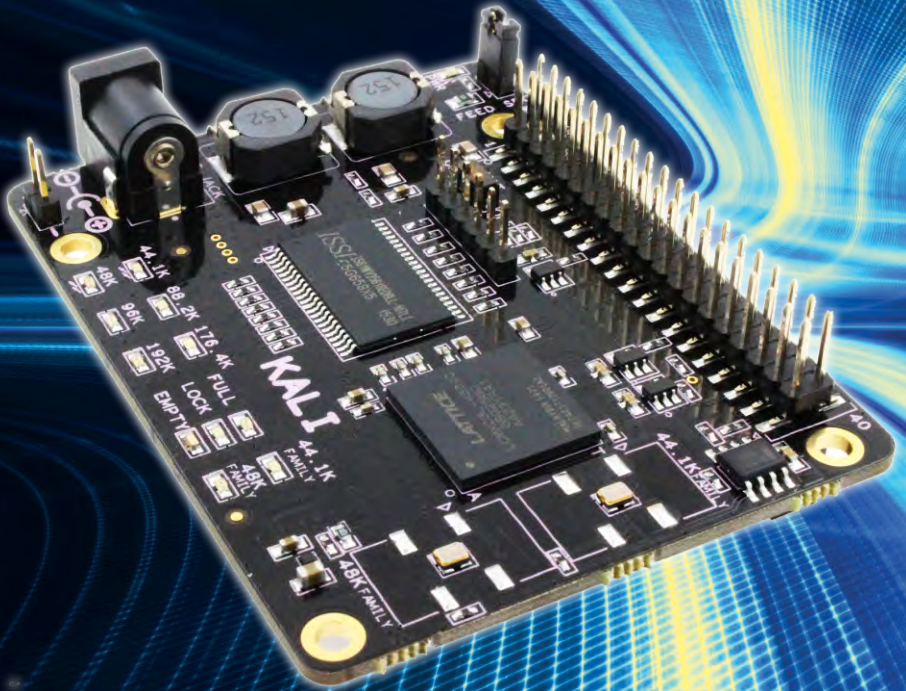


FC CE

KALI RECLOCKER



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GLOBALSALES@ALLO.COM

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Kali The Goddess of Time

Every SBC has a crystal that it used to send digital signals to your DACs.

The accuracy of this crystal is very important in how well the DAC will transform the digital signal into analog sounds. Simply put: a better crystal means a better sound! Most SBCs use a very cheap crystal with lots of jitter in order to save costs.

Furthermore, there are 2 kinds of frequencies for digital files: 44.1Khz (wave files) and 48khz (streamed music). Some SBCs (like RPIs) can output only 48Khz, so imagine the degradation of the sound that was recorded at a different frequency.

Kali Will Solve Both of Those Problems

First, it has a very low jitter NDK crystal feed by LDOs in series for ultra quiet power supply. Second, the FPGA will read the incoming stream, will buffer the DATA 0.7s while discarding the incoming clocks. Using the NDKs it will relock the buffered data OUTSIDE the fpga (since fpgas introduce about 200ps of jitter) and provide a MCLK/BCLK that is direct from crystal, providing a jitter-free (almost) to your DAC.

Meanwhile, it will clock the file using the correct crystal (there are 2), fixing the problems outlined in the beginning.

The Million Dollar Question (actually \$69): How Does it Sound?

Well, the music will "open up". The stage will sound bigger, more tri-dimensional. You will hear sounds, words, instruments that were drowned before in a sea of digital mud.

Is it Worth it?

Do you enjoy a better wine/microbrewery beer, or anything will do? Do you have some medium/good speakers or you are using the cheapest PC speakers? Do you love music or just want to hear some beats?

We can't answer the question for you. It's your choice.

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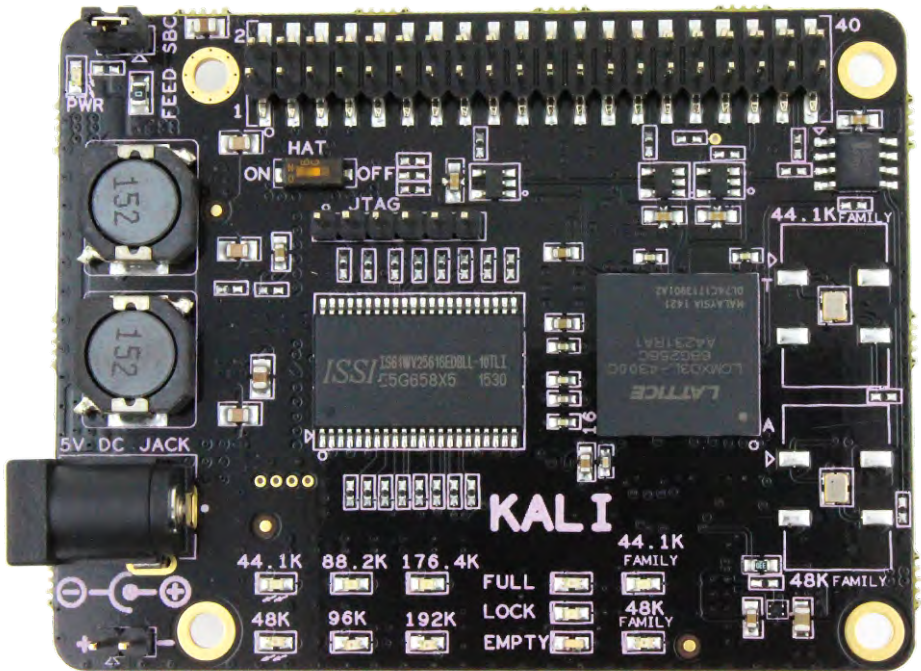
Key Features

- The basic design includes FPGA based FIFO board
- I2S input: 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176.4 KHz, 192 KHz , 352.8KHz,384KHz- 16bit, 24bit or 32bit
- I2S output: 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176.4 KHz, 192 KHz , 352.8KHz,384KHz - 16bit, 24bit or 32bit
- FIFO Memory: 4MB SRAM
- With 45.1584/49.1520 MHz Ultra Low Phase Noise Oscillators
- LED indicators (Power, Full, Lock, Empty, Sample Rate, Mclk)
- DC power supply: (5V/3A) with Filter circuits
- Multi-frequency output capability to support the full I2S working range from 44.1 KHz to 196 K
- Automatically switching frequencies according to the input I2S signals
- Extremely fast and very low propagation delay Flip-Flops are added on I2s signals output from FPGA, for synchronization with MCLK before sending to DAC
- Ultra-low-noise voltage regulators for optimal audio performance
- Integrated EEPROM for automatic configuration (with write-protection)

Tech Specs

- LED indicators (Power, Full, Lock, Empty, Sample Rate, Mclk)
- DC power supply: (5V/3A) with Filter circuits
- Operating Temperature Range is -25C to 85C
- The Kali board size: LWH = 58mm * 77.54mm * 23.8mm

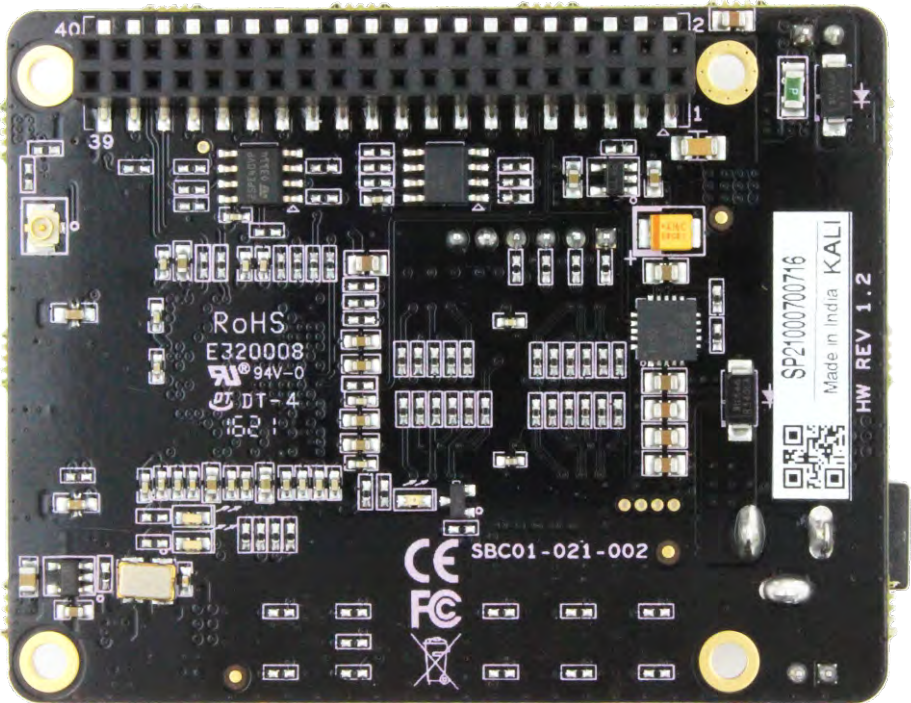
Top View



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Bottom View



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