

CONNECTORS

Raspberry Pi Pin	Signal	Module Pin	Signal
1	3.3V	2	RPI_5V
3	GPI002_SDA1_I2C	4	5V
5	GPI003_SCL1_I2C	6	GND
7	GPI004_GCLK	8	GPI014_TXD0
9	GND	10	GPI015_RXD0
11	GPI017	12	GPI018
13	GPI027	14	RPI_BCK
15	GPI022	16	GND
17	3.3V	18	GPI023
19	GPI010_SPI_MOSI	20	GPI024
21	GPI009_SPI_MISO	22	GND
23	GPI011_SPI_CLK	24	GPI025
25	GND	26	GPI008_SPI_CEO_N
27	RPI_ID-SD	28	GPI007_SPI_CEI_N
29	RPI_GPIO5	30	ID_SD
31	RPI_GPIO6	32	ID_SC
33	RPI_GPIO13	34	RPI_GPIO12
35	RPI_FS	36	GND
37	RPI_GPIO26	38	GPI016
39	GND	40	GPI020
			GPI021

J2

AUDIO

The audio circuit includes a PCM5102A codec chip. Power is supplied from +3.3VA through a series of capacitors (C14-C21). Audio output is taken from OUTL and OUTR pins, passing through resistors R12 and R13 to connectors J8 (WHITE) and J9 (RED). Control signals include IMUTE, DEMP, FLT, BCK, DIN, LRC, SCK, CAPM, and CAPP. Microphone inputs are provided via MIC_I2S_SKT modules (MK1 and MK2).

POWER

The power section circuitry includes a USB connector interface, a voltage regulator, and RS485 transceivers.

USB Connector Interface: The USB connector (J1) provides VBUS, Shield, GND, D+, D-, ID, and TP1/TP2. The circuit includes a switch (SW1) and capacitors (C2, C4, C6) for signal conditioning and decoupling.

Voltage Regulation: The MIC5504-3.3YM5 voltage regulator converts the +5V input to a regulated +3.3V output. The input capacitor (C1) and output capacitor (C5) are 1uF, and the inductor (L1) is 80R@100M.

RS485 Interface: The DM62305UX transceivers (Q1A, Q1B) interface the RS485 lines (D, S) to the microcontroller. The circuit includes resistors (R1, R2, R11) and capacitors (C7, C8) for signal conditioning and decoupling.

EEPROM

The diagram illustrates the connection of an EEPROM (U3, 24C32) to an RPi. The RPi's 3V3, ID_SD, and ID_SC pins are connected to the VCC, SDA, and SCL pins of the EEPROM, respectively. The address pins A0, A1, and A2 of the EEPROM are connected to a 100nF capacitor (C13) and a pull-up network consisting of resistors R14 (3.9k), R15 (3.9k), and R16 (1k). A jumper JP2 is shown connecting the GND pin of the EEPROM to the common ground of the RPi.

MECHANICAL

FID1 FID2 FID3 FID4 FID5 FID6

H1 H2 H3 H4

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