

M21424 3G/HD/SD-SDI Dual-Output Cable Equalizer

Product Overview

The M21424 is a high-speed, low-power, adaptive co-axial cable equalizer designed to increase the maximum low-jitter transmission distance of serial digital interface (SDI) video signals and DVB-ASI across commonly used bandwidth limiting 75Ω coaxial cable. These devices automatically optimize their transfer function based on the bit rate and cable length to minimize the inter-symbol interference (ISI) jitter caused by the cable and to remove the DC offset components introduced with the pathological test pattern and AC coupling in systems.

The M21424 is designed to support SD, HD, and 3G data rates from 143 Mbps to 2970 Mbps.

The low-noise, high-gain equalizer allows for low jitter 3G-SDI transmissions up to 100m (Belden 1694A) and HD transmissions up to a length of 200m (Belden 1694A) and 120m (Belden 8281). For SD data rates, cable lengths up to 400m (Belden 1694A) and 300m (Belden 8281) are supported.

The M21424 is available in a green and RoHS compliant package.

Features	Benefits
<ul style="list-style-type: none"> SMPTE 424M, 292, 259M compliant, DVB-ASI (270 Mbps) 	Robust standard compliant equalizers
<ul style="list-style-type: none"> Adaptive cable equalization 	Design flexibility and control
<ul style="list-style-type: none"> Optimized data rates from 143 Mbps to 2.97 Gbps 	Range of solution for multiple data rates
<ul style="list-style-type: none"> Pair of CML outputs with selectable high amplitude 	High speed outputs with low cost integration
<ul style="list-style-type: none"> Mute and manual BYPASS mode 	Supports non standard rates
<ul style="list-style-type: none"> Typical equalized length of Belden 1694A cable: 100m at 2.97 Gbps 	Extend legacy cable length at higher speeds
<ul style="list-style-type: none"> 200m at 1.485 Gbps, and 400m at 270 Mbps 	Extend industry standard cable length
<ul style="list-style-type: none"> Low power dissipation (175 mW at 2.5V, and 230 mW at 3.3V) 	Low power and thermal management costs
<ul style="list-style-type: none"> 2.5V or 3.3V power supply 	Standard voltage supplies supported
<ul style="list-style-type: none"> Small form factor (5x5mm, 32-pin QFN package) 	Saves board area
<ul style="list-style-type: none"> Extended operating temperature range: -10°C to +85 °C 	Provides additional margin for most applications



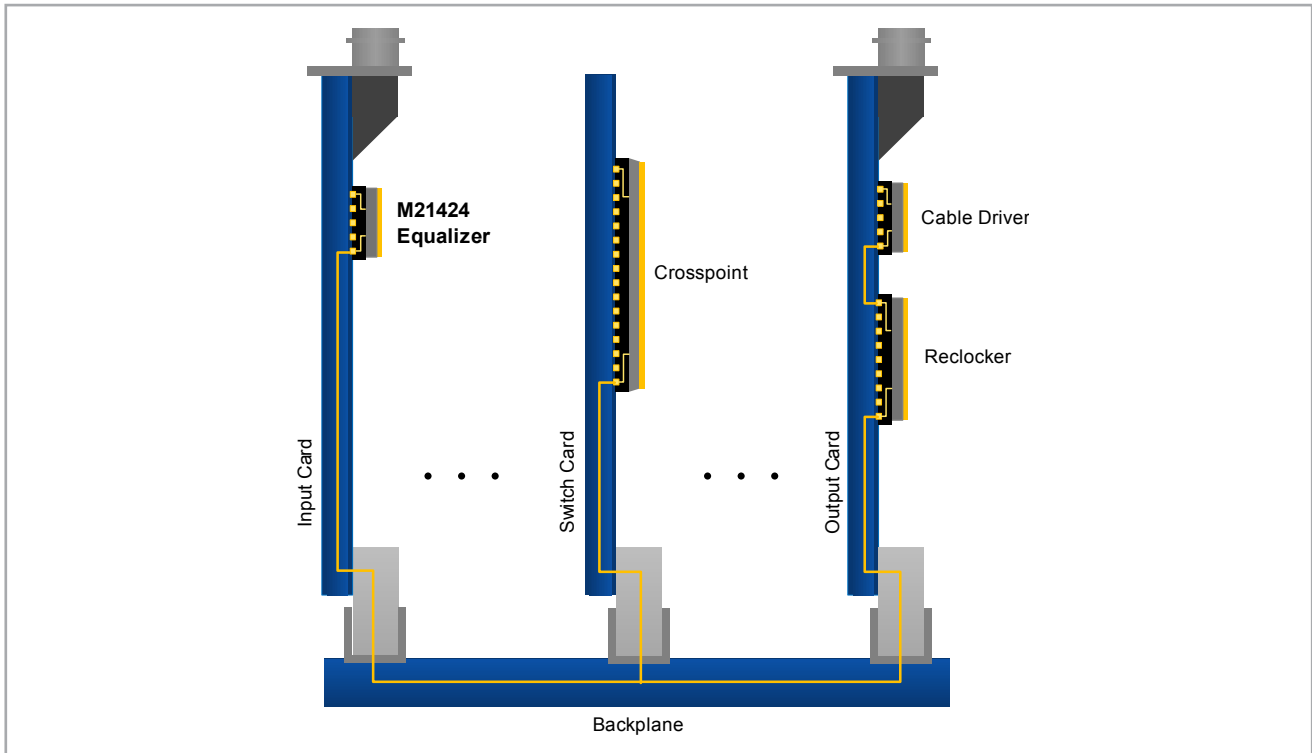


Fig. 1 - Routing Switcher Application Diagram

Product Features

Applications

- SDI Routers
- SDI Switches
- SDI Distribution Amplifier
- SDI Camera

Standards Compliance

- SMPTE 259M, 292, 344M, 424M
- Supports DVB-ASI (270 Mbps)

Package (RoHS Compliant)

- 5x5 mm, 32-pin QFN

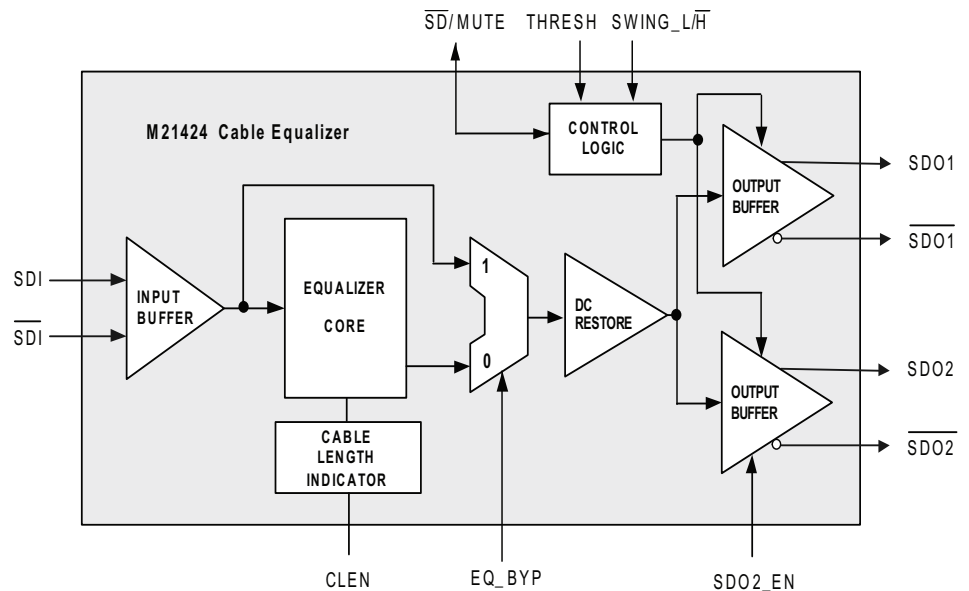


Fig. 2 - M21424 Block Diagram

For more product information, please visit www.mindspeed.com

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