

PS/2 Archeology

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Connector

AT/XT : 5-pin DIN

1. Clock
2. Data
3. Not Implemented
4. Ground
5. Vcc (+5V)

PS/2 : 6-pin DIN

1. Data
2. Not Implemented
3. Ground
4. Vcc (+5V)
5. Clock
6. Not Implemented

i8042 Controller, Mouse & Keyboard

- port 0x60 and 0x64
- irq
 - 1 : keyboard
 - 12 : mouse
- 2 ports on the controller :
 - Normal port (keyboard)
 - Auxiliary port (mouse)
 - Sometime multiplexer on AUX port

PS/2 Bus

- bidirectional serial line per port
- RX : events
- TX : commands

IBM Model M Keyboard



Keyboard Protocol

- XT : Scancodes sent to the host
 - Ordered from the layout of the keyboard :
 - Pressed 'A' : 0x1e
 - Released 'A' : 0x1e | 0x80
 - Some key are multibytes :
 - Right Ctrl : 0xe0 0x1d
 - referred as Grey Code

Now it gets complicated...

- IBM AT !
- 3 scan codes : XT, AT & PS/2
- all nearly the same, but not really
- default scan code : AT !

By default, i8042 controller is in XT mode, so there is hope !

Mouse : modes

- Reset Mode
- Stream Mode
- Remote Mode
- Wrap Mode

3 Buttons Mouse

	7	6	5	4	3	2	1	0
0	y0	x0	ys	xs	ao	bm	br	bl
1	xm							
2	ym							

Cheat codes !

Upgrade mouse with special command sequences !

```
SetSampleRate(200)
```

```
SetSampleRate(100)
```

```
SetSampleRate(80)
```

Get's you the wheel !

Questions ?