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(archives)

AC100 Tech Revelation

New Message **AC100 Tech Revelation (modified 0 times)**

TedB

Ok, I'll try to be brief.....

I am aware of three versions of the AC100:

- (1) AC80/100
- (2) AC100 Mk II (2 filter caps on chassis)
- (3) AC100 Mk II (4 filter caps on chassis)

I have owned several of the Mk II amps. These amps have a 100ma choke, give 470V when run at proper heater voltage, and I don't remember the transformers having any markings (assumed they were Albions). The Mk IIs I owned had serial numbers in the 1000 range.

I have a friend with an AC80/100 (cathode biased). His serial number is actually in the 300 range (not 600 like I reported earlier). His amp has Woden trannys (going from memory), the big 250ma choke, and has a separate small tag board on the underside of the chassis, where the cathode biasing resistors and bypass caps were mounted.

Now, here's where it gets weird....

Florida Sam and I both have AC100s in the 400 serial number range. His is 406, mine is 420. When I saw the photo of his, I scratched my head because his has the Woden trannys (typical of the earlier amps), has the later choke (100ma), and although some work has been done to his amp at some point, the amp appears to be cathode biased. I say this because the grid biased amps have an extra large silver rectifier on the tag board on the underside of the chassis, and this is missing from his. I assumed whomever serviced this amp converted it to the cathode biased circuit, as the additional rectifier is missing, but there is no extra tag board with the cathode bias resistors and caps.

Looking at my amp, I was astounded because my amp is **exactly** the same as Florida Sam's. The cathode bias resistors and caps in my amp have been changed, although looking at the tag board, there is absolutely no evidence of any other components having been on the board (no residue from removal). If my amp had been originally a grid biased model, there would be residue on the board and terminals from the components removed from the grid bias circuit. It is clear that said components never were there at all. And like his, mine has the later choke, and same

Woden trannys. A quick check reveals that mine gives 450V plate voltage at proper heater voltage, which is between the 410V specified in the AC80/100 schematic and the 466V of the grid biased Mk II.

To make a further distinction, the AC80/100 has a 10k resistor between the 100k plate resistor of the center preamp tube and the power buss. The grid biased AC100 Mk II does not have this resistor. Checking my amp, it does indeed have this resistor, and a photo of Florida Sam's amp reveals that his does as well.

In conclusion, the transition from AC80/100 to AC100 Mk II was not an abrupt one. It seems that JMI eliminated the extra small tag board and placed the biasing resistors and bypass caps on the power supply tag board, and went to the smaller 100ma choke at the same time. They did not eliminate the 10k resistor and change to the grid biased Mk II circuit until a bit later. Florida Sam and I both have one of these 'transitional' amps.

Cool huh? Maybe Jim Elyea will find this worthy of note, maybe not.

Pics of my AC100 chassis:

<links dead>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/ac100a>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/ac100b>

Pics of Florida Sam's AC100 chassis:

<links dead>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/fsac100a>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/fsac100b>

09-10-2002 09:59:18 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *TedB*

Oops! Here are pic links that work....

My AC100:

<links also dead unfortunately>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/ac100a.jpg>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/ac100b.jpg>

Florida Sam's AC100:

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/fsac100a.jpg>

<http://personal.msy.bellsouth.net/msy/t/a/tabreaux/Pics/fsac100b.jpg>

09-10-2002 10:02:52 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *325-at-2pm*

Nice job Ted, but there aren't any pics up yet.
09-10-2002 10:05:58 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *Florida Sam*

Wow Ted!

I live for this kind of nitty gritty detective work!!
Thanks for the pics, its really nice to have something to compare mine to for reference.

Keep it coming, I love it!
09-10-2002 10:19:27 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *TedB*

325, the pics are there. Click on the links.
09-10-2002 10:36:44 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *325-at-2pm*

Got it. I put mine away for the night. I'll check it tommorrow, but I think it may have that 5th diode one the power tag strip.
09-10-2002 11:03:40 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *inspector7120*

Ted,
177 and 276 do not have the "extra tag board" like your friends amp has.Maybe it was some one of a kind thing done at JMI due to a supply problem.Also they both have the physically bigger 'lay down'type choke by Woden.
177 has the original EL34s.DOES ANYBODY KNOW HOW TO DATE MULLARD TUBES????
Here are the codes;

x f 2
B 3 K 4

Also there is K to the left of the BVA logo and L to the right of it and they have dark brown bases. All letters and numbers have yellow print.
09-10-2002 11:19:14 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *Florida Sam*

As far as I know:

B= Mullard Factory, Blackburn, UK

3= Last digit of year (ie: 1963)

K= Month (November)

4= Week (4th week)

So it would be a Mullard tube manufactured the 4th week of November 1964

<http://www.triodeel.com/philipsfactorycodes.jpg>

The above link deciphers a large number of these valve codes.

Hope this helps,

Sam Liebman

09-11-2002 00:18:43 A.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *Florida Sam*

oops I meant 4th week of November 1963 NOT 1964.

09-11-2002 00:21:18 A.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *Dacious*

Given these things were virtually handbuilt to order, and being developed 'on-the-fly' based on experience gained on the road isn't it just possible that the techs building them were working hand in hand with the designers and incorporating mods virtually amp-by-amp?

Maybe the extra tagboard on the early amps were just a real estate issue solved with a larger main board that let the bias components be co-located?

09-11-2002 00:29:09 A.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *TedB*

The 177 and 276 amps are apparently wired just like Florida Sam's and mine, but they use the larger laydown choke. Do the 177 and 276 also have the same Woden trannys? Sooner or later, I'll get pics of the 3XX amp.
09-11-2002 10:47:46 A.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *inspector7120*

276 does have the same O&P I believe and so does the 177 but the trans.in the 177 amp are painted a very unusual greyish green color. There are Woden part#'s on them that I will try to get so we can compare notes.
09-11-2002 12:04:52 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *RobertF*

Ted:

Thanks for the great research! It appears that I've also got one of these transitional AC-100's. Chassis 1083 has woden trannies, 100ma choke, plus the smaller tagboard on the underside of the chassis.

Best Regards,

Rob

09-11-2002 12:56:21 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *TedB*

Robert F. - Does the tag board have 4 or 5 large silver rectifiers on it?
09-11-2002 01:04:17 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *BlindLemonChitlin*

THIS is GREAT GUYS....I just love this techno detective work. If we can only get into this with AC50s this detailed.

BLC

09-11-2002 01:14:47 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *inspector7120*

1083 on the chassis, but not on the actual serial tag right??
09-11-2002 01:24:34 P.M.

New Message **RE:AC100 Tech Revelation (modified 0**

times) *TedB*

I don't think his has the original serial plate. My amp is serial # 420 and chassis # 1073. If his is chassis # 1083, it would appear that his is very close to mine. C'mon Robert F, how many silver hat-shaped rectifiers on that underside tag board?

09-11-2002 07:07:11 P.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *Florida Sam*

By the way, I took a look at the chasis # of my amp (Serial number 406)and it is: 1094

I thought someone might want this info for reference purposes.

Sam

09-12-2002 02:56:54 A.M.

New Message **RE:AC100 Tech Revelation (modified 0 times)** *RobertF*

Ok, OK... 1083 is the Chassis number...don't have the original serial plate. The tag board has 4 hat-shaped rectifiers on it. Again, great work Ted

Best Regards,

Rob

09-12-2002 04:49:58 A.M.

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