



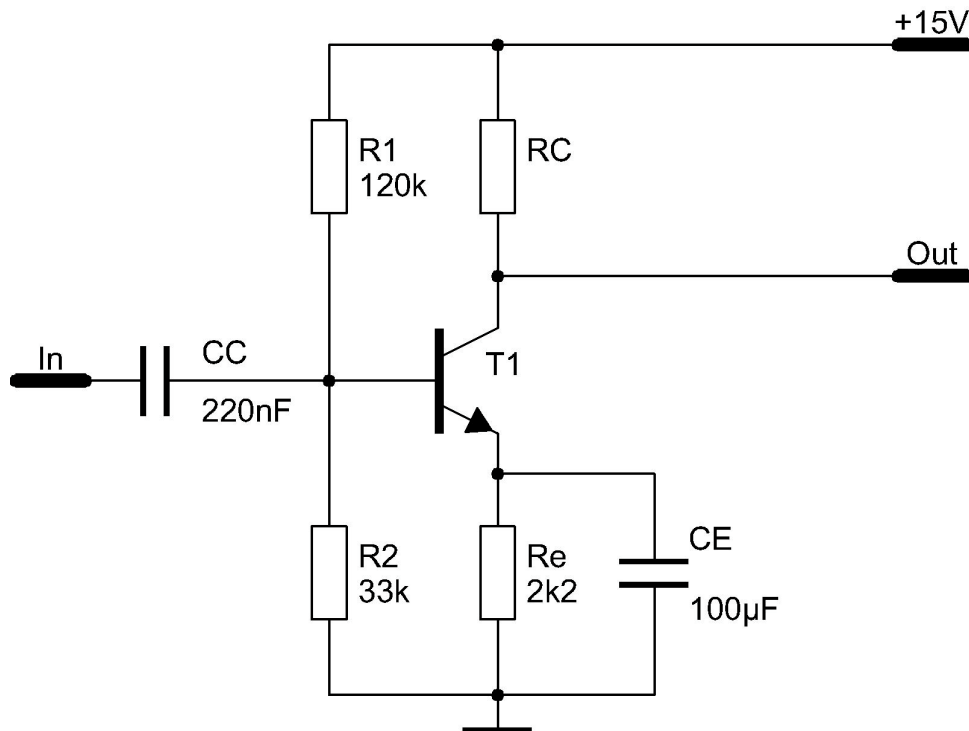
Studentsgroup:		Recording student:
Date:		Other participants:
Lecturer:		

Task 4:

Amplifier Circuit with Bipolar Transistor

1. Connect an amplifier circuit according to the drawing.

- 1.1. Calculate the resistance value R_C for a voltage gain of $v = 200$ at an operating point of $I_C = 1\text{mA}$.
- 1.2. Measure the values of the operating point (U_{BE} , U_{CE} , I_C).
- 1.3. Measure the voltage gain at a frequency of 1kHz and 100Hz resp. using an oscilloscope.
- 1.4. Measure input- and output-resistance of the amplifier circuit using the method of half voltage (in case of "emergency" it will be explained to you during the lab).
- 1.5. Measure the voltage gain at a temperature of 60°C (oven!).



Transistor: BC 549C

2. Alterations of the circuit

- 2.1. Disconnect the emitter capacitor C_E and repeat measurements 1.3 and 1.4. Explain the results.
- 2.2. Raise the supply voltage to 20V and repeat measurement 1.3. Explain the results.