

I recommend

B S M sound

- To all audio enthusiast -

Koichiro Kato

# CONTENTS

---

Introduction.....	4
1.What is sound .....	7
2. Good sounds hate dirty rooms.....	8
3.Simple is best .....	9
4.Check the principle of vibration .....	11
5.How to choose audio equipment .....	13
6.Positioning in the room .....	19
7.Connection. ....	21
8.Speaker setting .....	24
9.Preamp / power amp settings. ....	29
10.Setting of Record player .....	32
11.Difference in sound color by label .....	41
12.Thank you for reading this far.....	45
13.The stereophonic image .....	47
14.Live sound and playback sound .....	50
15.To a diorama like a real thing .....	55
16.Weakness with modern era speakers .....	57
17.The crime of multi-mix recording and bookshelf-type speakers .....	61
18.Give up at long-term .....	68
19.BSM speaker proposal .....	70
20.The BSM speaker .....	72

---

---

21.Features of speaker unit .....	75
22.Reflector .....	78
23.Ideal speaker production .....	80
24.Prior art documents .....	83
25.Summary of the Invention .....	84
26.Application as a unit .....	87
27.The speaker system of Completed form .....	89
28.Brief Description of Drawings .....	91
29.Form for carrying out the invention .....	92
30.for more active counteracting reduction .....	94
31.Adoption of thin self-supporting type .....	95
32.Plate material .....	97
33.About sound absorbing material .....	99
34.Reinforcement of plate 10 .....	100
35.Application to speaker unit .....	101
36.Explanation of Signs .....	104
37.Extent of claims .....	105
38.Abstract .....	107
39.What BSM Speakers Can Do .....	108
40.The future of music sources .....	120
Afterword .....	124

---

## Introduction

First of all, thank you for your interest in this book. And I am only an audiophile, so I am writing what I felt in my experience. Therefore, please understand that not into all of them have a scientific basis. Music is a powerful tool that can heal the mind, and that brings fun and energizes to life. If you are reading this now surely you wishing that you want to listen to more comfortably, that your favorite melody that you listen to everyday. Here, I would like to tell you that how can we do it reproduce the recorded music source as it is. [Playback as it is] This is quite difficult. If you can do that, you will surely increase your favorite music genres and you'll have a wonderful time in your life.

When I was 20 years old (1976) when I was in my youth, there was no mobile phone yet, and fixed-push-phone phones started. At that time, the entertainment that ordinary young people were interested in was about that much that skiing, cars, cameras, traveling abroad, group sounds, mahjong, space invader games, and listening to jazz and rock on audio. However, computer technology is now making remarkable progress, and people all over the world are using portable computers like smartphones, and 5G (fifth generation) communications have begun, and computer technology shows no signs of slowing down. In addition, AI artificial intelligence has improved in performance, and

it has finally reached the point where it has capabilities that exceed those of humans. And, thanks to the communication technology, young people are connected everywhere, communicate with each other even in Game match, and enjoy their leisure time in the artificial virtual space (virtual reality). Moreover, most music sources are via smartphones, and CD players are becoming less useful. These days the younger generations don't usually listening music just sitting in front of Stereo speakers. Moreover, nowadays, I don't think there are many people who lead an audio lifestyle where large floor speakers are installed as the main feature of a room. Therefore the How-to Audio books on analog record playback, may no longer be necessary. however, recently it has become a trend to listen to music on analog vinyl records again, and more and more people are becoming interested in playing records for a nostalgic feel. And because of the COVID-19 pandemic has passed but people seem to be spending more time at home. So I think that there are probably people who are rethinking audio. But anymore nowadays, there are too few sources to listen to music on vinyl. After listening to it once or twice, they are likely to stop listening to it again and let it collect dust. Especially if people want to enjoy music with home audio, the loud sounds experienced at concerts, movie theaters, and live music venues can't be reproduced in apartments or collective housing.

If it's a detached house with double glazing, it's a different story. But I think that Modern people who believe that the volume experienced at concerts, movie theaters, and live houses is the thrill and excitement of music, and who can only enjoy it at high volume, no longer it seems to hinder even the development of the music industry.

Therefore, if we can experience the real presence at a volume that

can be enjoyed at home, we can spread the true path of audio music playback That is really want my wish.

Also, I hope that the BSM speaker system that I invented will be supported by as many people as possible. And I would be happy if this book could be of some help in how to properly use audio equipment and how to become aware of it.

It may be repeated, but in order to obtain a detailed and three-dimensional playback sound like a diorama with analog record playback, we can never get it just by purchasing a high-end device that looks good. But somehow, just by looking at high-end equipment of neatly housed in a beautiful audio rack that our feel like we can hear a good. But as a matter of fact if we just put them on a rack, I think may be the TV, CD, or car stereo sound is more better than high-end equipment. However, the charm of audio starts there and to pursue better sound and It's about getting satisfaction. When choosing equipment, it is very important to determine whether it conforms to the principle of vibration. And unless those devices are used to their full potential, it is impossible to obtain a detailed and three-dimensional sound reproduction like that of a diorama. This books purpose is without wasting money on equipment that as much as possible, keep the equipment you are currently using, and the purpose of this book is to help you get a wonderful time for you can enjoy the sound that is gradually getting better by using it correctly.

It's been a long conversation, so let's join us in this fascinating sound world full of depth and reality.

## 1.What is sound

---

There are countless substances on this earth where we live. Air, water, soil, rocks, metal, grass, trees, animals including us etc. The onset of sound begins when these objects vibrate. And these vibrations travel through the air, water, or other objects. And one finally we can hear the sound by vibrating the eardrum in our ear. Basic principle of sound is vibration. This principle dominant our audio. And following this principle is important to get the best results. One day, when I was watching the popular NHK program in Japan ( "Chico-chan scolds me", there was a broadcast with the theme of "Why do you hear various sounds from the speakers?" A program that teaches us that we are spending life time without understanding things". That the answer was "The ear separates sounds and distinguishes them". The Sound is vibration, and no matter how many types of vibration sources there are, the waveform when recording is one line, not making many different waveforms. The speaker reproduces is that only one moving waveform of electrical signal. And next is picked up by the eardrum of the ear. Then, the inner ear cochlea converts them into electrical signals of various sounds again and the brain recognizes them. It is to say the important thing for our beloved audio is how to deliver it to the listener without damaging the original vibration waveform of this one.

## *2. Good sounds hate dirty rooms.*

---

Is your room clean and tidy up? Keeping your room clean, at first impression, seems like a waste and meaningless thing. However, in order to enjoy with a rich heart, it is important it. A pure sound will die that if only dust accumulates on your amp or cords. And if there are lot of things and unnecessary goods in your room look like on topsy turvy, they can cause diffuse reflection of sound. The noise emitted from the resonance of unwanted objects makes it difficult to hear the correct sound field and makes it to lose easy sight of the direction of the equipment settings. I will explain later, all matter in this world has resonance points. Resonance unknowingly makes the sound dirty. (It is added to one waveform and will distorts it)The more the reflected sounds will more reverberation sound add to waveform. And then conversation gets inevitably louder for becoming difficult to hear our voice. For example, please place a trash can or a beer bottle in front of the center of left and right your speakers. How is it? Doesn't it sound as if the sounds are gathering and clinging to the bottle? The sound that reaches our ears is not only direct from the speaker. All of sounds come into our ears even reflected sounds from walls, ceilings and floors. So let's clean up the room as much as possible. A cleanly tidy room is the stereoscopic effect of the sound becomes easy to feel. But we and our family can choose the room coordination and colors as you like.

### *3.Simple is best*

---

This chapter have literal meaning in words, so you might need to organize your favorite equipment. In my case, I specialize in playing vinyl records, so I don't have any other equipment. (CD, tuner, Bluetooth, selector, etc.) I try not to put things around the main equipment as much as possible. Please act at your own risk from here on. I will not take responsibility if you even say goodbye to some your equipment. Keep the extra equipment out of the room, using only the main equipment.

Previous chapter, I wrote that everything has a resonance point and the extra things on the same board or rack, the more the main equipment will be affected. Electromagnetic waves when energized and magnetic fields also affected to sound quality. In the reason that you feel don't like them sounds, make good use of your main equipment before one after another replacing equipment. It is important to get the full performance of your equipment. Even if the amazing high-end equipment that you often see on YouTube or in the houses of audio critics are lined up ostentatiously. (There are many sets of speakers in a room, or a record player placed on the same rack as the amplifier group) I can tell that it will never get a good sound in that installation state that can see in most of the images. From the entrance of the sound to the exit to the speaker, it is important to make the setting

as simple as possible, in order to make it easier to understand the characteristics of the speaker and the characteristics of the amplifier. And could be use up each ability. Simple is best.