

# APPST-200 MM/MC/Line inputs Vacuum tube preamplifier

Costruzione e modifiche:

A. E. Rinaldo

Original PST-200 - APPS design:

B. Aloia



PST 200 modificato in ... APPS e rinominato APPST-200

PST 200 modified to....APPS and renamed APPST-200

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Il PST 200 progettato da Aloia negli anni ottanta era ed è tuttora uno stupendo preamplificatore valvolare. Con lo sviluppo dell'APPS sono state introdotte alcune migliorie oltre ad una riduzione del numero di valvole necessarie.

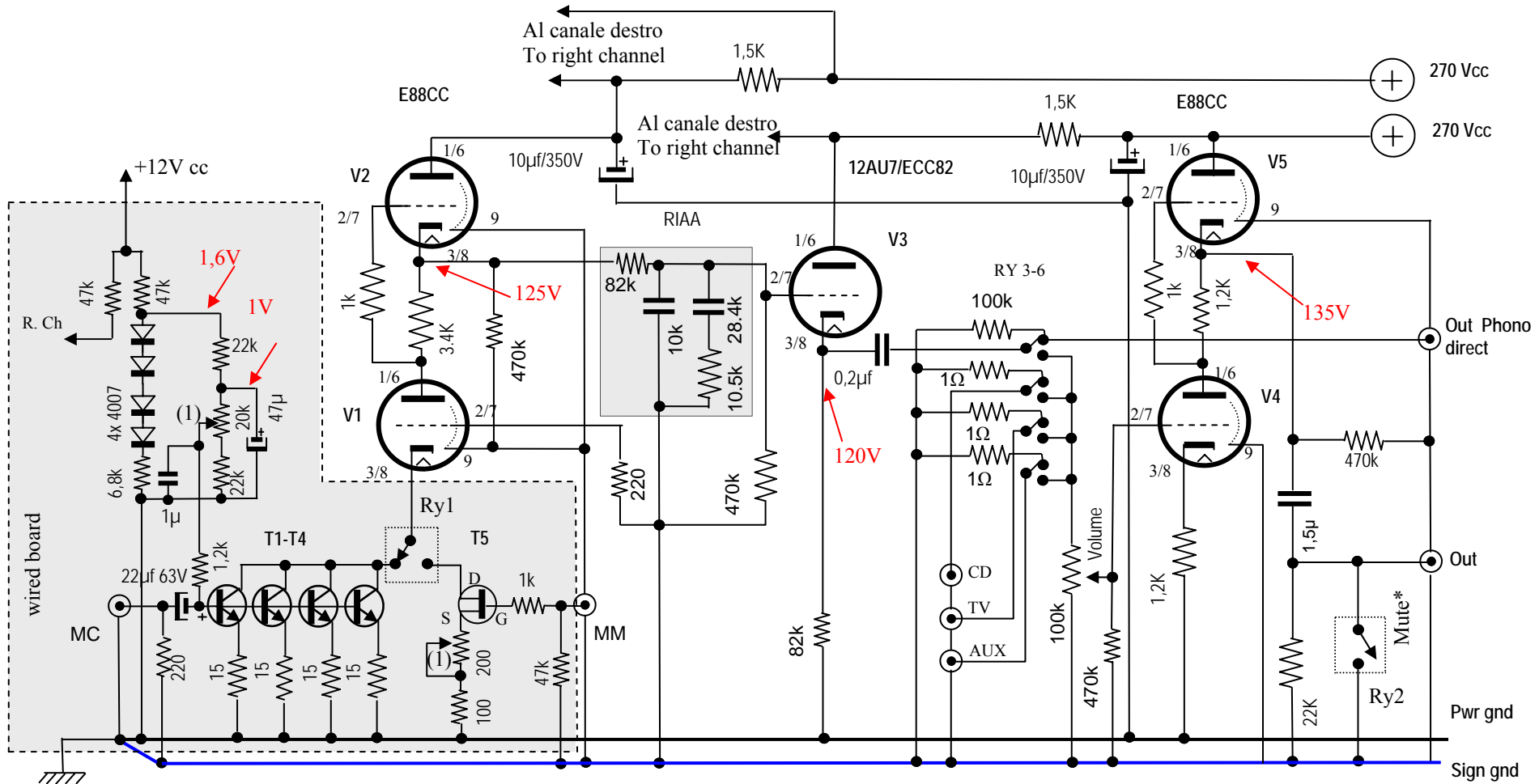
L'integrazione dei due è quanto ho voluto qui realizzare ribattezzandolo, col dovuto rispetto per l'autore, APPST-200.

The PST 200 designed by B. Aloia back in the eighty was and still is an excellent vacuum tube pre-preamplifier.

With the most recent APPS design, Aloia has included several improvements and an overall reduction of the number of tubes required.

My work, here, has put together both solutions and, with the due respect to the original author I have renamed it APPST-200.

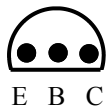
# left channel



T1-T4= BC547B  
bottom view

T5= 2SK 147 BL/2SK 170  
bottom view

1) adjust for 125 V cc on  
V1, pin 8/3

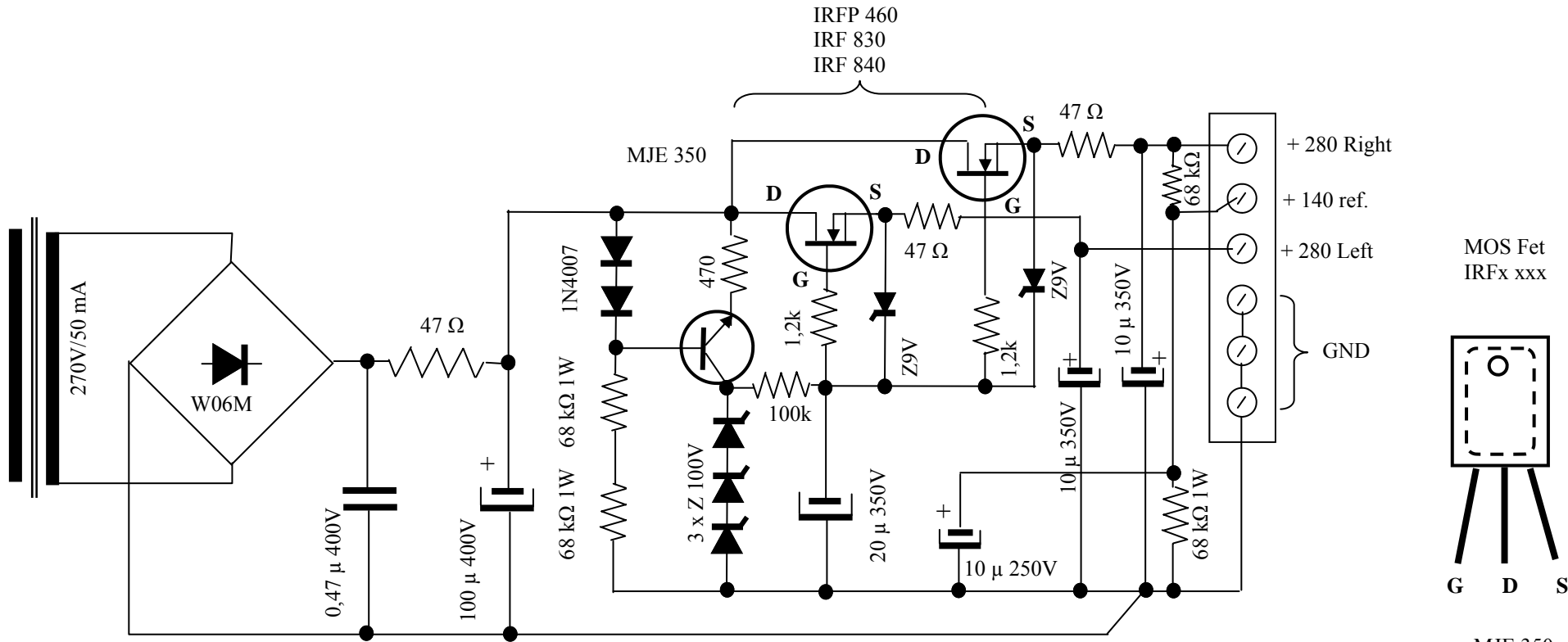


NOTA: La numerazione dei piedini delle valvole (es. 3/8) indica rispettivamente la sezione destra e sinistra dei triodi.  
Pins numbering (i.e. 3/8) indicates right or left section of triode

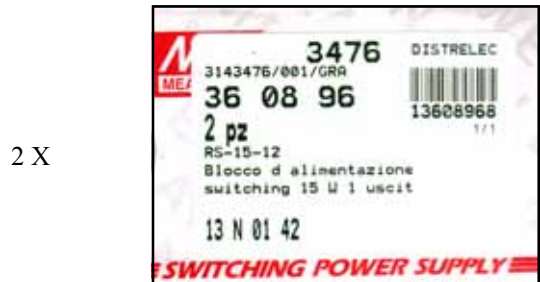
- \* Può essere omissa se durante l'accensione/spengimento dell'impianto non vengono prodotti rumori fastidiosi (bump)
- \* It may be omitted if no noises (bump) are heard during power on/off sequence

PST200 REMAKE 2013

A. E. Rinaldo



Switching power supplies



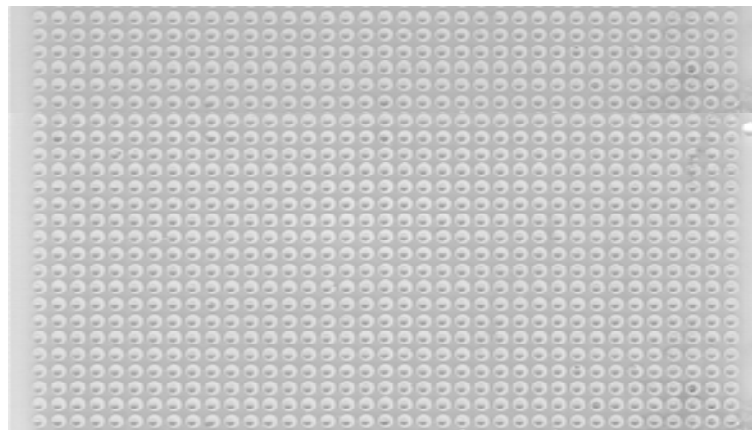
OR

→ 12 V Filament lower tubes  
→ GND ref

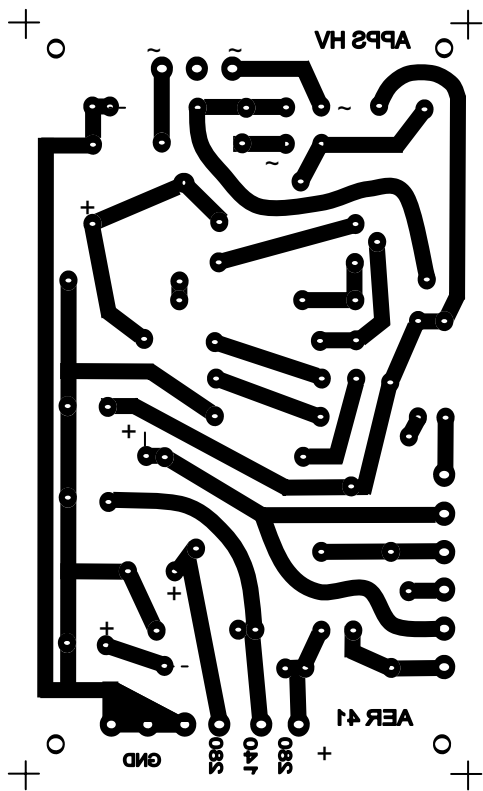
→ 12 V Filament upper tubes  
→ +140 ref.

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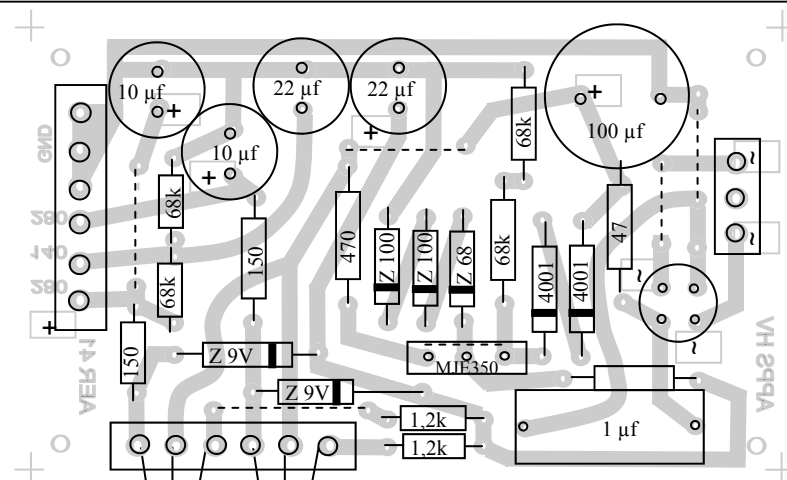
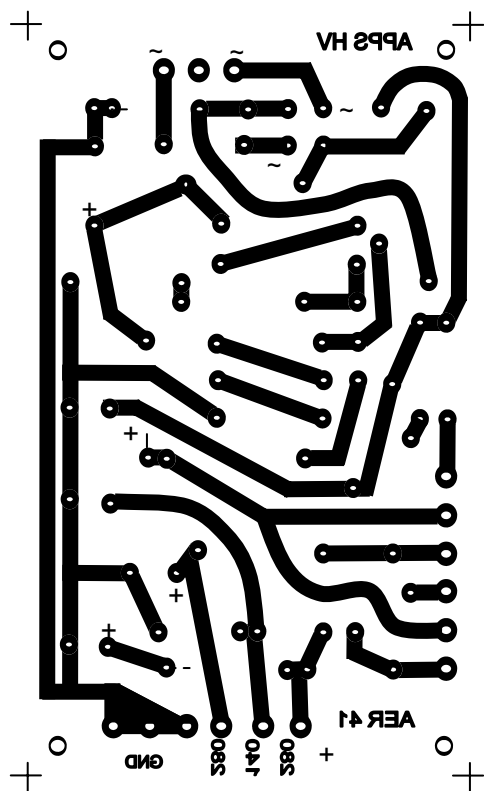
High Voltage PS Regulator



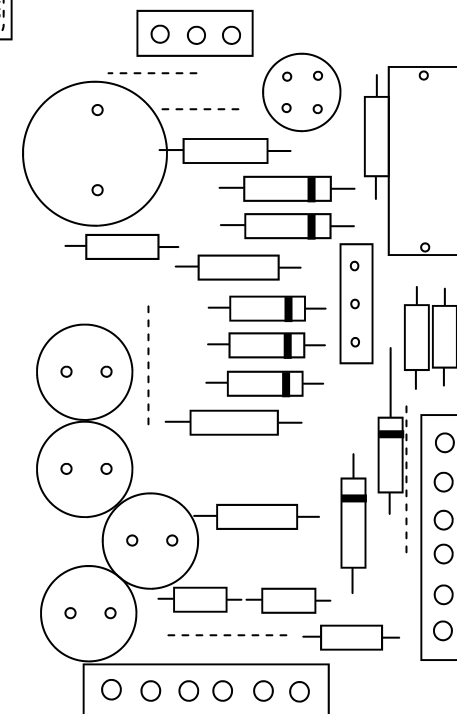
10X 6.5 cm PC side



10X 6.5 cm PC side



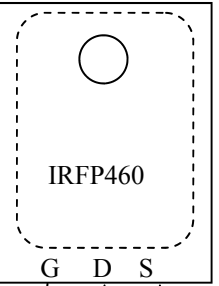
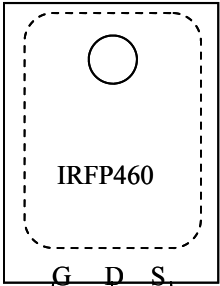
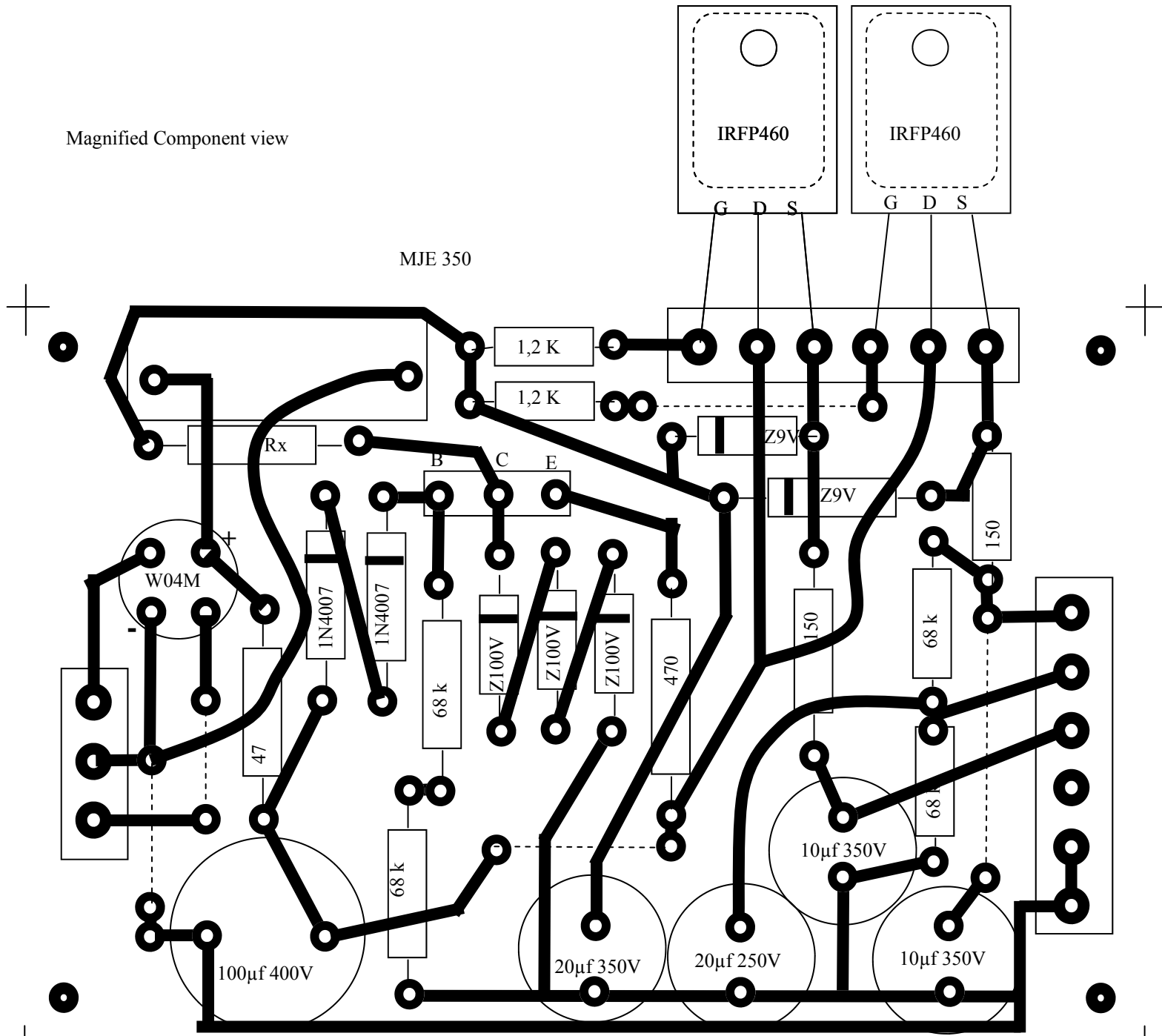
10X 6.5 cm Comp. side



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High Voltage PS Regulator

Magnified Component view



MJE 350

1,2 K

1,2 K

Rx

B

C

E

Z9V

Z9V

W04M

1N4007

1N4007

68 k

Z100V

Z100V

Z100V

470

150

68 k

68 k

150

100µf 400V

20µf 350V

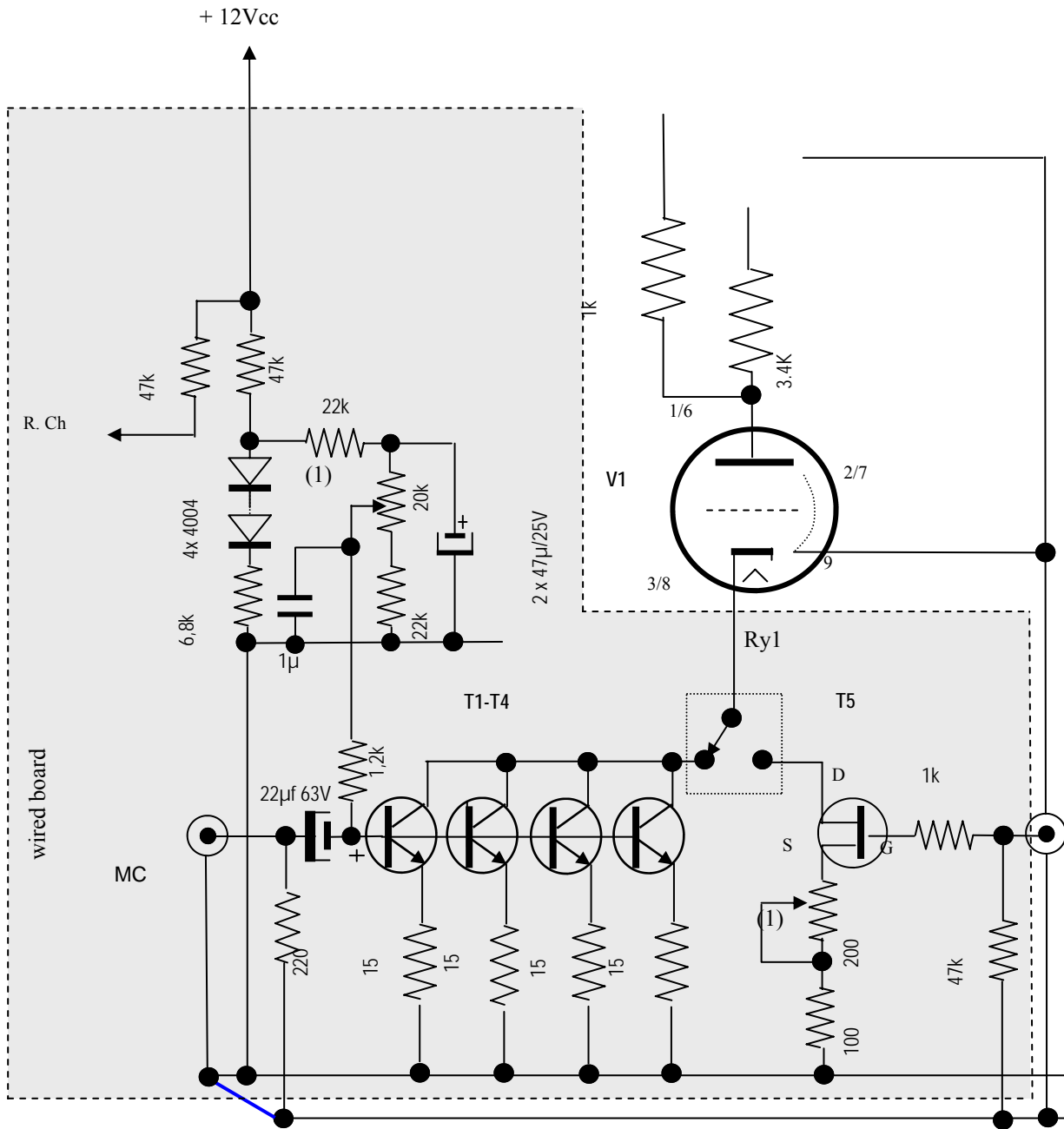
20µf 250V

10µf 350V

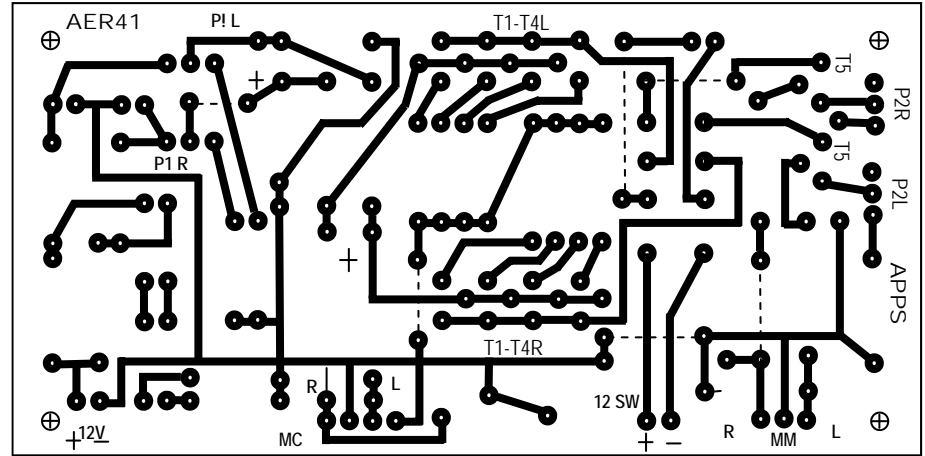
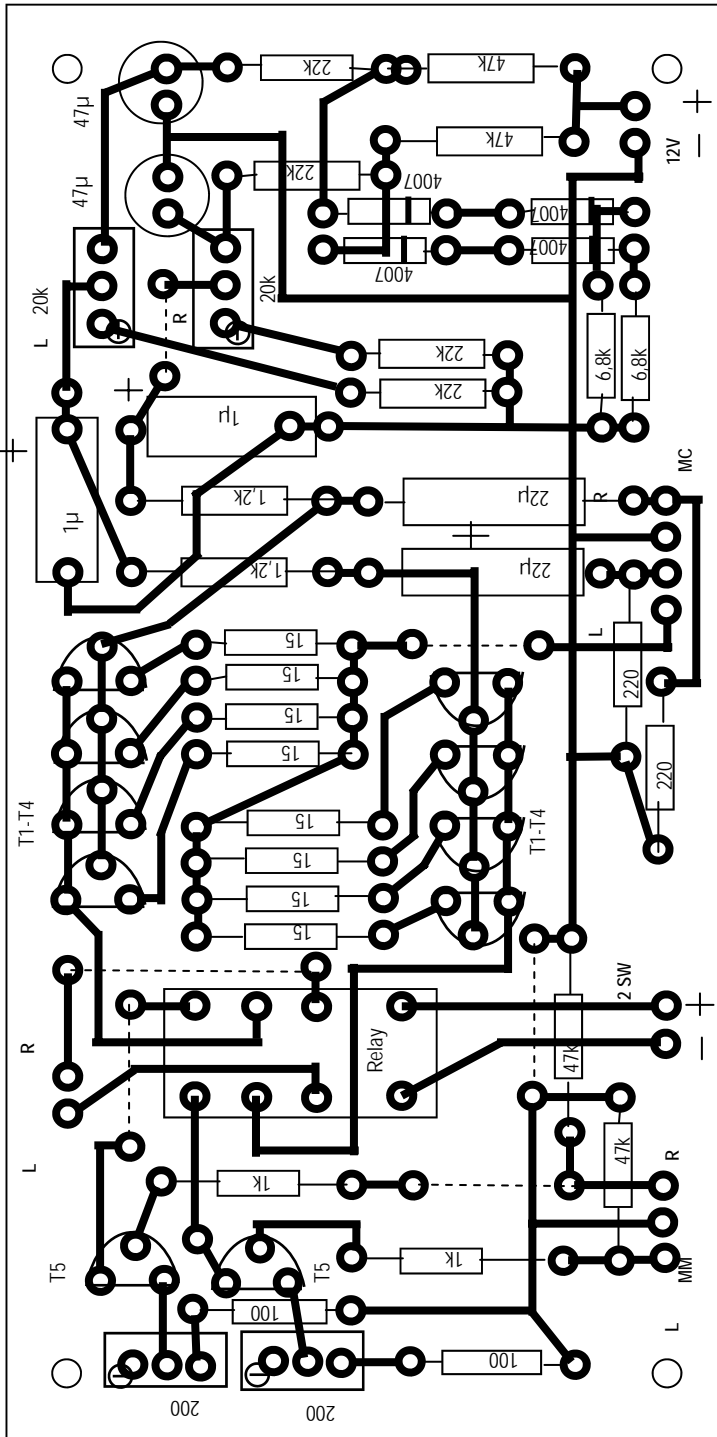
10µf 350V

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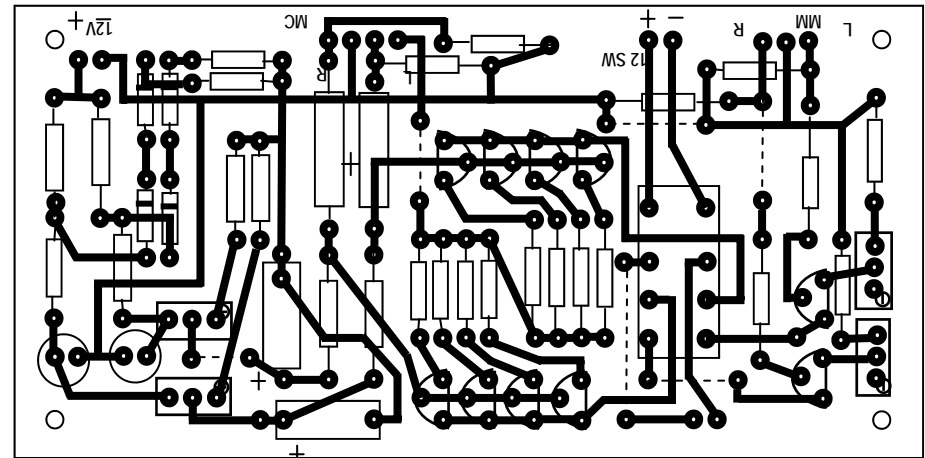
High Voltage PS Regulator



Disposizione componenti  
Components layout

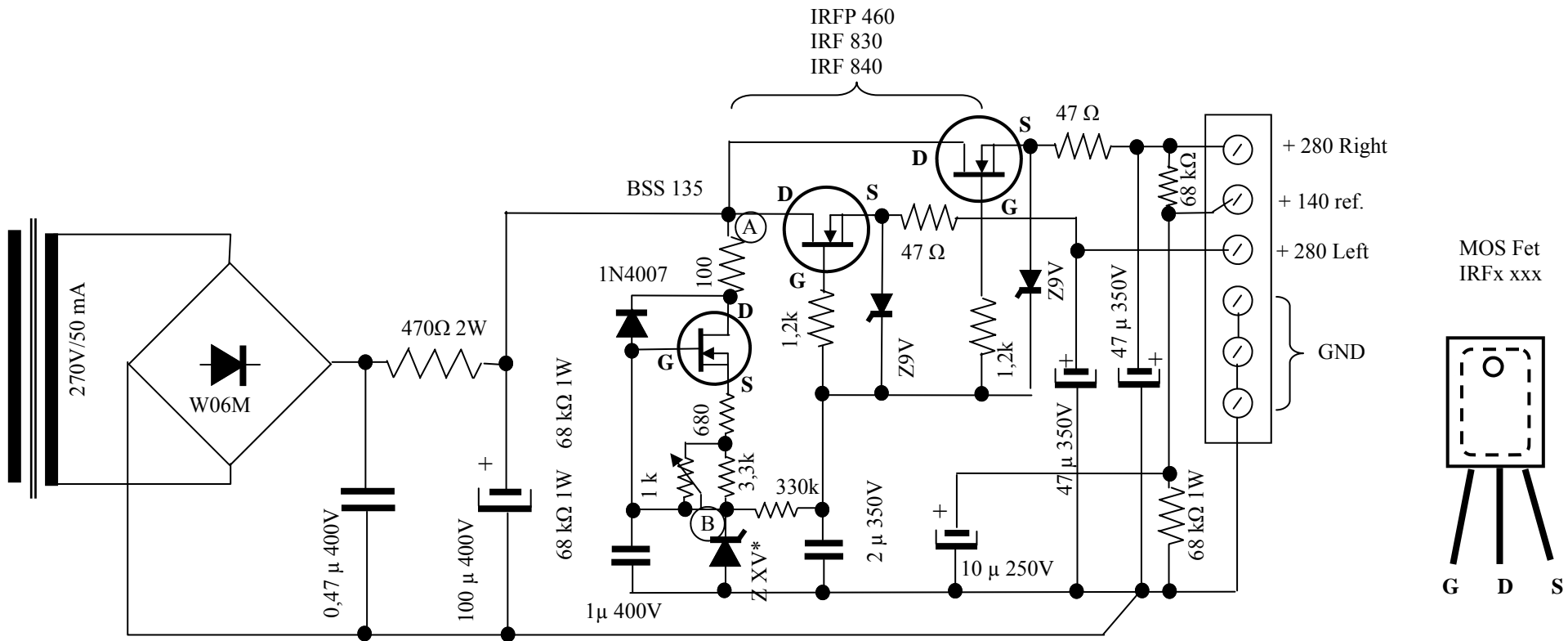


Lato rame  
PC foil side

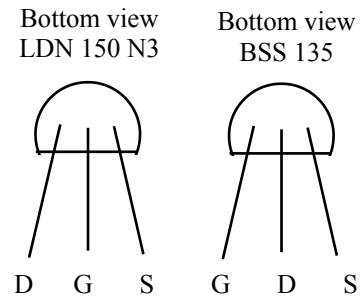
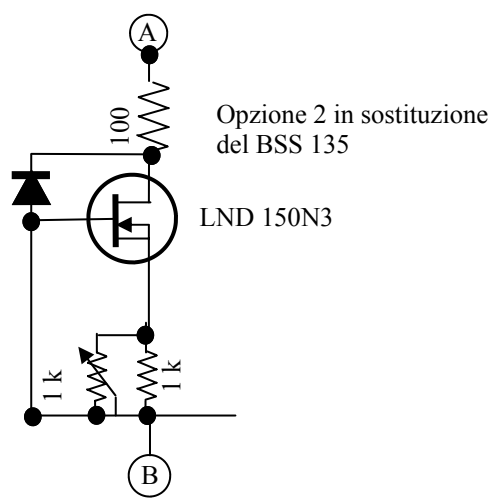
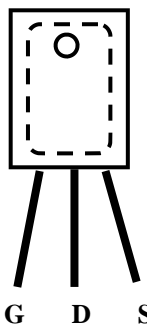


Lato componenti  
Components side

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MM/MC print circuit



MOS Fet  
IRFx xxx



Warning: Not Tested

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MOS FETA High Voltage PS option



Peculiarità:

- 1 ingresso low level MC (load 500 Ohm)
- 1 ingresso low level MM (load 47 k)
- 3 ingresso linea (load 100k)

Ingressi selezionabili tramite commutatore frontale

- 1 uscita diretta per fono senza controllo volume
- 1 uscita preamplificata con controllo volume a bassa impedenza (le uscite sono in esclusive)

Alimentazione anodica stato solido stabilizzata

Alimentazione filamenti tramite AC/DC converter

Peculiarity:

- 1 low level MC input (load 500 Ohm)
- 1 low level MM input (load 47 k)
- 3 line input (load 100k)

Inputs selected via front switch

1 Phono preamp direct output (no volume control)

1 Pre-amplified output (volume controlled)

Both outputs are exclusive

Solid state high voltage regulated power supply

Heaters fed by AC/DC switching power supplies



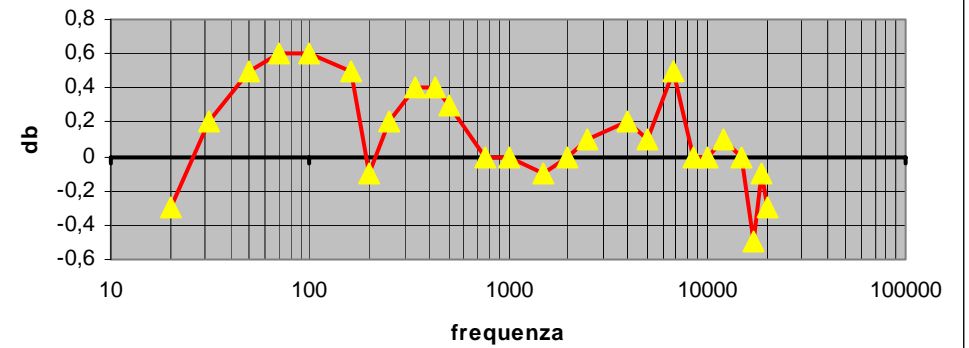
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overall view

**RIAA performance**



**RIAA Deviazione massima +/- 0,6 db**



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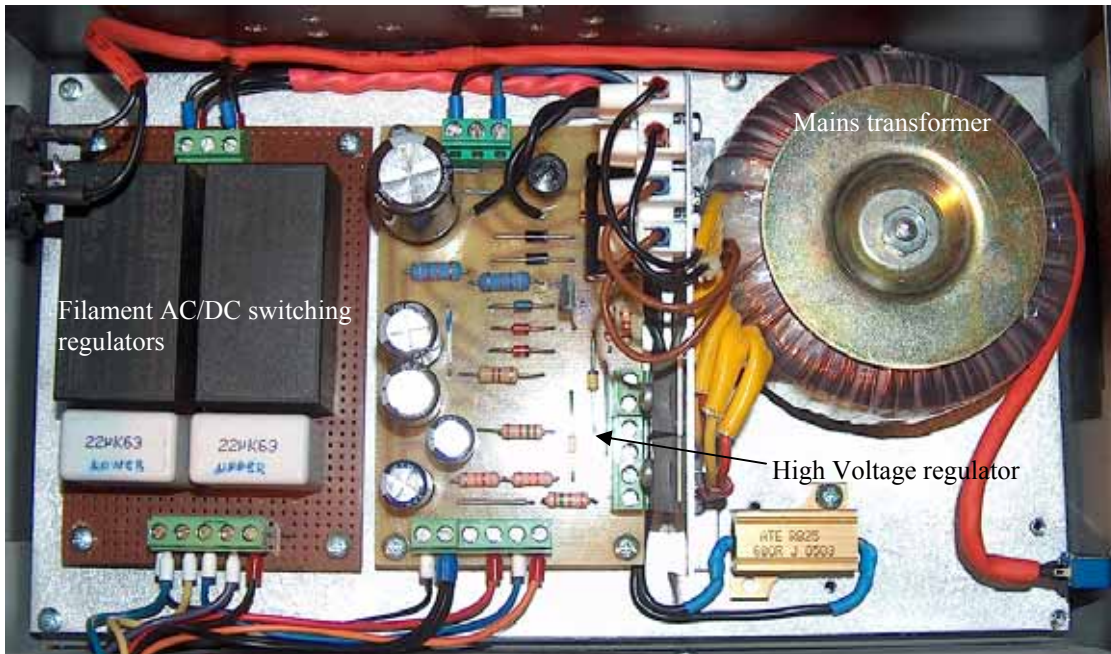


MC inputs

MM inputs



MC/MM outputs



Alimentatore anodica – Plate voltage power supply

### Prestazioni/Performances

Ingressi	2 fono (MM - MC) -exclusive- 3 Linea	
MC input	500µV con carico interno	500 Ohm (1kHz)
MM input	5mV con carico interno	47kOhm (1kHz)
Line input	300mV con carico interno	100kOhm
Overload	> 30 db (1kHz)	
Distorsione ingresso fono	< 1% (1kHz)	
Deviazione RIAA max	± 0,6 db	
Distorsione ingresso linea	< 0,1% 20 Hz - 40kHz	
Freq, response - Line input-	15 Hz -60 kHz (- 1db)	

### Rumore di fondo

Linea	-80 db
Fono	-70 db
Impedenza uscita diretta	< 1 kOhm
Impedenza uscita pre-amplificata	< 1,5 kOhm

### Valvole termoioniche

E88CC 4 x  
ECC81 1 x

### Semiconduttori

BC547B 8 x Stadio MC  
2SK179 2 x Stadio MM  
MJE 350 1 x alimentazione HV  
IRFP 460 2 x alimentazione HV  
RECOM RAC10-12SB alim.filamenti

### Alimentazione anodica Filamenti

260 Vcc stabilizzati  
12 Vcc da AC/DC converter stabilizzato

### Rete

230 Vac

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