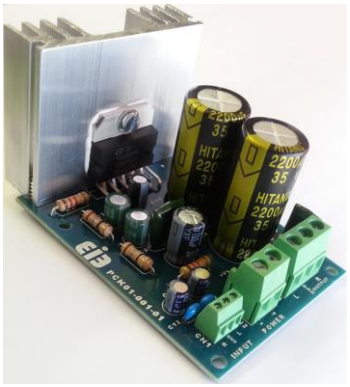
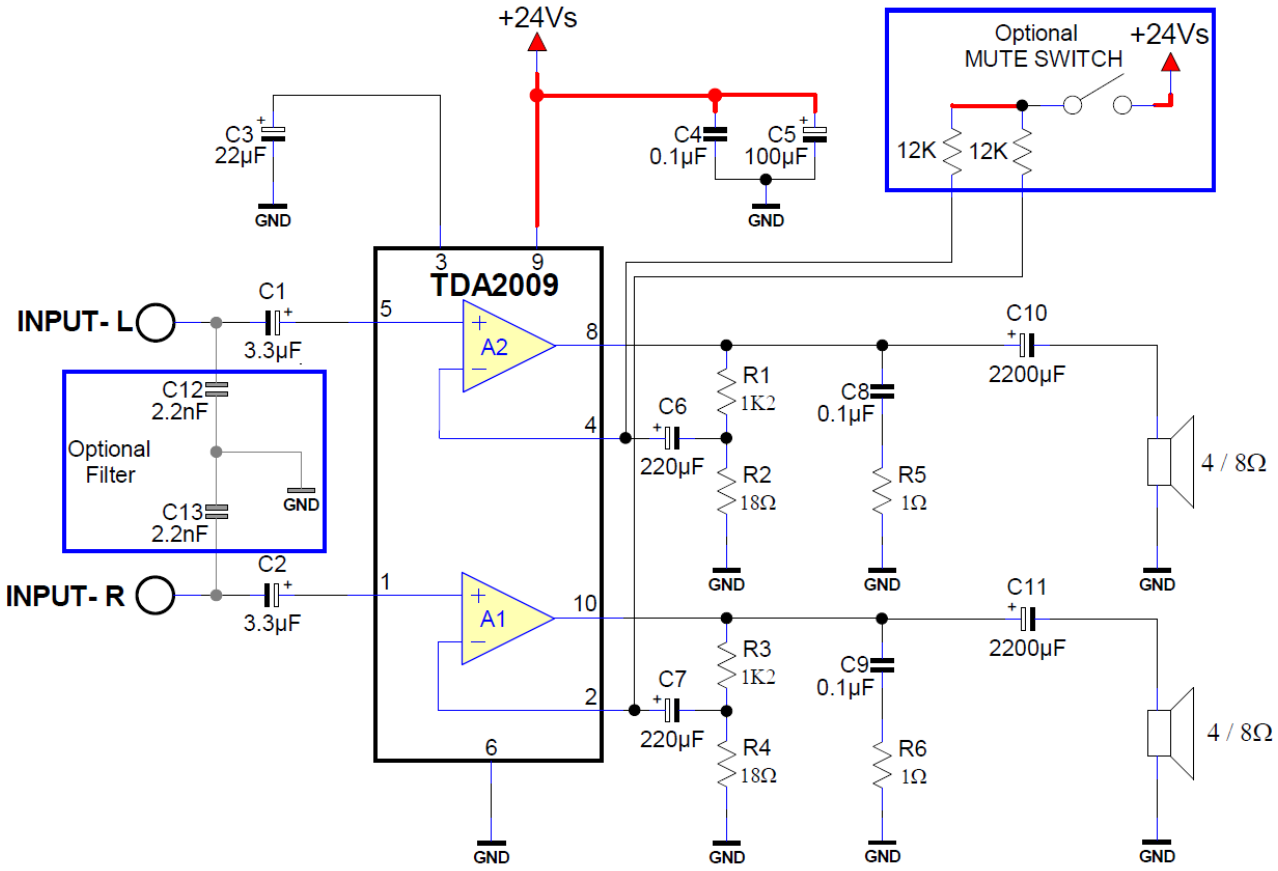


AUDIO AMPLIFIER
STEREO
2 x 10W

MEK01-001-01



INTRODUCTION	The TDA2009A is class AB dual Hi-Fi quality Audio power amplifier assembled in Multiwatt package, specially designed for high quality stereo application as Hi-Fi and music centres. With Low external component count. Low distortion less than 1%. The supply voltage required is 8 - 24V DC at 2 to 3 Amps. Other Amplifier design can also be carried out with this PCB, 18W Bridge Amplifier or 1 channel 20W Woofer and Tweeter design, see datasheet on the TDA2009 for more information.

CONSTRUCTION	Soldering iron tip should be clean and a sharp point type +- 2mm. A solder joint should not be heated for longer than 5 seconds, if you can do it in 3 seconds, GOOD. A pause of 3-5 seconds between each leg when soldering transistors and the ICs is recommended so that you do not overheat the component and damage it. Always start with the low profile components. Resistors first. Take care with the electrolytic capacitors that they have the polarity and the correct value in their designated positions. Start with the smaller capacitors then the taller ones leaving the tallest 2200µF for last after the screw block terminals. Fix the TDA2009 to the heatsink with the M3 screw, washers and nut. if you have some thermal past put some on before fixing to the heatsink. Line up the TDA2009 with the heatsink into position on the PCB and fasten the heatsink with the two self-taper screws then solder into position. After all soldering has been complete clean the PCB from excess flux. Inspect the solder joints that they are clean and there are no solder bridges on the solder pads especially at the pads of the TDA2009 and the Input terminal.

TESTING	Before connecting to power give once over on the solder joints and the PCB is clean. Once you have confirmed all soldering joints are satisfactory connect 12V to 24V 3A power supply to CN2, No Smoke, good switch power off. Connect the input with a short length of shielded cable, note that the input signal should not be more than 100mV P-P. Connect the speakers with suitable wire, +-1.0mm^2. Switch on the power and test with a signal input starting at the lowest volume position increasing it until you can hear sound.

NOTE	If you intend to use this Amplifier at max Wattage, it will require a larger heatsink with thermal paste / compound.

COMPONENTS LIST

Resistors: All 5%, 1/2 watt unless otherwise stated:			
R1, 3	2	1K2Ω	brown red red gold
R2, 4	2	18 Ω	brown gray black gold
R5, 6	2	2K2Ω	red red red gold

Capacitors:		
C1, 2	2	3.3µF Elec, 63V P=2.0mm
C3	1	22µF Elec, 63V P=2.0mm
C4, 8, 9	3	0.1µF Polyester, 100V P=7.6mm
C6, 7	2	220µF Elec, 10V P=2.5mm
C10, 11	2	2200µF Elec, 35V P=7.6mm
'optional C12,13.		2.2nF Ceramic, 50V P=2.5mm

Semiconductors:		
IC1	1	TDA2009

Miscellaneous		
CN1	1	Terminal Block Screw, DG308-2.54-03P
CN2	1	Terminal Block Screw, DG500-5.08-02P
CN3	1	Terminal Block Screw, DG500-5.08-03P
m1	1	Heatsink by 40mm, 44995-6063
m2	1	Screw M3x10, Nut, washer & S washer
m3	2	Screw S/Tap P POZI 2.8x10, PPSTS4X9.5
	1	PCB PCK01-001-01

Troubleshooting	We found no trouble in getting this kit to work first time. If yours does not work, Switch Power off. 1) Check all external wiring, make sure there are no shorts. 2) Check solder joints, and there are no solder bridges. 3) Check component positions and orientation. 4) With a multimeter in continuity beep test and using the schematic test the power terminal. GND to all components that touch GND from the schematic, R2, 4, 5, 8 and pin 6 of IC, also the 2 terminals canter pins. Test Pin 8 IC to R1 and C8 same at Pin 10 5) Power ON and with the multimeter measure at the power terminal voltage and at pin 9 and 6 should be the same. Humming: Disconnect Input if humming sound is still there. Your power supply would probably need larger smoothing capacitors. If noise stopped when removing input, Make sure that the pre-stage and the amplifier sharing the same ground. Clean input sound signal by filtering or find another source of input signal.