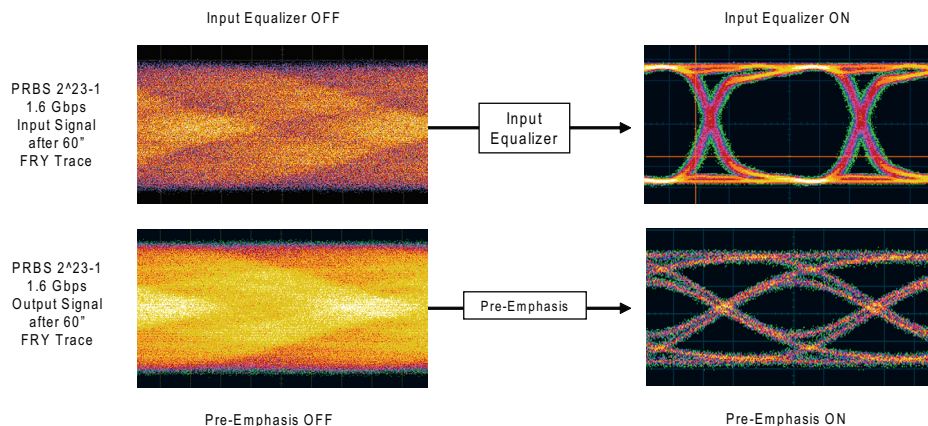


## M21250/52 3G and SD Quad Channel Clock Data Recovery (CDR) / Reclocker

### Product Overview

The M21250 and M21252 devices are part of a family of low-power, high-performance quad channel reclockers optimized for telecom, datacom, and digital video applications. Advanced third generation signal conditioning functionality such as Input Equalization, Output Pre-Emphasis, integrated I/O terminations, and PCB layout friendly features facilitate quick PCB turn times while helping to maintain signal integrity. Each channel of the CDR/reclocker array includes an independent multi-rate CDR/reclocker, allowing maximum flexibility in system design. Signal conditioning features of the M21250 and M21252 include input equalization and output pre-emphasis to compensate for lossy PCB traces and backplane connectors. A built-in frequency synthesizer allows each channel of the device to operate at a different data rate simultaneously while operating from a single reference clock. Both M21250 and M21252 are footprint compatible and can be controlled through hardwired pins or via a 2-wire or 4-wire serial programming interface. The serial programming interface allows users to have complete control of the device features. These devices support JTAG external boundary scan which includes all of the high-speed I/O as well as the digital I/O.

Features	Benefits
› SMPTE 424M, 344M, 292M, and M259 Compliant, DVB-ASI	Robust standard compliant reclocker
› Auto and manual modes for rate indication and selection (ARD)	Ease of use and flexibility
› Low typical power dissipation at 400 mW (1 channel active)	Low power and thermal management costs
› Integrated loop filter and terminations	Simplified PCB designs and reduced costs
› User selectable input equalization and pre-emphasis	Improves system jitter budget
› 1.2V operation (1.8V~3.3V supported)	Low power solution and design flexibility
› Selectable CDR/Reclocker BYPASS option	Supports non standard bit rates and saves power management costs
› Serial control or hardwired control	Flexible and complete control for configuration
› JTAG boundary Scan	Improves manufacturing yield for configuration
› Built-in Self Test features	Lowers cost of system testing and speeds debug
› Built-in frequency synthesizer	Lowers cost by allowing multi-rate operation from one reference clock
› Loss of Activity (LOA)	Diagnostics for status
› Extended temperature operation: -40°C to +85°C	Provides higher tolerance and additional design margin



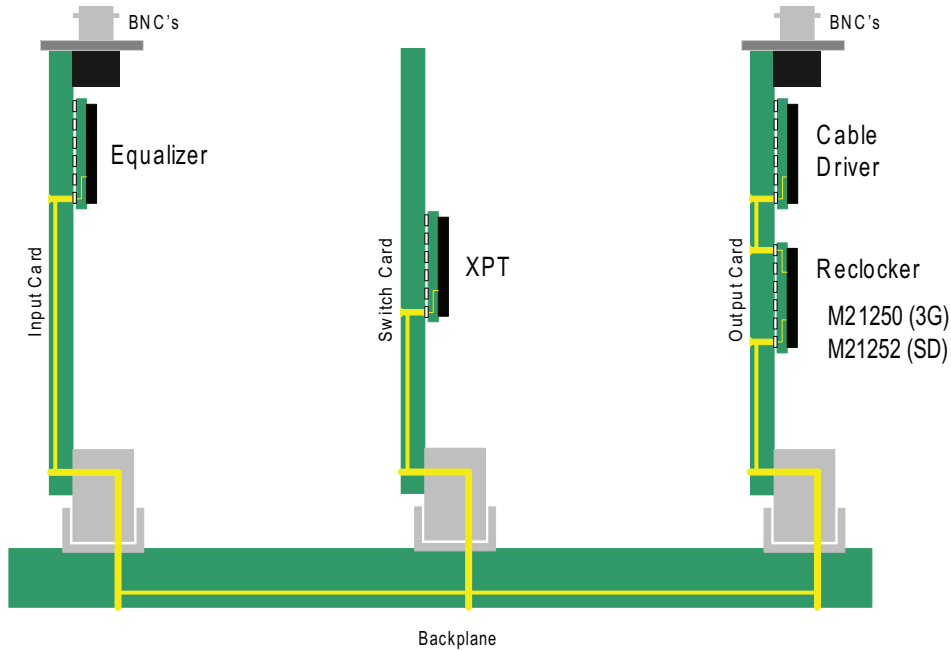


Fig. 1 - Routing Switcher Application Diagram

## Product Features

### Applications

- SMPTE 424M, 259M, 292M, 344M
- Supports DVB-ASI (270 Mbps)
- Routing Switchers
- Video Transport Systems
- Distribution Amplifiers
- Backplane Reach Extension
- SONET Systems and Modules
- 10GBASE-CX4 Systems
- Gigabit Ethernet Systems
- SAS/SATA/SATA2 Systems
- PCI Express

### Package (RoHS Compliant)

- 10x10 mm, 72 pin QFN

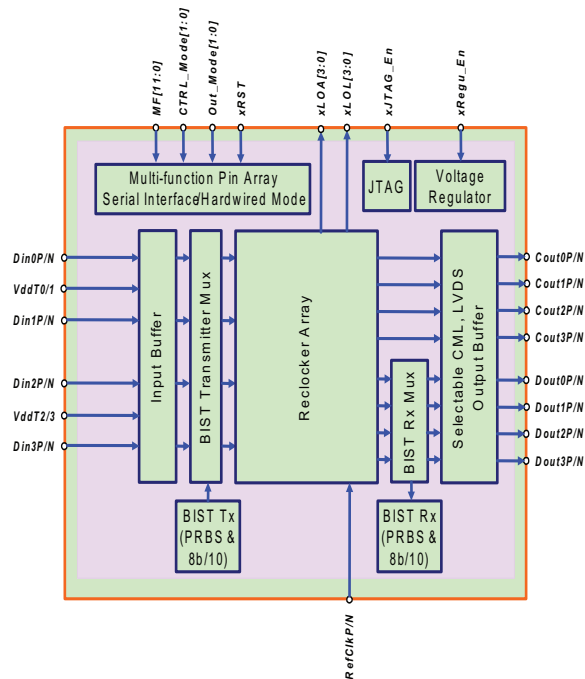


Fig. 2 - M21250 Block Diagram

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

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