*Cover photograph by Photography by Westervelt, Winchester, Virginia*

# *The Möller Organ*

# *Specifications*

THE PIPE ORGAN at Christ Episcopal Church in Winchester, VA was constructed at the Möller organ factory in Hagerstown, Maryland. It was designed, built, and installed by Christoph Linde and Richard Howell along with other members of the Möller staff, and was completed in 1981.

The two-manual solid cherry-cased mechanical action organ consists of 25 stops, 35 ranks and 1,634 pipes. It is characterized by its well-regulated and easy-to-play action balanced action. It is mechanically excellent and extremely reliable. Its tonal concept avoids extremes. The instrument was designed to support, inspire and embellish the performance of the liturgy of the Episcopal Church as well as to serve as a recital and instructional instrument to the community. The main case houses the Great division of the organ, which is totally exposed. Behind it is the enclosed Swell division. The pipes of the Pedal division stand in separate cases to the left and right of the main case.

The organ specifications are as follows:

**M.P. Möller**

**Opus 11,435 – 1981**

| **Great** | | | **Swell** | | | **Pedal** | | |
|---|---|---|---|---|---|---|---|---|
| 8’ | Principal | 56* | 8’ | Rohrgedackt | 56 | 16’ | Subbass | 30 |
| 8’ | Spitzflöte | 56 | 8’ | Gemshorn | 44 | 8’ | Octave | 30 |
| 8’ | Dolce | 44 | 8’ | Gemshorn Celeste | 44 | 8’ | Gedackt | 30 |
| 4’ | Octave | 56 | 4’ | Blockflöte | 56 | 4’ | Octave | 30 |
| 4’ | Gedacktflöte | 56 | 2’ | Principal | 56 | III | Mixture | 90 |
| 2 ⅔’ | Quinte | 56 | 1 ⅓’ | Quinte | 56 | 16’ | Fagott | 30 |
| 2’ | Waldflöte | 56 | II | Sesquialtera | 98 | 4’ | Klarine | 30 |
| IV-V | Mixtur | 248 | IV | Scharf | 224 | | | |
| 8’ | Trompete | 56 | 8’ | Schalmei | 56 | | | |
| | | | | Tremulant | | | | |

** Number of pipes in stop*

Traditional style console; keydesk is attached to the organ case *en fenêtre*. Manual compass is 56 notes. Pedal compass is 30 notes. Concave radiating pedalboard (not AGO standard dimensions). Drawknobs in vertical rows on flat jambs. Balanced swell pedal, standard AGO placement. Slider chests; mechanical key action.

“Hold and Set” pneumatic/mechanical system combination action system with six general thumb pistons, four manual thumb pistons, and four pedal toe studs.

Standard couplers with matching reversible toe studs.

# *Restoration*

## How Our Organ Will Be Repaired

THE REPAIR OF COLLAPSING AND BENDING PIPES, cleaning the pipes and the organ, racking the pipes, and the installation of lights and wiring will require the removal of all 1,634 pipes from the organ.

The damaged pipes will be taken to the Taylor and Boody factory in Staunton, Virginia, to be repaired. The undamaged pipes will be stored in pipe trays in the choir loft. While the damaged pipes are being repaired, the remaining pipes, wind chests, and walk boards will be cleaned and work lights will be installed. Any new rack components will also be constructed during this time at the organ shop.

When finished, the repaired and cleaned pipes will be returned to the church and reinstalled, along with the new racks. The remaining pipes will then be re-installed. As the pipes are put back into the organ, the instrument will be re-voiced, regulated, and thoroughly tuned. The congregation will undoubtedly notice a significant improvement to the organ after its restoration.

## Pipe Repair and Racking

PIPES GIVE THE ORGAN ITS SOUND. They are "the voice" of the organ. Once a pipe starts to collapse, its condition continues to deteriorate until it can no longer speak. Many pipes in the organ at Christ Church are bending and collapsing, pushing other pipes over. This potential "domino effect" could be catastrophic if left unattended. The large bending pipe seen in the image on the right could easily smash 50+ other pipes if it is left unrepaired. The organ will then cease to sing its lovely song.

The metal in some of the pipes is very thin, deliberately constructed that way to produce a finer, more beautiful tone. After 30+ years, some of the larger pipes have not been able to support themselves. Then they bend and/or break, causing damage to neighboring pipes in the process. This problem is not unique to the organ at Christ Church. Even the world-famous organ at King's College, Cambridge, is having pipes removed and rebuilt, since the heavier pipes are collapsing on themselves.

Pipes can be stabilized by remaking the pipes, replacing the thin metal with stronger metal, and in some cases, by making racks to better support the pipes.

## Voicing

UNLIKE TUNING, which adjusts the pitch of the pipes, voicing addresses the sound, speech, and volume pipes make and how they blend with all the other pipes.

Voicing and tuning are two different, yet related things. In an orchestra, each cello has to play "in tune." This is tuning, and refers specifically to pitch. Voicing is different, but is very similar to balancing and blending each individual section within an orchestra. Each cello has to blend with all the others in the section, and as a section, the cello section has to blend with the rest of the sections in the orchestra. This is very similar to "voicing" individual stops on an organ. Each pipe has to blend with others of like sounds (a section or "stop"), and each of these sections (or "stops") must blend with the rest of the voices in the organ. It must speak (make its sound) at exactly the right moment, exactly when the other pipes speak!

Organ pipes do not automatically produce sound when they are manufactured. They require very careful adjustment to "sing" properly. This work, along with regulating (adjusting the volume of each pipe so it is sings harmoniously with the other pipes of the same stop), results in the ultimate success or failure of an instrument, because organs are judged primarily by the beauty of their sound.

The organ at Christ Church is old enough to benefit from a thorough re-voicing and regulating. After 20 years, the voicing of an organ changes from the way it was originally. Additionally, there are also a few large pipes in the organ which play (speak) very poorly; these will be restored to their proper speech. Restoring its voicing is not difficult, and this will produce a surprising improvement in the quality of the sound.

## Cleaning and Lights

CLEANING THE ORGAN PROVIDES SEVERAL BENEFITS, not the least of which is providing a comfortable work environment for the tuner. The pipes also benefit from being free of dust, which can produce tuning instability and even cause small pipes to stop speaking. The picture to the right reveals significant amounts of dust on the pipes and the racks. The inside of the organ is filthy. Imagine your own home and the dust that would have accumulated after 30+ years!

The organ currently lacks any type of permanent work lights. To tune the organ, temporary clip-on work lights are set up, requiring extension cords to be strung throughout the organ. This poses a hazard to both the tuner and to the pipes. The

installation of permanent lights will make the organ safer and easier to tune. It will also reduce the cost of the organ tuning, which is figured from the time the tuner arrives until he or she leaves (currently at the rate of $100 an hour). A portion of this time is spent each time the tuner visits just setting up lights!

## The Case and Cosmetics

THE VISUAL ASPECT OF AN ORGAN is the only way many people experience the instrument. It is like admiring a car through the appearance of its body. Cars need to be washed, waxed, and kept dent-free for "eye appeal." This is what gives a person their first impression. The same holds true for organs. The case of our organ is showing its age. A thorough cleaning that will wash away almost 35 years of dust and grime both inside and out, along with a brush-up of the finish of the case and façade pipes will result in an instrument that looks as fine as it sounds. A close inspection shows that there are several dented pipes in the façade that need to be repaired. The image to the right shows a dented façade pipe.

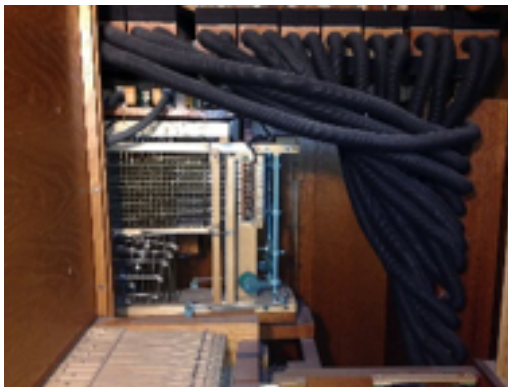
## Combination Action

WHAT IS A STOP AND COMBINATION ACTION? The stop and combination action involves the organist and the ability to control the organ. It is similar to the steering wheel, blinkers, horn, and lights on a car. All are helpful and necessary in controlling and driving a car.

The organ at Christ Church is capable of producing thousands and thousands of different combinations of sounds. For the organist, making rapid changes in sound "by hand" while playing the organ is impractical, and often impossible. To make tonal changes (a sudden change from loud to soft, or anything in between, for example), the organist needs to have an efficient way to do this. To assist the organist, buttons (pistons) and toe studs are a standard part of most pipe organs. (In the image below, the white buttons are pistons, the metal studs at the bottom are toe studs.)

A dependable combination action is of paramount importance. For example, pushing a piston (the white buttons on the left and the metal studs by the pedals) expecting a very soft sound and instead bringing on full organ sound, is unacceptable. For an organist, this is worse than driving a car wondering whether or not the brakes will work, or if the accelerator pedal will stick! In addition to its unreliability, the original Möller combination action is slow to respond, it is extremely noisy, provides too few pistons, and does not have the ability to record more than one set of settings.

The aging and unreliable stop and combination mechanism severely limits the preparation of organ literature, choral accompaniments, and service playing.



When the organ was installed, the combination action made use of the standard and best technology available at the time. Yards of tubing (some of which can be seen in the picture on the left) and other mechanical devices were used.

During this time, computers were in their infancy, as was most solid-state technology. Since the early 1980s, technology has advanced exponentially. Digital stop action for a tracker pipe organ was unheard of when the organ was installed, otherwise it would have been installed with the original organ installation.

A new system can be incorporated easily into the existing console. It will include silent individual draw knob solenoids and a solid-state memory capture system with multiple memory levels and sequencer. The current pneumatically-driven slider motors will also be replaced with electric solenoids, which are faster and quieter. At the same time, new stop knobs will be added for the new 32' Resultant and Swell to Great 16' coupler stops. In short, the old electrical system will be entirely removed and replaced with a silent, digital combination action, making stop changes lightning fast, quiet, and reliable.

## Pipe Modifications

THE PEDAL DIVISION OF THE ORGAN is light and weak. It is excellent in performing music of the baroque period, but it does not provide a solid foundation sound for the organ for congregational singing, choral accompaniments, or the performance of literature written after 1750. The construction of new bass pipes will increase the fundamental tone of the organ and will provide significant warmth to the bass.

A further improvement to the pedal division of the organ will be the addition of a stop that will further broaden and "warm" the sound of the organ. This will require the construction of 12 pipes with a new wind chest (lungs) for a 32' resultant acoustic bass stop. This effect of this addition will be best felt when the organ is playing softly, giving the audience a musical hug, warming the sound considerably. This will not make the organ louder. It will make it warmer.

## New Sub-Coupler

THE ADDITION of a Swell to Great 16' coupler will increase the warmth of sound and also provide additional tonal possibilities. This mechanical coupler would, when activated, play the Swell manual one octave below any key pressed on the Great. Since there are no 16' manual stops on the organ, a major disadvantage in playing a substantial amount of organ literature, this addition would produce a warmer and richer sound, which has until now been lacking. It will also tremendously increase the potential for performance of literature that, to this time, has been impractical or extremely difficult.

## Total Cost

THE TOTAL PROJECT COST IS $150,000. An additional $15,000 is necessary to accomodate workers' transportation, lodging, and food throughout the entire project, as well as to cover any unforseen circumstances.

The payment schedule is as follows:

| | |
|---|---|
| **Down payment** | $30,000 |
| *20% of total due upon return of signed contract to builder* | |
| **Progress payments** | $105,000 |
| *70% of total, comprised of approximately three monthly Payments are due during work on the project.* | |
| **Final payment** | + $15,000 |
| *10% of total due when work is completed & organ is ready for use* | **$150,000** |

# *Frequent Questions*

*Q* **Why do we need lighting inside the organ?**

*A* Thirty-five years ago, all lights produced heat. Heat affects the tuning of pipes. Today, lights are cool, or even cold, producing little or no warmth when turned on. Tuning is not affected because there is little or no heat.

It is impossible for the tuner to see inside the organ chamber where the pipes to be tuned are located because it is so dark. Each time the tuner comes, time is wasted (at $100 per hour) attaching non-permanent lights in the chambers so the tuner can see what he is doing to tune, a very intricate process. In our organ, many of the pipes are very tight together, some smaller than a pencil. If the tuner accidentally touches a pipe by mistake, he/she is at risk for putting that pipe out of tune. The tuner is often lying on his stomach or back, or kneeling to find the tuners on the pipes. This very intricate job is not easy and verges on impossible without good lighting. Just as a surgeon needs excellent lighting to see what he/she is doing, so does the organ tuner.

It is also very unsafe for a tuner when temporary electrical cords are in the way. It can cause personal injury (a fall) or the chords could accidentally grab a pipe or pipes and ruin them.

The lighting has to be from a non-heat producing product. Pipes warm from the slightest thing, even light, and quickly go out of tune. When the light is removed, the pipes cool and go out of tune again. Even the placement of lights in an organ is very important. If done correctly, everyone benefits. Done wrong, and the organ goes in/out of tune from the slightest change in temperature.

**Q** **Who is at fault for all this work that needs to be done on the organ?**

**A** There is no fault. Organs are like refrigerators, cars, roofs on buildings, etc. Because they need occasional repair is no fault of anyone. They age. They also need updating. There is nothing in this world that is made by humans that in one way or another doesn't or won't go out of date from the minute it is made. Wood dries out. It expands and contracts with temperature and humidity. Metal experiences fatigue, mice eat through wiring, etc. Bridges and roads need constant upkeep and sometimes major repairs. So do our organs and there are thousands of parts in one small instrument.

**Q** **Why wasn't this thought of before?**

**A** It was. Just like any other purchase that is made, it will eventually need repair or replacement. Organs are no different. There simply is a time frame in which they generally need an "overhaul." That time generally is 25-30 years. We are at 33 years now. That is why it is more critical. It was known from the minute the organ was installed that down the road it would need work. We are fortunate. With the type instrument we have, with the "overhaul" we need to do, with proper scheduled maintenance and if we plan on another overhaul in about 25-30 years, the organ will keep working for centuries. Electro-pneumatic pipe organs generally need replacing in 65-80 years, perhaps even before. They last that long with regular maintenance and occasional major repairs. Otherwise their longevity is even shorter.

**Q** **What happens when the organ is out of commission?**

**A** There are a number of possibilities during this period, such as using a piano, renting an electronic organ, or even singing unaccompanied. Whatever we do, we will not be able to use the balcony, which will be filled with pipes and will be "off limits" to everyone while the organ maintenance is being performed. We are lucky, however, since we have plenty of time to consider our options. Sometimes, when an organ quits unexpectedly, you don't have the luxury of advance planning!