

# LT8612UX --- Product Brief

## HDMI2.0 to HDMI2.0 and VGA Converter with Audio

### 1. Features

- **HDMI2.0 Receiver**
  - Compliant with HDMI2.0b, HDMI1.4 and DVI1.0
  - Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
  - Data rate up to 6Gbps
  - Support up to 4Kx2K@60Hz
  - Adaptive receiver equalization
  - 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
  - Integrated EDID shadow
  - 5V tolerance DDC/HPD I/Os
- **HDMI2.0 Transmitter**
  - Compliant with HDMI2.0b, HDMI1.4 and DVI1.0
  - Compliant with HDCP2.3, HDCP2.2 and HDCP1.4
  - Data rate up to 6Gbps
  - Support up to 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
  - 5V tolerance DDC/HPD I/Os
- **Triple-Channel Video DAC**
  - Compliant with VESA VSIS1.2
- Support WUXGA timing and up to 200MSPS throughput
- Support CSC(Color Space Conversion) from YCbCr 4:2:2 to YCbCr 4:4:4 and YCbCr 4:4:4 to RGB
- Only support separate SYNC
- Amplitude calibration
- R/B swappable
- Load sensing
- 5V tolerance DDC 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 for embedded SPI flash
  - 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
  - 76-pin 9x9mm QFN package

### 2. General Description

The LT8612UX is a HDMI to HDMI&VGA converter, which converts HDMI2.0 data streams to HDMI2.0 signals and analog RGB signals. It also outputs 8 channel I2S and SPDIF signals which enable high quality 7.1 channel audio.

The LT8612UX uses the latest ClearEdge™ Technology to expand a VGA interface in addition to original HDMI interface.

- Digital Signage
- PC, Laptop Mother Boards
- HDMI to VGA Dongle
- Car Entertainment System

### 3. Applications



Figure 3.1 Application Diagram

### 4. Ordering Information

Table 4.1 Ordering Information

Part Number	Product Status	Operating Temperature Range	Package	Packing Method	MPQ
LT8612UX_U3	MP	-40°C to +85°C	QFN76 (9*9)	Tray	2600pcs
MP: Mass Production.					

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