



## THE RHYTHMICON

- 1931 - made by Léon Theremin
- Developed for avant-garde composer, Henry Cowell
- Sounded like a flock of geese

# THE CHAMBERLIN RHYTHMATE

- 1957 - made by Harry Chamberlin
- Used 14 tape loop recordings of real acoustic drum kits along with some extra percussion
- Could blend between the loops to create many combinations and change pitch to change tempo





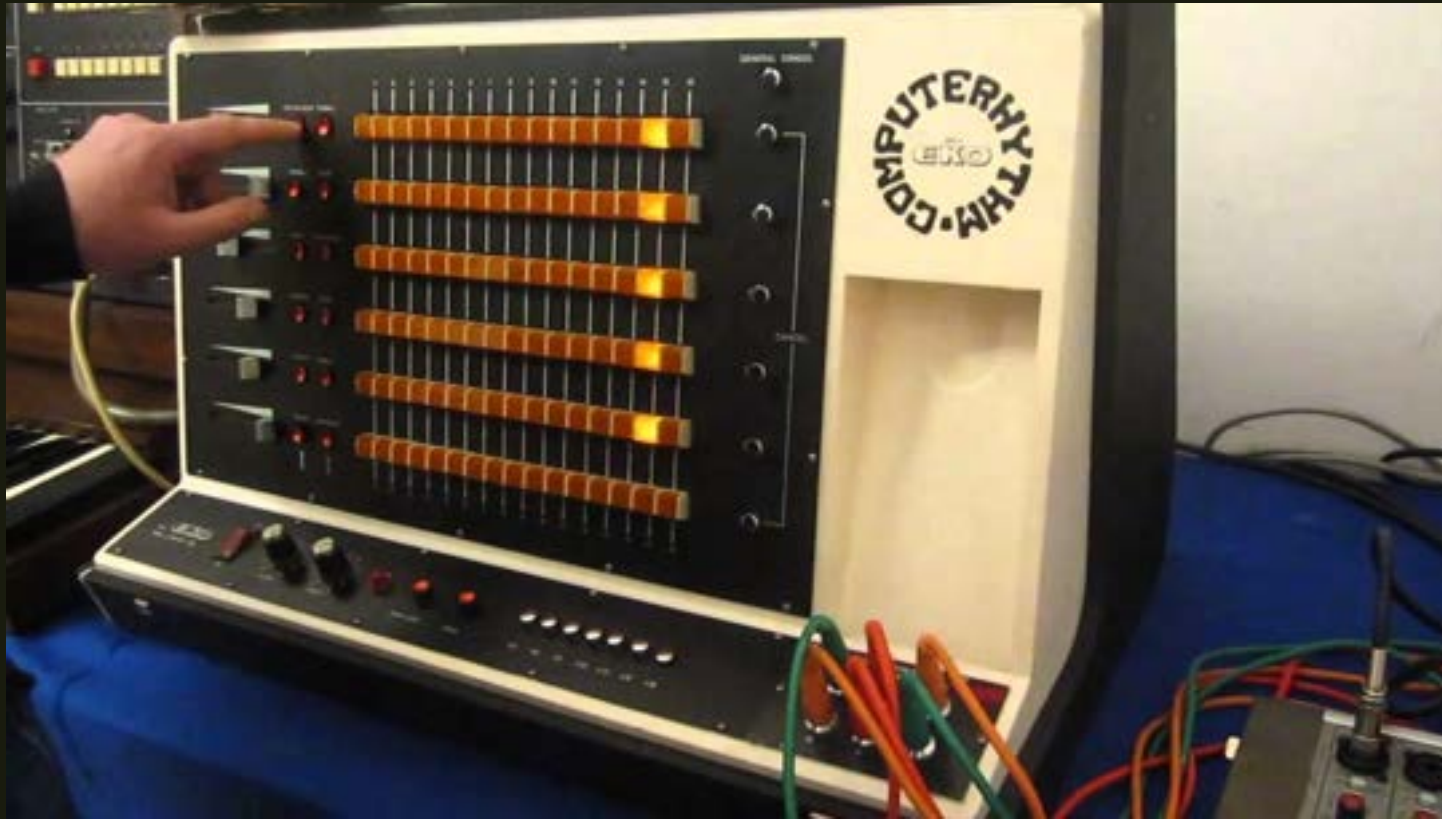
# THE WURLITZER SIDE MAN

- 1959 – intended as accompaniment to the Wurlitzer organ range
- 12 pre-set rhythm patterns, variable tempo 10 drum sounds created by vacuum tubes
- Drums sounds could be played manually by pressing a button

# TRANSISTORS TAKE OVER



- Transistor versions gradually replace valve technology
- More units developed, mainly as accompaniment for organists
- Ace Tone, early incarnation of Roland, released the Rhythm Ace FR-1 in 1969
- Sly and the Family Stone's "Family Affair" – first number 1 with a drum machine in 1971, using the FR-1



## PROGRAMMING ARRIVES

- First programmable drum machine, the Eko ComputeRhythm, released in 1972
- Could be programmed with a matrix and could read punch cards with pre-set patterns



## 1980 – THE MODERN DRUM MACHINE IS BORN

- The Linn LM-1 Drum Computer is the first drum machine to use digital samples
- Also revolutionized programming with swing, shuffle, accent and real time programming
- Hugely influential in 1980s pop, from Phil Collins and The Human League to Gary Numan and Prince



## ALSO IN 1980, THE 808 ARRIVES

- Roland TR-808 was analoge, so technologically way behind the Linn LM-1 when it was released
- But much cheaper  
Over time became hugely popular

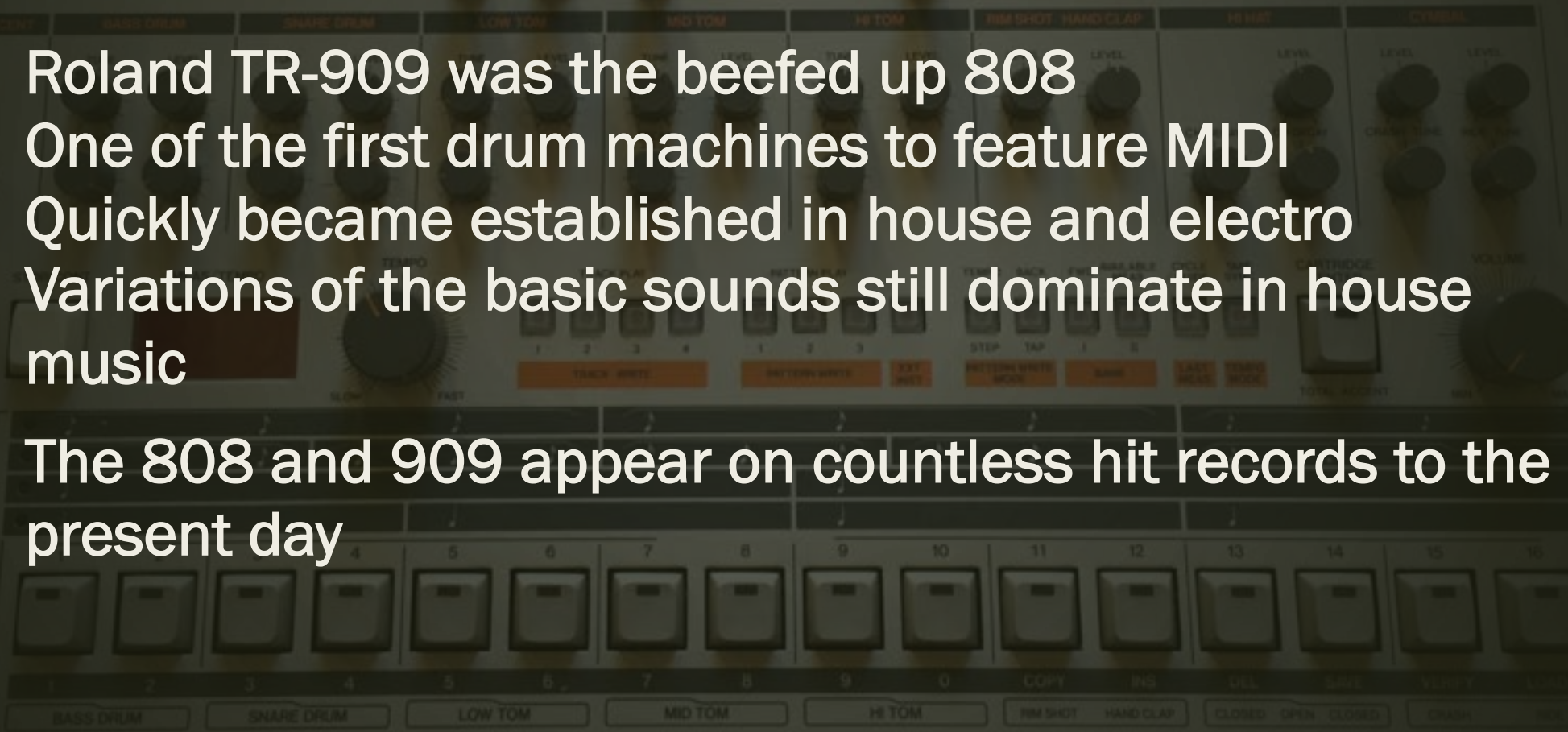
Roland

# FOLLOWED BY THE 909 IN 1983

- Roland TR-909 was the beefed up 808  
One of the first drum machines to feature MIDI  
Quickly became established in house and electro  
Variations of the basic sounds still dominate in house music
- The 808 and 909 appear on countless hit records to the present day

TR-909

RHYTHM COMPOSER







# SAMPLING DRUM MACHINES ARRIVE

- 1986 – E-mu release the SP-12  
Allowed 1.2 seconds of 12bit, 26kHz sampling  
Superseded in 1987 by the SP-1200 with more memory
- Hugely influential in hip-hop - the technical limitations shaped the sound of the music

# THE PRESENT DAY

- Since the late 1980s, drum machine sounds have been refined but principles have stayed the same
- Standalone drum machines increasingly redundant because of growth in DAWs and software instruments
- Vintage drum machines still sought after for authentic sound and characterful inaccuracies

# DRUM MACHINES IN LOGIC

- Two main options:
- Ultrabeat
- Built in step sequencer, great for creating patterns
- Less intuitive sound selection and editing



## DRUM MACHINES IN LOGIC

- Drum Machine Designer
- No sequencer
- More sophisticated sounds
- Easy to select and edit sounds

# REAL DRUMS – THE LOGIC DRUMMER TRACK

- Excellent way to try out real drums
- Often sonically superior to the real thing – can be used in final mixes
- Easy to use graphical interface
- Huge amount of variation of pattern and drum kits
- Includes percussion

