+5V +3.3V

A1
Raspberry PI

5V | 2
5V | 4
3V3 | 1
3V3 | 17

GPIO14/TXD | 8
GPIO15/RXD | 10
ID_SD/GPIO0 | 27
ID_SC/GPIO1 | 28

RPI_LED | 36 GPIO16
RPI_CLK_OUT | 11 GPIO17
RPI_DATA_OUT | 12 GPIO18/PWM0
SDA/GPIO2 | 3 I2C_SDA
SCL/GPIO3 | 5 I2C_SCL

RPI_RST | 35 GPIO19/MISO1
38 GPIO20/MOSI1
40 GPIO21/SCLK1
GCLK0/GPIO4 | 7 SW4_BACK
GCLK1/GPIO5 | 29 SW5_INSERT
GCLK2/GPIO6 | 31

SW2_UP | 15 GPIO22
SW3_DOWN | 16 GPIO23
RPI_ATN | 18 GPIO24
RPI_DATA_IN | 22 GPIO25
RPI_CLK_IN | 37 GPIO26
SW1_ENTER | 13 GPIO27
CE1/GPIO7 | 26
CE0/GPIO8 | 24
MISO0/GPIO9 | 21
MOSI0/GPIO10 | 19
SCLK0/GPIO11 | 23

PWM0/GPIO12 | 32
PWM1/GPIO13 | 33

BZ1
Buzzer
1
2
GND

6 9 14 20 25 30 34 39
GND GND GND GND GND GND GND GND
GND

U1
7406

RPI_DATA_OUT | 1 1A   VCC | 14 +5V
C64_DATA | 2 1Y   6A | 13
RPI_CLK_OUT | 3 2A   6Y | 12   C1
C64_CLK_OUT | 4 2Y   5A | 11   100nF
5 3A   5Y | 10
6 3Y   4A | 9
7 GND 4Y | 8   GND
GND

+5V
A2
I2C LC
C64_RST C64_DATA

+3.3V
RPI_RST | 1 LV1   HV1 | 12
RPI_DATA_IN | 2 LV2   HV2 | 11
3 LV   HV | 10
4 GND   GND | 9
RPI_CLK_IN | 5 LV3   HV3 | 8   C64_CLK_OUT
RPI_ATN | 6 LV4   HV4 | 7   C64_CLK
C64_ATN
R1 R2
1k 1k
GND
GND

J2
C64_IEC
C64_RST
C64_DATA | 5
C64_CLK | 4
C64_ATN | 3   1
2   7
GND

J3
C64_IEC
C64_RST
C64_DATA | 5
C64_CLK | 4
C64_ATN | 3   1
2   7
GND

Power section

DC_5V
+5V
J1
DC IN
1
3
2
+ C6
470uF
GND

+3.3V
R6
330*
RPI_PWR
LED_PWR

R7
330*
RPI_LED
LED_ACT

* Resistor values need to be adjusted according to type
of LED installed on front panel. Sensible values for
bright LEDs is significantly higher than what is specified.

J8
Module_Panel
+3.3V   +3.3V
GND | 1
LED_PWR | 2   LED_PWR
LED_ACT | 3   LED_ACT
SCL | 4   I2C_SCL
SDA | 5   I2C_SDA
ENTER | 6   SW1_ENTER
UP | 7   SW2_UP
DOWN | 8   SW3_DOWN
BACK | 9   SW4_BACK
INSERT | 10   SW5_INSERT
GND | 11
VCC | 12
R3   R4
10k* 10k*
GND

* R3/R4 is used with rotary encoder, not
needed when used with standard switches.

It's a PI1541, and it's the third one I've made for almost no reason beyond wanting to
build another one. It is designed for use with 1.3" displays and rotary encoder, for
anything else - consider previous versions instead.

Sheet: /
File: C64 Pi1541-III Module.sch
Title: PI1541-III Module
Size: A3   Date: Rev: A
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