Vocoder

The Moog Vocoder is an instrument which continuously analyzes the timbral characteristics of one sound (program) and impresses these timbral characteristics upon a second signal (carrier). The most familiar (common) use of this type of instrument is to impose vocal characteristics onto instrumental sounds. As a musical instrument, a large variety of musical effects are possible by applying different types of signals to the two audio inputs called the program input and the carrier input.

The 16-channel Moog Vocoder has a variety of features especially developed and engineered for musical performance. These features make the instrument a powerful sound modifier for both live performance and for studio work.

SIGNAL PROCESSORS

by moog

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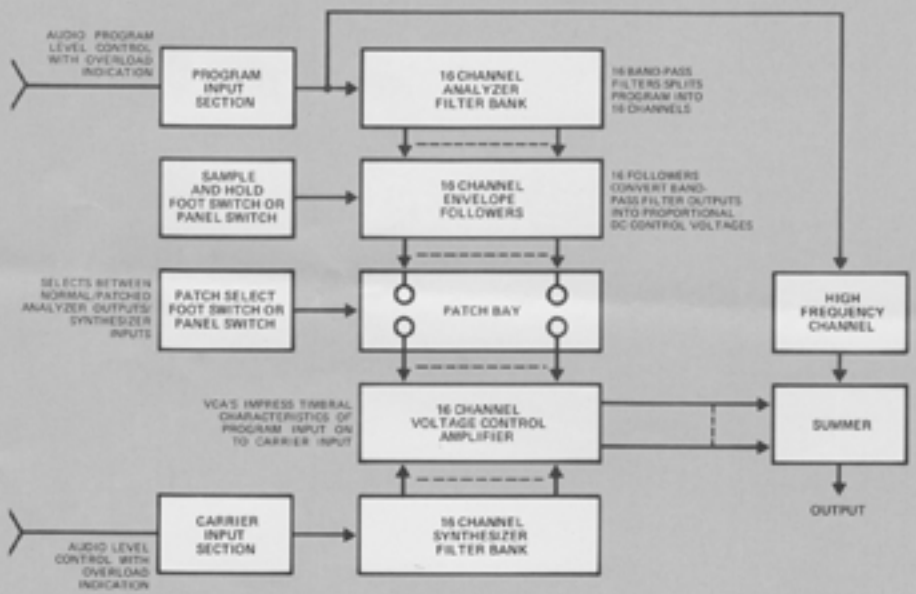
FEATURES

- Sixteen channels plus a special high frequency bypass which operates either in the "direct" mode or in a "switched" mode which is activated by the presence of very high frequency sounds.
- Fast six millisecond response time especially useful for percussive sounds.
- Full external patching between the analyzer and synthesizer sections.
- Sample/hold provides time expanded control of a momentary program input.
- A bypass control switches the Vocoder in and out rapidly.
- Foot switch jacks provide for live performance control of sample hold, patch select and Vocoder bypass.
- Rugged Moog Signal Processer chassis with reversible end plates for rack mounting or free standing use.
- 110/220 VAC, 50-60 Hz line voltage for world wide use.
- Overload indicators for indicating optimum signal-to-noise settings on the program and carrier inputs.

BLOCK DIAGRAM



SPECIFICATIONS

PROGRAM INPUT
Nominal level
Line: 0dBm (0.7 volts)
Mic: 40dBm (0.007 volts)

INPUT IMPEDANCE
Line: 20K ohms
Mic: 30K ohms

CARRIER INPUT
Nominal level: 0dBm (0.7 volts)
Input impedance: 100K ohms

OUTPUT
Level: +10dBM (2.2 volts)
Output impedance: <1 ohm

EFFECTIVE SIGNAL/NOISE RATIO
60dB

FREQUENCY RANGE
Overall: 50 - 15,000 Hz
Vocoded: 50 - 5,080 Hz
Gated or bypassed: 5,080 - 15,000 Hz

moog® **Vocoder**
Another Quality Product from Norlin

NORLIN MUSIC 7373 N. Cicero Avenue, Lincolnwood, Illinois 60646
NORLIN MUSIC LIMITED 51 Nantucket Blvd., Scarborough, Ontario, Canada M1P2N6
NORLIN MUSIC LIMITED 114 Charing Cross Road, London, England
NORLIN MUSIC SERVICES B.V. Waalhaven, Z.Z. 48, Rotterdam, The Netherlands

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MOOG
16 CHANNEL
VOCODER

The Moog VOCODER is the latest of a series of signal processors produced by Moog Music, Inc.

Without a doubt, it is one of the most unusual and valuable electronic musical instruments available to the working professional or studio musician, and has the added advantage of being highly desirable in both college and commercial electronic music studios because of the almost endless series of effects that it can create.

Now, let's examine specifically what a Moog VOCODER is, what it can do, what are its features, and how it can be displayed and demonstrated for effective sales.

WHAT IS A VOCODER?

The VOCODER is an instrument that continuously analyzes the tone-color of one input sound and imposes this upon a second input. The resulting output contains the sound and pitch of the second input and the tone-color articulations of the first.

The word VOCODER obviously refers to the human voice, and it is this application of speech articulations onto the sound of a musical instrument that represents the most common use of the instrument.

WHAT CAN A VOCODER DO?

If input one - the program - is a series of spoken words (just plug in a microphone) and input two - the carrier - is the signal from a synthesizer, the output will consist of the synthesizer "singing" the words as they are spoken into the program input.

The possibilities with this basic effect are almost limitless; let's examine a few simple ones:

. The "singer" can take on almost the entire pitch range of the synthesizer and become soprano, alto, tenor or basso simply by playing the appropriate notes on the synthesizer's keyboard.

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HOW DO I DEMONSTRATE THE VOCODER?

The simplest and most effective demonstration is to connect a microphone into the program input (set the selector switch on MIC and the level at 3 or 4). Connect a Micromoog, Multimoog, or Minimoog output into the carrier input (setting the level at around 4 or 5). Plug the output into a good amplifier (a LAB L5 or larger) and turn on the machine.

Check to see that sample-and-hold and external patch switches are both set at "out" and that the status of the VOCODER is "in". Set the mode switch for both hiss and buzz.

Choose a synthesizer signal with good sonority potential (a narrow square or a sawtooth wave is ideal). Either sustain the synthesizer voice by setting a long DECAY on the Loudness Contour section or use the bypass (on the Minimoog the shorting plug) to get a sustained sound. Note: You will not hear the tone until you speak into the vocoder.

Go ahead and talk!

What you hear will be the output of the synthesizer singing your words. Experiment with combining your speech with changing notes on the synthesizer. Use extreme pitch ranges and add vibrato with the modulation wheel. You will become an operatic soprano in no time!

A really ideal and dramatic demonstration will be to set the VOCODER on top of a Polymoog. Plug the Polymoog's "direct out" into the carrier of the VOCODER. Using a sustained voice (strings or brass) play full chords on the Poly while speaking into the program microphone. The result will be a full chorus effect.

This can be heightened VERY dramatically by taking another output from the Polymoog's "mix out" directly into the amplifier. This will give your "chorus" an orchestral accompaniment.

CLOSING NOTES

The Moog VOCODER is one of the most powerful instruments to appear in many years. Please take the time to experiment with it before putting it out on the floor.

As a musical instrument it requires some practice. Remember that the results of that practice time will be exciting demonstrations which can result in potential sales.

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