

ABSTRACT

Synthesizer is a electronic music instrument that can be functioned as a sound generator and also as a signal processor. Synthesizer makes direct manipulating in voltage and current through some process like additive, subtractive, frequency modulation, physic modeling.

Simple synthesizer circuit contain some circuits like *VCO*, *VCA*, *VCF*, *A/R Envelope Genarator*. Input signal of synthesizer walk through *VCF* and then through filter. Function of *VCF* is for initialised signal cut off frequency. To produce frequency modulating signal, the output of *VCF* can distribute to *LFO*. *LFO* signal act as carrier signal and then modulating the input.

Synthesizer can also produce sound by itself. *VCO* in the synthesizer will produce an ossilated signal. *A/R Generator* used for initialized time for signal from minimal level of amplitude till catch maximum level amplitude

Output signal from synthesizer is to small to hear, it makes amplifier circuit are needed.

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