FerretTronics
Control Circuits

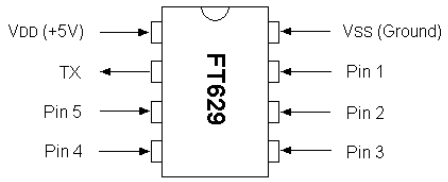
FT629 'Otter'

Switch Detection Chip

General Description:

The FT629 is a switch detection chip. It will detect a change on any of its five input pins and send one byte out of the *TX* pin. The output byte's lower five bits correspond to the state of the input pins 1-5.

Figure 1: FT629 pin out



Operation:

The operation of the FT629 is very simple. It will transmit one byte each time there is a change on one of its input pins.

There is some debouncing built into the FT629. It will detect a change on the input pins and then send out one byte. Therefore, there will be a 4.16 ms delay after a change is detected before it will check for another pin change.

Although the FT629 was designed to read switch inputs, it has other possible uses such as detecting the outputs from comparators and logic circuits.

Applications:

The FT629 was designed specifically to aid in the making of a robot using a portable electronic device that has a serial port (e.g., HP48, Palm Pilot, BASIC Stamp, etc.).

Description of Output:

A single byte is output by the FT629 whenever the status of one of its input pins has changed. The status of each pin is encoded into the lower five bits of the output byte, according to Figure 2.

Figure 2: Output Byte Organization

X	X	X	Pin5	Pin4	Pin3	Pin2	Pin1
Bit7	Bit6	Bit5	Bit4	Bit3	Bit4	Bit5	Bit6

X: does not matter
Pin[1-5]: 0 = switch open
1 = switch closed

Sample Circuits: