

# LT8621SX-E-M--- Product Brief

## 2:1 HDMI Switch with Signal Repeater

### 1. Features

- 2 inputs 1 output HDMI1.4 switch, with TMDS signal repeater
- Support HDCP1.4
- HDMI resolution up to 4Kx2K@30Hz, 4kx2k@60Hz(YCbCr 4:2:0)
- Support HDMI signal repeating through HDMI cable and CAT6 cable
- Support digital audio out that allow direct audio amplifier connection
- Supports 3D format
- 9mm x 9mm 76-pin QFN package

### 2. General Description

The LT8621SX-E-M is a fully integrated HDMI 1.4 switch that enables the connection of two High-Definition Multimedia Interface (HDMI) source devices to a remote high-definition television (HDTV). The SPDIF digital audio output allows customers connect an audio amplifier for better audio quality and control. Based on the HDMI version 1.4, equipped with adaptive equalization of wide range, LT8621SX-E-M is an advanced TMDS switch that delivers a cost-effective method for HDMI signal repeating, switching and audio extraction. . With support of HDCP version 1.4 specifications, if used in pairs, it can provide a very low cost effective HDMI signal extension solution with CAT6 cable with bandwidth up to 3Gb/s.

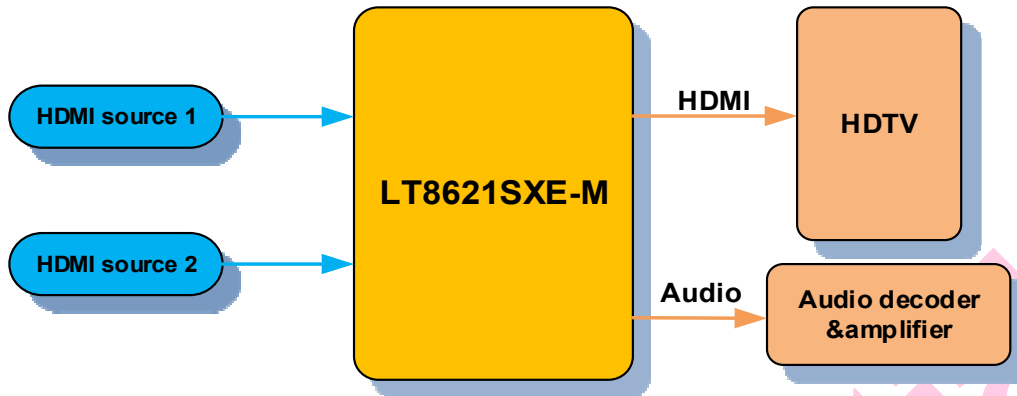
The LT8621SX-E-M is integrated with a MCU for chip

programming and EDID processing. The two HDMI ports can be designed as two HDMI connector ports or designed as RJ45 connector ports for CAT6 cable HDMI extension. The LT8621SX-E-M also acts as a HDMI receiver. It extracts the digital audio information from the HDMI packet, and recovers digital audio to IIS/SPDIF interface. This feature can enable an external HDMI switching box acts as a home entertainment box that can output up to 2-channel high quality audio signal for the best audio effect.

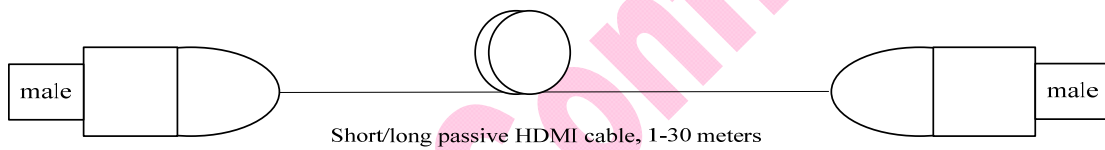
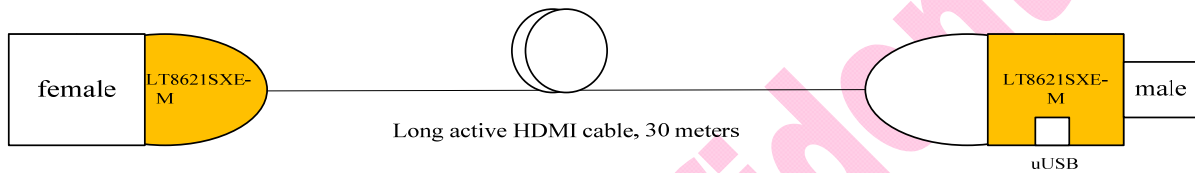
To improve the performance in the case of long distance transmission, pre-emphasized driver is integrated into the chip. This pre-distortion technique compensates the transmission loss. The chip provides a Clock Data Recovery (CDR) path to enhance the performance. This path uses Re-Sample and Re-Drive architecture which re-samples data at the receiver side and re-drive data at the transmitter side. It will not pass through noise from inputs to output and hence provides reliable transmission. The chip also employs an advanced on-die-termination calibrating circuitry. The input termination is able to be automatically adjusted. The integrated HPD switch as well as DDC switch lower the cost of system manufacture, and simplify the routing on the system board.

### 3. Applications

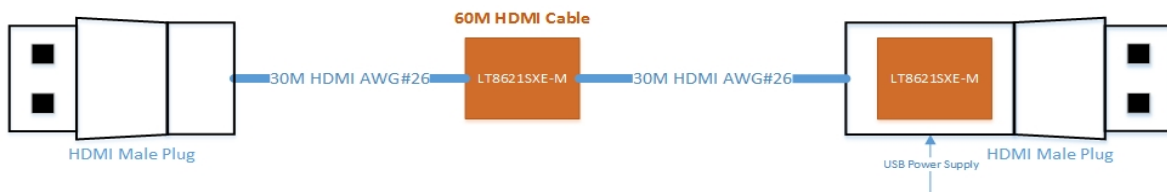
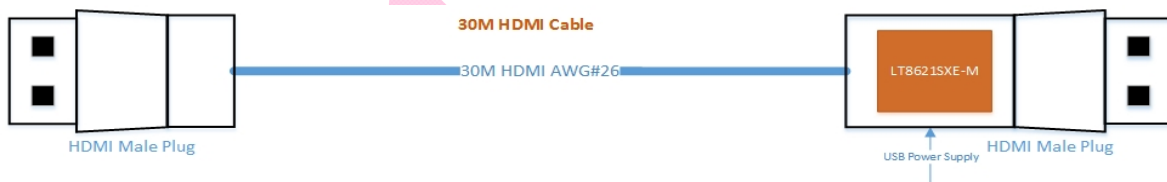
Long HDMI signal repeating with HDMI cable or CAT6 cable, with optional audio output.



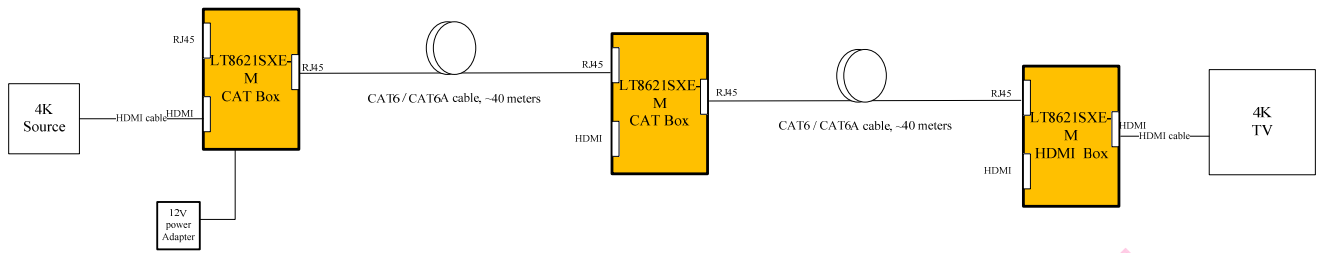
(a) Normal Switch with Audio



(b) HDMI Signal Extension over HDMI Cable



(c) HDMI Signal Extension over HDMI Cable



(d) HDMI Signal Extension over CAT6 Cable

**Figure 3.1 Typical Application**

## 4. Ordering Information

**Table 4.1 Ordering Information**

Part Number	Operating Temperature Range	Package	Packing Method
LT8621SX-E-M	-40°C to 85°C	QFN76(9*9)	Tray

**Copyright © 2016-2020 Lontium Semiconductor Corporation, All rights reserved.**

### **Lontium Semiconductor Proprietary & Confidential**

This document and the information it contains belong to Lontium Semiconductor. Any review, use, dissemination, distribution or copying of this document or its information outside the scope of a signed agreement with Lontium is strictly prohibited.

LONTIUM DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THOSE OF NONINFRINGEMENT, MERCHANTABILITY, TITLE AND FITNESS FOR A PARTICULAR PURPOSE. CUSTOMERS EXPRESSLY ASSUME THEIR OWN RISK IN RELYING ON THIS DOCUMENT.

LONTIUM PRODUCTS ARE NOT DESIGNED OR INTENDED FOR USE IN LIFE SUPPORT APPLIANCES, DEVICES OR SYSTEMS WHERE A MALFUNCTION OF A LONTIUM DEVICE COULD RESULT IN A PERSONAL INJURY OR LOSS OF LIFE.

Lontium assumes no responsibility for any errors in this document, and makes no commitment to update the information contained herein. Lontium reserves the right to change or discontinue this document and the products it describes at any time, without notice. Other than as set forth in a separate, signed, written agreement, Lontium grants the user of this document no right, title or interest in the document, the information it contains or the intellectual property in embodies.

### **Trademarks**

Lontium™ 龙迅™ and ClearEdge™ is a registered trademark of Lontium Semiconductor. All other brand names, product names, trademarks, and registered trademarks contained herein are the property of their respective owners.

**Visit our corporate web page at: [www.lontiumsemi.com](http://www.lontiumsemi.com)**

**Technical support: [support@lontium.com](mailto:support@lontium.com)**

**Sales: [sales@lontium.com](mailto:sales@lontium.com)**