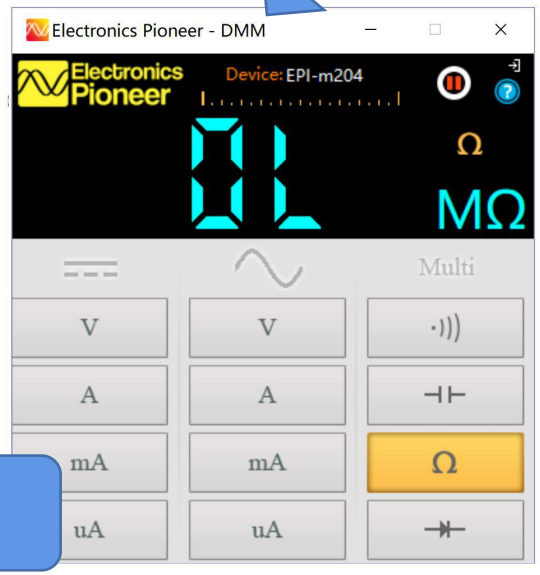
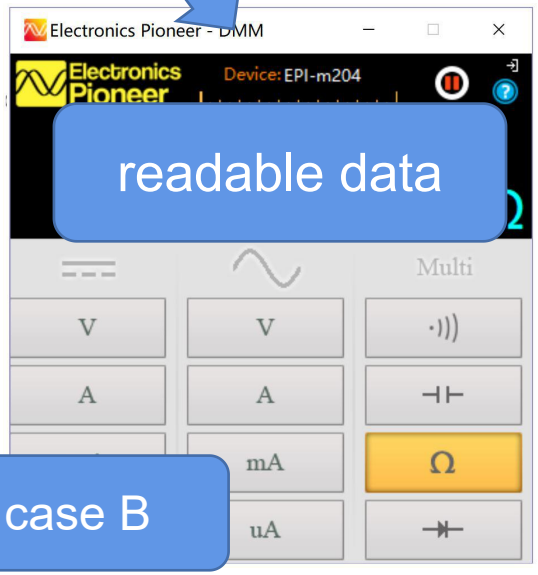
① Use the Multimeter to measure the black box

Electronics Pioneer APP



case A



case B

- RC series connection
- Capacitance

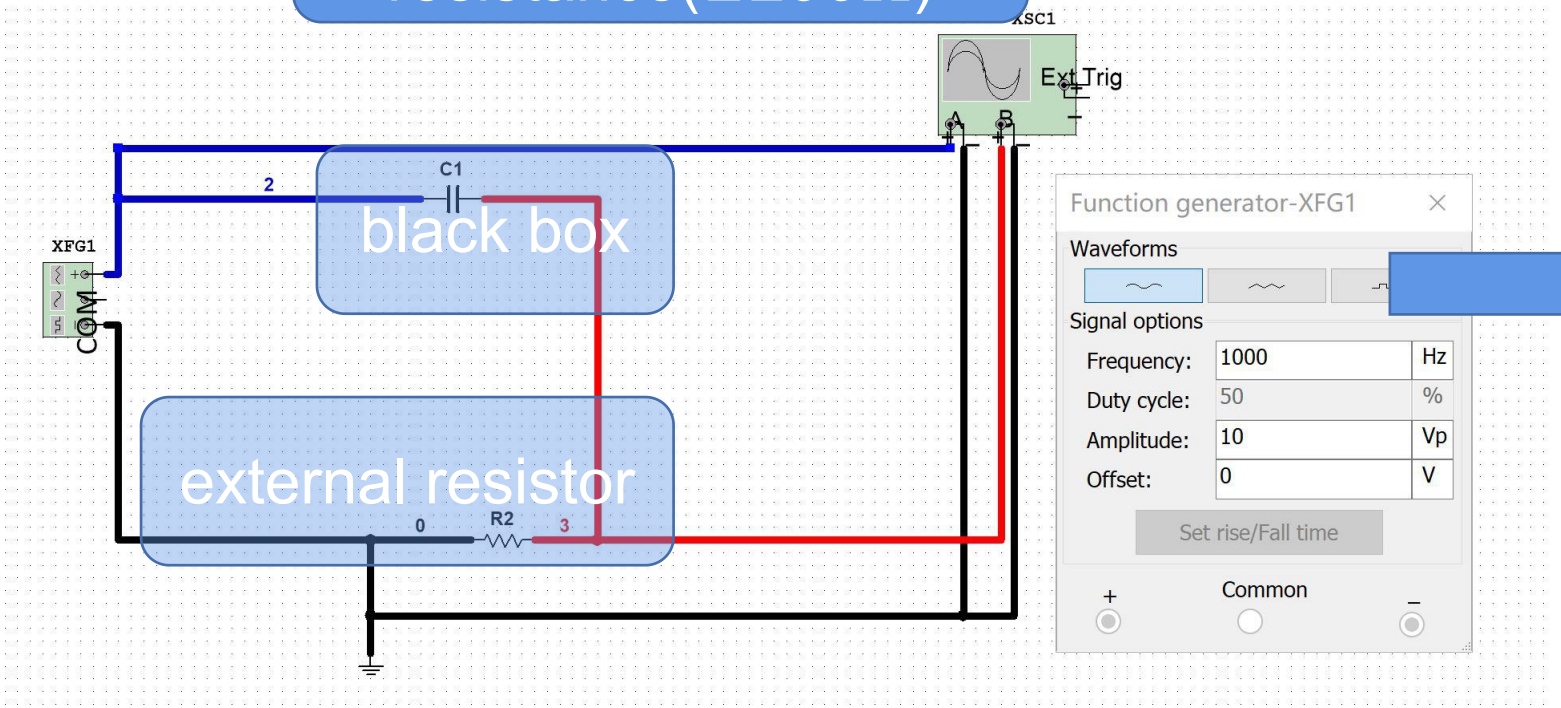
- RC parallel connection
- Resistance

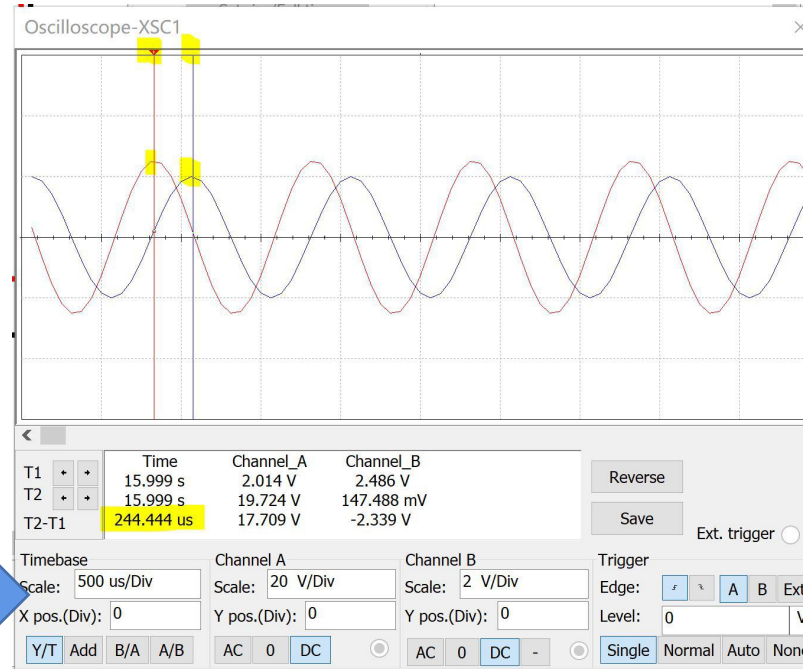
② Observe the waveform with an oscilloscope

case A

- RC series connection
- Capacitance

Series a resistance(≤200Ω)





If the phase of the voltage and current is 90◦ , it is a capacitance.

② Observe the waveform with an oscilloscope

case A

- RC series connection
- Capacitance

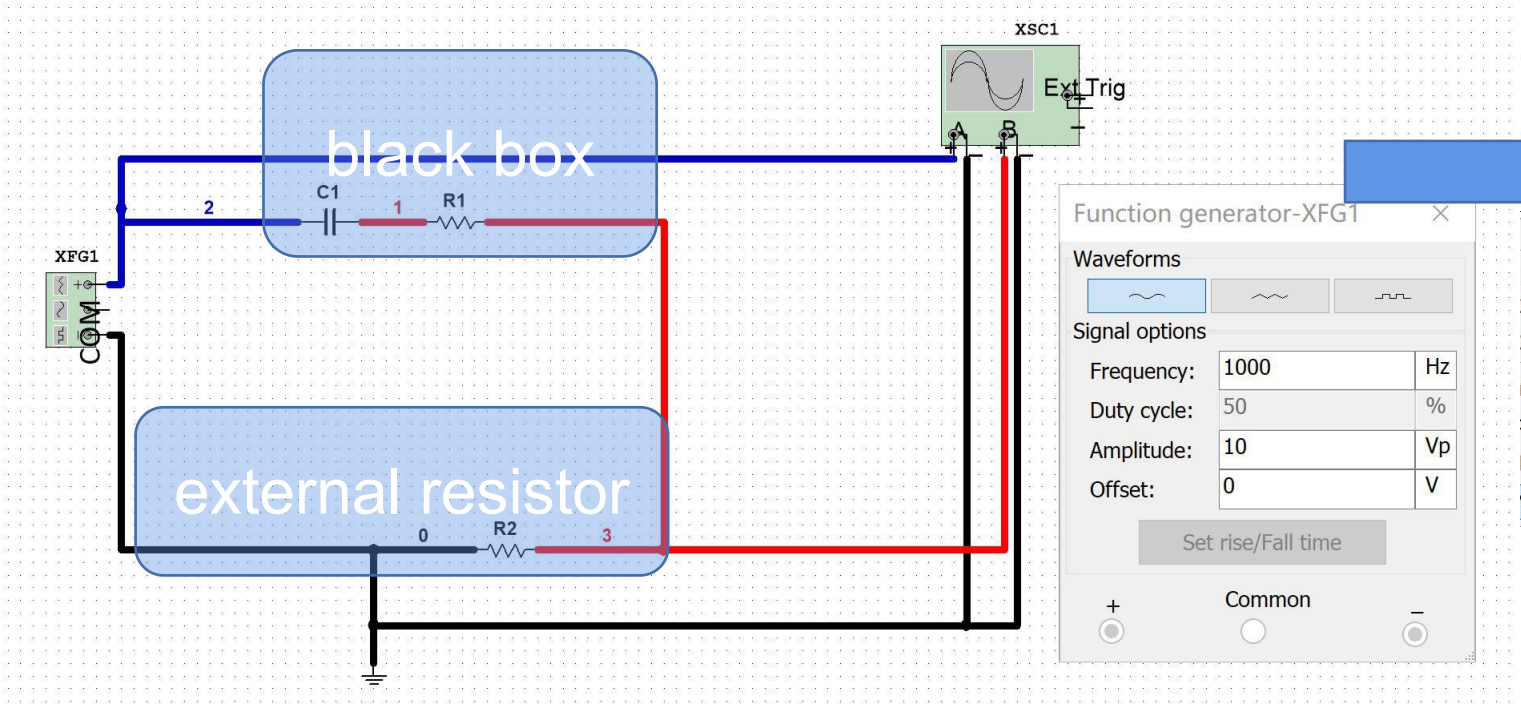
③ Test the capacitance parameter

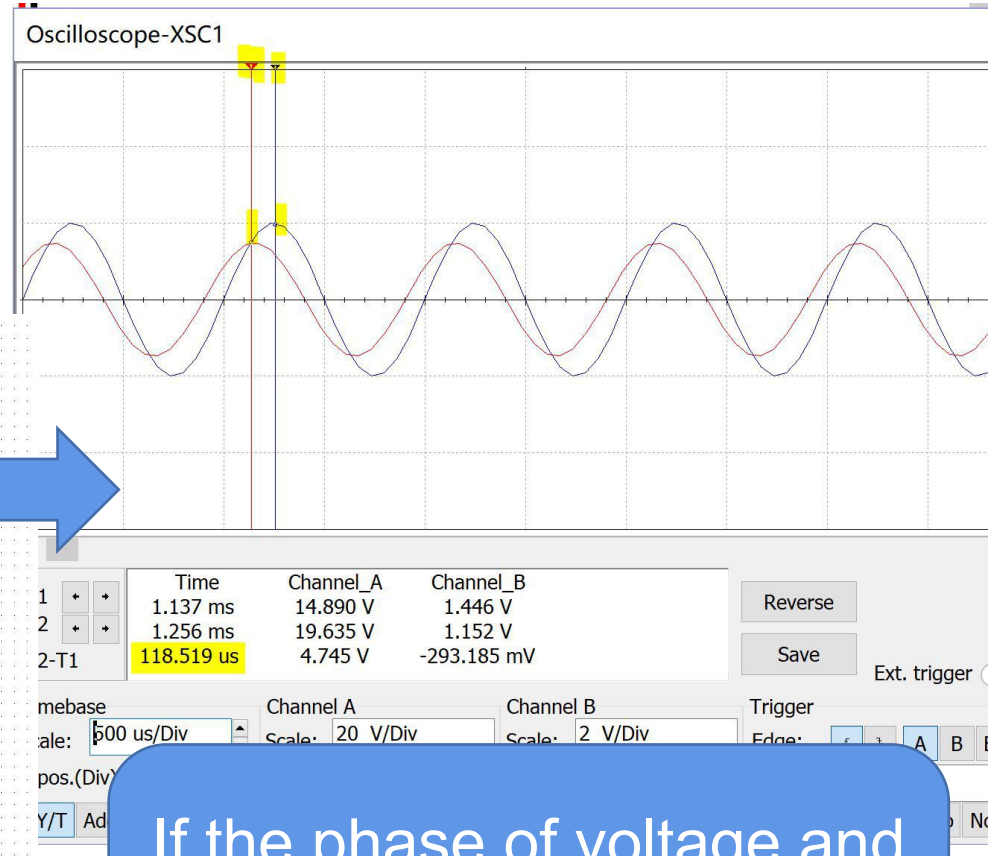
② Observe the waveform with an oscilloscope

case A

- RC series connection
- Capacitance

Series a resistance(≤200Ω)





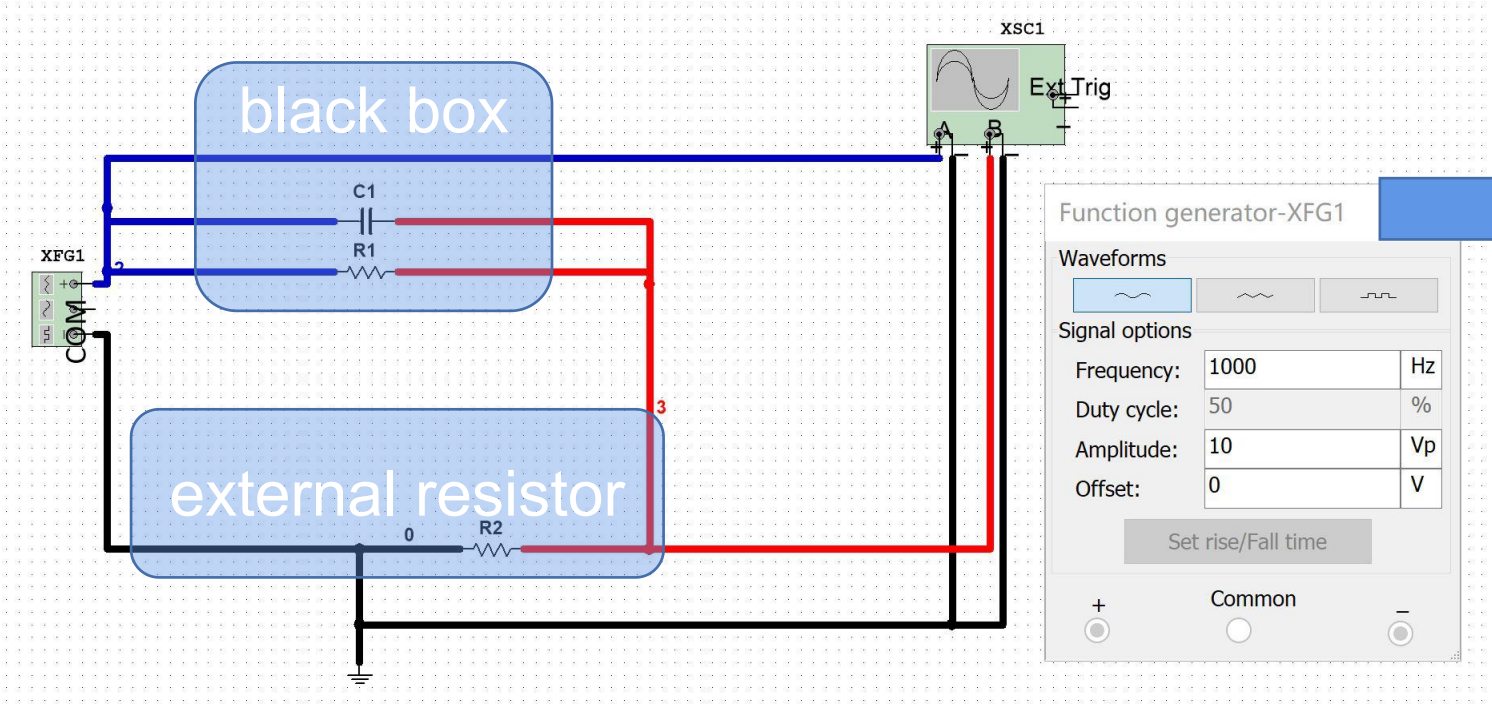
If the phase of voltage and current is less than 90◦ ,it is the RC series circuit.

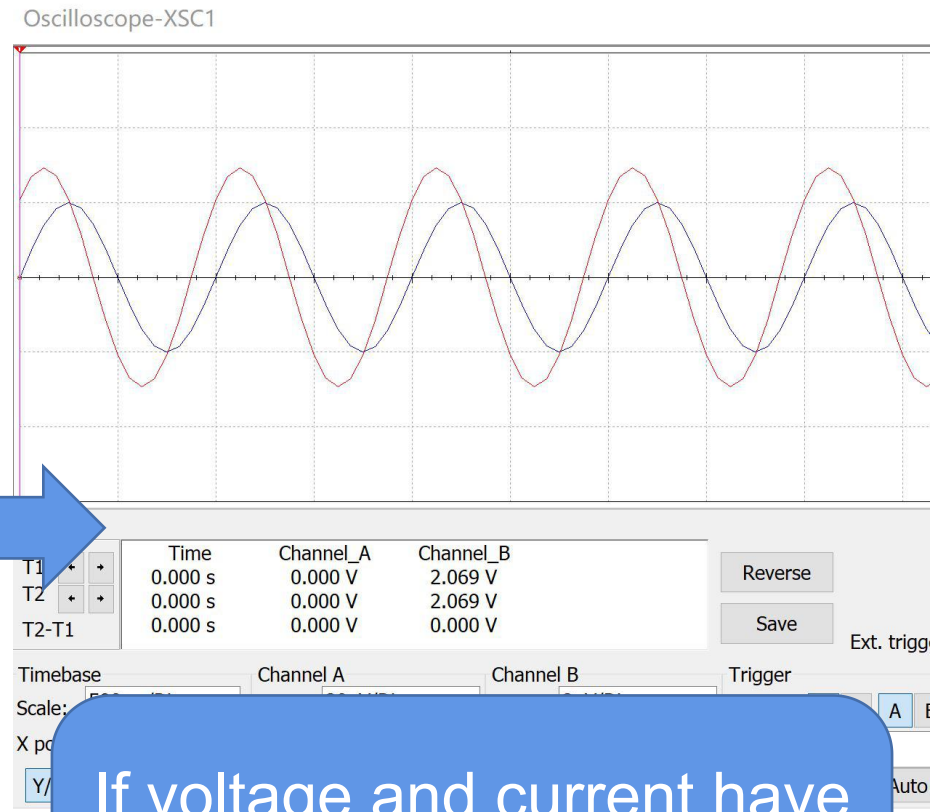
② Observe the waveform with an oscilloscope

case B

- RC parallel connection
- Resistance

Series a resistance(≤200Ω)





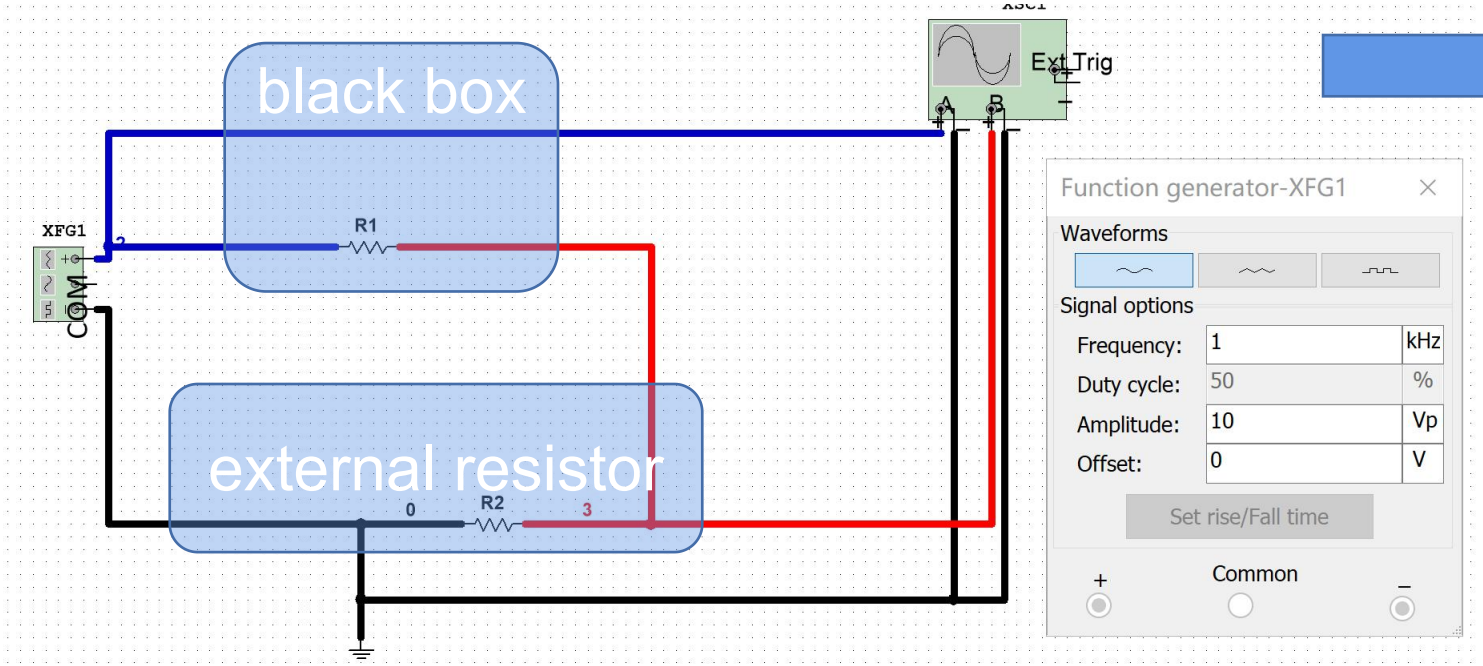
If voltage and current have phase difference, it is the RC parallel circuit.

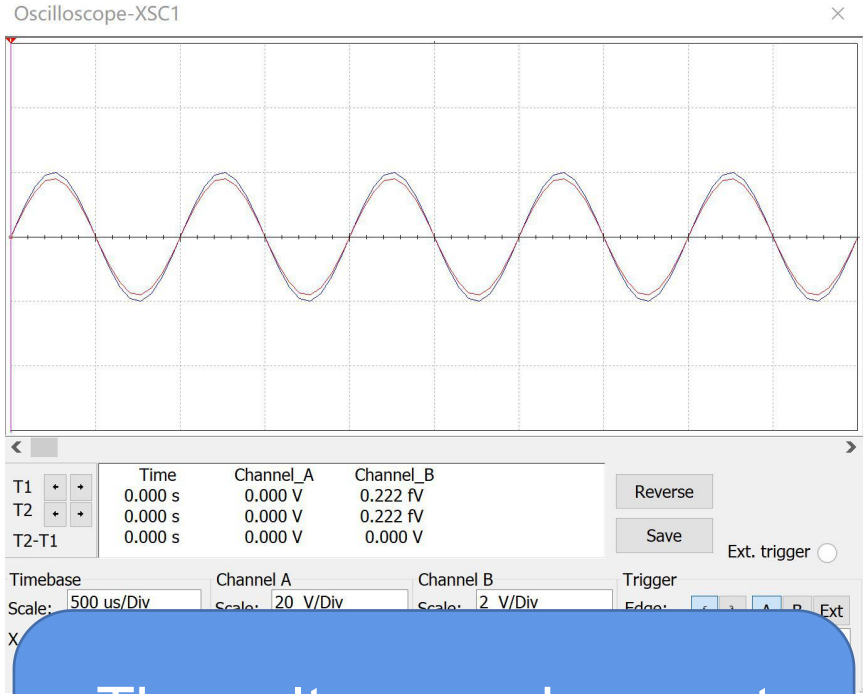
② Observe the waveform with an oscilloscope

case B

- RC parallel connection
- Resistance

Series a resistance(≤200Ω)





The voltage and current are in phase and the circuit is resistive.