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Rocky Enterprise Linux 9.2 Manual Pages on command 'mouse.4'

\$ man mouse.4

MOUSE(4) Linux Programmer's Manual

MOUSE(4)

NAME

mouse - serial mouse interface

CONFIGURATION

Serial mice are connected to a serial RS232/V24 dialout line, see

ttyS(4) for a description.

DESCRIPTION

Introduction

The pinout of the usual 9 pin plug as used for serial mice is:

- pin name used for
- 2 RX Data
- 3 TX -12 V, Imax = 10 mA
- 4 DTR +12 V, Imax = 10 mA
- 7 RTS +12 V, Imax = 10 mA
- 5 GND Ground

This is the specification, in fact 9 V suffices with most mice.

The mouse driver can recognize a mouse by dropping RTS to low and rais?

ing it again. About 14 ms later the mouse will send 0x4D ('M') on the

data line. After a further 63 ms, a Microsoft-compatible 3-button mouse will send 0x33 ('3').

The relative mouse movement is sent as dx (positive means right) and dy (positive means down). Various mice can operate at different speeds. To select speeds, cycle through the speeds 9600, 4800, 2400, and 1200 bit/s, each time writing the two characters from the table below and waiting 0.1 seconds. The following table shows available speeds and the strings that select them:

bit/s string 9600 *q 4800 *p 2400 *o 1200 *n

The first byte of a data packet can be used for synchronization pur? poses.

Microsoft protocol

The Microsoft protocol uses 1 start bit, 7 data bits, no parity and one stop bit at the speed of 1200 bits/sec. Data is sent to RxD in 3-byte packets. The dx and dy movements are sent as two's-complement, lb (rb) are set when the left (right) button is pressed:

> byte d6 d5 d4 d3 d2 d1 d0 1 1 lb rb dy7 dy6 dx7 dx6 2 0 dx5 dx4 dx3 dx2 dx1 dx0 3 0 dy5 dy4 dy3 dy2 dy1 dy0

3-button Microsoft protocol

Original Microsoft mice only have two buttons. However, there are some three button mice which also use the Microsoft protocol. Pressing or releasing the middle button is reported by sending a packet with zero movement and no buttons pressed. (Thus, unlike for the other two but? tons, the status of the middle button is not reported in each packet.) Logitech protocol

Logitech serial 3-button mice use a different extension of the Micro? soft protocol: when the middle button is up, the above 3-byte packet is

sent. When the middle button is down a 4-byte packet is sent, where the 4th byte has value 0x20 (or at least has the 0x20 bit set). In particular, a press of the middle button is reported as 0,0,0,0x20 when no other buttons are down.

Mousesystems protocol

The Mousesystems protocol uses 1 start bit, 8 data bits, no parity and two stop bits at the speed of 1200 bits/sec. Data is sent to RxD in 5-byte packets. dx is sent as the sum of the two two's-complement val? ues, dy is send as negated sum of the two two's-complement values. Ib (mb, rb) are cleared when the left (middle, right) button is pressed:

byte d7 d6 d5 d4 d3 d2 d1 d0 1 1 0 0 0 0 lb mb rb 2 0 dxa6 dxa5 dxa4 dxa3 dxa2 dxa1 dxa0 3 0 dya6 dya5 dya4 dya3 dya2 dya1 dya0 dxb6 dxb5 dxb4 dxb3 dxb2 dxb1 dxb0 4 0 5 0 dyb6 dyb5 dyb4 dyb3 dyb2 dyb1 dyb0 Bytes 4 and 5 describe the change that occurred since bytes 2 and 3

were transmitted.

Sun protocol

The Sun protocol is the 3-byte version of the above 5-byte Mousesystems protocol: the last two bytes are not sent.

MM protocol

The MM protocol uses 1 start bit, 8 data bits, odd parity and one stop bit at the speed of 1200 bits/sec. Data is sent to RxD in 3-byte pack? ets. dx and dy are sent as single signed values, the sign bit indicat? ing a negative value. Ib (mb, rb) are set when the left (middle, right) button is pressed:

byte d7 d6 d5 d4 d3 d2 d1 d0 1 1 0 0 dxs dys lb mb rb 2 0 dx6 dx5 dx4 dx3 dx2 dx1 dx0 3 0 dy6 dy5 dy4 dy3 dy2 dy1 dy0

FILES

A commonly used symbolic link pointing to a mouse device.

SEE ALSO

ttyS(4), gpm(8)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at https://www.kernel.org/doc/man-pages/.

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