

4x4 1.6 Gbps Crosspoint with Quad Channel Multi-rate Video Reclockers for SD/HD (42 Mbps to 1.6 Gbps) Applications

M21260

The M21260 is part of a family of low-power, high-performance video devices for broadcast and professional video applications. In addition to the 4x4 crosspoint with independent quad channel video reclockers, other video products include:

- M21250, M21251, M21252 quad channel reclockers for SD, SD/HD, and SD/HD/2xHD data rates
- M21261 1:4 1.6 Gbps video fanout with SD/HD multi-rate reclocking
- M21262 4:1 1.6 Gbps video selector with SD/HD multi-rate reclocker

The M21260 provides all of the features and benefits of the M21251 quad channel SD/HD reclocker and incorporates a fully non-blocking 4x4 asynchronous crosspoint switch before the reclocker stages.

Reduced power dissipation with improved jitter generation, tolerance, and transfer enable robust system design at reduced cost and simplified thermal management. System and chip level BIST functionality enables improved manufacturing (JTAG) and system level troubleshooting and diagnostics (test pattern generators – PRBS, 8b/10b)

KEY FEATURES

- Integrated 4x4 crosspoint switch for data rates to 1.6 Gbps with a fully non-blocking architecture and broadcast / multicast functionality
- Fully independent, quad channel multi-rate video reclockers, SMPTE and DVB-ASI compliant
 - Hardwired control mode: 143, 177, 270, 360, 540, 1483.5/1485 Mbps
 - Software control mode: 42 Mbps – 1.6 Gbps
 - Bypass mode: 0 – 1.6 Gbps
- Superior jitter generation (5mUI typical) and improved jitter tolerance in the high frequency band
- Integrated loop filter components and I/O termination resistors for simplified PCB designs and reduced cost
- Flexible I/O interfacing to CML, LVDS, and LVPECL with per channel output amplitude control
- Serial SPI 4 wire interface or hardwired interface control
- BIST features for PCB and system testing with fully independent transmitter and receiver
 - PRBS: $2^7 - 1$, $2^{15} - 1$, $2^{23} - 1$, $2^{31} - 1$
 - 8b/10b: CJTPAT, CRPAT, countdown
- PCB layout friendly with “pass through” I/O and high speed output polarity inversion



