

ECC83/12AX7 TEST REPORTS FEBRUARY 2006

INTRODUCTION:

Object of the test

To evaluate the sound quality and reliability of the new batch of ECC83/12AX7A and compare against the best new old stock types for use both audio and guitar and bass applications.

Amplifiers used for guitar and bass

Fender 1959 re issue Bassman 4x10 fitted with Jensen P10R. Fender Twin switchable 25/100 watt fitted with stock speakers. Fender Hot Rod deluxe fitted with Jensen C12N.

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 Mesa Boogie 400 plus through Ampeg 8 x10 for bass.

T.A.D silencer power attenuator.

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

Guitars:

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, Croft Epoch Elite 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:

The tests were carried out to provide in real working and playing situations how the valves performed. Our own test rig was used to select the valves prior to evaluation. All the ECC83/12AX7 types had identical reading and were selected for low microphony, low noise with uniform gain.

The Reference valves were Mullard ECC83 & Mullard M8137 Box anode, R.C.A 7025, Siemens E83CC, RFT ECC83 & Telefunken ECC83.

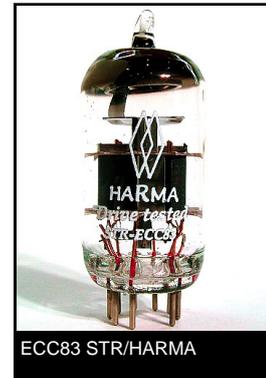
ECC83 STR/HARMA:

The Harma ECC83 -STR construction is based on the famous frame grid design that was pioneered in Germany by Telefunken. This has a number of advantages such as reduced microphonics and better isolation from vibration. This is particularly useful in combo applications. The valve is very well balanced with nice even bass which has plenty of depth. The mid range is very transparent which when changing pickup selection give a nice variation that was lost in some other valves.

The treble has nice chime and indeed was the closest to the G.E out of any of the modern 12AX7 types. The valve also has very low levels of hiss and background noise. This was of great benefit when fitted in the Fender Hot Rod Deluxe with the more drive selected as it made this setting usable. In use with the TS808 and the Butler tube Drivers the valve remained the most neutral of all the current production ECC83/12AX7 types. The best sound was achieved by setting just before break up and then using the pedal to take it over the edge.

The valve never sounded hard or harsh

and retained its balance. The only downside that it will not provide every last ounce of gain for the true metal players. What it will do is provide lovers of vintage tone and creamy overdrive and those looking for a great Fender clean sound the ideal choice.



ECC83/12AX7 SYL:

The Sylvania valves were used by many vintage American amplifier builders from that late 1950's on. These valves interestingly have proved to have higher gain and less microphonic than the later Philips valves. The valve has a certain bite with single coils pickups that provided top end detail with no harshness. Bass was deep and full with a nice even break up. Single note runs were clear and defined with bass string nice and rounded.

Under fully overdriven conditions and with the midrange kick of the TS808 the Sylvania 12AX7 mid range was over blown and very forward. Crank up the amp and the Sylvania's really did sing. They had a two dimensional affect on the sound, firstly they sounded bigger and more importantly they got even punchier. The classic rock sound was there under my finger tips. I did not push these tubes this hard in our previous test reports, but I am really glad I did this time. These are a First rate Tube for classic 1970's Rock.

ECC83/12AX7/G.E 80'S:

This is a American G.E 12AX7 proved

from the start that it had immense quality. This is the same valve that was standard in 70's Fenders.

The valve proved to have the best clean sound out of any tested. The authentic Fender twang, spikey mids and bright but soft treble made this item stand out. The top end clarity worked really well in Marshalls, the point to points pre 1974 especially as the G.E gave the treble more voice. When the valve distorts it has a rich harmonic feel and chime. Even under heavy Boogie distortion the bass and mid range detail was also superb. With the TS808 and the Butler tube drive the G.E 12AX7 behaved and performed excellently. It never sounded Hard retained its poise and balance and never sounded ragged. Thoroughly recommended.



ECC83/12AX7/MAZDA:

The Mazda ECC83 that we tested shared the ladder plate design made famous by Mullard. This valve was a real revelation. In normal operating conditions in the Fender bassman in clean mode. It produced a clear clean sound with just a slight break up. The highs were even and well balanced. It had quite a midrange kick which added punch and dynamics to normal clean modes.

Turn the volume up a the top end clarity held up. The punch in the midrange and bass did start to roll into one. This gave a nice fat sound.

When I introduced the TS808 the fender bass man sang. The treble response had

a slight blurring at the top end. The bass compressed nicely with the mid range providing a sweet warm blues sound. The bottom end was tight and fluid with single note runs having all the definition that you could want. What I liked about this valve was that I could not make it sound hard even with the Wyde overdrive.

This valve is thoroughly recommended.

ECC83/12AX7/SYLVA/SPECIAL:

This valve produces a rich warm sound with excellent balance. In our tests these proved to be far warmer and less microphonic than the later Philips 12AX7WA-JAN version. The Sylvania, when distorted produces a fat sound with plenty creamy drive. The valve also suffered no loss top end clarity. In the Fender amps the valve produced a clean bright response which was great for finger picking. Indeed in this respect this was warmer than the G.E 12AX7 but not as percussive. Single coils sounded rounded but not as full as the G.E. No harshness was detected under clean or distorted applications.

In the Marshalls a sweet clean sound was easily attained and classic rock sound a touch with a little pre amp gain added.

Adding the overdrive pedals the nature of the tube did change. It was very warm with the midrange becoming very forward. The balance of the tube was also not as good as in clean mode. This gave a really great sustain which was only bettered by the Mullards.

ECC83/12AX7A/SVET-R:

This valve looks and performs in an identical way to the Sovtek 12AX7-EH. Which is not surprising given that it is the same production plant, the reflector and the same item.

So for full review see the test report for Sovtek 12AX7-EH

ECC83/12AX7A/SVET-WINGED C:

The Original Svetlana ECC83/12AX7A with the winged C logo did not fair very well in our last test reports. The valve was rushed to the market place, a hastily made copy of the Mullard box anode ECC83/M8137/CV4004 with none of the engineering excellence. It was seriously flawed, it had standing wave microphonics in the bass, high end microphonics and was not resistant enough to vibrations. If that was not enough it did not sound that great. So Three years on has The JSC Svetlana product improved?

The sound is broadly the same, bass heavy with both mid and treble recessed. The mid range lacked any punch and it was out performed by every other current production ECC83/12AX7.

Great improvements have been made in the microphonics department. Again this is not enough as more still have problems than any other ECC83/12AX7 type apart from the E.I ECC83.

The valve did not seem to like the TS808 tubescreamer. The sound became brittle and hard, this was the worst when partnered to a Telecaster with Texas specials. No tone and the sound became unbearable.

Since our last tests some three years have gone by and I have tried many so called improved versions of this tube all with poor results. Sovtek, JJ/tesla and the Chinese factory have improved and enhanced their products were Svetlana has still struggled to get this right.

Svetlana or winged C make some great

valves. This is not one of them so needless to say we will not be stocking this one.

ECC83/12AX7A-C T.A.D :

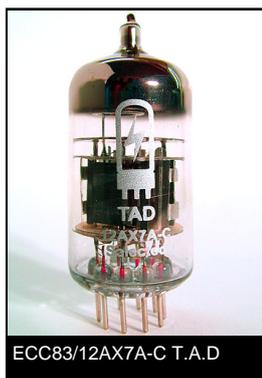
This Chinese 12AX7 that in improved format has been with us now for around 3 years. We have had a lot of time to test these and have found that they have proved consistent and reliable.

The valve has the more gain and breaks up quickly like the original Chinese tube. The improvements have meant that the upper mid buzz has gone under normal playing conditions.

The tube is also very tight across all frequencies giving it a very punchy sound. Treble was sweeter than the old Chinese item but not as clear or as warm as the JJ/Tesla.

With the introduction of the TS808 the performance dropped off a little the top end lost its sparkle it was harder and less defined. This I was a little disappointed with. When the tube driver was introduced this hardness did not sound as bad. Bass was still nice and tight with the only downside of the noise, ie background hiss. This was the most noticeable with the Fender Hot Rod Deluxe with the more drive setting. They sounded bright and annoying.

The Chinese valve only provides the sounds that I disliked WHEN PUSHED HARD. Here it can sound coarse and ragged. In all other applications the valve is a vast improvement over what has gone before, it provides good crunch with tight bass. Ideal metal and Rock tube.



ECC83/12AX7A-C T.A.D

ECC83/12AX7-EH/SOV:

The Sovtek 12AX7-EH has been with us now for around 5 years.

Over this time the valve has proved very consistent with a very low rejection rate. The 12AX7-EH a spiral filament which reduces hum when operated in amplifiers which use AC heaters. It also had a more rigid construction than the LPS. The 12AX7-EH has proved to be very low in the microphonics department. This is excellent considering that the valve is one of the most high gain types available. The valve was also way above average in terms of noise and hiss.

Sovtek have cleverly given this valve an upper mid range peak when driven. This gives the valve a hard biting tone, single runs are crisp and clear. Multi note passages are also very clear with a slight blurring around the upper midrange. The valve is also well balanced with the bass very tight and full. The valve really comes into its own with humbuckers it crunches evenly and retains its balance. Power chords are full and tight.

The character of the valve does change with the introduction of the Bulter tube drivers and Ibanez TS808. The TS808 in front of the Marshall gave that super biting solo sound but care was needed with the settings. If too extreme the valve becomes very hard and brittle touching on the unmusical. In the Fender deluxe with the more drive setting selected things did not fare any better. This made me make a grab for the panadols.

The midband warmth of the LPS was lost under extreme settings add to the hard soundstage, ideal for tharsh or metal.

AUDIO TESTS

The Sovtek 12AX7-EH is really aimed at the guitar market and is not really as good as the LPS, STR HARMA or the JJ/TESLA for audio use. This is really due to the fact that the other valves are warmer and have a smoother sound.

Treble was well balanced with just a tad more crispness and openness than the

LPS. The valve also did not share the bass forwardness of the LPS which many people would like. The valve also lacked the dynamic sound of the new old stock greats such as the Mullards and Telefunken ECC83.

5 years ago it was felt that this had all the makings of a great valve. The 12AX7EH has become one of the benchmarks of modern valve production in that time.



ECC83/12AX7-EH/SOV

ECC83/12AX7-EHSP/SOV-DR25 0:

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ECC83/12AX7LPS/SOVTEK:

The Sovtek 12AX7LPS has been with us now for around 5 years.

Over this time the valve has proved very consistent with very little electrical differences between early and current batches.

The LPS shares with the 12AX7-EH a spiral filament which reduces hum when operated in amplifiers which use AC heaters.

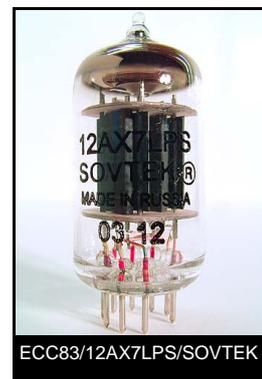
The first thing that strikes you with the LPS is that it is immediately warmer in the mid band than the WA, WB and WC versions. This gave the valve a smoother and more refined sound than any other Sovtek 12AX7. The treble response did not jump out of the speakers but it did have life and sparkle. In Fender amps single line runs did have a smooth feel which did not become wearing even after the long sessions. The presentation of power chords made the sound a little bass heavy. This did get a lot more pronounced when adding the Butler tube driver and TS808 in the front end. The bass was more dominant which really recessed the midrange. The bass lost detail and started to sound a little rough around the edges. This was even worse in the Marshall amps and in the deluxe with the more drive setting selected. The valve also had higher levels of microphonicity than the WC and EH versions. It was also higher than the ECC83S JJ and STR HARMA. This was nothing that would cause problems in useage.

AUDIO TESTS

The LPS performed very well in our audio tests. The LPS has a warm sound that is very easy on the ear over long listening periods which is a welcomed bonus. In the vintage set up that we used the bass forwardness was a nice feature allowing you to hear John Paul Jones fluid bass work with Led Zeppelin. Treble was well balanced but cymbals did not ring or be dynamic as you would expect when seeing a live drummer.

The only downside in audio was a masking of some of the detail when

compared to Mullards and Telefunken ECC83. This did leave you with the impression that something was missing.



ECC83/12AX7-M/Groove Tube:

The Mullard remake 12AX7-M from Groove tubes is made in China exclusively for Gt.

It follows the Mullard Ladder plate design and does go some way to creating the Mullard Tone.

In our tests the valve displays a leaning for midrange forwardness. The bass is full and well defined. Single note runs are clear and are in the right place. Power chord chug with just the right amount of fatness. When overdriven with the amp or with a pedal such as the TS808 or Butler tube driver, the valve pushes so much of the sound through the midrange. Here is where all the clarity and definition gets lost, unlike the original Mullard. The top end does go a little ragged with a loss of evenness and some of the bass gets sucked into the middle.

The real beef with this valve is the poor quality of so many items that I have received. I am paying a premium price for this tube and so are you the customer. This is meant to be a tested item. I test each one of these before sending them out. I experience around a 40% failure rate with motor boarding, high level microphonics, low level bass drone and high levels of background noise. This valve is as poor as the E.I

Ecc83 and Svetlana winged C ECC83. Both of these valves are not selected. The Groove Tube is, Now that is poor. The valve does have a creamy mid response that I like but the quality control needs to be a lot tighter if I am going to continue offering this item.



ECC83/12AX7WA/G.E JAN:

The G.E 12AX7WA was the valve used by Fender all through the 70's until the factory ceased production. The valve has real big crisp soundstage and gives the clean channel that top end zing. In this respect this valve has no equal, the classic Fender twang is here. Many valves sound bright, start to push them and they then sound hard. This does not happen with any G.E 12AX7 that I have ever tested. In the Fender hot rod Deluxe the clean channel had a nice balanced response even with the drive and more drive settings the clarity of the valve came shining through. When we introduced the TS808 and the Butler tube drivers the sound just got bigger with plenty of tight bottom end. The top end chime was not lost and single string runs simply cut through the mix. This is the Daddy when it comes to clean Fender Sounds.



ECC83/12AX7WA/PHI:

The Philips American 12AX7WA was made in the famous Sylvania plant. Philips bought Sylvania mainly due its huge amount of U.S.A government contracts. So the design and construction of this valve is identical to the Sylvania item. The Philips is the warmest sounding American 12AX7. The valve has a very musical and detailed mid range. The midrange does dominate the sound and it has less bass end punch when compared to the G.E or its close relative the Sylvania. This worked very well in my 1977 Marshall 50 as this curbed its topy tendency.

The bass is not as deep as say the Mullards and indeed current productions types such as the Harma STR, TAD, Sovtek EH and JJ/Tesla offer better clarity in the bass department.

What this valve offers is nice smooth detail.

Testing these over the years the valves are a more medium gain item. The surprise is that they do have higher levels of microphonics than I would expect, so I would not tend to use these in high gain or cascading gain amplifiers.

For an American Valve it does offer the British / European style tone. We used this valve in an array of Fender and Marshall amps with the TS808 and Butler Tube drivers. When over driven the treble appeared to recess and get pushed towards the midrange. The provided real creamy tone. The valves balance went towards the middle making Les Paul woman tones a pure joy.



ECC83/12AX7WA/SOVTEK:

The Sovtek 12AX7WA has been around now for many years. This is the raw valve from which Sovtek select the WB and WC versions. Over recent years and many different batches that I have tested I have noticed that the quality of this valve has tended to go downhill. The valve shows more hum and more microphonics than in our last test reports. This is due, I suspect to the heavy selection process for the WB and WC version. In our tests the valve produced a sound which lacked detail and sparkle. Bass was even with the midrange recessed. When pushed hard with a tube driver or Ibanez TS808 the sound became hard and blurred. Indeed with extreme settings the sound stage turned to mush and I felt it sounded rather confused. The valve worked better in this test in the Fender amps on the clean channel than the Marshalls, but that was down to the amp rather than the valve. This valve offers below average performance for a below average price so I would only use these where cost saving is the most important requirement.



ECC83/12AX7WB/SOV:

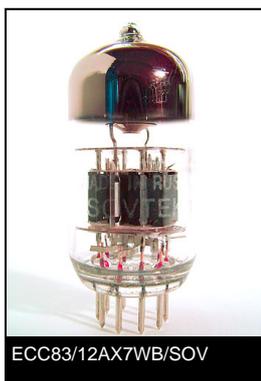
The Sovtek 12AX7WB, like the WA has been around now for many years. Sovtek claimed that this valve had lower microphonics and around 10% more gain. The latter is certainly true of batches that we have tested since 2002.

This valve has proved very consistent with only a slight rise in terms of microphonics over the recent years. This I feel is due to the introduction of the WC version which is selected for Fender.

In our tests the valve produced exactly the same sound as the WA version. It lacked detail and sparkle, recessed midrange with a hard top end. When driven hard with a tube driver or Ibanez TS808 the sound became hard and bright with blurring in the bass and midrange department. Heavy saturation with extreme settings led to a very mushy sound stage. The valve worked better in this test in the Fender amps as did the WA version, on the clean channel. In the Marshalls, however, all the amp's warmth and sweetness was lost.

Even with a higher rate of microphonics the WB still performs well in this department. It outperformed some other leading manufacturer's products who have claimed improvements in microphonics by far. Seeing as the best of these have been selected for the WC version this was a great achievement.

The sound quality is where this valve fails to make the grade but what it does offer is acceptable performance at a low cost.



ECC83/12AX7WC/SOVTEK:

The Sovtek 12AX7WC was introduced around a year ago and is the factory selected valve that is used by Fender with the Groove tube markings.

The selection for Fender is centred

around Hum and microphonics. This is where the valve gets high marks. In high gain circuits the valve was quiet with no pops and whistles and with a lower noise floor than the WA and WB versions.

I have no doubt that the production of this valve will be as consistent as the WA and WB versions. What you gain in the microphonic and noise stakes you do not make up in the sound quality department. It is no surprise then that it sounds identical to the WA and WB versions.

It lacked detail and sparkle with recessed midrange with a hard top end. When driven hard with a tube driver or Ibanez TS808 the sound became hard and bright with blurring in the bass and midrange department. Heavy saturation with extreme settings led to a very mushy sound stage. The real noticeable difference here was the reduction in hiss. This was a real plus point in the modern Fender Deluxe when engaging the more drive setting. The performance here is excellent as some other maker's valves in the deluxe made selecting this setting totally redundant as it was unusable, resulting in a splitting headache.

This valve will become the industry standard for microphonics and hum as it really does perform in this department. The sound quality however does leave you wanting more clarity and detail.

ECC83/5751/GE:

The G.E 5751 is a lower gain version of the 12AX7A. It has all the hallmarks of G.E. The valve has a big sound stage, clear fluid bass with top end to die for, crisp with plenty of chime. The valve is very well balanced and even under full overdrive the G.E 5751 did not lose its clarity. Indeed when the G.E 5751 was used with the TS808 the amp had the crunch without the mud. Picked notes were not lost in the mix and the 5751 did not lose its sparkle.

In any Fender amp the clean sound was by far the best of the test. It also surprised me that in the overdrive stakes

the valve provided good crunchy performance. The only downside was the brightness as in an overly bright amp this could be a little cutting. This did not reduce even under heavy distortion. If clean is your sound or clean with a hint of break up then the G.E 5751 is hard to beat.



ECC83/7025 HARMA DR250:

The Harma 7025-STR construction is based on the famous ladder plate design. The Harma is a selected Valve for Hi gain applications and as it is tested for low noise the valve performed brilliantly in this department. The valve is very well balanced with nice even bass which has plenty of depth. The valve in the gain stakes the valve is second only to the Chinese 12AX7. This does have the advantage of not sounding brittle and has reduced background noise.

The treble is clear and slightly forward.

When fitted in the Fender Hot Rod Deluxe with the more drive selected the gain of the valve gave plenty of sustain. In use with the TS808 and the Butler tube Drivers the valve performed best when the amp's were set just on the edge using the pedal to take them to thinned the most neutral of all the current production ECC83/12AX7 types. The best sound was achieved by setting just before break up and then using the pedal to take it over the edge.

The valve never sounded hard or harsh

and retained its balance. The only downside that it will not provide every last ounce of gain for the true metal players. What it will do is provide lovers of vintage tone and creamy overdrive and those looking for a great Fender clean sound the ideal choice.



ECC83/7025 HARMA DR270:

The Harma 7025-STR construction is based on the famous ladder plate design. The Harma DR 270 is a selected Valve for very Hi gain applications for those who need the earliest break up. It is tested for low noise the valve performed brilliantly in this department. The Hi gain worked very well in the small Fenders such as the pro and well in the 59 reissue bassman as it gave the bite at a low level.

Apart from this the performance was the same as the Harma 7025-DR250



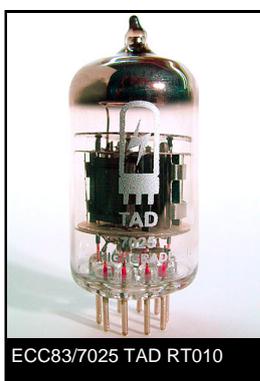
ECC83/7025 TAD RT010:

The TAD 7025 is exactly the same as the 12AX7-C. It is simply the top 5% of

the batch in terms of microphonics so can be used in the first position of high gain amps such as Mesa Boogies without problems.

The valve performed identically in our tests to the standard 12AX7-C

The advantage of the lower microphonics was evident in the Fender amps. In the Deluxe with more drive setting selected the lower microphonics did help the sound. The valve also enabled the '59 bassman reissue to be cranked at a higher volume level without the whistle and squeal.



ECC83/CV4004/DRIVER:

British military spec with half flange anode. Instant British rock sound. Exceptional balance and sound staging with great drive. The Brimar performed effortlessly in all applications. It had warmth, clarity and bass extension of the best Mullards and Telefunken. Under distorted and over driven modes the valve was super smooth.

It did lose some of its finesse and could sound a little rough under extreme circumstances.

In the Fender amps these provided super detail with clear top end. It really was tough to decide here whether they were better than the G.E. The detail was that close between both of them.

ECC83/ECC83S/JJTESLA:

The JJ/TESLA ECC83S was an improved version of the ECC83 that the factory introduced back in 2002.

The valve has benefitted from a more rigid construction with improved frequency response.

These improvements have made this valve a real winner and it has received many rave reviews on internet forums and within the music industry.

The valve is very well balanced with nice even bass which has plenty of depth. The mid range has plenty of detail and does not blur and go muddy when over driven. It has a rich harmonic distortion which is very pleasing to the ear this was lost in some other valves that we tested.

The treble was closest to the G.E. out of any of the modern 12AX7 types tested. When over driven the valve did not lose its charm or character, it remained in full control. This valve sounded first rate in a Fender Bassman '59 reissue when partnered with some Philips 6L6WGB. I can fully recommend these.



ECC83/EI:

The ECC83/EI from Yugoslavia is a valve that is made from old Philips tooling and does resemble the smooth plate Telefunken ECC83. That is why this valve is very popular with the rebranders and most of the rejected one ending up on eBay posing as Telefunken.

The valve is very inconsistent with high levels of microphonics and mechanical noise. Shortages of raw materials and

trade embargos have left this valve with a high failure rate with many rejected ones on the market.

This is a shame as this valve does have some very strong virtues.

Here we tried valves from 1990-1992,1997,2000,2003 & 2004 with quite different results.

The sound is very well balanced with a nice detailed bass. treble is plentiful but not harsh. This worked very well in all the Fender amps that we used. Single notes were fluid with just the right amount of sustain. top was bright and vibrant. Power chords and switching to the Marshall 50 watt gave that classic big 1970's rock sound. Roll the tone off your Gibson Les Paul and instant fat woman tone. The valves were very punchy and with the amp set at its sweet spot they provided a rich fat sound.

When you introduce the dreaded stomp box then the party is truly over.

With any moderate amount of gain settings the E.I display some of the best wolf whistling that I have ever heard. All batches displayed this with the early 1990 and 2003 production being the lowest in microphonics.

More drive settings were unusable on the Fenders and careful use of the Marshall pre amp control was required.

Over the period of the test which has taken the best part of two years we found that the EI valves that were ok to begin with became microphonic this we did not find with any other brand.

This is a good sounding valve with great punch and dynamics. The reliability problems and inconsistency means again that we will not be stocking this item.

ECC83/RAYTHEON/DR250:

The Raytheon ECC83 really had it all. It looked like the Mullard with its distinctive ladder plate. It had the same deep bass again only equalled by the Mullard. Mid range rich and Harmonic with a powerful top end. Indeed under normal conditions it performed in the same manner as the Mullard. When the Marshall amp was cranked the character changed, The valve was tubby around the mid range with the treble details recessed a little more than the Mullard.

This was also consistent when the pedals were added.

That said this lacked the harmonic detail of the Mullard ECC83 and was not as controlled. It was however very close to the Mullard.



ECC83/RAYTHEON/DR250

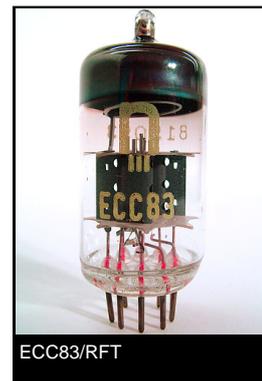
ECC83/RFT:

The valve has a rich bass response with great drive. The RFT was one of the real stars of our first test reports. In our new test reports nothing has changed. This is a rockers tube built like a Mercedes Benz with a Porsche engine. It is really fabulous. It is very low in microphonics and distorts quickly and evenly.

The rich harmonic distortion makes this a great valve in Marshalls and is only bettered here by the Mullard. It showed rich sustain with plenty of bass crunch. Mid range was clear and detailed.

Add the TS808 and mid range honk is the order of the day. Hit the Butler and get super sustain.

This is a super tube sadly now getting harder and harder to find.



ECC83/RFT

ECC83-V/HARMA:

The Harma Vintage ECC83 is a low gain American made tube. It is selected to provide the cleanest possible sound. This is exactly what it does. The performance is identical to the G.E 5751 which is where it is selected from. super clean sounds with plenty of clarity under distorted conditions. Fully recommended.



ECC83-V/HARMA

CONCLUSION: