back of the unit near the mains power input you will see a small rectangle cut into the chassis so that access can be gained to the Mains Voltage Selector Switch. This switch should be set to your local mains power voltage.

This switch is usually set in the factory for the appropriate voltage that the unit is destined for however in cases of re-sale etc. it is always recommended to check this switch before initial power up.

9. Safety and precautions

- Do not operate unit in wet environments. Avoid moisture and excessive heat.
- Do not remove lid when mains power cord is connected.
- Always replace with same type of rated or recommended fuse.
- Operating temperature range : 0C to +50C approx.
- To prevent the risk of electric shock do not operate with lid removed.
- Do not open when connected to mains AC source.
- Do not expose to dripping or splashing and do not place objects filled with liquids such as vases on top of the unit.
- For proper safety the unit must be connected to a mains socket outlet with a protective earthing connection.
- Unit is live even when switched off.Indicator lamp beside the on switch does not mean the apparatus is disconnected from the mains.To disconnect completely from the mains supply cable needs to be removed from the apparatus.
- The mains power disconnect device for apparatus is the appliance coupler on the rear of the apparatus and shall remain readily operable.
- No user serviceable parts inside.Refer service to qualified personel.
- Refer to manual illustration for input and outputs connect.

Ventilation :

Like all other Class A equipment this unit will produce heat during normal operation .Please consider this when mounting- do not block the ventilation holes,do not place directly above or below hot equipment (e.g. amplifiers, power supplies, heaters - preamplifiers are also best kept away from this kind of equipment due to electrical noise)

Servicing :

Please do not open the case unless instructed to do so by Sebatron.There are no user serviceable parts inside apart from the valves.If your unit is not performing as expected please contact your dealer to find the nearest authorised service agent.

Service/Repair queries :

sebatron@sebatron.com

