

Virtual Pipe Sounds

Almost a year ago we presented to you the specialized organ sampler „Hauptwerk,“ which allows a pipe organ with its characteristics to be modelled on the PC. Since then the number of organ sounds available in this format has grown considerably.

To recap: this software works differently from an ordinary sampler in that it reproduces the organ with all its sounds **exactly**. A pipe organ produces its sounds through individual pipes which - to put it fairly crudely - resemble the way flutes or woodwind instruments are built. There is a single pipe for each note (with some exceptions), and all the pipes of the same pitch level and construction type are called a „register.“ Each register consists as a rule of as many pipes as the keyboard to which it belongs has keys. Thus, in an organ more than a thousand pipes might sound rapidly together, and no ordinary sampler can handle that. Hauptwerk reproduces this characteristic. Instead of individual pipes, it allots an individual sample for each note in a register; these samples contain the sound of the corresponding pipe in the reproduced organ including the attack and release sounds. It is also possible to include the spatial acoustics, which brings the organ with its original ambience into the computer.

According to the capacity of the PC used, organs with more than 50 registers can be loaded, although up to 3 GB of free memory is needed. This many registers can make your computer weak in its knees - striking a chord with twelve notes (including pedal) might sound more than 600 pipes. Since these samples must then be added in the computer before they are outputted by the soundcard, quite a feat of calculating is necessary.

Fortunately, a wide spectrum of instruments is available, not only the superlative Organ Monster, but also small instruments which can be accommodated in a PC with 512 MB. Similarly, there is something for every pocketbook - a most agreeable organ can be had for all of 5 euro.

Organ Art Media

Professor Maier's library of historic organs is growing steadily. The samples obtained here have a specific goal. They make it possible for interested organists to play on historical instruments that they could hardly visit in person. Furthermore, the project acknowledges the organs and the accomplishments of their builders; some, in fact, are much in need of renovation. The concept of the Computer Science and Multimedia Professor at Reutlingen provides for directing one part of the proceeds from the sales of the sample sets towards the restoration and care of the respective instruments. It is an appealing idea that one contributes to the preservation of these rarities. The prices are nevertheless appropriate, although the license is very restrictive: the organs are provided only for non-commercial, non-public use. These organs may therefore be of less interest to music hobbyists.

Nevertheless, there is also a CD recording with one of the Silbermann organs sampled by OrganArt - the Italian organist Fabio Mancini has recorded some baroque organ pieces on the virtual Silbermann organ. The result is outstanding. The fact that the CD was recorded on a software sampler is undetectable (www.fabiomancini.altervista.org).

As a test we procured the new sample set of a French organ from Roquemaure, which lies in south France, in Languedoc. The organ was built by the brothers Julien from Marseille in 1690. This rarity, which today is studied by many organ builders and organists as a historical document of the art of Baroque organ building, makes a very fine impression on the PC. One must indeed first understand the characteristic structure of the organ, which was constructed for the interpretation of music in the Spanish style - then the sound and playing experience are assured.

The samples are of the best quality, the organ was recorded with tracker noise (which can be turned off). The ambience of the church was likewise precisely recorded. So the interested organ player can get a view into a world which is fascinating - for this very individual instrument demands a feeling for registration and a choice of literature which one can express on it.

Milan Audio

Brett Milan has been adding more organs to his offerings and has also brought out a harpsichord in Hauptwerk format.

This time, we examined two organs from American providers: one, the flagship of the contribution, an extensive romantic organ in Chicago, which is located on the upper end of the scale of what is practical on current Windows XP PCs; and one organ which is composed of matching samples from various organs, in order to be able to offer an inexpensive system.

The E. M. Skinner organ in the Our Lady of Mt Carmel Church, Chicago, is an expressive instrument. Built in 1928, it has the rich, warm tone of a romantic organ, with all the sound capabilities that a symphonic organ brings. The organ, which is also designated as „The American Classic,“ has more than 50 registers and needs 2.7 GB of free memory for all of them - which means that you need at least 3 GB installed in the PC, otherwise you can load this fine piece of craftsmanship only in parts. This brings up an advantage of Hauptwerk: since each virtual organ consists of the sample files for each pipe plus a control file, the player can construct different control files for various memory capacities, in order to enjoy the Queen of Instruments on less powerful systems.

The sound of the Skinner organ is simply a knockout - there are pipes which generate tones that are more felt than heard, slowly beating registers, tender or strong solo voices - an extensive instrument. For this organ, you need a good and robust sound system which renders sound accurately. On PC loudspeakers it doesn't sound well - it would be like drinking Champagne from yogurt cups.

The price for this sample set is relatively high, but for that price you get an instrument that will keep you busy for the long term - boredom is definitely ruled out.

The second organ tested stands in contrast to the Skinner because its goal is a Spartan approach to memory. The samples of the Compenius Organ are recorded in „dry“ mono - the room reverb and the release sounds were not recorded. Through this procedure, one can accommodate an organ with 66 registers in less than a gigabyte. Of course, for appropriate ambience the sound must then be run through an appropriate processor, but a simple but good room simulator today costs less than a GB of RAM. A further advantage of this type of sampled organ is also the possibility of combining

registers of different origins. The Compenius Organ combines registers from many organs which have been adjusted and tuned to each other. A curiosity: some registers were specially designed and built for the sample production - some of these might be a single pipe.

The Compenius Organ is multifarious, comparable in design to digital church organs which as a rule also employ samples from various sources. The 66 registers offer a large potential of sound possibilities with good quality - if an organ has a only a Baroque character, one can't fittingly realise the Romantic literature. The very moderate price makes this organ an ideal instrument for beginners with a small budget and computers, or musicians who occasionally need a good organ for their compositions without exhausting their budgets.

Prospectum

The organs from Prospectum represent an entirely new concept of the sample library. The provider is pursuing no commercial object and offers his sample sets for a minimum donation, with no maximum limit. This is an interesting concept, because it creates the financial framework for further projects. The maintenance of some of the organs is supported by these contributions.

The organs are all situated in the area of Neckar and all are new, 20th-century, instruments with one exception. This is the Adam Ehlich organ which comes from 1748 and is often compared to the Silbermann organs in terms of precision and quality.

A clever offering is the new set of a small organ with all of 5 registers. This costs 5 euros - a mere pittance, especially if you first want to become familiar with the technique. The motivation for this low-price offering was the anniversary of Prospectum; the project started about a year ago. A „Happy Birthday Organ“ can be downloaded free of charge; this is a subset of the regularly offered Kaul Organ in St. Johannes, Weinsberg.

The prices of the other organs likewise strain the pocketbooks of interested organists and musical types only moderately. The minimum donations range between 79 and 109 euros: true cost-prices, since these samples are every bit as good in quality as more expensive ones. The license is also thoroughly open. You are permitted to use the samples as you wish and even to alter them, provided that a copy of the results is made available to Prospectum.

There are six large organs listed on the Prospectum website, two of which are not available as sample sets yet.

Some sample sets contain the reverb of the respective churches, others are recorded dry. Dry recording has on the one hand the apparent disadvantage that you must allow for an external reverb unit or a post-processor with a reverb plug-in for spatial ambience. But there is an indisputable advantage close to hand: these dry samples combine better with other instruments, so you can control all the instruments with the same spatial parameters.

The Prospectum sample sets cover a wide spectrum of sound through their large selection of various organs. From Baroque to Romantic and Modern, many style periods can be interpreted on the virtual organs.

Since the new recordings are implemented efficiently and are of very high quality, the not inconsiderable enthusiasm of the provider and the advance notice of the planned projects whets our appetite for more.

Silver Octopus Studios

From Great Britain, Hauptwerk's country of origin, come some sample sets under the name „Silver Octopus Studio.“ Currently a set of a romantic organ with 25 registers is available; a version with 35 registers is in preparation. The virtual organs are composed of samples of two organs, which are located in St. George's Hall, Liverpool, and in the town hall in Huddersfield. The organs were built by Henry „Father“ Willis in the middle of the 19th century, so it is guaranteed that the single registers, which are all of the same style, will fit together well.

The recordings of the organ were constructed in such a way that the room acoustics as well as the wind noises were not recorded with the samples. The microphone was placed as close as possible in line with each pipe being recorded - the result corresponds to what a listener would hear from the middle of the organ.

The audible upshot is a typical English organ with a large dynamic range, from a rich, warm tone to a bombastic almost overpowering abundance of sound. With such a sample set, one can, logically, interpret very well the romantic contemporaries of the United Kingdom who have written literature which were cut out for this type of organ „on the pipes.“

Bottom Line

Although a relatively small niche, there is a very wide selection of virtual organs of very high quality. Users of other samplers do not go away empty-handed, either - some providers offer their sample sets in other well-known formats, such as Gigasampler or Kontakt. Moreover the Hauptwerk samples can be read „raw,“ insofar as the underlying license of the sample sets does not forbid it, since Hauptwerk needs a separate file in WAV format for each pipe. Since most software samplers can also correctly read the loop information which is found in the file information, nothing stands in the way of organ playing anymore.

If we consider how tedious it was a few years ago to find reasonable organ samples for whatever purpose, we can conclude today by celebrating that which previously was unthinkable.

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(Translation by Stuart Frankel, original article in the german magazine "PC & Musik", 3/3005)