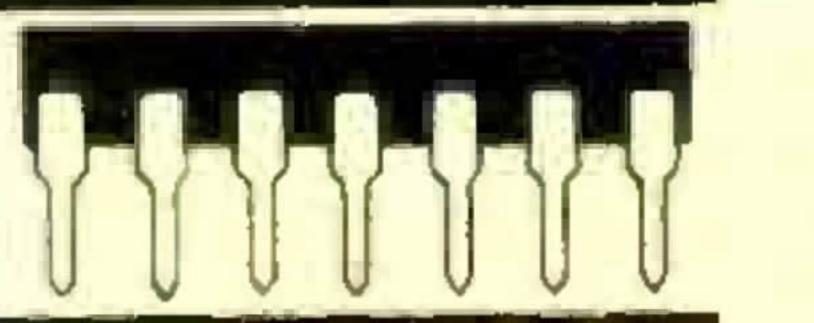
## 2. Bird Blaster



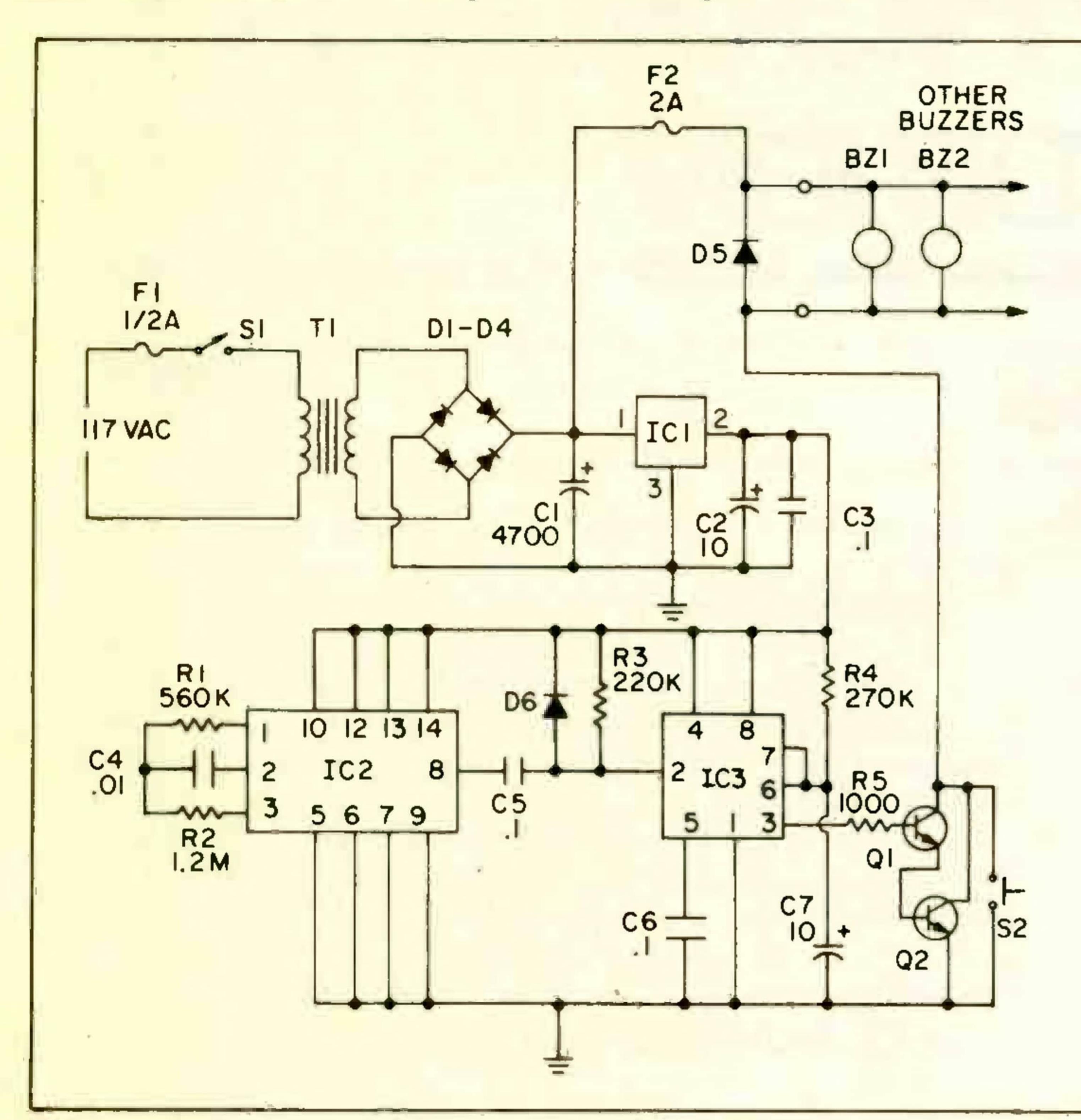
Most of us would agree that birds are a very valuable resource, since the bugs they devour would quickly ruin our agriculture if left unchecked. There are times, however, when the birds themselves can be a nuisance to the gardener

by pulling up young seedlings before they have a chance to mature. Naturally, no one in his right mind would want to destroy the birds, so the usual course of action is to build a scarecrow. But the birds eventually see through this charade and return to peck, dig and yank.

Out of desperation the Bird Blaster was created to scare birds off with a periodic blast of noise. IC2 consists of an oscillator and a sixteen-stage binary divider. With the components chosen, a squarewave with a period of approximately 14 minutes is produced at pin 8 of IC2. This drives monostable IC3 which, when triggered, sends its output (pin 3) high. This turns on Q2 and Q3 and produces a blast from the buzzers. IC3's output remains high for about three

seconds and then drops low, only to be triggered again some 14 minutes later.

We used about a dozen buzzers dispersed at regular intervals throughout our garden. Old tin cans make excellent housings for the buzzers; just tie or nail the cans to wooden stakes driven into the ground. The buzzers specified in the parts list draw about 100 mA each, so you can use up to 20 units if you like. Pressing S2 will allow you to trigger the buzzers manually when necessary.



## PARTS LIST FOR BIRD BLASTER

BZ1, BZ2, etc.—12VDC buzzer (Radio Shack 273-051 or equiv.)

 $C1-4,700 \mu F$ , 35V electrolytic capacitor

C2-10 µF, 25V electrolytic capacitor

C3, C5, C6-.1 µF ceramic disc capacitor

C4-.01 µF mylar capacitor

C7—10 μF, 20V tantalum electrolytic capacitor

D1 thru D5-1N5404 rectifier diode (Radio Shack 276-1173)

D6-1N914 silicon diode

F1-1/2-amp fuse

F2-2-amp fuse

IC1-7812 12-volt regulator

1C2-Motorola MC14541B oscillator/divider

IC3-555 timer

Q1-2N3904 NPN transistor

Q2-2N3055 NPN power transistor

R1-560,000-ohm, 10%, 1/2-watt resistor

R2-1.2 Megohm, 10%, 1/2-watt resistor

R3-220,000-ohm, 10%, 1/2-watt resistor

R4-270,000-ohm, 10%, 1/2-watt resistor

R5-1,000-ohm, 10%, 1/2-watt resistor

\$1-SPST switch

\$2-SPST normally open pushbutton switch

T1-12.6 VAC, 3A transformer (Radio Shack 273-1511)