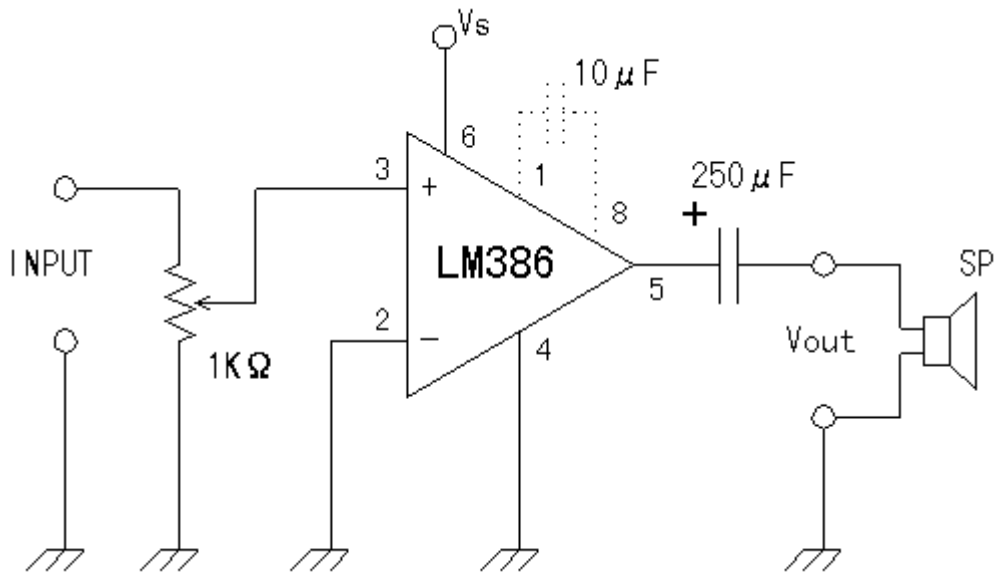# Simple amplifier

This is the low frequency power amplifier of which the penumbra article can be composed without using it hardly.
The about 660-mW output can be gotten with the 16-ohm speaker.

This circuit is used for the simple monitor and so on.
The impedance (4-ohm and 8-ohm, and so on), the output power of the speaker and so on are specified by the standard but are OK rather than strict. Because the sound cracks (warping) when presenting the output above the rating, it uses naturally within the standard.
When conscious of the timbre and the output power, it is better not to do the use of this circuit.

The use example : TV sound monitor circuit of Frequency divider and so on.

Data for LM386

Operating voltage range   :   4 to 12V(LM386NN)
5 to 18V(LM386N-4)

Current in the standing still   :   4mA(typ)

Package   :   8 pins
Plastic DIL(code N)

The maximun rating (Ta=25℃)

Vs   :   15V(LM386N)   Tstg   :   -65 to +150℃

        22V(LM386N-4)   Tj   :   150℃

P_D^* :   660mW(LM386N)   Rth(j-a) : 187℃/W(LM386N)

        1.25W(LM386N-4)   100℃/W(LM386n-4)

V_{IN} :   ±0.4V   Tpin   :   300℃.10sec

Topt : 0 to +70℃   * : Ta = 25℃

The electric characteristic (Ta=25℃)						
Symbol	**Measurement condition**		**Min**	**Typ**	**Max**	**Unit**
I_Q	V_S = 6V, V_{IN} = 0V			4	8	mA
I_{ib}	V_S = 6V, Term2,3 open			250		nA
G_V	V_S = 6V, f = 1kHz			26		dB
	It connects 10 µF with the interval of the term 1-8.			46		
P_{OUT}	V_S=6V,R_L=8ohm,THD=10%	LM386N-1	250	325		mW
	V_S=9V,R_L=16ohm,THD=10%	LM386N-3	500	700		
	V_S=16V,R_L=32ohm,THD=10%	LM386N-4	700	1000		
THD	VS = 6V, RL = 8ohm, POUT = 125mW f = 1kHz, Term1,8 open			0.2		%
R_{IN}				50		k-ohm
SVR	V_S = 6V, f = 1kHz, C_{BYPASS} = 10µF Term1,8 open			50		dB
BW	V_S = 6V, Term1,8 open			300		kHz

[LM386 Low Voltage Audio Power Amplifier](#)