PART 8

Operation Classes of Transistor

1. Examination of Class A Amplifier (10.1)
2. Examination of Class B Amplifier (10.2)
3. Examination of Class C Amplifier (10.3)

MODULE Y-0016 / 010

EXPERIMENT: 10.1

EXAMINATION OF CLASS A AMPLIFIER

EXPERIMENTAL PROCEDURE:

Plug the Y-0016-010 module. Make the circuit connection as in figure 15.4

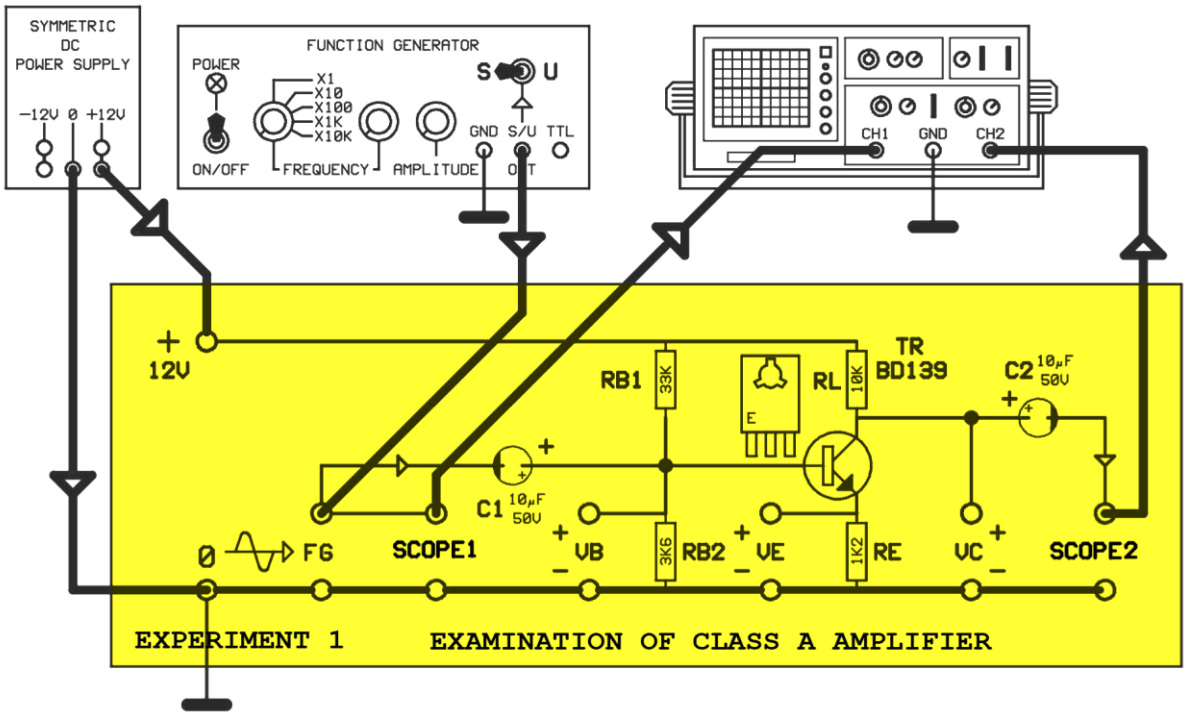

Figure 15.4

Note: Voltmeters are not shown in circuit connection schema. Make the voltage measurements for the related part by using a digital voltmeter.

1- Turn of the function generator. Apply energy to the circuit. Measure the voltages on transistor terminals (**VE-VB-VC**) and type them. How is the transistor according to these values?

Emitter voltage VE=

Base voltage VB=

Collector voltage VC=

Comment:

2- Adjust the amplitude potentiometer of function generator to zero (**mid-terminal will be at left**). Apply energy to function generator. Adjust the function generator's output signal to sine wave, frequency to 1KHz and amplitude to peak to peak **Vipp=**1Volt. See the input and output signals at oscilloscope and plot them.

3- How is the phase relation between input and output signals? Why?

4- Is the form of output signal the same as input signal? Compare twosignals.

5- What can be said about the productivity of class A amplifiers?

EXPERIMENT: 10.2

EXAMINATION OF CLASS B AMPLIFIER

EXPERIMENTAL PROCEDURE:

Plug the Y-0016-010 module. Make the circuit connections as in Figure 5.7

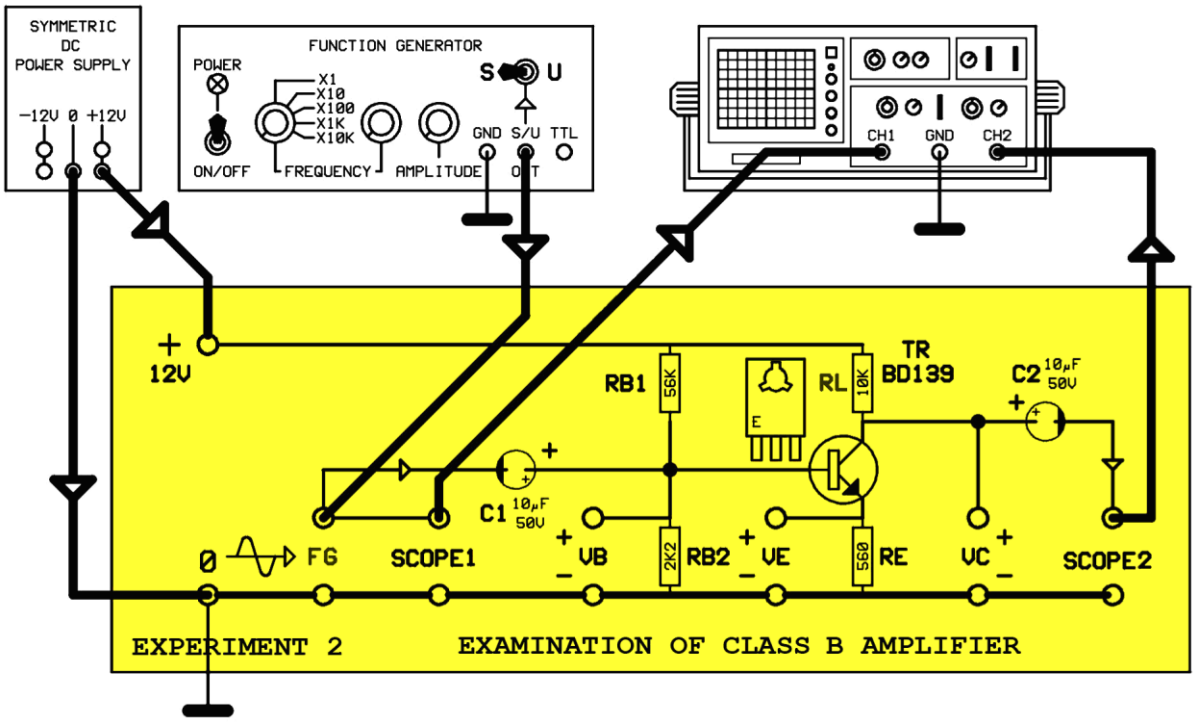

Figure 15.7

Note: Voltmeters are not shown in circuit connection schema. Make the voltage measurements for the related part by using a digitalvoltmeter.

1- Turn of the function generator. Apply energy to the circuit. Measure the voltages on transistor terminals (**VE-VB-VC**) and type them. How is the transistor according to these values.

Emitter voltage VE=

Base voltage VB=

Collector voltage VC=

Comment:

2- Adjust the amplitude potentiometer of function generator to zero (**mid-terminal will be at left**). Apply energy to function generator. Adjust the function generator's output signal to sine wave, frequency to 1KHz and amplitude to peak to peak **Vipp=**1Volt. See the input and output signals at oscilloscope and plot them.

3- Is the form of output signal the same as input signal? Compare twosignals.

4- What can be said about the productivity of class B amplifiers?

EXPERIMENT: 10.3

EXAMINATION OF CLASS C AMPLIFIER

EXPERMENT PROCEDURE

Plug the Y-0016-010 module. Make the circuit connections as in figure 15.10

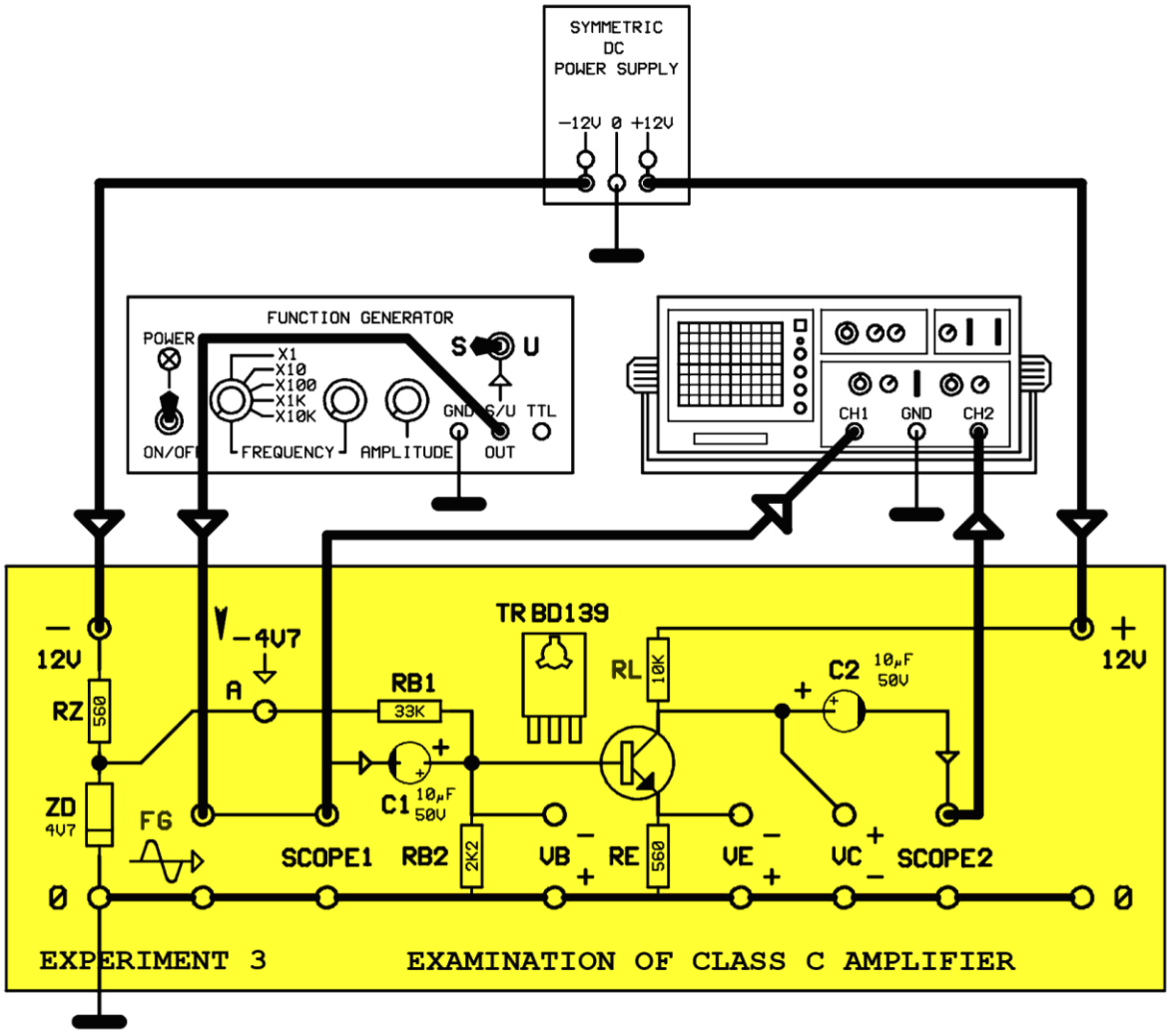

Figure 15.10

Note: Voltmeters are not shown in circuit connection schema. Make the voltage measurements for the related part by using a digitalvoltmeter

1- Turn of the function generator. Apply energy to the circuit. Measure the voltages on transistor terminals (**VE-VB-VC**) and type them. How is the transistor according to these values?

Emitter voltage VE=

Base voltage VB=

Collector voltage VC=

Comment:

2- Adjust the amplitude potentiometer of function generator to zero (**mid-terminal will be at left**). Apply energy to function generator. Adjust the function generator's output signal to sine wave, frequency to 1KHz and amplitude to peak to peak **Vipp=**3Volt. See the input and output signals at oscilloscope and plot them.

3- Is the form of output signal the same as input signal? Compare two signals.

4- What can be said about the productivity of class C amplifiers