

# Microcircuits on the Base of Master Array Chips

## DIGITAL COMPUTING FREQUENCY SYNTHESIZER

Is used in telecommunications systems, telephony, information coding systems

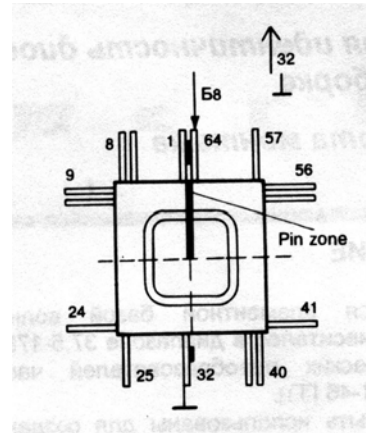
The microcircuit may be used instead of 30-80 microcircuits of medium-scale integration.

### DESCRIPTION

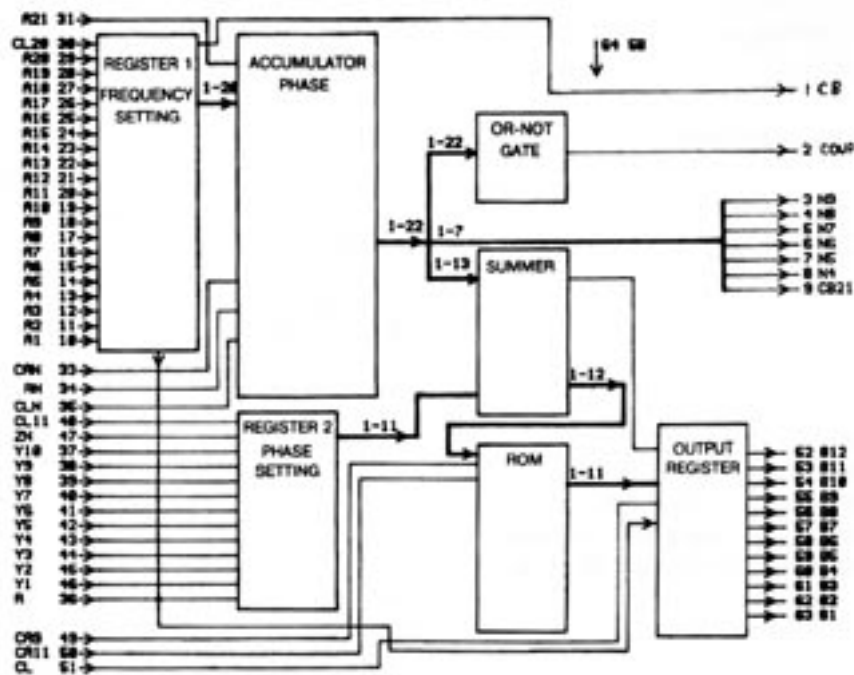
A digital frequency synthesizer provides stable frequency grid by direct synthesis using a table of signs written into ROM.

$$F_c = K F_t / N,$$

where K - number corresponding to the required frequency  
 F<sub>t</sub> - clock frequency  
 N - number of discrete phase values at the lowest synthesizer frequency F<sub>n</sub>  
 F<sub>c</sub> - synthesized frequency



Microcircuit Package



Microcircuit Functional Diagram

### BASIC PARAMETERS

1. Clock frequency F<sub>t</sub> 5-30 MHz
2. Synthesized frequency range 0-5 MHz
3. Frequency tuning step, Hz F<sub>t</sub>/2<sup>N</sup>
4. Digital frequency control 22 bits
5. Phase tuning step 0, 35
6. Digital Phase Control 11 bits including sign

Other digital devices may be developed and manufactured on the base of BKM 1515XH1 which allows to decrease power consumption, instrument dimensions, costs and to increase reliability and to reduce development time.