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**simple mods for  
marshalls****j burt** *jburti@hotmail.com*

3/5/99 02:30

im screwing around with my 78 marshall mk2 master lead 100 watt 2203 trying to see what i can do to it to make it sound really good-really cheap. i am experimenting with presence capacitor and resistor values and input to gain capacitor. so any ideas? what can i do to the gain stages? any ideas would be appreciated.

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**Re: simple mods for  
marshalls****Richie**3/5/99 07:11 *in reply to j burt*

J: Its hard to know what your after in tone or sound your looking for. What one likes, another may not. There are quite a few things to change these amps. Trace has been doing alot of experimenting with one of these. As far as gain, it should have plenty already. Or do you want less? The tone of the amp is what counts. There are quite a few on here that have their own taste of mods to change the sound of these. Some small things are to change the .022 caps in the PI/driver to .1uf and change the tone slope resistor and cap from 33k to 56k and 500pf to 250pf. Make it a bass amp, they sound thicker like this, and change the middle control from 25k to 50k. This will give alot more range in the middle section. Just do a little at a time. see what you like. You can leave the cap alone for the presence control, but in the feedback, add a .01 cap to the resistor. I'm sure there are others that will give you their recipe. Alot depends on how you like your amp set, or tone you want. This will give it alot more range and won't sound so thin. There are some small caps you can change on the preamp that will make it less bright, but the amp will still have enough bite! And differences for the one on the volume control. Give us more info of what your after, and i'm sure there will be plenty of answers. Oh does yours have 6550? Change them to EL34 and rebias if you haven't done this yet. [Richie]

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**Re: simple mods for  
marshalls****Niek** *npv20@eng.cam.ac.uk*3/5/99 10:36 *in reply to Richie*

The 2203 preamp design is known to be a bit too bright for many people. I recently build an amp using a preamp similar to the Pignose G40 amp. It uses a 2203 preamp with a few tweaks. You only have one input, less interstage attenuation, a 1000pF treble cap in the tone stack and a cap across the mastervolume to bleed some highs of to ground. I have been experimenting with this cap and found it greatly responsible for the preamp's brown sound. Steve Ahola has schematics of this amp on his cool site along with tips & tricks for serious modding. This should give you plenty of ideas on modding your 2203.

the url is of steve's site is: <http://www.techaccessinc.com/blueguitar/>

Cheers,  
Niek

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**Re: simple mods for  
marshalls**

**Liam** *lph1@ukc.ac.uk*

3/5/99 13:49 *in reply to Niek*

All of the above are good info. Here's my thoughts. (I love the 2203, it's one of my favourite amps). Try changing the first pre-amp valve to a 5751. They're a bit lower gain and a bit warmer. That makes the whole set-up very touch sensitive. I also moved the presence control to the tone stack, and grounded the PI through a resistor. If you want values I'll let you know.

I'd love to hear from Trace on this matter. He has good taste in tone!

Liam

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**Re: simple mods for  
marshalls**

**Niek** *npv20@eng.cam.ac.uk*

3/5/99 15:21 *in reply to Liam*

Liam,

Please send us those values (presence & PI mod).

Cheers,  
Niek

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**Re: simple mods for  
marshalls**

**Mark Cameron** *camamps@gte.net*

3/6/99 10:12 *in reply to Niek*

Everybody has their tricks to getting the best tone out of a Marshall. So here's my 2 cents.

I don't like taking out the caps, that's what makes that Marshall crunch. Try this, lower the feedback resistor to 27k if it's too bright. This takes the icepick treble out, but you still have that classic sound. Or you could use a 250k pot in place of this resistor (boogie presence control). Also play with the presence cap I like the .68 cap over the .1 cap (this adds more high mids)

Need more bass, look at the purple wire going from the impedance selector to the 100k feedback resistor, disconnect it from the impedance selector, now get a .0033 cap connect 1 lead of the cap to where the purple wire went and take the other lead and connect the purple to this, BOOM more tight bass (adding bass in the preamp makes the amp turn to mush and you lose gain on higher notes).

Try all of these ideas (not just mine) if you can. Let us know what works best for you.  
.....Mark Cameron

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**Re: simple mods for marshalls**

**j burt** [jburti@hotmail.com](mailto:jburti@hotmail.com)

3/5/99 19:23 in reply to **Richie**

it has el34s. i like a nice crunch sound. it seems when i go to do a lead i have a drastic loss in gain. i know there is not a lot i can do about that. i want it to sound beefy and full. i bypassed the cap and resistor from the input to the gain pot and that made a world of difference- much more full. i want the eq controls to be more sensitive. on my dual recto they are really sensitive and give me a lot of control. i don't need that much control but i would like some. maybe more control in the mid & bass sections- but i want crunch like a jcm 800- not super saturated though. i want tone that will make my les paul scream with joy. is this possible?

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**Re: simple mods for marshalls**

**SpeedRacer** [jpampel@banet.net](mailto:jpampel@banet.net)

3/6/99 00:52 in reply to **Richie**

I 2nd Ritchie's mods.. 56K slope resistor, 250pF treble cap and pull out the rest of the "bright" caps so the amp is like a Bass amp. You can add back a cap or two, one at a time to see what you want. The bass amps sound great though, esp with single coils, and if you're using pedals, the more balanced tone of the amp will work with them much better.

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**Re: simple mods for marshalls**

**Trace** [Shameus1@aol.com](mailto:Shameus1@aol.com), [traceallen@hotmail.com](mailto:traceallen@hotmail.com)  
<http://members.aol.com/ItznotMe98/>

3/5/99 16:58 in reply to **j burt**

Hey all;

I've been getting swamped with Marshall amps for the last two months now. I guess people think I'm some sort of "expert". (wer all know Richie's the man for that job) I don't do repairs because I'm too darned busy with other things!! (ha, ha) I wish I could because you get more insight on offer designs that way. 99% of the mods I do on Marshalls are for studios, session players, or touring musicians.

Mostly I just Mod or build amps and 80% of the modding has been Marshalls lately.

I've been working on alot of 2203's, 2204's, 2205's, and Mark 2's. This certainly doesn't qualify me as a Marshall Expert, I just do what I do and hope they like it.

I was going to ask the same question Richie asked but he already asked, ... What kind of tone are you shooting for??

Most people either say 1.) "do what ever you did to so and so's amp" or 2.) I spend some time with them on the phone or sit down and have lunch with them. This gives me a better idea as to where they are coming from tone wise.

I've found many people want to get close to a tone they've heard on a record, tape, or CD. I always ask people to either give me a copy of what they are after or something that is fairly close.

I've had a bunch of people ask me to do whatever I've done to get my tone but it still requires tweaking the amp to their playing style. If you want a few quick samples you can check out my band's website at <http://asitis.net>

I'm kinda with Richie on changing the slope resistor. Soldano uses the 47K (we all know that now--ha, ha) where the 2203 is a 33K. The Marshall Super Bass used the 56K (as Richie said).

On 2203's I usually remove the low input jack and install a mini toggle switch with a 33K, 47K, and 56K 1/2 watt slope resistors. I kinda settled on this for a couple of reasons.

1.) I did this to an amp that belongs to a major recording studio and I've had about a ga-zillion requests for it.

2.) It makes the amp more versital both live and in the studio. Many rooms sound different and this helps some to compensate for that.

3.) I've asked all the people I've done this mod for.."Do you ever use the low input jack" ...they usually look at me like I'm outta my mind and say "hell no!" (ha, ha) It's three different tonal qualities in one amp. You can also wire a foot switch and switch between your favorite two. This is FAR from anything original to say the least but it works very well.

Richie's right, I do have a bunch of mods but it does marginally depend on what tone you are shooting for.

I've been using the MDRAW program. I still haven't figured out how to convert the schematics into JPG's yet (maybe some day!! ha, ha) but if anyone has this program I'd b happy to share mod tips and email the schematics to you...or even snail mail if need be.

Like Richie already mentioned, I also like the 50K Midrange pot. It give's you more tonal options than the 25K and again it comes in nice live if you're playing in a bunch of different rooms all the time.

I've had several Marshall's come in that were modded by another Mod-Wiz (he'll

remain nameless to protect the innocent) they all had the 220K resistors on the Plates. They all complained because it sounded like a "can-of-angry-bees". I usually change these to 100K's but occasionally I'll use a 110K depending on the amp at hand.

Trace

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**Re: simple mods for  
marshalls**

**j burt** *jburti@hotmail.com*

3/5/99 19:34 *in reply to Trace*

i actually do use my low input with a rat pedal to get some nice crunch. the high input has no clean headroom- but the lowinput has a pretty awful sounding clean. but i dont use clean though. when i use the rat all of my lows dissappear though, so i would rather use my high input if it had a good crunch. i would like to have that social distortion "how can hell be any worse" sound.

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**Re: simple mods for  
marshalls**

**Mark Cameron** *camamps@gte.net*

3/6/99 17:13 *in reply to j burt*

J, look at my othr post for a bass boost trick

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**Re: simple mods for  
marshalls**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*  
*<http://members.aol.com/ItznotMe98/>*

3/6/99 18:11 *in reply to Mark  
Cameron*

Hey;

Mark has a good thing going with the bass boost mod. You might want to try it out. If you don't like it, it's easy to reverse.

You mentioned you want the EQ for like the Dual Recto head. I would suggest you sell the Marshall and get another Boogie because the Boogie's an entirely different animal. Look at the schematics for both amps...the EQ sections are very different in a few ways.

I use a Les Paul and a NB Custom guitar (they sound very similar to one another) so the tone you are going for is hard to get at all out of a JCM800.

off-n-runnin'

Trace

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**Mods for marshalls...re:  
emails**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*  
*<http://members.aol.com/ItznotMe98/>*

3/8/99 17:41 *in reply to Trace*

Hey all;

I didn't honestly think so many people would email me for those Marshall mods!! I'm kinda surprised to be honest. I guess I should have posted it here instead.

The last time I posted a mod here no one really replied except for emails. So I guess I thought it would be foolish to post another mod here.

I'd would all those who I emailed back to reply here and let me know what you thought about the mods. I'd also love to hear any changes or alterations you've done too!!

Perhapes we can even get some new mods out of the ones I sent around. That would be truly great indeed.

Thanks so much;

Trace

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**Mods for marshalls...re: emails**

**j burt** [jburti@hotmail.com](mailto:jburti@hotmail.com)

3/8/99 23:37 *in reply to Trace*

well i decided i am going to do mark cameron's mod for better bass in the power amp section. i am also going to replace the mid pot to 50k and the slope resistor to 47k or 56k. i am going to try these first and then tinker with the feedback resistor. what is the best way to bleed deadly voltage out of the electrolytic caps? i am reading a book radio tube engineering that is very helpful but it is from 1942, so it is a little out of date. is my neighborhood electronic supply a good source for parts?

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**Re: Mods for marshalls...re: emails**

**Richie**

3/9/99 06:29 *in reply to j burt*

If you change the slope resistor,change the 500pf cap to a 250pf.Some people use a bleeder resistor.[10k] and put it in the middle between two aligator clips wit leads.... I'll try a diagram[don't laugh]clip this end to the positive end of the cap  
>-----[10k]-----< this end to chassis ground.And it will bleed off the cap, be sure the clips are insulated,and you only hold the insulator part.You can use your meter to see what voltages are, and when they go down. Their are other ways people do it,lets say the fast way, but For leaners,I wouldn't suggest this. [Richie]

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**Re: simple mods for marshalls**

**Carl** [summit@TheRamp.net](mailto:summit@TheRamp.net)

<http://www.angelfire.com/il/summitamps>

3/9/99 20:34 *in reply to Trace*

A few days ago I had some email correspondence with trace about one of my favorite mods for the JCM 800. With this thread going here I thought I'd share it with the rest of the crowd. This mod is so simple it's almost scary! It involves primarily reworking the tone stack and changing a few bypass capacitors. So here it goes!

The first thing you need to do is lose the .68uF cathode bypass cap on the first gain stage and replace it with a 5uF cap. The second stage also gets a 5uF cap across the 10K resistor. Marshall was kind enough to provide us with holes in the PC board to mount it too. The voltage divider gets's changed to a 1 meg/220K pair. with the 1meg unbypassed.

The next thing is to rip out the entire tone stack and replace it with Fender values; 220pF treble, .1 bass, and .047 mid caps. Also change the slope resistor to 56k. This will make your tone controls much more responsive. You may also want to diddle with the 470k/470pF network on the front end to adjust it to your personal taste. I've had some people that preferred the tone with the cap completely removed....but who am I to judge?

That's pretty much all there is to it. One thing though is that you should check this with a scope. There's a helluva lot more gain in the preamp now and some amps may want to oscillate, especially if you push the front end with pedals. Marshalls can get a little twitchy in this area anyway. You can fix this by running bypass caps across the plate resistors as necessary. But I try to avoid this unless It's absolutely necessary.

What makes this mod so cool is that you can get a ton of beefy preamp distortion in the high gain mode and it really fills out the tone in the low gain mode.

As a side note; whenever I go into these amps I like to ground reference the heaters with a pair of 100 ohm resistors as well as clean up the wiring a bit. I put a good tight twist on the heater wires and also twist the wiring from the cap cans to the board.

Regards;

Carl

Summit Amps

<http://www.angelfire.com/il/summitamps>

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**Marshall 2203 Mods**

3/10/99 17:23 *in reply to Carl*

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*

*<http://members.aol.com/ItznotMe98/>*

Hey all;  
2203/2204 mods;

These mods are for those amps that have the two extra holes on the rear of the chassis, effects loops that you don't use, or the DI jack and knob that no one usually uses.

let me also say that if you ever plan on selling your Marshall then I wouldn't drill holes in the rear of the chassis! It sure does have a funny way of losing resale value. (ha, ha)

I've done these two mods for a couple major recording facilities (and the slope resistor mod mentioned earlier) and I've been up to my ears in modding for everyone who plays on those amps!!

it's nothing fancy and I'm certainly not reinventing the wheel here but it does give you more tonal possibilities out of one amp.

#### 1ST ONE: "VARIABLE GAIN SWITCH"

1.) Locate the 10K cathode resistor (R6) and either remove it from the board or snip the legs as close to the body of the resistor as you can. (what ever you are most comfortable with doing)

2.) Grab a 5 position rotary switch and wire it as follows;

1) 10K, 2) 4.7K, 3) 3.3K, 4) 2.7K, 5) 1.5K

3.) Solder two lead wires from the switch to the board (or the legs of the resistor if you chose this route)

4.) With the front of the chassis facing you, mount the switch in the left hand hole on the rear of the chassis.

With the switch in the 1st position the amp is "stock" and with each turn of the switch the amp's gain is increased. Of course you can also use different values to better suit your taste. These are what I settled on and use but I would encourage you to try your own and come up with what ever you like!!

Another really easy trick (if you want to call it that) is this. Locate the 820ohm cathode resistor (R9). Run down and pick up another 5 position rotary switch.

1.) Wire it as follows

1) no cap

2) .22uf

3) .47uf

4) .68uf

5) 330uf

2.) Solder to lead wires from the switch to each end of the resistor (or solder it to the points on the board via the bottom of the board) I usually use insulating tubing over top of the lead wire but you can do what ever you like

Also make sure if you use polarized caps to keep the positive sides grouped together when wiring the switch and make sure the ground side of the lead wire gets soldered to the grounded end of the resistor.

3.) Mount the switch on the rear of the chassis via the remaining empty hole (right hand hole)

With the switch in the 1st position the amp is once again "stock". The remaining 4 positions will of course give you a boost in gain but will also boost different frequencies.

These mods are a great way to go even if you don't have the spare holes on your chassis. You can select between these caps and resistors to see which ones are best for you and you can then solder those values in place!

I've also wired a switch for R9 as follows;

- 1) 820ohm
- 2) 820ohm/330uf
- 3) 820ohm/.47uf
- 4) 2.7K/.68uf
- 5) 2.7K/.22uf

Try a bunch of vaules and go with what ever works best for you!!!! I posted these hoping someone else might be able to get the tone they were looking for out of their amp. I hope this helps someone.

Remeber, music is a brotherhood and we can all learn from one another!

Trace

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**Re: Marshall 2203 Mods**

**Richie**

3/10/99 20:57 *in reply to*

*Trace*

Trace: What about useing one switch for the selected resistor and another for the selected cap to go across it? Get one of those 12 position ones and you'd have a bunch you could use. [Richie]

---

**Re: Marshall 2203 Mods**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*

3/11/99 14:17 *in reply to*

*http://members.aol.com/ItznotMe98/*

**Richie**

Richie;

You animal you!!! I have to admitt I thought about that 12 position switch but it takes a little while to wire that beast up when it's a 5 position!! (ha, ha) I'm just kidding. I have thought about it but then this crossed my mind ---> Have you ever had one of those guitarists who walked in and when you give him too many options he just can't seem to make up his mind? (Ha, ha)

I guess I'm in a joking kinda mood but I would like to try a 12 position and if anyone does PLEASE let us know what values and caps you used!

As always Richie you have all the killer ideas!! Hey, wire one of those beasts up like that and let me know how you wired it. I'd be VERY curious to know. We seem to share the same tonal ear when it comes to Marshall's.

I was using both switches on most of the amps. One for the resistor and one for the cap but they were on seperate cathodes. The Resistor switch was on R6 and the cap switch was on R9. It seemed like you could a mess of tones like that were still Marshall'esq without doing any of the silly mods to make the amp flip out or sound horrible. (we've all heard those I'm sure!!)

oppss..I also forget I placed a 330pf cap across the 68K (R3) resistor. I will admitt I got this idea from Mike Soldano's JCM800 mod that a gentleman was kind enough to send me :-). His was labeled as 333pf but I didn't have that exact value. Try it and see what you think.

I'm kinda interested in trying Carl's mod too. It's peaked my curiosity to say the least. Anyone else got some mods to share?

Where's that expresso at????

Trace

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**Re: Marshall 2203 Mods**

**another anonymous**

3/12/99 08:23 *in reply to*

*Trace*

Trace:

I also forget I placed a 330pf cap across the 68K (R3) resistor. I will admitt I got this idea from Mike Soldano's JCM800 mod that a gentleman was kind enough to send me :-). His was labeled as 333pf but I didn't have that exact value. Try it and see what you think.

Trace,

what is that cap good for???

333pF can mean  $33 * 10^3 \text{ pF} = 33\text{nF} = 0.033\mu\text{F}$

On the other hand a series resistor to the grid of an amps input tube makes a quite

good RF filter....

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**Re: Marshall 2203 Mods**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*

3/14/99 16:41 *in reply to  
another anonymous*

*http://members.aol.com/ItznotMe98/*

Anonymous;

The 330pf 1kv (ceramic cap is what I used) is an interesting little animal. At first it sort of seems like it doesn't do much at all to be honest! You need to play on the amp for about 20 minutes or so and then quickly solder it in there and then play on it some more.

I've found it really makes the amp feel "beefier" and the mids are more "fat" sounding. Again, it's hard to describe in words. I goofed around for about 3 hours with it...you know, taking it out...putting it back in...taking it out...and then I left it in! (ha, ha)

I like it. I tried a 470pf but it seemed a little to "beefy". The 330 seemed to be just right. Try it and see what you think and by all means please let me know what you hear when it's in there!!

Off to tone land

Trace

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**ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*

*http://members.aol.com/ItznotMe98/*

3/16/99 02:30 *in reply to  
Trace*

Hey all;

Does anyone else have any mods for Marshalls that they like to do?? Please give a posting so we can try them! I'm very eager to try these.

Carl...I tried your JCM800 MOD and it's very, very hip!! It does make the tone controls more responsive. Nice work :-)

Trace

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**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**Carl** *summit@TheRamp.net*

*http://www.angelfire.com/il/summitamps*

3/16/99 03:46 *in reply to  
Trace*

Great to hear you liked the mod Trace. How do you like the gain structure in the amp? I'm always eager to hear any kind of constructive criticism. Good, bad, or indifferent.

I'm currently playing with a real sledgehammer version of this mod. It involves removing the 10k cathode resistor and replacing it with a 1.5k. I'm also experimenting with the load resistor on the first gain stage. I've tried a 56k as well as a 220k. I'm also messing around with the divider network and the volume control. So far I've liked the 56k variations the best. Any input you've got would be a big help in taming this thing. So far it's one BAAAD hombre. I'll post some results later on regarding this mod.

BTW Trace...if you want the details i'll Email what i have so far. I'm not gonna post too much here right now because the circuit is still pretty unstable.

Regards;  
Carl  
Summit Amps

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**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*  
*<http://members.aol.com/ItznotMe98/>*

3/16/99 04:41 *in reply to Carl*

Carl;

Over all I thought the amp sounded good! You were right about it running on the verge of being unstable. it's not unstable but it is pretty close! (ha, ha) I makes sense that if you are trying to "beef" up the amp with your previous mod in place...it could get tricky.

I actually tried a few things with your mod in place...not extensively yet...and everything I quickly tried did make the amp actually unstable. Maybe you should slap her all original and start with a new approach..then you'll have two mods!!

I have a 2204 I have specifically for experimenting. Keep in mind I use a Les Paul Custome and a NB Custom guitar (very similar to the Les Paul tone if you're wondering) The amp has Telefunken EL34's and 12AX7's (God Tubes :-)

Here's my silly opinion for what ever it's worth. I think the 56K is good with the 250pf cap for the bridge pickup. When I switch to the neck pickup (humbucker) it get's "unclear". It's not Muddy but it's not clear or "open".

I've tried all kinds of stuff to on these amps. If you have access to a Les Paul Custom please grab it and try this. This way you won't think I'm crazy!! (ha, ha)

I get my clean tone by turning the volume knob on the neck pickup down to around 4'ish. It's clean, warm, and still retains top end. To me if an amp can do that then it's the shit! (opss potty mouth--ha, ha)

I'm assume you want everything hard wired to the board as opposed to switchable

mods (?)

Here's my "Sledgehammer" approach --->

1.) A 47K (R15) slope resistor with a 470pf cap (C10 which is stock) and also a 50K midrange pot (VR4). I think this is a really thick tone as far as the EQ section is concerned. Also your 56K with a 250pf will work as well with the 50K mid pot.

2.) I've experimented with the replacing the 10K cathode resistor..alot!! (ha, ha) If you want the sledgehammer effect then the 1.5K might be the way to go. (again considering everything is stock except for what I just mentioned above)

I kinda' found it to be almost "mushy" because there was so much gain. I settled on the 4.7K in this section and all the Heavy-Guitarist seemed to like it alot (ie: metal kinda players) The nice part is it still retained a "tight" lowend without getting "Mushy" or "Buzzy". Rock players can always back off the preamp volume for less gain if needed.

It's the sweet spot for a heavy-tone in my opinion. The gain-switch I use does have a 3.3K, 2.7K, and a 1.5K for those who are into the extream high gain. The 1.5K is almost on the verge of but it's not unstable. The 820ohm is unstable here and the circuit seems to mush up big time. You can alter the gain big time right here (as you know).

3.) I also put a .68uf or .47uf cap on the 820ohm cathode resistor (R9 in the schematic)

and the 330pf (ceramic 1kv) cap on the 68K resistor (R3)

I guess these are more like my findings as well as suggestions (sorry if it's long winded) Please email me the details on what you have!!!! I'd love to help you sort it out if I can.

Trace

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**TMiller** [tonefactor@aol.com](mailto:tonefactor@aol.com)

3/16/99 04:34 *in reply to*

*Trace*

I like to voice the 2203/04's to sound more like a 1987/59. This can be done quickly by removing the 470pf cap that goes across the second 470k resistor in the signal path, and putting a .68uf cathode bypass cap at the third gain stage. This helps the amp to sound less bright and adds mids to help it cut through the mix better.

---

**Reliability mod for  
JCM900 series**

**Dave Stork** [dstork@ibm.net](mailto:dstork@ibm.net)

<http://homepages.infoseek.com/~storkaudio>

3/16/99 15:11 *in reply to*

*TMiller*

It won't change the tone, but one of the best things you can do for your JCM900-series Marshall is to relocate the output grid stoppers (1.5k) from the PCB to pin 5 on the output sockets. Also, pull the grid leads up and away from the sockets and trim off excess length. One reason these amps, in their stock form, tend to blow output tubes and transformers is because the grid leads are routed too close to the plates and the grid stoppers are located too far from the sockets to be effective.

---

**Re: Grid stoppers**

3/17/99 04:53 *in reply to Dave Stork*

**Steve A.** *steveahola@worldnet.att.net*  
*http://www.techaccessinc.com/blueguitar/*

Dave:

Speaking of grid stoppers for EL34 tubes, I was just rereading various suggestions for adding EL34's to a 2-6L6 Fender amp, and some of them recommended using 5K6 grid stoppers instead of 1K5. Any thoughts on this matter? (My intention is to be able to switch back and forth between the EL34's and 6L6's by just readjusting the bias.)

Thanks!

Steve Ahola

---

**Re: Grid stoppers**

3/17/99 21:51 *in reply to Steve A.*

**SpeedRacer** *jpampel@banet.net*

Bigger is generally better to help prevent HF osc. BUT some folks feel that they alter the overdrive tone. As the output tubes go into clipping, the grids draw current and you get an I\*R drop on the grid stopper. Bigger stoppers, bigger IR drop, which alters the overdrive characteristic (it clips later).

A bud of mine @ Fender has told me of early BF amps he considers "grail" amps and they have no stoppers. Personally, I don't think they're a make or break component..

---

**Re: Grid stoppers**

3/22/99 19:27 *in reply to SpeedRacer*

**Gus**

If the output tube clip later the sound of some marshalls is clipping of the phase inverter and then the tubes? I heard a marshall mark 2? that sounded great but only at ear hurting level the person said the amp was worked on 6550 to EL34, master vol added???

---

**Re: ANYONE ELSE GOT ANY MODS FOR MARSHALL'S??**

3/23/99 04:29 *in reply to TMiller*

**David Manson** *cattgut@hotmail.com*

can these mods be applied to a jubilee preamp?? or would it be totally different.. which resistor would need to look for?

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**TMiller** *tonefactor@aol.com*

3/24/99 17:08 *in reply to  
David Manson*

Some of these mods would work on a Jubilee and some won't. The Jubilee has a much different preamp circuit than other Marshalls. Almost all of it's distortion comes from the clipping diodes. Remove these and the tubes won't even distort on their own.

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**David Manson** *cattgut@hotmail.com*

3/29/99 09:35 *in reply to  
TMiller*

does anyone have any mods that will work?  
any ideas?

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**TMiller** *tonefactor@aol.com*

3/31/99 04:01 *in reply to  
David Manson*

That amp has a very unique sound that some people love. You ought to sell to one of them and get yourself a 1959/87 or 2203/04 which are much more mod friendly.

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**David Manson** *cattgut@hotmail.com*

3/31/99 06:57 *in reply to  
TMiller*

i did try to get it modded for gain once last year... i think he told me the same thing... he didnt want the hassle of modding my 50 watter... he suggested getting a 100 watt head -- old superlead or something,, does anyone at all have any experience with these amps ?? i can switch out caps-pots-resistors -- whatever.. some info please... (50 Watt Jubilee combo) i'm also thinking about getting hotter pickups.. i dont know if that will work though.. my current set is pretty strong already... -- make much of a difference?

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**TMiller** *Tonefactor@aol.com*

4/2/99 22:38 *in reply to David  
Manson*

The Jubilees are already modded to the max straight from the factory. There really isn't too much you could do to it without ruining it.

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**David Manson** *cattgut@hotmail.com*

4/9/99 20:22 *in reply to  
TMiller*

I just learned that most of the Jubilee's distortion comes from solid state diodes?? ... if this is true.. cant i switch out or add more diodes for more distortion -- I dont really know how diodes work -- has anyone messed around with diodes?? hints anyone? (I still like the sound even if it isnt all-tube distortion)

---

**...another silly Marshall  
Mod for yah :-)**

**Trace** *TonsOfTone@aol.com, traceallen@hotmail.com  
<http://members.aol.com/ItznotMe98/>*

4/10/99 16:05 *in reply to  
David Manson*

Hey all;

I had a mess of emails asking about more mods for Marshall's. I'm certainly not a expert on Marshalls by a long shot (maybe someday in a galaxy far, far away--ha, ha)

Many people were asking about mods for the JCM800 2203/2204 (basically the same preamp) I posted 95% of them here so please take a looksy through the archives. Richie and Carl posted some great sounding mods as well!!

I'll post the only other one I think is worth while. All resistors are 1/2 watt 2% metal film (or whatever you prefer :-)

- #1.) Locate R11 (470K) and replace it with a 120K.
- #2.) Locate R10 (470K) and remove it from the board.
- #3.) Grab a toggle switch and wire a 470K to it as well as a 120K. Solder the leads to the board where where you removed the 470K (see#2)
- #4.) You can remove the DI-output jack from the rear panel and mount the switch in it's place.

The toggle switch allows you to switch between a good JCM800 distorted tone and "richer", "wider" distorted tone. Yes, it does boost the gain and the lower mids and bass frequencies are excentuated as well.

For a more "full tilt" tone that hard rock or heavy players would enjoy you can do the following;

- 1.) Located R6 (10K cathode resistor) and replace it with a 4.7K
- 2.) Locate R15 (33K) and replace it with a 39K. The previous mod boosts the lower frequencies but if you find you need more bass than what that provides then you can use a 47K or even 56K for more bass yet.
- 3.) Locate C1 (.68uF) and try a 47uF or 22uF cap here. The .68uF is very Marshall'esq so you'll have to decide what you prefer.

So give these a try and see what you think. Let me know what you think and feel to post it here.

Hope it helps someone;  
Trace

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**John S.** *spina@gte.net*

3/31/99 14:06 *in reply to  
David Manson*

Yeah, buy a Mesa/Boogie Tremoverb Head. I sold my JCM 800 for one.... Don't mean to be a smart ass, just funny that's all ! John.

---

**JCM800 2205 "Curious  
Question"**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com  
<http://members.aol.com/ItznotMe98/>*

3/17/99 03:29 *in reply to  
Trace*

Anyone;

Has anyone else worked on the 2205's recently? It seems like a lot of them have the 220K plate resistors on the first couple 12AX7's that the signal sees. The schematic doesn't show it as a 220K so I was just curious if anyone else has run into this because this is the 4th 2205 JCM800 I've seen like this in the last three weeks.

Just curious;  
Trace

---

**Re: JCM800 2205  
"Curious Question"**

**Dai Hirokawa** *DHirokawa@AOL.com*

3/17/99 06:55 *in reply to  
Trace*

The earlier and later 2205s have somewhat different designs. The early schematic is in Pittman's Tube Amp Book 4.1(p.695), the later one in the back of The History of Marshall(p.222). Have a look, Trace. There was also a thread on differences on AGA sometime back(someone heard two 2205s--one better sounding to him than the other). Never seen/heard one in person myself, though.

Dai Hirokawa

---

**Re: JCM800 2205**  
**"Curious Question"**

**Richie**

3/17/99 14:31 *in reply to Dai Hirokawa*

Another funny thing is, they list a 2205 model as a slave for a PA. mixer. Looks like they could have changed the model number.[Richie]

---

**Re: JCM800 2205**  
**"Curious Question"**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*  
*http://members.aol.com/ItznotMe98/*

3/17/99 16:22 *in reply to Dai Hirokawa*

Dai;

yeh, I looked in both books and they don't show what was in all four of these amps. Hmm..I know Marshall changed things alot and claimed "imporvemant" when they did so. It's pretty similar to the JCM900 in many respects which leads me to believe they carried over these things into the 900's. There's even the DI output jack and knob, channel switching, reverb, diode clipping etc.

There's a funny thing with the clean channel on these...they suck!! (ha, ha) They are one of the worse clean channels around but then again Marshall isn't known for their clean tones.

I was just curious if anyone else notice this. The other interesting thing is all 4 of these had the 47K/470pf slope compliment. Very thick sounding. I also noticed ALOT of similarities to the SLO-100 as well. Hmm

I replacd the 220K plate resistors with 100K's and this took all the "mush" out of it. It had as much mushy-gain as the 900's do.

Have fun all;

Trace

---

**Re: JCM800 2205**  
**"Curious Question"**

**Carl** *summit@TheRamp.net*  
*http://www.angelfire.com/il/summitamps*

3/19/99 16:39 *in reply to Trace*

Trace;

There's days that I think that Marshall uses a random component value selection process for these amps. Every time I get one in they have different values. I've also seen them with 220k and 150k control grid resistors. Some have 47pF caps across the plate resistors in the driver stage some don't. The list seems endless.

Regards;  
Carl  
Summit Amps

---

**Re: JCM800 2205**  
**"Curious Question"**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com*  
*http://members.aol.com/ItznotMe98/*

3/19/99 18:05 *in reply to Carl*

Carl;

The older Marshall's are really guilty of this!! (ha, ha) It's like a smorgous board of part values.

: -)  
Trace

---

**Re: JCM800 2205**  
**"Curious Question"**

**Charles Thomas** *cthomas@facstaff.wisc.edu*  
*http://www.hotterthankarl.com*

3/22/99 18:48 *in reply to Carl*

>There's days that I think that Marshall uses a random component value selection process for these amps. Every time I get one in they have different values. I've also seen them with 220k and 150k control grid resistors. Some have 47pF caps across the plate resistors in the driver stage some don't. The list seems endless.

When I was a cook for a national chain restaurant, there was the "Official" recipe for mild salsa or guacamole that we were supposed to follow.

However, each cold-prep cook had their little "embellishments" or "omissions" that they did to make the salsa or guac taste "just a bit better". (I favored using more garlic powder in each).

Perhaps the assemblers at the Marshall plant are the same way?

(grin)

CT  
<http://www.hotterthankarl.com>

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**j burt** *jburti@hotmail.com*

3/25/99 21:15 *in reply to  
Trace*

ok! on my 2204 i changed the pot on the mids to a linear taper 50k which gave me a lot more control! on the #2 gain stage there was a bypassed resistor from a previous mod which gave extra gain-i think, so i put that back to stock and it sounds much better but its not the voice of the angels yet! there is'nt as much gain but it sounds better. im gonna try some more stuff! ill keep you updated.  
joel

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**j burt** *jburti@hotmail.com*

3/26/99 02:16 *in reply to j  
burt*

ok, there is a spot on the pc board for a capacitor on the far left with the controls facing you that goes from pin 3 in the 1st gain stage to the input. i was told i would get some beef if i put a 250-330 micro ferad 25 volt cap in there. i did it and its beefy but the gain pot is really really really screechy. i can't even go into the high input. i think im on the right track. please give me some guidance. should i just pull it out?

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**Trace** *Shameus1@aol.com, traceallen@hotmail.com  
<http://members.aol.com/ItznotMe98/>*

3/26/99 07:18 *in reply to j  
burt*

J Burt;

It's 2:19AM so I hope this makes sense! (ha, ha) I would first ask what kind of tone are you looking for?

Look over the mods that are already posted here! There are some killer mods that will really "beef" up the amp over all.

You might want to try a 330pf cap across the 68K input resistor to get a nice "beefy" tone.

Did I spell everything right?

Trace

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**j burt** *jburti@hotmail.com*

3/26/99 20:26 *in reply to*  
*Trace*

i put a 330uf across the input resistor on the board, but it is screeching something fierce. did i put it in the wrong place?

---

**Re: ANYONE ELSE GOT  
ANY MODS FOR  
MARSHALL'S??**

**Don Symes** *don.symes@amd.com*

3/26/99 21:48 *in reply to j*  
*burt*

The last post was about a 330pF, you're talking about 330uF - that's 1000x bigger!

Please double-check your value

---

**1959 mods anyone?**

**j burt** *jburti@hotmail.com*

3/27/99 01:40 *in reply to Don*  
*Symes*

oops, my amp is a 1959 not a 2203! duh any mods for this amp to bring out the beef?

---

**Re: 1959 mods anyone?**

**TMiller** *tonefactor@aol.com*

3/28/99 00:50 *in reply to j*  
*burt*

If that amp isn't beefy already, there is something wrong with it.

---

**Re: 1959 mods anyone?**

**j burt** *jburti@hotmail.com*

3/28/99 02:28 *in reply to*  
*TMiller*

it sounds good but can use a little gain boost and more lows. it is afully bright too. i dont wanna lose the marshall character to this amp either. it has been the victim of weird mods, most of which i removed

---

**Re: 1959 mods anyone?**

**Tom**

3/29/99 15:25 *in reply to j*  
*burt*

Are you linking the two channels together? If not, you definitely should. It'll improve gain and low end.

p.s. 1959's sound best when cranked

---

**Re: 1959 mods anyone?****j burt** *jburti@hotmail.com*3/29/99 19:53 *in reply to Tom*

aparently someone modded the inputs so that they cant be linked. i need a schematic so i can fix it back to normal. yeah, thats what i hear about cranking it! i live in an apartment right now and dont have a band at the moment so im scared to crank it. the low channel sounds perfect though-nice and beefy- mbut no gain. so ill work no making the input setup stock again. thanx

---

**Re: 1959 mods anyone?****Tom**3/30/99 14:16 *in reply to j burt*

Look under the schematics section somewhere in this site. You'll find the schem for your amp. Also, The Tube Amp books (By Pittman) have the schem.

1959's do not generate lots of gain at 'apartment' volumes. Before you start doing gain mods, you may want to get a tube preamp (or your favorite overdrive pedal) and stick it in the front end of your amp. That may very well be the easiest approach to gain nirvana.

---

**Re: 1959 mods anyone?****j burt** *jburti@hotmail.com*3/31/99 06:03 *in reply to Tom*

well id just like to get a little more bass. i have it all the way up and it would be nice to have a little more. i have a rat petal which sounds pretty nice i keep the gain really low but crank the output. i don't want infinite sustain so this method seems to work. so i guess i want to know if it is possible to get a coupl more notches of bass out of this sucker. also what pre-amp tubes are reccomended for this? im using 7025s (i think they are chinese) but do those 12ax7wa s sound good?

---

**Re: 1959 mods anyone?****CF**3/31/99 15:31 *in reply to j burt*

Somewhere on this site I read that if you connect a small value cap (.001uF or so) in series between the feedback wire and the 8ohm output terminal, it'll give you extra boom. It's like a resonance feature without the control.

As far as preamp tubes, try Tesla ECC83 first. If you can't find any, try 12AX7WB

---

**Re: 1959 mods anyone?****Trace** *TonsOfTone@aol.com, traceallen@hotmail.com*4/8/99 13:37 *in reply to j burt**http://members.aol.com/ItznotMe98/*

J Burt;

Hey there!! I assume you found a schematic for the 1959? As TMiller said, jumping the channels with probably take care of your problems. (I just need to kick this flu now!)

--IF--that doesn't do it (and I'll be surprised if it doesn't), you could replace the 250uF cap with a 330uF, it's located on the first cathode in the schematic and the resistor value is 820ohm. You'll notice some difference, I doubt a massive difference but a little.

--IF-- you need more bass yet the I'd locate the 33K (slope resistor in the EQ section) that comes off from the 100K cathode resistor and change it to 47K or if you need more bass yet change it to a 56K. Richie likes to use the 56K and change the 500pf cap to 250pf an it does sound good. The 56K/500pf can be a bit muddy :-)

--IF-- you need more gain...hmmm...JUMP the channels!! (ha, ha) This beast is already a gain monster from hell! You could get more gain by changing plate resistors BUT you'll DEFINATELY loose the Marshall tone for sure in my opinion. I'd just jump the channels and the gain that will come through will overwhelm you!!

Take care!

Trace

---

**Re: 1959 mods anyone?**

**jburt** [jburti@hotmail.com](mailto:jburti@hotmail.com)

4/14/99 17:57 *in reply to*

*Trace*

it turns out that the person who previously modded this amp tried to turn it into a fender! im putting the tone stack to stock marshall specs. there is one quertion i have though- there is a lead going from the 7th pin of the first stage to a leg on a 68k resistor that goes to the low input. on the schem pi 7 goes through 2 68k resistors. so is this a mod i should remove? is this why i cant jumper my channels? joel

---

**Re: 1959 mods anyone?**

**Bob S** [Swanpro@uswest.net](mailto:Swanpro@uswest.net)

4/15/99 15:44 *in reply to jburt*

When you get done putting it back to stock, simply go to the 470k mixing resistors and put a 560pf cap a cross the 470k resistor of the bass channel.Now you will have a huge channel!

Then when you jump the two channels you can back down the volumes to about 5-6 on both channels and get great AC-30 sound, or jack up both channels for great sustain. Make sure it has the .68 cap on the 820 ohm resistor of the cathode follower.

Bob S.

---

**Re: 1959 mods anyone?**

4/15/99 20:52 in reply to **Bob**

S

**Trace** *TonsOfTone@aol.com, traceallen@hotmail.com*

*http://members.aol.com/ItznotMe98/*

Bob;

That sounds mighty interesting! I'll give it a go and see what she sounds like.

:-)

Trace

---

**Re: simple mods for  
marshalls**

3/17/99 17:36 in reply to **Carl**

**Charles Thomas** *cthomas@facstaff.wisc.edu*

*http://www.hotterthankarl.com*

Nice Mod, Carl. I'll be trying it, I assure you.

Working from the standard 2204 preamp, I needed a bit more gain and I wanted to brighten up the sound, particularly that "snap" or "spank" you get from the upper mids (the stuff that makes the neck pickup on your Strat sound good... not muddy).

I changed the second cathode resistor to 2.7k and put a .68 bypass cap on it to make it identical to the first gain stage. This gave me the gain I wanted (almost too much)!

I then changed the 470k to ground in the voltage divider to a 270k and changed the 470pf bypass cap to a .0027uf trying to get more highs to come through. As a result, the gain was much too much, so I removed the bypass cap on the 2nd gain stage cathode resistor and left it at 2.7k.

That's where I left off last night. Still not really bright or responsive enough in the upper mids, and now the gain is back to being a bit anemic.

I'm thinking of trying your mod 'cause it sounds like it would give me an amount of gain between the stock setup and my setup. However, I'm looking for tips to bring out more of the upper mids that make Strats sound like Strats. I admit that I have been seriously contemplating going to the 250, .1, .047 in the tone stack since it seems to work so well in my Fenders.

I'm looking for a brighter, more "Stevie Ray" or "Fendery" sound without the buzzyness on the high end.

I realize I could go to an all-Fender preamp, but there aren't really any four-gain-stage MV Fender preamps, so I'm working from the 2204 model and trying to "Fender it up".

Thanks for any tips.

CT

---

**Re: simple mods for  
marshalls**

**Chris Barrow** [erksumo@aol.com](mailto:erksumo@aol.com)

3/17/99 21:59 *in reply to  
Charles Thomas*

For a more "Fendery" sound without major surgery try this: Remove the cathode follower going to the tone stack, drive the controls from the preceding plate. Replace the tone stack with .1, .047, 250pf with a 56K slope resistor. Tie the wiper of the middle potentiometer to the outside leg (like on a fender). This may sound strange, but I just put this arrangement into a Fender Blues Deluxe that I hot-rodded with a 4+ configuration with the tone controls at the end. I got a very wide range of tones out of this set-up. If you replace the bass pot with a 250k audio pot this will work better than with the stock 1 meg Marshall pot (the bass will come up too quickly). I hope this helps.

---

**Re: simple mods for  
marshalls**

**Trace** [Shameus1@aol.com](mailto:Shameus1@aol.com), [traceallen@hotmail.com](mailto:traceallen@hotmail.com)  
<http://members.aol.com/ItznotMe98/>

3/18/99 18:50 *in reply to  
Charles Thomas*

Charles;

Try a 4.7K instead of the 2.7K (R6). I think this will tame the gain some and give you a nice "mid-ish" tone.

Then try replacing the 33K slope resistor with a 47K. This bump up the mids. You could also use a 56K and then replace the 470pf cap with a 250pf cap.

You can also place a .68uf, or .47uf cap on the 820ohm (R9) cathode resistor to add a bit more gain.

You could also remove (C1) the .68uf cap and place a 330uf cap on there to increase the bass and mids some.

For what it's worth;

Trace

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**Re: simple mods for  
marshalls**

**Charles Thomas** [cthomas@facstaff.wisc.edu](mailto:cthomas@facstaff.wisc.edu)  
<http://www.hotterthankarl.com>

3/18/99 19:32 *in reply to  
Trace*

>Try a 4.7K instead of the 2.7K (R6). I think this will tame the gain some and give you a nice "mid-ish" tone. Then try replacing the 33K slope resistor with a 47K. This bump up the mids. You could also use a 56K and then replace the 470pf cap with a 250pf cap. You can also place a .68uf, or .47uf cap on the 820ohm (R9) cathode resistor to add a bit more gain. You could also remove (C1) the .68uf cap and place a 330uf cap on there to increase the bass and mids some.

Last night I put a 10k back on the second cathode with a .68 bypass cap. Then I changed the voltage divider before the third gain stage to a 470k with a 500pf bypass cap and a 270k to ground. I also changed the tone stack to 56k slope resistor, 250pf, .1uf, and .047uf for the mids.

So far, the tone seems right, I'll have to wait to "crank it up" at rehearsal on Friday to see if the gain is enough. If it's not, I can always bump the 10k on the second cathode down to 4.7k as you suggest.

Keep the tips comin' folks. They're all great!

CT

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**Re: simple mods for  
marshalls**

3/19/99 16:32 *in reply to  
Charles Thomas*

**Carl** *summit@TheRamp.net*

*<http://www.angelfire.com/il/summitamps>*

This mod will probably get you real close to where you want to be. Try it and see what you think. I actually developed this mod as an outgrowth of the McIntyre bluesmaker mod. It sounds really killer with a strat. As an aside, I've found that if you bypass the 820 ohm cathode resistor with just about any value it really seems to want to muddy the tone up quite a bit. You could also twiddle with the grid stopper resistor values as well as with the feedback resistor.

Regards;  
Carl  
Summit Amps

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