# XITS - switchers, timers & counter projects

# Touch Switch with Relay Kit

The Touch switch may be used to turn on almost anything with a light touch of 'plate'. The circuit pulls in a relay which remains engaged for anything from five seconds to about a full minute, depending upon you changing just one resistor to set the time amount (default is five seconds). One of the unique features of this circuit is that the touch-plate may be located up to several yards away from the circuit board if necessary. It may also be battery powered if an AC supply is not convenient. An LM555 is used in the heart of

The relay can handle up to 12A in its contacts. A 12V battery pack or AC power supply is recommended although we've used the circuit on an unregulated 9V supply.



### **Touch or Contact Switch**

Both a touch and a contact switch are built onto one PC board so that the builder can see how each



works. A battery can power the contact switch but you'll need an AC power supply for the touch switch to work well (use No. 80-040) for reasons explained with the kit. The circuit switches a relay with a 3 amp, 110 volt rating. Use to switch lamps, other appliances.

No. 80-100

#### **Universal Timer**

Set timer for anywhere from a few seconds to about 15 minutes, control AC appliances; it will beep and trigger a relay when it has timed down. May be used for darkroom or PC board exposure timer, exit room timer etc.. Turn anything on or off. Operates from 9 volt transistor battery.



No. 80-102

### **Three Timer Circuits**

Timer circuits are handy for many experimenters' laboratory functions, not to mention the photo or PC lab. This kit is another threein-one in that all three circuits are complete and separate; simply using different types of circuits to do exactly the same job. All come complete with 5 amp relays for controlling pretty significant loads. All may be operated on battery or light weight (9V DC) supply. The advantages and disadvantages of each design are discussed in the text.

No. 80-850

#### **Infrared Toggle Switch**

Control about any device using the remote control from just about any TV set.



The circuit switches an on-board SPDT relay; turn it on with the remote, and turn it off with another signal. The relay contacts are rated one amp at 125 volts AC. The circuit operates on any DC supply from 8 to 15 volts; use an old calculator supply etc.. This circuit can have some very practical applications, such as turning on a light by an invalid. Your imagination is the limit.

No. 80-580

# INFRARED BEAM DOOR MINDER

A transmitter sends an I/R beam up to 75 feet to a receiver (on separate PC boards); break the beam and a relay is tripped. Use the relay to control a bell or light or other device; even a video recorder and camera. Operation requires 9 to 12 VDC, a wall adaptor is fine and you may want two units (provision is made to power both boards with one supply via a two conductor wire). Use to watch a hallway or driveway, across the doors to a three or four car garage etc. and we know of a photographer taking wildlife photos this way. The uses for alarms, photography, door minding and so on are numerous. You could make weatherproof hoods to use out-of-doors but be sure to protect from moisture.



NO. 80-013

# **Movement Detector Components**

This is not quite a complete kit: the package contains the three key parts



for a PIR detector (personal infrared detector). You get the PCB mounted Fresnel lens, a PIR movement sensor and the Integrated Circuit that we use in the full kit (No. 80-300). Included are eight pages of documentation notes and circuits to show you how to proceed.

No. 80-620

# **PC Board Mounted Relay**

The output of many circuits have an alarm signal which must be connected to a remote switching device. Or, sometimes you will have a kit to test which needs a relay connected to it. For this purpose, this kit is perfect. A 12 volt (coil) relay mounts on the PC board which includes a protective diode and terminal blocks. The terminal blocks make for fast, easy screw-connection of wires to the coil and to the contacts.

If you prefer a different relay coil voltage, the boards are available separately. Either use Philmore TB132, TB133 terminals or solder to the board. Board accommodates any Philmore relay from 3V to 24V coils (all ten amp contacts).

NO. 80-043 Relay kit with 12 volt, ten amp relay, PC board and hard-

NO. 12-605 Blank boards, Package of two.

