THERMIONIC CULTURE

THE CULTURE VULTURE

valve distortion unit

OPERATING MANUAL



WARNING

Do not take this unit seriously. The Culture Vulture is a ‘fun’ effects unit and has been designed for maximum pleasure!

However, for your personal safety, please read this operating manual and this warning thoroughly before using the equipment.

This unit must be installed in such a manner that operator access to the mains plug is maintained. Where the product is to be rack mounted, this may be achieved by having access to the disconnection device for the whole rack.

To reduce the risk of electric shock, it is essential that the unit is disconnected from the mains supply before removing the cover.

Please also note that the power supply capacitors within this unit can remain charged even after the mains supply has been disconnected. It is essential that these capacitors are discharged after the mains supply has been disconnected and the covers have been removed.

In the event that this unit has been dropped or has suffered an impact, an electrical safety test must be carried out before reconnection to the mains supply.

This equipment is not intended for use in explosion hazard environments. It must be used and stored in studio conditions, such that the ambient relative humidity does not exceed 80%, nor is the temperature to be allowed to drop to a level, which would cause dew point to be reached.

Please ensure that adequate ventilation is provided and that the ventilation slots are not obstructed. When rack mounting this equipment, a fan may be required to provide sufficient airflow.

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1 Introduction

The Culture Vulture is the first and only all valve unit, dedicated to producing the best harmonic distortion money can buy.

It can ‘warm’ a sound gently, or create a noise like a 200 watt guitar stack overdriven with all speakers slashed.

The Culture Vulture is a two channel unit for adding harmonic distortion to a variety of input sources. By biasing and configuring the distortion valve (6AS6), three types of distortion with infinite variations can be achieved.

Although the unit can be ‘clean’ (less than 0.2% THD), added valve distortion may be quite desirable, improving naturality and smoothing off unwanted digital spikes. But The Culture Vulture can be used for effects! Push it and try it!

The user has total control over the type and amount of distortion, which can be changed from even to odd harmonics or a combination of both. Starved, the sound from The Vulture becomes thin and loses its body, overfed, it becomes fatter and more rounded.

The Culture Vulture features two channels which can be used independently on individual tracks, or put across a whole stereo mix.

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2 Controls & Meters

The ‘drive’ and ‘output level’ controls simply vary the amount of gain that the input and output signals are subjected to.

An output level control setting of around 8-9 will give the cleanest output for +4dB. Reduce it for lower output levels or when increasing the drive level for higher distortion.

The ‘distortion’ switch changes the valve from triode ‘T’ (even harmonics) to pentode ‘P1’ (odd harmonics). ‘T’ is cleanest but ‘P1’ is most popular and will simulate analogue tape distortion at about 0.4mA current reading. ‘P2’ is an unusual version of pentode and will give more drastic distortion at high bias settings, especially when ‘overdrive’ is selected. It will also give a frequency doubling effect at certain settings.

The ‘overdrive’ switch set near the ‘drive’ control increases gain current by approximately 20dB, and bias.

The ‘filter’ is a low pass filter operating at 5 or 9 kHz.

The ‘bypass’ switch links the input to output directly, cutting out the electronics of The Culture Vulture.

The meter reads the current flowing through the 6AS6 valve and the bias control adjusts this current. Current setting for lowest distortion is at 0.28mA.

For a fuller explanation see section 3.

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3 General Operational Hints

The performance of the Vulture is inherently reliant upon the volume and content of the audio signal going through it. It would be virtually impossible to give example settings to the user and expect them to work for any sound. Instead it is more useful to point out the guidelines that govern the way the Vulture may be used.

The first thing to note is that triode and pentode settings give quite different effects. The triode (T) setting on the Vulture will give a subjectively smooth, rich kind of a sound to the distortion. If this seems a little too ‘slow’ sounding, then a change to the pentode (P1) setting will give a harder more edgy sound. The P2 setting is more unusual than the other two settings and can produce some quite weird effects.

Using the bias control has a major effect on the distortion. The cleanest setting for the bias is at about 0.28 mA on the meter. To achieve correct balance between channels when used in stereo mode, always adjust the bias control so that the meter readings are the same. If the bias is increased, then the Vulture will tend to allow more of the signal through and hence will distort the signal more readily. This will also give an increase in volume and subjectively cause the signal to sound rounder and more harmonically rich. If the bias is decreased from 0.3mA then the Vulture will approach a situation in which it is trying not to allow signal through it. This has the effect of distorting the signal in a less linear way. To the ear the sound may have slightly more edge or crispness to it when this happens. If the bias gets towards zero then the Vulture will begin to only allow the peaks in signal through. This has a ‘gated’ effect and may come in useful on drum sounds or anything that might sound good being chopped up in such a way.

The P2 setting reacts quite strangely to decreasing bias and with just the right amount of signal level will cause a frequency doubling effect to occur. To hear this effect a bias of 0.15mA to 0.2mA will give the right conditions and all that needs to be

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done is to adjust the signal level until the effect is heard. Obviously the signal content is all-important, although this effect is very unpredictable so experimentation is needed to find something suitable.

The overdrive switch and filter are fairly self-explanatory to use. Its worth noting that a lot of distortion combined with some filtering can turn a sine wave into a triangle or sawtooth wave, this does relate to keyboard and synth sounds very well.

The low level output jacks are provided to give a better output level and impedance to feed into a guitar amp. This can be useful when using the Vulture as a guitar distortion box, or when needing to re-amp a line level signal.

Another thing to note is that the Vulture makes a great DI box. Plugging a bass guitar into the front jack can produce some incredibly good bass sounds. The same goes for fizzy guitars (use the overdrive switch to “go all the way”).

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4 Inputs & Outputs

Inputs and outputs are unbalanced stereo jacks on the rear panel.

There are two output sockets per channel. ‘Hi’ is standard line level (+4dBV). ‘Lo’ is 20dB below this and can be used to drive an amplifier. Both outputs can be used together. NB. When in ‘bypass’, the ‘Lo’ output will be 20dB below the input level.

There are also input jacks on the front panel for ‘D.I.’ use. These cut out the signals from the input jacks on the rear when a jack plug is inserted.

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5 Servicing & Maintenance

5.1 Valves

All valves are selected to ensure that the unit gives optimum and consistent performance across both channels.

Although Thermionic Culture Ltd. guarantees the valves for twelve months, they can last for up to twenty years.

Spares can be obtained from Thermionic Culture Ltd.

Valve complement:

Input - 2 x EF86;
Distortion - 2 x 6AS6;
Output - 5963 (12AU7 / ECC82 near equivalent)

5.2 Operating voltage / Fuse

The Culture Vulture is switch selectable to operate from either 230V or 115V 50/60Hz AC mains supply.

The power consumption is 20W.

NOTE: Mains fuses may be replaced in accordance with the following table:

Operating Voltage	Fuse Rating
115V	T500mA 20mm type
230V	T250mA 20mm type

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6 Specification

Maximum Output level: (M.O.L)	+17dBV
Distortion:	0.2% to 99.5%
Noise:	better than 75dB below M.O.L at typical settings
Input impedance:	30kΩ
Output impedance:	2kΩ (should ideally drive a 10kΩ + input impedance)
Frequency response:	± 1.75dB over 50Hz to 15kHz (at low distortion)
Max. gain (clean):	35dB
Max. gain (overdriven)	>60dB
Dimensions:	483 x 89 x 260mm
Weight:	5kg

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