

## Next Generation High Performance Analog Broadcast Video Solutions

# M21214 HD/SD Broadcast Video Adaptive Co-Axial Cable Equalizer

The M21214 is a next generation high performance analog SD/HD video cable adaptive equalizer that provides > 175m Belden 1694A cable length performance in a drop in solution that is pin-to-pin, electrically, and functionally compatible with existing legacy single channel cable equalizers.

Superior next generation equalization performance of the M21214 is complemented with a complete serial routing chipset that includes reclocking (M21215) 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 1.6 Gbps 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 unique, patent pending equalization approach improves SD-SDI and HD-SDI performance such that typical HD applications can be connected with a single link facilitating a lower overall facility system cost.

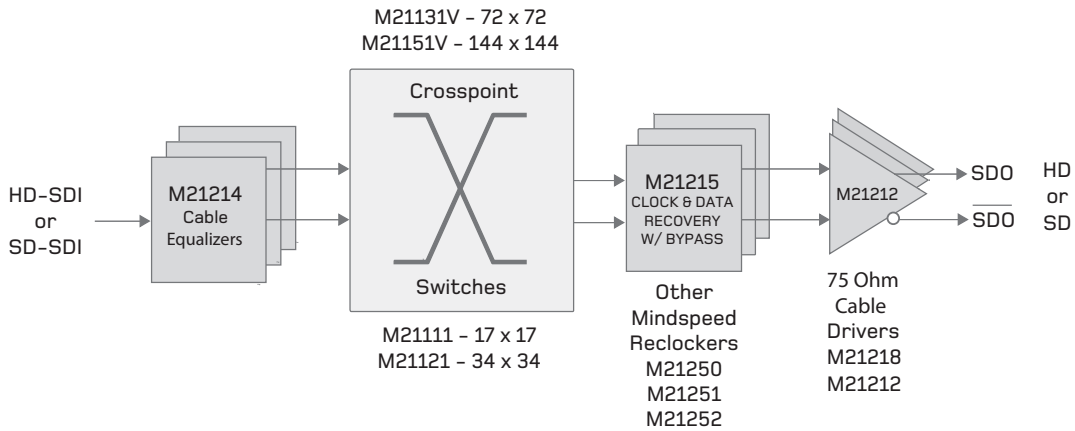
### KEY FEATURES

- SMPTE 292M, SMPTE 259M, SMPTE 344M compliant
- Adaptive, multi-rate, and auto-matic co-axial cable equalization
- Supports operation from 143 Mbps to 1600 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 differential 50 Ω output 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
- Pin-to-pin, electrically, and functionally compatible with GS1524

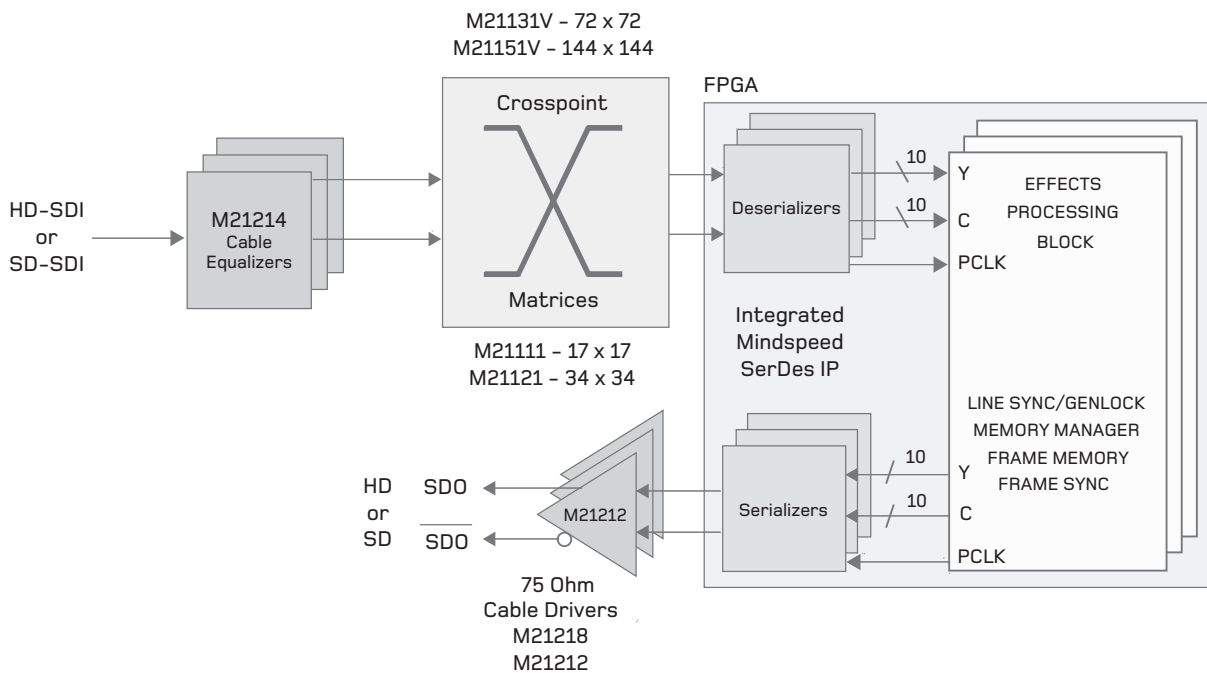
DC restoration to compensate for pathological signal DC content, cable length indication for data rates to 360 Mbps, and a voltage programmable mute threshold are included for full compatibility with the GS1524 multi-rate SDI adaptive cable equalizer.

Mindspeed's innovative circuit architecture enables next generation systems with flexible power supply operation of 2.5V to 3.3V with a 35% 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

- M21214-15P: HD/SD video cable equalizer  
[143 Mbps – 1600 Mbps]
- M21214G-15P: HD/SD video cable equalizer  
[143 Mbps – 1600 Mbps]  
[RoHS compliant package]
- Package: 16 pin narrow SOIC  
16 pin narrow SOIC  
[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  
 21214-BRF-001-E.PDF

© 2005 Mindspeed Technologies™. All rights reserved. Mindspeed and the Mindspeed logo are trademarks of Mindspeed Technologies. All other trademarks are the property of their respective owners. Although Mindspeed Technologies strives for accuracy in all its publications, this material may contain errors or omissions and is subject to change without notice. **This material is provided as is and without any express or implied warranties, including merchantability, fitness for a particular purpose and non-infringement.** Mindspeed Technologies shall not be liable for any special, indirect, incidental or consequential damages as a result of its use.

**MINDSPEED**  
 BUILD IT FIRST™