# KITS - switchers, timers & counter projects

#### **UHF Remote Controlled Relays Kits**

Two separate relays can be switched via encoded signals transmitted from a keychain size, two-button transmitter (like those used for some car alarms). Push a button and relay toggles "closed" and one more push toggles it "open". Transmit distance is about 120 feet maximum. The receiver requires from 12 to 15 volts DC. The transmitter is supplied assembled and tested complete with its own battery. Tricky (receiver) parts of the circuit are supplied assembled and tested; just plug them in and solder in place.

Each relay can handle up to 10 amps @ 120V AC; plenty for numerous applications; control lights, door locks, magic shows etc.



(PHOTO SHOWS BOARD ONLY)

No. 80-082

## **High Accuracy Multi-MODE TIMER**

Using a programmable IC, the circuit revolutionizes timers in terms of flexibility and accuracy. A number of triggering options are available, ranging from tripping a switch or a voltage or a relay.

Output relay is capable of handling up to ten amps. Time delay is simple selected (and accurately) with on-board dip switches. May be programmed from seconds up to 42 hours. Turn something on or off; seven different timing modes available to the user. The heart of the circuit is an Atmel 89C2051 IC, already preprogrammed for you. A versatile circuit may be used to open the relay after a time period, close the relay or even toggle the relay on for a time and off for that same amount of time (toggling).

Multimode Timer Kit......Part No. 80-141



### **Three Digit Counter Module**

An event counter; this economical counter module may be ganged for six or nine digits. Has count and reset switches with debounce built-in.

Operates on a nine volt battery. This is a two board kit with the count and reset switches along with the debounce circuitry on one board, the LED digits and circuit on another.



No. 80-010

## 4 digit UP/DOWN COUNTER

The kit is a low cost counter, counting from 0000 to 9,999 or down from 9,999 to 0000. The overflow output pulses low when the count wraps to zero; so, two counters could be connected together to make an eight digit counter. The clock input is debounced to prevent problems when using external mechanical switches.

Operation on anywhere from 9 to 15 volts DC and 20 to

40 mA (depends upon how many display segments are lighted). The AT90s1200 is preprogrammed; builder is not required to program anything. There are five pairs of pins for external connections: RESET, CLOCK,

DOWN, DISABLE, OVERFLOW. A Down connections sets the unit to count down. A Disable prevents counting at all; Resets sets the counter at zero (0000), Overflow outputs a pulse low when the counter reaches 0000. The Clock contact will pulse a 'count', and each time a switch connected to Clock is 'on' the unit increments a digit. The maximum speed of counting is a bit more than thirty (30) per second. The display is red LED digital 0.6" high.

No. 80-129

#### Parallel Port Relay Board,

for the IBM PC (software included) With each



advance in personal computers, a surplus of unwanted older machines increases, either at give-away prices or you may have one sitting on a shelf. Thus you can have a low cost, sophisticated "dedicated controller" to turn on or off devices in the home or lab or radio shack etc..The circuit includes eight relays controlled with (included) software for either DOS or Windows 3.1. Connects to the parallel port of any IBM-PC.

No. 80-740

# Home/Car Alarm

This circuit is an alarm for the home or car door, and a lot more. It employs a magnet and reed switch to trigger the circuit. An integral piezo



sounder produces the alarm sound (100dB). But, a relay capable of handling up to 10 amps AC may be connected to turn on or off an appliance, external alarm sounder etc. Therefore the circuit could be used to turn on a light whenever a basement or garage door is opened.

No. 80-101

# **Ultrasonic Movement Detector**

The circuit uses a matched pair of 40Khz transducer elements to detect

movement



out to about 22 feet. You may add a relay (not included) to switch a heavy appliance etc.; the unit switches just an LED as supplied. The circuit can be switched to latch "on". An ideal alarm circuit that can't be easily fooled.

No. 80-200