

Simple Automatic Telegraph Key

The automatic Telegraph key's transfer speeds from 25 to 180 characters per minute. It contains:

- a controllable oscillator clock pulses (OCP) based on the DD2.1 and DD2.2
- the memory node sign and "dot" and "double dot" on the chip DD1,
- "dash" on the elements VD2, VD3, R4,
- a sound generator on the elements of DD2.3 and DD2.4.
- Manipulation cascade is executed on the VT1 transistor and relay K1.
- The key can be powered from a source voltage of 4.5 to 15 V.

Operation details

If apply the manipulator SA1 to "Dot" then appears a code 0010 on pin 3, 4, 12, 13 of DD1, recurring at its outputs. The logical "0" from the pin 11 of DD1 opens the transistor VT1, relay K1, then logical "1" appears on pin 8 of DD2.3. The logical "0" from pin 2 chip DD1 stops storing the information in the counter, starts working of OCP and a generator of self-control. Since then, the manipulator may be in any position, since the meter is already recorded information "to develop a dot and pause".

As soon as the pin 11 DD1 a logical "0" begins to take shape "dot". After coming the second pulse from the output of DD2.2 to the input on its output appears code 0110, the transistor VT1 is closed, a logical "1" on pin 2 of DD1; logic 0 from the collector of transistor VT1 inhibits the operation of the generator of self-control. The formation of the "dot" is going to the end.

The logical 0 from pin 8 of DD1 continues to hold the OCP in work, and the counter of DD1 is in counting mode. Begins to form the "pause". With the advent of the pin 1 of DD1 fourth pulse with a OCP on the outputs of the counter DD1 appears code 0001. The logical "1" from output 2 of counter prohibits the OCP and puts the counter DDI in mode of the record information corresponding to the anchor position of the manipulator at the moment.

If apply the manipulator in the position "Dash" to counter then on inputs D provides information 0000, recurring on its outputs. Logic 0 from pins 11 and 14 of DD1 opens the transistor VT1 - begins to form a "double dot". Because the output 2 will be logic 0, OCP and generator of self-controls is ON and the meter DD1 is in the counting mode. The anchor position of the manipulator from this point on will not affect the work, because the counter recorded information "to produce a double-dot, dot and pause", and this information can be changed as long as the output of 1 DD1 will be a logical 0. With admission to the D input of the fourth clock pulse on the outputs of the counter appears the code 0010 and ends with the formation of "double dot". Then, formed a "dot". This process (described earlier) ends when the input is ± 1 will come the sixth clock pulse. From the time the anchor the manipulator before the arrival of the sixth clock pulse, the transistor VT1 is open and the generator of self-control is enabled.

A Telegraph key assembled on the PCB size 50x50 mm.



