

## GENERAL DESCRIPTION

The UB6470 is a fully integrated 2 channel digital audio system with high efficiency digital audio amplifiers. It combines four independent half-bridge speaker drivers that can drive stereo speakers in BTL mode and other control functions in a single device. The two full-bridge speaker drivers can deliver two 50W outputs into stereo 6Ω speaker loads.

**The UB6470 is specially designed to provide high definition audio performance for Ultra HD TV. The UB6470 achieves 110dB dynamic range using a proprietary digital modulation technology. This proprietary digital modulation technology includes UBI Sound's patent modified BD modulation and high resolution signal processing. Also, the UB6470 adopted self-designed SRC with top quality THD to provide high definition audio performance.**

The UB6470 includes many essential audio effect functions for 2 channel audio systems. The effect functions include input mixing, equalizing, dynamic booster, crossover filtering, two band adaptive dynamic range control and volume control. The internal high precision DSP unit allows high resolution processing of those functions.

The UB6470 is ideal for Ultra HD flat panel TV sets, Digital Speaker Cradles and other 2 channel high quality digital audio systems.

## APPLICATIONS

Sound Bars, Ultra HD TV, High-end Audio System

## FEATURES

(Digital Audio Processor + Digital AMP + Power Driver)

- Digital Serial Audio Input : 1 Stereo PCM input
- Supporting Format : I2S, Left Justified, Right Justified
- On-chip High Performance Sampling Rate Converter
- Supporting Sample Rate Range : **8 ~ 192kHz**
- Speaker Driver : **2 x BTL outputs** or **1 x PBTL output**
  - Output Power : **BTL 50W x 2** (PVDD=24.5V, 6Ω, 1KHz, 10% THD)
  - PBTL 100W** (PVDD=24.5V, 3Ω, 1KHz, 10% THD)
  - Dynamic Range & SNR : **110dB** (1KHz, A-weighting)
  - **40kHz Audio Bandwidth**
  - Protection : Overload and Short Circuit, Over-temperature, Under-voltage
- Input Mixer & Input Level Monitoring Function
- Equalizer : **15 Band Programmable EQ per each channel**
- **Fully Programmable Dynamic Boost Function**
- Mute Control : Control per each channel
- Master Volume Control : -100dB ~ +24dB (0.0625dB step)
- Trim Volume Control : -100dB ~ 0dB (0.5dB step)
- **2-Band Adaptive Dynamic Range Control**
- Cross-over Filter : 2 Bi-quad Filters per Band for 2 Channel
- DC Blocking Filters
- Speaker Power Driver : 7V ~ 26V
- Digital Logic : 3.0V ~ 3.6V
- 5V Tolerant Logic Input
- Control Interface : I2C (**Selectable 4 Device IDs**)
- Package : **48pin QFN** (7mm x 7mm x 0.85mm, 0.5mm pin pitch)

## BLOCK DIAGRAM

