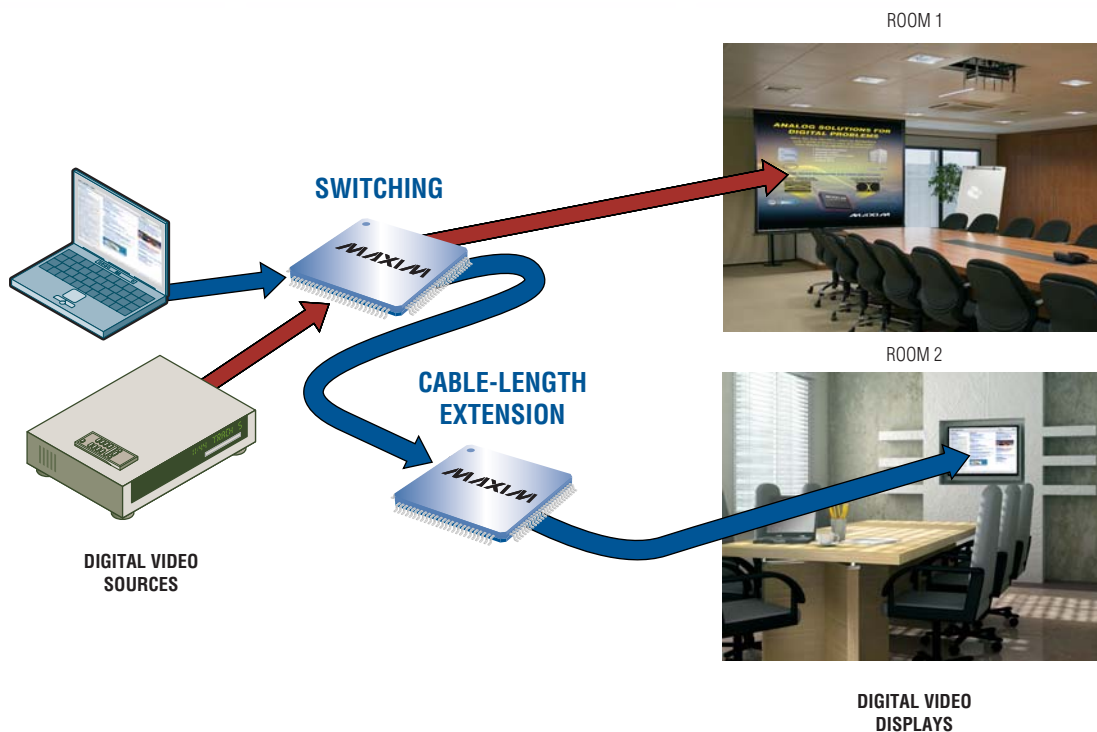


# Get Connected to 1080p Digital Video

Maxim's signal integrity expertise simplifies digital video switching and cable length extension in your applications. Our digital video ICs can be found inside video equipment just about anywhere that digital video is created or seen. Why?

- ➔ Best Equalization Performance
- ➔ Cable Extenders for All Applications
- ➔ Switch Configuration Flexibility
- ➔ Free, Low-Risk Reference Designs



## See Inside

**Cable-Length-Extension Solutions** ..... **Page 2**  
**Video Switching and Distribution** ..... **Pages 3-4**

## Need Design Help?

Visit [www.maxim-ic.com/1080p](http://www.maxim-ic.com/1080p) for a complete list of resources to get your digital video design started quickly.

Samples

Data Sheets

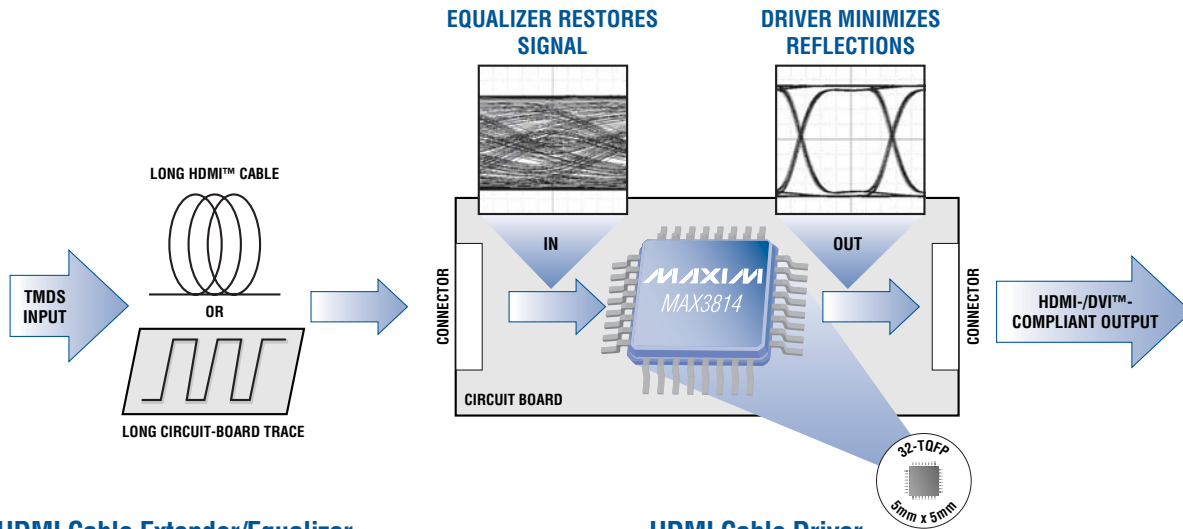
Application Notes

Reference Designs



# Industry's Best Equalizers/Extenders Solve Common Digital Video Problems

**MAX3814 TMSD<sup>®</sup> Equalizer/Driver Minimizes Reflections, Improves System Margin**



## HDMI Cable Extender/Equalizer

- ◆ Extends 28 AWG HDMI Cable Up to 36ft
- ◆ Extends FR4 Circuit Board Up to 2m
- ◆ Adds 15dB (max) Loss Compensation Margin

## HDMI Cable Driver

- ◆ HDMI- and DVI-Compliant Output
- ◆ Optional High-Current Mode for Output-Reflection Termination Resistors
- ◆ Power-Down Mode to Turn Off Outputs

## MAX3815 Equalizer Enables Long-Reach Digital Video



- ◆ Fully Automatic Equalization Up to 40dB with No System Control Required

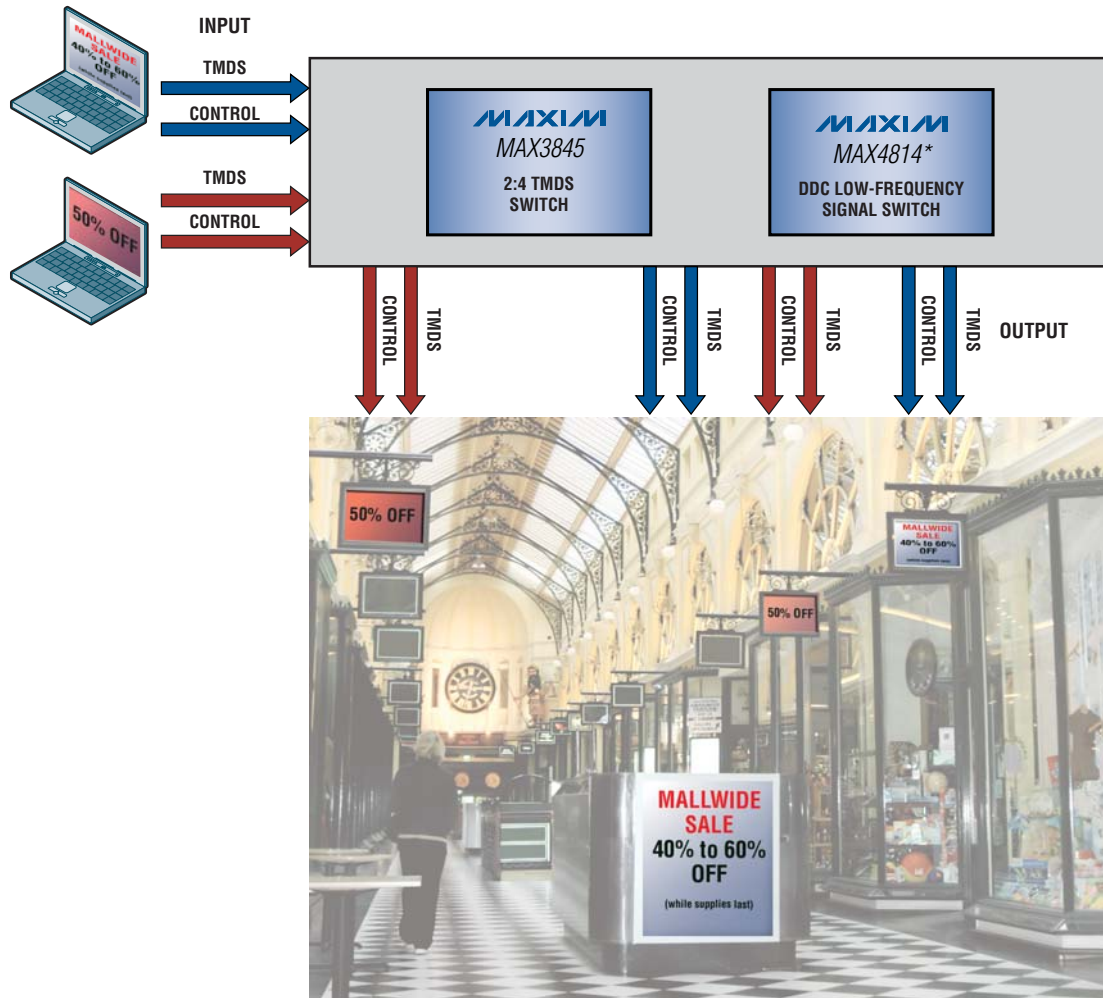
- ◆ Extends TMDS Interface Length
  - ◆ 0 to 36m over DVI Cable, 28 AWG STP
  - ◆ 0 to 30m over DVI Cable, 30 AWG STP
  - ◆ 0 to 60m over DVI Cable, 24 AWG STP

TMDS is a registered trademark of Silicon Image, Inc.  
HDMI is a trademark of HDMI Licensing, LLC.  
DVI is a trademark of Digital Display Working Group (DDWG).

# Digital Video Distribution Made Easy

## Create 2 x 4, 4 x 4, and 2 x 8 HDMI/DVI Switches

The MAX3845 TMD5 2:4 fanout switch and MAX4814\* 2:4 DDC low-frequency signal switch chipset can be used to create a variety of digital video-distribution HDMI/DVI switch configurations. Use one chipset to create a full 2 x 4 switch, or use two chipsets for 4 x 4 and 2 x 8 configurations.



### 2:4 TMD5 Fanout Switch and Cable Driver (MAX3845)

- ◆ Input Equalization
- ◆ Three Output-Preemphasis Settings
- ◆ Identical Channels Allow TMD5 Clock- and Data-Assignment Flexibility

### 2:4 Low-Frequency Signal Switch (MAX4814)

- ◆ Switches DDC, 5V, and HPD Signals
- ◆ I<sup>2</sup>C Interface Controls MAX4814 and MAX3845



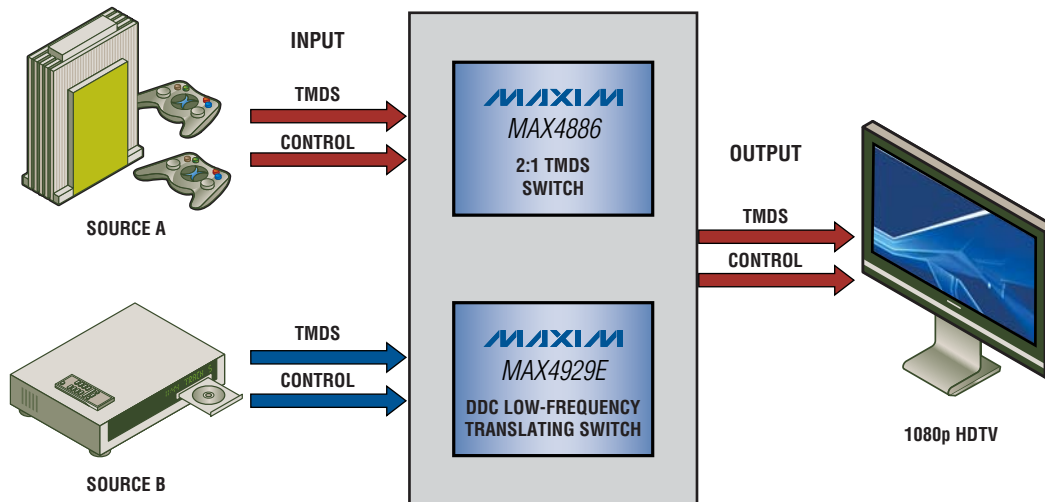
2 x 4 AND 4 x 4  
EVALUATION BOARDS  
AVAILABLE NOW



\*Future product—contact factory for availability.

# Picture-Perfect 1080p Performance from the Industry's First Ultra-Broadband HDMI/DVI Passive Switches

Complete Two-Chip, 2:1 Mux Solution in 50mm<sup>2</sup>



## HDMI/DVI 2:1 TMDS Switch (MAX4886)

- ◆ 3.3V Rail-to-Rail Switch
- ◆ 2.6GHz Bandwidth
- ◆ 1920 x 1080 Pixel Resolution
- ◆ Less than 20ps Skew
- ◆ Ultra-Low 0.6dB Insertion Loss

## Low-Frequency Translating Switch (MAX4929E\*)

- ◆ Integrated Control—2 Sources to 1 Sink
- ◆ ±15kV ESD Protection (HBM\*) for All External Signals
- ◆ Hot-Plug Detection Logic/Switch Matches MCU to TTL Levels
- ◆ 3V to 5.5V Clamped DDC Output
- ◆ Source-Detect Logic
- ◆ Two MAX4929Es Form a 4:1 Switch

DEMO BOARDS AVAILABLE

Part	Configuration/Features	Video Interface	Supply Voltage (V)	R <sub>ON</sub> (Ω)	C <sub>ON</sub> (pF)	Package (mm x mm)	ESD Protection (HBM)
MAX4886	4 x DPDT	HDMI/DVI	3.3	8	2.5	42-TQFN (3.5 x 9)	±2kV
MAX4929E	2 x SPDT to mux DDC signals; HPD logic-level circuit; source detect	HDMI/DVI	5	—	—	20-TQFN (4 x 4), 20-QSOP	±15kV

\*HBM = Human Body Model