

The Höffle Crank Organ

Ron Bopp

In perusing the mechanical music literature I occasionally have come across the name Höffle in association with crank or hand organs. Further inquiry led me to Wiel Geraats, a collector living in the Netherlands. Wiel has been kind enough to shed some light and offer me photos to use for this article.



Figure 1. One of two home-built organs by Walter Höffle.

Walter Höffle was a former manager of the truck division (design department) of Mercedes Benz. At that time he was interested in vehicle models. He retired at 55 and became interested in building a pipe organ to use at home (Figure 1). He built a second one and later, he became interested in crank organs (Figures 2 to 4). He drew up plans to make one and then continued until he had made several, most roll-operated but some including a MIDI.



Figure 2. A 31-note organ



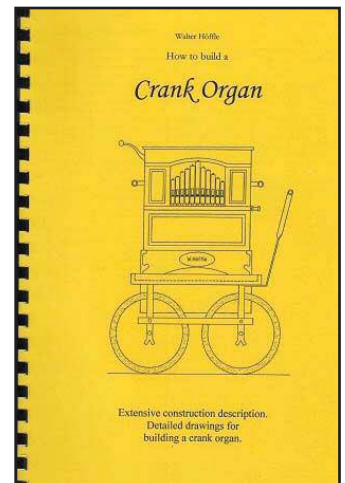
Figure 3 (above). A 20-note Höffle crank organ.

Figure 4 (below). Walter Höffle cranking his 42-note organ?



His interest along with his detailed plans led to a production of a book, *Bau Einer Drehorgel—How to Build a Crank Organ* (Figure 5). The book details plans on making a 20-note crank organ with four registers. The book is 60+ pages and is available in English as well as Dutch, German and Spanish (Figures 6 & 7).

Figure 5. The book, *How to Build a Crank Organ*



I designed and built the parallel port relay box, and I choose to use an Edirol UM-2 (made by Roland) for my MIDI output device from the server computer⁹. The UM-2 attaches to a USB port on the server computer in the Band Organ. The software doesn't care what type of MIDI output device is used, however, as the MIDI device is chosen from the control panel of the operating system of the computer.

The connections diagram for the UM0 MIDI board⁴ is available on my website⁷. The parallel port switch schematic and notes are also available on my website. As the parallel port switch doesn't use many parts and is fairly simple, I chose to use point-to-point wiring on a .10 inch spacing perfboard. Certainly, some experience with electronic wiring is necessary to build the parallel port switch.

Since converting the band organ to MIDI, I have had no problems with it. It has been in use for over a year and a half. Because of the positive vacuum line opening using the valve, the resulting sound is better than a vacuum opening from holes in a roll.

Notes:

- 1 Available from Mike Ames, P.O. Box 1715, Solana Beach, CA 92075 - ames@foxtail.com - There is an article on a similar subject by Mike Ames at <http://www.mmdigest.com/Tech/ames.html> (pay attention to upper/lower case). My computer program replaces the (very old) Viscount player.
- 2 Vacuum hose (tubing) is available from International Piano Supply, in Aurora, Oregon <http://www.pianosupply.com> (tubing is at: <http://www.pianosupply.com/players/player-2.jpg>)
- 3 Irrigation Tee's available from Barry Hill Irrigation <http://www.berryhilldrip.com> item: 40395 qty: 50 for \$9.00 plus shipping
- 4 <http://www.midiator.com/playerp/index.html>
- 5 <http://www.petersonemp.com/products/pdf/Seriesii.pdf>
- 6 Micro-Mark: <http://www.micromark.com> (item #60198)
- 7 <http://www.channel-islands-sw.com/bandorgan.html>
- 8 The power supply should be able to deliver 4 amps at 12 volts DC. They are available from most any surplus dealer. You may also use the 12 volt wires from an old computer power supply. The 12 volt leads are black (-) & yellow (+).
- 9 I used a Roland Edirol UM-2ex, which has 1-in and 2-out Midi ports. Use Google to find a source.

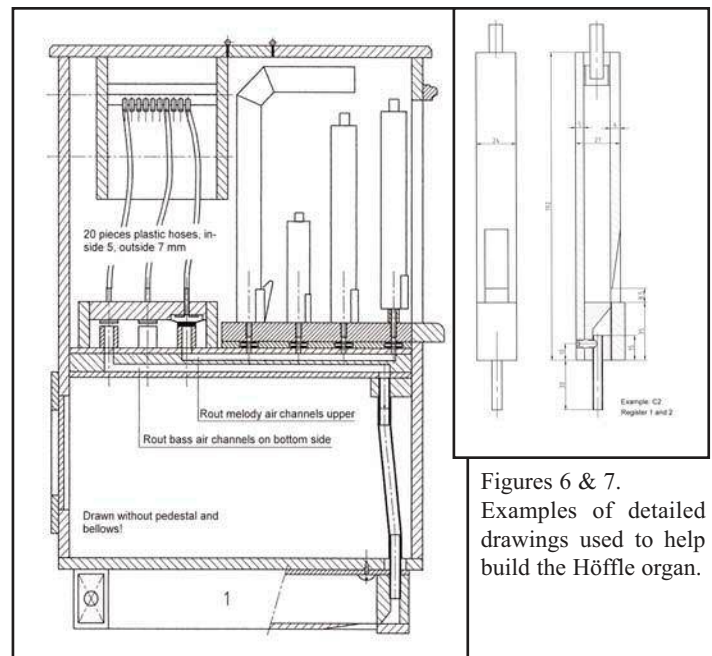
Frank Noell has been tinkering with electronics for 60 years, and has been a computer programmer for nearly 50 years. He has been working with pipe organs (as an amateur) for 15 years. He is married with five grown children. He is not a musician. He feels honored that various groups have trusted him to work on their pipe organs. He considers himself to be a "Nerd" not a "Geek."

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He understood the complexities of building the organ as well as the expense of buying a high quality organ. In his book Walter Höffle notes (retranslated into easy-to-read English—ED):

Because I am aware of only common descriptions in the professional literature I took on the task to give interested organ friends the ability to build a high-quality musical instrument. Based on detailed building descriptions and many construction drawings, it is possible to successfully build a crank organ. Requirements include a shop with a circular saw; a joiner; a drill press, a small lathe and some small shop tools. Those experienced in woodworking will have less difficulty in building (the organ). When assembling the difficult parts an organ friend or furniture maker can give a helping hand. The main thing to consider when building such an instrument is to be precise in your work. I work with a sliding caliper that is up to 0.1 mm precise.

Medical reasons have forced Walter to stop this hobby of organ construction and he has handed over his work and book sales to Wiel Geraats. His web site (full of photos and information on the organ construction) is www.hobbycrankorgan.com. His email is info@hobby-draaiorgel.nl.



Figures 6 & 7. Examples of detailed drawings used to help build the Höffle organ.