

DAC

*Markan*

D / A converter

User's manual

[www.markanaudio.com](http://www.markanaudio.com)

# DAC MARKAN

## User's manual.

Take it out of the box. Switch on your new life.

Dear Sir!!!

Let me express my appreciation to you for the active interest in our products and the trust in the MARKAN trademark. Congratulations on a very successful purchase, which, we hope, will be able to satisfy your most exacting requirements and expectations relating to the source of the audio signal.

MARKAN guarantees high quality and reliable operation of its products, provided that the technical requirements described in this manual are met.

The product retains its normal performance when the mains voltage changes from 200 to 240 volts. When the voltage in the electrical network is below 200V, normal operation is not ensured (noise or background in the music signal may be audible). When the voltage in the electrical network is above 240V, long-term operation is prohibited. In this case, it is necessary to take measures to stabilize or adjust the mains voltage by external devices.

**Very important:** the absolute phase of the DAC output signal may not match the optimum value for your sound system. A single standard for this parameter does not exist. Almost all such products have a switch of the absolute phase of the signal, which allows choosing the optimal position for each specific sound system. DAC MARKAN does not have such a switch; its introduction is always associated with losses in the quality of sound reproduction. The developer strongly recommends that you try to change the phase of the audio signal by swapping the two conductors of acoustic cable to each speaker on the terminals of your amplifier OR speaker (just by choice - where it is more convenient). Those, simultaneously in each channel, you just need to swap the wire that fits the red terminal and the wire that matches the other color (black) terminal on the rear panel of your power amp OR speaker. With the optimal position, the sound will be focused as much as possible and formed behind the speaker line. If the sound is not optimal, the sound will be somewhat blurred and located on the speaker line or even in front of them, i.e. closer to the listener. In the first case, the bass will be more dense, in the second - more formless. This fact should be paid attention when listening to DAC in someone else's sound-reproducing system.

If the correct solution to this issue still causes you difficulty, be sure to consult with any specialist who understands such nuances.

**Important:** The sequence of switching the components of the audio system into operation should be approximately the same: transport, DAC, amplifier. If the DAC is connected to the power network while the amplifier is operating - the volume control of the amplifier should be set to the minimum volume - to remove the cheek when the DAC is turned on.

**Important:** DAC has slightly increased signal amplitude at its output, i.e. may sound a little "louder" of similar products.

In the product it is possible to connect CD transport both via coaxial input and optical. The input is selected by a switch whose direction of the cursor indicates the active, at the moment, input.

**Important:** It is not advisable to use both digital interfaces simultaneously - this can disrupt the normal process of capturing the signal from the transport and always leads to degradation of the sound. Those, only ONE digital cable should be connected. Switching digital interfaces should be done by moving the switch engine and connecting a digital cable to the transport and DAC, another digital cable must be completely disconnected from the DAC and transport.

The use of both digital inputs and their switching with a switch is possible, but, after all, we are talking about a serious sound - it is always better to use only one digital input. This recommendation applies not only to DAC MARKAN, but also to any other similar product.

Optical receiver in DAC is protected from dust with a constructive "shutter", which does not interfere with the entry of the optical cable into the optical receiver. The necessary orientation of the optical cable connector can be seen by looking at the configuration of this "curtain" - the orientation is standard. The optical cable must be inserted into the transport and DAC with some light effort, "to the click." A loose installation of an optical cable may result in loss of signal capture by the DAC.

The most complete sound potential of DAC is disclosed when using the MARKAN digital cable.

It is highly desirable to install DAC on the massive sharp spikes made of hardened steel and pointing upwards (in the bottom of the DAC housing). You can also use other types of vibration isolation devices.

**Important:** the DAC design is very sensitive to the phasing of the power plug with respect to other equipment. Turning the power plug in the outlet, you will notice this. If the phasing technique of the power network plugs causes you difficulty, you should consult a specialist. Without the correct solution of this issue, it is impossible to achieve the maximum level of sound reproduction of your system.

It should be noted that in order to achieve the maximum quality of sound reproduction, it is also highly desirable to use a specialized power cable, which can be selected from specially designed high-quality audio for use with the technique. We recommend using the MARKAN power cables with this device and with all the components of your sound system.

We hope that the extremely high relevance of the issue of using high-quality specialized interconnect and digital cables does not cause you any doubts. The corresponding MARKAN cables are also optimally matched for this purpose.

**Important:** All commutation of the connecting cables must be performed with all components of the sound system turned off from the electrical network. It is strictly forbidden to insert or remove cables when components are connected to the power network. Failure to do so may result in failure of the electronics.

To get the best quality of sound reproduction, we also advise you to take the following recommendations very carefully:

- The standard power cable of the CD player (transport) must be thrown out and replaced with a dedicated audio power cable.
- If your player allows you to disable the analog output when using it in transport mode - the analog output should be turned off.

- If your transport (player) allows you to turn off the display in playback mode - the display should be off.
- If power network conditioners (filters) are used, transport and DAC are better connected to the power network through individual power conditioners.
- It is advisable to turn off all computers in the apartment by the mains switch on the back of the computer (the usual switch-off on the front panel for modern computers is not enough - this is a soft start button, the computer power supply and some of its electronics continue to work continuously).
- All TVs in the apartment should be turned off from the STANDBY mode (i.e. completely).
- DVD players, VCRs and other similar devices should be completely disconnected from the electrical network by DISCONNECTING THEIR POWER CORD FROM THE SOCKET.
- Dimmers (smooth light controllers) should be switched off.
- All other electronic devices with STANDBY mode or permanently switched on displays (electronic clock) should be completely disconnected from the electrical network.
- The DAC can be installed directly on top of the transport (player), but this is not the best option. It is advisable to spread them in space, at least arrange on different racks. The audio stand, preferably, should have an open design, without side walls, without the front and rear walls.

Careful implementation of these recommendations will get the maximum impression of listening to music.

**Important:** when comparing this device with possible similar competitors, the following recommendations should be observed:

- A device that is not currently participating in audio playback must be completely disconnected from the power network by disconnecting the power cable, otherwise, the products of its "life" will pollute the electrical network and degrade the sound quality of the device being listened.
- The input switches integrated in the vast majority of power amplifiers do not provide a complete isolation of the sources at the different inputs of the amplifier. Comparison of signal sources should be carried out only at one input of the power amplifier by sequentially connecting the signal sources disconnected from the network to one interconnect cable with the optimal position of the power network plug for each source of the signal.

If a MARKAN power cable is supplied with your product, care and attention should be taken when connecting and operating it. The MARKAN network cable is structurally composed of two "hoses" that MUST BE SPLASHED IN THE SPACE TO THE MAXIMUM POSSIBLE DISTANCE OF FRIENDS FROM A FRIEND. This diversity in space provides additional "freedom" and "ease" of presentation to the sound. The classic placement of two power cable conductors next to each other somewhat "clamps" and "strains" the sound. By varying the degree of spacing in the conductors of the MARKAN power cable, you can to some extent change the nature of the sound. Operation of DAC MARKAN is expedient only with the specialized power cable MARKAN.

**Output sockets are located as follows.** When looking at the FRONT panel, the right socket corresponds to the output of the right channel, the left socket to the output of the left channel.

For a real evaluation of the sound potential of the device, it is advisable to give it the opportunity to work for 2-3 days in your audio system to “warm up”. After that, we can say that the DAC has reached 90% of its sound potential. The remaining 10% he will gain a long, several months of normal operation, about six months. During this time of normal operation, the technological strengths of the elements that they received during their production processes will dissipate, the sound will relax, fluidity and smoothness will appear, the very concept of silence in the musical signal will disappear - the aura of the performed music will always be present in the air . But, and the indicated 90% of the sound potential is enough to conduct comparative listening and just enjoy good music.

If we summarize all the recommendations, then we can identify the ones having the greatest impact on the sound:

1. Use of specialized MARKAN power cables for all components of audio, interconnect and digital MARKAN cables.
2. Optimal phasing of all electrical network plugs of the audio components.
3. Use of rigid vibration isolating devices under the DAC body and transport.
4. Disabling the display and analog output of the transport (player).

For this product the manufacturer establishes a warranty period of 7 years from the date of sale of the product to the Consumer. The manufacturer draws your attention to that, and after this period, you are guaranteed immediate assistance in case of possible difficulties, damages or malfunctions.

The manufacturer is always happy to answer any of your suggestions, comments and wishes.

To have a good sound at home is real happiness. Owners of MARKAN know more about happiness than others. Be happy!!!

Sincerely, Andrey Markitanov, Russia.

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