

LT8642UX --- Product Brief

HDMI2.0 4-In 2-Out Matrix Switch

1. Features

- **HDMI2.0 Receiver**
 - Compliant with HDMI2.0b, HDMI1.4 and DV11.0
 - Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
 - Data rate up to 6Gbps
 - Support 4Kx2K@60Hz
 - Adaptive receiver equalization
 - Support data channel swap(arbitrarily) and polarity inversion(independent)
 - AC and DC couple capable
 - Support 3D and HDR
 - Support 8/10/12-bit color depth
 - Support TMDS descrambling for EMI/RFI reduction
 - Support SCDC and CEC2.0
 - Support ARC
 - Integrated EDID shadow
 - 5V tolerance DDC/HPD I/Os
- **HDMI2.0 Transmitter**
 - Compliant with HDMI2.0b, HDMI1.4 and DV11.0
 - Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
 - Data rate up to 6Gbps
 - Support 4Kx2K@60Hz
 - Programmable transmitter swing and pre-emphasis
 - Support channel swap(arbitrarily) and polarity inversion(independent)
 - DC couple capable
 - Downstream receiver sensing
 - Support 3D and HDR
 - Support 8/10/12-bit color depth
 - Support TMDS scrambling for EMI/RFI reduction
 - Support SCDC and CEC2.0
- Support ARC
- 5V tolerance DDC/HPD I/Os
- **Digital Audio Output**
 - Up to four I2S interface supporting 8-channel audio, with sample rates of 32~192 kHz and sample sizes of 16~24 bits
 - SPDIF interface supporting PCM, Dolby Digital, DTS digital audio at up to 192kHz frame rate
 - IEC60958 or IEC61937 compatible
- **Miscellaneous**
 - Internal rterm calibration
 - External crystal supports 25MHz
 - Integrated microprocessor
 - Integrated SPI master
 - Embedded SPI flash for firmware and HDCP keys
 - Integrated 100/400kHz I2C slave for debug and firmware update
 - 1.2V core power supply & 3.3V I/O power supply
 - -40°C to +85°C ambient operating temperature range
 - 128-pin 14x14mm QFN package

2. General Description

The LT8642UX HDMI2.0/1.4 Switch features a 4:2 switch compliant with HDMI2.0/1.4 specification, max 6Gbps high speed data rate, adaptive equalization RX input and pre-emphasized TX output to support long cable application. LT8642UX HDMI2.0/1.4 Switch automatically detects the cable loss, and adaptively optimize the equalization setting. It supports RX termination resistor calibration to further improve signal integrity.

LT8642UX support DDC/SCDC compliant to HDMI2.0/1.4 specification. This package is QFN128 12mmx12mm. It

operates from -40°C to $+85^{\circ}\text{C}$.

3. Applications

- Front panel buffer for advanced television (HDTV) sets
- Standalone switcher
- Multiple input displays
- Projectors
- AV receivers

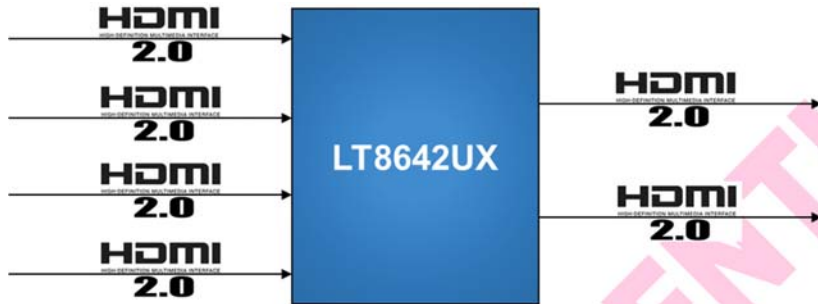


Figure 3.1 Application Diagram

4. Ordering Information

Table 4.1 Ordering Information

Part Number	Operating Temperature Range	Package	Packing Method
LT8642UX	-40°C to $+85^{\circ}\text{C}$	QFN128 (14*14)	Tray

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