

# Manley VARIABLE MU

Claiming more of a historical heritage than many of the valve processors presently appearing on the market, Manley's Variable Mu comp-limiter is sure to attract attention. **ROB JAMES** puts it through its paces

**THE COMPANY TELLS ME** that David Manley designed the limiting circuitry in this device 30 years ago; this is perhaps five years before I first came across the concept. I remember studying the principles embodied in this unit when I was training at Woodnorton from where I have happy memories of lining up valve PPMs—which, if memory serves, also employed variable-mu valves. Later (though not for long) I used a similar unit before it was consigned to the scrap heap in the march of progress. It would be worth a fortune today...

The huge advantages of current valve designs—such as the unit on test—is their quietness and relative stability. Some of the older designs needed alignment on a daily basis even when the valves were young and at their best were decidedly hissy.

The manual suggests; 'good ventilation is definitely encouraged'. It's good advice as this baby runs hot, something for which I was very grateful in the absence of central heating with the temperature outside hovering around zero. It is a 2U-high box, but I would allow 4U in the rack for decent ventilation. I was delighted to see the manual provides instructions on setting up the device for such parameters as Meter Gain Reduction Accuracy and Zero although this requires the lid to be removed so should not be attempted by those without the knowledge or confidence to carry it out safely. Curiously the internal balance which adjusts the current draw of the variable-mu valves is available on the front panel together with the required test points to attach a multimeter. Curious because Manley reckons this adjustment is normally only required when the valves are changed. With normal use this should only be required once every four or five years.

The variable-mu valves fitted are now 5670s as the original 6386 is now in very short supply. These are not a direct swap without other component changes.

The construction is solid and seems meticulous. The circuit board is neatly laid out but the track widths are of necessity far more generous than is the case with the densely packed 'modern' digital cousins of the computer. There are a total of eight valves or tubes as they say in California.

**THE LOOK** and feel of the unit is interesting. At first glance it all harks back to an earlier age and inspires confidence. But when you examine it more closely the design is more subtle. The knobs are hewn out of solid metal—no bakelite



here—the toggle switches are the modern dainty variety not the clunky great things on the device I remember. The panel legends and meters are large and clear enough for the most myopic engineer.

Controls are as you would expect on a device of this type, there is a hard wired **IN-BYPASS** which simply connects input to output, **COMP-LIMIT** which gives you 1.5:1 compression or limiting at 4:1 which these days I would class as compression although the ratio increases when limiting over 12dB up to 20:1 maximum. The knee is soft. Recovery times are selectable on a rotary switch with five steps between Very Slow at 8s/dB to Fast at 0.5s/dB. Threshold control is on a pot as is output attenuation and attack. **DUAL INPUT** sets input attenuation. The unit may be used twin channel or linked for stereo with the **LINK** switch which, in this unit, links the attack and release parameters so it is still necessary to match the other controls. The meters remain unlinked to facilitate threshold setting.

On the back panel are the necessary sockets with inputs and outputs provided on balanced XLRs. Unlike some of the other Manley units jacks are not provided.

There is also a mastering version available with 1/2dB **THRESHOLD** and **OUTPUT** controls, a 5-position **INPUT** preset switch and 12-position **ATTACK** control to enable accurate, repeatable settings. With transformers on input and output this machine has all the makings of a classic.

One point worth noting in this context is the the output impedance which is 600Ω and the input impedance which, at somewhere around 1kΩ, may give problems with semi-pro equipment expecting to see high impedance; 600Ω I-O used to be standard on all professional equipment but is now something of a rarity. The output impedance should not cause any problems. The unit will only give of its best when used with balanced sources and destinations.

Manley recommends allowing 15 to 20 minutes from power-up to let the circuitry stabilise. The first thing you notice is the gain reduction meters are right-hand zero and are held in this condition

**Manley's Variable Mu: class looks and a 'real valve sound'**

electrically so the needles move from left to right as the unit warms up. I was again reminded of the old valve PPMs where the same thing applies but with zero on the left. I remember being told this was because the spring 'return' of the meter needle was faster than the valve electronics could achieve.

This is not a 'brick wall' broadcast type limiter nor is it intended to be. While it is possible to provoke the machine into 'pumping' and transient distortion you have to want to do it as the control settings required are extreme. The Manley can also be used to give a smooth 'creme fraiche' valve distortion if you require it. The unit is at its best providing modest amounts of compression on a wide variety of instrumental sources. It is well suited to classical or acoustic work and will gently lift instruments or vocals out of the mix. It tightens politely, more lycra than whalebone, more affectionate squeeze than bear hug.

Another possible application would be in compressing dialogue tracks in sound for picture. I fondly remember using one of the Manley's predecessors for this purpose. It was always less obtrusive than the solid state alternatives. The Manley performs this task without you being aware any processing has occurred.

Push it harder and you get plenty of punch, subjectively far more than meters would indicate and the Manley begins to impress in a different way. Real valve sound without the sloppiness evident in some units. Drums take on real 'slam' and boring bass parts come to life. **S**

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