

K-MOUSE 2015

K-MOUSE 2015 is mouse and multijoystick interface for ZX Spectrum and compatible computers. Can work only as Kempston mouse or Kempston joystick or Fuller joystick or Sinclair joystick or QWERT joystick in one time.

- Push mouse button for active Kempston mouse mode + disable joy
- Push joy fire for active joystick mode + disable mouse

Interface use CANON9 connector for connect standard Atari joy or real Amiga mouse. If real Amiga mouse is connect to CANON9 then mouse FIRE deactive PS/2 mouse and Amiga mouse work as Kempston mouse and in same time as A-MOUSE.

Video out connector is usable only on ZX16 and ZX48 models.

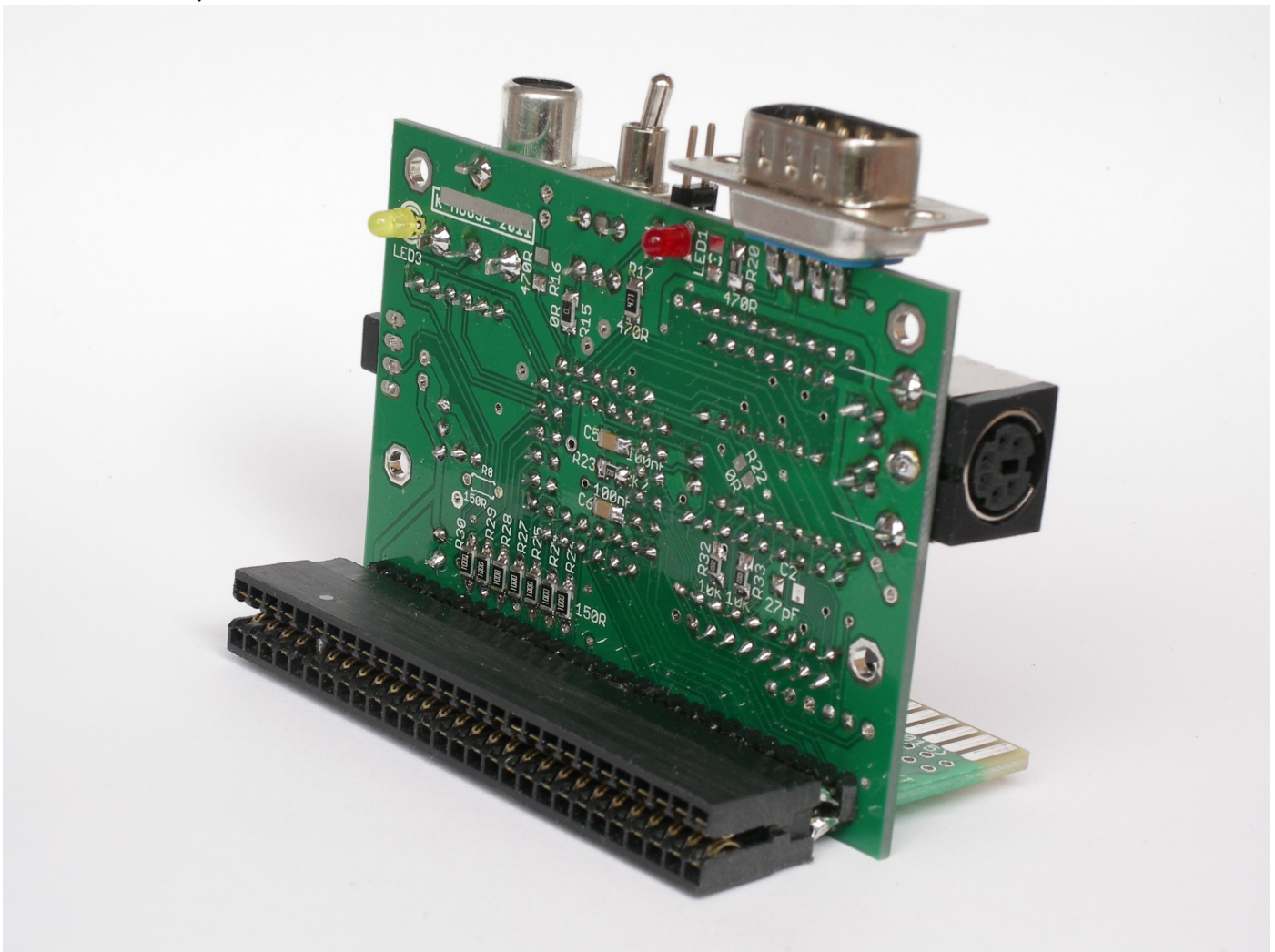
IM2 fixed vector table address (correct floating bus value):

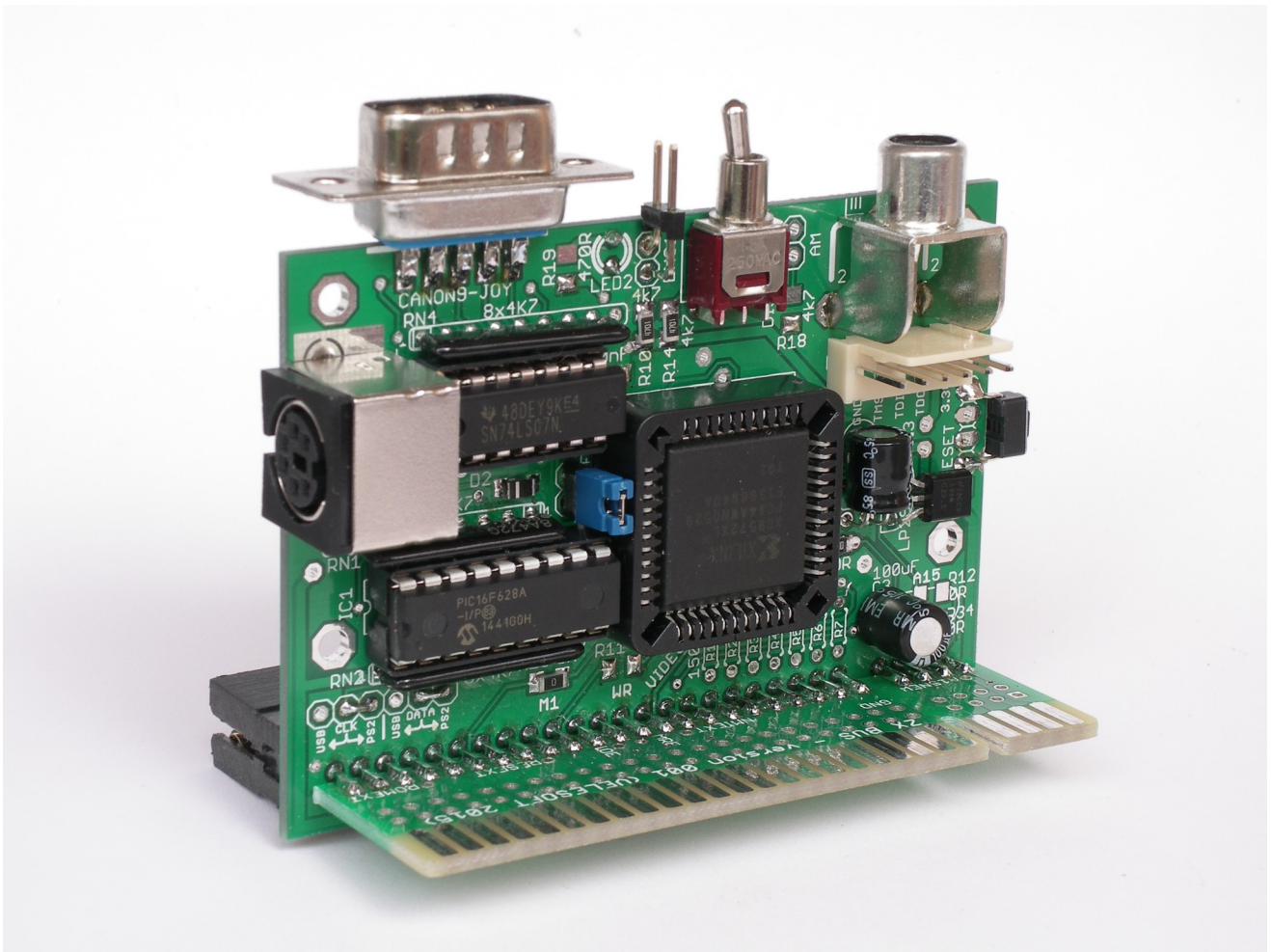
K-MOUSE return to data bus correct 8bit low address (#FF) of vector table. Will work software with incomplete vector table.

PS/2 or USB:

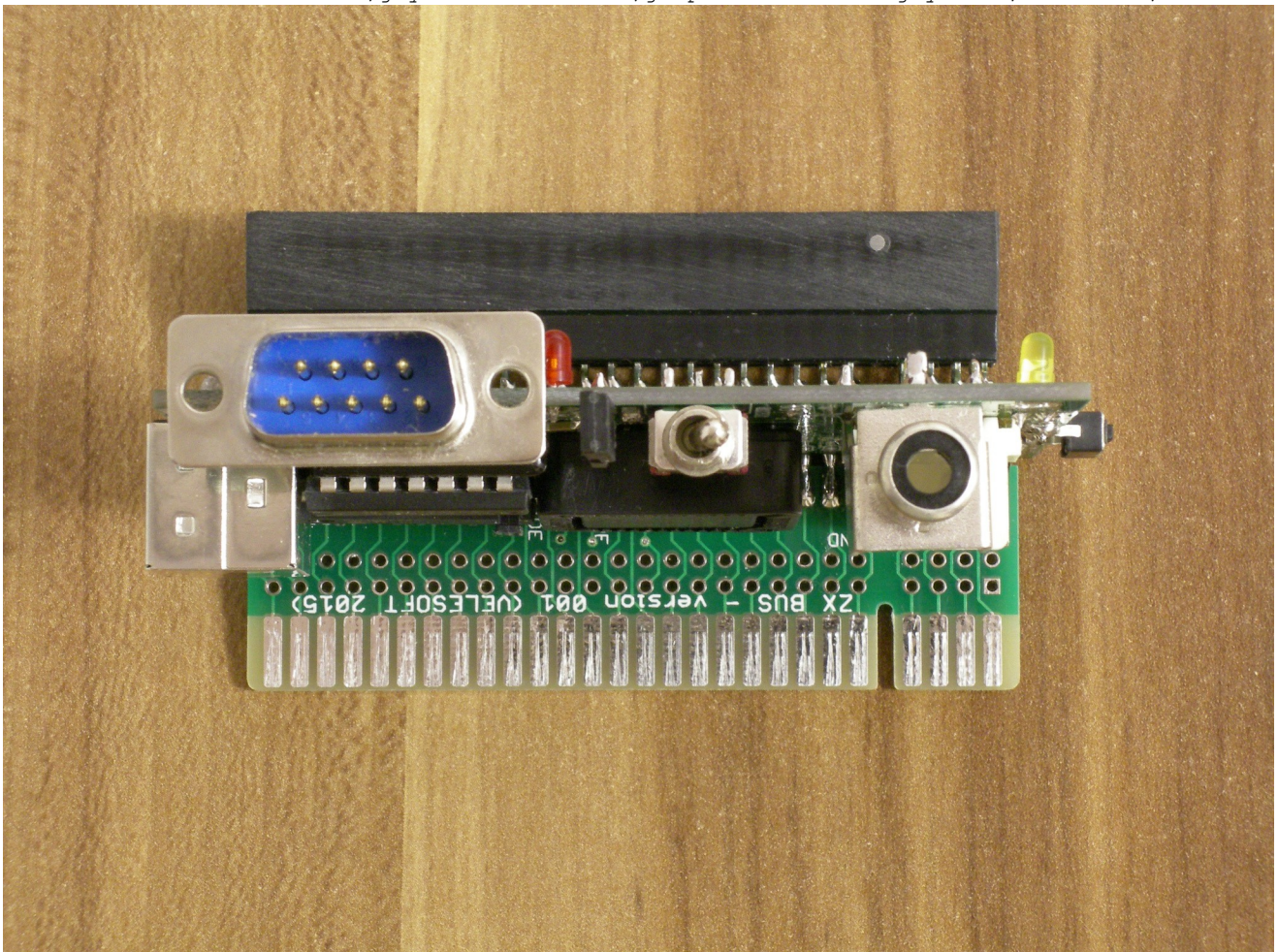
You can use PS/2 or USB connector for PC mouse. Interface support PS/2 protocol and is possible connect USB mouse with PS/2 protocol too(USB/PS2 mouse).

Version with PS/2 connector:



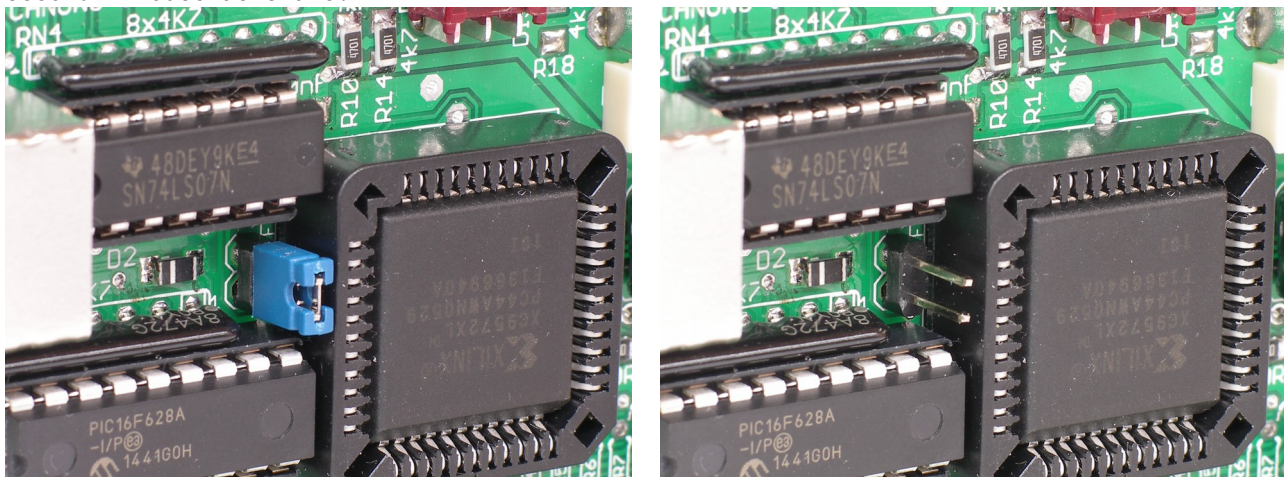


From left: mouse connector, joystick connector, jumper+switch for joy mode, video out, reset button.



Jumper on board is used for MASTER(connect) or SLAVE(disconnect) mode switching.

In same time is possible connect two k-mouse interfaces, but one must be in master mode and second k-mouse as slave.



Joystick mode switching support

Warning: joystick modes SINCLAIR and QWERT are unusable on ZX128+2A/+2B/+3 models !

If you connect next interface with own kempston joystick, please switch k-mouse to FULLER mode.

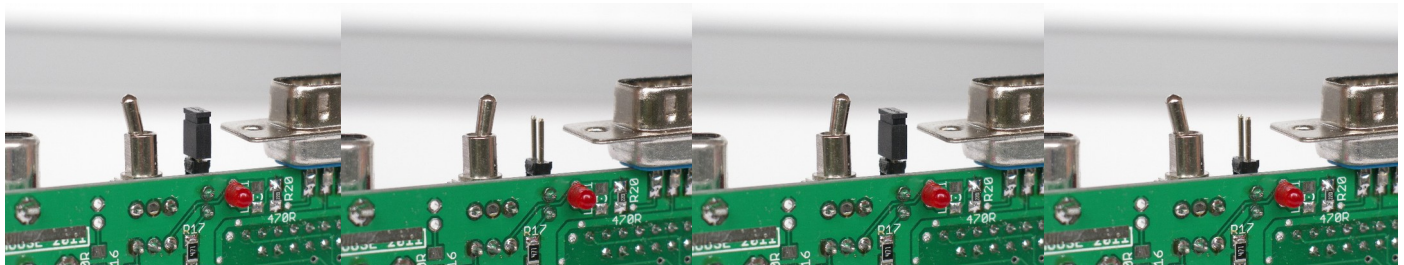
If you connect two k-mouse interfaces (master + slave) then can't be set same joystick mode.

KEMPSTON

FULLER

SINCLAIR

QWERT



JOYSTICK PORTS:

port 31 (#1F) - KEMPSTON JOY
 port 61438 (#EFFE) - SINCLAIR JOY
 port 127 (#7F) - FULLER JOY
 port 64510 (#FBFE) - QWERT JOY

EXTRA MODE: (extra mode is available only if is set kempston or fuller joystick mode)

Press L+R+M mouse buttons = enter to EXTRA MODE. Now interface wait for next buttons:

- press L+R+M mouse buttons in EXTRA MODE = reset K-MOUSE features + exit EXTRA MODE
 - press L+R mouse buttons in EXTRA MODE = exit EXTRA MODE without change features (CANCEL)
 - press L mouse button = reset or enable values on kempston port #1F (reset port=IN 31 return 0)
 - press R mouse button = exchange left and right mouse buttons
 - press M mouse button = switch between fast and slow(4x slower) mouse mode
 - move mouse WHEEL more than 4 step - disable / enable read mouse wheel on button port.
- If wheel is off then D4-D7 on button port return 1111.

Ports addressing:

master K-MOUSE ports

buttons = 64223(#FADF) xxx1x0x0 11011111 (D4-D7=4bit wheel counter)
 X-AXIS = 64479(#FBDF) xxx1x0x1 11011111
 Y-AXIS = 65503(#FFDF) xxx1x1x1 11011111
 detect = 65247(#FEDF) xxx1x1x0 11011111 (return stable value 128(#80))

slave K-MOUSE ports

buttons = 2783 (#0ADF) xxx0x0x0 11011111 (D4-D7=4bit wheel counter)
 X-AXIS = 3039 (#0BDF) xxx0x0x1 11011111
 Y-AXIS = 4063 (#0FDF) xxx0x1x1 11011111
 detect = 3807 (#0EDF) xxx0x1x0 11011111 (return stable value 128(#80))

A-MOUSE/KEMPSTON JOY = 31 (#1F) 00011111

FULLER JOY = 127(#7F) 01111111

SINCLAIR = 61438(#EFFE) xxx0xxxx xxxxxxxx0 (keys 6,7,8,9,0 for SINCLAIR JOY mode)
 + 65278(#FEFE) xxxxxxxx0 xxxxxxxx0 (keys Z,X for fire2 and fire 3)

QWERT JOY= 64510(#FBFE) xxxxx0xx xxxxxxxx0 (Q,W,E,R,T keys mode)
 + 65278(#FEFE) xxxxxxxx0 xxxxxxxx0 (keys C,V for fire2 and fire 3)

Ports info:

K-MOUSE: 3 buttons + wheel support

mouse buttons port:

D0- right button
D1- left button
D2- middle button
D3- always log.1
D4- \
D5- \ 4bit mouse
D6- / wheel counter
D7- /
(press button = log.0)

A-MOUSE / KEMPSTON JOYSTICK: port 31(#1F)

D0- XB / joy RIGHT
D1- YB / joy LEFT
D2- XA / joy DOWN
D3- YA / joy UP
D4- left button / joy FIRE 1
D5- right button / joy FIRE 2
D6- middle button / joy FIRE 3
D7- always log.0
(all signals on port #1F is active in log.1)

FULLER JOYSTICK: port 127(#7F)

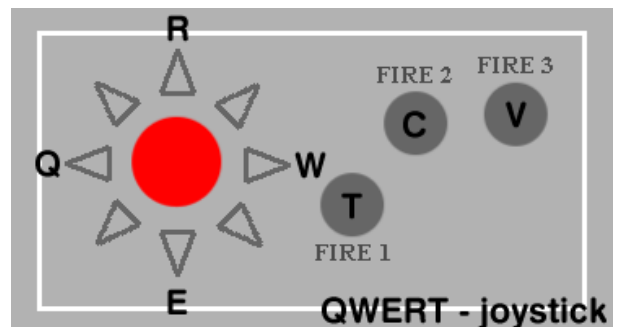
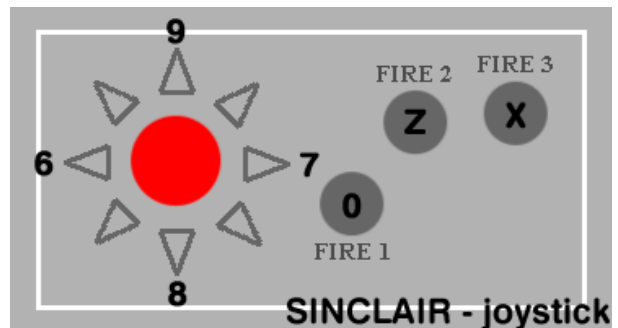
D0- YA / joy RIGHT
D1- XA / joy LEFT
D2- YB / joy DOWN
D3- XB / joy UP
D4- always log.1
D5- middle button / joy FIRE 3
D6- right button / joy FIRE 2
D7- left button / joy FIRE 1
(all signals on port #7F is active in log.0)

SINCLAIR JOYSTICK: port 61438(#EFFE)

D0- FIRE 1 - key "0"
D1- UP - key "9"
D2- DOWN - key "8"
D3- RIGHT - key "7"
D4- LEFT - key "6"
Next buttons for SINCLAIR mode: port 65278(#FEFE)
D1- FIRE 2 - key "Z"
D2- FIRE 3 - key "X"
(all signals is active in log.0)

QWERT JOYSTICK: port 64510(#FBFE)

D0- LEFT - key "Q"
D1- RIGHT - key "W"
D2- DOWN - key "E"
D3- UP - key "R"
D4- FIRE - key "T"
Next buttons for QWERT mode: port 65278(#FEFE)
D3- FIRE 2 - key "C"
D4- FIRE 3 - key "V"
(all signals is active in log.0)



Software with mouse support:

<http://velesoft.speccy.cz/kmssoft.htm>

Mouse drivers + source code:

http://velesoft.speccy.cz/k-mouse_driver.htm

Software for Amiga mouse support:

<http://velesoft.speccy.cz/othermouse-cz.htm>