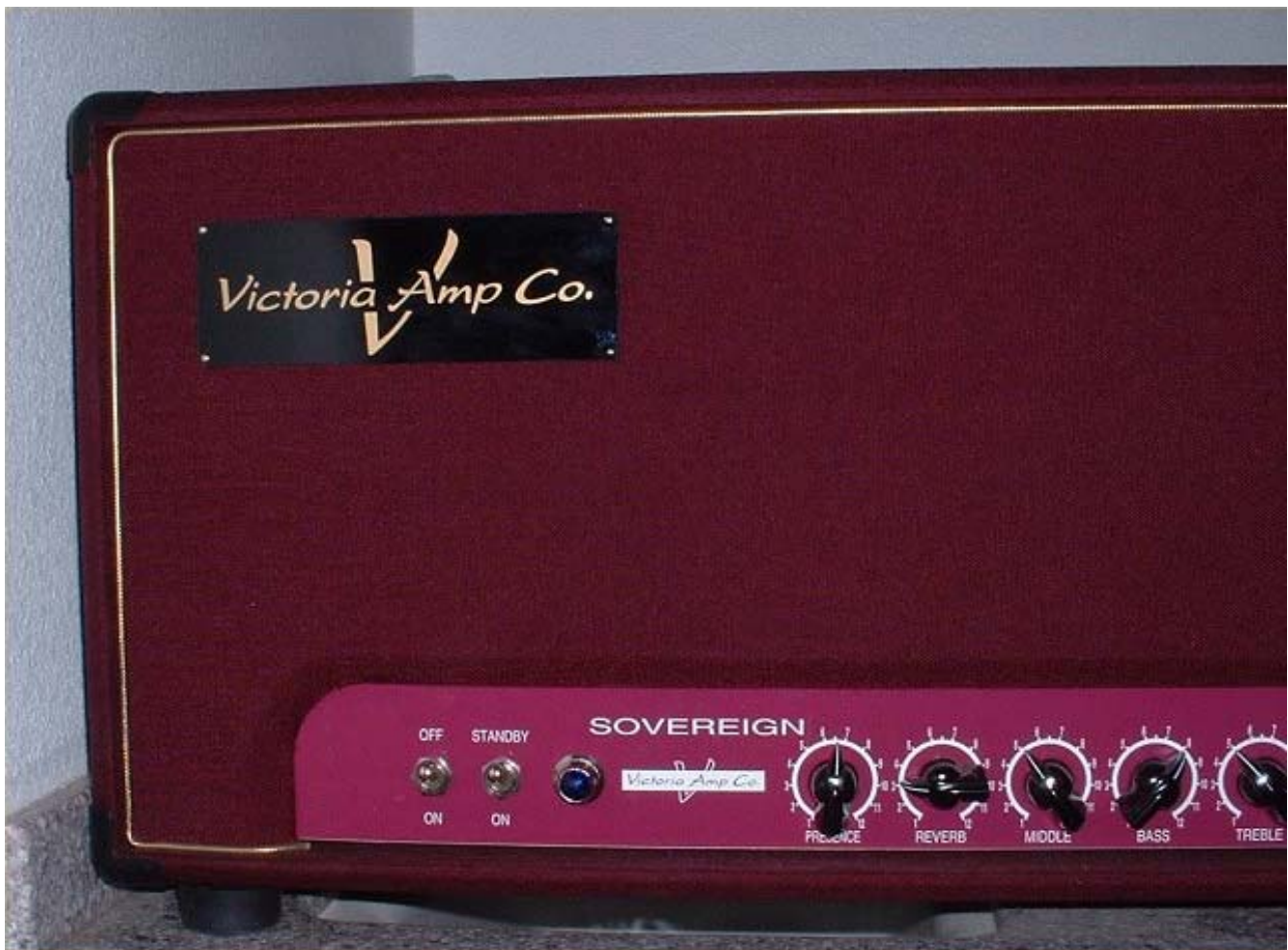


Sovereign - Victoria Amp Company – a 50+ watt high gain masterpiece & much more



The Sovereign is something of a departure from Mark Baier at Victoria Amps. Victoria is most well known for its Fender Tweed era reproductions and restoration work of a very high caliber. Not everybody knows that Victoria has some of their own designs, such as the Victorilux and Victori-ette, but those amps are not the subjects of this report.

The Sovereign is a 50-60 watt, “**sort of Marshall – meets – Fender**”, with a few twists. The Sovereign reminds me in some ways of the Dumble. Each of these amps has unique features. Both are not exactly commonplace. The Sovereign uses front-end design aspects that are original and sound, but with no “**potted black box stuff**” inside like the Dumble. The Sovereign can be serviced (if ever needed, but this will probably be rare), by any good amp tech that has worked on Fender or Marshall amps from the 50’s, 60’s or 70’s.

I am sorry that I cannot show pictures of the rear of the amp. I could come up with a creative story here, but the bottom line is pretty simple. I do not have a camera and have to borrow my 11-year-old son’s. By the time I had access to his camera, the back of the amp was drilled with holes, and had wires running out all over the place. B+ voltage, bias voltage, tube current draw, and scope outputs from a 250 watt 8 ohm 1% resistor. These are the amp’s “vitals”, collected during all tests. So many amps today shift from rational design aspects to “golly gee, what happened when we turned it past 6?” One trait that Victoria has always been noted for is the balance of power transformer saturation to tube saturation to output transformer saturation. This is very rare today. The Sovereign keeps this Victoria trait alive and well.

The amp was supplied to me in a burgundy covering of 1000 dernier Cordura material. For those not knowing what Cordura is, think of a high end North Face expedition backpack. This stuff is designed for extreme wear and extreme climates, so it may hold up even better than the Tolex materials we are used to. This may or may not be the covering on future amps.

The Sovereign is NOT what I would call a master volume amp. It does have a “volume” and “gain”, but turn the gain all the way off, and the amp works just as any non-master volume Marshall Plexi era amp, or Fender Tweed Bassman. In fact, the basic front end of this amp is very much the same as these two amps.

The Sovereign has two inputs, labeled 1 and 2. Input 1 is the higher gain input of the two. Input 2 will, as in Fender or Marshall amps, give more clean headroom if desired. Too many amps today do not have a low level and high level input, and this is a bit of a shame. When using pedals, a high gain input can generally cause the effect to have sonic attributes that are less than desirable. A guitar pickup is a high impedance low output device. Most pedals are low impedance high output devices. A pedal can cause easy overload of an amplifier’s input. This causes a loss of articulation and at times a buzzy and inarticulate sound. Input 2 of the Sovereign yields lower gain, and much more clean headroom that seems to work very nicely with just about any pedal that was plugged into the amp. Pedals in front of this amp sounded better to all testing, than the same pedals in a Marshall JCM900, TSL, DLS, Bogner 101, or any Mesa Rectifier (single / dual) series.

The AC cord is attached, not one of those removable types. I don’t know whether this AC cord system will continue to be used on this amp in the future. In any case, I prefer the current attached AC cord arrangement. It is one less *stage death* concern.

The Gain Control. The “**gain**” control comes into play from a level of nothing to 12, and will very easily give the player precise changes in front end gain structure. Setting this control at “0” is your basic non master volume Plexi Marshall or Fender Bassman front end. (More on this Fender / Marshall feature later, as this can be changed with various tube choices). Start turning up this “**gain**” control and you have any level of gain you desire.

Multiple gain stages used today in most high gain amps use multiple stages of 12AX7 tubes. This introduces a major side effects and shortcomings. Some of these effects are coloration, loss of definition, a general reduction in response, and increased noise and hiss. The Sovereign moves in a different direction. This amp uses an EF86 pentode in this area of the circuit. An NOS 12AX7 has a gain of 100, while an EF86 has a gain of 5000, so right there you can get an idea of what is possible. There is another feature in this design. A pentode distorts differently than a triode. This is an additional color in the player’s tone palette. In the Sovereign one can use this feature or not. Leave the gain control set to **off** and this EF86 pentode is not part of your sound.

The Sovereign was delivered to me with the typical NOS tubes that Victoria generally supplies in all of their amps. My first point of business was to pull all the NOS tubes, and put in tubes that are common off the shelf items. Even fairly pedestrian amps will sound much nicer in most cases with NOS tubes, so I did not want to “rig” this study. There was nothing I could do to remove the high grade sockets, hand wired connections, chassis mounted tube

sockets, or the vintage cloth covered wire. The Allen Bradley fresh stock Carbon Composition resistors are stock Victoria items too, as are the Sprague Orange Drop Capacitors which are made specifically for Victoria. The pots are the typical Victoria pots, with a "cost" to a builder about 5 times higher than the more common Alpha and Mouser pots used in most amps, regardless of their price. The feel of the pots was precise and well damped. The chicken head knobs were of a high grade material, rather than cheaper light weight plastic. They were easy to see from a distance from the amp. The panel is a "plexi" type of panel, rather than a simple silk screen on metal.

The Tube Compliment

V1 is an EF86, and I replaced this NOS offering with an off the shelf Groove Tubes EF86 / 6267. Granted, the GT stuff is selected for low noise, low microphonics, and proper output, which is not always common on other "off the shelf" tubes, but these tubes are available to anybody globally from any Groove Tubes dealers such as Guitar Center stores. EF86's today are very inconsistent, so finding good ones that are not NOS falls to folks that test, grade, and have long warranties, showing they believe in their own products.

V2 is a typical, great stock Victoria NOS 12AX7, and I replaced it two times. Once with a GT-ECC83S for the "British" tests", and then with a GT-12AX7R3 for the "Fender" tests. These were off the shelf GT tubes, not SAG picked. I did scope the tubes, and they were a 92/92 for the R3, and a 100/108 for the ECC83S. I needed to establish a baseline on tube output, gain, transconductance, and rise time. This is why the tubes were scoped and traced, but not hand picked. These are the same tubes anybody can buy directly.

V3, a 6BM8 (½ triode ½ pentode) was left as stock, as this is part of the reverb circuit. The reverb in this amp is very smooth, full, and lush at any setting. This must be due in part to the reverb circuit design, using a pentode as in the original Fender stand alone reverb units. I will leave the reverb discussion to this small paragraph, saying little more than the reverb sounds great and works great, period.

V4 is an NOS 12AX7, used for reverb recovery. I replaced this with a GT-12AX7R3, once again from GT stock, but checked and found to measure 92/92.

V5 is an NOS 12AT7. I replaced it with a SAG-AT7-MPI, a matched phase inverter. This is what I use in my amps or the amps of my clients. You can also replace this with an ECC83 or 12AX7 as I did. Generally, folks use a 12AT7 for more clean headroom in the phase inverter, or a 12AX7 for more gain. A 12AX7 can develop about 1.2 milliamps, and in the same circuit, a 12AT7 can supply at least 8 times that current drive, with about a 30% loss in gain. The bottom line here is that 12AX7, ECC83, and 12AT7 tubes were tried, and I found the 12AT7 was the tube with the most versatility. With the gain knob coming into play, this amp had more gain than most anybody could use, so the use of a 12AX7 phase inverter was pointless and, in fact, the amp lost focus.

The rectifier supplied was a GZ34 / 5AR4 from Victoria. The rectifier is socket mounted. In later tests, a solid state rectifier using 4007s was used for another series of tests. A third series of tests used a solid state rectifier consisting of FRED components. Using the FRED rectifier system may have changed things, but I could not hear or feel the difference compared to the 4007 rectifier. The B+ rose about 30-40 volts with the solid state 4007 based rectifier. With the solid state rectifier the amp was tighter, cleaner at higher levels, and had even more power due to the B+ increase. The bottom line here was that I personally preferred the vacuum tube rectifier, which delivered crisp punch and definition with a great feel and response. One of the other players preferred the solid state rectifier. In the end this is player preference. The Sovereign is much more defined and tighter than the Mesa Rectifier series using the 5U4 rectifier. The Sovereign with a tube rectifier is also tighter and more articulate than the Mesa using a solid state rectifier. This may be due in part to the complex front end of the Mesa versus the clean front end of the Sovereign. Some *speed metal* players may prefer the solid state diode arrangement. The Sovereign gives players all these various choices.

Output tubes were broken down into sets for various tests. Two basic output tube sets were used. One set, for the "Fender" tests was a GT-6L6R2 #5 duet. This is the Svetlana tube, and commonly available. For the "Marshall" tests, a duet of GT-EL-34R2 #5 tubes were used. This is also a Svetlana tube, and a 25 watt EL-34, rather than the more aggressive 30 watt GT-E34Ls tube. This summer, Groove Tubes is planning the release of the GE 6CA7. This is a high vacuum EL-34 type tube with an active beam forming element. Since I have a small amount of "pull" at GT, you can bet that the first of these 6CA7 duets will end up in this amp.

Tests were run comparing the Sovereign to a Fender Tweed Bassman, Fender Black Face Bassman, Marshall JTM-45, Marshall 1987 50 watt head, and a Matchless head that uses EL-34 tubes with an EF86 front end. The amp covered all these bases and more. Everyone noted that played the amp, that the amp's controls were very effective. The front end and tone stack of this amp is one that yields that "third" dimension. One dimension is level.

One dimension is crunch or drive, depending on how you attack the strings at a given setting of amp and guitar. In this amp, just as on a Tweed Bassman, the third dimension comes into play. In this dimension as the attack increases, the level of brightness also gets more clear and focused. This trait is missed on many of today's even most high tech or current amplifiers.

The guitar volume control yields very wide and dynamic results. This is a nice feature, being able to back down a notch or two on the guitar volume and have everything clean up, without the usual change in tone and roll off of treble.

There is a reverb control, presence, bass, middle, and treble, all very effective.

The overall sound and playability between the 6L6 and EL-34 configurations is terrific, from everybody's comments. We left the amp with the EL-34 tubes installed, with the 12AX7R3 tubes and the 12AT7 MPI. Guitars used were the typical offerings; a Strat, Tele (stock Fender), Les Paul Custom, PRS Standard 22, PRS McCarty Soapbar, and Gibson ES-335. The amp was very happy with pedals in the input, and had no effects loop, or the associated tone loss issues and circuit additions associated with an effects loop. Frankly, there are so many great pedal boards out there, rack mount effects may be less of a concern to some folks these days. If you want an effects loop, perhaps talk to Victoria.

Most folks that have met me know that I am over 50, and set in the "blues" or 60's San Francisco Acid Rock vein. My tastes and abilities limit my guitar skills, even after 45 years of trying to learn to play. So ... it was time to call in the "big guns". One player, Ludovic Pierson (a French player in the "Luke" vein), was enlisted. The "Top Gun" called was Danny Jacob (Los Angeles session player and touring guitarist). I knew I was on the right track when Danny, after playing for only a few minutes asked how could he get the amp.

The bottom line here is that this amp is another Victoria tone monster, one more of their amps of their own design. I believe the retail price of this amp is under \$3000.00, maybe by a little, maybe by a lot, I am not sure. You would need to check with Victoria on pricing and availability. Looking at the construction, hand wiring, components, and features, this is pretty darn cheap. It will cover Fender, Marshall, and EL-34 Bad Cat and Matchless bases. It will out gain and out articulate any Mesa Rectifier I have played, and will hold up on tour for sure. This amp was too much for me to "drive", so I cordially thank Danny Jacob, Ludovic Pierson, and of course, Mark Baier at Victoria for supplying this amp for my evaluation. I will go out on a limb and predict that this amp may be the next "Dumble", that will only rise in value, will be limited in production, as are all Victoria amps, and will cover many tone bases and playing styles.

In the future, I will continue to test this amp. For those of you in the Los Angeles area, I would be more than happy to discuss getting together with you for your feedback while playing. The amp is being used with a Marshall 4x12 cab at the moment. Feel free to bring any 8 ohm cabinet or none, or any guitar (or use any of mine if you wish).

I can be contacted most easily during the week at Groove Tubes at 1-800-459-5687, just ask for "Myles" and they will usually find me. You can also email me at techsupport@groovetubes.com

Added 2/27/03 – some tube info.

The EF86. Today's EF86s are just AWFUL. Their specs are off at least 50% from what they should be, with TC completely off, and an output of 4.5mA when it should be 3.0. They are noisy, and terribly microphonic. Unless the new ones are really closely screened, they are worthless. ANY NOS EF86 is great. All the NOS ones are very close to each other. The EF86 in these amps when changed to a great one, are even more dramatic than a 12AX7 change in just about any other amp as a rash statement on my part. Only new EF86 tubes from the best of the tube vendors that have proper test equipment and procedures are recommended. (in March 03, this EF86 was replaced by an NOS Telefunken non mesh screen EF-86.

The Svets are pretty nice in the amp. I have tried the EH EL-34's, and they were no better in the Sovereign than in most any other amps. The Sovteks are not that great, same deal. The Ei small and big bottle (marked laughingly 6CA7) are awful and add hum and more background noise. This may be the limited sets I had though to test, only about six duets.

A set of Mesa Siemens NOS tubes were great in the amp, nicer than the Svets, and still at times available from Mesa as their Siemens STR-450 at \$70.00 retail per duet.

A set of Amperex GEs from Holland was really great, but these were not mine and I had to return them.

The GE NOS 6CA7's that I borrowed from tests going on at GT for their own 6CA7 reissue, coming out hopefully in summer, were amazing, but had to return these also to my boss :(

A borrowed quad broken down into two duets of Philips Miniwatts from the early 60's were nice, about equal to the Svet's actually.

The Ei EL34 / 6CA7 - repulsive, in this amp or any EL-34 amp I have tested these in.

The Electro Harmonix 6CA7EH big bottle was not even close to a real 6CA7, and in fact, had less going for it than the regular EH EL-34.

The Ruby Tubes EL34BSTR was even nicer than the Svet, and really compares or exceeded some of the NOS stuff. This is a cool tube. This amp loves these, but so does a Marshall 1987 or 1959 if you want that original Mullard / Siemens tone in a tube that costs a lot less. One of the only good 25 watt EL34 tubes made today from my limited point of view.

The Sovtek EL34WXT - ca ca ... pee pee ... doo doo not in this amp for me.

The 25 watt JJ E34L is nice, but less smooth and predictable, and less controllable than the Ruby EL-34. It is more aggressive and more strong in the mids than a Svet. Not as linear as the Svet.

The 30 watt GT tooling JJ E34Ls is about 20% higher in power than any of the other EL34s, and the only thing that beats it in shear output is a real GR 6CA7. These sound great, but turn this 50 watt or so amp into something closer to 70 watts, so I took these back out as it made the amp too loud, and also moved away from the classic JTM-50 and even later Marshall DSL / TSL tonal qualities. But ... for guys 1/2 my age that want to go over the top, this would be a super tube.

Current tube compliment as of 3/6/03 – (basically, it seems this amp is not all that “tube critical” and seems to like just about anything you put in it. The EF86's though can make a nice difference in overall background noise, and in like any high gain capable amp, nicer tubes in the front end make a nice difference.

V1 Telefunken smooth screen NOS EF86 / 6267 @

3.4	2020
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V2 Mullard NOS 12AX7 / ECC83 IEC – hand traced and spec'd @

1.4	1580	87.8
1.4	1620	85.3

V3 RCA NOS 6BM8 supplied by Victoria

V4 Telefunken smooth plate NOS 12AX7 – hand traced and spec'd @

1.6	1880	94.0
1.4	1800	95.3

V5 Mullard NOS 12AT7 – hand traced and spec'd @

8.2	4730	68.6
8.1	5080	73.6

Curves 90% matched for MPI application.

Rectifier – Sovtek GZ34. Output tubes; GT EL-34R2 (Svetlana) #6 or Mesa Siemens NOS EL-34 @ 65% ID

Myles S. Rose

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