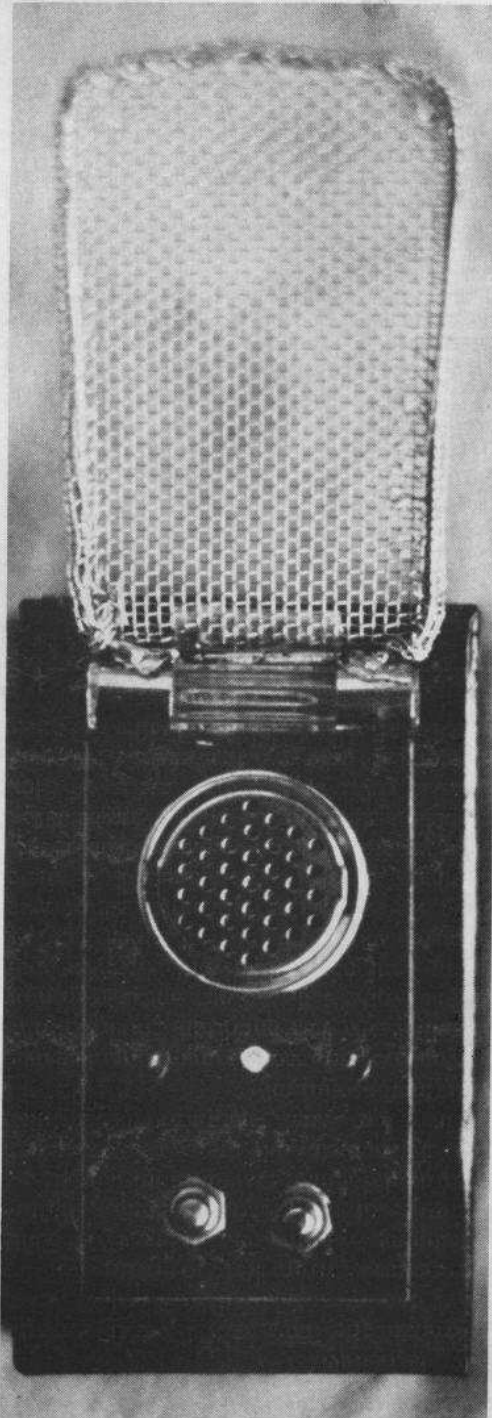


Trekkies, Build this Starfleet Communicator!

by
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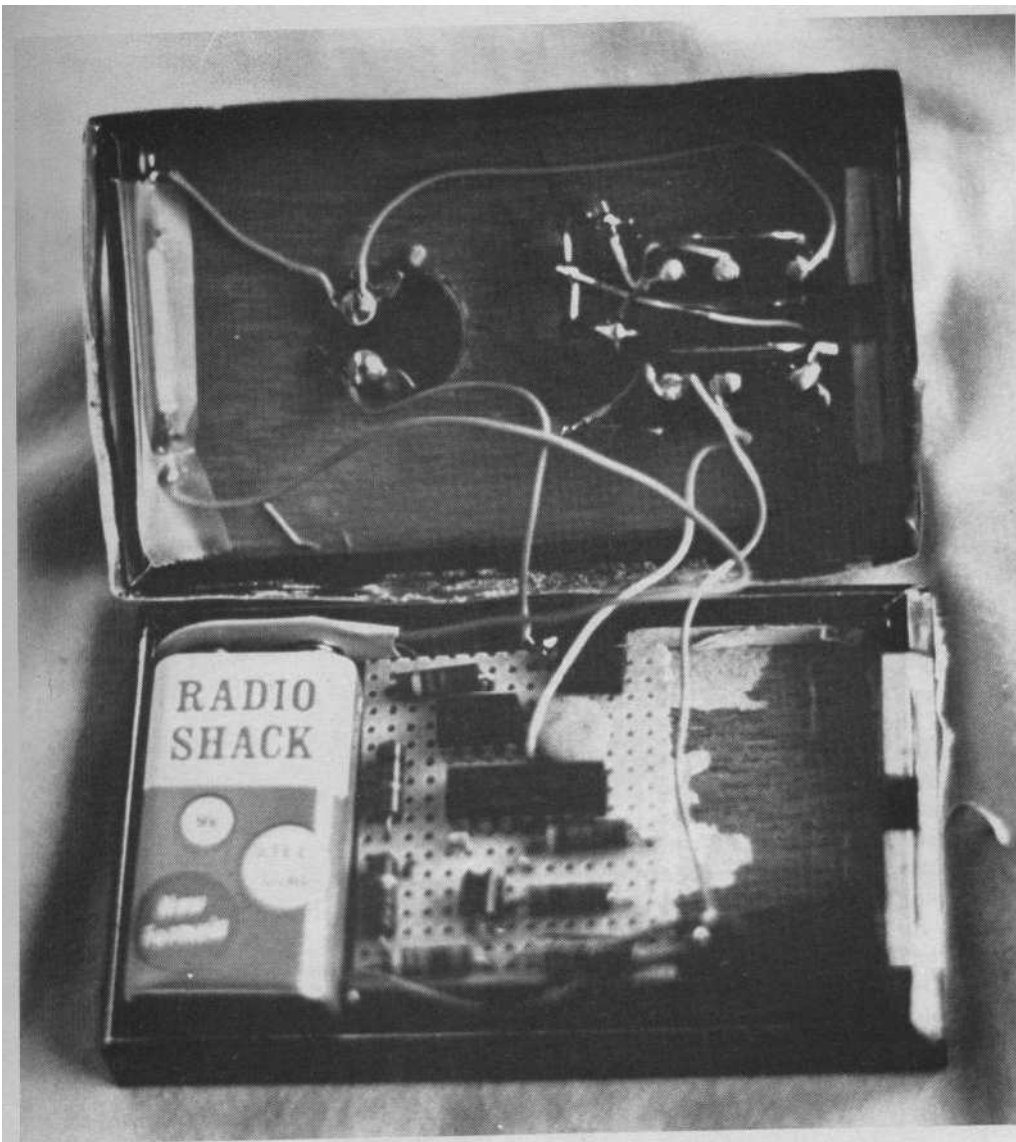
FOR COMMAND
LEVEL USE
ONLY

The plans contained herein are drawn from data in storage at Starfleet Archives, UFP, and are released for information only. Operation of communications devices within this sector of the galaxy is restricted under UFPCC regulations to authorized individuals only.

“**S**tar Trek,” a television show popular in the late 1960s, spawned a cult of followers that cannot be believed. There are Trekkies in all walks of life, particularly among college students, electronic engineers, doctors, and, it is hoped, hams. There are books, models, and national organizations devoted to perpetrating the culture of the United Federation of Planets. In this vein, I have designed and built a functional model of a Starship communicator.

The Communicator, as any dyed-in-the-wool (or velour) Trekkie knows, is the all-purpose, futuristic HT carried by all landing party personnel. Besides a basic, long range transceiver, the communicator also contains a transporter beacon for beaming up and an emergency distress signal for urgent transportation. This version, designed after the TV model, has all of these features.

On the front panel, there are the speaker/mike, three LED function lights, and two control switches. A hinged lid covers the controls, which serves the dual function of on/off switch and antenna. The



LED function lights represent ON (Green), HIGH POWER (Yellow), and EMERGENCY (Red). Two push-button switches control the HIGH-LOW power function, and the EMERGENCY beacon. Opening the Communicator lid not only turns the unit on, but produces the characteristic series of blips which identifies the hand-held device.

The circuit, shown in Fig. 1, is for the basic pulse generator that supplies the effects for the unit. The unijunction transistor is used as a simple oscillator, the output of which is fed to a 7493 4-bit binary counter. Four pulses are derived from this, in a one-half second gate, and fed to a 555, connected as an audio oscillator. The output of this goes to a speaker.

The complete communicator schematic is illustrated in Fig. 2. The LEDs are wired in series with the pulse generator, and no series resistors are needed, as current is effectively limited by the pulse generator. A 200 uF capacitor is needed across the battery to bypass internal resistance. Two SPDT push buttons are wired with the LEDs. One

alternately selects the Green or Yellow LED, to represent LOW or HIGH power. The second switch normally shorts the Red LED. When depressed, the short is opened, lighting the LED, and a current is delivered to pin 4

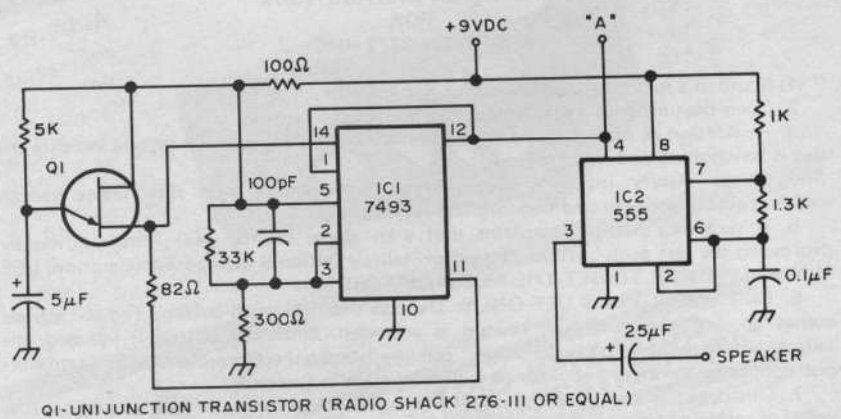


Fig. 1. Basic pulse generator.

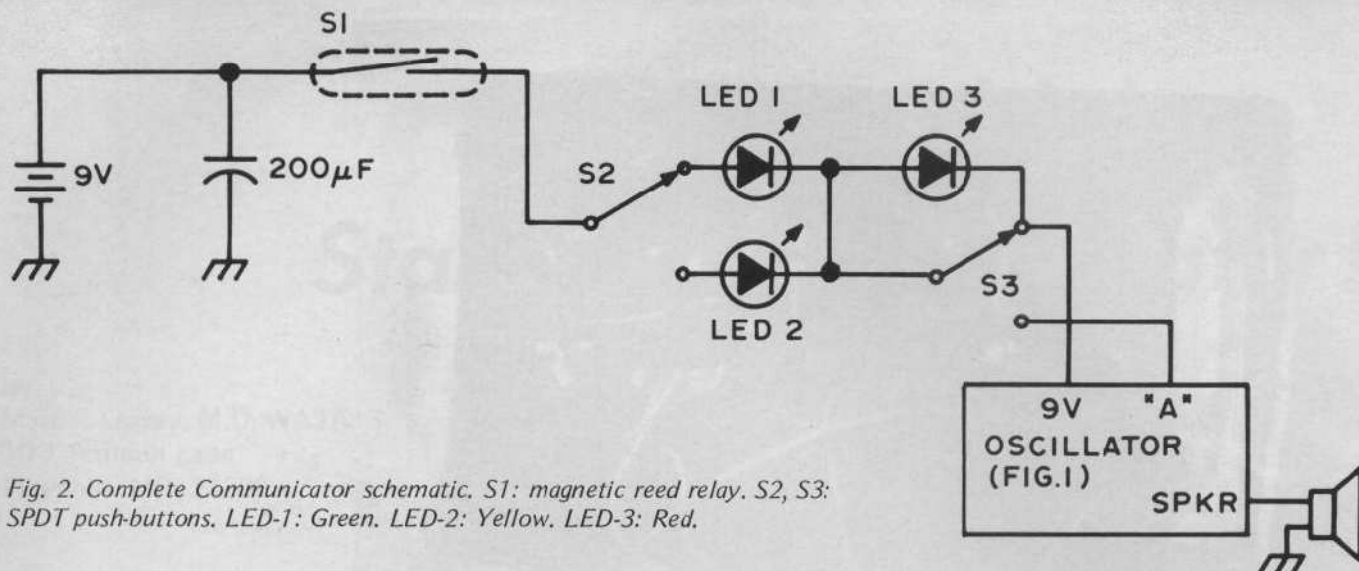


Fig. 2. Complete Communicator schematic. S1: magnetic reed relay. S2, S3: SPDT push-buttons. LED-1: Green. LED-2: Yellow. LED-3: Red.

of the 555, triggering a continuous oscillation.

Several techniques were tried for turning the communicator on when the lid was opened. The method finally settled upon was the use of a magnetic reed relay under the cover, with a small bar magnet mounted on the antenna lid.

Mechanically, the device is constructed in an appropriate sized, small wooden jewelry box. Such boxes are universally used by jewelers for necklaces, etc., and one can usually be scrounged from a wife or girlfriend. The speaker is a small, surplus ear-phone. Suitable types are available widely for a couple of dollars. A snap-in pipe bowl screen, with the snaps removed, serves as a miniature speaker grille. The LEDs are press-fit into the front panel, and the switches mounted conventionally. Fourteen-gauge wire is bent into a rectangle and covered with window screening for the antenna lid. Two rings from the center of a cheap ballpoint pen are soldered to one side, and the assembly mounted on a plastic tube,

acquired from an old Bic pen. A small spacer glued to the bottom of the tube serves as a mount, and to keep the antenna assembly from slipping off. In order to activate the hidden reed relay, a small magnet is glued to the antenna, near the hinge. All of the electronics fit comfortably onto a 3 x 5 cm piece of perfboard, with the wiring done point-to-point. Detailed construction is left to the builder, but, with reasonable care, the finished result should delight any Trekkie.

I would like to extend sincere thanks to Robert Glaser WA3MSW, who aided immeasurably in the construction of the communicator. We would like to note that construction has been started on a small transporter. A shortage of dilithium crystals, however, has stalled the project. Any reader with an adequate supply is invited to write to the above address. ■

OPERATION INSTRUCTIONS FOR SF MOD. 6272 HHC

1. Stand in a reasonably clear area for transmission.
2. Open the unit with a gentle flick of the wrist.
3. Production of several coded blips and illumination of the green telltale indicate the unit is functioning and ready for use.
4. Speak clearly into the speaker/mike, remembering that this device has an instantaneous voice operated transmit and receive circuit.
5. If receiving station complains that your signal sounds weak, boost power by depressing the left push-button. The yellow telltale indicates high power operation. USE MINIMUM POWER TO GET THE MESSAGE ACROSS!
6. FOR EMERGENCY USE ONLY: Depress the right push-button. The red telltale comes on, and the automatic beacon is activated. When the button is released, the telltale extinguishes to conserve power, but the beacon is continuous. Assume transport position; beam-up should commence within 30 standard seconds.
7. This device is limited to one parsec communications range. As long as a Federation vessel or receiving monitor is within that range, communications will be possible.

