

~Sebatron~

vmp series

valve microphone preamplifiers



USER'S
MANUAL

Thankyou for purchasing a Sebatron unit. We are sure it will give you many years of solid use and take your music to another sonic dimension. We produce original, innovative audio equipment that is serious value for money. To get the best performance, we recommend you switch on the unit and let the valves warm up while you read this manual.

SAFETY

Electrical - Normal common sense electrical precautions apply to this product. Do not expose to moisture or rain, do not go poking around inside the case. Valve equipment uses high DC voltages in addition to mains voltages.

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)

Power Source - Your unit is factory preset to your local voltage on shipping and this voltage is marked on the rear of the unit. Please check this carefully before powering up the unit! We are not responsible for any damage caused by incorrect voltage settings.

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.

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vmp Series

Introduction

vmp-1000e



vmp-1000eVU



vmp-2000e



vmp-2000eVU



vmp-4000e



The VMP Series of valve microphone preamplifiers are based on a new and unique design. It was inspired by the classic designs of the past, by new technology and by musical instruments, their tuning and the human ear. The circuit is discrete Class A throughout, ensuring the signal is kept intact and pure from the input transformer via the valve to the solid state output buffer.

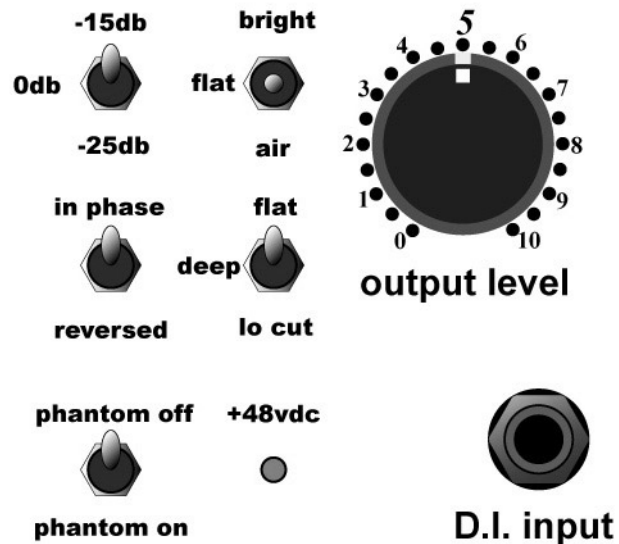
There are no chips in the audio path which means - above all else - the unit is very difficult to damage with an incorrect interface. Chips, or integrated circuits, are often a weak point in consumer-level hybrid valve designs because they fail easily when overloaded. This is not the case with the VMPs; being a true valve design, they are free of such failings and are ruggedly dependable.

Short of a good microphone and sound source, the pre-amp is arguably the most crucial component in any recording set-up. Digital recording has far superseded the technical specifications attained by even the best reel-to-reel machines less than 20 years ago, providing pure, flat sound recording and reproduction with no wow or flutter and an insignificant noise floor. The recording medium has effectively become transparent, with the colour and tone of a recording completely under the control of the engineer.

These improvements, akin to cleaning a window, have accentuated the importance of having a versatile pre-amplifier to precede the analogue-to-digital (A/D) converters. A 'warm' preamp is often required to give a recording some organic qualities, overcoming the cold purity of digital, but sometimes a pure preamplifier is needed to capture all the detail for further processing. Your Sebatron VMP Series preamplifier is capable of both of these extremes, and quite a few flavours in between, making it suitable for fat, warm, rock sounds, taming digital nasties such as synthesizers and minidisc, organic acoustic sounds and pure classical recordings.

vmp Series

Front Panel



The front panel contains all of the channel controls and the unbalanced **D.I. Input**.

- The **pad** switch changes the amount of gain available from the valve, which means more second order harmonics and soft clipping compression ('valve warmth') when driven hard. Depending on input signal levels, it is often possible to choose any of the Pad settings while keeping the output signal neither too high nor too low for your recorder through the use of the output level. Using the Pad at -30dB will give you a clean, transparent signal and a stronger bright/air EQ effect, while increasing to -15dB and then 0dB pad will make your sound warmer and possibly even distorted, with gradually less high EQ effect.

- The **bright/air** High Shelf EQ consists of two musically useful curves at the extreme high end of the audio spectrum, with bright starting at around 2-4kHz and air higher again. The frequencies effected are often above hearing ranges, but affect spatial location. The High Shelf EQ comes before any active gain stage, which means less noise. Remember that bright/air is interactive with the pad control, more pad equals more High EQ.

- The **deep/lo cut** Low Shelf EQ can boost or cut the lower extremes of the audio range, either cleaning up unnecessary low end noise and rumble or boosting them for fat, solid sounds. These ultra low frequencies can be difficult to control, with slow rise and fall times and a lot of power contained within the signal. Careful attention has been paid to these frequencies, with plenty of headroom allowed, which means fatter bass for you!

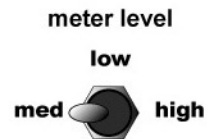
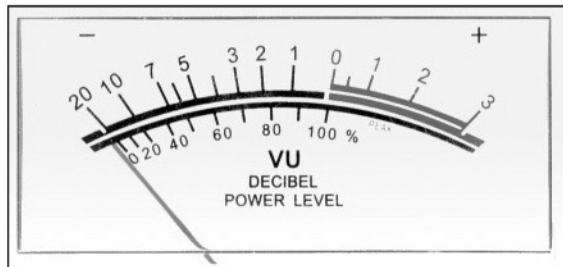
- The **phantom off/on** switch provides +48V phantom power to the XLR input when required.

- **Phase reverse** can be used to allow for phase differences between microphones when using multi mic techniques. If the combination of microphones (e.g. top and bottom of snare) is sounding thin or weak, try reversing the phase.

- The **output level** controls the signal level from the valve to the discrete Class A output buffer stage.

vmp Series

Metering



Those units that feature VU meters allow you to gain an extra insight into the signal being amplified. All Sebatron meters are driven by a discrete buffer stage, so that no load is placed on the audio signal being monitored.

The meter level control gives you the choice of 3 possible ranges to allow for a much greater dynamic range than the traditional VU. The **medium** range is calibrated to 0dBu at the XLR balanced output.

Always remember that the VU specification was developed with tape in mind, and as a result only represents a fraction of the dynamic range possible with today's digital recordings. All Sebatron products are designed with this wide dynamic range in mind and the limitations of the meter in no way represent the limitations of the unit. Because we use no integrated circuits, there is no hard clip point, only a gradual increase in valve warmth and then distortion that can be musically useful. What this means is that if the meter is slamming against the stops but the sound is just what you want, switch the meter to a lower level and follow your ears. The input meters of your recording device show the only truly important levels.

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Rear Panel

change the units input mains voltage from 110-120V to 220-240V

Voltage Selector Switch

120V ↔ 240V

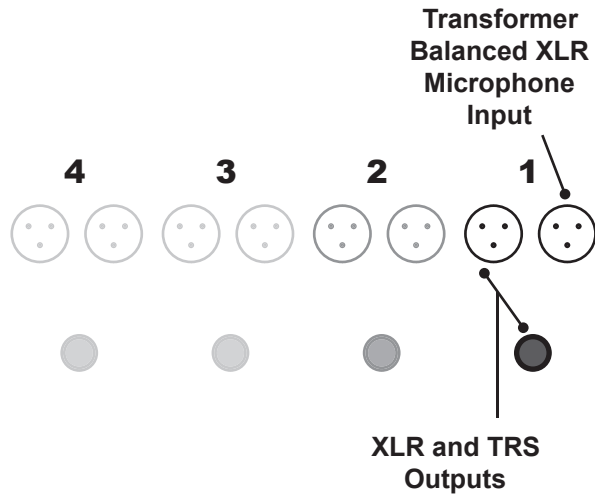


1.25A

Fuse



Mains Input



The rear panel of the vmp Series preamps contains the balanced inputs and outputs and the IEC mains connector. The input voltage range is switchable between 110-120V and 220-240V. **Make sure it is set correctly before you switch the unit on!** Sebatron units are built tough and usually survive abuse.

The **XLR and TRS outputs** are fully balanced by discrete Class A driver circuits. The XLR's all follow the industry standard Pin 2 Hot pinout. The XLR output operates at a nominal +4dBu and is the main recording output. The TRS balanced/unbalanced output is at a lower level and is intended for direct (zero latency) monitoring or unbalanced connections.

Using the vmp Series

Follow this guide for initial SETUP

Firstly, turn all of the Output Levels fully counter clockwise to 0, then plug in the mains power to your unit. Switch it on and leave the valves to warm up for at least 10 minutes before use. All valve equipment produces considerable amounts of heat and all preamplifiers are, by design, very sensitive, so the unit should be kept away from sources of electrical noise such as power amplifiers, heaters, computer monitors etc and plenty of airflow should be allowed for cooling.

Next, connect the XLR output to your recording device. A balanced cable will give the best signal to noise ratio but make sure that you are connecting to a line level input, not a microphone input. Many modern computer recording interfaces have 2 or more XLR microphone inputs and several TRS line inputs. In this case, use a balanced XLR to TRS cable or if unavailable, use a balanced TRS to TRS cable from the vmp's secondary output.

DON'T connect a balanced line level output directly to an XLR Mic input, the signal levels will not be matched, resulting in increased noise and possible distortion, and there is a chance of damage occurring to the line level unit if phantom power is switched on.

If you require a separate monitoring signal, you should connect a balanced or unbalanced cable from the TRS output to your mixer.

Connect a microphone to the rear XLR input. Apply phantom power if required. Alternatively, a line level signal or instrument can be used via the DI input. Start with the EQ set to flat and the pad set to -30dB, unless the signal is very weak. You can now carefully increase the channels output level and you should get a signal through to your recording and monitoring systems. Adjust the output level according to your recording systems input level meters.

If all is well, listen to the effect that the pad has on the 'colour'. Drop the output level back to 0, switch to -15dB pad and increase the level again. The signal will be much louder, but also 'warmer'. Now try the 0dB pad position. If you have a hot signal such as a modern condenser microphone or an active bass, it may be distorted on this setting, but that is not always a bad thing.

Below is a rough guide to setting the Pad

Pad	<i>0db</i>	<i>-15db</i>	<i>-30db</i>
Mode:	Coloured	Classic	Transparent
Bandwidth:	Tapered/ Organic	Open	Air
Gain:	High	Medium	Low
Bright/Air:	Subtle	Mild	Heavy
Preferred Mic Types:	Ribbon/ Dynamic	Dynamic/ Condenser	Condenser

Next, try out the EQ switches. Don't make any assumptions here, sometimes deep is not good for bass, maybe bright is better. The EQ consists of high and low shelves, and can also be thought of inversely as a broad mid-range bandpass filter. For example, a high and low boost is the same as a mid cut. Allow yourself time to know the E.Q settings and how the air is factored by the pad control. Remember that it is better to boost the high frequencies at the start and then cut them later than to try and boost them later and also bring up all the noise that has been added along the way. This is especially relevant if you are recording to tape or if you only have mediocre EQ available during mixdown. Most software EQ's and lesser hardware EQ's have an ugly top end boost, it is better to use them for cutting. Also, it is better to cut unnecessary low end at recording time, as excessive low end will lower the headroom available.

If more gain or more 'valve' is required, it is possible to daisy chain channels together. Use an unbalanced patch lead from the TRS output of one channel into the DI Input of another. The output level of the first channel now controls the amount of signal driving the second channel and the individual pad and EQ controls expand the possibilities. Be subtle or be extreme, chain more than 2 channels together... This can be useful for low output microphones such as ribbons or as a heavily coloured signal chain for guitar, bass or keys.

The DI Inputs are able to take up to a +20dBu line signal and the unit can be very useful for further processing during mixing and mastering. Try running stem mixes through a vmp for added punch and clarity.

Recommended Settings

We have included some basic settings to get you on track. All of the settings are very dependent on the signal source, including the transient and harmonic content. Basically, you should always listen carefully, don't assume the obvious and be open to the unexpected. This applies to any audio control device. We have also included some blank sheets for you to photocopy and document your own settings.

Driven		
		for a rich and warm sound
Control	Setting	Notes
Pad	0dB	drive the valve hard
Output Level	low	make sure you don't clip your recorders inputs!

Ultra Clean		
		for a transparent sound
Control	Setting	Notes
Pad	-30dB	clean and linear valve amplification
High EQ	bright/air	these settings can really open up the top end, but will also boost hiss and other noise coming from the source

Fat Bass		
Control	Setting	Notes
Pad	0dB	lots of gain and valve compression
Low EQ	deep	back off if it's too much

Acoustic Guitar		
Control	Setting	Notes
Pad	-15dB - 30dB	leave headroom for transients
Low EQ	lo cut	cut off some boominess
High EQ	bright/air	add to taste

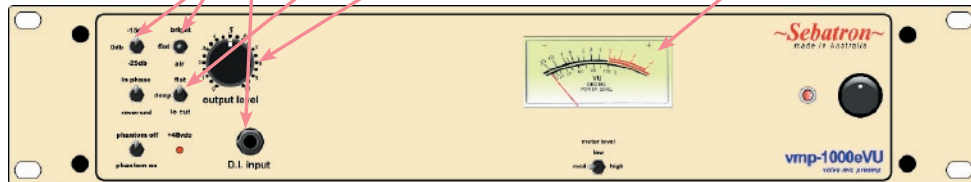
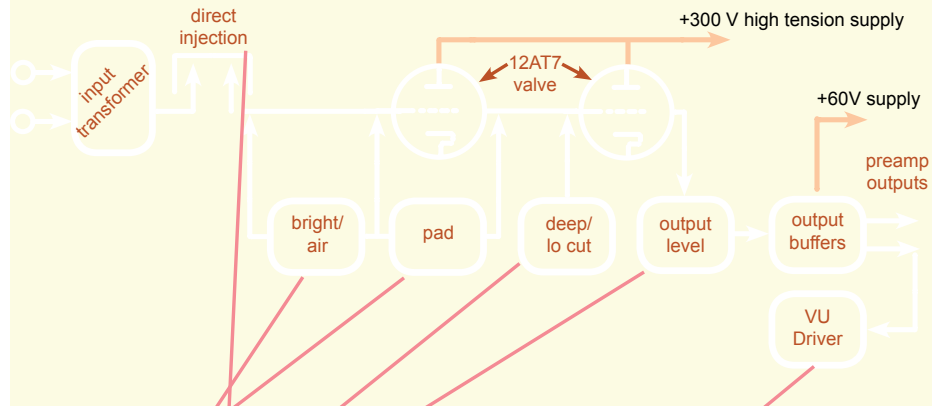
Kick Drum		
Control	Setting	Notes
Pad	-15dB - 30dB	leave headroom for transients
Low EQ	deep	as required
High EQ	bright	for more 'click'

Snare Drum		
Control	Setting	Notes
Pad	-15dB - 30dB	leave headroom for transients
Low EQ	deep/lo cut	depends on mic techniques
High EQ	bright/air	add to taste

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Date		
Notes		
Source		
Channel #		Track #
Control	Setting	Notes
Input	Mic / DI	
Pad	0 / -15 / -30	
Phase	in / out	
Low EQ	deep / lo cut	
High EQ	bright / air	
Output Level		
Source		
Channel #		Track #
Control	Setting	Notes
Input	Mic / DI	
Pad	0 / -15 / -30	
Phase	in / out	
Low EQ	deep / lo cut	
High EQ	bright / air	
Output Level		

~Sebatron~ vmp Series		
Date		
Notes		
Source		
Channel #		Track #
Control	Setting	Notes
Input	Mic / DI	
Pad	0 / -15 / -30	
Phase	in / out	
Low EQ	deep / lo cut	
High EQ	bright / air	
Output Level		
Source		
Channel #		Track #
Control	Setting	Notes
Input	Mic / DI	
Pad	0 / -15 / -30	
Phase	in / out	
Low EQ	deep / lo cut	
High EQ	bright / air	
Output Level		

VMP Series preamplifier



Specifications:

- Frequency Response: 10hz-110khz +/-2db
-30 db pad 'air' activated
- Maximum Output Level: +28 dbm balanced , +22 dbm unbalanced
- Total Gain: 60 db
- Noise @ 60db gain: -120 db
- Input Impedance : 600 ohm
- Output Impedance : less than 600 ohm