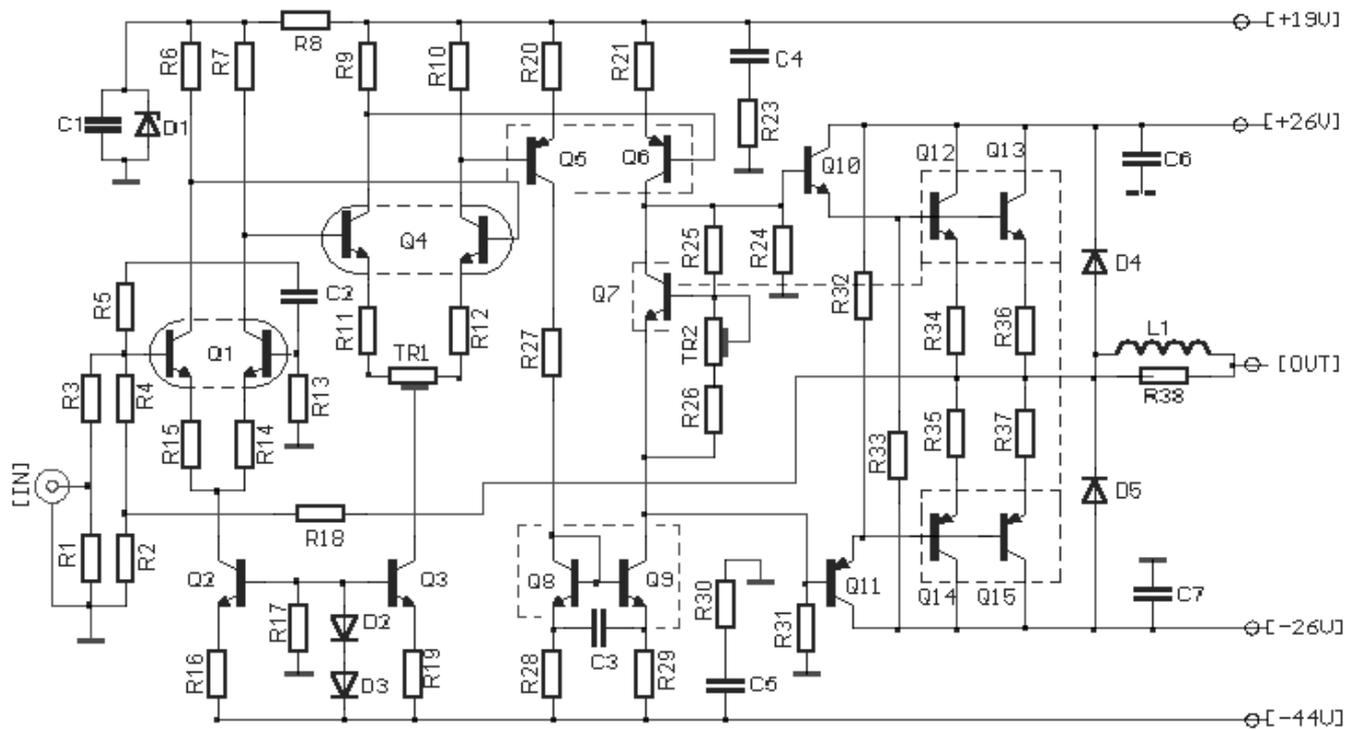


## The Electrocompaniet 2 Channel Audio Power Amplifier



The Electrocompaniet Power Amp.

Sam 8/01

With only 25W power per channel, this amplifier is an extremely interesting for many, and implements a number of technological solutions will be difficult to find in many other amps, regardless of validity. The construction of the circuit part o J. Lostroh, and Prof. Mati Ojala, which is the first word on transient deformation, known as T.I.M (Transient Intermodulation Distortion). Looking at the circuit of the amplifier, we see that is divided into four stages. The first three are the driving device, consisting of differential amplifiers (in public housing, matched for common characteristics and thermal changes) and power mirror assemblies and the fourth stage output, which is a classic darlington additional symmetry. The first differential Q1, used BCY87 (Philips), a metal casing. The input impedance R1 of the amplifier is very low 1.8K, for standards that exist and the prices are between 47K-100K. The first two differential amplifiers are supplied from current sources Q2 and Q3 ZTX384 (Ferranti). At the base of Q1 applied negative feedback through R18, R2, R4. Is there a compensation circuit (positive feedback, which acts as a high-cut filter), formed by R5 and C2. The second differential Q4-BCY89 (Philips), is the trimmer TR1, which regulate the balance of currents Q2, thus minimizing the presence of voltage at the output of the amplifier. The currents flowing through the first two differential estimated at about 0.2mA to 0.4mA for the first and second. To form a third differential in the Q5-Q6, powered by the current mirror Q8-Q9. The transistors Q8-9 are acting as active loads and collector operation increases the speed and linearity of the stage, while balancing the currents the two arms of the differential amplifier and ensure thermal equilibrium, all mounted on brushes. The Q7 and TR2, regulate the polarization of the output stage (quiescent current), while ensuring thermal equilibrium (temperature sensor) located on the same heatsink with the output transistors. The output stage is a complementary pair Darlington, per side. All output transistors have a plastic shell and relatively low voltages and currents of operation (60W, 60V, 8A), thus very linear, because of these characteristics. The diodes D4-5 antiilektregertikes forces protect the speakers. The sections are located in areas with dotted lines are placed on brushes. Another point of amplifier that makes it different is the power and how careful they are. So the driver stage is supplied with symmetrical voltages +19 V and -44V is stabilized and the final stage of + /-26V, which is not stabilized. This separation improves audio quality by reducing intermodulation and allepidrasi of stages. The amplifier low power although they may be [bridged](#) to give us four times the power, making him a very good choice. [Source: Sound 9/79-th. Spinoulas].

### Part List

R1-3-19 = 1.8Kohms

R24-31 = 2.2Kohms

D1 = 15V 0.5W Zener

R2 = 10 ohms

R25 = 2.7Kohms

D2-3 = 1N4148

R4 = 12Kohms  
 R5 = 120 ohms  
 R6-7-27 = 1Kohms  
 R8-13 = 2.7Kohms  
 R9-10 = 1Kohms  
 R11-12 = 33 ohms  
 R14-15-20-21 = 10 ohms  
 R16 = 3.3Kohms  
 R17 = 4.7Kohms  
 R18-26 = 470 ohms  
 R23-30 = 1 ohm

R28-29 = 10 ohms  
 R32-33 = 56 ohms  
 R34-35 = 1 ohms/5W  
 R36-37 = 1 ohms/5W  
 R38 = 1 ohms / 3W  
 C1-6-7 = 100nF 100V Polyester  
 C4-5 = 680nF 100V Polyester  
 C2 = 2.2nF 100V Polyester  
 C3 = 2.5nF 100V Polyester  
 TR1 = 220 ohms Trimmer  
 TR2 = 1Kohms Trimmer

D4-5 = BY206  
 Q1 = [BCY87](#) (Philips)  
 Q2-3 = ZTX384 (Ferranti)  
 Q4 = [BCY89](#) (Philips)  
 Q5-the 6th = [BD140](#)  
 Q7-8-9 = [BD139](#)  
 Q10 = BD139  
 Q11 = BD140  
 -Thirteen = Q12 [BD203](#)  
 Q14-on the 15th = [BD204](#)  
 All R is metal film 1% except  
 R34-38

### **SPECIFICATIONS**

<b>OUTPUT POWER</b>	25W / 8 ohm - 40W / 4 ohm
<b>DAMPING FACTOR</b>	160 [8 ohm]
<b>INPUT IMPEDANCE</b>	1Kohm
<b>SLOW RATE</b>	125V/ms
<b>FREQUENCY RESPONSE</b>	1W / 8 ohm DC-1MHZ
<b>THD</b>	0.01% 12.5W
<b>TIM</b>	0.03% 12.5W
<b>S / N</b>	100dB

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