

# Helder Audio HIFI products

Ebay shop, Arjenhelder\_electronic

Email: ArjenHelder@hotmail.com

Print Form



## TA2020 MKIII Amplifier PCB



### Helder Audio products

Arjen Helder and Stacy Wu are offering since 2 years high grade HIFI DIY products to customers world wide.

Arjen Helder is a dutch citizen living in Shenzhen China for several years working as a QC consultant in the field of electronics.

For Helder Audio i want only the best designs and components for the best price. I only focus on real engineering, and measurable results. i have got the equipment to carefully test and trial our designs and i cooperate with several experienced HIFI engineers to get the best results.

Stacy Wu ( my wife ) Takes excellent care of customer service, packaging, answering your questions and giving you the service you expect from a western company . Stacy takes care of logistics and payments, so any questions regarding this can be answered by her directly.

Cute\_sqstacy@hotmail.com  
ArjenHelder@hotmail.com

Stacy is usually online on MSN.

Any questions and RFQ's are more than welcome, OEM manufacturing is also an option for very sharp prices and with European quality standards.

Thanks to all my customers word wide for trusting our products!

Stacy & Arjen

IC used      Tripath TA2020

Output power      2X 23 Watt @ 10% THD and 15 volts supply

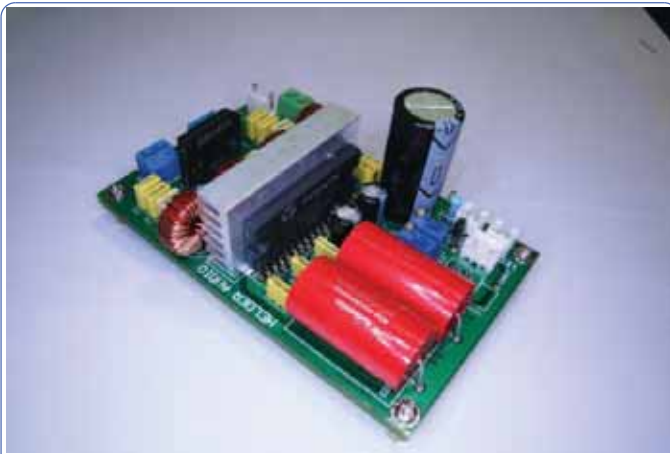
Supply voltage      9-15 volts extra wide range for battery use

Supply current      90mA idle current around 1 A usually, and maximal peaks of 3.5 A

Adjustments      DC bias adjustment used to minimize the DC voltage over the output

### Improvements:

- Micro-metals output coils for a more detailed sound
- Bigger Buffer cap, 6800uF 25 V low ESR
- Thicker PCB, now 3mm for optimal sturdiness
- Copper studs for easy mounting
- Big 400V 2.2uF input caps with low D factor ( 0.006 )
- DC Bias adjustment for the outputs with precise 10 turn pots
- Connectors on the PCB for the indicator LED's ( cable is also supplied )
- Improved PCB layout to prevent distortion
- Space and holes added for optional potentiometer
- Industrial quality Power supply 11-14 volts 3.5 A available
- Valve Pre-amp with 12AX7 specially designed for TA amps available



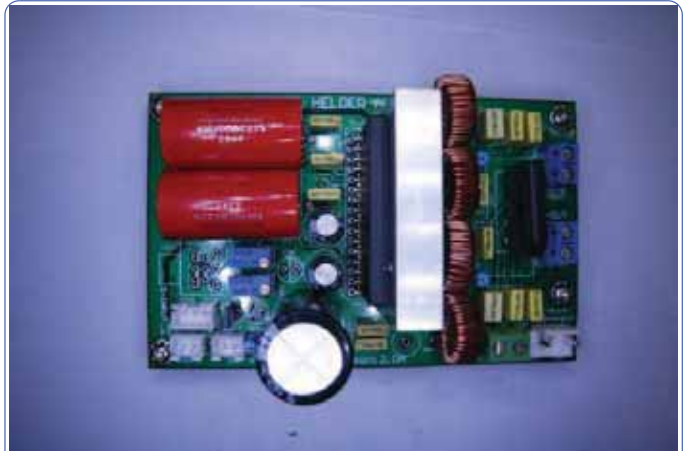
Front view



Side view



Rear view



top view

Dimensions



Height

5 CM

Depth

11 CM

Width

7 CM

Weight

220 Grams

Price

280 RMB / 30 Euro / 40 USD ( RMB price is the base price, up to date ratings at [www.xe.com](http://www.xe.com) )

Notes:

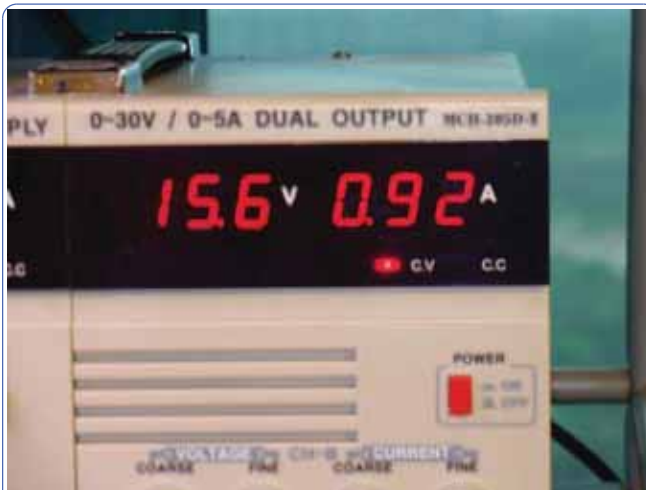
Shipping takes about 7~14 days, and is usually done by Hong Kong Post, other shipping companies are available on request, the shipment cost of other companies is usually higher.

Packaging is done with great care, no need to worry about this.

# Testing and other technical data

## Testing Amplifiers

All amplifiers designed and shipped by Helder Audio are tested, also for distortion and DC offset, I have a Meguro ( Japanese ) 2 Channel automatic Distortion meter to measure the distortion at different power levels, the most important thing is to keep the distortion under 0.3% at maximal power, For this IC the maximal power at low THD is about 14 watts, my amplifier design shows a distortion of about 0.3% at 14 watts while using a 1 KHZ sine wave for testing.



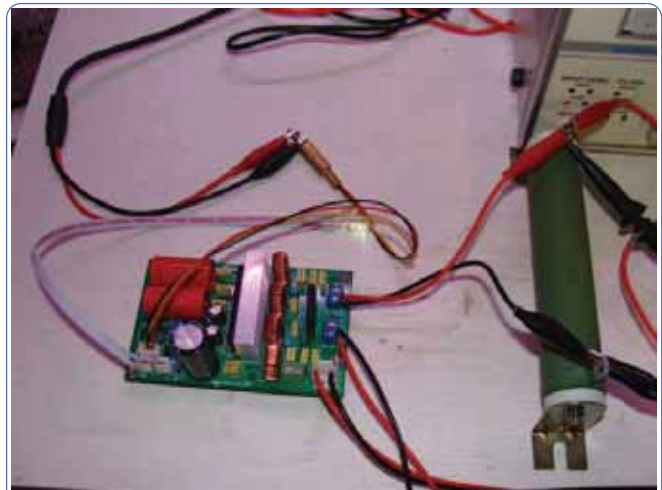
Power supply gives 15.6 volts at 0.92 A  $15.6 \times 0.92 = 14.35 \text{ W}$



THD meter set at 0.3 % range measuring at 10 volts range.



Test setup, using a audio signal generator with 0.15% THD



The test setup, a 8 Ohms resistor and the TA2020 PCB



# User instructions:

## Contents of your package :

This PCB ships as it is, fully finished and tested.

The PCB is shipped with a input signal cable and the cables to connect the LEDS to and a red and white LED  
There are two versions, one with a normal jack plug for power and with white input connector, if your PCB has a white connector then a cable is shipped to connect to this connector.

## Connector explanation

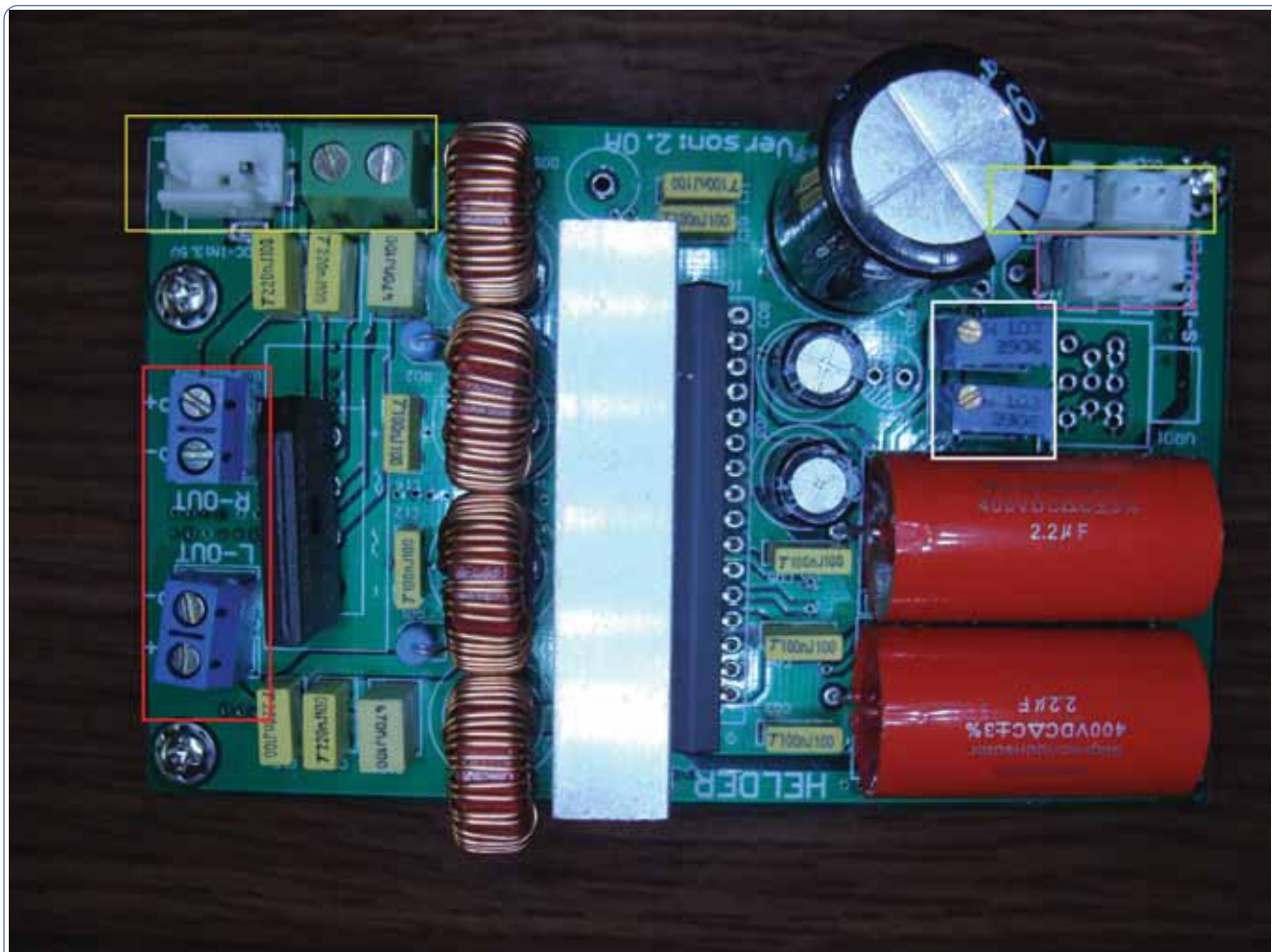
Red: Speaker connectors

Yellow left: Power connectors white for DC green for AC

Yellow right: connector for power and overload LED

Pink: input signal connector

White: Adjustable resistors for Bias adjustment



Connection Schematic