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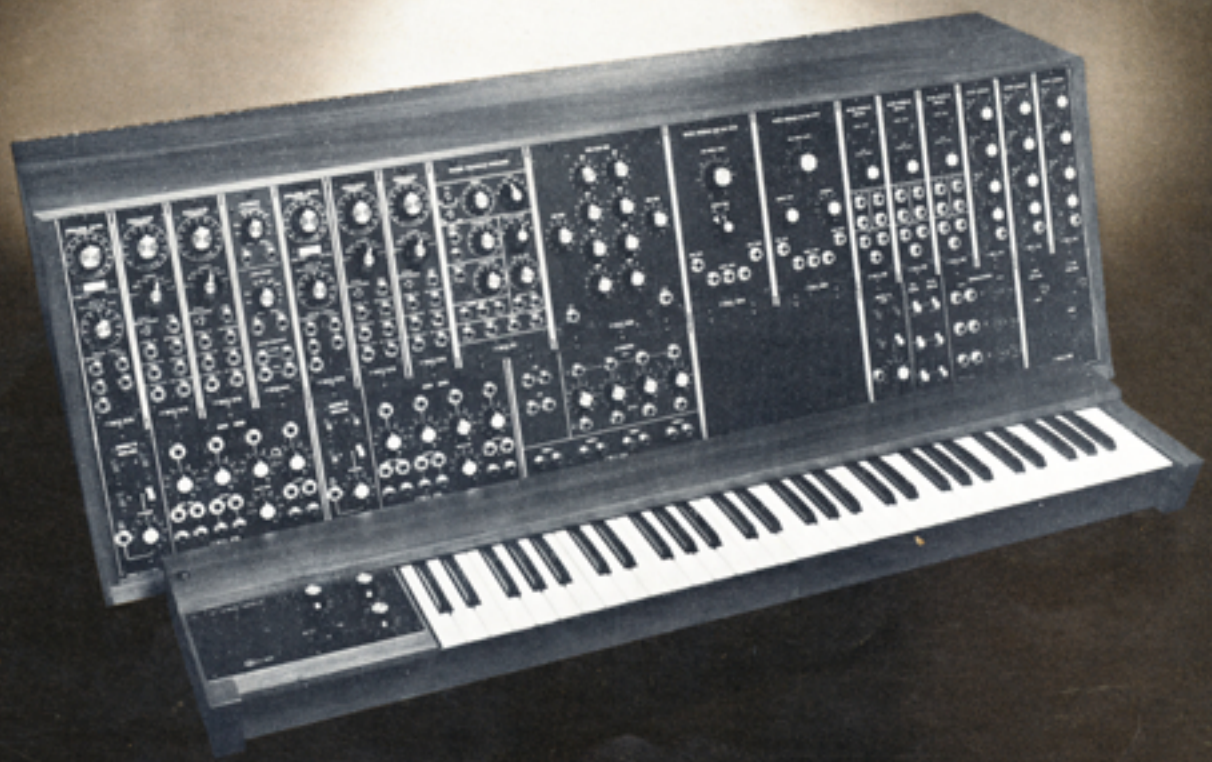
Synthesizer 35

- A Compact Studio System with All Basic Synthesizer Functions
- Increased Control Capabilities for Greater Versatility
- New, State-of-the-Art 921 Series Oscillators
- Switch Selection of The Most Common Control Functions
- Fully Expandable to Suit Future Needs
- Improved Power Supply for World-Wide Operation
- 100% Professional Quality Construction — Reliable and Durable



General Specifications:

Patchcord Complement:

10 one-foot Audio cords
6 two-foot Audio cords
4 three-foot Audio cords
4 four-foot Audio cords
2 five-foot Audio cords
2 one-foot Switch Trigger cords
2 three-foot Switch Trigger cords

Power Requirements:

110-125 volt AC, or 220-240 volt AC, 50-60 Hz, 180 watts
A standard 3-wire AC power cable is included

Dimensions & Shipping Weight:

Modular instruments are housed in a walnut console measuring 48½" wide, 15" high, 14" deep
Keyboard Controller dimensions: 43" long, 4" high, 9½" deep
Shipping weight: 130 pounds

Optional Equipment:

Additional 951 or 952 Keyboard Controller
1120 Foot pedal Controller
1150 Ribbon Controller
Console Sequencer Complement A or B
Touch sensitive Percussion Controller
Additional Console with your choice of modular instruments

Individual Module Features:

921 Voltage Controlled Oscillator

- Frequency range from .01 to 40,000 hz.
- State-of-the-art stability and tracking
- Precise octave switching, fine and coarse tuning control
- Sine, Sawtooth, Triangle, Rectangular waveforms available simultaneously
- 6 switch-selectable auxiliary waveforms, with + and – outputs, level control
- 3 frequency control input jacks – exponential response
- Rectangular waveform width modulation by manual and voltage control
- Waveform clamping at any point in the cycle

921A Oscillator Driver

- Master controls and control inputs for associated 921Bs
- Fine and coarse tuning control, switch-selectable
- 3 frequency control input jacks – exponential response
- Rectangular waveform width control, from 5% to 95%, for associated 921Bs
- 2 rectangular waveform width control input jacks

921B Voltage Controlled Oscillator

- Frequency range from 1 to 40,000 hz.
- State-of-the-art stability and tracking
- Sine, Sawtooth, Triangle, Rectangular waveforms available simultaneously
- AC and DC coupled frequency control input jacks – linear response
- Phase-lock synchronization control input, with locking strength switch-selectable

902 Voltage Controlled Amplifier

- Extremely wide (80 db) dynamic range
- Switch-selectable linear or exponential control response
- Complementary-paired sets of inputs and outputs
- 3 control input jacks

923 Random Noise/Filter

- White (equal energy per unit bandwidth) and Pink (equal energy per octave) noise outputs
- Lowpass and Highpass Filters, each with cutoff frequency variable from 10 to 20,000 hz.

904A Voltage Controlled Lowpass Filter

- Manual and voltage control of cutoff frequency, from 60 to 20,000 hz.
- Variable regeneration, from "O" to oscillation
- 3 control input jacks – exponential response

904B Voltage Controlled Highpass Filter

- Manual and voltage control of cutoff frequency, from 60 to 20,000 hz.
- 3 control input jacks – exponential response

907A Fixed Filter Bank

- Separate amplitude control of 10 bandwidths in the audio range
- ½ octave bandwidth divisions in the critical 250 to 2800 hz. range

911 Envelope Generator

- Separate control of four parameters of the output voltage contour: initial rise time, initial decay time, sustain level, and final decay time.
- activated by switch trigger

The Moog Synthesizer 35 is:

a complete studio system housed in two handsome walnut cabinets. The main console contains 22 individual instruments, or modules. Each module provides a specific and separate sound generation, processing, or control function. The Synthesizer 35 also includes a 951 Five-Octave Keyboard Controller, in a separate cabinet. All of these instruments are constructed of the finest quality components available, to provide reliable performance and durability. The grouping of individual modules provides convenient and logical interconnections, but is flexible to suit your needs. The controls are comfortably large, accurately calibrated, and spaced for instant access and ease of adjustment. Many common control connections can be selected by switches, reducing patchcord requirements. Most important, these features are the result of more than a decade of collaboration between Moog Music, Inc. and the hundreds of musicians we serve—to create a system providing musical control of the vast potential of electronic sound!

The Synthesizer 35 contains:

four different categories of instruments, defined by their principal function: Sound generators, Signal processing modules, Control signal generators, and Signal routing panels. The heart of any electronic music synthesizer is its oscillators—the principal Sound generating modules. The Synthesizer 35 features the new 921 series voltage controlled oscillators, which set new standards for frequency range, stability, and precision tracking. The 921 Oscillators provide many new and exciting musical functions, such as phase-lock frequency synchronization, linear and exponential frequency modulation, rectangular waveform width modulation, and waveform clamping. Phase-lock frequency synthronization permits "beat-free" intervals and chords throughout the audio range, and true additive synthesis of complex waveforms. Oscillator "banks" (consisting of one 921A [see fig. 1] Oscillator Driver and two 921B [see fig. 2] Voltage Controlled Oscillators) can be frequency modulated with exponential control response, and individual oscillators provide linear frequency control inputs. Rectangular waveform width modulation permits many dynamic timbral effects not possible through ordinary signal processing. Waveform clamping permits the musician to control both when and where a control effect starts—a trill could start on the upper or lower pitch; a repeating glissando at the top, bottom, or any pitch between. The Synthesizer 35 provides five voltage controlled oscillators—two "banks" and a separate 921 oscillator. The Synthesizer 35 also features the new 923 Random Noise/Filter module, providing "white" and "pink" noise sources and two wide range filters on a single compact panel.

Fig. 1

Fig. 2

Signal processing modules include a bank of fixed frequency, half octave filters (907A), a wide range, voltage controlled lowpass-resonant filter (904A) (see fig. 3), a wide range, voltage controlled highpass filter (904B), three voltage controlled amplifiers (902), and several mixers and attenuators located on lower panels. The fixed filter bank permits extremely flexible and precise tailoring of formants, to simulate traditional instrumental timbres or to create interesting new sounds. The two voltage controlled filters permit a wide variety of dynamic timbral changes, such as "wah-wah" effects, string harmonic sweeps, wind noises, etc. The 902 voltage controlled amplifier shapes the loudness of a sound, or the strength of a control signal, in response to any of the system's voltages. Mixers and attenuators provide amplitude control for either audio or control signals; the mixers also provide inverted signal outputs for many musically useful control effects.

Fig. 3

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Control signals can be obtained from three envelope generators (911 see fig. 4), the keyboard (951), and any other signal generating modules. The envelope generators produce a voltage contour for controlling the loudness of a sound (used with a 902), the timbre of a sound (using a 904A or 904B), or the pitch of the sound (applied to the oscillator control input). Articulations with attack and decay times from two milliseconds to ten seconds can be produced—triggered by the 951 keyboard or a wide variety of accessories. The voltage output from the keyboard is most commonly used to control the pitch of one or more oscillators, but can be used for any voltage control function. Any of the five oscillators can produce repetitive control voltage contours to create vibratos, trills, or "sirens;" the 921 oscillator, with a frequency range as low as .01 hz., is particularly versatile in such control signal applications.

Fig. 4

Signal routing panels include the Console panel #4A, (see fig. 5) and a portion of the Console panel #3. Console panel #4A provides switch connection of the keyboard trigger signal to any or all envelope generators, and connection of the envelope generator outputs to associated amplifier control inputs. It also provides jacks and sockets for external patching of controller signals to any module in the main console. Console panel #3 provides switches connecting controller voltages to the oscillator bank directly above, for frequency modulation.

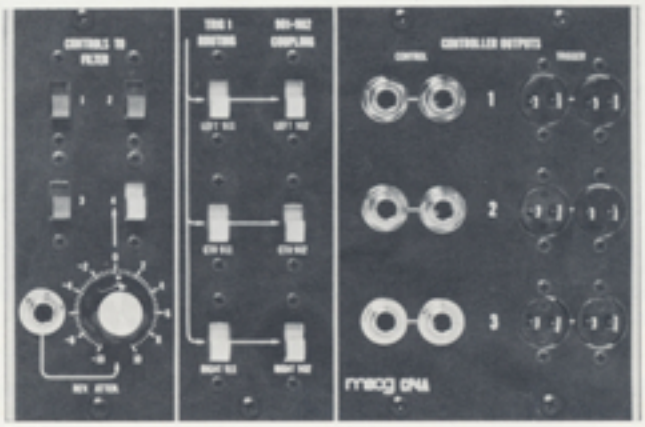
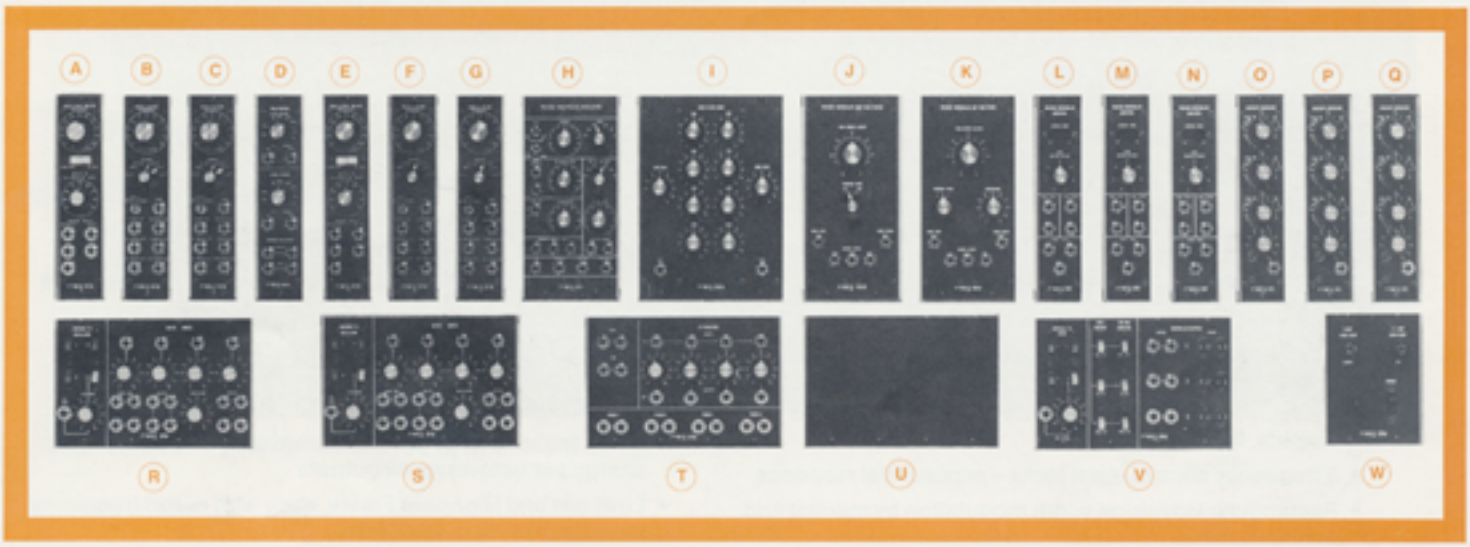


Fig. 5

The main console also houses a 930 power supply, which has reserve capacity to power at least one additional cabinet of 900 series modules. This new power supply can be quickly adjusted to a variety of AC supply voltages, for correct operation in most countries throughout the world. The rear panel provides convenient interconnections for all standard Moog accessories and other studio equipment.

The Synthesizer 35 will:

serve the needs of the studio composer, the educator, and the performer. It is completely compatible with standard audio equipment, and can provide processing for traditional instruments, voices, and "natural" sounds. It can accept a variety of accessories such as the 1150 Ribbon Controller, or a Sequencer complement. It provides full signal generating and processing capability, and can easily be expanded by the addition of other cabinets of 900 series modules. The system is also available less the 907A Fixed Filter Bank (Model 35A), to meet today's budget. Either system provides an exciting entry into the world of electronic music—the sound of today and the future!



Instrument Complement:

- (A) 921A Oscillator Driver
- (B) 921B Voltage Controlled Oscillator
- (C) 921B Voltage Controlled Oscillator
- (D) 923 Random Noise/Filter
- (E) 921A Oscillator Driver
- (F) 921B Voltage Controlled Oscillator
- (G) 921B Voltage Controlled Oscillator
- (H) 921 Voltage Controlled Oscillator
- (I) 907A Fixed Filter Bank (omitted in Model 35A)
- (J) 904B Voltage Controlled Highpass Filter
- (K) 904A Voltage Controlled Lowpass Filter
- (L) 902 Voltage Controlled Amplifier
- (M) 902 Voltage Controlled Amplifier
- (N) 902 Voltage Controlled Amplifier
- (O) 911 Envelope Generator
- (P) 911 Envelope Generator
- (Q) 911 Envelope Generator
- (R) Console panel #3
- (S) Console panel #3
- (T) Console panel #35
- (U) Blank panel
- (V) Console panel #4A
- (W) Console panel #8

Robert Moog

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SYNTHESIZERS

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