THERMIONIC CULTURE



OPERATING MANUAL



WARNING

Do not take this unit seriously. The Culture Vulture Super 15 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.

The Culture Vulture Super 15, though valve/tube based, does not run exceptionally hot. Other equipment can be mounted in the rack directly above and below it, as long as the rack is well ventilated and the ventilation slots are not obstructed.

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1 Introduction

The Super 15 version of the Culture Vulture was introduced in 2013, which happened to be our 15th Anniversary.

This edition retains the features found on our 11th Anniversary edition and was introduced due to the continuing demand for these features plus some enhancements. Special features are:

- The input gain controls now go up to “15”- not just “11” – yes- it does have a little more gain ;
- Input valves are replaced by French NOS 5654 RT, a special mil spec valve of Philips design for low noise;
- It has a 10 position ‘function’ switch which apart from the usual “Triode” and “Pentode” settings has 5 mid lift “eq” settings and 3 extreme distortion settings;
- The switch next to the “drive” control has 3 positions, “normal”, “+10dB” and “overdrive” instead of 2;
- We have added a "Presence" switch which operates only on the "+10dB" position of the "drive" switch.

The user now has even more control over the type and amount of harmonics produced from a practically clean triode setting to virtually 100% distortion.

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2 Controls & Meters

2.1 Drive

This control is really in 2 parts, a switch and a rotary pot. The switch gives a coarse control and the pot a fine control of the signal input level. At the first position “Normal” (for line level signals) the frequency response is flat. The mid position increases the gain by 10dB and adds some top end for extra bite. “Overdrive” is 28dB above “Normal” and can be used for extreme distortion effects at line level, also guitars and other low level sources.

The drive pot controls the amount of signal you are feeding to the 2nd “distortion” valve, a 5725, so the higher it’s set the more effect. It should be used in conjunction with the output level control.

2.1 Output Level

This simply controls the signal going to the output valve. A -10dB switch is provided for more accurate control when a Vulture is driven hard, also for comparison – see 2.5.

2.3 Bias (and meter use)

This control varies the current through V2 by changing the positive voltage on its cathode. The actual current is shown on the milliammeter.

When the Vulture is starved of current the sound is thinner and when over-fed it becomes warmer and fatter. The best setting for low distortion is usually 0.25mA but see the test report supplied as this may vary. When the Vulture is being pushed into heavy distortion the meters will twitch.

N.B. The bias pot is naturally noisy in operation as all of the valve’s current is flowing through it, but it should be silent when set.

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2.4 Function Switch

"T" and "P1" positions mean that V2 is configured as a triode (all even harmonics) or a pentode (odd harmonics). All "PK" positions use the pentode configuration.
"PK1" to "PK5" have a sharp filter across the bias control enabling the user to add a unique form of mid lift at frequencies specially selected for musical effect.

"SQ1" is a very distorted sort of "pentode" and "SQ2" is a more extreme version of the same (equivalent to "P2" in the standard Culture Vulture).
"SQ3" is an exciting new discovery. It will sound quite clean until overload is close when lots of harmonics are suddenly added, and at higher levels over-compression will occur and dynamics are inverted.

2.5 Presence

This switch works only on the 10dB setting end and is out when at centre position. Up it adds +3 dB and Down +6dB to the mid range, peaking at 3kHz.

The +10 switch itself adds a little extra top so one can achieve a brighter 'crunchier' sound using this facility. Compare by using the -10 dB switch next to the O/P pot.

2.6 Bypass

This switch links the line input to the output directly, cutting out the electronics of the Culture Vulture. This switch is designed to compare the Vulturised sound to the original. It is disabled when the DI input is used. The processed signal only will always come up on Output Lo.

3 General Operational Hints

When just “warming” the sound use “T” or “P1” setting with output level control at 10-12 for line level output. See test report for best setting. Turn down the control as you increase input level and/or with increased V2 current settings. Turn to max for most SQ1 & SQ2 applications.

The “cleanest” setting for the bias is around 0.25mA and this should be used to give sounds just a bit more “naturality”.

A good setting to simulate analogue tape distortion is “T”, normal drive, meter set to 0.3-0.4mA. The most popular setting, generally, appears to be “P1” 0.4mA.

The “PK” settings were designed with guitars in mind but they can be used equally well with keyboards and other instruments. We have found that because the frequency peak operates around the bias section of the circuit the EQ effect is quite unique in its results. There is a subtle “expansion” effect happening along with the peaking effect that gives a far more interesting and interactive result to the distortion than simply EQ’ing the signal into or out of the unit would ever achieve. This adds a very interesting dimension to the way an electric guitar player responds to the unit and vice versa.

So, select your setting bearing in mind the musical key. The treated instrument will really stand out in the mix. Remember, reducing the V2 current will increase the lift, whereas no bias, or max current, will nullify the effect.

On the “squash” (“SQ”) settings only, it’s a characteristic of the type of valve used that a frequency doubling effect can occur when distortion sets in. This can be quite interesting and is most likely to occur with high bias (around 0.1mA current).

Use the “+10” setting of the “drive” switch if you want a little more “bite”.. There may be sufficient gain to use this setting for some electric guitars when DI’d, if a low bias (high current thru

V2) is used. Otherwise, use the “overdrive” setting when DI-ing guitars

Use the “filter” switch to reduce unpleasant upper harmonics, especially useful when using “SQ” effects.

If using the unit across a stereo mix or group, then ensure that you set it up with both meters reading the same.

NB. There is little chance of retaining an accurate stereo picture when using “SQ” settings.

4 Inputs & Outputs

The input jack socket on the front panel is designed for use when DI-ing instruments and when a jack plug is inserted it cuts out any signal coming from the rear socket.

There are 2 outputs per channel on the rear, labelled “Line Out” (XLR connector) & “O/P Lo” (Jack socket). “Lo” is around 20dB below line level (+4dBu) and can be used for re-amping, etc.

The inputs at the rear are XLR connectors and transformer balanced.

All jack sockets are unbalanced.

5 Servicing & Maintenance

5.1 Valves

The unit comes with a 12 month warranty covering all parts, including valves (referred to as tubes in some countries), and it is essential that it is returned to our factory or to the dealer from which it was purchased for repairs to be carried out otherwise the warranty is invalidated. There is, however, one important exception to this rule:

Valves are quite delicate items and the most common cause of failure, despite our choice of high quality ones. If a fault occurs on one channel, a valve is quite likely to be the cause, so if you feel confident and willing to do the following, here's the procedure:

Unplug the power and remove the top by undoing screws which attach it. Note: 1 screw is shiny and must be replaced in the same place. The unit can be powered up safely without the top on, provided that the screening plate above the circuit board is not removed and reasonable care is taken not to touch exposed connections, but don't change valves with the power on! Change over the 2 input valves. These are the ones with metal screening cans nearest the left & right sides. If you press down a little and twist the can anti-clockwise it will come off, then gently pull out the valve. Be careful when replacing that the pins line up. Do not bend them! Plug back in and see if the fault has changed sides, if not, try changing the next pair in (the "distortion" valve). Be sure not to mix up the valves as they are different types and have different pin connections!

The valve in the centre is the output valve and is a double triode common to both channels. If you want to be sure, you can replace it with the common ECC82 (12AU7) with

very slightly degraded results. Spares can be obtained from Thermionic Culture Ltd.

Input valves can be replaced individually but “distortion” valves should be replaced in matched pairs. Your test report will show the type number of the valve fitted at the factory. To save recalibration, order the same type number from Thermionic Culture Ltd.

Valve complement (equivalents in brackets, nearest 1st):

Input: 2 x 5654 (M8100, CV4010, EF95)
Distortion: 2 x 5725 (6AS6/W, CV 4011)
Output: 1 x ECC 802S (6189, 13D5, 12AU7)

5.2 Operating voltage / Fuse

The Culture Vulture Super 15 Edition is switch selectable to operate from either 230V or 115V 50/60Hz AC mains supply.

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

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

6 Specification

A) Figures obtained with 1kHz signal, 0.25mA bias current, Function at T, feeding a 10kΩ load.

Distortion (THD) @ 4dBu:	0.2%
Frequency response:	
Normal drive:	35 Hz to 20 kHz , ±1.5dB
Overdrive:	52 Hz to 12 kHz, ±1.5dB
Max Output Level (MOL):	+18 dBu, 2% distortion
Noise:	85dB below MOL

B) Maximum Figures:

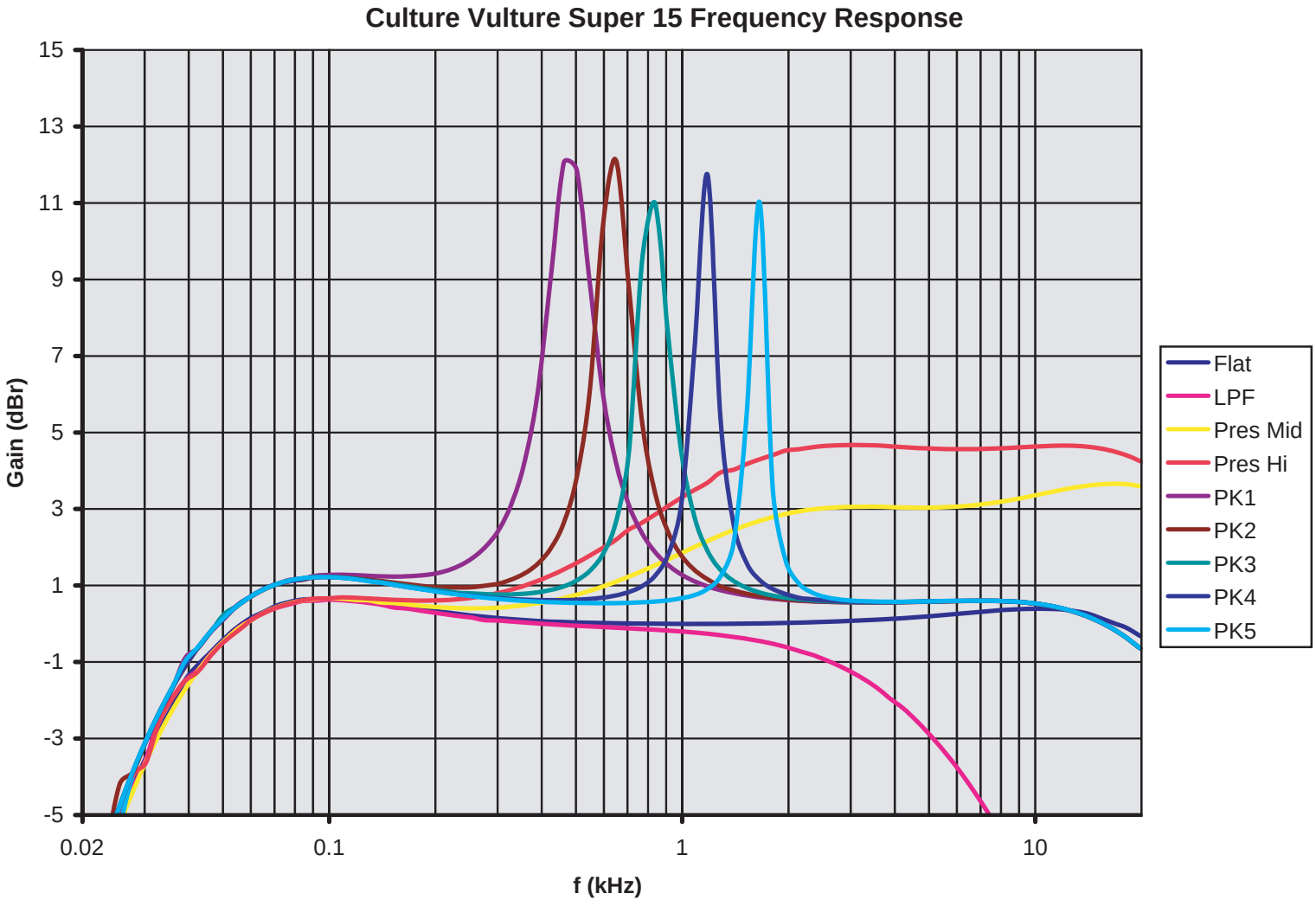
Distortion (THD):	98%
MOL:	+22 dBu, 20% distortion.
Gain (DI input):	>65dB.

C) Impedances:

Line Input:	20kΩ
DI Input:	50kΩ
Line Output:	1kΩ
Lo Output:	4kΩ

D) Power Consumption: 20W

E) Weight: 5.5kg


Culture Vulture Super 15 Frequency Response
Gain (dBr)
15
13
11
9
7
5
3
1
-1
-3
-5
0.02
0.1
1
10
f (kHz)
Flat
LPF
Pres Mid
Pres Hi
PK1
PK2
PK3
PK4
PK5

Thermionic Culture Ltd., Harlow, Essex, UK
Tel: +44 (0)1279 414770 email: technical@thermionicculture.com

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