DYNACO MK4 Auto Bias Upgrade Manual

Preparation

- Disconnect relevant wires from the original PCB driver card-reference MARK IV & AB DIAGRAM
- Disconnect the connecting wire at socket 8 between tubes V2 and V3. Pins1 a 8 on sockets V2 and V3 remain connected by wire.
- Disconnect the wire from the slider of the BIAS potentiometer leading to the driver.

Construction and Connecting the Auto Bias Module

- Mount the Auto Bias board with the new driver.
- Connect the ground point to terminal 1 on the driver.
- Connect the input to the IN terminal on the driver.
- Connect the heating tubes terminals on the driver board and connect in the tube V1 to pins 4 and 5.
- Connect feedback wires to terminals 3 and 7 - g2 power tube to terminal 7 and secondary OT to terminal 3 on the driver.
- Connect AC power 6.3V AB to terminals 4 and 5 on the driver board
- Connect CATH terminal V1 on AB to pin 1 and 8 of socket V3
- Connect CATH terminal V2 on AB to pin 1 and 8 of socket V2
- Connect GRD terminal V1 on AB to terminal 11a on the driver board
- Connect GRD terminal V2 on AB to terminal 11b on the driver board
- Connect the BIAS terminal on AB to the anode of the bias source rectifier
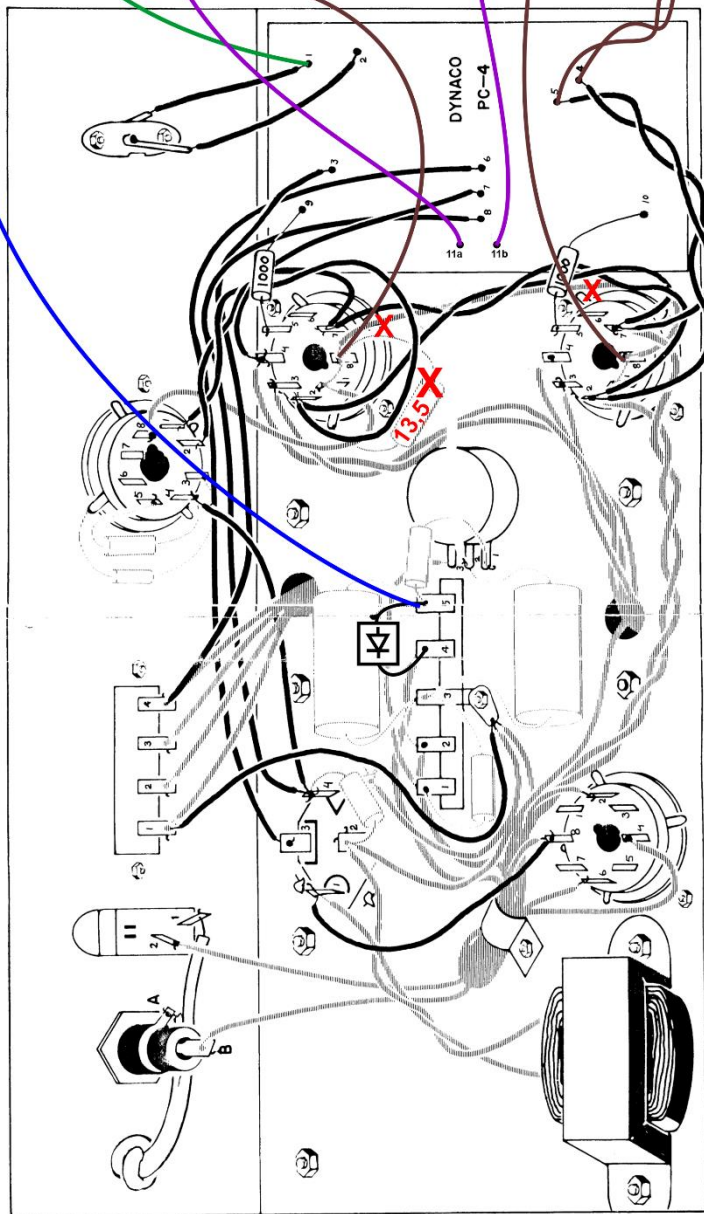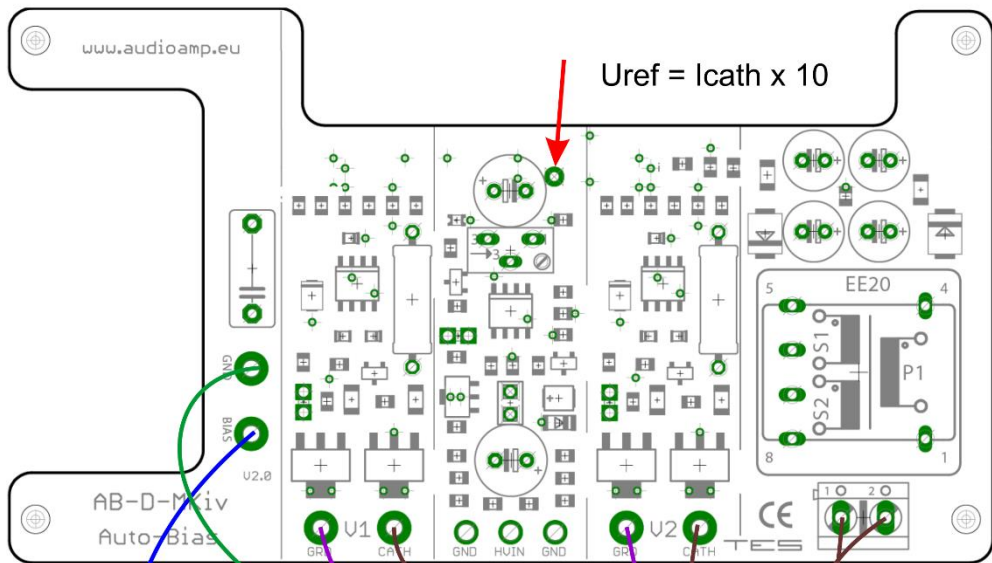
Settings

- PP stage 2 x EL34, class AB1, ultralinear:
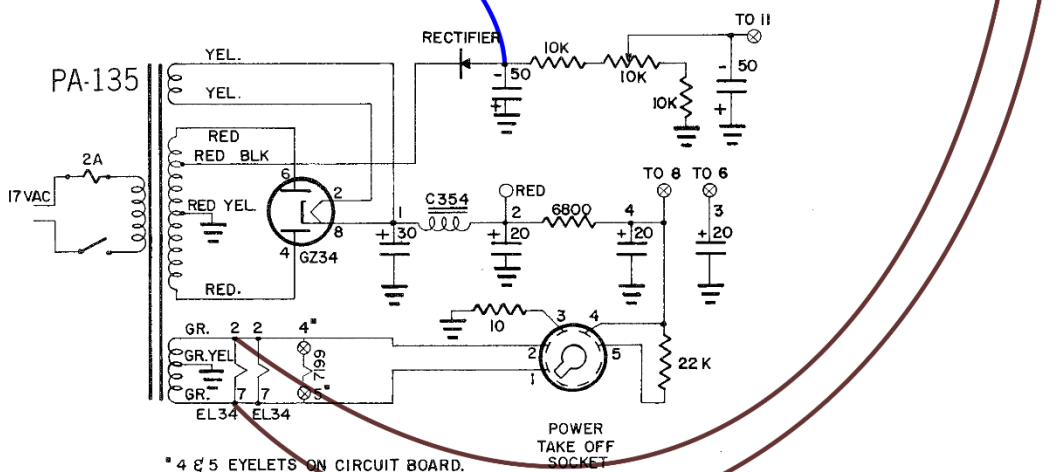 Set bias for EL34 tube. The recommended anode current in the AB1 class is 42.5 mA. 42.5 = 425 / 10.
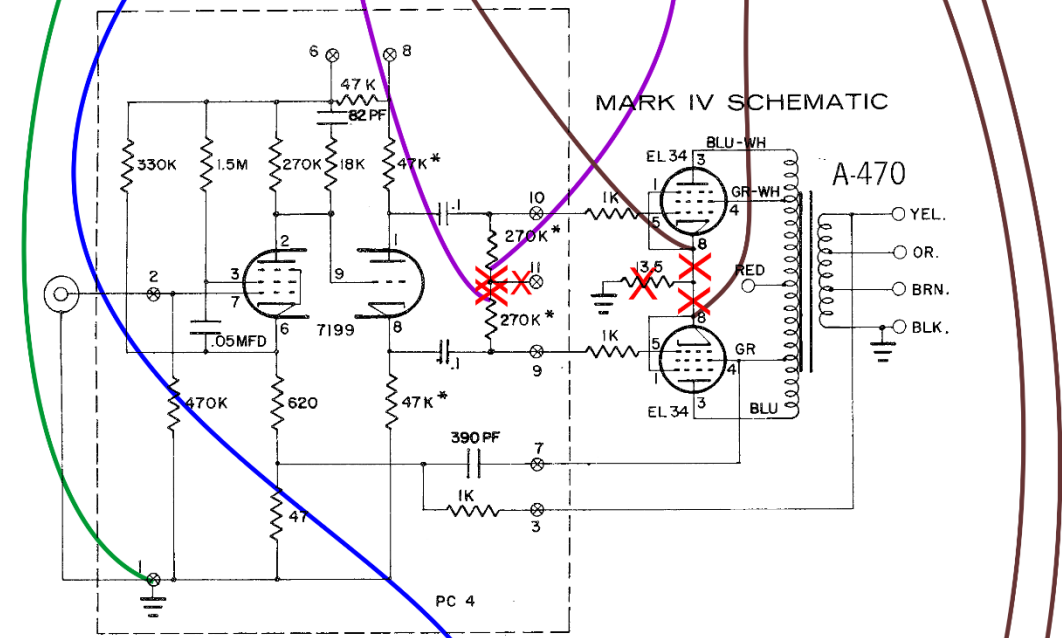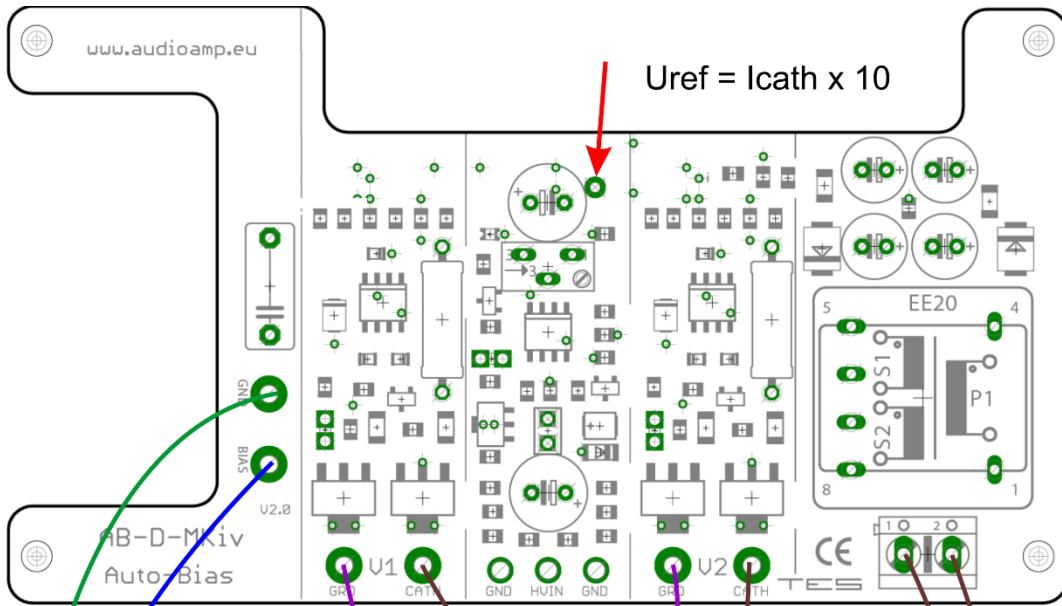
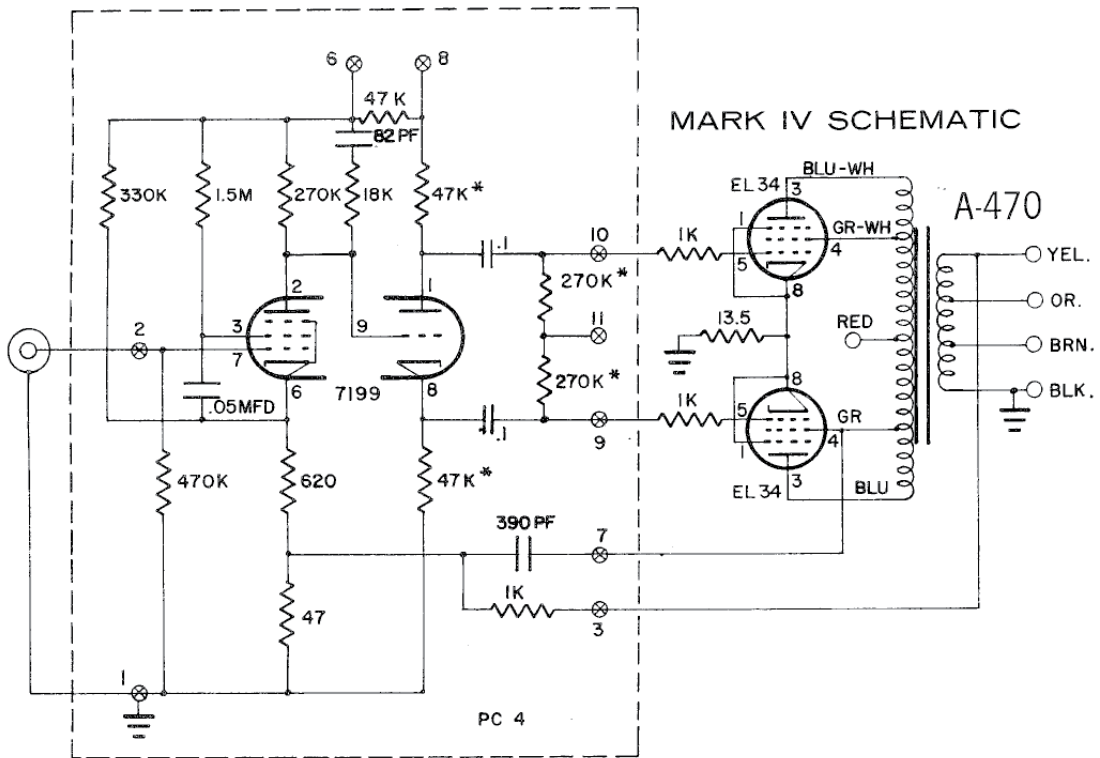 Adjust Uref = 425 mV (0.425 V) using the Trim pot on the Auto Bias Module.

Very Important!

- DO NOT re-adjust the trim pot once the AB-Q module is installed and wired up. The whole idea is to set it ONCE and forget it !
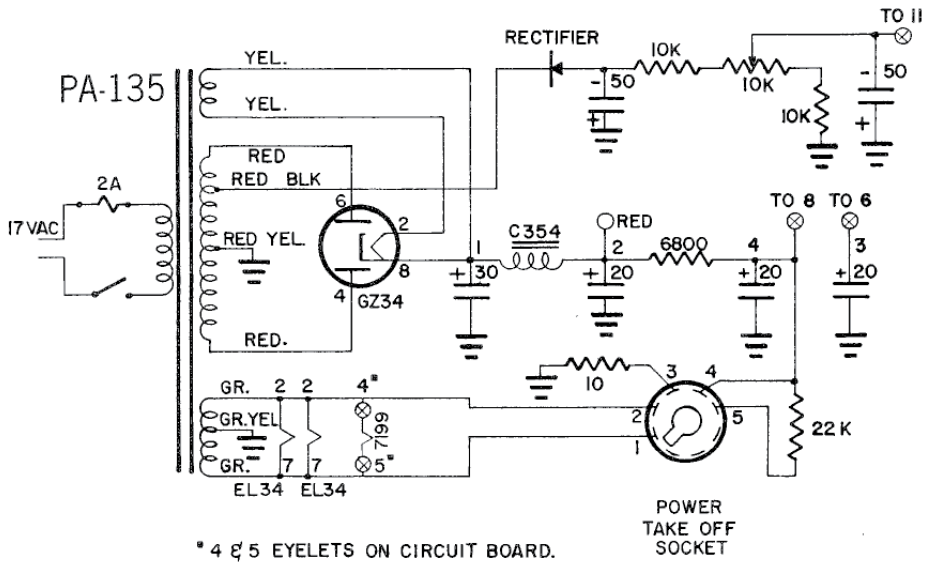
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Uref = Icath x 10

EE20

AB-D-MKiv
Auto-Bias
V2.0

V1   V2

MARK IV & AB DIAGRAM

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Uref = Icath x 10

EE20

5   4
S1
S2
P1
8   1

AB-D-MKiv
Auto-Bias
V2.0

GND
BIAS

GND   CATH   GND   HVIN   GND   GND   CATH
V1   V2

1 2

MARK IV SCHEMATIC

6   8

47 K
82 PF

330K   1.5M   270K 18K   47K *

BLU-WH
EL 34
GR-WH

A-470

10   1K

270K *

YEL.
OR.
BRN.
BLK.

2
3   9
7

.05MFD

6   8
7199

270K *

RED

1K

EL 34   GR
BLU

470K   620   47K *

390 PF

7

1K

3

9

PC 4

* MATCHED PAIRS

RECTIFIER

TO 11

10K
10K
10K

50
50

PA-135

YEL.
YEL.

RED
RED   BLK
RED YEL

2A

17 VAC

GZ34

6   2

8

C354

6800

TO 8 TO 6

30   20   20   20

RED.

10   22 K

GR.   2 2   4"
GR.YEL
GR.
7   7   5"
EL34 EL34

7199

POWER
TAKE OFF
SOCKET

" 4 & 5 EYELETS ON CIRCUIT BOARD.

The original scheme of DYNAKIT MARK IV

MARK IV SCHEMATIC

A-470

* MATCHED PAIRS

PC 4

PA-135

* 4 & 5 EYELETS ON CIRCUIT BOARD.

POWER TAKE OFF SOCKET