MSX Edge connector
(Cartridge)

J1

D0 34 D0 A0 28 A0
D1 33 D1 A1 27 A1
D2 36 D2 A2 30 A2
D3 35 D3 A3 32 A3
D4 38 D4 A4 31 A4
D5 37 D5 A5 22 A5
D6 40 D6 A6 21 A6
D7 39 D7 A7 24 A7
BUSDIR 10 BUSDIR A8 25 A8
/INT 8 INT A9 17 A9
/WAIT 7 WAIT A10 20 A10
/M1 9 M1 A11 19 A11
/RESET 15 RESET A12 23 A12
/RFSH 6 RFSH A13 26 A13
CLOCK 42 CLOCK A14 18 A14
/MREQ 12 MREQ A15 19 A15
/IORQ 11 IORQ SW@1 44
/WR 13 WR SW@2 46
/RD 14 RD +12V 48
/CS1 1 CS1 −12V 50
/CS2 2 CS2 GND@1 41
/CS12 3 CS12 GND@2 43
/SLTSL 4 SLTSL +5V@1 45
5 RES@1 +5V@2 47
16 RES@2 SOUNDIN 49
+5V

EDGE CONN

EEPROM that can be re−written
by software using the AT28C256
programming software from the
MSX−DOS prompt

+5V U3
AT28C256

A0 10 A0 D0 11 D0
A1 9 A1 D1 12 D1
A2 8 A2 D2 13 D2
A3 7 A3 D3 15 D3
A4 6 A4 D4 16 D4
A5 5 A5 D5 17 D5
A6 4 A6 D6 18 D6
A7 3 A7 D7 19 D7
A8 25 A8
A9 24 A9
A10 21 A10
A11 23 A11
A12 2 A12
A13 26 A13
MEM_A14 1 A14

/WR 27 WE
/RD 22 OE
/MEM_CE 20 CS

28 VCC
14 GND

CPLD to decode MSX BUS and
serial−paralell conversion
between MSX and Rasberry Pi

U2
EPM3064ALC44

+3.3V
3 PD/_VCC

43 GCLK1
1 GCLR/
44 OE1
2 OE2−GCLK2

A7 12 IO1 VCC@1 15 +3.3V
D6 11 IO3 VCC@2 23
SPI_CS 9 IO4 VCC@3 35
SPI_CLK 8 IO5
TDI 7 IO8/TDI
SPI_MOSI 6 IO14
/WR 5 IO14
SPI_MISO 4 IO16
A2 21 IO17
D0 20 IO19
D2 19 IO20
D4 18 IO21

A4 16 IO25
A0 14 IO30 GND@1 42
TMS 13 IO32/TMS GND@2 10
A6 24 IO33 GND@3 17
A3 25 IO35 GND@4 22
D36 26 IO36 GND@5 30
/RD 27 IO37 GND@6 36
/IORQ 28 IO40
/WAIT 29 IO41
BUSDIR 31 IO46
TCK 32 IO48/TCK
A5 33 IO49
A1 34 IO51

D1 37 IO53
TDO 38 IO56/TDO
D3 39 IO57
SPI_RDY 40 IO62
D5 41 IO64

Raspberry Pi GPIO

J4

39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2
+5V +5V

oSPI_CS oSPI_CLK oSPI_MOSI oSPI_MISO nSPI_CS nSPI_RDY nSPI_RDY
nSPI_CLK nSPI_MISO nSPI_MOSI

Connector for the USB−Blaster
to program the CPLD

+5V TDI TMS TDO TCK +5V

J2
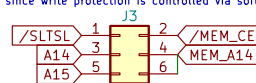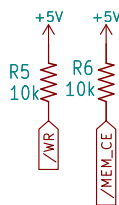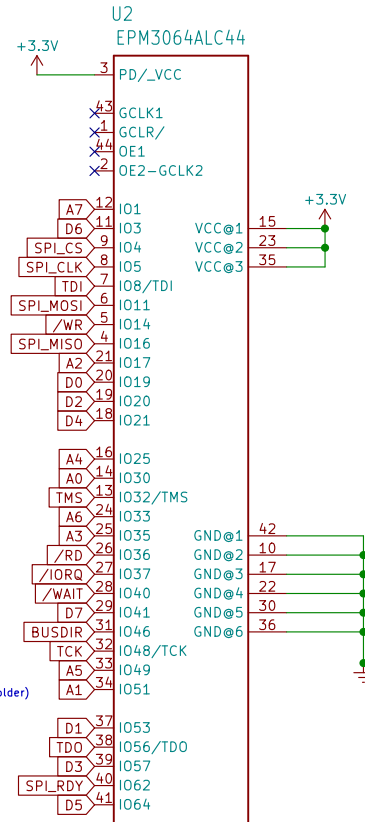
R1 10K
R2 10K
R3 10K
R4 10K

1 2
3 4
5 6
7 8
9 10

JTAG

Jumpers to select ROM Bank,
and enable the EEPROM for writing.
J2 is optional (may be permanently closed with solder)
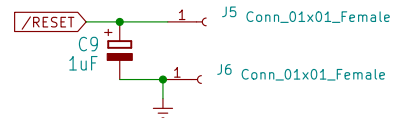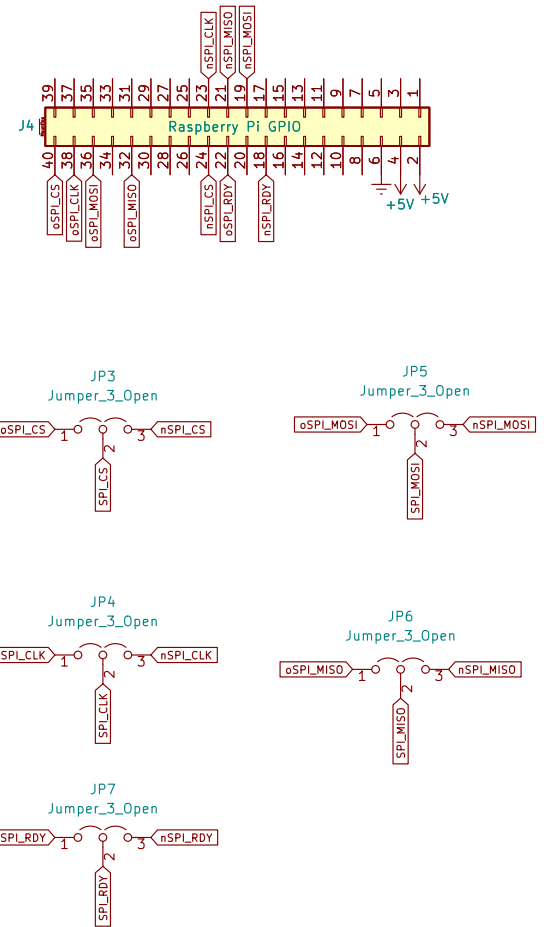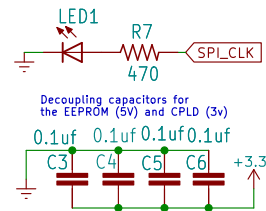since write protection is controlled via software.

J3

/SLTSL 1 2 /MEM_CE
A14 3 4 MEM_A14
A15 5 6

Voltage converter 5v to 3.3v
to power the CPLD

+5V

C1 0.1uf
C7 0.1uf
C8 0.1uf
C2 0.1uf
U1
LD117A
IN OUT
ADJ
+3.3V

Pullups for the EEPROM
Control signals

+5V +5V
R5 10k R6 10k
/WR /MEM_CE

Flashing Led, driven
by the SPI_Clock signal.

LED1 R7 470 SPI_CLK

Decoupling capacitors for
the EEPROM (5V) and CPLD (3v)

0.1uf 0.1uf 0.1uf 0.1uf
C3 C4 C5 C6 +3.3V

JP3
Jumper_3_Open
oSPI_CS 1 3 nSPI_CS
2
SPI_CS

JP5
Jumper_3_Open
oSPI_MOSI 1 3 nSPI_MOSI
2
SPI_MOSI

JP4
Jumper_3_Open
oSPI_CLK 1 3 nSPI_CLK
2
SPI_CLK

JP6
Jumper_3_Open
oSPI_MISO 1 3 nSPI_MISO
2
SPI_MISO

JP7
Jumper_3_Open
oSPI_RDY 1 3 nSPI_RDY
2
SPI_RDY

/RESET
C9 1uf
J5 Conn_01x01_Female
J6 Conn_01x01_Female

MSXPi Interface V1.1 Rev.1
RCC @ 2017 − 2023

MSXPi interface − connect MSX computer to Raspberry Pi
EEPROM AT28C256 re−writeatable from MSX−DOS
EEPROM software: https://github.com/costarc/msxcart_flash32k

2023−05−01