

Methods and facilities of construction of analog-digital coders of the special processors of the cross-correlation working of signals

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Abstract – Theoretical bases are expounded and systematized architecture of analog-digital coders of the cross-correlation working of signals.

Keywords – Coders, cross-correlation, teoretiko numerical base.

I. INTRODUCTION

In quality a teoretiko numerical base (TNB) codes given at the construction of the special processors of the cross-correlation working of signals in exceptional majority leading world producers (Intel, Analog Device, Motorola) utilize the binary scale of notation in the base of Rademakhera. Creation of new element on bases on the basis of PLD, which will realize principles of standardization of CAD during realization of processors, creates new possibilities the uses of new TNB, which allow to extend the classes of architecture processors, and in many cases, substantially to promote a fast-acting implementations arithmetic of operation at the set fast-acting of element base.

II. WORKING AND SYSTEMATIZATION OF TYPES OF ADC IN DIFFERENT TNB

Class of not sinewave discrete ortogonal a function present functions: unitary, Rademakhera, Khaara, Walsh, Krestensona, Kreyga, Galois et al. Among the adopted bases a prospect is made by the bases of Rademakhera, Krestensona, Galois.

Functions of Galois are cobbed-permanent functions with the interval of task $(0, 2n)$. They are used during approximation of continuous functions, here the interval of determination of functions of Galois is rationed to to $(0, 1)$ and in quality the base system choose the plural of functions of Galois at $n=1,2,\dots$ [1].

$$N_j = f(C_{j-n}, \dots, C_{j-1}, C_j), \quad C_j = \sum_{j=0}^{n-1} C_{j-1} \cdot a \pmod{2}, \quad (1)$$

where C_j - the least positive tailings of recursion sequence of $GR(2^n)$ on the module of $\text{mod}2$; a - logical vector of the code key of ring of $GR(2^n)$.

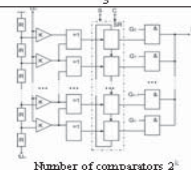
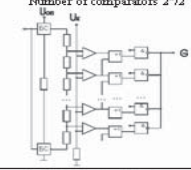
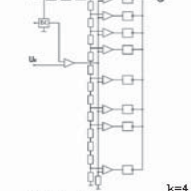
III. RESEARCH OF SYSTEM DESCRIPTIONS OF ADC AS BASE COMPONENT SPECIAL PROCESSORS

Analysis of structure of the special processors, alarm processors and analog-digital coders, which are utilized in the basilar levels of CS shows that in composition them functional elements one channel and multichannel ADC. Therefore at development and perfection of the adopted class of processors expedient is research of system descriptions of ADC and MADC with the purpose of choice them rational decisions and application in composition speyprocessors in Tabl.1.[2].

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TABLE 1

FLOW DIAGRAMS OF ADC ARE IN THE BASE OF GALOIS

No	Type ADC	Structure	Parameters of initial signals
1	Parallel in a base Galois is with a buffer register		Successive code of Galois, ϵ_{n-1} \dots ϵ_1 \dots ϵ_0
2	Sweepable in a base Galois		Successive code of Galois, ϵ_{n-1} \dots ϵ_1 \dots ϵ_0
3	Sweepable in a base Galois is on impulsive comparators		Successive code of Galois, ϵ_{n-1} \dots ϵ_1 \dots ϵ_0

The separate class of ADC of sweepable type are structures on the basis of base of Galois. First such structures are offered Nikolaychuk Y.M. which are described in works [3]. The base structure of ADC of parallel type is utilized in these transformers, at the same time the read-out of information takes a place after k of times in accordance with the bit of ADC.

IV. CONCLUSION

Research of architecture of ADC is conducted in the base of Galois, that show high system descriptions and here provide possibility of forming of initial kodas with an error protection, and that is why they can be effectively used for the construction of analog-digital coders and special processors of the cross-correlation processing of data with conveyer architecture.

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