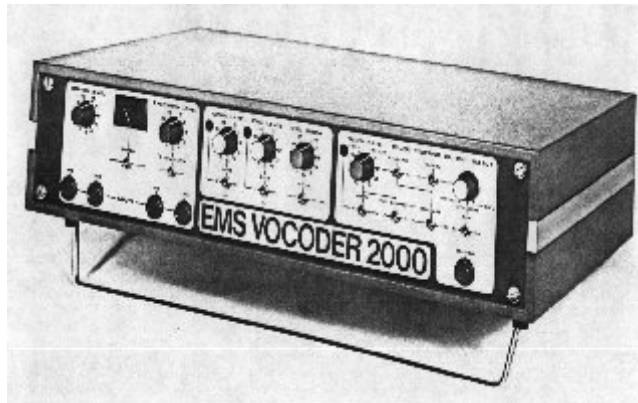


EMS vocoder 2000

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The EMS-VOCODER 2000 is a compact, low cost, simple to use and versatile speech synthesizer. Its main purpose is to impose the articulation of a voice onto another sound, thereby making it speak or sing. Such sounds (excitations) can be derived from any audio source. For instance: MUSICAL SOUNDS from an organ, guitar or symphony orchestra; UNMUSICAL SOUNDS such as the roar of an aeroplane, the snarl of a lion, the clatter of a typewriter and SYNTHETIC SOUNDS such as a synthesizer or the Vocoder's own voltage controlled oscillator or noise generator. In each case the sounds are made to talk or sing or resonate with the intonation expression and meaning of an input voice, which may be derived live from a microphone or from a live recording.

Various parts of the electronic circuitry of the EMS-VOCODER 2000 detect the fundamental pitch of the voice input whether a syllable or vowel is being spoken. 32 filters analyse and resynthesize the frequency and amplitude pattern of the speech input. With this information the original voice may be recreated using the Vocoder's own internal oscillator as a sound source. A wide range of subtle or coarse changes are easily achieved. For instance, the pitch of a voice may be raised or lowered, or a word or sentence may be frozen or slurred. In the case of musical excitation, sources such as organ, guitar, voice or even a recording of an orchestra are filtered at the correct rate and frequencies so as to impose on them the characteristics of the voice input.

It is clear, therefore, that a new degree of freedom is given to the electronic synthesizer. No longer are the sounds limited by monotonous oscillators and a few filters: now interesting and rich effects can be derived from standard musical instruments and normal voice performance. In this way, musicians who are not expert in synthesizers can produce the newest effects with the minimum of electronic technique by relying mainly on their own

musical expertise. The EMS-VOCODER 2000 is the baby sister of the much more complex EMS-VOCODER. Both were designed by Tim Orr and are the result of years of speech research at EMS' computer music and speech studio.

S P E C I F I C A T I O N:

INPUTS: SPEECH and EXCITATION both either line (500k) or microphone (5.6K). VU monitoring. 1/4 mono jack sockets.

FILTERBANK: 16 FILTERS - 14 x 6th order active bandpass. 1 x lowpass, 1 x highpass. 16 ENVELOPE FOLLOWERS and MODULATORS. Dynamic range 55db.

INTERNAL EXCITATION : OSCILLATOR (0-1KHz pulse), optionally gated by 'voiced' decision. NOISE GENERATOR (white), optionally gated by 'unvoiced' decision.

SLEW / FREEZE : Slews filter control voltages over wide, drift free range, from fast through to frozen. Frozen mode also selected by switch and external foot switch. FREEZE

OSCILLATOR range .1Hz - 30Hz. OUTPUTS: Mix of outputs from VOCODER, EXCITATION and VOICE. Switch and external footpedal choose combinations. LED indicators. Line level low impedance output. Signal to noise ratio - better than 60db.

SIZE : 506 x 105 x 335 mm. WEIGHT : 5Kg. INPUT VOLTAGE : 110 or 220 VAC. (20 watts)

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