MATRIX

e BLOCKS®

Voice CODEC board

Contents

About this document

This document concerns the EB032 E-blocks Voice CODEC board.

1. Trademarks and copyright
PIC and PICmicro are registered trademarks of Arizona Microchip Inc. E-blocks is a trademark of Matrix Technology Solutions Ltd.

2. Disclaimer
The information provided within this document is correct at the time of going to press. Matrix TSL reserves the right to change specifications from time to time.

3. Testing this product
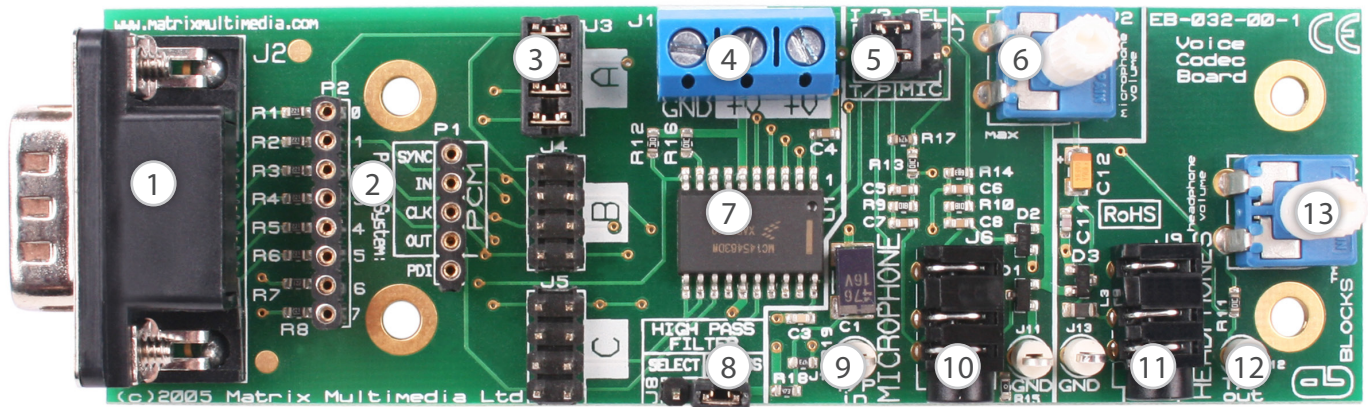It is advisable to test the product upon receiving it to ensure it works correctly. Matrix provides test procedures for all E-blocks, which can be found in the Support section of the website.

4. Product support
If you require support for this product then please visit the Matrix website, which contains many learning resources for the E-blocks series. On our website you will find:

- How to get started with E-blocks - if you are new to E-blocks and wish to learn how to use them from the beginning there are resources available to help.
- Relevant software and hardware that allow you to use your E-blocks product better.
- Example files and programs.
- Ways to get technical support for your product, either via the forums or by contacting us directly.

Board layout

1. 9-way downstream D-type connector
2. Patch system
3. Jumper settings
4. Screw terminals +V - 3.3V
5. Jumper selection, test pin or microphone
6. Microphone volume control
7. MC145483 chip
8. Jumper selection, filter or no filter
9. Audio IN test pin
10. Microphone input
11. Headphone input
12. Audio OUT test pin
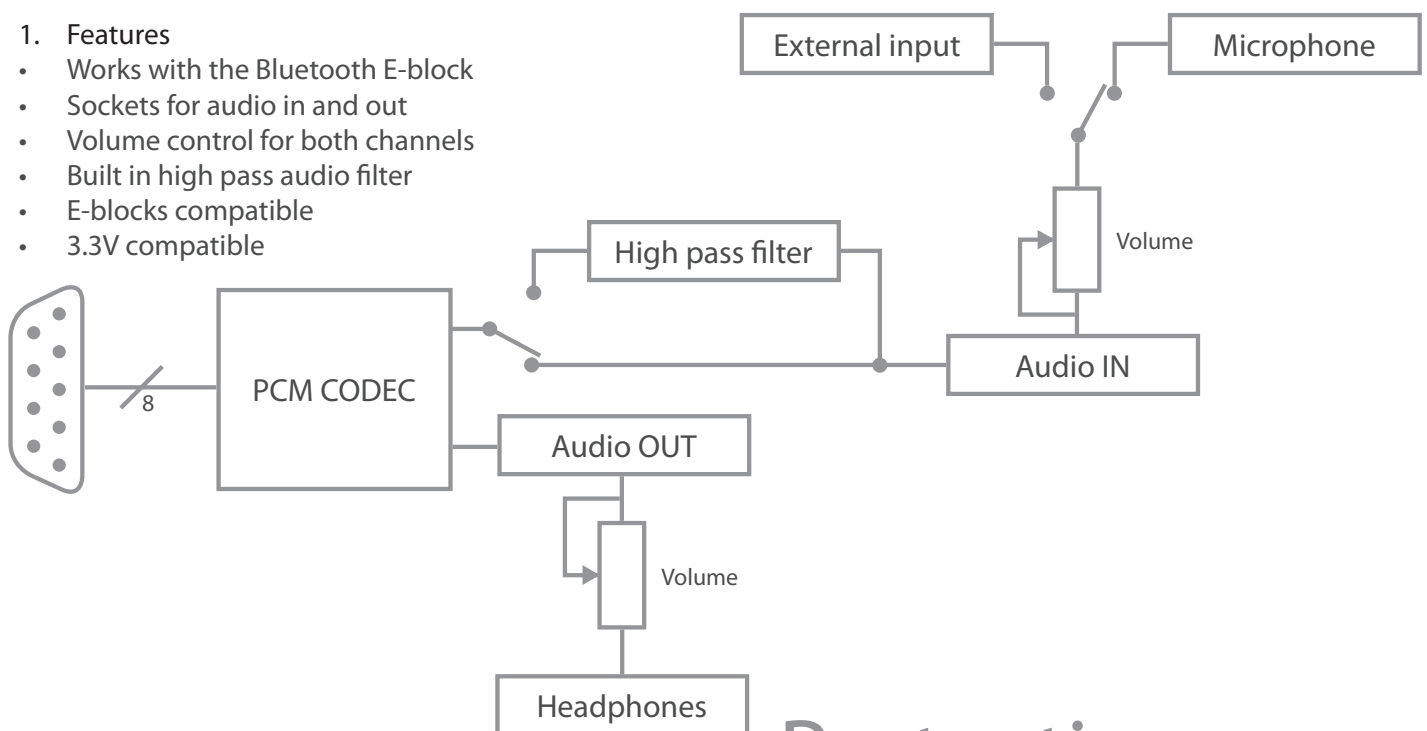13. Headphone volume control

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General information

The EB032 is designed to incorporate CODEC technology, and is capable of compressing and decompressing data. From the circuit diagram on page 6 it can be seen that the onboard chip is a MC145483. The MC145483 is a 13-bit linear PCM CODEC filter with 2's compliment data format. The device performs the voice digitalization and reconstruction as well as the band limiting and smoothing required for the voice coding in digital communications systems.

1. Features
- Works with the Bluetooth E-block
- Sockets for audio in and out
- Volume control for both channels
- Built in high pass audio filter
- E-blocks compatible
- 3.3V compatible

EB032 jumper settings

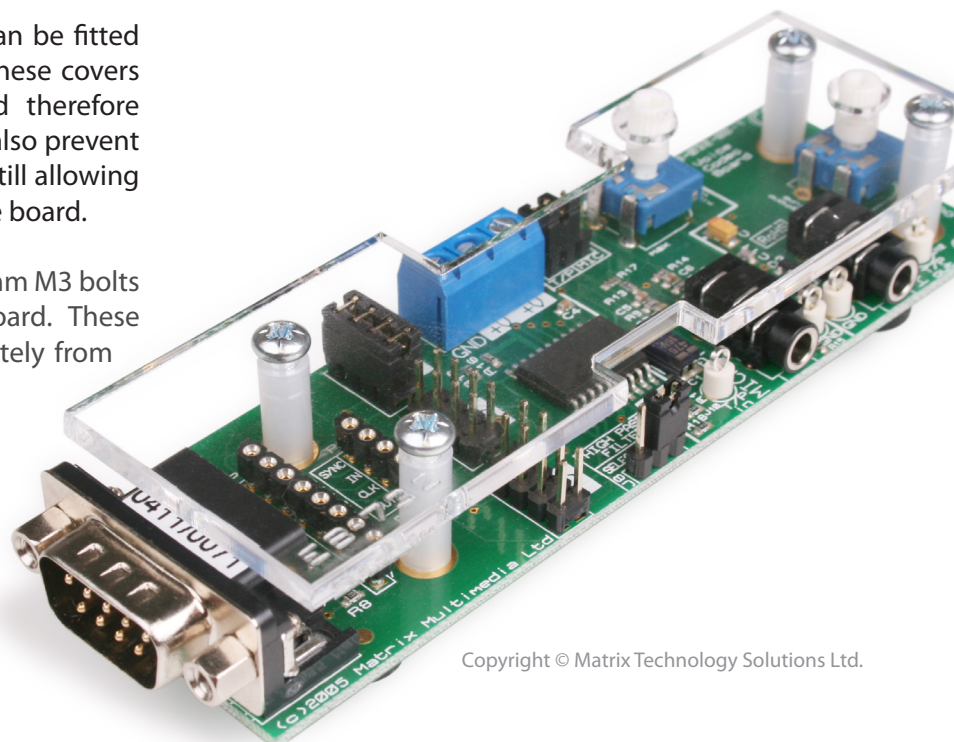| Pin	Jumper A	Jumper B	PATCH
PCM_Clock	0	2	Patch
PCM_Out	1	3	Patch
PCM_Sync	2	0	Patch
PCM_In	3	1	Patch

Protective cover

Most of the boards in the E-blocks range can be fitted with a plastic cover as an optional extra. These covers are there to protect your E-blocks board therefore extending the life of the board. The covers also prevent the removal of external components while still allowing for the adjustment of applicable parts on the board.
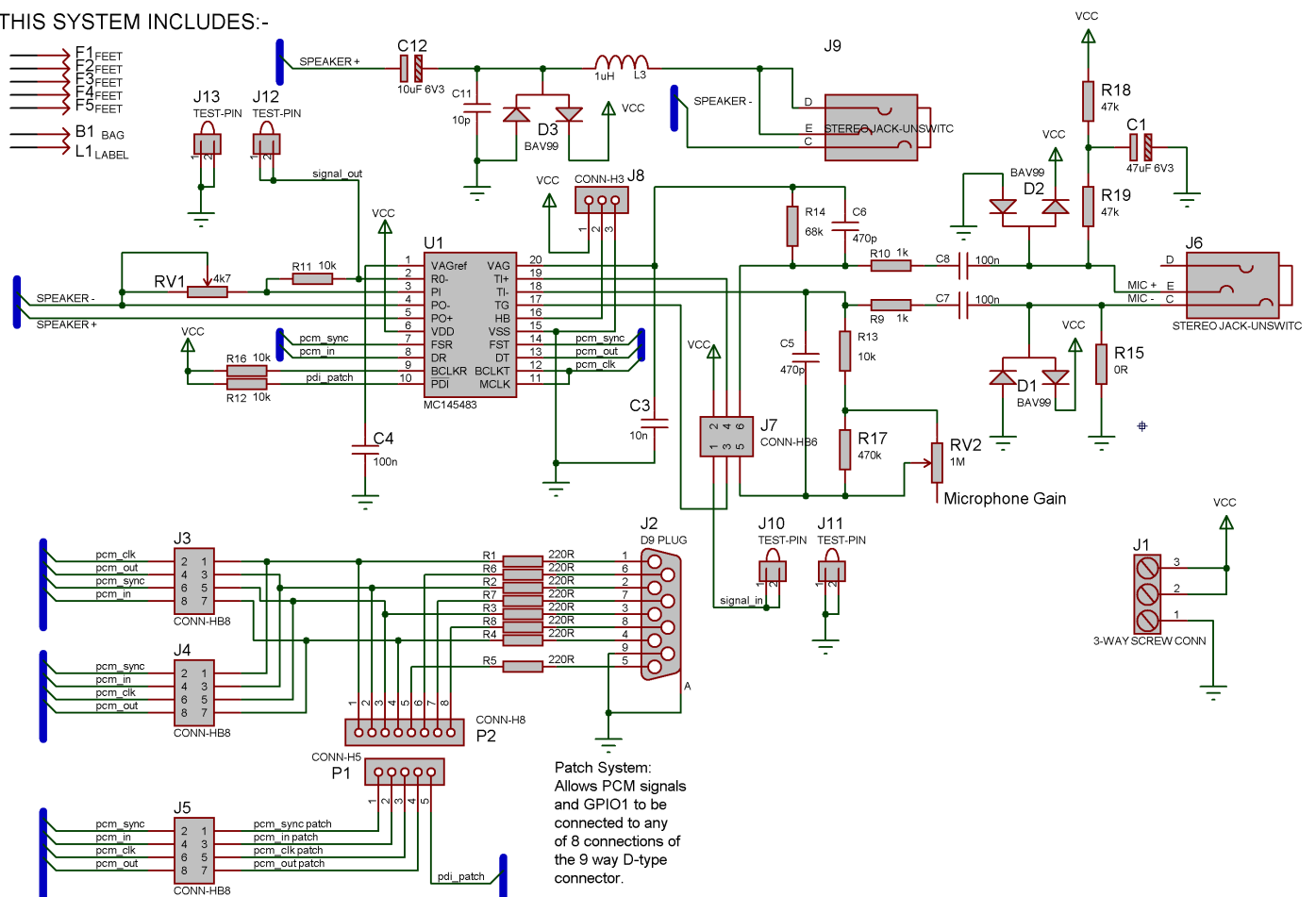
12mm M3 spacers, anti-slip M3 nuts and 25mm M3 bolts can be used to attached the cover to the board. These are not included but can be bought separately from our website.

The order code for the EB032 voice CODEC board is EB732.

Circuit diagram

THIS SYSTEM INCLUDES:-

F1 FEET
F2 FEET
F3 FEET
F4 FEET
F5 FEET

B1 BAG
L1 LABEL

Patch System:
Allows PCM signals
and GPIO1 to be
connected to any
of 8 connections of
the 9 way D-type
connector.

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