

LS7566R PRESS RELEASE

Quadrature Counter Packs 4-Axes Support in a Single Chip (with Non-Quadrature Multi-Mode Counting Capability)

LSI/CSI introduces **LS7566R**, the latest addition to its incremental encoder interface family of ICs. It provides an efficient hardware solution for extracting position data directly from the quadrature outputs of as many as four encoder units. The input quadrature clocks from encoders are digitally filtered for elimination of noise and errors arising out of encoder dither, providing high level of reliability. Communications to host processors are facilitated by a 3-state octal bus and an interrupt protocol with selections from a pool of marker flags.

LS7566R includes four identical channels, each featuring:

- 24-bit up/down counter for accumulating encoder positional data
- 24-bit input register along with its companion 24-bit comparator for target position
- 24-bit output register for snapshots of instantaneous counter data.
- 4-bit shared global interrupt mask register for interrupt enable/disable
- Two control registers for functional mode configuration.

Configurable modes and functions include:

- Quadrature/nonquadrature input clock
- Quadrature clock resolution enhancement by up to 4x
- Modulo-n/non-recycle/free-run counting
- Emulation of limit switch
- Z-track based programmable index and maskable output marker flags.

The control registers are both write and read enabled for easier system diagnostics.

For system throughput and interconnect simplicity, the maskable interrupts from all channels are integrated into a single global hardware interrupt output along with embedding the interrupting channel identity in a 4-bit read-only interrupt status register.

The maximum count frequency is 40MHz. Operating voltage is 3V to 5.5V. The **LS7566R** is available in RoHS compliant 48-pin TSSOP packages.