

## **LS7766 PRESS RELEASE**

### **A Powerful Multi-Mode Counter Interfaces with Incremental Encoders**

LSI/CSI introduces the LS7766, a robust addition to its family of encoder interface and motion control ICs. The LS7766 supersedes its rivals in versatility and system throughput. Available in both single-axis or dual-axis versions, it has a count range of 32-bits to support applications where large magnitudes of data are involved. Its configurable Octal/Hex parallel IO bus enhances the system throughput by a factor of two over its predecessors. Its many configurable counting modes relieves the host micro-controller of various control and data formatting tasks reducing the burden on its resources.

The LS7766 can directly interface with an incremental encoder. The quadrature signals from the encoder are validated with internal digital filters to eliminate errors from induced noise and encoder dither, providing a high level of reliability. The filtered signals are decoded for clock and direction before applying to the 32-bit counter. Alternatively, the count inputs can be configured to function in the non-quadrature mode if encoder interface is not required.

#### **Each axis of the LS7766 consists of:**

- 32-bit Counter
- 32-bit Input-Data-Register
- 32-bit Output-Data-Register
- Two 8-bit Functional Mode and IO Configuration Registers
- 8-bit Command Register
- 8-bit Status register

#### **The programmable IOs include:**

- 16-bit bi-directional parallel bus to interface with micro-controllers
- Count inputs to process both quadrature and non-quadrature signals
- Index input for load\_register and reset\_register operations
- Flag outputs for event status
- Clock and Direction outputs from decoded quadrature signals

The maximum count frequency: 40MHz. Supply voltage range: 3V to 5.5V

LS7766 is available in several versions of single-axis, dual-axis, octal-bus and hex-bus packages. The minimal version is available in 24-pin DIP, SOIC and TSSOP packages. The full-fledged version is available in a 48-pin TSSOP package