

Digital Output Correlator

64-Bit

The TRW TDC1023 is a monolithic, all-digital 64-bit correlator with a 7-bit three-state buffered digital output. This device consists of three 64-bit independently clocked shift registers, one 64-bit reference holding latch, and a 64-bit independently clocked digital summing network. The device is capable of a 17MHz parallel correlation rate.

The 7-bit threshold register allows the user to preload a binary number from 0 to 64. Whenever the correlation is equal to or greater than the number in the threshold register, the threshold flag goes HIGH.

The 64-bit mask shift register (M register) allows the user to mask or selectively choose "no compare" bit positions enabling total word length flexibility.

The reference word is serially shifted into the B register. By clocking the R latch, the data is parallel-loaded into the R reference latch. This allows the user to serially load a new reference word into the B register while correlation is taking place between the A register and R latch. The two words are continually compared bit-for-bit by exclusive-OR circuits. Each exclusive-OR provides one bit to the digital summer. The output is a 7-bit word representing the sum of positions which agree at any one time between the A register and R latch.

A control provides either true or inverted binary output formats.

Features

- 17MHz Correlation Rate
- TTL Compatible
- All Digital
- Single +5V Power Supply
- Serial Data Input, Parallel Correlation Output
- Programmable Word Length
- Independently Clocked Registers

- Available In 24 Pin DIP
- Output Format Flexibility
- Three-State Outputs

Applications

- Check Sorting Equipment
- High-Density Recording
- Bar Code Identification
- Radar Signature Recognition
- Video Frame Synchronization
- Electro-Optical Navigation
- Pattern And Character Recognition
- Cross-Correlation Control Systems
- Error Correction Coding
- Asynchronous Communication



Functional Block Diagram

