

# Discussion on String Technique in MIDI Music Production

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**Abstract.** with the rapid development of science and technology, computer software and hardware widely used, the field of music art has also been applied to electronic technology means. MIDI music production is the combination of music and science and technology. Through the production of MIDI music, the process of making and making music becomes more and more convenient. MIDI music production in string production is particularly important, there are many difficulties, this article mainly discusses the MIDI music production string production skills.

## Introduction

With the rapid development of Electronic Science and technology, electronic technology is widely used in the music field. In the process of music creation and production, MIDI technology is needed. This paper mainly discusses the application of MIDI technology in string creation and production. Because string music has great expressive power and is widely applied, it is very important to study string skills in MIDI music production. Through the MIDI music making vivid lifelike strings, playing to maximize the effect close to the reality, you need to understand the relevant knowledge and theory of string, string playing habits and methods, as well as MIDI making music etc..

## A string of orchestration knowledge

Before the use of electronic equipment for making MIDI music, we need to have an understanding of the string creation and production of traditional practices, because no matter what the equipment for the production and transmission of the music, the music is the string music production base and key. A string of orchestration knowledge and theory, we can learn from the related books, briefly tells the means through the combination of musical instruments, and works of creation and production. In the string before creation, creators should knowledge orchestration and characteristics of stringed instruments, and establish the theme and expression of intention, and select the corresponding string techniques to help creator achieve artistic effect. Usually, the creators are hoping for a balanced sound in the form of a complete works through the appropriate technique of string, the specific requirements is to balance the size of the volume, timbre difference of harmony and coordination of texture configuration; secondly, through the use of color tone different string band, enhance the richness of sound effects for each voice, are arranged for instruments, and according to the different music and playing stringed instruments, using the method of the. In the creation of musical works at the beginning of the music, people will have a clear plan for the work style and tone, and in writing before the number of voice and music length need set, and the texture of collocation set clear[1].

## String playing

In the process of music creation and production, string is widely used because of its expressive power and so on. Thus, in the MIDI music production, the string sound source has become the most commonly used sound source. In practical performance, string playing is especially rich, so in the

course of MIDI music creation or music production, different string playing methods must be frequently changed. In MIDI music production, the most commonly used method of string conversion is to add a new MIDI track, and then add new methods to the bar track. Although this method looks particularly simple, it actually adds a lot of trouble to the composer in the later stages of arranging music and so on. Because the music people are aware of the fact that in the actual music, string music is usually composed of five parts, if a piece of string group has used three different playing methods, and each method which are playing an independent track, it is necessary to establish a total of three strings, which is the fifteen track, then in order to achieve the requirements of each performance conversion arrangements also need law. Then, in the production of musical notation, the fifteen scattered tracks need to be re integrated into five string groups. It will have to face the problem is, if the music only uses a set of strings which made the score, then because of the different methods of playing, music will miss some music; but if the producer will be three strings compiled into a group of music, playing method and are combined into one, there will be some deviation in the acoustics. In the MIDI music production, in order to avoid the above disadvantages, we can try to integrate different playing methods in the same track.

With the continuous development of MIDI production technology, today, most of the sound source of digital string is obtained from the actual performance methods of the string group in reality. The orchestral sounds and effects that a symphony orchestra can play and show in reality, and almost all of the string sounds are now available. Of course, inevitably there are few sources of sound that are not widely used. The technique of string music in the production of MIDI is also different from the string strings commonly used in the symphony orchestra. For example, there is a sonata called continuous tone, which is very common in string sounds, but does not exist in the actual orchestra string notation. In addition, the bow and tie method exists in the actual string notation, but there are differences between the two methods. Among them, the bow playing method can only perform single melody, and the continuous sound playing method can make the voice part besides playing the single melody.

In MIDI music, want as much as possible to improve the degree of simulation, need in string sections before production, meticulous and accurate grasp of the string instruments, but also have an accurate grasp of the audio source selection and suitable control. With the rapid development of science and technology, the output of stringed sound source is more and more in the market of sound source, and the sound level of sound source is higher and higher. But because of the string itself and the variability of art, there is no perfect string sound source. This requires the MIDI music production, select a variety of string sound source for mixed superposition use, through different sound source, tone fusion, as far as possible to achieve the desired effect of music. In the actual operation process of MIDI music production, making people found the past that use large compilation of sound source mixed superposition effect is often more distortion, so in the production process as far as possible using a compiled source[2].

In MIDI music production, we should consider the selection of sound source. In the choice of string sound playing method usually must be considered is the stringed instruments, there are a lot of details can not be ignored, such as the use of techniques is smooth legato technique; dynamic over whether nature; grasp controllability in vibrato well; short techniques are used to enrich the same source of; repeated sampling. In addition to the stringed instruments performing techniques, but also the tone of the problem, one should note that: when the sound recording; whether the set of multiple microphone for audio and audio sampling; whether fusion[3].

### **MIDI music production features**

Making use of MIDI for string creation, need to master the knowledge and method of playing the orchestration, but also to understand the characteristics of MIDI production. It is impossible to do music creation according to the traditional string creation techniques and methods. It must be combined with the features made by MIDI.

First of all, the creator wants to understand and master the knowledge about the library, in the actual music, sound of sampling, should be the maximum possible enhancement of individual

instruments between the degree of integration and coordination, usually use sound superposition and other technical means to MIDI a string. Tone stack is not on the existing sound reproduction or arrangement of simple to use, because the same sounds will have different sound effects, in order to meet the pursuit of music and music creators, the MIDI string production, but also to make the appropriate adjustments and settings, and the foundation of these work is to ask the Creator has height the understanding of the sound source and the ability to grasp, skilled and precise control of timbre and sound.

Secondly, in the MIDI string production, should be made according to the practical requirements of computer configuration of the actual situation and the effect of music, not blindly pursue the magnificent music effect, and wanton increased tone. Such an approach would not only make the musical effects closer to the actual string performance, but could also cause the computer software to "crash" and even "paralyze"". The so-called too far, that is in the MIDI string production process, arrange the instruments to reasonable sound configuration, to obey the arrangement, as far as possible to restore sound instrument saturation, but not wanton strengthen volume and sound source, but likely to cause confusion effect[3].

Then, in the MIDI string production process, we must also strengthen the modulation of the sound field. A sound field is a region of being composed of sound. It is a spatial concept. In the practical performance of string, the performance space formed by the band on different occasions and places is a sound field. In most String Orchestra Performances, the size and effect of the volume vary depending on the location of the instrument. The farther apart the normally placed position is, the smaller the volume of a string instrument is, the closer the position is placed, the greater the volume of the instrument. In the production of the MIDI string, the composer also needs to master the playing habits and modes of these strings, and adjust them according to the actual sound source effect and the sound field settings. In the MIDI string making process, there is not a fixed set mode of sound field, but a reasonable adjustment of sound source and tone according to the actual music effect[4].

### **Practical application of four and MIDI string making techniques**

In MIDI string production, the long sound is divided into long, long and long variations without any changes in performance. Among them, for the production of long tone with obvious ups and downs, it is necessary to use Expression controller to adjust the intensity of long tone at different levels. For without many changes of long sound, according to sampling timbre choose it, basically do not need to be too much, if you want to make the fine processing string expression more natural can choose to use the 11 expression controller in the continuous process of the long sound[5].

Legato is a very common technique in playing a stringed instrument that is played with a bow of multi tone playing method. In the audio sampling, should pay attention to the continuity between the sound and the sound of stringed musical instruments. In the MIDI before making the producer may need to be analyzed carefully on bowing and marking.

When our audio source is sampled, the audio source should be mediated. According to the actual experience of the producer with the sequencer, the degree of overlap of the notes to fine tune. And use the facial expression controller to mark the bow and the bow.

A stringed instrument is generally belongs to long musical instruments, so in the actual playing if you want to play the short bow, bow playing jump method will use meal. In the sampling of the source string, can collect all kinds of sound short, authenticity in order to maximize the pursuit of sound quality in the MIDI string production, can be applied to continuous sampling of different short short notes.

In the repeated performance, it requires the player to maintain the stability of the note as much as possible, but in the actual performance, the adjacent notes can be avoided, there will be subtle differences. In the MIDI production for the tautophony string source sample may be different with each adjacent sound, thus enhancing the authenticity of the sound, and according to the experience value of adjusted parameters on the strength of the short[6].

The method is playing pizzicato string players through the use of the index finger of the right hand or the left index finger on the strings to toggle. In view of the problems in the MIDI string pizzicatos, production, there are many producers of pizzicato sampling, usually simple power and can adjust expression.

Vibrato is a tonic and more than once or half of sound at a certain speed in alternate form notes.

As for the depth of vibrato, you should use the Modulation to control the range of expression of vibrato in MIDI string production.

With regard to the speed of vibrato, it is necessary to operate and control a number of controllers during the production of MIDI strings. According to practical experience, parameters are set and adjusted in a certain range.

With respect to the range of vibrato, multiple controllers are required for coordinated control in the production of MIDI strings.

About the delay in the MIDI string tremolo, when you want to consider the actual performance at the beginning of the long sound vibrato when playing, there is a gradual process, not to start shaking, the trill must have a transition process is more natural. Therefore, after the selection of multiple controllers, but also to adjust the parameter value, according to our actual needs, within a certain range of adjustment.

In the actual string, glissando is a smooth note in a certain range of mobile music produced by the effect of sliding range is set, usually not less than yinfen. In the MIDI string production should pay attention to the content of several glide. The first time a portamento portamento switch. In the MIDI string production, initially opening the glide sound is initial sound, sound is the final change to the final sound volume affected the final glide change sound intensity value. Collect sampling in different sources have different effects on the glide, sometimes even with the same source, due to the source of the starting control of glide time and intensity, the effect is different.

## Concluding remarks

Work to a MIDI string when a professional music production process, not only need to use technology to master advanced electronic equipment producer, producer to truly understand the real life a symphony orchestra is how to play the string. And in true string performance understanding based on the relevant knowledge of basic knowledge and theory of string players, including strings is how instrument configuration, what are the performance methods and accurate accurate grasp in the regulation on the selection and sound source.

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