

LOW COST PIR SENSOR INTERFACE ICs

LSI/CSI announces the addition of three new devices to its family of PIR Sensor Interface ICs. Designated **LS6511N**, **LS6512** and **LS6513**, these devices are intended for any application which requires a pulse output that will light an LED and trip open a Relay when motion is detected by a PIR Sensor. The LED and Relay coil can be returned to voltages higher than the positive rail of the chip power supply.

According to Pete Visconti, LSI/CSI's VP of Sales and Marketing, each IC contains a two-stage amplifier for direct interface with a PIR Sensor, a window comparator, digital filters, complementary pulse output drivers, a shunt regulator output for powering the PIR Sensor and a three-state Mode pin to select between Single-Pulse (single input), Dual-Pulse (two pulses within a specific time) or Concurrent-Pulse Detection (complementary inputs within a specific time). Other available features are P/N specific. They include Output Enable control (selectable with **LS6513**) and Undervoltage Detection circuitry (**LS6511N**, selectable with **LS6513**).

The **LS6511N** is ideal for security systems. Its outputs can be used to generate an interrupt to a local microcontroller which could then send location information to a central station. The outputs of **LS6512** can be used to remotely control motion-triggered events such as opening an automatic door or activating a camera to photograph an intruder or wildlife. Because of low current drain, the **LS6512** is also ideal for remote, small area, battery-powered lighting (think closets) and responds well when batteries age because of its wide operating voltage range. For power supply systems the **LS6511N** includes Undervoltage Detection producing an output pulse when the power supply drops below 3.7V (to detect tampering). The **LS6513** has the flexibility to be used in any application suited for either **LS6511N** or **LS6512** because it allows the user to select Undervoltage Detection. The other **LS6513** user selectable function, Output Enable, makes it easy to control whether or not to activate the Motion Sensor.

Other features include:

- Wide operating voltage range: 2.5V to 6.5 V (**LS6512** and **LS6513**)
- Amplifier gain and bandwidth externally controlled enabling user-tailored performance optimization
- Open-Drain outputs for direct drive of a Relay coil and LED indicator.
- **External RC control of:**
 - Filter time
 - Maximum separation time for detection of two pulses
 - Output pulse width

LS6511N and **LS6512** are available in 14-Pin DIP and SOIC packages and **LS6513** is available in 16-Pin DIP and SOICNB packages.