ThinkPads

Input devices and their influence on mechanical keyboards

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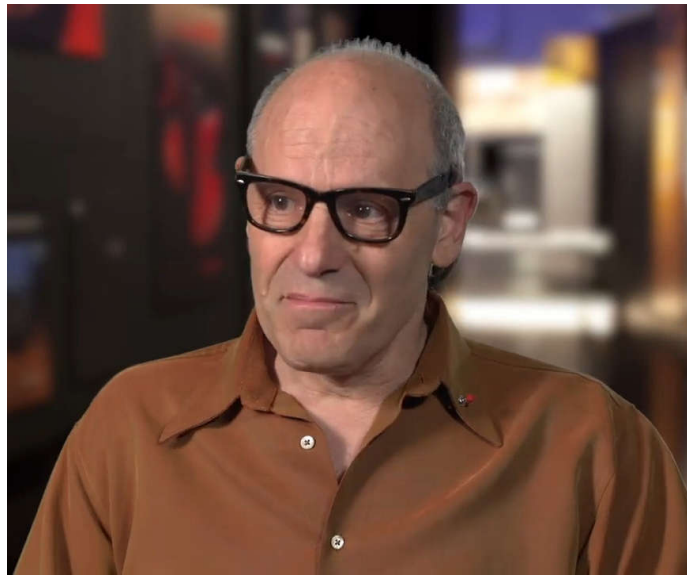
  - Faxinformatiker 📠
  - ThinkPad-Museum 💻

ThinkPad museum

- Online museum as **blog**
- lists collection details
  - **80** different notebooks
  - **3** PDAs
  - **19** docking stations
  - I can stop collecting at any time!
- monthly **podcast** (🇩🇪)
- 🔴 thinkpad-museum.com

Short TrackPoint history

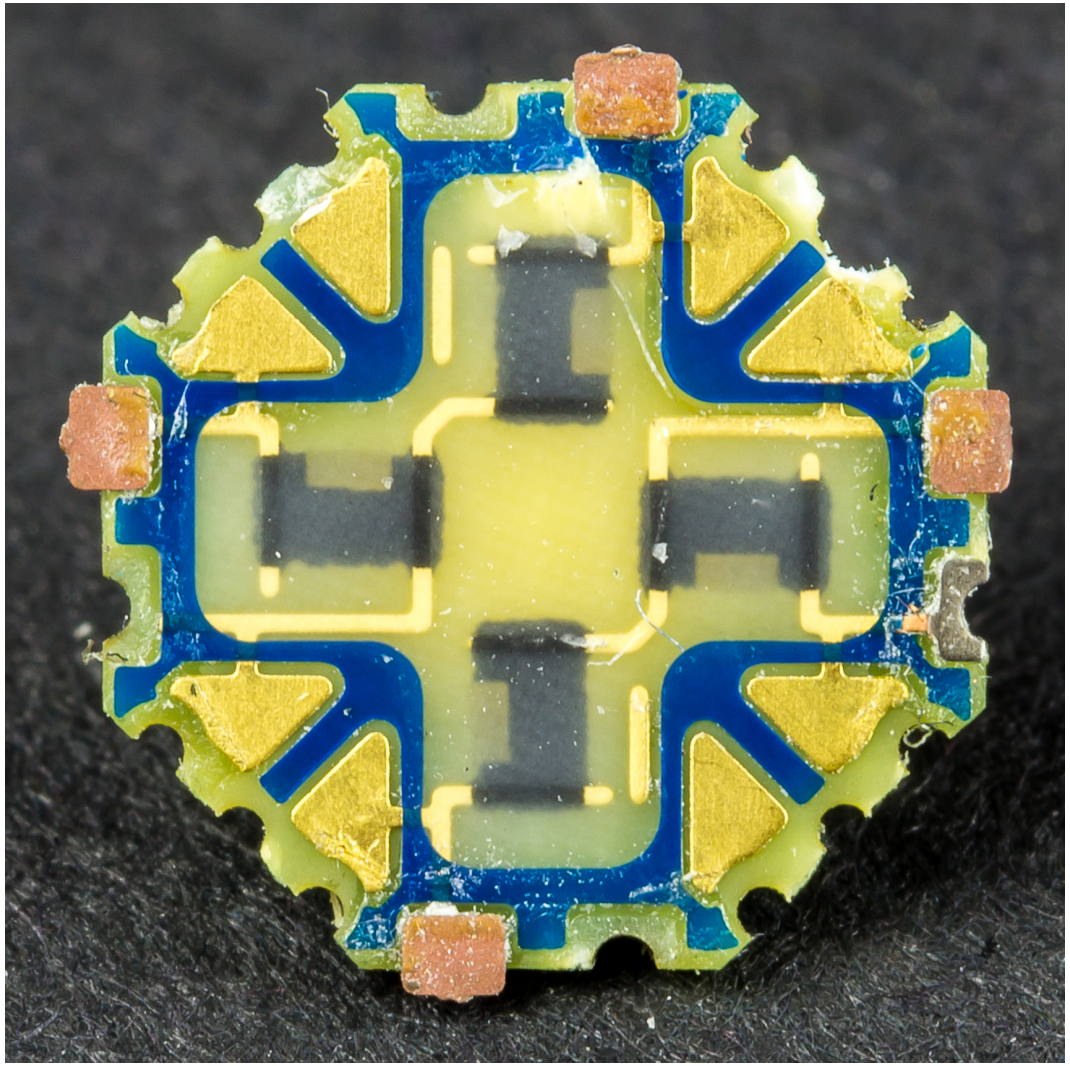
- invented in the late **1980s** by **Dr. Ted Selker** as a mouse replacement*
- Rubber surface between the **G**, **H** and **B** buttons
- **precise** operation, reminiscent of **joystick**
  - Finger can remain on the keyboard
  - no “touchpad rowing"
  - requires training
- went into production with the ThinkPad 700
  - also inspired other manufacturers



[1], Patent expired **2007**, other manufacturers also had alternatives before then

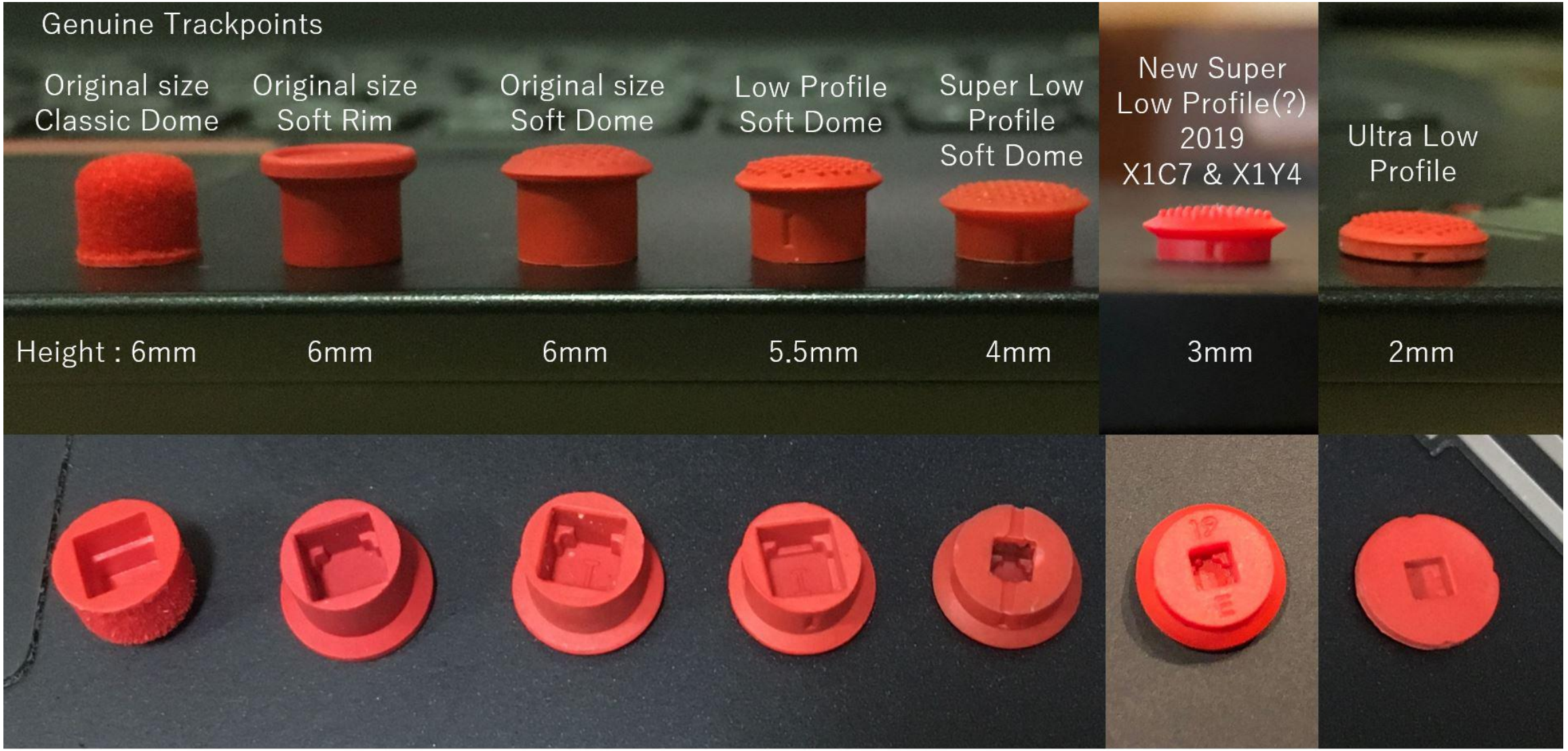
Short TrackPoint history

- Function is based on **measurement** of the force exerted via **stretch marks**
- these are **elastically** deformed, permanently applied **tension** thus changes
- integrated circuit converts these analog signals
- can now also be found in other keyboards



[2], Patent expired **2007**, other manufacturers also had alternatives before then

Trivia: Different TrackPoint types



[3].

Keyboards

- were **USP** for ThinkPads for a long time
  - pleasant tactile feedback
  - indestructible quality
  - easy to change
- IBM built high-quality keyboards for a long time
- Numerous changes over the years
  - no longer anything special 😢

IBM and keyboards

- IBM produced long keyboards after typewriters
  - Model B - **Beamspring** (1972 - 1983)
  - Model F - capacitive **Buckling Springs** (1981 - 1986)
  - Model M - membrane Buckling Springs (1984 - 1996)
- Not all keyboards were legendary: **IBM PCjr Keyboard**
- In 1991, Lexmark was formed through the sale of IBM's printer/keyboard division
- 1996 IBM stopped selling Buckling Spring keyboards
- Ex-IBM/Lexmark employees founded Unicomp
- Model F and B have also been produced again since 2016

Hear also CCH029 - Model F and CCH015 - Model M

IBM PCjr Keyboard (1983)

[4].

IBM PCjr Keyboard (1984) and Vortex PC66 (2023)

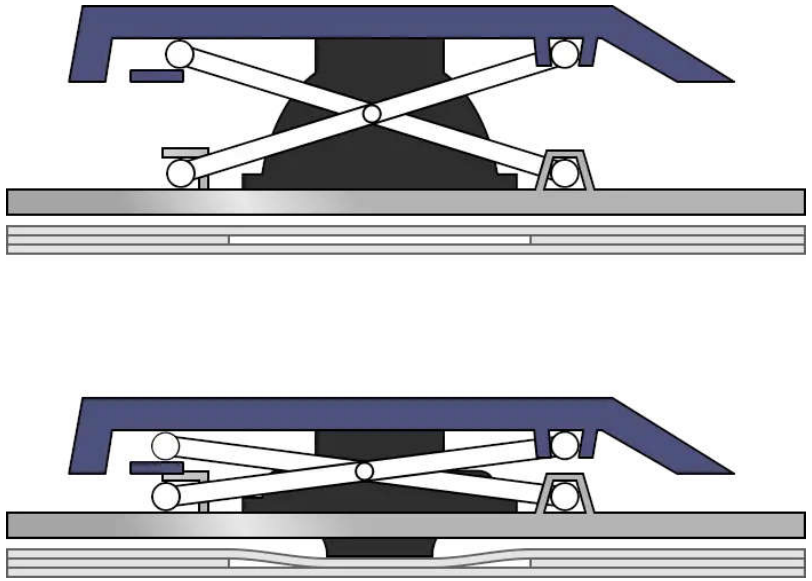
Revised IBM PCjr Keyboard

Vortex PC66 keyboard

[5].

ThinkPad keyboards

- all generations have **scissor switches**
  - formerly NMB, Chicony, ALPS, now only Chicony and LiteOn
- Opposite stabilizers, connected via a hinge
- enables scissor mechanism with low height
- the **key travel** decreased over the years
  - 3mm (199x), 2.5mm (2000-2012), 2.1mm (2013-2017), **1.8mm** (2016-2021), 1.5mm (2021-2024), 1.35mm (since 2021)



[6].

OG keyboard (here: 760EL, 1996)

- 7-row design, only 6 rows on small devices (e.g. 240)
- no special keys or LEDs, from the 700 (1992) to the 600X (2000)

Classic keyboard (here: T23, 2002)

- introduced with the A/T/X20, had also **middle mouse button**
- **special buttons** (volume, setup), status **LEDs** and on/off button

Precision keyboard (X230, 2012)

Classic keyboard revival (T25, 2017)

ThinKeys and Pineapple 60s projects

ThinKeys (2022)

Pineapple 60s (2020-2025)

[7], [8]

Influence on mechanical keyboards

- There are also mechanical keyboards in **ThinkPad style**, e.g:
  - Tex Shinobi
    - Replica of IBM/Lenovo SK-8845/8855
    - ABS, Cherry MX1A, USB-C, 1.2 kg
    - optionally as DIY edition with hotswap
  - Tex Shura (60%, TrackPoint and UltraNav)
    - ABS (US) or laser (EU/JIS), Cherry MX1A, USB-C, 1.0 kg
    - optionally as DIY edition with hotswap
- Keycaps
  - GMK ThinkCaps, black keys, grey and blue accents
    - optionally also classic IBM colours

Lenovo SK-8855 and Tex Shinobi

Lenovo SK-8855 (2009)

Tex Shinobi (2020)

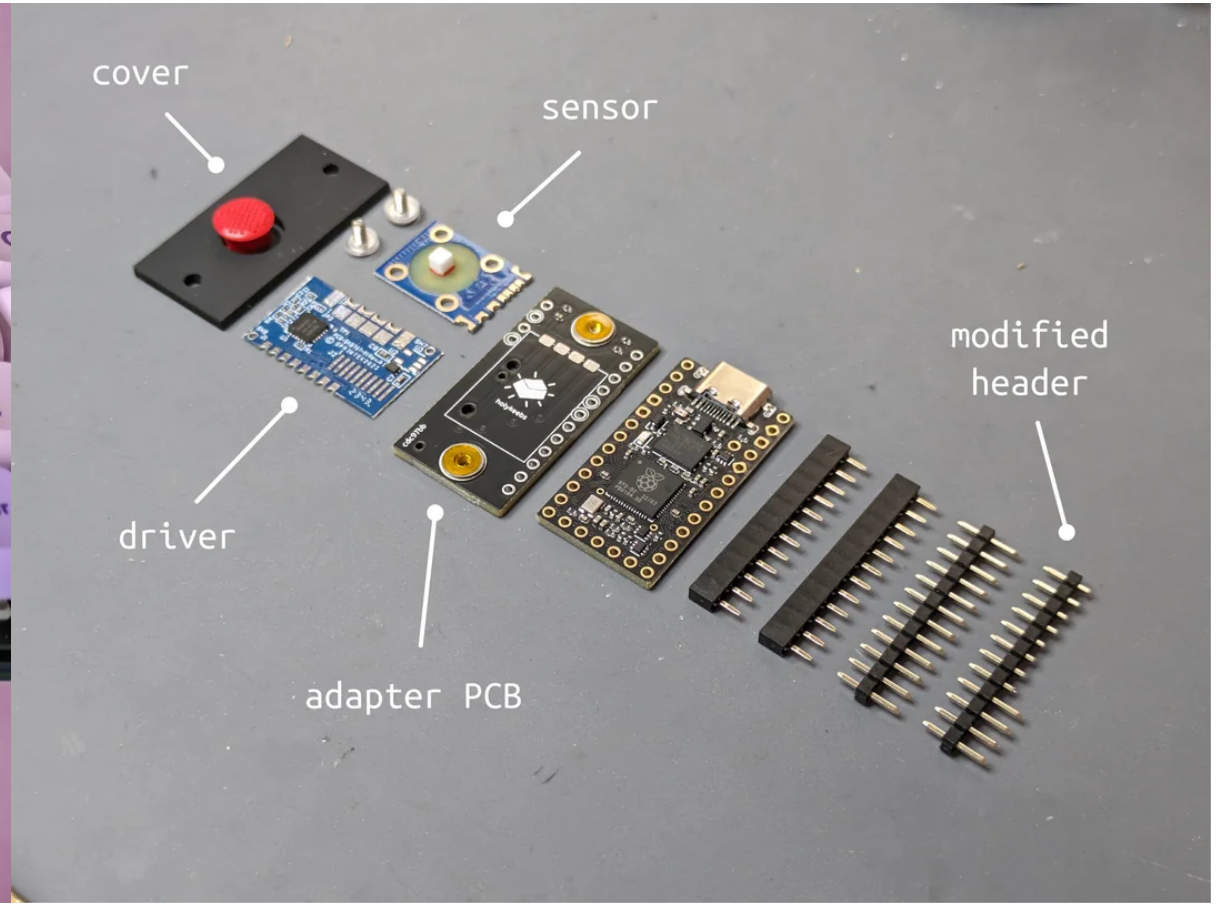
[9], [10]

Tex Shura (2022)

Optional aluminium case

[11].

TrackPoint modules



e.g. available here

[12]

Links and image sources

- FrOSCon 2024: ThinkPads - Geschichte und Nerdkultur 📹🇩🇪
- MRMCD 2024: Eingabegeräte und Kuriositäten 📹🇩🇪
- ThinkPad-Forum and Wiki
- International ThinkWiki
- Laptop Retrospective 📹📖
- ThinkPad-Museum
- ThinkPad-Museum database
- Ted Selker
- TrackPoint PCB and types
- IBM PCjr Keyboard, Revised
- Scissor Switch
- ThinKeys and Pineapple 60s
- Lenovo SK-8855
- Tex Shinobi and Shura
- TrackPoint module

ThinkPad museum podcast

- published every **monthly**
- deals with the past and present
- news, models, techniques and personalities
- **interactive** format, guests welcome!
- available wherever you get your podcasts™
  - Feed, fyyd, Apple Podcasts, Spotify

Thank you for your attention