

IMPULSE NOISE OF DIGITAL-TO-ANALOG CONVERTERS AND ITS INFLUENCE ON THE PURITY OF THE SPECTRUM OF DIGITAL SYNTHESIZERS

©2009 Ya. A. Izmaylova

Federal State Unitary Enterprise Science-and-Production Enterprise “Polyot”, Nizhny Novgorod

The paper presents the analysis of the influence of impulse noise (“glitches”) of digital-to-analog converters on the purity of the spectrum of output oscillations of digital synthesizers. A decorrelation method of reducing the influence of “glitches” of digital-to-analog converters on the level of discrete side components in the spectrum of the output signal of the converter is proposed. The method is based on randomization and does not result in the loss of synthesizer speed. It is shown that the method proposed can find application when designing integral digital synthesizers.

Digital synthesizer, “glitch”, communication equipment, discrete side spectral components, function generator, large integrated circuits, word length, clock frequency.

Izmaylova Yana Alexeyevna, post-graduate student, senior research worker of Federal State Unitary Enterprise Science-and-Production Enterprise “Polyot”, e-mail: janabrag@mail.ru. Area of research: digital frequency synthesizers, improvement of quality characteristics of digital synthesizers, new structures of digital synthesizers.