

In Search of the Perfect Marimba

Keiko Abe and Yamaha

Searching for an instrument that would satisfy her artistic needs, renowned marimba player Keiko Abe chose Yamaha as her musical partner in 1969. The following outlines the history of that fruitful partnership, and some of the important developments it has produced.

To raise the status of the marimba from a simple folk instrument that sometimes found use in popular music genres to one that would be accepted as a solo instrument on a par with piano or violin, Keiko Abe began creating new compositions written specifically for marimba, both on her own and in cooperation with other eminent composers. At the same time, she began to realize that refinements to the instrument would be necessary to meet the artistic demands of the new music. The “marimba sound” envisioned by Ms. Abe would have to have clarity in the higher registers as well as deep, warm resonance in the lower range. Accurate pitch and wide dynamic range would also be essential. The sound of the ideal marimba would easily reach every corner of a concert hall. A marimba that could match the power of an orchestra playing concerto accompaniment simply did not exist at the time, so Ms. Abe arranged a meeting with Mr. Genichi Kawakami, then president of Yamaha, and suggested collaborating on the development of a new marimba. President Kawakami agreed, and the marimba project was born.



YM-4500



YM-5000



YM-5000 Resonance Regulators

The YM-5000 features resonance regulators that allows easy compensation for changes in temperature and humidity. The current YM-6100 also includes this feature.

Yamaha had previously only offered marimbas for educational use, and had no experience in manufacturing a concert marimba. Advice from Ms. Abe led to in-depth research and prototyping that became the basis for the YM-4500 concert marimba, released in 1971. The YM-4500 had a range of four octaves, equivalent to the maximum range of other contemporary marimbas. The YM-4500 was an excellent marimba, but Ms. Abe wanted to expand the instrument’s expressive capabilities even further to support contemporary music styles, and felt that enhanced tone and an extended low range would be necessary.

With that feedback as a goal, the development team immediately began prototyping a new instrument with a wider range, tone bars of different size and harmonic structure, and resonance pipes that could be individually adjusted for each note. The new marimba was also designed with a tempered tuning curve that more closely matched human hearing characteristics (the low notes are tuned a little lower and the high notes are tuned a little higher than the mathematically “accurate” pitches). The result was a purity of tone and musical clarity that was ideal for a contemporary repertoire and aggressive phrasing. The 4.5-octave YM-5000 was completed in 1973.

Yamaha Concert Marimba Development

Year	Model Number	Octaves	Range
~1971	YM-400	4	C28-C76
1971	YM-4500	4	C28-C76
-	YM-4500 with extended low range	4.5	F21-C76
-	YM-4500 with extended low range	5	C16-C76
1973	YM-5000	4.5	F21-C76
1981	YM-5000 with extended low range	5	C16-C76
1984	YM-6000	5	C16-C76
2002	YM-6000A	5	C16-C76
2008~	YM-6100	5	C16-C76

As marimba development continued and its repertoire grew, Ms. Abe’s pursuit of musicality began to focus on the low range where the marimba’s distinctive tone is most useful. She wanted to give the instrument even richer, deeper tonality in the low range, so the team began research and development on a 5-octave model. They created a prototype extension unit that could be attached to the low end of a 4-octave YM-4500 or 4.5-octave YM-5000, to test the potential for a 5-octave model. In 1981 Ms. Abe embarked on a tour of the U.S.A using a YM-5000 fitted with the extension. The tour received positive reviews that proved the success of the instrument’s development.



YM-4500 with the 1-octave low range extension, as seen from the performer’s perspective.



YM-4500 Extension Unit



YM-5000 fitted with the extension unit was used to prove the instrument’s potential during a 1981 American tour.

Source: “KEIKO ABE -A VIRTUOSIC LIFE-” (Rebecca Kite)



The World’s First 5-octave Concert Marimba

YM-6000

With confidence in the potential of a 5-octave marimba buoyed by the success of the 1981 US tour, Ms. Abe began considering further changes to the size of the tone bars. Longer, wider, thicker bars were combined with redesigned resonance pipes, achieving unprecedented power and resonance that became the backbone of world’s first 5-octave concert marimba designed for classical music. The YM-6000 was released in 1984, 15 years after Ms. Abe first joined forces with Yamaha in the pursuit of an instrument that would satisfy her own musical requirements.

The Current YM-6100 Inherits the Basic YM-6000 Design

YM-6100



In 2002 a height adjustment function was added to the YM-6000, and that variation was released as the YM-6000A. The current YM-6100 model was released in 2008, with basically the same two-tone color concept that was a distinctive feature of the YM-6000, but with the warmth of natural wood replacing the white-finished parts of the former model. The resonance pipes for low accidental notes face outward (toward the audience), facilitating adjustment of the resonance regulators. The frame and resonance pipes were made significantly lighter, resulting in a total weight that is 10 kilograms less than the YM-6000A. The YM-6100 carries on the familiar sound and tonality of the YM-6000 while providing enhanced portability and functionality in a number of important areas. The YM-6100 represents the culmination of the combined efforts of Ms. Abe and Yamaha.

More than 49 years have passed since Keiko Abe first contacted Yamaha in 1969. The current 5-octave concert marimba for classical music that resulted from her pursuit of perfection has become a world standard. The opportunity to contribute to Ms. Abe’s pioneering quest to elevate the art of the marimba and make it a lifelong partner in her musical life and performing career has been an honor and a privilege for all of us here at Yamaha.

(Yamaha Corporation, B&O Marketing Group)



←View a movie in which Keiko Abe discusses her passion for the marimba.