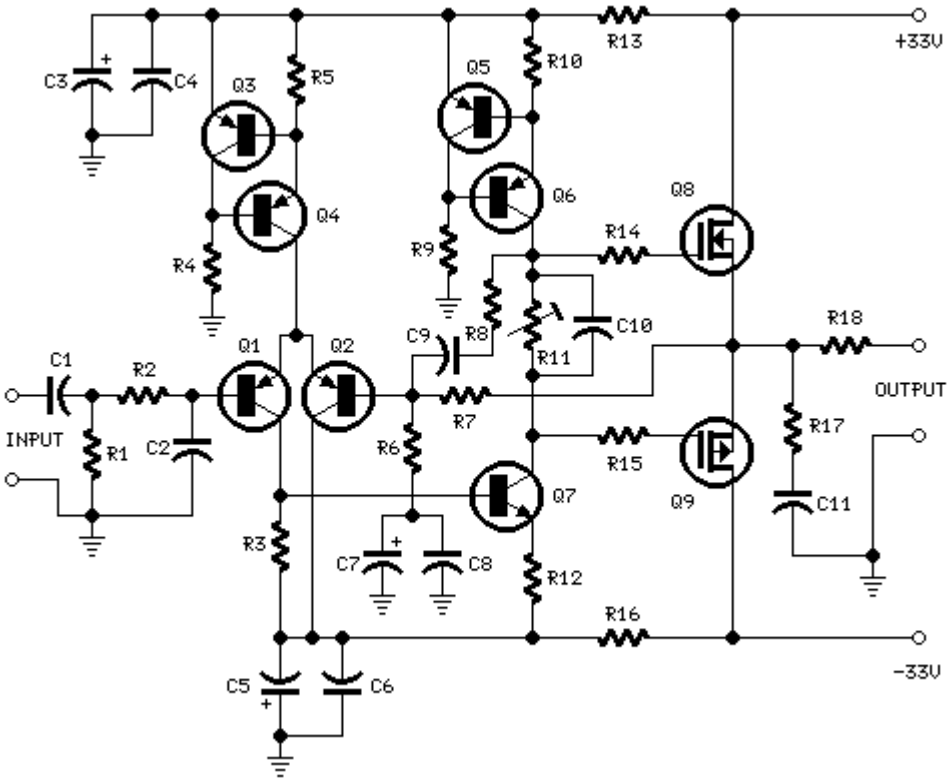
25 Watt MosFet Audio Amplifier

High Quality simple unit. No need for a preamplifier

Circuit diagram:



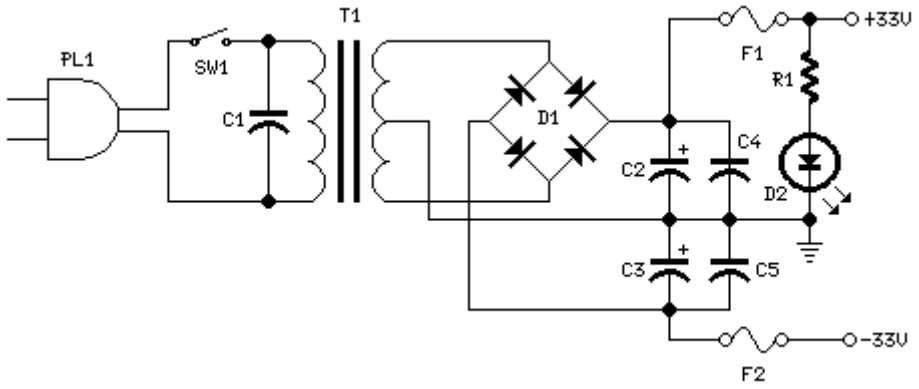
Parts:

R1,R4_____47K 1/4W Resistors
R2_____4K7 1/4W Resistor
R3_____1K5 1/4W Resistor
R5_____390R 1/4W Resistor
R6_____470R 1/4W Resistor
R7_____33K 1/4W Resistor
R8_____150K 1/4W Resistor
R9_____15K 1/4W Resistor
R10_____27R 1/4W Resistor
R11_____500R 1/2W Trimmer Cermet
R12,R13,R16__10R 1/4W Resistors
R14,R15_____220R 1/4W Resistors
R17_____8R2 2W Resistor
R18_____R22 4W Resistor (wirewound)

C1_____470nF 63V Polyester Capacitor
C2_____330pF 63V Polystyrene Capacitor
C3,C5_____470µF 63V Electrolytic Capacitors
C4,C6,C8,C11_100nF 63V Polyester Capacitors
C7_____100µF 25V Electrolytic Capacitor
C9_____10pF 63V Polystyrene Capacitor
C10_____1µF 63V Polyester Capacitor

Q1-Q5_____BC560C 45V 100mA Low noise High gain PNP Transistors
Q6_____BD140 80V 1.5A PNP Transistor
Q7_____BD139 80V 1.5A NPN Transistor
Q8_____IRF532 100V 12A N-Channel Hexfet Transistor
Q9_____IRF9532 100V 10A P-Channel Hexfet Transistor

Power supply circuit diagram:



Parts:

R1_____3K3 1/2W Resistor

C1_____10nF 1000V Polyester Capacitor
C2,C3_____4700µF 50V Electrolytic Capacitors
C4,C5_____100nF 63V Polyester Capacitors

D1_____200V 8A Diode bridge
D2_____5mm. Red LED

F1,F2_____3.15A Fuses with sockets

T1_____220V Primary, 25 + 25V Secondary 120VA Mains transformer

PL1_____Male Mains plug

SW1_____SPST Mains switch

Notes:

- Can be directly connected to CD players, tuners and tape recorders. Simply add a 10K Log potentiometer (dual gang for stereo) and a switch to cope with the various sources you need.
- Q6 & Q7 must have a small U-shaped heatsink.
- Q8 & Q9 must be mounted on heatsink.
- Adjust R11 to set quiescent current at 100mA (best measured with an Avo-meter in series with Q8 Drain) with no input signal.
- A correct grounding is very important to eliminate hum and ground loops. Connect in the same point the ground sides of R1, R4, R9, C3 to C8. Connect C11 at output ground. Then connect separately the input and output grounds at power supply ground.

Technical data:

Output power: well in excess of 25Watt RMS @ 8 Ohm (1KHz sinewave)
Sensitivity: 200mV input for 25W output
Frequency response: 30Hz to 20KHz -1dB
Total harmonic distortion @ 1KHz: 0.1W 0.014% 1W 0.006% 10W 0.006% 20W 0.007% 25W 0.01%
Total harmonic distortion @10KHz: 0.1W 0.024% 1W 0.016% 10W 0.02% 20W 0.045% 25W 0.07%
Unconditionally stable on capacitive loads