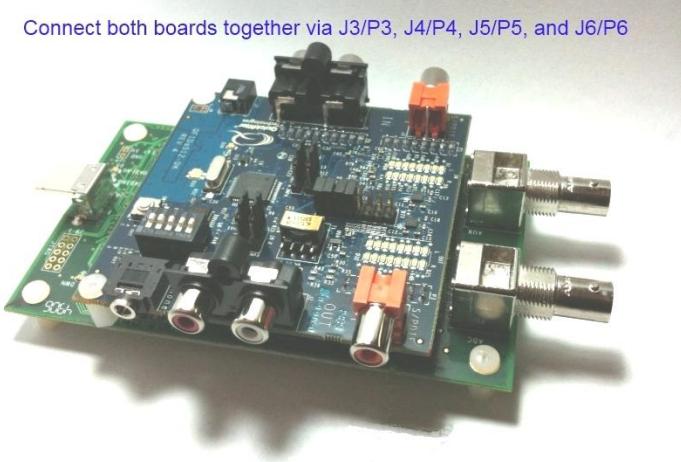


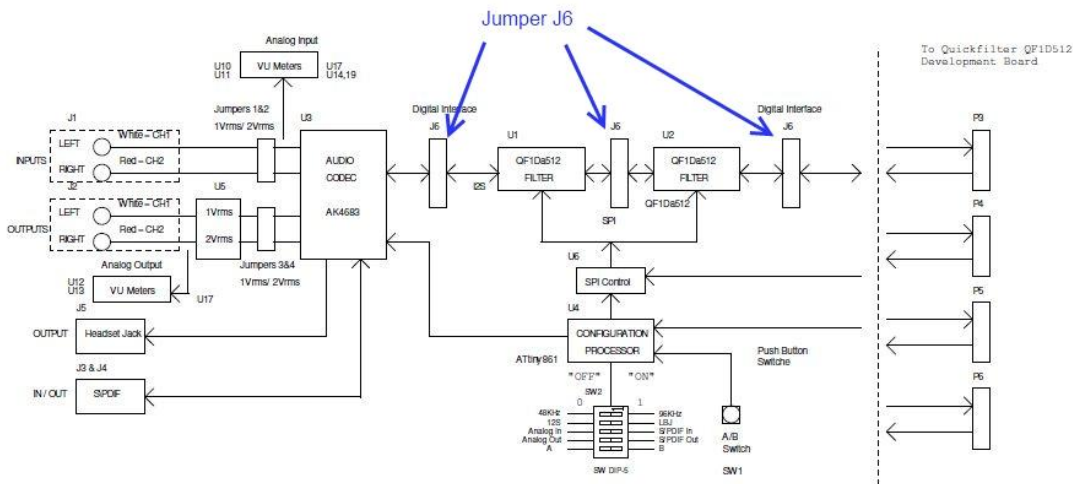
The QF1Da512-DK is used for development by placing it onto a QF1D512-DK, which provides the necessary USB interface for communication with our QFPro software running on a PC. Here is an illustration of that arrangement:

Connect both boards together via J3/P3, J4/P4, J5/P5, and J6/P6

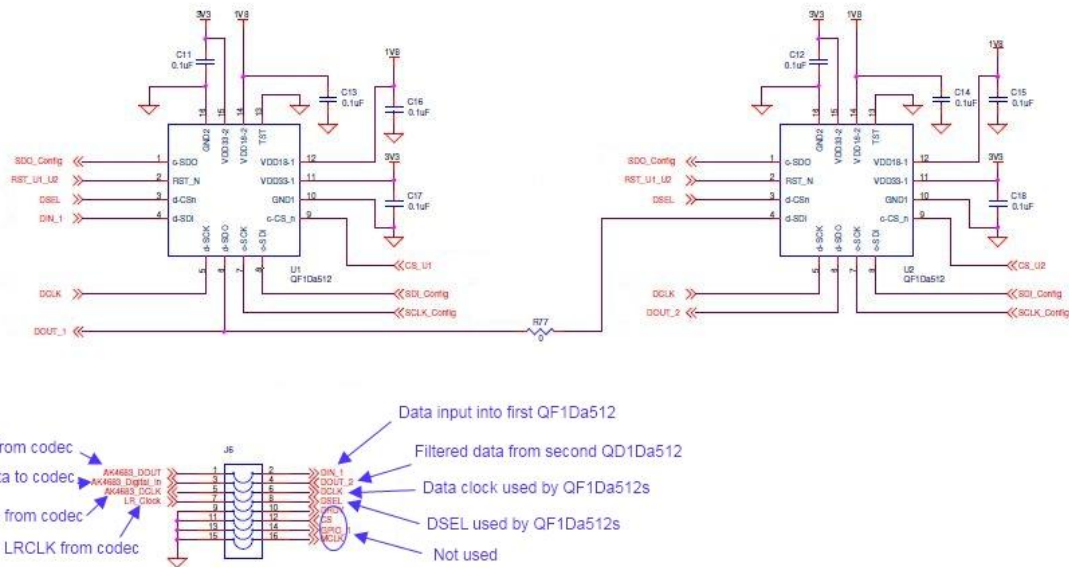


The QF1Da512 provides input for one stereo audio channel and output for one stereo audio channel. Also, implemented on this board are both a stereo headphone output and an SPDIF I/O interface. All of these are routed through the on-board codec, an AKM AK4683. In order to interface I2S audio input and output to the board, the two QF1Da512 digital filters must be isolated from the codec's I2S connections and the external I2S signals must be connected instead. Both of these requirements can be achieved via Jumper array J6. This is illustrated in the following block diagram.

QF1Da512-DK Block Diagram

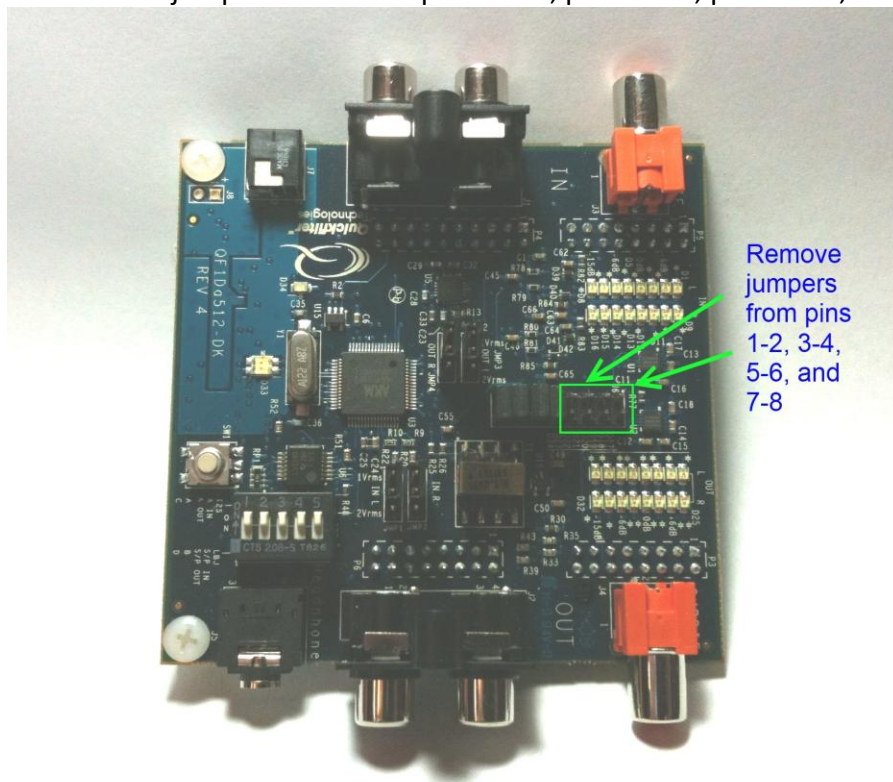


The default configuration for the board has all 8 jumpers in place on J6. Here is an illustration of the default setup:

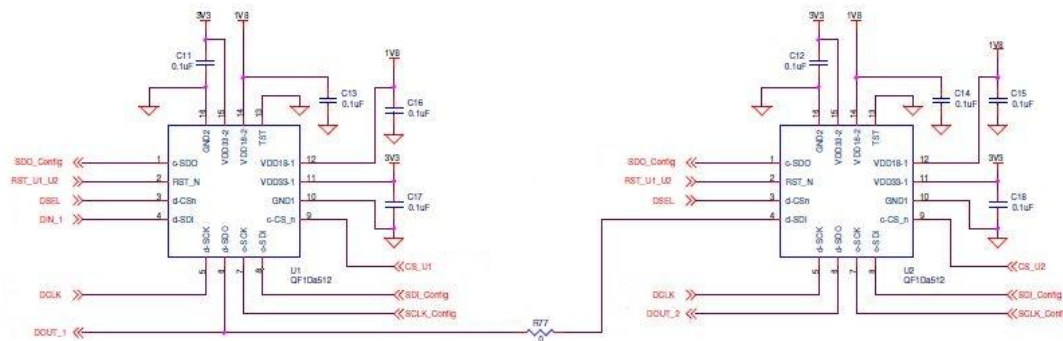


In order to implement an external I2S connection, the first four jumpers on J6 must be removed. The last four jumpers on J6 are not used in the default setup and are not needed for an external I2S interface and can be ignored.

Remove the jumpers that short pins 1 & 2, pins 3 & 4, pins 5 & 6, and pins 7 & 8 as illustrated here:



With these four removed, pins 2, 4, 6, and 8 are available for connection to the external I2S signals. The connections are illustrated here:



Disconnect jumpers for pins 1-2,3-4,5-6 & 7-8



Using wires that are as short as is feasible, make the following connections to J6:

- Connect the I2S data source signal to pin 2. This is the data that is to be filtered.
- Connect the I2S output data signal to pin 4. This is the filtered data returning.
- Connect the I2S Data Clock signal to pin 6.
- Connect the I2S Left/Right Clock signal to pin 8.

Note: For noise reduction in the signal lines, it is advisable to place a resistor in series with each signal line. A resistance of 27 Ohms to 56 Ohms should be sufficient.

With this arrangement, the I2S data into and the filtered I2S data out of the QF1Da512s and the related I2S control signals are now correctly configured for an external I2S interface.



Application Brief

Contact Information:

Quickfilter Technologies, Inc.
1024 S. Greenville Avenue, Suite 130
Allen, TX 75002-3324

www.quickfiltertech.com

Phone:214-547-0460
Fax:214-547-0481

The contents of this document are provided in connection with Quickfilter Technologies, Inc. products. Quickfilter makes no representations or warranties with respect to the accuracy or completeness of the contents of this publication and reserves the right to make changes to specifications and product descriptions at any time without notice. No license, whether express, implied, arising by estoppel or otherwise, to any intellectual property rights is granted by this publication. Except as set forth in Quickfilter's Standard Terms and Conditions of Sale, Quickfilter assumes no liability whatsoever, and disclaims any express or implied warranty, relating to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or infringement of any intellectual property right.

Quickfilter's products are not designed, intended, authorized or warranted for use as components in systems intended for surgical implant into the body, or in other applications intended to support or sustain life, or in any other application in which the failure of Quickfilter's product could create a situation where personal injury, death, or severe property or environmental damage may occur. Quickfilter reserves the right to discontinue or make changes to its products at any time without notice.

© 2010 Quickfilter Technologies, Inc.
All rights reserved.

Quickfilter, the Quickfilter logo and combinations thereof, are trademarks of Quickfilter Technologies, Inc.

Other product names used in this publication are for identification purposes only and may be trademarks of their respective companies.

www.quickfiltertech.com