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The use of gsm-channel in security systems

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The opportunities provided by mobile operators are increasingly used in surveillance systems. To date wireless security systems on the basis of GSM is widespread due to their relatively low cost and ease of installation and operation. The use of GSM obviates the need to expand its network of repeaters – repeaters are used by GSM operators. As a result, it is possible to protect objects wherever confidently works GSM network operator.

Today in the world practice security services have identified a steady trend on strengthening of a role of technical means. This trend is not accidental: many studies in the field of personal and property safety has shown that the widespread use of technical means allows to exclude or minimize the negative impact of the weak link in the system of protection – man, which is characterized by fatigue, inattention, etc. the organization of protection through technical means, the cost to the consumer much cheaper, but the reliability is much higher. To date wireless security systems on the basis of GSM is widely used due to their relatively low cost and ease of installation and operation. However, a significant drawback of such systems is the low noise immunity, easy suppression of GSM-channel, the operation of GSM networks are not always characterized by high stability and can fail at the most inopportune moment.

Providing high noise immunity in the transmission of information at present remains an urgent task. Today there are quite a large number of different error-correcting codes, among which are codes with error detection used in data transmission systems with repeat request, which today are quite common. The codes used in them though and have sufficient noise immunity, but in some cases have increased the complexity of the encoding and decoding of codewords, especially when they are error packets. As a consequence, the implementation of encoders and decoders in communication systems leads to increased hardware costs and, thus, often do not have the ability of self-control, and therefore can be a source of additional errors. These shortcomings can be addressed by using multivalued binomial codes, important advantage of which when noise stability information transmission is the simplicity of the algorithms, error detection, and the ability of self-control encoders and decoders.