Broadcast and Professional Video Interface Solutions

Extend reach, distribute video over SDI and IP networks

Texas Instruments

ti.com/sdi

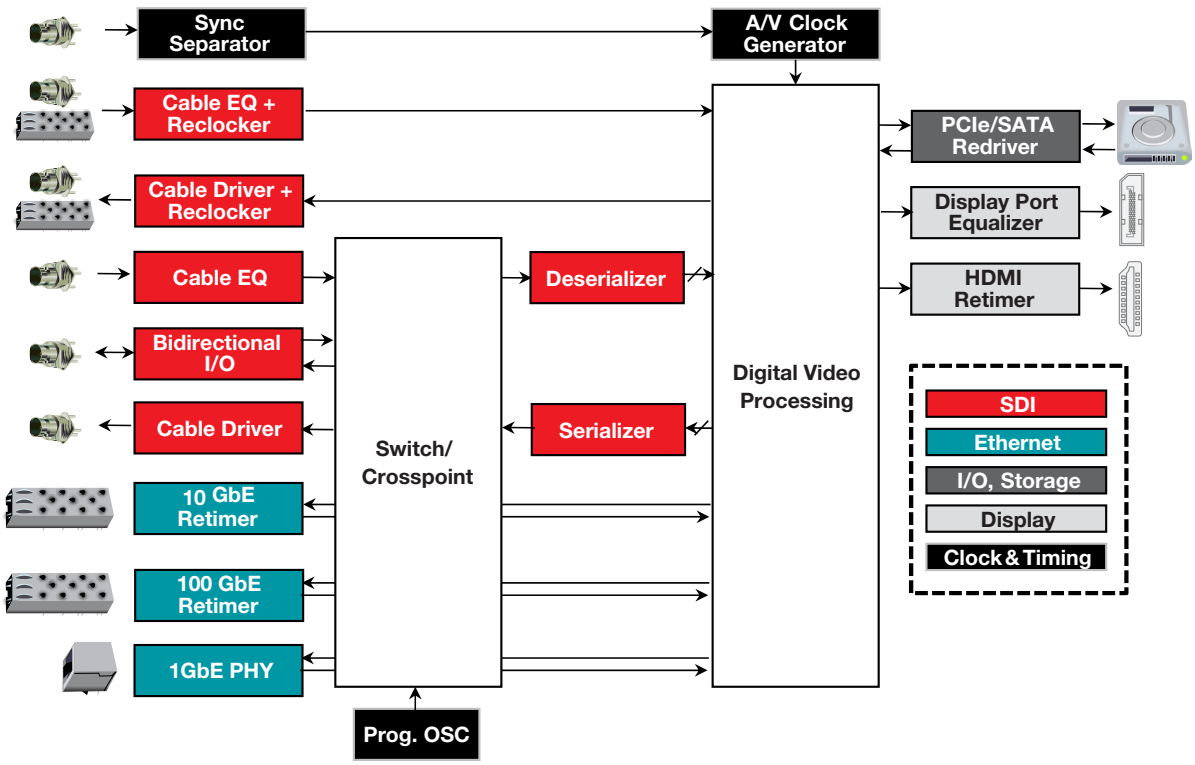
2017

Industry leading interface and timing solutions

Texas Instruments is a total solutions provider to the professional and broadcast video industry. Our comprehensive portfolio of energy efficient and easy to use analog, mixed signal, and DSP solutions accelerate design and reduce development cost.

Offering best in class performance in signal integrity and power efficiency, TI's interface products extend reach and distribute high speed video signals for serial digital video interface (SDI), Ethernet (video over IP), HDMI, display port, PCIe, SAS/SATA, LVDS, and other common signaling technologies.

TI's clocking and timing portfolio of buffers, clock generators, and oscillators deliver the industry's best phase noise and jitter performance (90 fs RMS, typical). With programmable features to support multiple standards ,TI's easy-to-use clocking solutions generate multiple frequencies in different I/O formats.



Extend reach, distribute video over SDI, IP networks

Texas Instruments (TI) offers the industry's most comprehensive multi-rate portfolio of serial digital interface (SDI) and Ethernet solutions to transport 4K/8K video resolution over coaxial cables, printed circuit board material, and optical fiber interconnects.

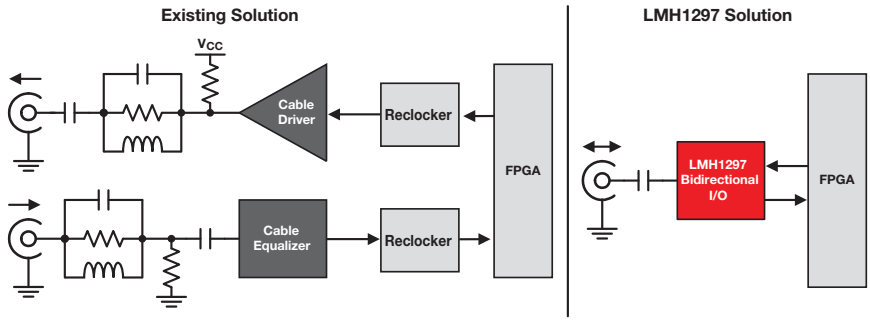
Offering best in class performance in signal integrity, power and cable reach, TI's interface products simplify system design for broadcast, professional, and commercial video applications.

Flexible products with easy upgrade path

Bidirectional I/O	Easy upgrade	Dual media, dual protocol
Configurable as receive equalizer or transmit driver to enable design reuse, dynamic port provisioning.	Pin compatible portfolio simplifies transition from 3G SDI to 12G SDI.	Single chip solution supports SDI and Ethernet IP based video transport over coax or fiber.

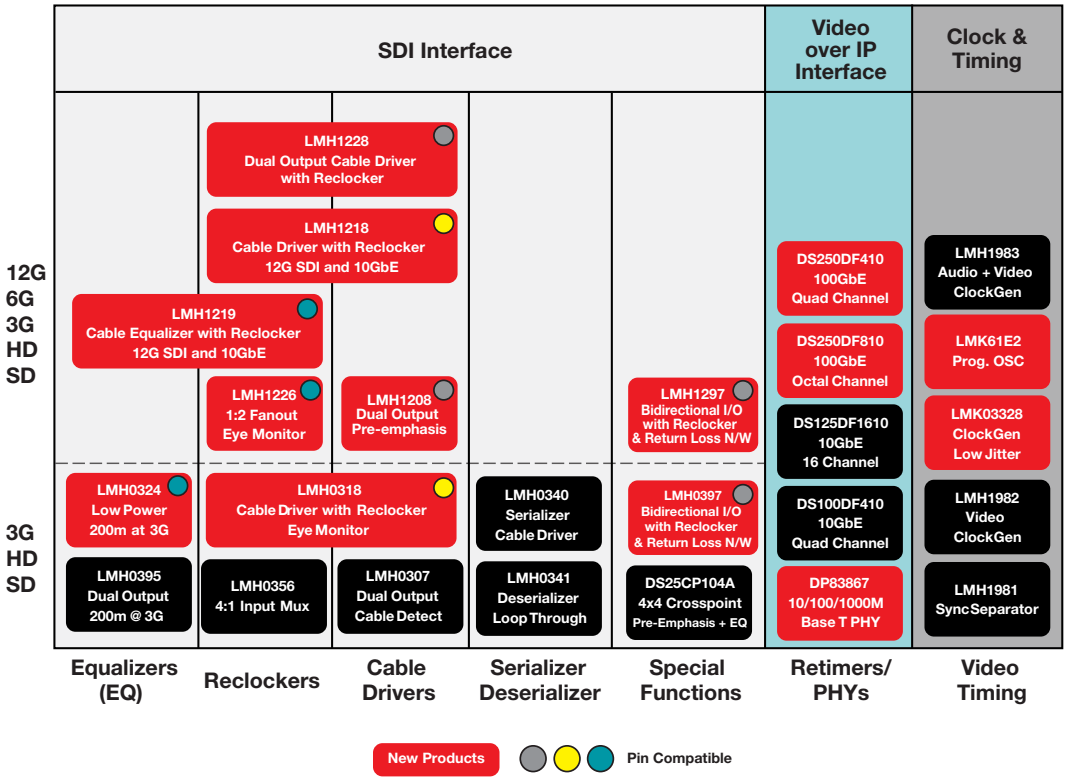
Industry's first: LMH1297

12G SDI Bidirectional I/O with integrated reclocker and return loss network enables design reuse, and dynamic port provisioning.



- Configurable as SDI equalizer or cable driver: Provides transport flexibility
- Integrated reclocker and return loss network: Saves board space and simplifies design
- Cable equalizer: Extends reach up to 75m+ at 12G, 120m+ at 6G, 200m+ at 3G, 300m at HD
- EQ Mode: Additional line-side reclocked 75-Ω loop-through output
- CD Mode: Additional host-side reclocked 100-Ω loopback output
- Small package: QFN32, 5mm x 5mm. Pin compatible 3G-SDI option available (LMH0397)
- Pin compatible cable driver options available (LMH1228, LMH1208)

Industry leading interface and timing solutions

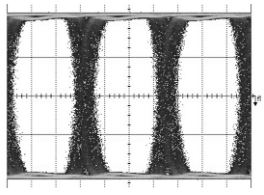


Industry's first: LMH1219 / LMH0324

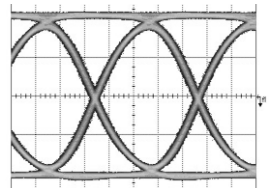
Pin compatible cable equalizer portfolio simplifies upgrade from 3G-SDI to 12G-SDI.

	LMH0324	LMH1219
Function	Cable Equalizer	Cable Equalizer with Integrated Reclocker
Data Rates	3G, 1.5G, 270M	12G, 10G, 6G, 3G, 1.5G, 270M
Protocols Supported	SDI	SDI & 10GbE (SMPTE 2022-5/6)
Media Supported	Coax	Coax, Optical (SFP+)
Cable Reach	200m+ at 3G	75m+ at 12G, 120m+ at 6G, 200m+ at 3G
Power (Typ.)	75mW	250mW
Package	Pin compatible for easy upgrade 4 mm x 4 mm , QFN 24	

200m at 3G-SDI (EQ)



75m at 12G-SDI (EQ + Reclocker)

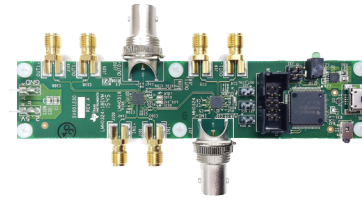


Easy to analyze, evaluate and design

Featured reference designs and EVMs

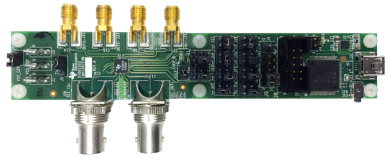
FPGA FMC development module for 4K video supporting 12G SDI and video over IP

- Supports Devices: LMH1218, LMH1219



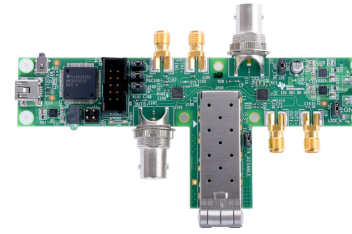
LMH0324-18EVM: 3G distribution amplifier TI reference design

- Supports Devices: LMH0324, LMH0318



LMH1297EVM: 12G Bidirectional I/O with Reclocker and Integrated Return Loss Network Evaluation Module

- Supports Devices: LMH1297, LMH0397

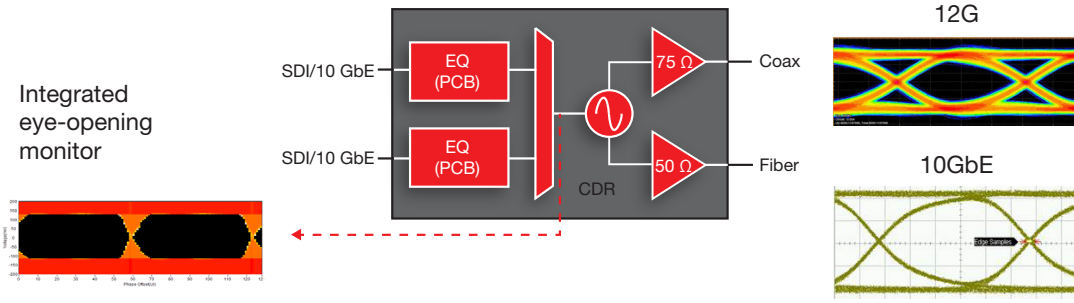


TIDA-00428: 12G distribution amplifier TI reference design

- Supports Devices: LMH1218, LMH1219

Industry's first: LMH1218

12G cable driver with integrated reclocker to support SDI and IP-based 4K video.



- SDI and 10 GbE (SMPTE 2022-5/6): Single device provides transport flexibility
- Dual media (coax and optical): Enables both short and long haul applications
- Integrated reference-less reclocker: 40% board area savings with faster lock time
- Low power consumption (300 mW typ): 30% lower than a discrete solution
- Integrated eye monitor: Accelerates system debug and diagnostics
- Small package: QFN24, 4mm x 4mm. Pin compatible 3G-SDI option available (LMH0318)

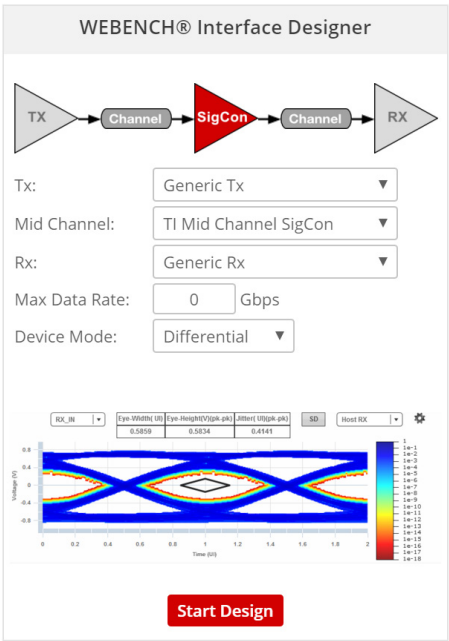
Design resources and references

TI E2E™ Community

E2E high speed interface forum
ti.com/e2ehsi

Get more information on TI's professional and broadcast video portfolio at: **ti.com/sdi.**

WEBENCH® Interface Designer



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- Select the right interface devices for your requirements

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