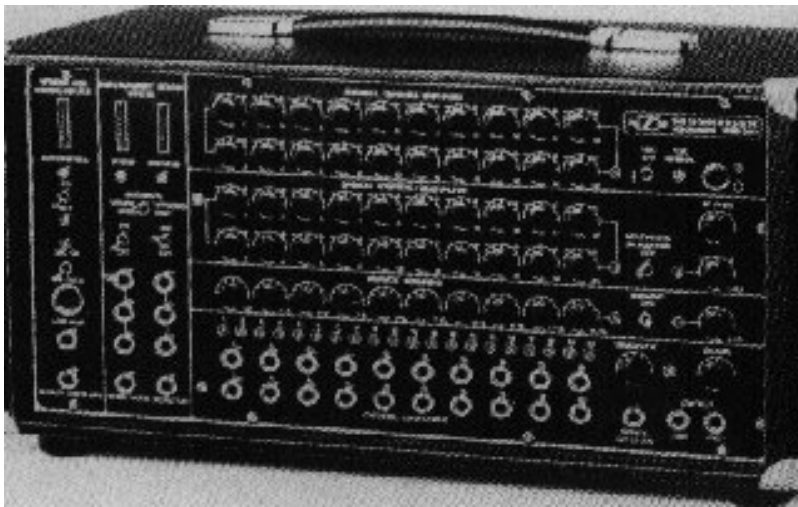


Sennheiser

Sennheiser VSM201

Dropbox

Melody Maker/Musicians Only (UK) date ? (1979/1980)
'Road Test' vocoders part 7 By PHIL JONES



I say,I say,I say.. what's got 55 knobs, 69-LEDs,11 switches, 34 sockets and doesn't leave you enough out of ten grand to blow yer nose on? Answer:Sennheiser VSM 201 vocoder. Carambal - She is very beeg, comparatively, and much wonderful sight, already. This could be well be the daddy of vocoders in a technical sense too, as the final product is of exceptionally high quality, demonstrating yet again that more often than not you gets what you pays for. The VSM201 is a twenty-channel device with fixed envelope routing internally from each analyser envelope generator to the corresponding VCA and, surprisingly, as this machine does practically everything else, this arrangement cannot be fiddled around with as on the Moog. Incidentally, this vocoder is specifically designed with Moog synths in mind, as all voltage outputs are directly compatible with most if not all of Bobby's Babies, but will work perfectly well with the vast majority of synths around today.

Let us go forward unto the depts: On the left of the forest-like panel is the program signal input section, which accepts both mike and line level inputs. The level of these signals is displayed on a solid-state VU meter consisting of a stack of specially shaped LEDs specifically designed for this sort of application. There are ten green ones and two red ones at the top representing, as with conventional VU's, the overload area. The line input must be adjusted for level at source, but the mike input has a built-in auto-gain circuit which saves a lot of mucking about with attenuators and stuff, although the autogain can be switched out allowing the deliberate overdrive of the input preamp and thus, you guessed it, the introduction of that well known creative device, distortion. Moving to the right, we find the

carrier signal section These inputs are amazingly flexible, accepting practically any level and impedance of signal offered, but here comes a twist. Different carrier inputs (or replacement sounds, as Sennheiser call them) can be used for the voiced and unvoiced parts of the program signal, the vocoder automatically switching from one to the other as determined by the analysis of the program input by a voiced/unvoiced detector. Two line inputs are provided for both the voiced and unvoiced inputs along with a mike input for the voiced input only. The levels of each of these two signals is displayed, as with the program section, upon a pair of solid-state VU's. A duo of LEDs indicate which state the detector is at any instant and a small switch allows you to select whether the vocoder is to respond to both voiced and unvoiced parts of the program signal (which would be the normal state of affairs), or just one or the other of them for specialised effects. Also available or optional use is a pink filter which, when engaged, alters the tonal characteristics of the unvoiced carrier input only, so that higher frequencies have correspondingly less amplitude (volume) as found in pink noise. On the other hand, if you couldn't be bothered with a special unvoiced carrier, you could switch in an internal noise generator instead. Indeed, there is an internal source in the form of an impulse generator for voiced signals too; it's generally meant to be used during set-up and testing, but nevertheless could be used if you felt like it. The rest of the front panel is divided into four main sections, three actively affecting the output and the fourth being the output and various interfacing sockets. The topmost section deals with the actual vocoding process as well as incorporating the on/off switch, a vital part of any electrical device, I'm sure you'll agree. Here the vocoder's basic operating mode is selected. The choices are a) vocoder off (muted); b) vocoder operating with preset gain on each hand or c) vocoder operating with the gains of each analysis band individually adjustable via the array of knobs provided. As there are twenty pots, one would be tempted to think that there are twenty filter bands . . . and, by jove, you'd be right! This ability to fiddle about with the relative volumes of the filter bands allows a vast number of different effects to be created by accenting certain frequencies in the vocoder output. Some very Strange sounds are to be heard when itchy fingers are let loose here, but there's more to come. The second section is for adding bits of the program or carrier signals to the vocoder output in an unaltered state - well, fairly unaltered anyway. Here a switch selects whether the program input, carrier input or neither is to be routed directly to the output and a volume control is present to adjust the relative level of the bypassed signal. This allows you to do things such as singing a duet with the vocoded output and other interesting things like that. Also the mic signal which is to become the program signal for the vocoder can be directly added to the output as above, but each of the filter bands can be twiddled with, allowing vast tonal changes to be accomplished to the point of total alienation from any normal speech sound. With these controls different parts of the audio spectrum can be boosted or cut as desired, giving all manner of peculiar vocal sounds, one of the easiest being the Buggles-like 'long-distance telephone' effect. The last of the active controls is for pause filling, or in Sennheiser terminology 'silence bridging'. With this section the voiced replacement signal can be stuffed into embarrassing silences when there is no vocoder output. This is accomplished in a controlled way so that, as the vocoder output gets louder, the direct replacement signal level drops off. A switch selects whether pause filling is to take place and whether it is to be equalised by the use of the ten pots, each one corresponding to an adjacent pair of filterbands. Lastly, a large variety of outputs, both signal and control, are available. The combined vocoder/multifilter/pause filling signals exit the case via either a balanced or unbalanced socket to amp or desk, etc. In the meantime control voltages follow the program input envelope, and each of the filter envelopes are accessible for driving VCO's or any other voltage-controlled device your heart desires. Altogether these different parts of the Sennheiser vocoder add up to a very sophisticated voice processing system of an

equivalent technical quality, but one would expect it to be good not just because of the name but, as far as I can gather, it'll cost you around ten grand, although no firm price is quoted - well, not to me at any rate. The VSM 201 is to be realistic, designed to be at home in the studio rather than on stage, although stage work would be no problem as visual indication is particularly thorough, with the majority of switches having a pair of LEDs to reflect their operational status. All in all a really terrific piece of engineering, but I was a little surprised that the envelope voltages could not be transposed from one filter band to another as on the Moog, but you can't have everything I suppose

SPEC: RRP: £10,000-ish inc VAT. Distributor: Hayden Labs., Churchfield Road, Chalfont St. Peter, Bucks, (0281 388447). Vocoder: 20-band (100Hz to 8000Hz, 20 variable channel emphasis controls, in/out switch. Speech addition/multifilter: 20 gain controls, bypass switch (off/speech /replacement) addition/multifilter switch (off/normal individual channel) Silence Bridging: 10 gain controls (one per two adjacent channels), 1 gain control (simultaneous for a channels), mode switch (off/normal/individual channels). Program (speech) input: Line and mic (balanced and unbalanced) with auto-gain on mic input. Carrier (replacement signal) input: for voiced replacement; two line and one mic input mixed internally for unvoiced replacement; two line inputs mixed internally, internal impulse generator for voiced replacement and noise generator for unvoiced replacement, mode selector switch (voiced only/unvoiced only/both). Outputs: speech envelope, 2 x voice mode detector (voiced/unvoiced), 20 x channel envelopes, unbalanced and balanced signal. Dimensions: 470 x 250 x 220 mm Power Consumption: 18 Watts. Guarantee: 1 year parts and labour.