

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 08-340254

(43)Date of publication of application : 24.12.1996

(51)Int.Cl.

H03L 7/10
H03B 28/00

(21)Application number : 07-144542

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(22)Date of filing : 12.06.1995

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(54) FREQUENCY SYNTHESIZER

(57)Abstract:

PURPOSE: To obtain a frequency synthesizer utilizing DDS capable of outputting a high frequency signal while holding a synchronizing range with a wide PLL.

CONSTITUTION: The frequency synthesizer is provided with a reference oscillation source 1 for applying a reference phase, a phase comparator 2 for comparing the phase of an output with the reference phase, a loop filter 3 for integrating the phase difference of the output to obtain DC voltage, an A/D converter 4 for converting the output into a digital signal, and a synthesizer DDS 5 for using frequency setting data applied with a

generation frequency from the outside in terms of a phase increment value ($\Delta\phi$) and directly and digitally generating a signal with optional frequency less than 1/2 input clock frequency. The frequency of an output signal from the DDS5 is set up to the same frequency as that of the source 1 through a frequency divider 8 for frequency-dividing the output signal of the DDS5 into N components and the result is inputted to the phase comparator 2 to complete a phase locked loop PLL.

