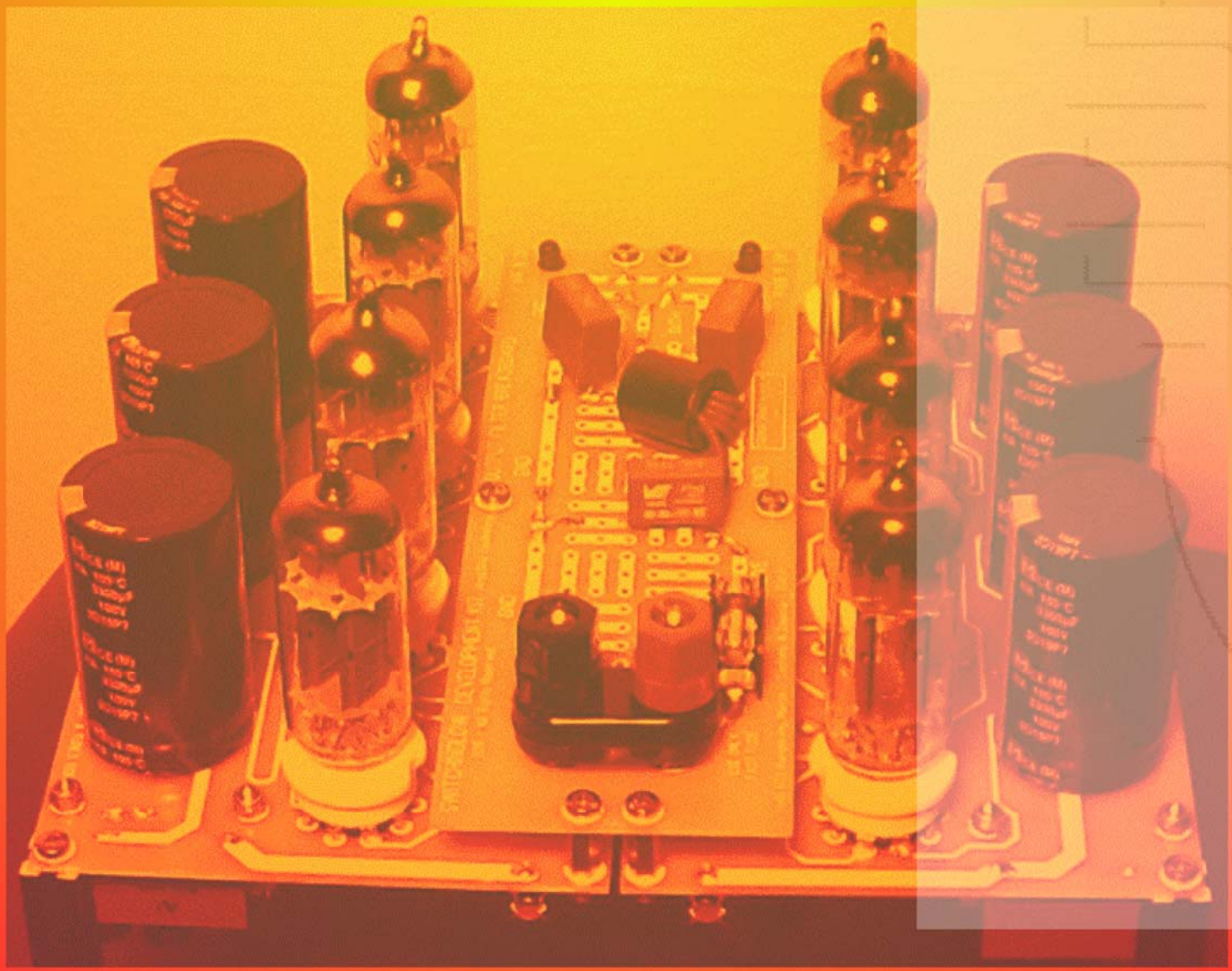
Studio R.T.S. Rampin ing. Marco

SWITCHINGLOW PROJECT

www.switchinglow.com

EVALUATION MODULE for CLASS-D TUBE AUDIO AMPLIFIERS based on the *AmpDiVa* TECHNOLOGY



The SWITCHINGLOW Project

To design an electronic audio amplifier there are two different kinds of active devices - *vacuum tubes* and *solid state semiconductors* - and two different circuit topologies - *linear* or *switching* - can be considered.

Combining these elements, three well known configurations can be done:

vacuum tubes linear amplifiers
solid state semiconductors linear amplifiers
solid state semiconductors switching amplifiers

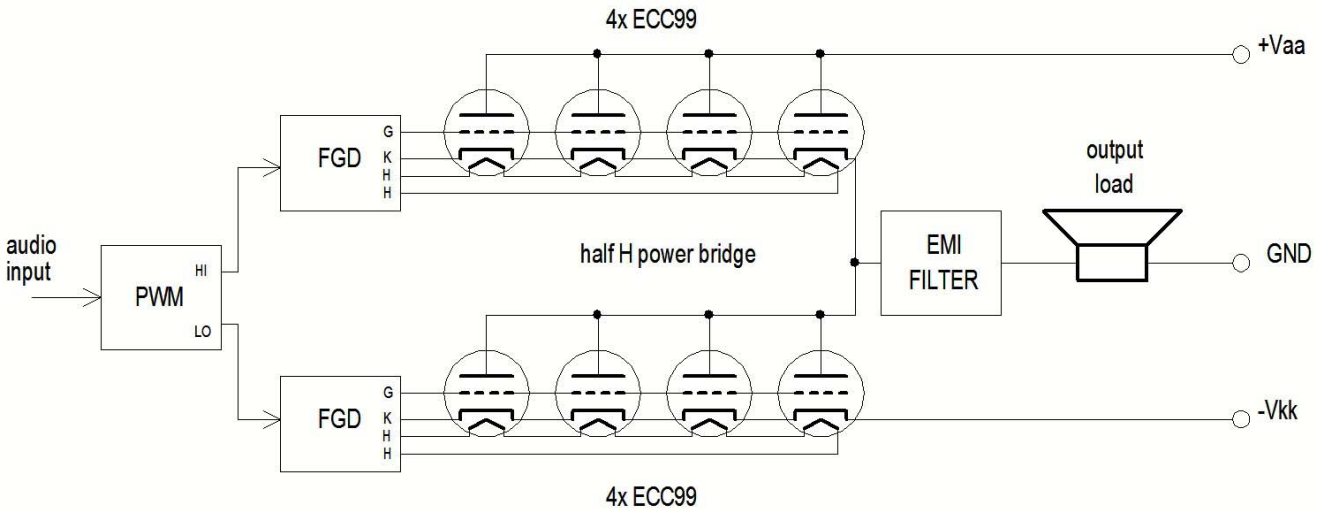
The fourth configuration - *tube switching amplifiers* - is unusual but feasible following the *AmpDiVa* technology method disclosed by the Studio R.T.S. Rampin ing. Marco.

With this method it is possible to design classic Class-D bridge circuits using triodes as power switching devices.

The method consists in using the tubes as *electronic switches in full on - full off states* employing these precautions:

drive the grids with a negative voltage for the full *off* state and a positive voltage for the full *on* state
drive the grids respect to their cathodes by the means of *Floating Grid Driver* circuits
connect several triodes in parallel to achieve an higher full *on* state current
use of *Signal Integrity* line equalization to switch all the tubes in every bridge arm in the same time

The aim of the SWITCHINGLOW Project is to approach this method, depicted to the public for the first time during the European Maker Faire 2015 in Rome, through a convenient and reliable EVM kit at an affordable price.

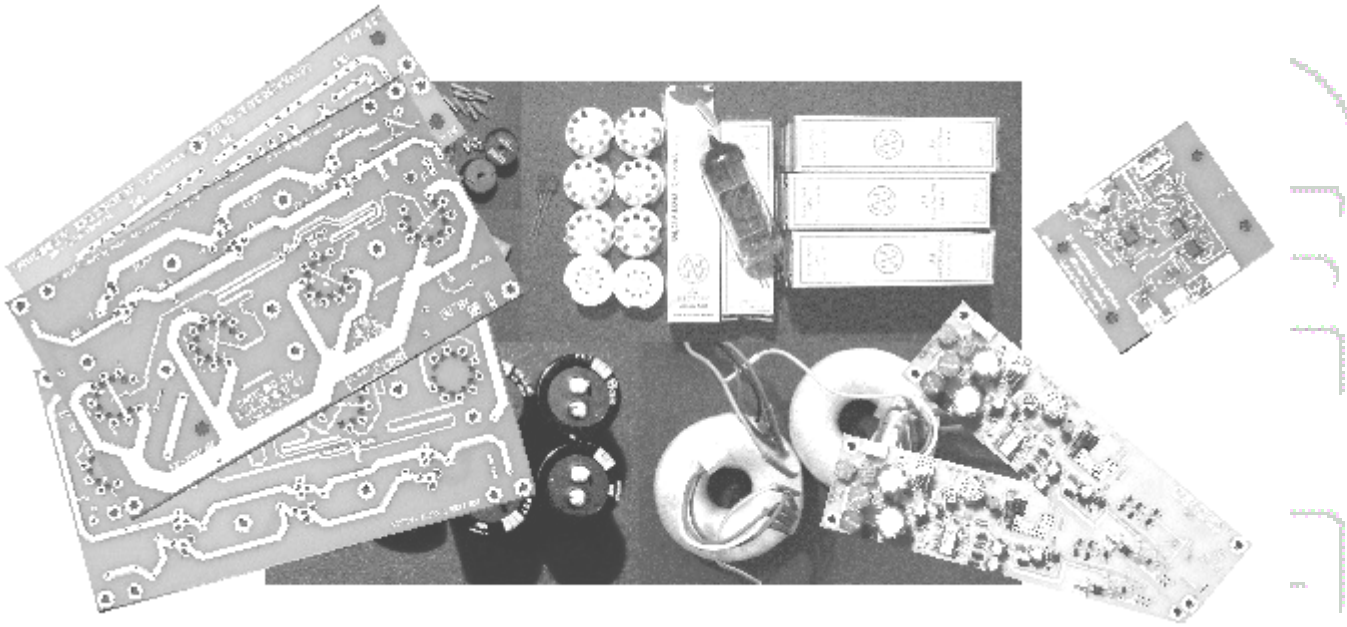


TO WHOM THE KIT IS ADDRESSED

It has been taylored for designers, researchers and DIY passionates who wish to engage to design and develop tube Class-D audio amplifiers.
A basic comprehension of switching circuitry and the availability of some instruments (oscilloscope and test signal generator) will be useful for a good use of the kit.

WHAT THE KIT ALLOWS TO DO

The kit allows to assembly a development and evaluation platform for a monophonic analog input, half H-bridge Class-D tube amplifier based on the *AmpDiVa* method.



KIT CONTENT

The kit includes the printed circuit boards and the parts, including 8x *ECC99 JJ Electronics* dual triodes, needed to build an half H-bridge complete with preassembled and tested Floating Grid Drivers and analog input AD type Pulse Width Modulator.
Custom transformers are provided to power the FGDs and the tube heaters.
A breadboard pcb with suitable parts are also provided for the assembly of a basic EMC output filter.

A comprehensive handbook depicts the kit functionallity and illustrates the assembly and test procedures.

A split DC power supply and the parts to apply the AC mains to the FGD transformers have to be added by the user.

The split power supply can be obtained by a common lab bench dual power supply unit or by a simple center tap transformer followed by a bridge rectifier.
The split power supply should be in the +/-5Vdc to +/-90Vdc range with 1Amp maximum rating.

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New World !!!

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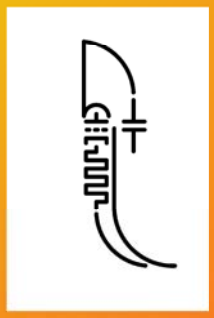

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