

Test Reports EL34 types

INTRODUCTION:

Object of the test

To evaluate the sound quality and reliability of the new batch of EL34 types in both modern and vintage amplifiers and compare against the best new old stock types for both audio, guitar and bass applications.

Equipment used- guitar and bass

Marshall 50 watt super bass and Marshall 50 watt dual super lead run through a Marshall 1936 cabinet with G12H Celestions. Marshall 50 watt super lead run through a Marshall 1936 cabinet fitted with G12H-heritage low resonance Celestions.

Marshall 100 watt super bass through Fender 4 x 12 cabinet for bass.

T.A.D silencer power attenuator.

Pedals: Butler tube driver, Butler blues driver, Reissue Ibanez TS808 tube screamer. MXR Zakk Wylde overdrive.

1973 Fender Stratocaster. 1981 Yamaha SA 2000S, 1993 Gibson Les Paul Standard. 1990's Fender Telecaster with Texas specials. 1974 Fender Precision Bass, 1977 Musicman Stingray, 1982 Musicman cutlass 2, 1983 Zemaitas fretless custom.

Equipment used- Audio tests

Thorens TD 124 mk 2 SME 3009/Shure, Tascam CD 450 player, NAD 1000s pre amp with a pair of Radford MA 15 mono block power amplifiers JBL 4430 studio monitors,

Tannoy DTM 12 studio monitors, Tannoy 12 inch monitor golds in Lancaster cabinets, Tannoy 10 inch monitor golds.

HOW WE TESTED:

All valves were put through a controlled burn in process at high working plate voltages at 500 volt plate and screen.

The valves then were tested with 6 changes in grid bias with each stage monitored so that each valve tested had the same anode current and transconductance. We checked heater continuity both hot and cold and tested cathode heater insulation and gas. The valves that got through were then tested and matched at two different bias setting to ensure conformity on a digital tester on anode current and transconductance. The digital tester has an accuracy of plus or minus 1 m/a.

EL34/ MULLARD:

The Mullard now has iconic status and is the industry reference for EL34 types.

The Mullard provided crisp ringing sustain and huge tight bottom end with clarity which was unrivalled in this test. The Mullard has a larger than life sound with every run, lick and power chord expertly replicated. Imaging and detail was unequalled by any other valve in the test. When the valve was pushed hard it sounded ferocious with cutting bite which was wonderfully smooth. This valve defines the Mullard/Marshall/Les Paul/Celestion sound. Power chords rocked the very foundations and when the valve was saturated it never lost control. In our last test reports I said that in history not many valves can claim the mantle of best audio valve and best guitar valve. This is still true now as it was then. The Mullard has it all and again still reigns supreme.

EL34/6CA7-EH/SOVTEK:

The Sovtek EL34/6CA7 is based on the famous Sylvania design. This design shows that when they put their minds to it Sovtek can make really stunning valves. A bias adjustment of -1 vdc to run the valves cooler was necessary in the Marshalls.

The results were well worth it, bass is deep, well extended and crystal clear.

The midrange has punch with power chords showing detail not getting lost in the mix.

Single note runs and phrases were clear with no blurring. The treble clarity was smooth and detailed. Under full saturation the valve never lost its control or balance. In the bass guitar tests the valve came through with excellent results. It sounded superb and proved the best bass sound out of any of the valves tested. This valve is a real credit to Sovtek and offers 6L6GC space and clarity with EL34 bite. This is one of the best new valves in years.



EL34/E34L/STR HARMA:

The Harma is a specially tested/selected valve which is of European manufacture and takes its roots from the M.O.V KT77. The valve has the widest frequency response and the highest plate dissipation, 30 watts, out of all the valves tested. The valve has a number of features such as gold wound grids and heavy grade glass which makes this a rugged valve for road use. The bass

response is big with single note runs clear and well defined. The valve is very well balanced and it retained its balance even under full saturation. The top end was bright and slightly forward sounding which allowed the valve to cut through. This was most welcomed in the Old Marshall amps. When driven hard the valve really comes into its own, the distortion is the richest and the creamiest of the whole test. Woman tone with the Les Paul was rich and vibrant. This was the best also of the whole test.. The top end response just sings. This valve is a modern day classic.

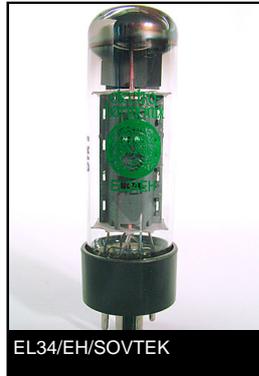


EL34/E34L/STR HARMA

EL34/EH/SOVTEK:

The EL34 EH is yet another upgrade to the basic Russian valve which we have seen as the EL34G, EL34G plus and EL34WXT over the recent years. The latest improvements have seen realignment of the grids and improvements in the electron flow. The improvements have done the trick in certain areas giving the valve greatly improved sonics. The valve has good bottom end response which is deeper and tighter than previous versions. The top end is alot smoother, but not in the same class of some of the other EL34 or indeed of the Sovtek 6CA7. The sound stage is still a little recessed, it is not as big or as full sounding as I would like., but still a vast improvement over the older versions. In overdriven mode that fuzzy element was still there and it could be a little annoying over long periods. This may be good for Metal or thrash as the sound is a lot more dynamic. The

valve is very musical and the only criticism on the overall sound id that it is a little shallow sounding. The valve in new EH format is greatly improved over previous models but in the area of sonic clarity and detail it is playing catch up to the rest of the pack.



EL34/RETRO/HARMA:

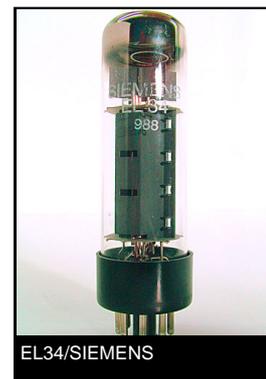
The Harma Retro is modeled on the famous Mullard EL34 XF2. The valve has a rich clear top end response. The bass was very deep and well extended, warm and tight. Overall the valve has a slight mid forwardness. The valve produced a very punchy sound with plenty of drive. In overdriven mode the valve was more forward in the mid and top than it was in normal situations. The nice thing about the Harma was that it did break up a little sooner than the STR version. I liked the fact that it did not become harsh, even when run at its limits. It has a nice fat sustain which remains very musical. The valve did everything really well, it never turned to mush when pushed and retained its character. This is a excellent Rock/metal valve and is fully recommended



EL34/RETRO/HARMA

EL34/SIEMENS:

The Siemens EL34 has a very distinctive sound and was the valve that Sovtek chose to copy when they first launched the EL34G. The Siemens trade mark is the way the solo jumps out of the speakers. Fast solos become like rapid machine gun fire, clean crisp and very punchy. In this respect even the mighty Mullard cannot match it. The valve is superbly made, not many people know this but all the Siemens EL34 were made at the RFT plant in East Germany, this helped to keep the prices low, but certainly not the quality. The valve is well balanced and very detailed. The bass is not as deep or as fluid as the mullard or the Tesla. Under full saturation the sound was sweet and it never lost control. In clean mode this valve is also warm and sweet. Excellent valve with classic status.



EL34/SVETLANA / REFLECTOR:

This is Svetlana/ Reflector made item which although is called EL34 Svetlana is a totally different valve to the original Svetlana/ winged C. This EL34 is made in the reflector factory. So first I must get the comparison with the Original Svetlana EL34 out of the way, it sounds nothing like it. It is not as smooth, the treble is harder and more forward and the mid range lacks the dynamic touch sensitive tone of the original. It is not the same, but it is a good valve. The bass is deep and clear and the valve has a mid and top forwardness

particularly when overdriven. It is also very punchy and gritty.

Though harder in the treble it did not become harsh it simply was not as smooth as the original. The valve is an excellent all round performer.



EL34/SVETLANA / WINGED C:

The genuine article as used by Marshall and countless other manufactures.

This valve is very reliable and has the best reputation in the industry.

The bass is deep and well balanced with bass mid and treble in correct focus.

The Original Svet EL34 has a really warm middle, this results in plenty of detail on open or broken chords, but has the right amount of slam when power chords are called for.

Svetlana claim that they use a special plate material which gives a superior performance under overload conditions. The tests certainly confirmed that there is a big difference and that the reflector made Svetlana is not in the same league. This valve has the smoothest top end, smoothest mid and most defined bass under fully overdriven conditions.

Chords really sung when pushed hard and it always remained smooth and well balanced.

This is a really excellent EL34 and will be a hard act to beat. The original Svetlana offers NOS type sound quality with a current production price tag.

EL34/TESLA CZ ORIG:

The Original Tesla valves were used by Marshall when they changed from using Mullards. The reason, so I am reliability informed was mechanical noise and rattle. In this department they were certainly first rate. This valve does have the most wonderful

distorted sound. This also is a valve that defines the classic Marshall sound as these were fitted to all those mid 70s Marshall until the demise of the Tesla factory.

These valves differ from the current JJ/Tesla valves in one area. They overdrive sooner and have the most transparent midrange sound. This gives the most fantastic singing sustain when overdriven. The top end of these never becomes brittle or hard. They have the Mullard bite which really make solos stand out. These new old stock Tesla offer a classic rock sound that is not available with any current EL34. They also offer this sound at a huge discount when compared to Mullard or Siemens. These are a superb NOS bargain.

EL34B -STR/TAD:

Chinese valve production has come on since our last test reports. The T.A.D in Mk2 version is the best that China has come up with and they have proved reliable and quality had been consistent. The bass is very warm and rounded and the valve does clip fairly easily. The mid range is slightly veiled and not as clear as others in the test. The top end, which was very hard on previous Chinese EL34s, is a lot smoother and sweeter than before. When run hard the valve did produce a wall of sound lacking a little bass or the detail of the Original Svetlana or the JJ/Tesla. I felt this did let the valve down as the valve did lose some of the basic sound. That said, this is a vast improvement over previous efforts from the same factory and if they can improve the valve performance under fully saturated conditions then they

could have a winner. I look forward to the mark 3 version.



CONCLUSION:

You are reading this test report 5 years on from our last full blown test. The quality and reliability of EL34 have drastically improved over this period. Now we have a number of manufacturers producing reliable valves.

The winners will depend on what you wish to get from your amp. The Mullard is the best EL34 and the original Tesla EL34 comes in at second place, both of these valves display distortion characteristics unequaled by any other.

Of the current productions items two valves challenged for the top spot.

The Svetlana Winged C EL34 has a silky smooth distortion always balanced, always in control. The Harma EL34 STR is crunchier, more dynamic under overdrive and more top end response. Since most players use pedals or some form of boost in front of their amp, the most important feature is which valve will give the smoothest sound with less harshness when being overdriven. The answer is the Svetlana/ Winged C EL34, for this reason it was decided that the Svetlana/ Winged C is the winner. The Harma STR EL34/E34L coming in second.

The Sovtek EL34/6CA7-EH came in a very close third. This valve has a super clarity which is normally only found in 6L6GCs.

Bass tests EL34 Conclusions October 2005

There really was only one valve that could win the title best bass EL34 and that goes to the fabulous Sovtek EL34/6CA7-EH this gave the perfect mix of 6L6GC clarity and EL34 bite. The bass response is large and very fluid. It had bottom end punch with nice top end snap.

The second place for bass was a close run contest between the Harma STR EL34/E34L and the original Svetlana / winged C EL34. The Svetlana has a later distortion and a silky smooth top end. The Harma has more top end detail this gave a better Precision bass growl. So honors even as there are really only small differences when it comes to using these in bass guitar applications.