How to Produce Chinese Folk Music Using Regular MIDI Equipment

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Abstract

Making Chinese folk music by regular MIDI is really not easy, you can not find the ideal tone for Chinese instruments from the current available tone generators. In this demo we will discuss some issues for the voice modification based on regular MIDI equipment, and show three pieces of Chinese folk music, where you will hear the tone of ErHu, Suona, etc. from MU-90 and VL-70m.

I. Background

In this demo, we will show three pieces of Chinese traditional classic music, which are produced completely by regular MIDI equipment. As we know, the MIDI technology is originate in western with its major market, and currently there is no MIDI equipment available to contain or cover the basic voice hierarchy of Chinese traditional instrument orchestra. Then how can we produce the voice of folk instruments such as Erhu, JingHu, Suona, Dizi, Pipa, etc?

One way is called "MIDI plus human performance", which is widely used in business. But we don’t think it is good to make folk music, actually it shows the MIDI equipment have no alternative. The other way is "sampling & playing back". It is a good way theoretically, however, that is too expensive and tanglesome.

We present our way, "voice modification", which is without expensive equipment and without technical difficulties. We can make full use of the available MIDI tone generators, just make some kinds of refinement and reformation to certain tones with some normal technology, and change them to be our ideal folk voice. That is, although the MIDI equipment is designed for western musical instrument, it still can produce our folk music, even true to life. Our paper will discuss it in detail.

What we describe here is the widely-used classic approach in MIDI application, which can also be applied to make the folk music in other countries and for some unique instruments. We believe it brings musicians new ideas for music composition and voice creativity.

What’s more, we should be able to good at wisely adapting the normal MIDI techniques to exactly express the unique style and skills for each instruments.

II. Demonstration Introduction

Three pieces of Chinese traditional music will be demonstrated significantly to support our success.

1. "The Water of River" (Jiang He Shui), time:2'24". It is a well-known Erhu solo with Yangqin accompaniment. The composition describes a wife who is calling her dead husband, and holding a
memorial ceremony for his soul along the river bank sorrowfully and tactfully. (The Erhu is one of the most widely used bowed instruments in China. The tone is mellow and bright. The snakeskin over the soundbox gives the instruments its distinct timbre. The bow plays between the two strings, which are tuned to D and A.)

We select three kinds of tones from VL-70M and MU-90, refine and reform them, then synthesize the Erhu voice. When this work won in China MIDI competition, some audience had misunderstood and then complaint it's played by human, not machine. Unbelievable!

2. "Lady Liu Qing" (Liu Qing Niang), time 3'. This is a piece of Peking opera music. You will hear the following voice:

- JingHu, Peking opera fiddle
- ZhongHu, two-stringed Chinese alto Fiddles
- DiZi, bamboo flute
- SuoNa, a wind instrument
- LiuQin, a plucked stringed instrument
- SanXian, a three-stringed plucked instrument
- Pizzicato
- and Rezzy Sawtooth,
- plus the drums part of 15 different percussion instruments of Peking opera.

The drums here include WuLuo (a sort of gong used when fighting), DaLuo (big gong), Xiaolu (small gong), Naobo (cymbal), Dabo (big cymbal), Xiaobo (small cymbal), Bangu (small high-pitched drum sounding like a bamboo-block), Dagu (Chinese Timpani), TangGu (Chinese Campane), etc... It is almost a complete frame of traditional orchestra of Peking opera. The voice of JingHu is made from VL70-M, and the voice of all other instruments here is made from MU-90. You will be totally surprised to hear Peking opera music coming from MU90 & VL70-M. This work won the Best MIDI Technique Award (professional group) in China MIDI competition in 1998.

3. "Yangko of Supporting Army" (Yong Jun Yang Ge), time 1'.

This is music for yangko, a popular rural folk dance in north China. Here it has been rearranged for a small-scale instrumental ensemble. We made the tone from MU-80 for Dizi, SuoNa, LiuQin, PiPa (a plucked string instrument with a fretted fingerboard), SanXian, ZhongRuan, GaoHu (treble ErHu), erhu, and Chinese drums.

It has been the first published MIDI work for the author using MU-80 tone generator based on "voice modification" approach. At that time, even the experts from YAMAHA Company (the MU-80 maker) were so surprised that MU-80 could make such a real tone for Chinese folk music.

III. Reference

1. MU80 Owner's Manual
2. MU80 Voice List & MIDI Data
3. VL70-m Owner's Manual
4. VL70-m List Book