

## Next Generation High Performance Analog Broadcast Video Solutions

# M21215 HD/SD Broadcast Video Multi-rate Automatic Reclocker

The M21215 is a next generation high performance analog HD/SD video reclocker solution that is pin-to-pin, electrically, and functionally compatible with existing legacy single channel reclockers.

Superior next generation reclocking/retiming performance of the M21215 is complemented with a complete serial routing chipset that includes equalization (M21214) and cable drivers (M21212/M21218) devices. These new devices further complement Mindspeed's unique HD/SD quad channel reclocking and asynchronous switching devices:

- M21250, M21251, M21252 quad channel multi-rate video reclockers
- M21260 4x4 1.6Gbps video crosspoint switch with quad multi-rate reclockers
- M21261 1:4 1.6 Gbps video fanout with HD/SD multi-rate reclocking
- M21262 4:1 1.6 Gbps video selector with HD/SD multi-rate reclocker

A robust and proven telecom/datacom reclocker architecture with a custom and proprietary phase detector topology results in exceptional input jitter tolerance well into the high frequency band.

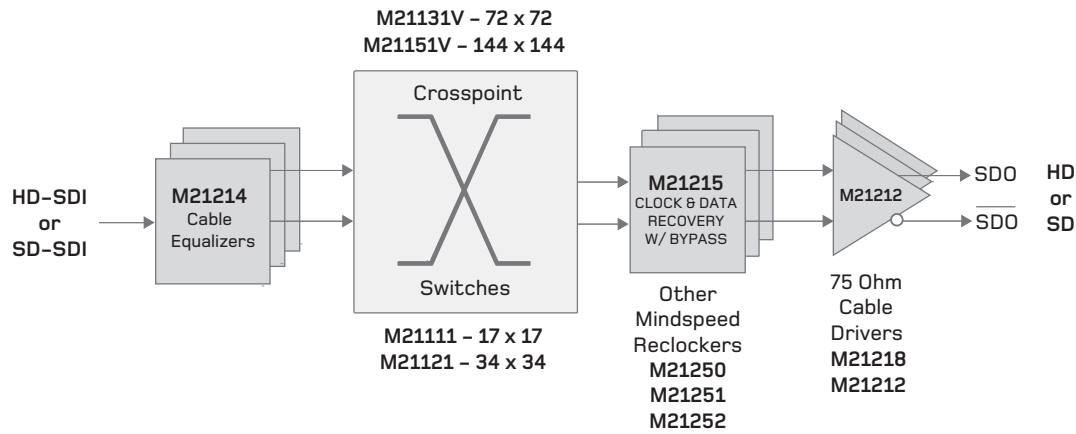
Mindspeed's innovative circuit architecture enables next generation systems with flexible power supply operation of 2.5V to 3.3V with a >60% max power reduction at 2.5V (50% at 3.3V) supply rails and a wider operating temperature range (-10°C to +85°C).

### KEY FEATURES

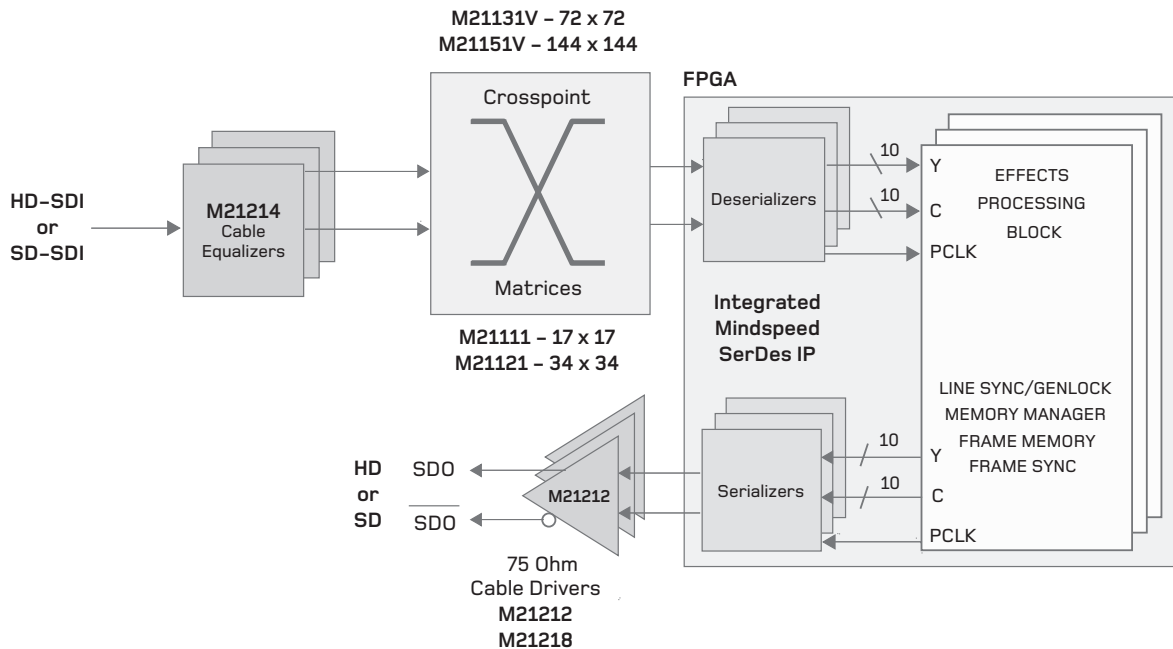
- › SMPTE 292M, SMPTE 259M, SMPTE 344M compliant
- › Supports data rate operation of 143, 177, 270, 360, 540, 1483.5/1485 Mbps and DVB-ASI at 270 Mbps
- › Auto and Manual modes for rate indication and selection
- › 4:1 Input Selector
- › Fully differential signal paths with integrated 50Ω input/output terminations
- › Configurable AutoMute or manual BYPASS mode
- › Lock detect output
- › HD/SD status indication output
- › 2.5V or 3.3V operation
- › Reduced power dissipation
  - 325mW typical @ 2.5V
  - 430mW typical @ 3.3V
- › Increased operating temperature range: -10°C to +85°C
- › Pin-to-pin, electrically, and functionally compatible with GS1535

In addition to being drop in compatible with the legacy GS1535 multi-rate SDI reclocker, the M21215 provides additional functionality using the RSVD pins to provide new features for flexibility in new designs. This includes a 12MHz or 14.140MHz crystal reference frequency selection, auto rate detect search order optimization, additional loop bandwidth control, ability to reduce the output amplitude, and shift the output common mode for DC coupling to LVPECL.





HD/SD Routing Switcher Application



HD/SD Production & Master Control Switcher Application

## Product Features

### Applications

- Small to large serial routing switchers
- Distribution amplifiers

### Additional Features

- Crystal Reference Frequency selection: 12MHz or 14.140MHz
- Auto rate detect sequence optimization
- Loop bandwidth control to 5 MHz
- Output swing amplitude control
- Common mode shift for DC coupling to LVPECL

### Ordering Information

M21215-15P: HD/SD video reclocker  
[143 Mbps – 1485 Mbps]

M21215G-15P: HD/SD video reclocker  
[143 Mbps – 1485 Mbps]  
[RoHS compliant package]

Package: 64 pin LQFP  
64 pin LQFP [RoHS compliant package]

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