

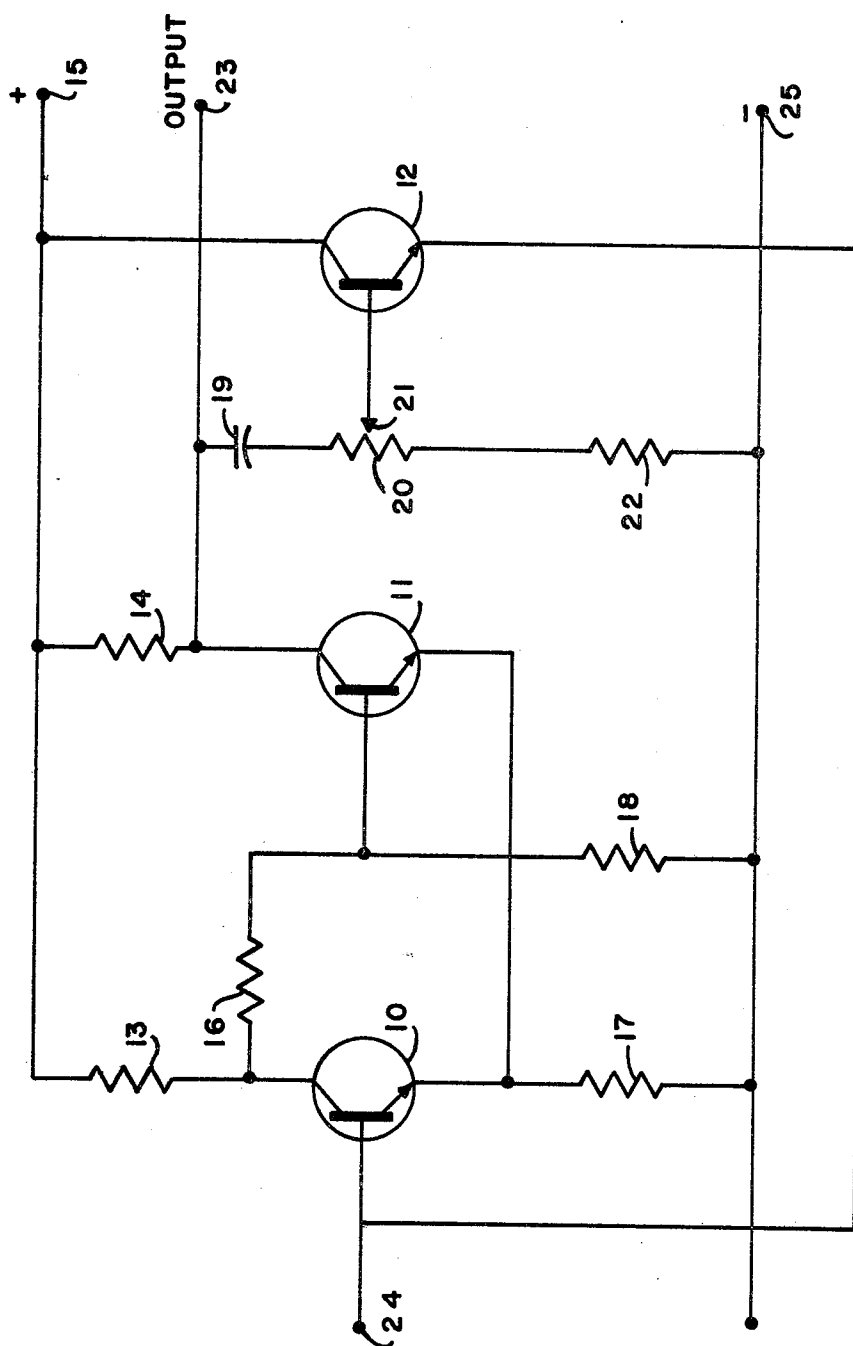
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MONOSTABLE MULTIVIBRATOR

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BY

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ATTORNEYS

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3,491,256

MONOSTABLE MULTIVIBRATOR

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2 Claims

ABSTRACT OF THE DISCLOSURE

A multivibrator adapted to be triggered by a relatively short pulse to produce a relatively long pulse including a Schmitt trigger circuit provided with a time delay circuit connected to the output thereof. This device is provided with a feedback circuit including a transistor having the base thereof connected to the variable resistor of the time delay circuit and having the emitter thereof connected to the input circuit of the Schmitt trigger. The variable contact of the resistor is employed to control the length of the pulse supplied to the output circuit.

This application is a division of application Ser. No. 431,122 filed Feb. 8, 1965, for Apparatus for Separating Produce.

This invention relates to electronic apparatus in general. More particularly, this invention relates to a monostable multivibrator.

An object of this invention is to provide an improved monostable multivibrator which is adapted to be triggered by a relatively short pulse to produce a relatively long pulse.

Another object of this invention is to provide an improved monostable multivibrator with an adjustable regenerative feedback.

Still another object of this invention is to provide a monostable multivibrator with a long time constant circuit coupled to a regenerative feedback, said multivibrator being adapted to be triggered by a short pulse which is, for example, one millisecond time duration to provide an output pulse which may be adjusted by adjusting the variable time constant feedback circuit so that the output pulse may vary from, for example, 100 milliseconds to several seconds in time duration.

Other and further objects of this invention will be apparent to those skilled in the art to which it relates from the following specification, claims and drawing, in which, briefly, the sole figure illustrates a wiring diagram of this monostable multivibrator.

Referring to the drawing in detail, there is illustrated a monostable multivibrator employing transistors 10, 11 and 12. This circuit is basically of the Schmitt trigger type with a very long coupling time constant and regenerative feedback which alters the bistable Schmitt trigger circuit to a monostable multivibrator. The collectors of transistors 10 and 11 are connected to the positive supply line 15 through the resistors 13 and 14. The collector of transistor 10 is also connected through resistor 16 to the base of transistor 11. The base of transistor 11 is also connected to the negative line 25 through resistor 18. The lines 15 and 25 are connected, respectively, to the positive and negative terminals of a low voltage direct current power supply. The emitters of transistors 10 and 11 are connected together and to the top terminal of resistor 17, and the bottom terminal of this resistor is connected to the negative line 25. The

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collector of transistor 11 is also connected to the top terminal of capacitor 19 and to the output terminal 23. The bottom side of capacitor 19 is connected to the top of resistor 20 which is provided with a variable contact 21 that is connected to the base of transistor 12. Another resistor 22 is connected between the bottom of resistor 20 and the negative line 25. The collector of transistor 12 is connected to the positive supply line 15 and the emitter of this transistor is connected by the feedback line to the base of transistor 10. The input terminal 24 is also connected to the base of transistor 10.

The monostable vibrator is triggered by supplying a relatively short pulse to the input terminal 24. This triggering pulse may be on the order of a millisecond time duration. The output pulse supplied to the output terminal 25 may be adjusted in time variation from approximately 100 milliseconds to several seconds by adjusting the variable contact 21 that is associated with the resistor 20 of the RC circuit. This variable contact 21 is connected to the base of transistor 12 and the emitter of this transistor is connected to the base of transistor 10. Thus, transistor 12 provides capacitive regenerative feedback to the base of transistor 10.

While I have shown a preferred embodiment of the invention, it will be understood that the invention is capable of variation and modification from the form shown so that the scope thereof should be limited only by the scope of the claims appended hereto.

What I claim is:

1. In a monostable multivibrator adapted to be triggered by a relatively short pulse to produce a relatively long pulse, the combination comprising a Schmitt trigger circuit having an input circuit and an output circuit, said Schmitt circuit comprising a pair of transistors with means connecting the base of one of the transistors to the collector of the other of the transistors and means connecting the emitters of the transistors together, a time delay circuit connected to the output circuit of said Schmitt trigger circuit, said time delay circuit comprising a capacitor and a resistor connected in series, a feedback circuit including a feedback transistor having the base thereof connected to said time delay circuit, the emitter of said feedback transistor being connected to the input circuit of said Schmitt trigger circuit, said time delay circuit having means controlling the duration of the relatively long pulse supplied on the output of the multivibrator.

2. In a monostable multivibrator adapted to be triggered by a relatively short pulse to produce a relatively long pulse, the combination as set forth in claim 1, further characterized in that the resistor of said time delay circuit is provided with a variable contact connected to the base of said feedback transistor.

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