

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : ANRITSU CORP

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(72)Inventor : ISHIRO YOSHIMITSU

## (54) PHASE-SYNCHRONIZING CIRCUIT

### (57)Abstract:

**PURPOSE:** To realize a stable phase-synchronizing circuit of simple circuit constitution with excellent C/N, by integrating the output of a frequency phase comparator, by comparing the integral value with upper and lower limit values of frequencies which can be phase-synchronized, and by correcting a rough tuning frequency by extent equivalent to the difference.

**CONSTITUTION:** The output of frequency controlling oscillator 1, frequency-divided by frequency converter 5, is inputted to frequency phase comparator 3 and then compared with the output of reference signal generator 4 to input the voltage signal that corresponds to the phase difference between both the output signals to loop filter 2, which extract its DC component to control the oscillation frequency of frequency controlling oscillator 1. The output signal of frequency phase comparator 3, on the other hand, is integrated by integrator 7, whose output is applied to frequency synchronizing circuit 8. Then, it is compared with preset upper and lower limit comparison voltages and if it is greater than the upper limit value or less than the lower limit value, a signal for correcting a rough tuning frequency is supplied from frequency synchronizing circuit 8 to the rough tuning control terminal of frequency controlling oscillator 1.

