

Hammond's Legendary B-3 Is Back

Suzuki Develops New B-3 and Leslie Speaker System

Quite a number of organists remember the warm tonal color of Hammond organ. Associated with the Leslie speaker system, the tonal character is enhanced, and a host of organists loved to play the instrument even after the company ceased production of the tone wheel sound generating system.

Hamamatsu-based Suzuki Musical Inst. Mfg. Co., Ltd. with Fujio Suzuki as its president, acquired designing, manufacturing and distribution rights of Hammond organ from Crabbe Group, Australia in 1989, and founded Hammond Suzuki, Ltd. the following year.

After extensive study of the original organ, the company introduced the New B-3, a revived model of the legendary B-3 in September.

Since the prototype unveiled at the NAMM show in January, Frankfurt Music Fair in March, and NAMM Summer Session in July, demands have grown among dealers and organ players.

Japan Music trades interviewed Suzuki engineers and managers of national and international sales, to know the development back-



From l. to r., Junzo Ikuta, Hiromitsu Ohno, managers, and Takeomi Nishimura, general manager, Research & Development Section, Suzuki Musical Inst. Mfg. in Hamamatsu.

ground of the new and much waited organ and speaker system.

■ Revives original model in every detail and sound

After Hammond Organ ceased production of tone wheel organs in 1975, the market saw not a few clone models incorporating digitally controlled tone wheel sound generators. Suzuki introduced a

series of digital Hammond organs as well; however, long-time Hammond players requested Suzuki to build an organ which can produce original Hammond sound. They commented that tonal color and playing feel of organs incorporating digital technology sounded somewhat different from their old image. Demands were particularly high for the B-3.

Hammond organs sound different and special by individual players and their musical sense. That is why they are called masterpieces, and still loved 70 years after they were built. Only players with high performance skills and excellent musical expression can derive truly beautiful sound from the instruments.

**Designing the
New B-3 started from
scratch because
there remained no
blueprints of the
original tone wheel
system when
Suzuki Gakki
purchased
Hammond Organ
in 1989.**

Hammond New B-3

Suzuki engineers developed the New B-3 with the sound and feel of the original B-3 in every detail after 27 years. The organ is advanced and reliable with the latest manufacturing technology of Suzuki.



Hiromitsu Ohno, manager of Research & Development Section, says, "The instrument we revived should be recognized as original by discerning players in every detail from key touch to voicing to tonal quality."

The Suzuki engineers first built a new B-3 seven years ago. Junzo Ikuta, another manager of Research & Development Section, recalls, "We knew that reviving the tone wheel sound system itself was not practical in terms of cost and maintenance. The initial plan was to build the same organ as the original, except for the PCM sound generating system. The multi-layer key switch system of the original B-3 was quite complicated. It took more than 600 wire connections. One single key came with nine connection points which were wired to nine tone wheels, i.e., nine drawbars. When a key was pressed, electric current was drawn to nine connection points and tone was instantly delivered. But the result required a bulky keyboard having nine sound generating circuits for the individual connection points."

The manufacturing project was suspended for some time until a

basic design concept featured a slim keyboard for allowing automated factory production.

In 1999 another opportunity came. Engineers expanded sampled Hammond sound to a 96-channel source. Workers of U.S. Hammond Suzuki and distributors carefully evaluated its sonic quality.

Development of new B-3 resumed. The sound generators, including PCM oscillators and the signals, were instantly converted into analog, so all 96 channels could be transferred to individual keys. That means sound is delivered in analog signal from the first press of the keys to the transmission of the sound through speakers. Warm tone and fine response of analog machines are revived. Ikuta says that all parameters from filtering to mixing which are directly related to tonal character are processed in analog just like the original B-3.

The biggest difference of the New B-3 from other cloned models is the analog-orientation for both the keyboard and tone generating system. However, the New B-3 had to be designed from scratch because there remained no blue-

prints of the original tone wheel system when Suzuki purchased Hammond Organ. The engineers wrote nearly 150 design maps based on the original system. Not a few parts were newly designed for the New B-3. The cabinet looks traditional, but is much more rugged than one might expect from its appearance.

"We know how to build sumo-wrestler style players overseas. The cabinet is made rigid enough for their fierce play," says Kojiro Aoyama, manager of Sales Dept. After extensive efforts, the size of the keyboard is half that of the first model. The total weight was also reduced to half (95kgs.) of the original B-3.

During this painstaking work, the Suzuki engineers developed striking design concepts and ideas for Hammond Organs. Yet, the New B-3 would not be born without Suzuki's advanced manufacturing technology. The company also uses Universe Precision that specializes in plastic molding, jig design and manufacturing in a group. As with other Suzuki products, every part and control button are supplied from the member companies of the group.

Leslie 21 System

2101

Leslie Rotary Unit with one 50W horn rotor and two 50W low rotors.

2121

Leslie Stationary Unit with one 38cm woofer, one 37cm x 13cm large horn and a compression driver.



■ Instrument completed with robust new features

While studying tonal quality and playability of the original B-3, Suzuki engineers improved the functions in many ways. Some customers request Suzuki for repair of the original B-3. In many cases, the problem arises in tubes and wires or connection points of the keys. With the New B-3, the integral connection points of the keys are gold-plated and thick to prevent malfunction and increase durability. By employing photo capler type buttons and switches on the front panel, overall durability of the instrument was greatly improved. The New B-3 also has a MIDI OUT to control external sound generators and a compact flashcard drive for setting and saving drawbar data. The control panel providing all these switches, as well as a display screen is tucked under the keyboard to be pulled out only when needed, thereby maintaining the look and tradition of the original B-3.

The new Leslie 21 speaker system also comes with the originality of the traditional models, in addi-

tion to improved capabilities and reliability. The 2101 rotary unit for practice at home or studio can be expanded to a larger and comprehensive system suitable for stage when coupled with the 2121 stationary unit. Both speaker systems deliver distinguished Leslie sound. The latest brushless DC servo motor is also featured. It has a CPU to control rotating speed, plus the rise and fall time of the horns. These settings can be saved in the internal memory and accessed instantly by a foot switch. Data can also be exchanged with other 2101s and New B-3s via a MIDI cable, saving the player considerable time.

Since the speaker system comes with an 8-pin DIN connector and a line input, they can be directly plugged with organs and guitars without a Leslie connector.

■ Raising the New B-3 to another legendary organ

Hammond Suzuki operates organ teaching schools in the Osaka area with 430 instructors. Three thousand students are

enrolled now. Takeomi Nishimura, general manager, Research & Development Section, says that Suzuki would start distribution of the New B-3s to its Japanese dealers and overseas distributors in September. The U.S. is the largest market for the Hammond organ. Masuo Terada, president of Suzuki Corporation, export agent of Suzuki products, expects growing needs to replace old B-3s, as parts have become hard to come by. The dealer responses at the last NAMM Show and Frankfurt Music Fair were greater than expected.

Although the New B-3 is the flagship model, Suzuki also features the compact XB-1 and XK-2, as well as home organs such as the XE-1, XT-100 and XH-200. The CH-1000 church model completes the line. Chances are good in the near future that a much more compact sister model to the New B-3 will join the product group.

(Shuncho Mori)