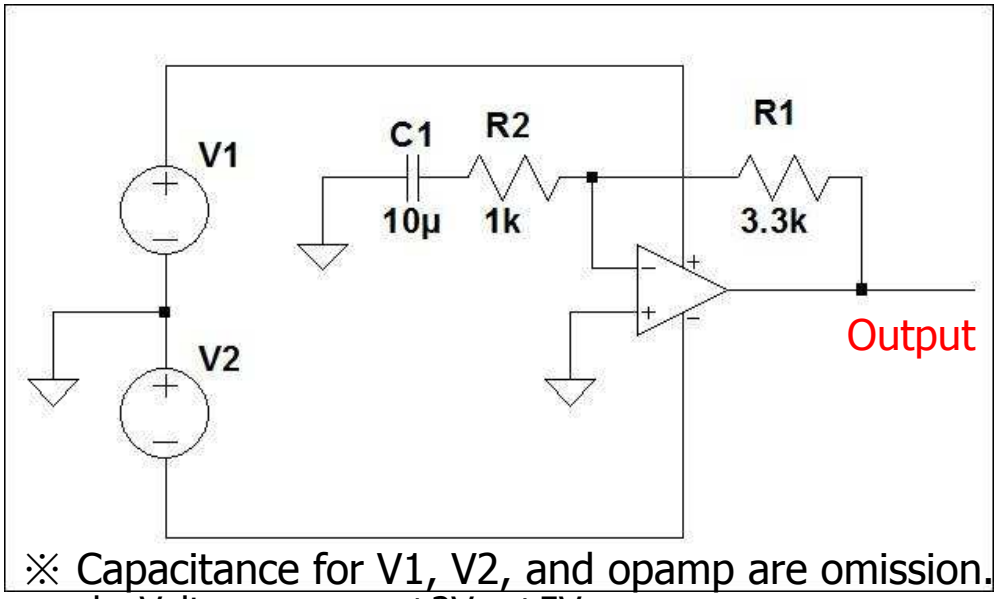
<TL972 with audio application – Dual supply operation schematic>



※ Capacitance for V1, V2, and opamp are omission.

<Condition>

・Power supply is stabilized power-supply. Voltage range : ±2V～±5V

・Opamp has some gain and connects to GND.

・"Output" connects to the mixer to gain 40dB, on the headphone, we can hear the noise.

- These type noise are continuous sounds like as "patsu, patsu" and occasional sounds like as "pari, pari".
- If R2 is 1kohm, there is noise also. For example R2=12kohm, it seems that there is no noise as customer's auditory.
- In case of C1's short, there is noise also.

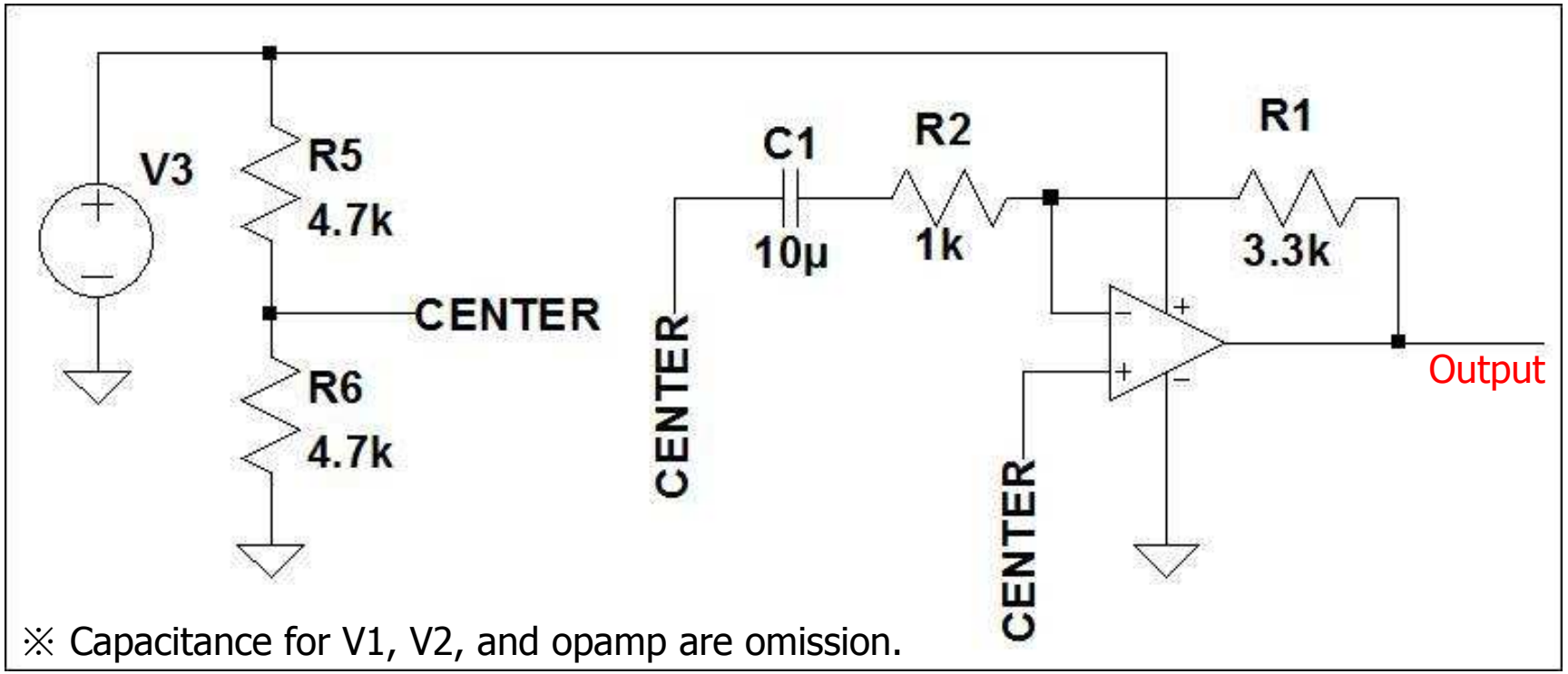
・The board layout is no problem. Bypass cap, feedback resistance and input resistance are the shortest route.

・On the same circuit, our customer replaced opamp to competitor device(NJM4580).As the result, there was no noise. (NJM4580's power supply is ±2V～±5V)

<Question>

When we use TL972, is it normal content which occurs noise? But we think TL972's spec is superior to NJM4580.(Low) If you have some advice, could you let us know?

<TL972 with audio application – Single supply operation schematic>



※ Capacitance for V1, V2, and opamp are omission.

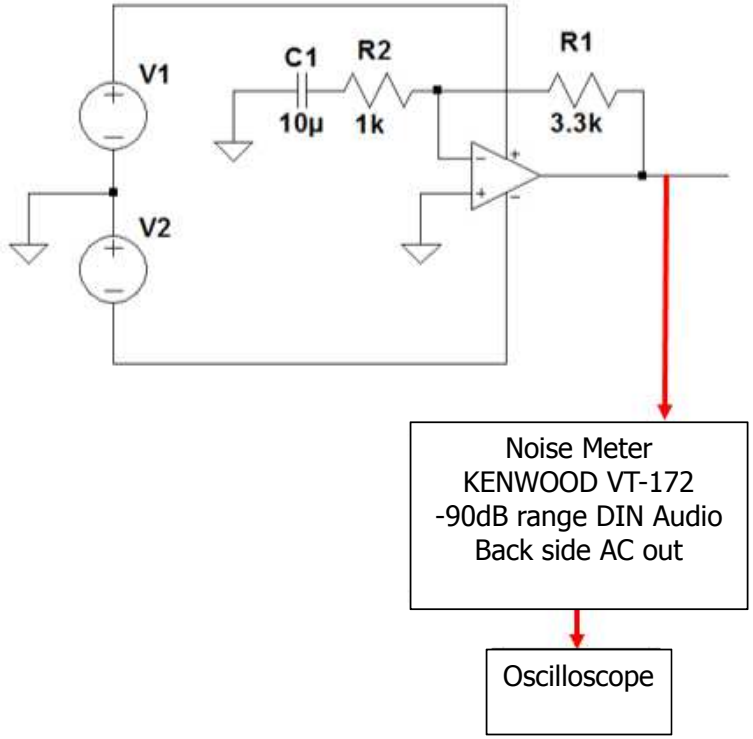
<Condition>

・Power supply is stabilized power-supply. Voltage range : 4V～10V

・"Output" connects to the mixer to gain 40dB, on the headphone, we can hear the noise also.

・On the same circuit, our customer replaced opamp to competitor device(NJM4580).As the result, there was no noise also.

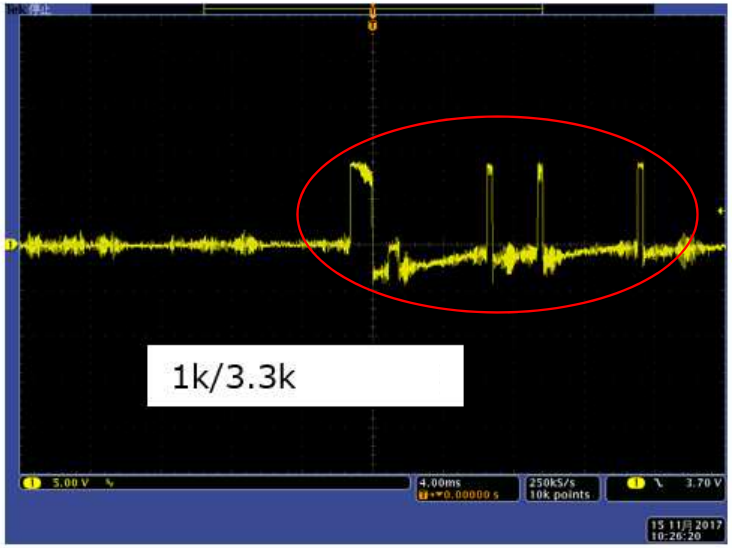
<TL972 with audio application – noise measurement configuration>



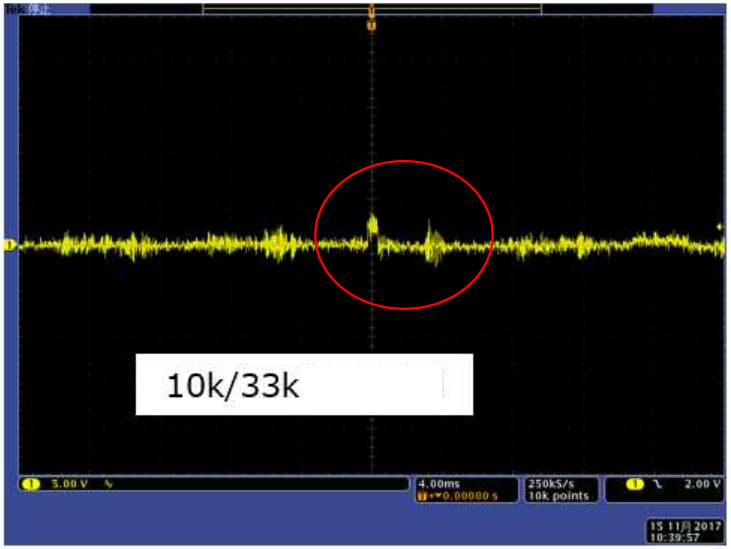
<Condition>

・Our customer measured the noise as above configuration.

<TL972 with audio application – the result of wave form>

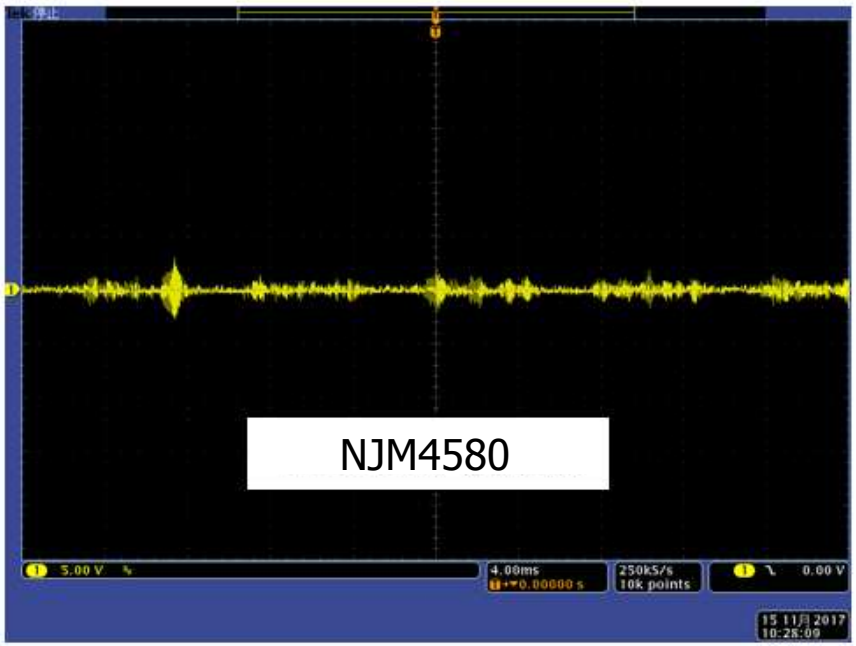


In case of R1=3.3kohm and R2=1kohm,
there is some big irregular noise .



In case of R1=33kohm and R2=10kohm,
there is irregular noise.(it is not enough level as noise.)

<TL972 with audio application – in case of using NJM4580>



In case of R1=3.3kohm and R2=1kohm with NJM4580, there is no irregular noise.
(The customer said that this was enough level.)