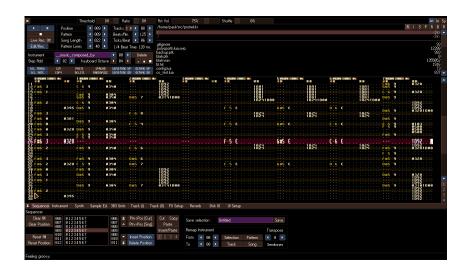
Hacking Protrekkr

Paul Batchelor

October 15, 2016

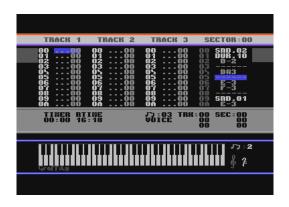
What is Protrekkr?



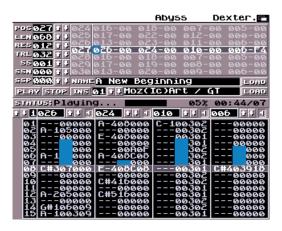
Protrekkr is a music tracker

- ▶ Popular interface for music production in the 80s and 90s
- Kind of looks like a spreadsheet?
- ► Time moves top/bottom instead of left/right
- ▶ Rows denote equal divisions of time
- Columns denote instruments/notes/tracks
- Typically sample-based
- ▶ There are a *lot* of music trackers...

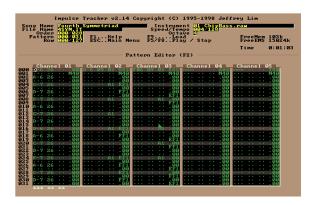
DMC (Commodore 64)



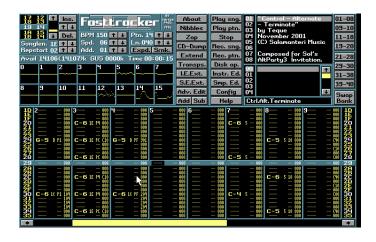
AHX (Amiga)



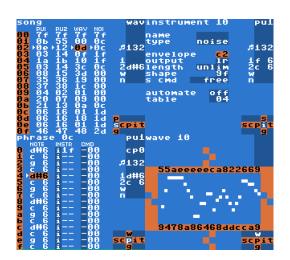
Impulse Tracker (DOS)



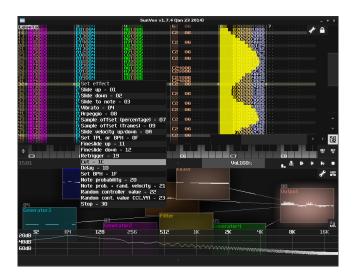
Fasttracker (DOS)



LSDJ (Gameboy)



Sunvox (Linux/Mac/Windows/Android/iOS)



Renoise (Linux/Mac/Windows)



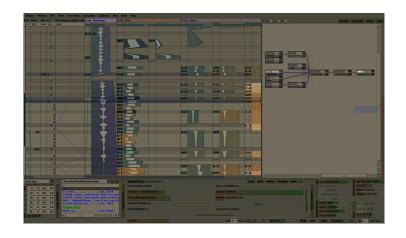
Milkytracker (Linux/Mac/Windows/Android/iOS)



Goattracker (Linux/Mac/Windows)

```
GOATTRACKER v1.4b (reSID + SDL)
                                                                       F12 = HELP
CHN1 PATT00
             CHN2 PATT01
                           CHN3 PATTO2
                                        CHN ORDERLIST (SUBTUNE 00, POS 00)
00 C-201000
             00 ===000DR
                           00 ===00708
                                            00 04 07 0D 09 RST00
01 ---00000
             01 ---000D8
                          01 ---00000
                                            01 05 08 0C 0A RST00
02 ---00000
             02 ---000DR
                                         3 02 03 0B 0E 06 RST00
                           02 ---00000
03 C-403000
             03 G-4020D8
                           03 ---00000
04 ===00000
             04 ---000D8
                          04 ---00000
                                        INSTRUMENT NUM. 01
                                                            Bass Guitar
05 C-301000
             05 ---000D8 05 ---00000
                                        Attack/Decay
                                                        02
                                                            W 81 C4 N POS
06 C-201000
             06 ===000D8
                          06 ---00000
                                        Sustain/Release 88
                                                            A 41 00 D 01
07 ---00000
             07 ---000D8
                           07 ---00000
                                        Pulse Width
                                                        40
                                                            V FF 00 T
08 ---00000
             08 ---000D8
                           08 ---00000
                                        Pulse Speed
                                                        20
                                                            E 00 00 E
09 C-403000
             09 G-4020D8
                          09 ---00000
                                        Pulse Limit Min 20
                                                            T 00 00 T
10 ---00000
              10 ---000D8
                           10 ---00000
                                        Pulse Limit Max 60
                                                            B 00 00 B Hardres.
11 ---00000
              11 ---000D8
                           11 ---00000
                                        Filter To Use
                                                            L 00 00 L ON
                                                        01
12 C-201000
              12 ===000D8
                           12 ---00000
13 ---00000
              13 ---000D8
                           13 ---00000
                                        FILTER NUM.
                                                        00
14 ---00000
              14 ---000D8
                          14 ---00000
                                        Filt Control
                                                        80
                                                            Filt Freg/Spd
                                                                             00
15 C-403000
              15 G-4020D8
                           15 ---00000
                                        Filt Tupe/Time
                                                        0F
                                                            Filt Next Step
                                                                             00
16 ===00000
              16 ---000DR
                           16 --- 00000
17 C-301000
              17 ---000D8
                           17 ---00000
                                        NAME:
18 G-201000
              18 ===000D8
                          18 ---00000
                                        MW Title Remix
OCTAVE 2
         STOPPED
                                                             CHN1
                                                                     CHNZ
                                                                            CHN3
JAM MODE
          00:00
                                                             000/00 000/00 000/00
```

Radium (Linux/Mac/Windows)



Famitracker (Windows)



and several others...

- Jeskola Buzz
- Modplug
- ► Schism
- ► Psycle
- Klystrack
- Adlib Tracker 2
- Soundtracker
- Cheesetracker
- OpenMPT

Why Protrekkr?

- ▶ It's a good start...
- Made for more modern computers (DAW/Tracker hybrid)
- Out-of-the-box JACK support (Linux)
- Built in subtractive synthesizer
- Signal processing: compressors, EQ + filters, Reverb
- ► Two programmable TB303 units!



What has been done thus far



- Refactoring
- ► Sporth + live coding server
- ► Lua Scripting
- Some vi-ish keybindings (hjkl ftw!)
- Better CLI

Future Goals

- More extensive Lua API
- ▶ Ability to build custom synths in Sporth
- OSC support for remote control
- ► A more git-friendly file format

More info

- Project Page: pbat.ch/proj/protrekkr
- ► Github: www.github.com/paulbatchelor/protrekkr.git