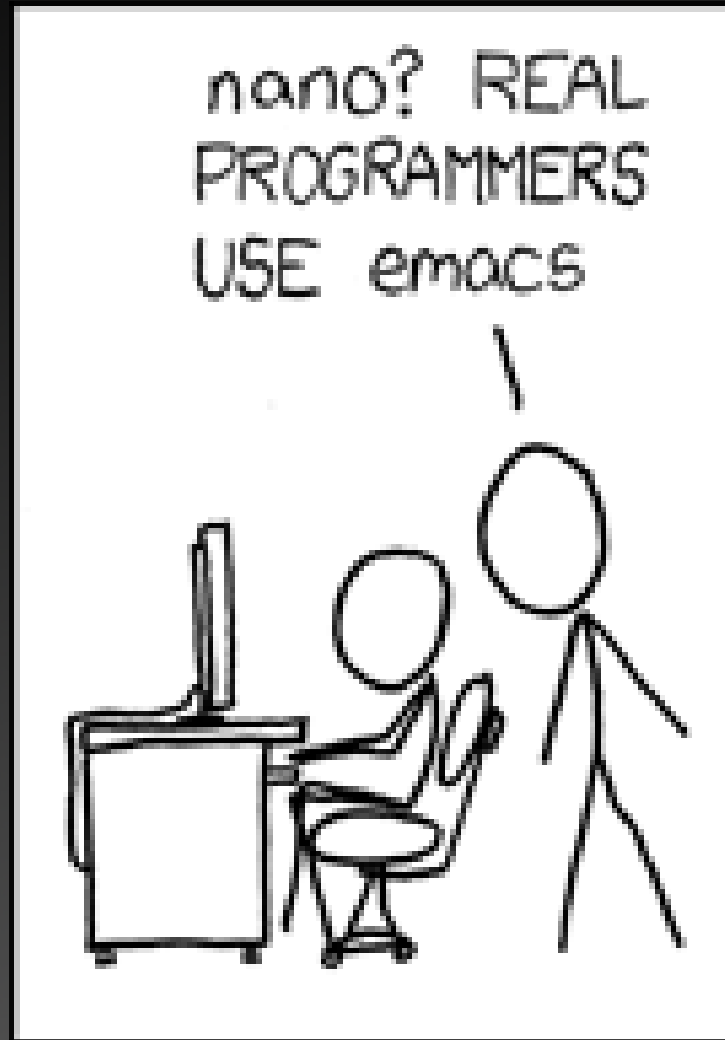


**What Makes A Programmer  
A Real Programmer?**

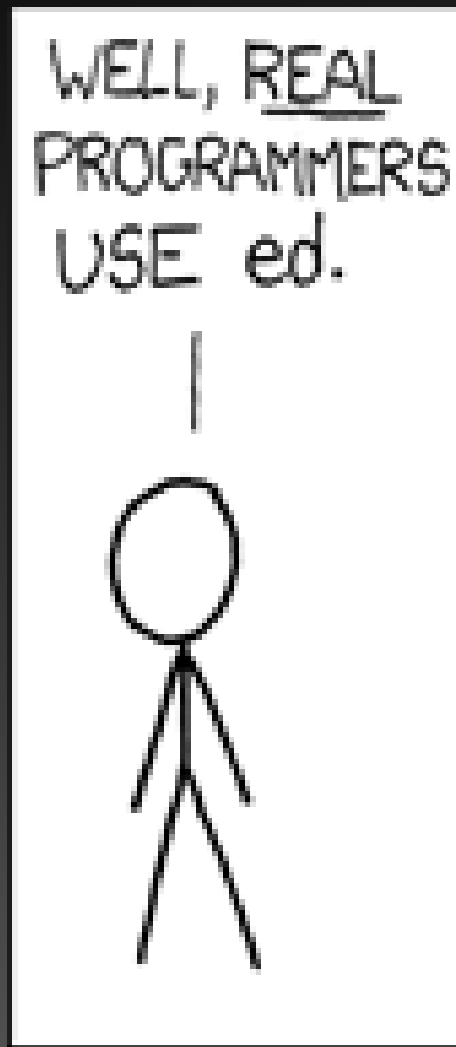
# Real Programmer



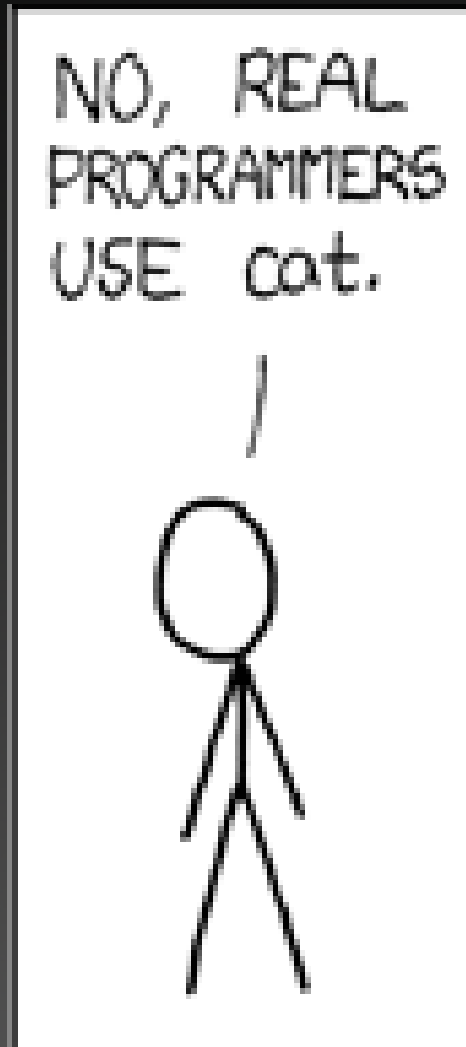
# Real Programmer



# Real Programmer

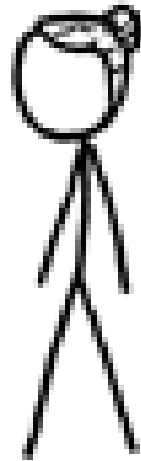


# Real Programmer



# Real Programmer

REAL PROGRAMMERS  
USE A MAGNETIZED  
NEEDLE AND A  
STEADY HAND.



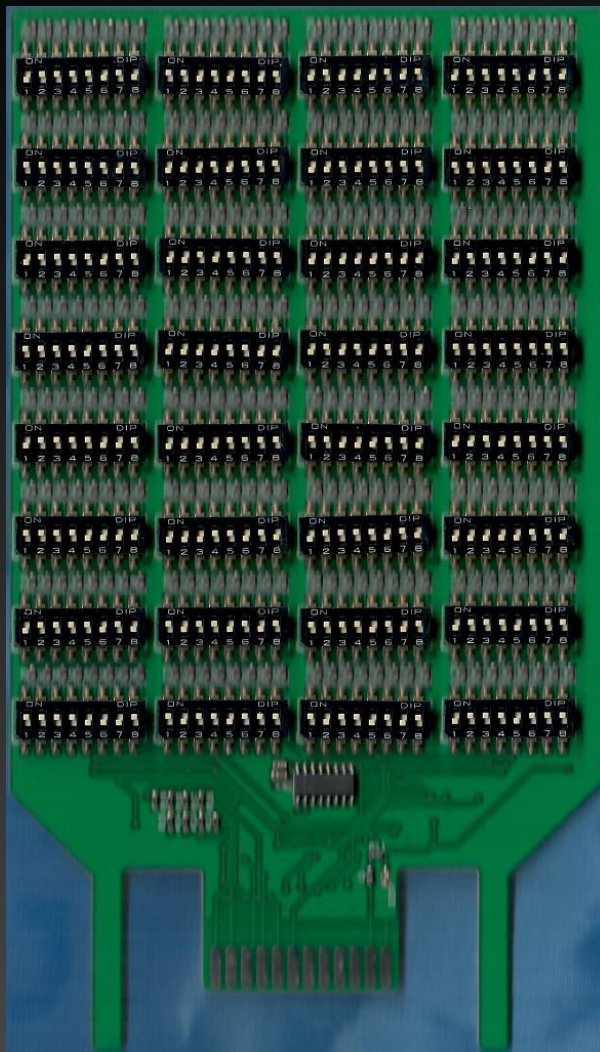
# Real Programmer

My needle doesn't have to be magnetized.

A screw driver works better anyway.

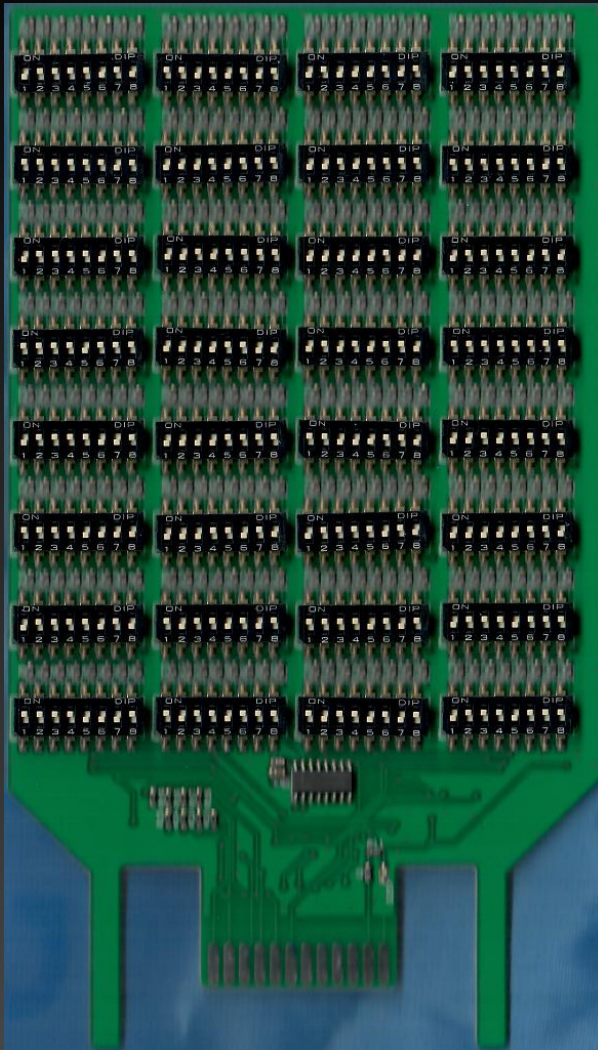


# Introducing: HARD 2632



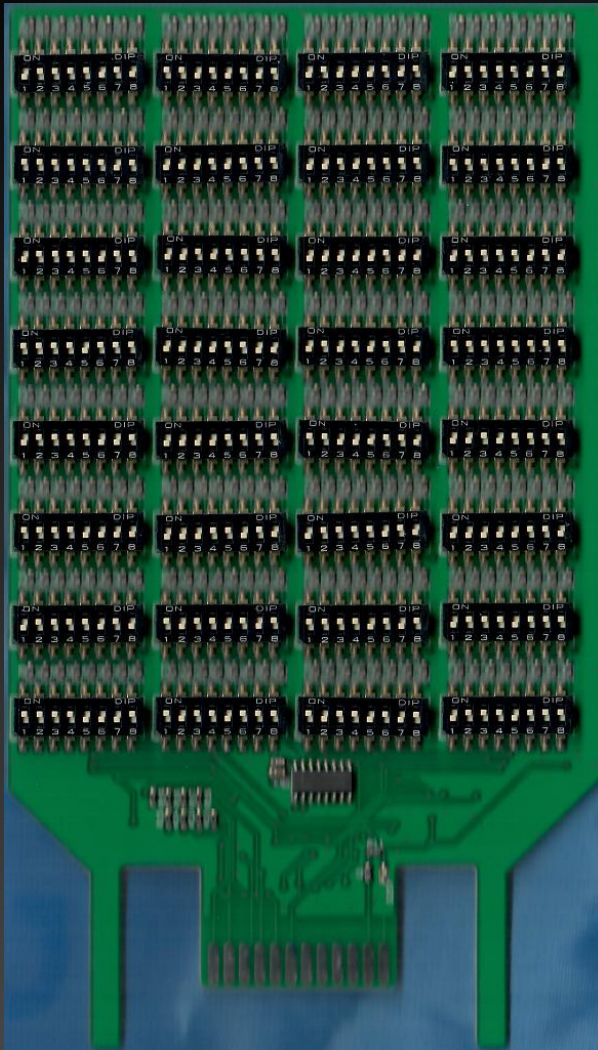


# HARD 2632



- 32 bytes of ROM
- Encoded using 8-Bit dip-switches
- Up = 0
- Down = 1
- Live hacking is possible ... until a crash ;-)

# HARD 2632



\$00	\$08	\$10	\$18
\$01	\$09	\$11	\$19
\$02	\$0A	\$12	\$1A
\$03	\$0B	\$13	\$1B
\$04	\$0C	\$14	\$1C
\$05	\$0D	\$15	\$1D
\$06	\$0E	\$16	\$1E
\$07	\$0F	\$17	\$1F

- Data is mirrored 128 times through ROM space

# HARD 2632

Live demonstration

# Thanks For Watching

- Homepage: <https://xayax.net/hard2632/>
- Questions? Just ask me here in person
- Comics taken from <https://www.xkcd.com/378/>
  - Hardware by Imp, code and idea by SvOlli
    - XAYAX and TRSI 2018