ASK R-E

Write to Ask R-E, Radio-Electronics, 500-B Bi-County Blvd., Farmingdale, NY 11735

WIG-WAG CIRCUIT?

I have a 1982 Toyota and would like the hazard lights to light side to side rather than simply on and off. I've been told that the way to do this is with something called a "wig-wag" circuit—also known as a sequencer board. I'm not sure what this is and was wondering if you could help me.—R. Berkey, Seattle, WA

You can take some comfort from the fact that I, too, don't have any idea what a "wig-wag" circuit is and, as far as I'm concerned, sequencer boards are devices for electronic music. I think that the term "wig-wag" refers more to what the circuit has to do rather than specifying a particular collection of components or a particular circuit layout.

There are lots of ways to achieve the effect you're looking for, and which one you use depends on how slick you want it to be and how much work you're willing to do. All of them, however, presuppose that you have some way to isolate the left and right flasher lamps on your car since you have to be able to address each side of the car separately for any wiring scheme to work. If your car, like most other ones, uses the directional filaments for the flashers, you won't have any problem.

The easiest way to do the job is to use a double-pole, double-throw relay as shown in Fig. 1. You can try controlling the relay directly from the output of the flasher unit but I'm not sure whether your car has a mechanical or electronic flasher unit. If the unit is mechanical, you can wire the circuit as shown in Fig. 1—but don't forget to add the switch or you won't be able to turn the bulbs off.

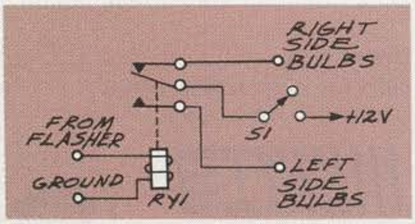

FIG. 1—THE EASIEST WAY to make your flashers blink side-to-side is to use a double-pole, double-throw relay as shown here. You can control the relay directly from the output of the car's flasher unit if the unit is mechanical.

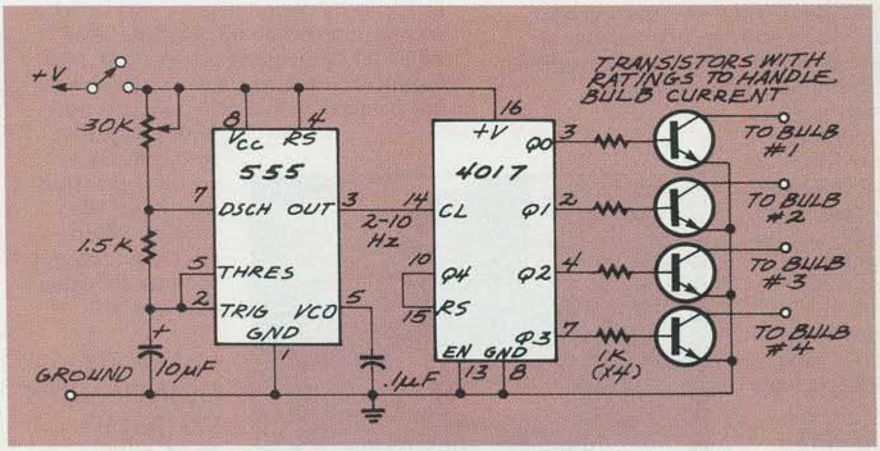

FIG. 2—YOU CAN DISREGARD the existing flashing unit and control the flasher bulbs using this circuit.

If the flasher unit is electronic, you'll have to take the signal from farther down the line at a point where the existing circuit is designed to drive the filaments of the bulb. Once you find that point, the wiring to the relay will be the same as what is shown in Fig. 1.

A more exotic flashing alternative can be gotten by disregarding the existing flashing unit and controlling the bulbs completely by the electronics shown in Fig. 2. The 4017 is driven by a 555 clock whose frequency can be set with the potentiometer. Since the 4017 has ten outputs, you can assign each of the bulbs to an output and, by picking the output numbers and clock frequency carefully, you can flash the bulbs in pairs, all together, or even individually.

BLINKING BLOCKS

I have a PC-compatible computer with both a VGA and monochrome monitor connected to it. I need this setup because some of the software I use was only works on the monochrome screen. The problem I'm having is that when I run programs on the monochrome screen, it often leaves blocks of inverse and blinking video on the screen and the only way I can get rid of it is to reboot the computer. What's causing this and is there anything I can do about it?—F. Geoffrey, New York, NY

The reason you're having a problem like this is due to a combination of things. Any one of them individually won't cause the problem that you are seeing but, when you put them together, the result is messed up video.

You didn't mention your exact video setup in your letter but I'd be willing to bet my new pair of white tennis shoes that you've got a sixteen-bit VGA card and a regular eight-bit mono card. And not only that, but I'll bet you've got your VGA card in a sixteen-bit slot and it's configured to run as a sixteen-bit device. That in itself wouldn't be too much of a problem, but the way the IBM video screen is set up along with how the display memory is organized is what causes your problem with getting the messed up video.

Each position on the screen requires two bytes of memory—one for the character and the other for its attribute. The first byte is what you type at the keyboard and the second is what determines either the color (for your VGA), or the highlighting and underlining (for your monochrome). Also, when you have a VGA card in your system, the computer will address the screen two bytes at a time. The first byte will be put on the