

# PIPE ORGANS

A pipe organ is the most complex musical instrument in the world. It has thousands of parts, made from many different materials. It combines mechanical, electrical, and acoustical engineering, wood working, metal working, and architecture, with artistic concepts to create a musical instrument the size of a small house that can last for generations. A quality organ has lasting value by utilizing time honored materials and techniques comingled with current technological advances.

There are well over 100 organ builders working to today, each has their own approach to building an organ. Some are large companies, others, small independent craftsmen. With all the choices it is important to know what our church is seeking in an organ. What is the primary usage for the organ? Will it be used on its own or with other instruments, choirs and congregation? What is the life expectancy of the instrument? Is the parish economically stable? Is the parish increasing in membership? Decreasing in membership? What are the demographics of the community in which our parish is located? What styles of music does our parish embrace? An organ that is an appropriate choice for another parish may not meet to needs of our parish.

There are basically two kinds of organs used in churches, electronic/digital and pipe organs. Among pipe organs the differences lie in the quality of materials, the types of actions (how the air gets into the pipe when a key is pressed) and the tonal finishing (how the organ sounds in the room). Keep in mind that most organ builders hope to inspire listeners with the sound of their instruments. The most successful organs are custom build for each church. The size and number of a pipes that are appropriate for another church may not be appropriate for Christ King. A quality builder usually crafts organ pipes in their shop based on the size and liveliness of the room in which the organ is placed.

The qualities that are attributed to a good organ sound are similar to the qualities that we use to describe a beautiful voice or instrument. A **clear sound** that has an **intensity** and **character** that draw the listeners into an experience of the music. Additionally, organs built for churches need to support and inspire the assembly's singing without over powering the voices of the congregation.

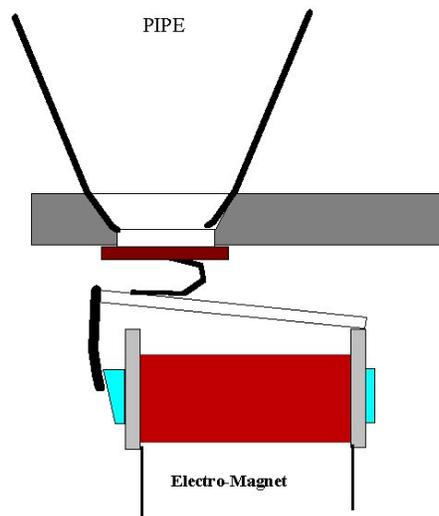
It may be helpful to have a basic understanding of how the sound of an organ is produced because it has a direct correlation as to the price and longevity of the instrument. We will look at the pros and cons of 4 types of organs. The first is not a "pipe" organ but imitates the sound of a pipe organ. The last three are all pipe organs but have different types of actions.

#### Electronic or Digital Organs

Pro's	Con's
Least expensive option	Instead air moving through pipes, the sound is a recording of a pipe which is digitally enhanced and amplified. This method of sound production reduces the instruments effectiveness in leading congregational song.
Flexibility of placement. The console (key desk and pedal board) can be put anywhere in the room with amplifiers placed in the rear or front of the nave.	Shortest life expectancy: about 30 years or less. Cannot be refurbished.
No Tunings	Expensive and often impossible to repair.

## Direct Electric Action Pipe Organ

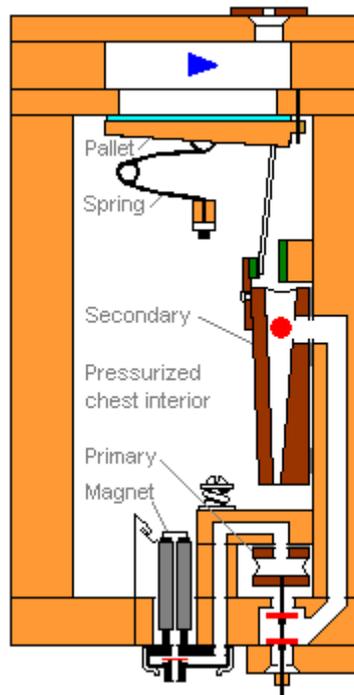
*When a key is pressed it sends an electrical impulse that opens an electro magnet valve (or "pallet") at the base of the pipe. When the pallet is opened air is allowed into the pipe causing it to speak.*



Pros	Cons
Least expensive of the pipe organ options	Can have a harsh sound due to air entering the pipe too quickly
Flexibility of console placement	Not touch sensitive to the player
	Shorter life expectancy due to electronics wearing out. (50-60 years)
	Frequent Tunings (Twice annually)

## Electro-Pneumatic Action Pipe Organ

When a key is pressed it sends an electrical impulse that signals an electromagnet to let air out of a small leather pouch (secondary) located under the valve (or "pallet") below the pipe. When the pouch is "exhausted" the pallet is opened and air enters the pipe allowing it to speak.

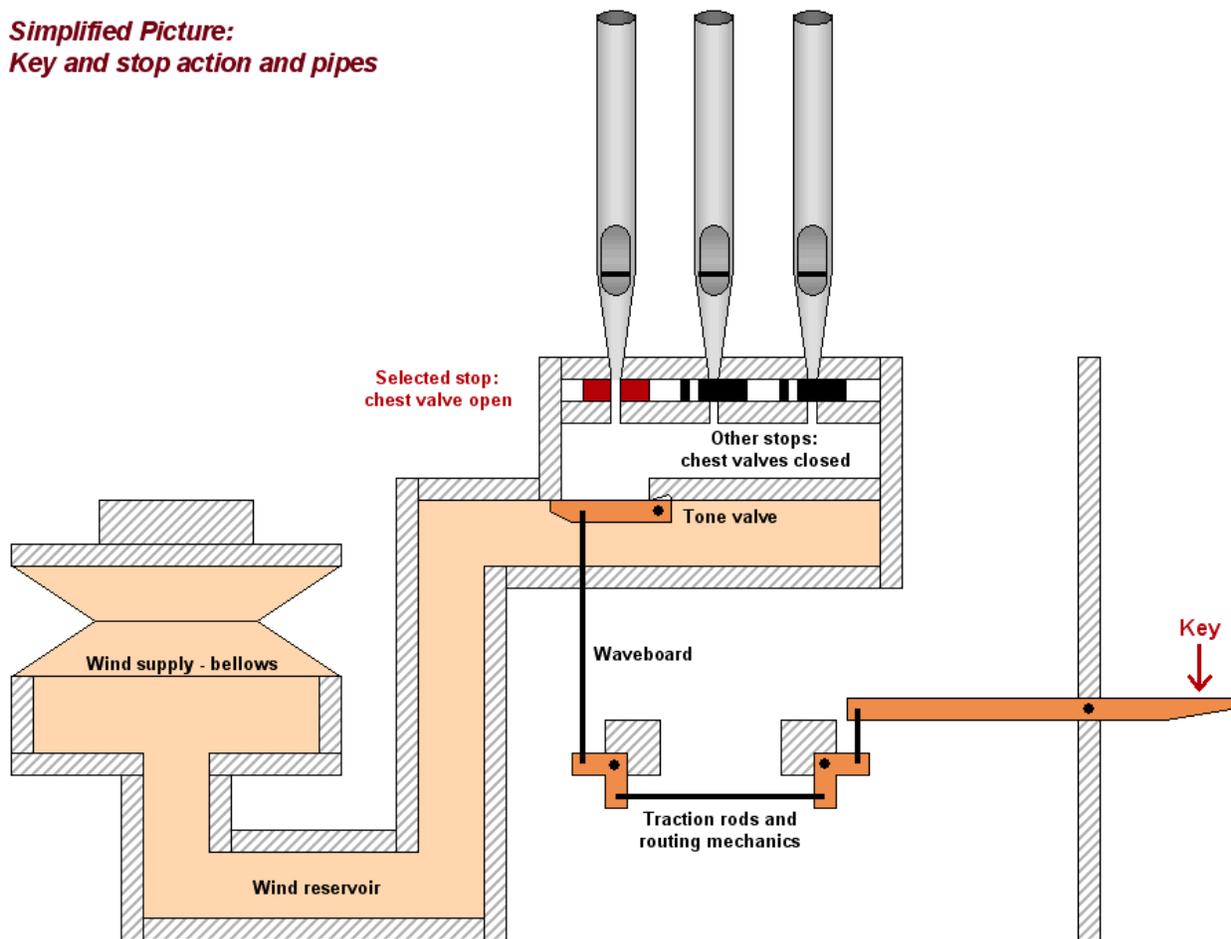


Pros	Cons
Midrange price	Significant repair costs 70 years after installation: electrical relays and leathering needed
Movable Console	Not touch sensitive
Good Sound due to air entering the pipe slowly	Frequent tunings (Twice annually)
Can be refurbished to extend life	

## Tracker Action Pipe Organ

The keys are mechanically connected to the pipe valves (Pallets) through a system of trackers. When a key is pressed it opens the valve (or "pallet") beneath the pipe allowing air to enter the pipe. Trackers can be made of spruce wood, carbon fiber or aluminum.

**Simplified Picture:  
Key and stop action and pipes**



Pros	Cons
Best Sound	Initial high Cost
Touch Sensitive allowing articulation and sound nuance	Fixed Console
Little or no repairs over the life of the instrument	
Life expectancy of the instrument over 100 years	
Infrequent tuning (Once every 10 years or so if cone tuned)	

Many factors need to be considered before signing a contract for a new organ. The size of the worship space, the liveliness of the room and the space for the organ are major factors in the type of instrument a parish should choose. What works for a small church that seats 400 people would not be sufficient to aid prayer at Christ King. Our church seats 1000 people. No church has unlimited dollars to spend on an organ. It is important to consider the price, longevity, repair costs and artistic value of an organ before making a final decision. The cheapest organ now may be the most expensive down the road when repairs and replacement are on the horizon in 40 years. An organ that is dependable but sounds bad may not inspire prayer or provide us with a level of beauty that evangelizes others. A beautiful well-chosen organ can enhance and grow the faith life of a parish community.