

## Next Generation High Performance Analog Broadcast Video Solutions

### M21234

#### HD/SD Broadcast Video Adaptive Co-Axial Cable Equalizer

The M21234 is an evolution of Mindspeed's HD/SD video cable adaptive equalizer technology that typically provides > 175m of Belden 1694A cable length performance in a new smaller form factor, higher performance 5x5mm MLF package.

In addition to a smaller PCB package footprint, the M21234 also integrates the input terminating resistors on chip to further reduce PCB real estate. The new device also provides the ability to configure the output driver to function as PCML (low and high output swing options), LVDS, or LVPECL for superior ease of interfacing to downstream devices.

The M21234 is complemented with the M21232 HD/SD video cable driver in a 3x3mm MLF package, and the M21235 HD/SD video reclocker in a 7x7mm 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 SD/HD multi-rate reclocking
- DS-M21262 4:1 1.6 Gbps video selector with SD/HD multi-rate reclocker

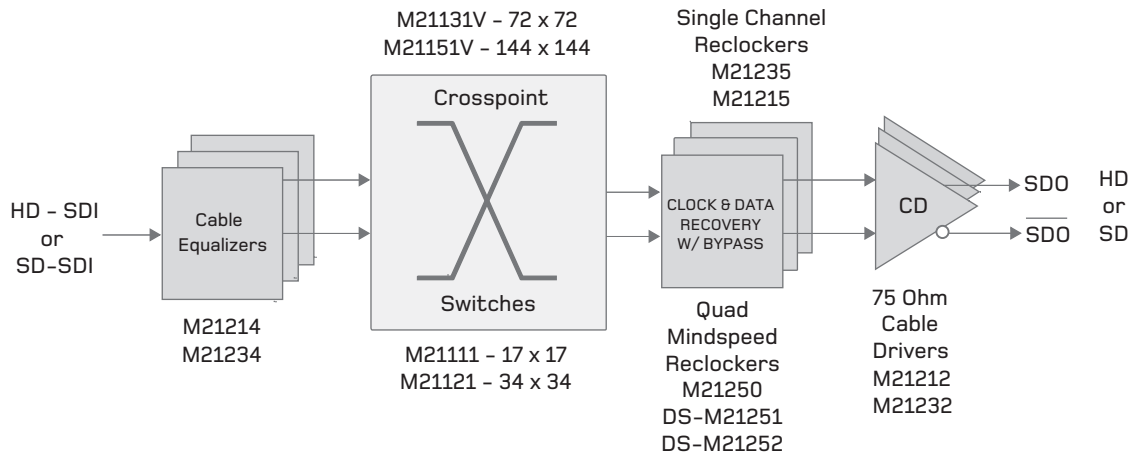
#### KEY FEATURES

- > SMPTE 292M, SMPTE 259M, SMPTE 344M compliant
- > Adaptive, multi-rate, and automatic co-axial cable equalization
- > Supports operation from 143 Mbps to 1485 Mbps and DVB-ASI at 270 Mbps
- > Selectable manual BYPASS mode
- > Optimized cable equalization for SD and HD data rates
  - 175m typical @ HD-SDI with Belden 1694A
  - 350m typical @ SD-SDI with Belden 1694A
- > Output mute at maximum equalized cable length with manual override
- > Integrated input and output differential terminations
- > 2.5V or 3.3V operation
- > Reduced power dissipation
  - 175mW typical @ 2.5V
  - 230mW typical @ 3.3V
- > Increased operating temperature range: -10°C to +85°C
- > 5x5mm high performance MLF package

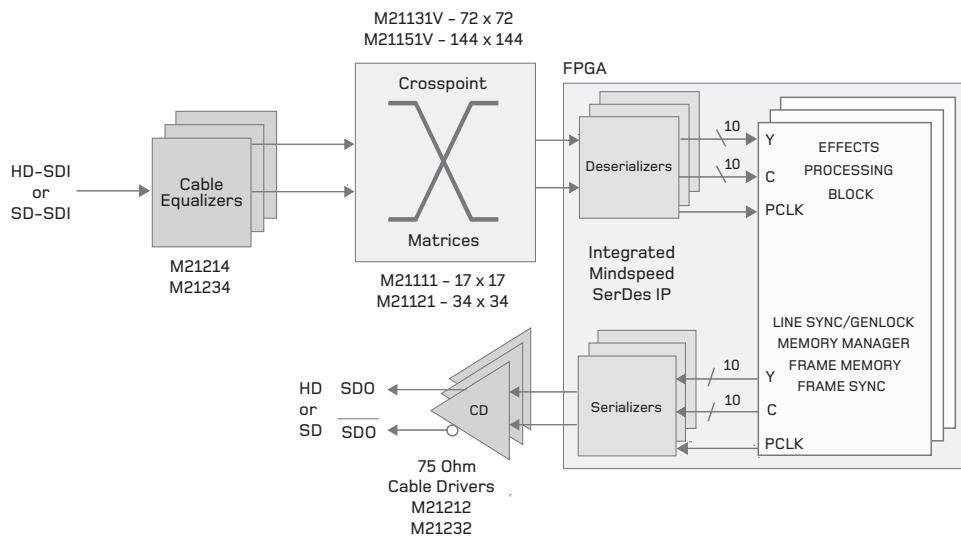
DC restoration to compensate for pathological signal DC content, cable length indication for data rates to 360 Mbps, and a voltage programmable mute threshold are also included.

Mindspeed's innovative circuit architecture enables next generation systems with flexible power supply operation of 2.5V to 3.3V with a > 40% power reduction at 2.5V supply rails and a wider operating temperature range [-10°C to +85°C] for outdoor applications such as camcorders and edit decks.





HD/SD Serial Routing Switcher Application Diagram



HD/SD Production & Master Control Switcher Application

## Product Features

### Applications

- Small to large serial routing switchers
- Production and master control switchers
- Non-linear editors
- Processing and terminating equipment
- Broadcast video to SONET/SDH, Fibre Channel, or Gigabit Ethernet transport line card/modules for DWDM or CWDM applications
- Distribution amplifiers,
- Backplane reach extension

### Additional Features

- Fully SMPTE 259, SMPTE 292, and SMPTE 344 compliant
- Equalizer BYPASS operation

### Ordering Information

- M21234-33P: HD/SD Video Cable Equalizer (143 Mbps - 1600 Mbps)
- M21234G-33P: HD/SD Video Cable Equalizer (143 Mbps - 1600 Mbps) [RoHS compliant package]

Package: 5x5mm, 32pin MLF  
5x5mm, 32pin MLF [RoHS compliant package]

[www.mindspeed.com/salesoffices](http://www.mindspeed.com/salesoffices)

General Information: (949) 579-3000

Headquarters – Newport Beach  
4000 MacArthur Blvd., East Tower  
Newport Beach, CA 92660-3007  
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