

Panasonic Area Sensor-to-Parallel Bridge

Panasonic Area Sensor Supports up to Full HD (1080P)

To support the growing need for high resolution images, Panasonic has introduced a 720P sensor, the MN34081 and a full 1080P sensor, the MN34041. Because the resolution and frame rate of the MN34081 and the MN34041 are sizable, an interface of higher bandwidth and lower noise than a standard CMOS parallel bus is required. Panasonic has chosen a differential high-speed serial interface instead of using a traditional CMOS parallel interface. The MN34041 outputs two serial data streams up to 2 bits wide. The MN34041 outputs two serial data streams up to 3 bits wide and each stream has its own clock. Each signal is sub-LVDS and can operate up to 500 Mbps.

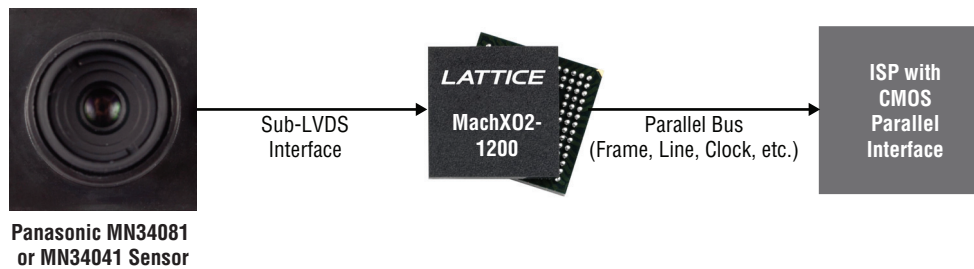
Panasonic Area Sensor-to Parallel Interface Bridging

The majority of ISP (Image Signal Processing) devices support traditional CMOS parallel sensor interfaces. These parallel CMOS interfaces can often run fast enough for the ISP to support 1080P sensors. Often ISP devices lack the interface to support serial connections. Therefore, a bridge device is required to convert

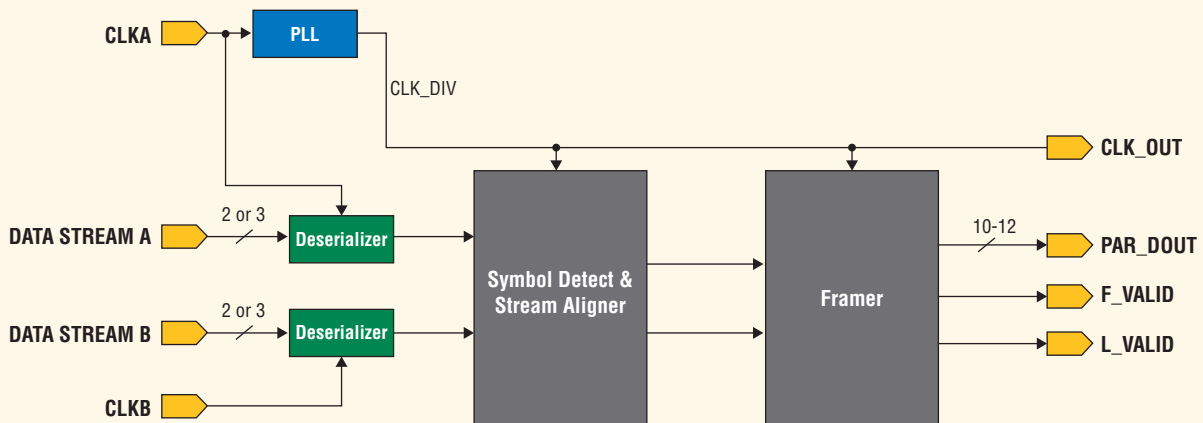
the MN34081 or MN34041 serial data to a parallel format. The MachXO2-1200™ or LatticeXP2™-5 non-volatile device provides an efficient and cost-effective solution for area sensor-to-parallel sensor bridging.

Key Features

- Complete Reference Design
- Designed to Emulate Parallel Sensor Output
 - Output bus widths of 10 or 12 bits
- Supports 12 Bits, 2 Channels, 2 Ports, 60 fps or 10 Bits, 2 Channels, 3 Ports, up to 500 Mbps Each
- Bridge Device Offered in Space-saving 8x8 mm 132-Ball csBGA. TQFP Packages Also Available.
- Requires No External PROM
- Tested with Panasonic MN34041, Texas Instruments DM368/DM385 and HDR-60 Base Board
- Parallel Interface can be Configured for 1.8V, 2.5V or 3.3V LVCMOS Levels



Panasonic Area Sensor-to-Parallel Interface Bridging Block Diagram



Download the free reference design at: www.latticesemi.com/sensorbridge

Applications Support

1-800-LATTICE (528-8423)
 503-268-8001
techsupport@latticesemi.com

