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Author

Topic: Leak TL10 restoration (Read 703 times)

**pete**

Member



Offline

Location: London

Posts: 481



**Re: Leak TL10 restoration**

« **Reply #15 on:** March 16, 2009, 04:58:35 PM »

even better Ken thanks!

so apart from the cunningly disguised new 0.1 caps already replaced by Brian what else should I be replacing before I plug it in anyone?

cheers,  
Pete

Logged



pete  
'easy and convenient'

**rfgumby**

Administrator

Member



Offline

Location:

Minneapolis,

Minnesota, USA

Posts: 5096



**Re: Leak TL10 restoration**

« **Reply #16 on:** March 16, 2009, 06:46:47 PM »

I think the suggestion for the main smoothing caps for the high tension (plate voltage) supply are valid. you don't want to go above 32uF for the first stage of the Pi filter as the recitifer tube can only "see" that amount of capacitance without strain. The downstream stages of filtering don't play into that calculation (in particular). So you'll want something like a 4 stage Multisection cap with values of 30-20-20-20uF, rated @ 450+ volts.

If you need to go to the States for purchasing suitable replacements, you may try Antique Electronic Supply, [www.tubesandmore.com](http://www.tubesandmore.com) Other companies obviously are great sources as well. AES carries some neat stuff such as cloth jacketed wire for vintage audio rebuilds, or even for use as visible wiring in antique lamps.

Good luck with the amps.

Logged

Scott

They say goldfish have no memories, I guess their lives are just like mine. And the little plastic castle, is a surprise every time -Ani Difranco

## Nigel

Member



Offline

Age: 43

Location: Isle of

Wight, UK

Posts: 1038



## Re: Leak TL10 restoration

« Reply #17 on: March 16, 2009, 07:46:57 PM »

Unless you have access to an oscilloscope, I'd be tempted to change those very small caps (C1 & C16) as well. Use silver mica or similar.

Why? Because I found one of these had (surprisingly) gone open circuit in my Leak St20, with the result that the amp oscillated in one channel. Way too high to hear (>30KHz, IIRC) but it was robbing power and giving a marked increase in hum! Without an oscilloscope, it would have taken a LONG time to work out what was wrong, so I'd just change them anyway, if I were you.

As for all those old carbon comp resistors ..... personally I'd put them all in the bin where they belong and replace with good quality metal films. Others will violently disagree 😊 <ducks and waits for howls of derision> 🙄 Even if they're OK now, doesn't mean they will last for ever.

You could always replace with carbon film, if you really want the extra noise 😊 : 😊 😊

Seriously, though, if you want to keep it as original as possible, then it's a case of replacing capacitors as necessary and then power up the amp with a dummy load on the output. Check all voltages are within (say) 15% of what's on the diagram. Watch carefully for any signs of overheating of the output valves & rectifier whilst you do this.

« Last Edit: March 16, 2009, 08:10:18 PM by Nigel »

Logged

Cheapskate of The Year

## pete

Member



Offline

Location: London

Posts: 481



## Re: Leak TL10 restoration

« Reply #18 on: March 16, 2009, 08:27:42 PM »

Nigel,  
thanks for the advice. I can see the C1 cap on the diagram but can't see it in the description, so am not sure which one it is? 😊

Scott,  
thanks for the link! i found this one there that looks like it'd do the job and is physically about the right size to fit under the original cover. What do you think, would it do the job?

CAPACITOR, ELECTROLYTIC, 20/20/20/20 µF @ 475 VDC

C-EC20X4-475

Made in the USA, to the same specs as the Original Mallory, on Mallory's original machinery.


- \* 4 sections - all 20 µF @ 475 VDC
- \* -10%, +50% tolerance
- \* 55° temperature rating



\* 1-3/8" diameter x 2" tall

Does anyone know where I could get this or an alternative in the UK?

Cheers,  
Pete

 L Logged

pete  
'easy and convenient'

**pete**  
Member  
★★★★★  
 Offline


Location: London  
Posts: 481




### Re: Leak TL10 restoration

« **Reply #19 on:** March 16, 2009, 09:27:10 PM »

**Quote from: pete on March 16, 2009, 08:27:42 PM**

Nigel,  
thanks for the advice. I can see the C1 cap on the diagram but can't see it in the description, so am not sure which one it is? : 

Doh! just spotted the typo in my description - C1 is with R1 not C5 as stated.

 L Logged

pete  
'easy and convenient'

**ken13**  
Member  
★★★★★  
 Offline

Location:  
Southeast Kent  
Posts: 362




### Re: Leak TL10 restoration

« **Reply #20 on:** March 17, 2009, 09:58:29 AM »

Hi Pete,  
Have a look at,

[www.vintage-radio.com/repair](http://www.vintage-radio.com/repair).

It gives a rundown of things to look at and check before turn on, i know its radios, but its valve radios, , also bits on resistors, and capacitors.  
May help,

 L Logged

I did think of something to put hear, but forgot by the time i got hear,,,,,,,,

Regards Ken.

**pete**  
Member  
★★★★★  
 Offline

Location: London  
Posts: 481



### Re: Leak TL10 restoration

« **Reply #21 on:** March 17, 2009, 11:00:27 AM »

Thanks for the link Ken and thanks again for the clearer schematics!

I've identified all the correct values and can see most of them in the amp now but have a couple of questions still.

From left to right /top bottom

R1 12k ohm C1 mica 0.002uF.



R3 470K R4 100K

C2 0.1uF

R7 100R and C3 0.001uF

R2 1M

R5 100K R6 22k

R23 22K C16 0.001uF

C4 30uF [yellow can on mine /100uF used in restored amp]

C5 1.5MC5 0.1uF [moved on mine so just need to move back]

horizontal R8 1.5 M then R9 10K then horizontal R10 1.5M

C6 0.1uF [small yellow one in restored amp]

R11 68K\*

R12 57K\* [56K fitted in restored amp]

\* advised that these are top quality salmon pink band in my amp and I should not have to change these.

C7 0.1uF [white in restored amp]

C8 50 uf [100uF elec 40V on restored amp]

C17 50uf [100uF elec 40V on restored amp]

R14 220R [270R 4W green in restored amp] R24 200R [same as R14]

C11 0.1uF [grey in restored amp]

R15 1M // C9 0.001uF mica R16 1M // C10 0.001uF mica

R13 10K

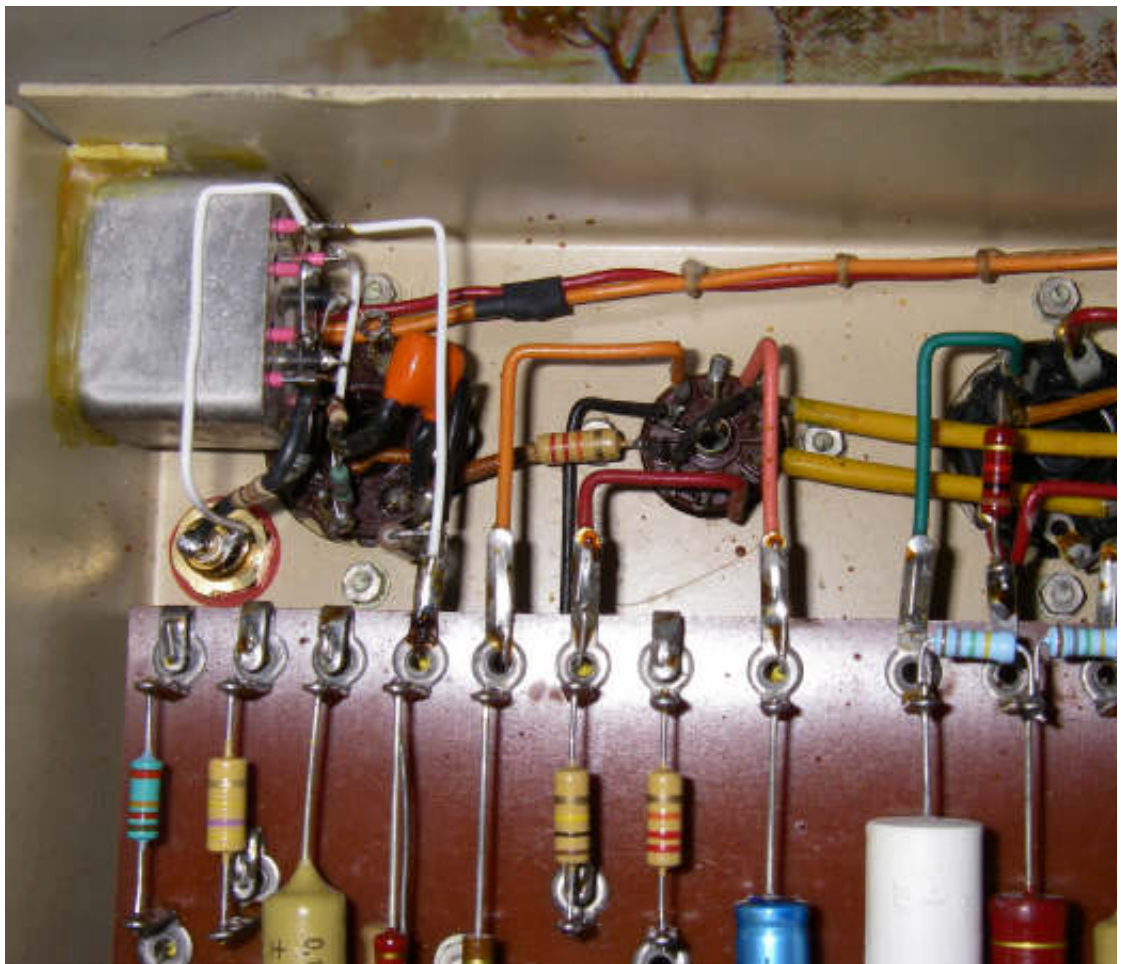
fuse holder

"There is a 1K from pins 5,6 on the 6SN7 v/h to the tag board and pin 5 on both output tubes each have a 10K to the tagboard.

**On the front end of the amp you will find a 22K linking from the International valve holder to pin 9 of the EF86 valve holder.**

There is a 1M from the IO end of the 22k aforementioned to chassis."

The 22k mentioned above is missing on my amp (the 1M to chassis is there). It is in the pic below on the restored amp i've been using as a reference (the restored amp is not mine - i just have images for reference). I can see where it should be soldered to the EF86 holder but not where it goes to the international holder as this area is modded on the amp pictured. Any ideas which pin?



Cheers,  
Pete



 Logged

pete  
'easy and convenient'

**ken13**

Member  
★★★★★  
 Offline

Location:  
Southeast Kent  
Posts: 362



**Re: Leak TL10 restoration**

« **Reply #22 on:** March 17, 2009, 11:34:40 AM »

Hi Pete,

Sorry i cannot help with your questions,

but, about the capacitors you asked about, 20uf x 20uf, give paul greenwood, [ sorry ,should be PAUL GREENFIELD ] at [www.ClassiqueSounds.co.uk](http://www.ClassiqueSounds.co.uk) a email, or phone call, very helpfull man, repairs, rebuilds, lots of Leak amps ect, and may be able to help with other things.



« *Last Edit:* March 18, 2009, 08:35:28 PM by ken13 »

 Logged

I did think of something to put hear, but forgot by the time i got hear,,,,,,,,

Regards Ken.

**pete**

Member  
★★★★★  
 Offline



**Re: Leak TL10 restoration**

« **Reply #23 on:** March 17, 2009, 11:57:36 AM »

Thanks again Ken

Location: London  
Posts: 481

on closer inspection i can see that the 22k is there but not connected at one end. no sign of the 1M to chassis though... confused! 😬




if i understand the schematic correctly the loose end should go to pin 8 on the international and the 1M is R17 to chassis? just can't see it on the amp!



ok looks like the 1M R17 is sat on top of the international on pin 1 and 8 and so i guess the loose end of the 22k (R18) goes to pin 8 and problem solved?

« Last Edit: March 17, 2009, 12:53:33 PM by  
pete »

 Logged

pete  
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