



# GESCHICHTE DER ELEKTRONISCHEN MUSIKINSTRUMENTE

# MUSICAL TELEGRAPH (1876)



**Elisha Gray**



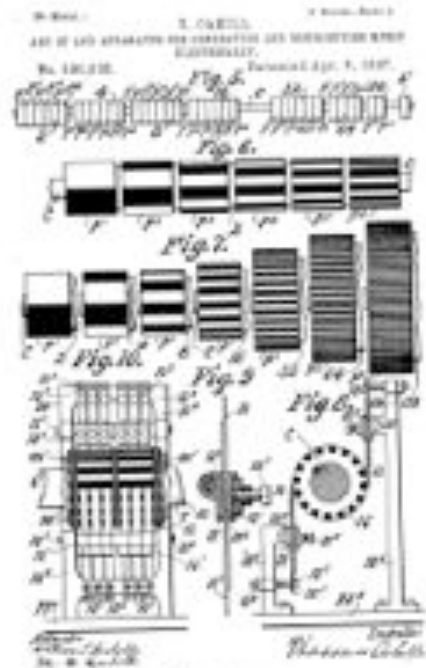
# TELLHARMONIUM (1897)



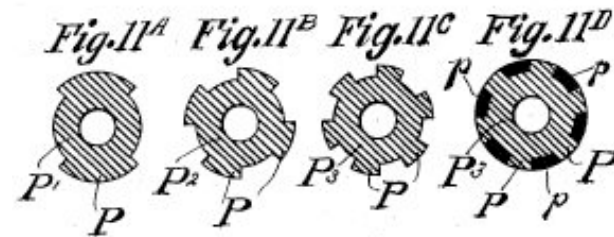
Thaddeus Cahill



60 Fuss, 200 t, \$200.000



Rheotom



# OPTOPHONIC PIANO (1916)



Vladimir Baranoff Rossiné

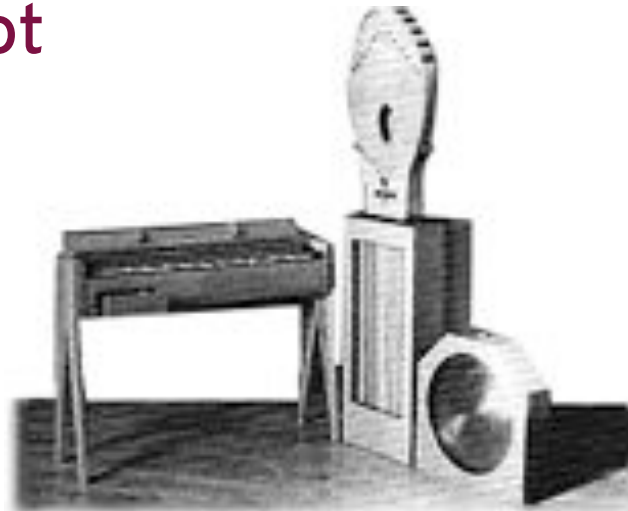
# THEREMIN (1917)



# ONDES MARTENOT (1928)



Maurice Martenot



Klangbeispiel: Messaien, Turungalîla Symphonie

# TRAUTONIUM (AB 1930)



Friedrich Trautweins Trautonium



Oskar Salas  
Mixturtrautonium

Klangbeispiel: Elektronische Impressionen Nr. 9

# HAMMOND ORGEL (1935)

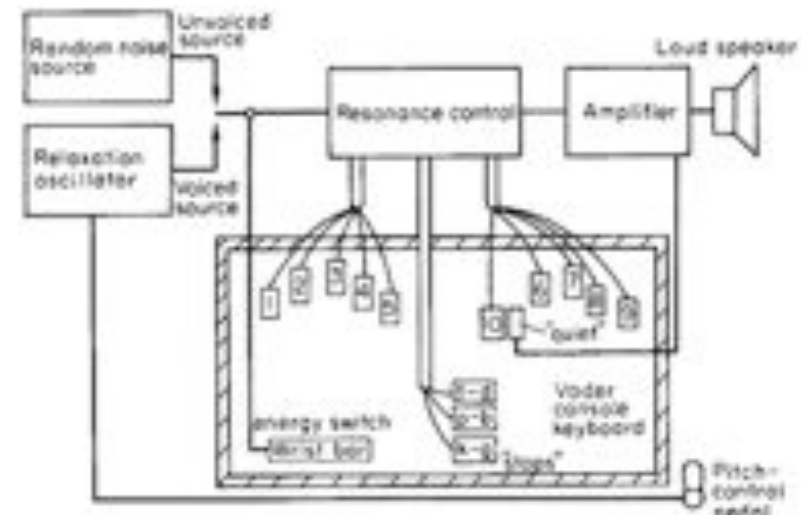


Eric Hammond (1939)





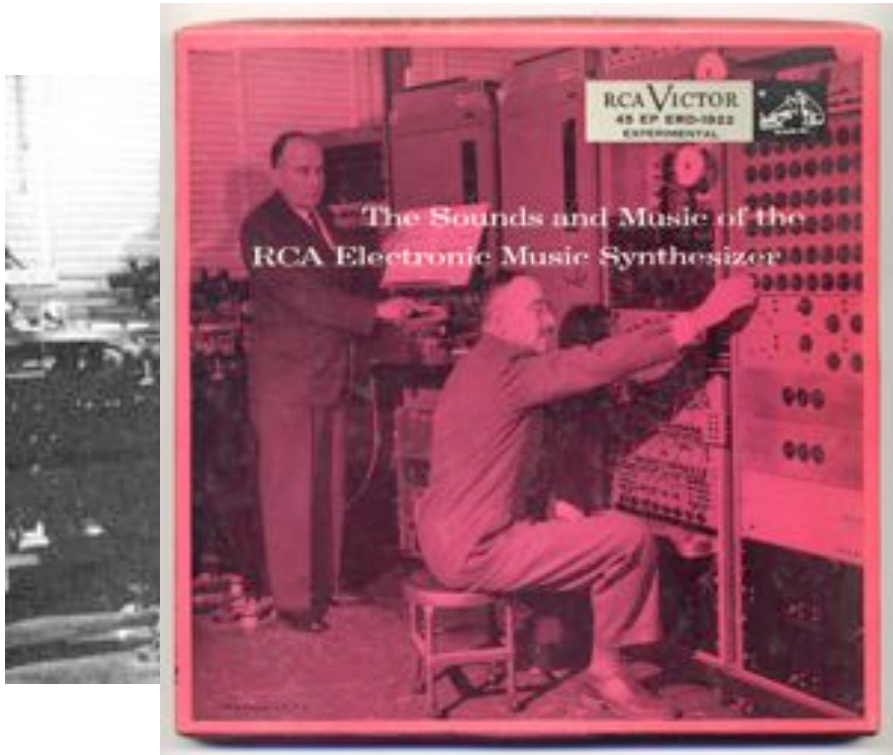
# VODER (1939)



Klangbeispiel: Voder

Homer Dudley's Voder

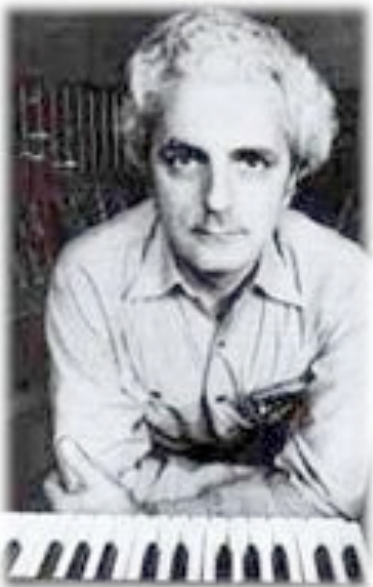
# RCA-SYNTHESIZER (AB 1951)



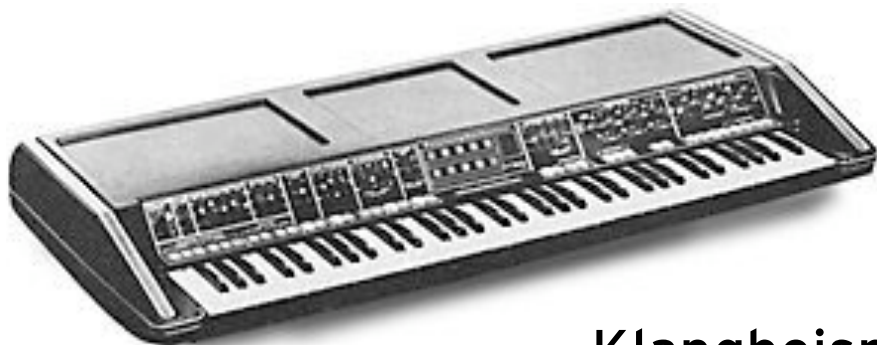
RCA MKII synthesizer am Columbia-Princeton Electronic Music Centre, 1955

**Klangbeispiel: Blue Skies**

# MOOG (AB 1961)



Robert Moog

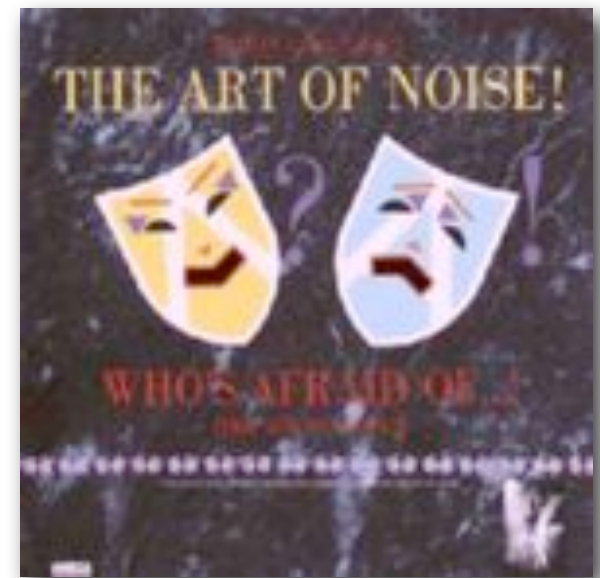


Minimoog



Klangbeispiel: Wendy Carlos, Switched-On Bach (1968)

# FAIRLIGHT (1979)



Peter Vogel and Kim Ryrie: Fairlight CMI IIx Synthesiser/Sampler

Klangbeispiel: Art Of Noise, How to Kill, 1983-84

# YAMAHA

John Chowning, Stanford University, FM Synthese, 1967

$$f(t) = a_1 \sin(2 \cdot \text{PI} \cdot f_1 \cdot t + a_2 \sin(2 \cdot \text{PI} \cdot f_2 \cdot t))$$



Yamaha DX-7 (1983)

# C-64/SID (1982)

\*\*\* COMMODORE 64 BASIC V2 \*\*\*

64K RAM SYSTEM 38911 BASIC BYTES FREE

READY.

The screenshot displays a music player interface with several windows:

- Controls:** Shows a timer at 01:34, "Playing song1 01 of 02", and playback controls (Play, Stop, Next, Previous). It also includes sliders for Master Volume and Tempo, and a metadata table for the song "Elite".
- Mixer:** Features four channel faders with "Filter active" indicators, "MUTE" and "SOLO" buttons, and a "Gain" slider. A "Save Fader Settings" checkbox is also present.
- Filter adjustment:** Includes three sliders for "filter parameter 1", "2", and "3", a "Default" button, a "Filter enabled" checkbox, and a graph of "filter strength" vs "filter frequency".
- Oscilloscope:** A window showing a waveform of the audio signal.
- Spectrum Analyzer:** A window showing the frequency spectrum of the audio.
- SID registers:** A table listing register values for three voices.

Register	Value
Frequency	\$18C3
Pulsewidth	\$0800
Waveform	\$20
ADSR	\$2119
Frequency	\$151F
Pulsewidth	\$0800
Waveform	\$40
ADSR	\$2119
Frequency	\$191E
Pulsewidth	\$0800
Waveform	\$41
ADSR	\$0450
Filter cutoff	\$0300
Resonance/Filter	\$74
Filtermode/Volume	\$3F

Sound Interface Device chip MOS 6581

Klangbeispiel: Dunn&Bell, Elite, 1985

# ACID HOUSE



Roland TB 303 (1982-84)



Roland TR 808 (1980)



Roland TR 808 (1984)



Propellerhead Rebirth

Hörbeispiel: TG Virus KiloMix (1998)





# VIRTUELLE INSTRUMENTE



Native Instruments Reaktor 5