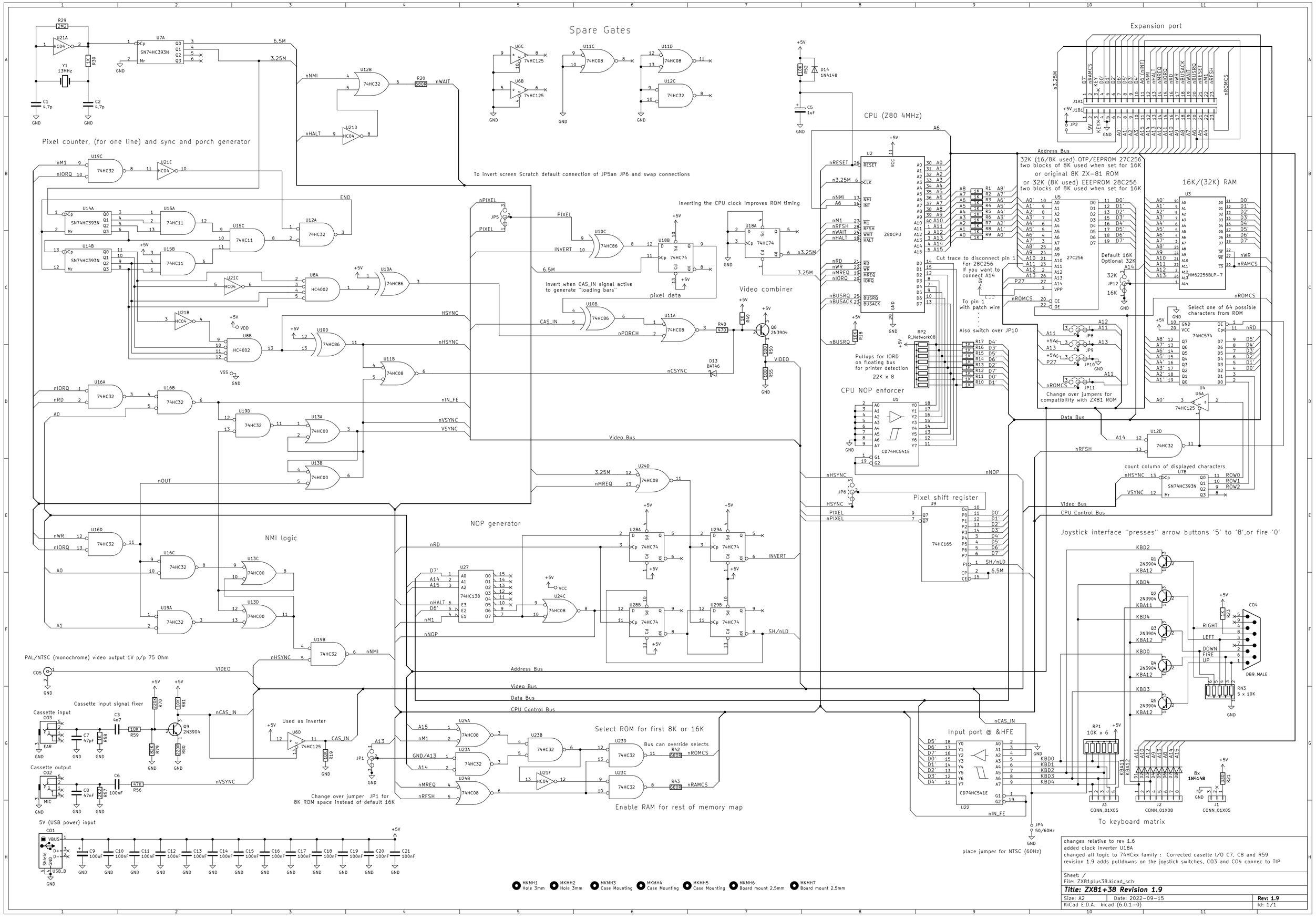
Spare Gates
Pixel counter, (for one line) and sync and porch generator
Expansion port
CPU (Z80 4MHz)
Address Bus
32K (16/8K used) OTP/EEPROM 27C256
two blocks of 8K used when set for 16K
or original 8K ZX-81 ROM
or 32K (8K used) EEEPROM 28C256
two blocks of 8K used when set for 16K
16K/(32K) RAM
To invert screen Scratch default connection of JP5an JP6 and swap connections
Inverting the CPU clock improves ROM timing
Cut trace to disconnect pin 1
For 28C256
If you want to
connect A14
To pin 1
with patch wire
Also switch over JP10
Video combiner
Pullups for IORD
on floating bus
for printer detection
22K x 8
CPU NOP enforcer
Select one of 64 possible
characters from ROM
Change over jumpers for
compatibility with ZX81 ROM
Data Bus
count column of displayed characters
Video Bus
CPU Control Bus
Pixel shift register
Joystick interface "presses" arrow buttons '5' to '8',or fire '0'
NMI logic
NOP generator
PAL/NTSC (monochrome) video output 1V p/p 75 Ohm
Cassette input signal fixer
Cassette input
Cassette output
Used as inverter
Select ROM for first 8K or 16K
Bus can override selects
Enable RAM for rest of memory map
Change over jumper JP1 for
8K ROM space instead of default 16K
Input port @ &HFE
To keyboard matrix
5V (USB power) input
place jumper for NTSC (60Hz)
changes relative to rev 1.6
added clock inverter U18A
changed all logic to 74HCxx family : Corrected casette I/O C7, C8 and R59
revision 1.9 adds pulldowns on the joystick switches, CO3 and CO4 connec to TIP
Sheet: /
File: ZX81plus38.kicad_sch
Title: ZX81+38 Revision 1.9
Size: A2
Date: 2022-09-15
Rev: 1.9
KiCad E.D.A. kicad (6.0.1-0)
Id: 1/1
MKMH1 Hole 3mm
MKMH2 Hole 3mm
MKMH3 Case Mounting
MKMH4 Case Mounting
MKMH5 Case Mounting
MKMH6 Board mount 2.5mm
MKMH7 Board mount 2.5mm