

M21030

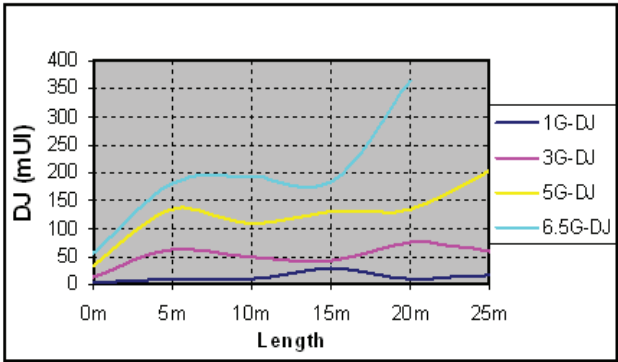
Four Channel, 6.5 Gbps Cable Equalizer & Driver

Product Brief

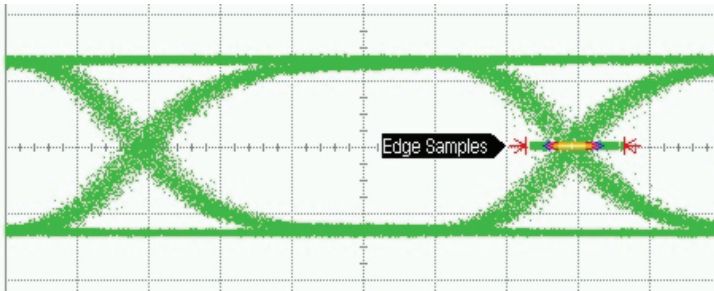
Product Overview

The M21030 is low power, small form factor, cable driver and equalizer that is designed to enable data transmission over long copper cables at speeds of up to 6.5 Gbps. The M21030's small form factor and lower power consumption make it ideal for module applications such as Quad SFP. The device features four fully independent adaptive equalizers that automatically optimize equalization for maximum performance. No equalizer programming is required. This is critical in cabled environments where channel properties will change drastically from cable to cable. The equalizer provides over 40dB of boost enabling transmission of data through even the lossiest environments. The M21030 is protocol agnostic and fully asynchronous. Virtually any digital protocol can be transmitted through the device at speeds from 50 Mbps to 6.5 Gbps. The list of supported protocols includes: PCI Express, SATA, SAS, Infiniband, 2 x XAUI and Fibre Channel. The M21030 is designed to recognize and transparently relay OOB signals for SATA/SAS and PCI Express. Additionally, it operates at the popular SMPTE and DVB video rates for various applications. The device includes a fully non-blocking 4 x 4 switch matrix that allows for simple switching as well as multi-cast functionality. The M21030 features program-mable output drivers for maximum power efficiency. These drivers and other functions can be either programmed via hardware pin, two-wire serial bus or via PROM at device power up. The device uses 550 mW.

Features	Benefits
Four Fully Independent, Adaptive Equalizers	Automatically configures for maximum channel performance
SMPTE 424M, 344M, 292M, and 259M Compatible, DVB-ASI	Robust video Compatibility
40 dB+ Equalization and 6 dB of De Emphasis Available	Maximizes transmission length
Low 550 mW Power usage	Minimizes cost to operate and cool
Small 6 x 6 mm QFN package	Provides space efficiency and reliability
Out of Band Signaling Support	Allows for seamless integration into PCIe, SATA and SAS
Protocol Agnostic	One device supports many applications
1.2 Volt Core / Optional 1.2,1.8 or 2.5 Volt IO	Flexibility to use right power performance
Extended Temp Range [-40° to 85° C]	Provides additional margin for most applications



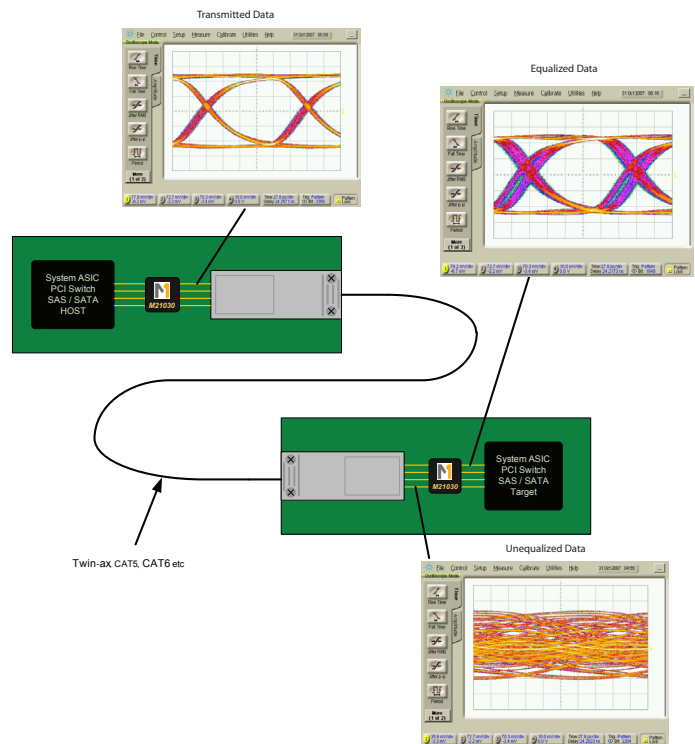
Deterministic Jitter 28 AWG Twin-ax Cable



5.0 Gbps equalized after 20 meters of 28 AWG Twin-ax

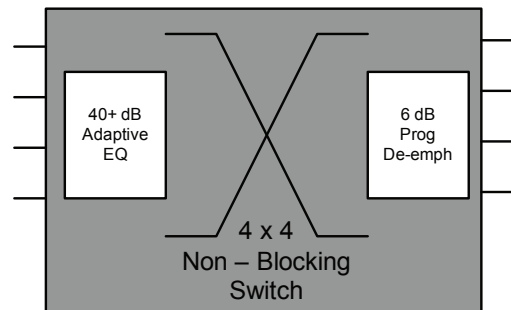
## Features

- Four independent channels with bit rates to 6.5 Mbps
- Supports SMPTE 424M, 344M, 292M, and 259M, DVB-ASI
- Integrated adaptive equalization on each channel with boost of over 40 dB
- Protocol agnostic and asynchronous supporting all data rates up to 6.5 Gbps
- Out of band signaling support for PCI Express and SATA/SAS
- Industrial temperature range -40° to 85° C ambient
- Extremely low output jitter
- Three programming modes including hardware, two wire interface and PROM
- Output drivers with independently programmable drive strength and de-emphasis
- Small 6 x 6 mm, 44 pin QFN package
- Low 550 mW power
- Multiple TTL voltage levels supported for interconnect flexibility
- Boundary Scan



## Applications

- Cable equalizer / driver
- SDI video and DVB-ASI equipment
- Quad SFP length extender
- Shelf to shelf interconnect
- 6.5 Gbps redundancy switch
- Data center cable extender
- Infiniband cable interconnect
- Multi-gigabit interconnect over low cost cable



For more product information, please visit [www.mindspeed.com](http://www.mindspeed.com)

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

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### Ordering Info:

M21030G-13