

SYNTHESIZERS FROM ANALOG TO DIGITAL, FROM HARDWARE TO SOFTWARE, AND BACK TO ANALOG

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Analog and digital, hardware and software, the progression of synthesizer technology over the last 40 years has seen interesting developments as product designs have both changed drastically and also come full circle, implementing exact replicas of earlier instruments. Starting with all-analog subtractive monophonic instruments in the early 70's, the first big jump came with the Prophet 5 in 1978, the first musical instrument with an embedded microprocessor. Other digitally-controlled analog synths soon appeared, and the MIDI standard was developed to allow digital communication between these instruments. The first digital instruments were unveiled in 1983, and changed the environment significantly, with lower costs, higher voice counts, and a different sound. In the mid-90s, the first software synths were developed, as general-purpose computers became fast enough to natively handle the digital signal processing. At the same time, the first digital emulations of analog subtractive synthesizers became available. We now find instruments with real analog circuitry reappearing in the last 10 years, completing the loop. This talk will review this progression of synthesizer technology through personal reflections, covering design decisions, musician preferences, impact on musical styles, and the challenges of musical instrument design with such a large range of technologies available