

## **An idea became reality (article by Axel Jungkunst in amazona.de, August 2011)**

The Music Fair Frankfurt 2011 was the time and location for the presentation of the first modular synthesizer with a fixed configuration, the Model 15 from the manufacturer Club Of The Knobs. Until then the manufacturer has been known as creator of complete modular systems with individual configurations made by the customers or the sale of single modules in the tradition of Moog.

Well, the product range now is extended by a product which has already been born before. Indeed, I am talking about the Moog System 15, which had been offered for sale by the crew around Dr. Robert Moog as a system for beginners, education or as a basic system, and also to the delight of various musicians such as Chick Corea or Larry Fast with a Minimoog structure of innumerable more facilities.

With exact this intention the Synthesizer Model 15 has been developed - to serve to the musician as a tool for sound creation and processing with recent and high end technology. So how can one really work with this highly attractive and therefore inviting instrument? Very good, to mention before. However I would like to specify this with the following.

### **The Components**

Installed components, already known through former modules' tests, are one C 904A Low Pass Filter, two C 902 VCA, two C 911 Envelope Generator, one C 921A Oscillator Driver, two C 921B Oscillator, one C 921 Oscillator, one C 923 Noise/Filters and one C 995 Attenuator. Additionally exist specifically for this system developed modules, a C 907A Fixed Filter Bank and the CP15 with various known functions of the CP1A und CP1B such as mixer, multiples and attenuators.

#### **C 907 Fixed Filter Bank**

The C 907 Fixed Filter Bank can be seen as a derivation of the long available C 914B Fixed Filter Bank Extended, however the originals which these modules are based on, have been historically appeared in reversed order.

The "Small One" has one Low and one High Pass Filter, in combination with 8 single bands of frequencies with 250, 350, 500, 700, 1000, 1400, 2000 and 2800 Hz. Similiar to the bigger edition, one notices a beautiful sound character through a subtle coloring of the input signal which is more or less strong in correlation to the consistence of the audio signal to process. In contrary to the following module CP 15, this module is also available separately.

#### **CP15 Mixer, Multiples**

...and what else is there to find.

It houses a 4 in 1 Mixer with controllable amplitudes of its inputs and outputs. At the output you find two pairs each with identical regular and phase-inverted facilities. Also this module offers twice the always needed 1 to 3 Multiples. A bipolar and two unipolar Attenuators serve for the regulation of audio signals and control voltages. The two unipolar attenuators are moreover connected with the In-/Outputs on the back so that the path of the signal to the backward connection can be used by a mixing desk as well as by an external effect generator into the signal's path. The connection to outside can be also made via Trunk Lines A and B so that the unipolar attenuators can be integrated for the sound creation - same as the ones in the C 995 Attenuator. Moreover exist 6 db High and Low Pass Filters with step switches for the fast removal of low and/or high frequencies (for example noise elements from external signal sources) or similar filter applications - and an Audio-to-Trigger-Converter whose name speaks for itself.

Not to be overseen is the power switch on the front. All in all a versatile module which demonstrates its importance in almost each sound. Sometimes it is just positive to deviate a bit from the prototype - because the offer of the original Moog 15 could be rather characterized as quite limited.

#### **The rest of the whole**

For a detailed examination of each module I would like to draw your attention to the test reports on Club Of The Knobs - part 1 and part 2 - so that here, instead of a repetition, I can enter into the operation facilities

eventhough I won't be able to cover all since 1) I didn't discover yet everything myself and it feels that this will last for the next 120 years in respect to the amount of facilities, and 2) every user works differently with such a system.

To begin with the sound sources, there are a pair of C 921B oscillators, a noise source and a further C921 Oscillator as basis. I distinguish the oscillators because the C921B are operated via a Oscillator Driver C921A whereas the concerning its measures, "fat" appearing C921 works without internal unity. Concept-wise is the "Fat" one also thought of as a voltage controlled LFO.

Regarding the C 921B pair, so can they be operated together or individually (duophon) through their exponential CV-Inputs which means that equipped with an adequate controller (for example the C 950 Polyclavier), a duophone play mode is enabled - same as it was already possible with the Moog 15 or the ARP 2600 synthesizer.

The only disadvantage of the control via oscillator driver seems the joint possibility for the modulation of the pulse width - yet which can be avoided by instead the use of the C921 as second audio oscillator.

There is (almost) always an aux-out.

By the way, by the use of the Reversible Attenuator of the CP15, it is possible to create Minimoog-Sound-waves for an oscillator, for example by mixing a pulse and sawtooth of an oscillator, while first the sawtooth has been phase-inverted through the bipolar attenuator to get the adequate waveforms. Trained ears are able to hear this, but I also visualized the process on the oscilloscope in order to compare it with the graphical informations of the Minimoog. Concerning my ears and eyes it was right.

The noise source is equipped with 6 dB Low and High Pass Filters of its own, for example to be able to limit the frequency width when used as modulation voltage before connected to filters or oscillators. Of course the noise can be defined by low, high or bandpass filtering for its use as audio signal.

As next I would like to mention the C 904A Low Pass Filter with 48dB, which in opposition to the 24dB Filter of the Minimoog at self oscillation is only tonal playable in a small scope since Kazike had kept the original design - beside an extended Moog cascade. The Filter-Whistler can not be created tonal-wise - however this effect is easily done with the sinus of the C 921/C921B.

The two C 902 VCA, beside their main task as amplifiers, can also be used for stereo panning, or individually, depending on a linear or exponential use, for the manual or voltage controlled regulation of amplitudes of audio or voltage controlled inputs. We don't need to talk about the two envelopes in ADSR-building as well as about the Attenuator module since they are self-evident.

The sound examples have been produced dry in order to present the pure sound. External means were the C950 Polyclavier and the C 960/C 961 Sequencer-/Gate Sequencer combination of its big brother.

## **Conclusion**

The Club Of The Knobs Synthesizer Model 15 proves to be, after already several months of experience, a in many cases useful system. A mentionable and by the readers mainly known application is its variant as a Minimoog when through adequate connections the exact audio and modulation path can be imitated. By this one gains without the need of additional wiring, simply through controlling and switching in numerous sound possibilities which in no way are second to the old model D and in a certain way even reflect the suitability for live performance of the Model 15. Obviously much more is offered here since through the open structure of this modular system and the existence of the Fixed Filter Bank many treasures are there to be hauled.

The sound sources as well, the filters, all voltage control generators and the VCA's are working in the usual high quality standard. The desired familiarity in sound to the former Moog synthesizers under avoidance of all known old weaknesses such as now gone slight instability in tuning, led the Model 15 as a beginner and also as a small complete system appear on the top of the first league.

Obviously sounds cannot be stored in this system, and also sampling of complex sounds appears a difficult thing as often with analogue synthesizers - yet by again and again new creating one gains more and more security in doing so, so in the end only laziness or time restrictions will end in resignation about the necessity to start from zero each time again.

The manufacturing quality of the modules and the visual appearance led your heart beating faster and until now nobody who worked with this apparatus for a short time, was easily to be removed from it after.

The great difference to the original Moog 15 beside the details already mentioned, lies also in the assembling of the half size panel which shows the integration of everything what the big brothers CP1A and CP1B are made of, and even a bit more. Like a Swiss made knife - all what you might suddenly need in use.

Anyway, life is not a request program and therefore the system is available only in the fixed configuration which for my point of view is perfect.

For me, it is intelligently configured, moreover it can be extended by further components when one orders another part of free configuration possibilities. The facility for an upper cabinet exists, a adequate connector board was built in in the back.

Possible users are various, beginners as well as full professionals are concerned, from learners to teachers, from pop musicians to experimental performers. The price in relation to what you get is very reasonable, and I am quite aware how much are 3000 Euro.

At the same time I am very sure how expensive it comes to buy cheap tools just to find out soon that again this investment wasn't worth it at all.

### **Plus**

- Price Quality Relation
- Quality of the manufacturing and parts
- Sound character
- Flexibility
- Facility for extension

### **Minus**

that it has to be paid - however, it is worth it

### **Price:**

Model 15: 3.000,- Euro

C 907A Fixed Filter Bank: 310,- Euro  
plus each shipment