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ALGORITHM OF GRINDING SOUND SIGNALS

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ABSTRACT

The requirements for a wide range of electroacoustic devices: telephones, microphones, loudspeakers, sound recorders and repeaters, as well as amplifiers, radio and television programs are largely determined by the human hearing organ. The first feature of the hearing organ is the presence of a sound hearing limit at different pitches.

Keywords: noisy, tonal, sound signal, grinding algorithm, amplitude value, signal spectrum, signal level.

INTRODUCTION

Today, at a time of transition to a market economy, renewal, and a new life, Uzbekistan is striving for all-round development. In particular, it should be noted that information technology plays an important role in the enterprises and organizations of our country. Of course, we cannot imagine development without any technology, so we now live in an age of technology. Today, technology has developed to such an extent that it has been able to increase the efficiency of human labor, that is, the speed of work, time savings, accuracy, and so on. We can see all this in every sphere of society, whether it is economics, science or government. While industrial automation has made it possible to make full use of the workforce and improve product quality, management is doing a lot of work, such as data processing, storage, data transfer, and delivery.

METHODOLOGY

The ear hears mechanical vibrations in the range of 20 Gs to 20,000 Gs. We do not hear vibrations at frequencies below 20 Gs. Such sound vibrations are called ultrasounds. Frequencies of frequencies above 20,000 Gs are called ultrasounds. We do not even hear such vibrations. Infrared and ultrasonic vibrations are well heard by the animal kingdom. For example, an earthquake with a frequency of a few hertz is perceived by animals as disturbed, which indicates that they hear these small frequency vibrations.

RESULTS AND DISCUSSION

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Due to the limited range of human hearing, various types of sound amplification devices have been developed and are now being used in various aspects of our lives.

In most cases, due to the mismatch between the characteristics of the broadcast channel and the signal, it is necessary to correct the amplitude and frequency characteristics of the channel by correcting them.

In most cases, the reverberation time of TV studios is much shorter than the optimal reverberation time. In addition, there is a need to imitate literary-dramatic, radio and television broadcasts, that is, to repeat the broadcasts in a different voice, lower or higher. To do this, by adding a signal from the reverberator to the main signal in the channel, a signal with a reverberation or a change in the optimal reverberation time at the output of the channel is obtained. Thus, in addition to the changes made by the audio channel diagrams, additional changes need to be made to adjust the signal parameters with the channel.

Here are some ways to change the signal. It should be noted that all changes in the signals are made using special devices connected to the channel. Thus, the signal can be "processed" to give it the desired (in a useful sense) tone. Let us first consider the formation of a frequency response of the desired amplitude of the signal.[1]

A common way to correct the amplitude-frequency response of signals is to use corrective contours. Another way to influence the amplitude frequency response is to control the signal level and dynamic range.

Depending on the changes in the useful signal parameters, signal processing is divided into the following types:

a) on the signal spectrum (frequency);

b) by signal level (dynamic),

c) create noise-reducing and special impressions.

Most of these devices are located or connected to the remote control of the sound director.

In addition, signal processing devices, such as automatic level controllers and frequency correctors, will be installed on the communication channels and at the entrance to the radio station.

Dynamic range and frequency processing devices, noise suppressors and special effects devices are used to grind sound signals: reverberators, delay systems, filter-equalizers that create the "participation" effect.

[1] www.wikipedia.org// wiki// tekemarkaz

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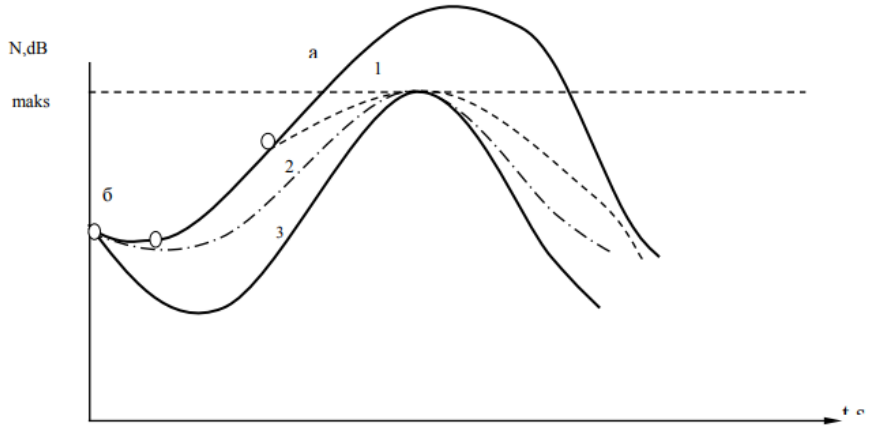
The dynamic processing associated with the signal grinding algorithm is performed using manual or automatic controllers of the signal levels.

Signal processing refers to the fact that when listening to broadcasts at home, the volume is smaller than the sound values when listening to these broadcasts in concert halls, that is, the "acoustic accuracy" of the signal is lost. With this in mind, it is necessary to make special changes to the broadcast signals in order to restore the lost "acoustic identity", create vivid impressions, correct frequency distortions, change the tone of the timbre, reduce the noise level. , compressing the dynamic range of signals to the allowable limit.[2]

Dynamic range and frequency processing devices, noise suppressors and special impression devices: reverberators, delay systems, filter-equalizer that create the impression of "participation" are used to convert audio signals.

Dynamic processing, which involves changing the dynamic range of the signals, is performed using manual or automatic controls of the signal levels. Most of these devices are located on or connected to the audio director's console. In addition, signal processing devices, such as automatic level controllers and frequency correctors, will be installed at the communication channels and at the entrance to the radio station.



Picture 1. Signal level diagrams in different controls.

In the first case (Picture 1), the sound director quickly switches off before the signal exceeds the set N_{max} value. The aesthetic effect of such controls is low, because the listener familiar with the music score knows that the volume should be raised at this moment, but it does not happen. As a result, the signal level decreases and does not exceed the N_{max} value. This is because the rate of extinction corresponds to the

[2] http:// www.google.ru// url?q=http://uz.denemetr.com// tw_files2// urls_8/ 85/ d-84380/ 7z-docs/ 1.pdf

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change in the curve a. A listener unfamiliar with a piece of music will not notice such a distortion, but he will have a misconception about it.

The same can be explained by the fact that there are many types of auto-adjusters that differ in the principle of construction and parameters. Non-inertial level limiters limit some instantaneous peak values of signals that exceed the set threshold value. This limitation of the signals changes their shape and leads to major distortions. Therefore, in practice, inertial limiters are not used independently. They are used as additional elements in the name of peaks.

CONCLUSION

Considering the limited range of human hearing, sound amplifiers were invented. Today, these devices are widely used in various fields. For example, it is used in the arts, television, radio, and many other fields. Amplifiers are basically transistors. The more transistors are placed, the louder the sound.

REFERENCES

1. Abduazizov A.A., Faziljanov I.R., Yusupov Ya.T. Digital signal processing. - T .: NMIU named after Cholpon, - 2013. –160 b.
2. Sklyar B. Sifrovaya svyaz. Theoretical bases and practical application. - M .: Izd. Dom «Williams», 2003. - 1104s.
3. www.wikipedia.org//wiki // tekemarkaz
4. http: // www.google.ru// url? Q = http: //uz.denemetr.com// tw_files2 // urls_8 / 85 / d-84380 / 7z-docs / 1.pdf