

Next Generation High Performance Analog Broadcast Video Solutions

M21235

HD/SD Broadcast Video Multi-rate Automatic Reclocker

The M21235 is an evolution of Mindspeed's single channel HD/SD multi-rate reclocking technology that provides significant power savings, superior performance, and flexible power supply options when compared to other competing single channel reclockers.

In addition to a smaller 7x7mm MLF package to enable denser designs with simplified PCB layouts, the M21235 also provides a new I²C serial interface for simplified control of all functions and PCB layout.

The M21235 is complemented with the M21232 HD/SD video cable driver in a 3x3mm MLF package, and the M21234 HD/SD video cable equalizer in a 5x5mm MLF package to optimize performance and density in new multi-rate designs.

Additional unique Mindspeed devices include the HD/SD quad channel reclocking and asynchronous switching families:

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

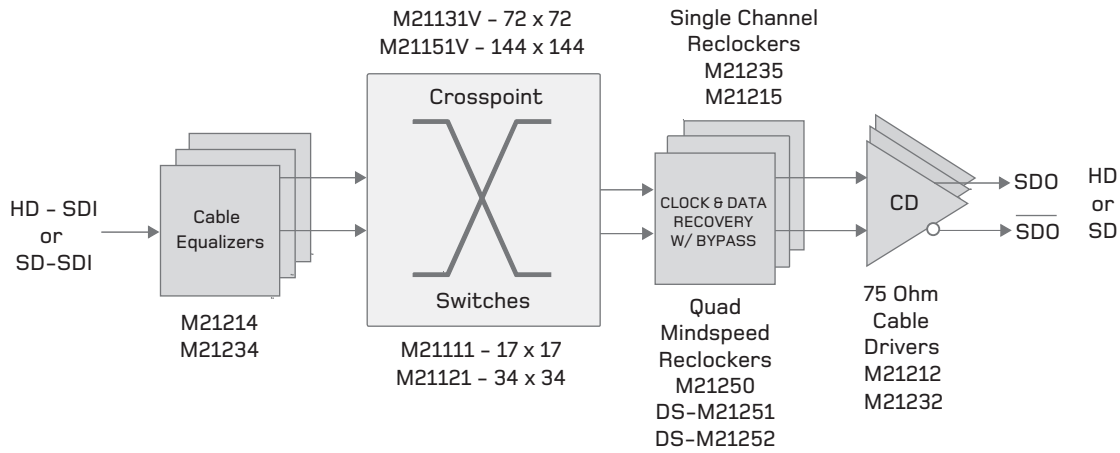
KEY FEATURES

- > 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
- > I²C Serial Interface
- > Lock detect output
- > SD/HD 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

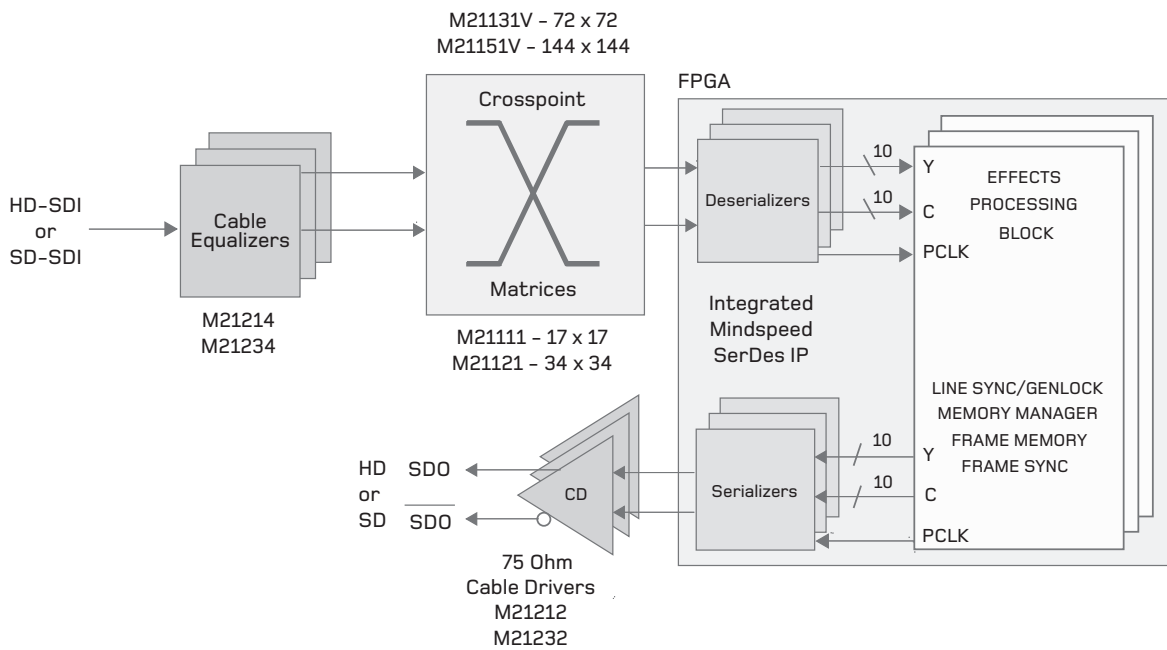
Mindspeed's innovative circuit architecture enables next generation systems with flexible power supply operation of 2.5V to 3.3V with a > 50% typical power reduction at 2.5V (40% at 3.3V) supply rails and a wider operating temperature range (-10°C to +85°C) and now with simplified control.

The additional functionality previously available on the M21215 RSVD pins is now available thru the I²C interface while basic functions such as Input selection, rate selection or indication, and output mode control are still available through hard-wired control pins.





HD/SD Serial Routing Switcher Application Diagram



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
- Output swing amplitude control
- PCML, LVDS, and LVPECL output modes
- Common mode shift for DC coupling to LVPECL

Ordering Information

- M21235-33P: HD/SD Video Reclocker (143 Mbps - 1485 Mbps)
- M21235G-33P: HD/SD Video Reclocker (143 Mbps - 1485 Mbps) [RoHS compliant package]

Package: 7x7mm, 48 pin MLF
7x7mm, 48 pin MLF
[RoHS compliant package]

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