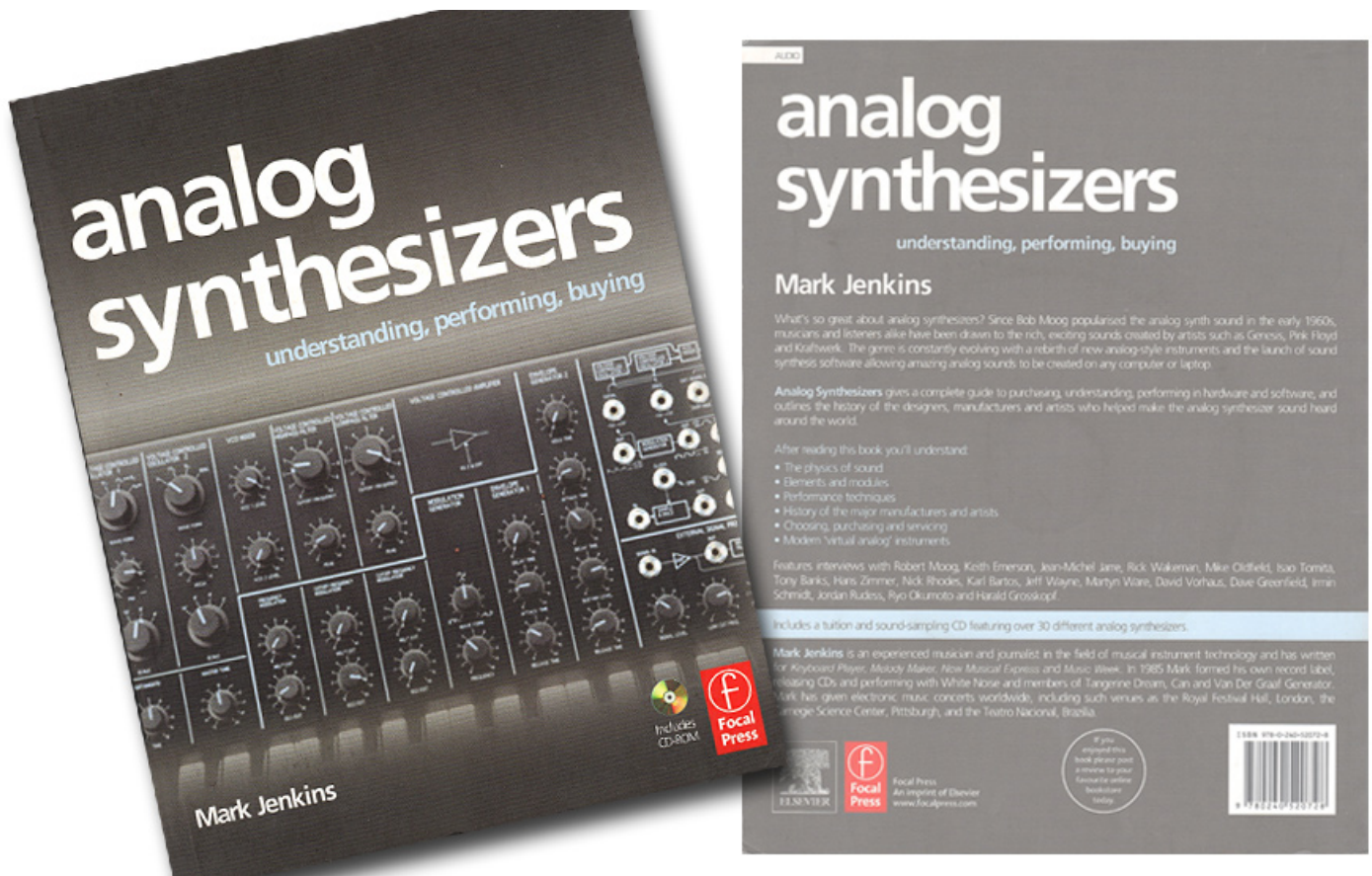


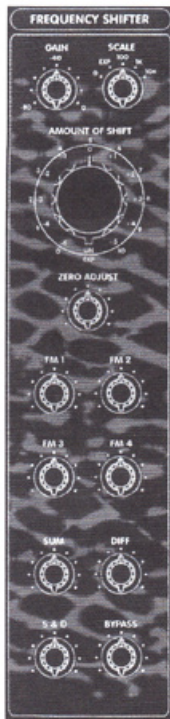
Buchempfehlung: Mark Jenkins - Analog Synthesizers (2007)

Sehr empfehlenswert und nach wie vor auf z.B. Amazon erhältlich: „Analog Synthesizers“ von Mark Jenkins. Das Buch stellt die Geschichte besagter Instrumente von den 60er Jahren bis 2007 sehr umfassend dar. Eine wunderbare Ergänzung zu „Vintage Synthesizers“ von Mark Vail, quasi das britische Gegenstück zum amerikanischen Werk.



Mark Jenkins - Analog Synthesizers

Interessantes Detail: Das auf dem Cover abgebildete Modell (nein, es ist nicht Cindy Crawford!) ist ein Korg MS-20 Controller-Keyboards (und nicht das Original von 1978). Doch vielleicht hat dies tiefere Hintergründe, denn Jenkins geht in seinem Buch tatsächlich von den Modularsystemen bis zu Virtuell-Analogen (dem Access Virus ist ein ganzes Kapitel gewidmet) bis zu reinen Software-Synthesizern ein.



The Technosaurus Selector frequency shifter module.



The Technosaurus Selector subharmonic oscillator module.



The Technosaurus Selector triple resonator module.

implementing this, as well as analog methods), the pitch-shifted signal will be more or less faithful to the original, and more or less distorted as the amount of shifting increases.

MORPHING FILTER

The morphing filter is again an unusual feature of the Technosaurus Selector system. There is one cut-off frequency control that can be controlled manually or using any one of three scalable voltage control inputs for control from LFOs, envelopes or other sources, and one resonance control with its own scalable voltage control input. But there are several different filter modes available, including low pass, high pass, band pass and notch, and the filter can be voltage controlled to change its mode.

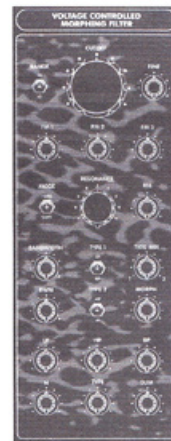
VOCODER

Vocoders have not commonly been found as modules in modular systems, since they're rather complex and have more often been found as complete stand-alone instruments. For a time the vocoder was not even very popular, but can now be implemented as a digital effect and is widely seen in rack-mount effects units, synth modules and keyboards, and even small pedal-sized effects, though without the accessibility and programmability of the original analog vocoder designs.

The vocoder (voice coder) derives from work in the telecommunications field to compress the human voice for more efficient transmission over a telephone line. Bell Labs, among other companies, was working on vocoder technology in the 1950s, and this involved splitting the voice sound into separate frequency bands (just as found on the graphic equalizer of a hi-fi system) and using the output from each band to drive an amplifier applied to just one frequency band of an alternative input signal. In other words, the tone of the incoming voice was being superimposed on the pitch and level of a different incoming sound. When this was a simple synthesized drone or buzz, the unexpected effect was that of a 'speaking' synthesizer, which took on the exact pitch of the incoming drone.

So the vocoder needs two inputs, usually the voice plus, in musical applications, a synthesized sound, referred to as the carrier and the modulator respectively, so the performer only has to speak, while playing a keyboard usually determines the melody. The more analysis filter bands a vocoder has, the more intelligible its output becomes, but high-quality filters were expensive to build and so early vocoder designs were extremely costly. Simple voice-like effects could be created with just a couple of filters and the 'Sparky's Magic Piano' songs used this technique to apparently create a singing piano, with the BBC Radiophonic Workshop adopting these techniques very early on. Both Walter Carlos and the TONTO duo of Robert Margoueff and Malcolm Cecil managed to create vocoder-like voice effects in the early 1970s, the latter on the track *Ritersong* on the *Zero Time* album, but the German experimental duo Kraftwerk commissioned a full custom vocoder to be built for them around 1973, and this appears on the track *Ananas Symphonie* on the *Ralf and Florian* album. Scnheiser in Germany and Harold Bode in the USA, who worked with Robert Moog, created expensive vocoder designs and after Kraftwerk's worldwide success with the *Autobahn* album in 1974, they were able to buy and very imaginatively apply these, their old custom unit appearing on eBay in 2006 and selling for around \$7000.

EMS went into the vocoder business, producing 1000, 2000 and 3000 models with varying numbers of bands and controls, and these were improved later by EMS Rehberg in Germany. Moog built Bode-designed vocoders and Roland later introduced a less controllable rack-



The Technosaurus Selector morphing filter module.

1967 Release of Cosmic Sounds' Zodiac album produced by Paul Beaver

Ausschnitt: Module des Technosaurus Selector Systems. (c) Mark Jenkins, Elsevier Ltd.

Interessant ist auch die Tatsache, dass in diesem Buch alle (!) Module des Technosaurus Selector Systems gezeigt werden (oder: fast alle, der Sequenzer-Prototyp fehlt). Mit dabei sind auch jene Module - wie Frequency Shifter und Morphing Filter - die niemals in Produktion gingen.

The A6 Andromeda from Alesis is a genuine analog synth and likely to set new standards in the field.



1999 E-Mu launch the Audity 2000 module inspired by their never-released Audity design

displays the current wave shape, but it's not clear if this reached the market at all, while US valve effects specialists Metasonix showed the PT1 Phattytron, a rack-mount MIDI module using an unconventional selection of valves in both its oscillator and filter circuits. With a minimum of front-panel controls and highly unusual filter response, the Phattytron, with an LFO, VCA, dual envelopes, audio input, programmable single oscillator, or with two oscillators to be used in parallel, if required, highly overdriven sound could be expected either from a TB303 or a more complex, more professional-sounding sound. The Phattytron's sound is featured on

analog synthesizers

Mark Jenkins



Modcan B series modular system.



A rare example of the Oakley modular system.

• **Oakley Sound Systems** (www.oakleysound.co.uk). Based in Edinburgh, apparently independent of Oakley Sound Systems from August 2006. Ten different PCBs (or currently just circuit diagrams for them) normally built MOTM compatible, but users have to source panels (usually using the Schaeffer panel design and manufacture service from Germany), and components that are standard and widely available.

• **PAIA** (www.paia.com). 9700 series modular system still in production, with elements combined so that four modules can provide two Frac Rac format, VCOs, VCFs, VCAs, EGs plus noise and MIDI In. Kit \$450. Fatman synth, fuzz and other kits also available.

• **Sound Transform Systems (Serge)** (www.serge-fans.com). official web page for the company at the time of writing. They do offer a contact phone number.

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Ausschnitt: Alesis Andromeda, Modcan B und Oakley Modularsysteme. (c) Mark Jenkins, Elsevier Ltd.

Mark Jenkins „Analog Synthesizers“

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