

Prepared by the Music Sub-Committee
of the Worship Commission,
Archdiocese of Cincinnati

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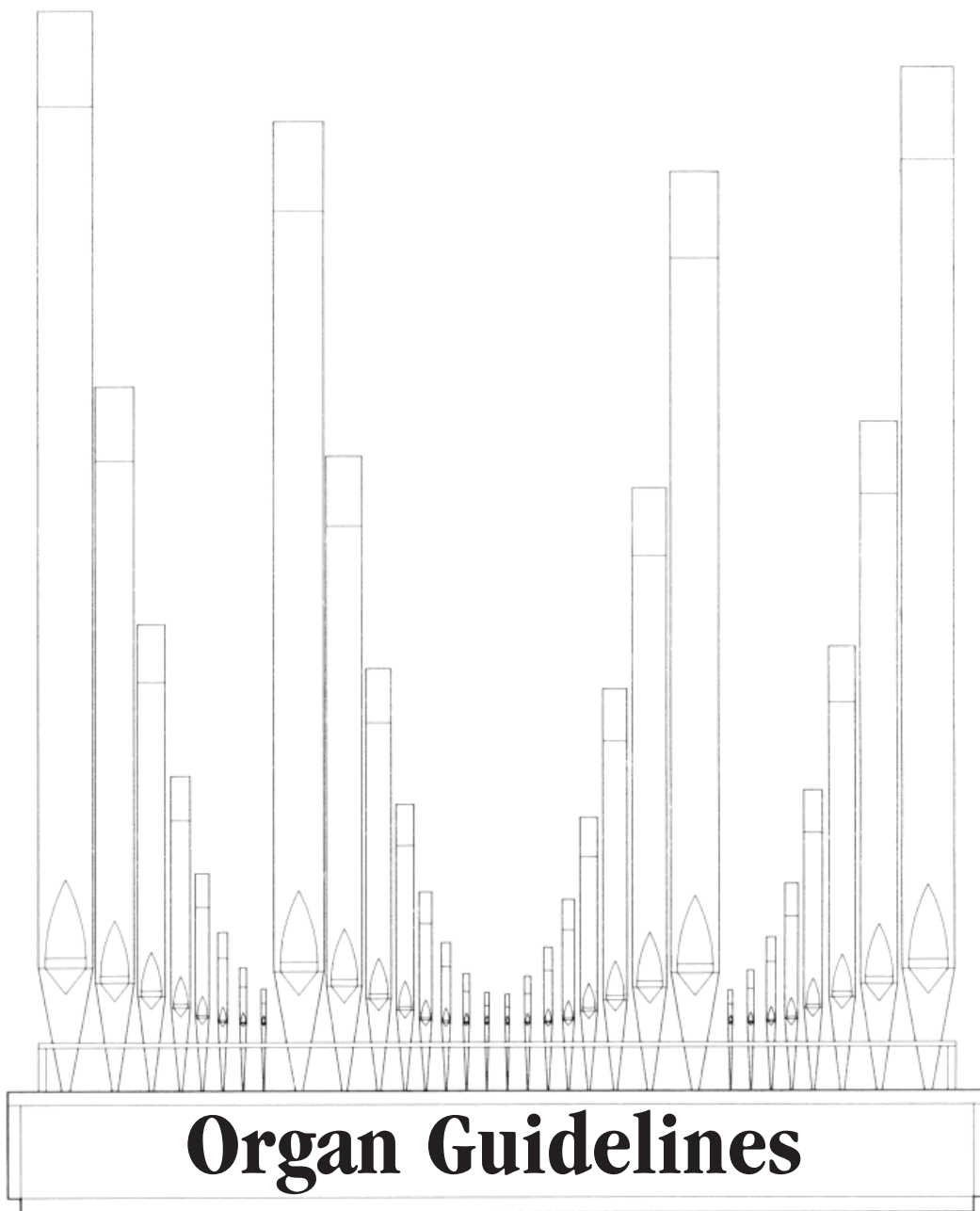
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NOTE

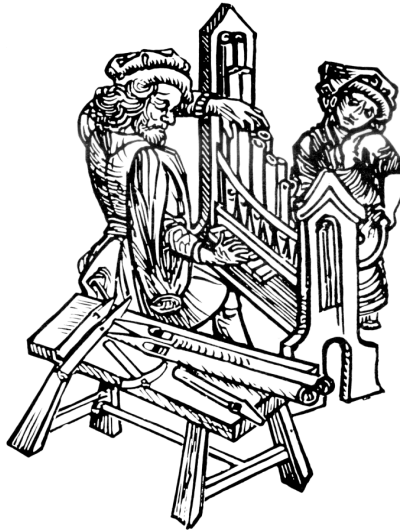
The Archdiocese requires that all parish expenditures that meet or exceed \$10,000.00 must have prior approval from the Finance Office. This would include organ projects that are funded by gifts or from the parish's regular budget. The Worship Office can be a valuable resource for your project through the efforts of the Music Committee. Call them before you begin.

First Printing—December 1998



Organ Guidelines

Archdiocese of Cincinnati



"The fine arts are deservedly ranked among the noblest activities of human genius and this applies especially to religious art and to its highest achievement, sacred art. These arts, by their very nature, are oriented toward the infinite beauty of God, which they attempt in some way to portray by the work of human hands. They are dedicated to advancing God's praise and glory to the degree that they center on the single aim of turning the human spirit devoutly toward God.

The Church has therefore always been the friend of the fine arts, has ever sought their noble help, and has trained artists with the special aim that all things set apart for use in divine worship are truly worthy, becoming and beautiful, signs and symbols of the supernatural world." (*Sacrosanctum Concilium*, 122)

Introduction

In the Roman Catholic church the most important musical facet of worship is the singing assembly. Historically, the PIPE ORGAN has been and continues to be the single, best instrument for supporting and providing strong leadership of the assembly's sung prayer. Other instruments have also come into wide use in this country and are certainly appropriate for public worship. These instruments, however, do not replace or diminish the role of the organ.

The pipe organ is able to produce a variety of sounds at different pitches and volumes. Alone, it is capable of simultaneously supplying a strong, rhythmic pulse through the use of higher tones, and a sense of support through the use of tones in the same range as the human voice. No other instrument can do all of

this. No other accompanying instrument can speak with wind as the human voice does, including electronic/digital substitutes for the true pipe organ.

The organ accompanies choirs and cantors and it also complements other instruments as well. The organ by itself is also a fine solo instrument. For these reasons, a true pipe organ of enduring quality is an essential asset in Catholic parishes.

The Music Sub-Committee of the Worship Commission recognizes the official position of the Church concerning musical instruments, which states in part: "In the Latin Church the pipe organ is to be held in high esteem, for it is the traditional musical instrument that adds a wonderful splendor to the Church's ceremonies and powerfully lifts up the spirit to God and to higher things." (*Sacrosanctum Concilium*, 120)

Pipe Organs

Though a host of other musical instruments now adorn the worship of God's people, it is the pipe organ alone which is able to unite assemblies both large and small in either exultant hymns of praise or quiet songs of contemplation with that element most akin to the human voice: the sound of wind through pipes.

The pipe organ by definition is a wind-blown instrument having from one to five manuals (keyboards) and a pedalboard. Each division (manual or pedal) is made up of stops which control a set of pipes (ranks), i.e., Principal, Flute, String or Reed. Each pipe corresponds to a note on the keyboard. When a key is depressed, air enters the corresponding pipe by one of the following three methods.

Pipe organ actions are basically of three types: 1.) **mechanical** or 'tracker' action, 2.) **electro-pneumatic** and 3.) **direct electric** action.

Mechanical pipe organs provide a direct mechanical link between the key and the valve (pallet) which allows air to enter the pipe. In recent years there has been a great resurgence in the building of this type of instrument, principally because of its durability and responsiveness to the organist's touch.

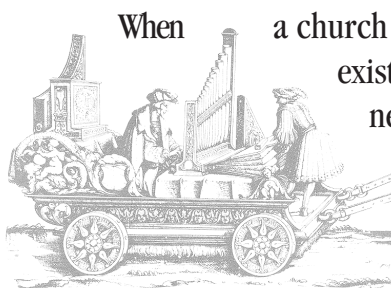
Organs built with an electro-pneumatic action rely on air pressure, and a leather covered pneumatic controlled by an electronically operated magnet to open the pallet. Those with a direct electric action use electronically operated solenoids to do the same.

Pipe organs are controlled from the keyboards, either attached or semi-detached (mechanical action) or free-standing. The pipes of the organ stand on a windchest into which air is fed from a bellows or reservoir. Air to the reservoir comes from a blower.

Existing Organs

There are three major options when considering the disposition of an existing organ:

- 1.) **RENOVATION**—which would retain the best of the existing instrument, and incorporate new material resulting in a basically new instrument.
- 2.) **RESTORATION**—which would return the organ to its original playing condition and tonal design (Generally speaking, the organ is worth repairing when the cost of the repair does not exceed 50% of the replacement value.)
- 3.) **DISPOSAL**—selling the existing instrument via the Organ Clearing House, etc.



When a church is financially unable to renovate or restore an existing organ every effort should be made to find a new home for its historic instrument.

Historic Instruments

One cost effective option for churches wishing to install a pipe organ is the renovation of an historic instrument. The Organ Clearing House (see 'Resources') is a national registry that matches buyers with sellers of instruments that are available for rebuilding and/or relocation. While there is no set price for these projects, rebuilding costs are typically one-half to two-thirds the cost of new construction.

Electronic Organs

Electronic organs are non-winded electronic components that strive to mimic or approximate the sounds of a true pipe organ, sometimes quite convincingly. They accomplish this in one of several ways. All electronic organs depend on an oscillator to produce a fundamental frequency or note. This is processed by other electronic circuits to alter the waveform (sound) characteristics to more closely match the sound of a particular type of pipe. The quality of

sound produced by such instruments, like all state-of-the-art equipment, is dependent on the quality of the equipment purchased.

Contrary to popular misconceptions, these components are generally not purchased ‘off the shelf’, delivered and plugged in, ready to go. Many factors need to be addressed to insure a quality installation: how the sounds are processed internally, the amount of amplification needed, the placement and number of speaker cabinets are just some of the considerations in choosing and placing electronic components. Equipment that is custom-built for a specific installation will better fit the building than the purchase of a ‘standard’ model.

When considering the purchase of an electronic organ it is advisable to keep in mind the constant advancement in electronic technology. Generally speaking, what is new today tends to be outmoded tomorrow. Just consider the half-life of the PC that sits on your desk as an example! And the price of higher end electronic organs can easily reach into the low end of the cost of smaller true pipe organs.

Lest we become enamored of all the current gadgets available to us we need to remember that in our worship the church calls us to be authentic: to use bread that is bread, wine that is truly of the vine, honest, natural materials for vesture and vessels, real flowers and greenery. (*cf. General Instruction on the Roman Missal*, # 281–312) No less should be considered for permanent musical instruments .

Although modern technology has allowed us to to synthesize or imitate the sound of nearly any musical instrument, it is the pipe organ that is most authentic and the best support for the human voice.

It should be noted that because of their outmoded technology, old electronic organs are generally not candidates for restoration or renovation.

Organ Placement

There are three things that need to be said about organ placement:

- 1) the entire organ needs to be placed within the room, as opposed to in chambers, which was done until quite recently;
- 2.) organs need to be able to speak down the length of the nave or worship space and
- 3.) the organ should be placed in a reflective case, if at all possible.

It is especially important to remember these rules when renovating older

churches or building new ones. Too often the placement of the cantor, choir or other musical instruments takes precedence over the proper placement of the organ, which must work with all of these and the Assembly as well.

Use of sound absorbing materials in the worship space, especially carpeting, should be strongly discouraged for many reasons, principally the deadly effect they have on congregational participation. The use of these materials adversely affects the organ as well. If these materials are used the organ must be considerably larger to compensate for this deficiency in the room.

Organ Consultants

Before beginning a project it is beneficial to seek out a competent organ consultant. A good consultant can provide musical advice and direction for an organ committee and is able to help prioritize needs, and evaluate the pertinent options. The consultant is also able to help the parish dialogue with the various organ company representatives, and to discuss frankly the merits and drawbacks of any proposals that are made. An organ consultant should be independent of any particular builder.

Good choices for a consultant include organ faculty members of colleges and universities, and members of the American Guild of Organists (AGO) who might have such expertise. There are members of the Archdiocesan Music Committee who are willing to serve in this capacity. It is advisable to seek out more than just one candidate, and closely examine their resumes. The organ consultant needs to be honest in dealing with the church/committee and not just promote particular organ building tastes and prejudices. An organ consultants is paid for his/her work; these arrangements should be negotiated and understood from the outset.

Selecting An Organ Builder/Company

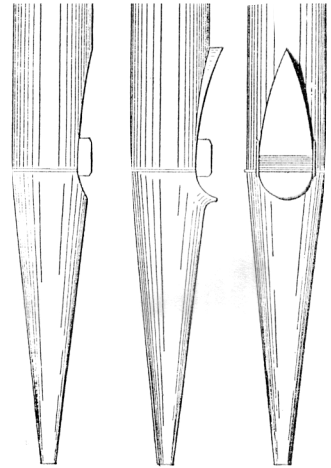
The organ building industry in the United States is thriving and competitive, giving the potential customer a variety of options. Each pipe organ builder has a slightly different philosophy when it comes to designing instruments. Therefore, it is important for the organ customer/committee to decide among these many possibilities what is best for each situation.

The builder will prepare a written proposal for the instrument, including a specification (proposed stop list), costs for the instrument and any other rec-

ommendations. It is wise to visit recent installations of the builder and talk with those involved to measure their level of satisfaction with the company. The decision to build a new organ is an important one and should be considered carefully. When the decision is made to purchase a new organ, or to renovate an existing one, prospective builders or their representatives are invited to assess the needs and the potential of the church. If the parish is building/renovating the church the organ builder needs to be consulted during the concept development phase to insure the proper size and placement of the instrument as well as a favorable acoustical environment.

Once the selected organ firms have negotiated and submitted their final proposals, the committee will consider the merits and weaknesses of each. Key elements to include are: craftsmanship, durability, and the tonal and visual artistry of the instrument. It is important to understand the responsibility of the church and the organ builder with respect to the final installation of the organ.

During these deliberations, it will become clear which organ builder will best meet the needs of the parish and its music. The organ committee will then finalize its recommendation to the parish.



The Organ Committee

The organ committee is an important part of any church organ project. There is strength, balance and shared responsibility in an informed decision that has been made by a group of people with a common mission. Decisions and ultimatums handed down by one or two people in such projects are usually ill-conceived and unsound. This is an important project that should not be taken lightly.

An organ committee should include a cross section of the people of the parish. Musicians, clergy, and finance experts, worship planners, and Parish Council representatives are important people to consider at the outset. Keep the committee small—perhaps no more than six to eight people in all. Committee members need to be aware of the time commitment involved in membership, e.g., traveling to see organ installations and meetings with builders and their representatives.

This will be an important decision in the liturgical life of the parish, and outside influences often try to make themselves felt at such times. It is important for the committee members to remain as impartial as possible and resist such influences. Even large contributors have been known to manipulate committees with financial influence, usually with disastrous results.

The final recommendation of an organ committee that has worked hard and done thorough research should be a solid one. Its recommendations should be respected for the time and effort involved to produce it. The entire parish community will be the happy benefactor of the musical results.

The Budget

How much money is involved in an organ project Every project differs because of the size and configuration of the building, the needs of the parish's music ministry, the placement of the instrument and many other factors. Like any good musical instrument, a well-designed and built, artistic church organ is an investment that will deliver long-term benefits not only to the parish but also to the surrounding community as well. Such an instrument should serve well for 50–100 years or more. When we consider such service, the initial price of the organ dims in comparison.

The initial price of a true pipe organ can range from under \$100,000 to several hundred thousand dollars, depending on size, etc. The higher quality electronic instruments range from about \$60,000 to well over \$100,000. However, in the case of electronic organs, one must bear in mind the higher rate of depreciation and obsolescence, not to mention periodic replacement costs over the life of the building.

Tuning and Maintenance

Any organ, whether pipe or electronic, needs regular service and maintenance. Local needs will determine the schedule of maintenance—normally tuning, regulating and adjusting once a year.

Recommendations

Since good liturgical music is our goal, serious attention needs to be paid to the instruments which accompany and support it and the musicians who lead it. No less than the best we can conjure, cajole or financially afford should be accepted. To allow the mediocre or the merely imitative is to demean and cheapen our prayer life and implies that we do not value it.

"There are two important reasons why the pipe organ has survived years of continual use in churches: 1) its flexible voicing and dynamic possibilities enable it to provide a wide variety of timbres and dynamic levels simultaneously, and 2) it is normally designed to 'work' in the acoustics of the space where it is situated. More than any other single instrument, it has the capabilities for providing both strong accompaniment for people who are both untrained and (often) unenthusiastic about singing in public."

(Instrumentation and the Liturgical Ensemble, Marty Haugen, GIA Publications, Inc.)

With all that has been said about the importance of the organ to good congregational singing, it might seem redundant to say it again, but it cannot be emphasized enough how valuable, even central, a worthy instrument is to the quality of a liturgical music program in a parish.

It will be difficult given today's marketplace and the relatively small pool of qualified church musicians to find and keep a talented and knowledgeable musician if the quality of the instruments s/he has to work with is substandard. As students advance, they are generally given higher quality instruments to match the level of their ability and the demands of the music they play. No less attention should be paid to the needs of the music which surrounds and is woven into the fabric of our sung prayer.

Summary

1. All churches should make every possible effort to install pipe organs in new structures and existing churches where pipe organs are not being used.

The pipe organ is integral to our Roman Catholic worship experience, not just in our past, but in the present and future as well. The style, size, placement and budget for the organ, however, need to be addressed from the beginning of the project.

2. Only after every effort has been made to purchase a pipe organ should a substitute of any kind be considered, and then only as an interim step towards the eventual installation of a true pipe organ.

3. Churches which currently own a pipe organ should make every effort to maintain and preserve them.

4. Churches should not discard or ignore a pipe organ in favor of purchasing an electronic or other keyboard instrument without having spent considerable time and effort assessing the value and potential for restoration of the current instrument.

5. Likewise, churches are not encouraged to consider the purchase of an electronic instrument when funds are available for a pipe organ, even if the pipe instrument is more modest in terms of stops, etc.



RESOURCES AND PUBLICATIONS

Acoustics in Worship Spaces, American Guild of Organists

Buying an Organ, American Guild of Organists

Organ Building and Design, Paul-Gerhard Anderson (Oxford University Press)

The Organ Handbook, Hans Klotz (Concordia Publishing House)

Organ Builders Directory, National Association of Pastoral Musicians

The NPM/APOBA Guide to Buying a Pipe Organ For Less than \$100,000, National Association of Pastoral Musicians/Associated Pipe Organ Builders of America

Planning Space for Pipe Organs, An Architect's Guide, The Associated Pipe Organ Builders of America

Ten Steps to the Successful Funding of a New Pipe Organ, The Associated Pipe Organ Builders of America

Purchasing A Pipe Organ, The Associated Pipe Organ Builders of America

Church Organs: A Guide to Selection and Purchase, John K. Ogasapian,
Baker Book House Company (available from AGO)

Buying an Organ, John Ogasapian and Carlton Russell, Organ Resource Center

Organ Planning: Asking the Right Questions, John Fesperman, Organ
Resource Center

ADDRESSES



Archdiocese of Cincinnati

Worship Office

100 East Eighth Street

Cincinnati, OH 45202

(513) 421-3131

The American Guild of Organists

475 Riverside Drive, Suite 1260

New York, NY 10115

(212) 870-2310

<http://www.agohq.com>

Associated Pipe Organ Builders of America (APOBA)

P. O. Box 155

Chicago Ridge, IL 60415

(800) 473-5270

Organ Resource Center

Royal Canadian College of Organists

515 McCleod Bldg., 10136 100 St.

Edmonton, Alberta CANADA T5J OP1

(403) 429-1655

American Institute of Organbuilders (AIO)

PO Box 130982

Houston, TX 77219

(713) 529-2212

The National Association of Pastoral Musicians

225 Sheridan St. NW

Washington, DC 20011

(202) 723-5800

Organ Clearing House

Alan Laufman, Director

P. O. Box 104

Harrisville, NH 03450-0104

(603) 827-3055

A Selected List of Pipe Organ Builders

KEY

After the phone number are letters in brackets indicating the type(s) of action the builder employs.

M=Mechanical, i.e., tracker

E-P=Electro-Pneumatic

E-S=Electric (*Slider Chests*)

D-E=Direct Electric

A-E=Electric Action

Andover Organ Co., Inc.

P. O. Box 36
Methuen MA 01844-0036
(508) 686-9600 [M]

Austin Organs, Inc.

156 Woodland Street
Hartford CT 06105
(203) 522-8293 [E-P, A-E]

Bedient Pipe Organ Company

4221 NW 37th Street
Lincoln NE 68524-1919
(402) 470-3675 [M]

Berghaus Organ Co., Inc.

537 S. 25th Avenue
Bellwood IL 60104
(708) 544-4052 [M, A-E]

M.L. Bigelow & Co., Inc.

130 W. First South St.
American Fork UT 84003
(801) 756-5777 [M]

George Bozeman Jr. & Co., Inc.

41 Raymond Road,
RR 107, PO Box 22
Deerfield NH 03037
(603) 463-7407 [M]

John Brombaugh & Assoc., Inc.

325 North Brooklyn
Eugene OR 97403-2338
(541) 726-9323 [M]

John-Paul Buzard, Organ Craftsmen, Inc.

112 W. Hill St.
Champaign IL 61820
(217) 352-1955 [M, E-S]

Casavant Freres Limitee

CP 38
St Hyacinthe, Quebec
Canada J2S 7Y2
(514) 773-5001 [M, E-P, E-S]

Cotner Pipe Organs

PO Box 219
Martha OK 73556
(405) 266-3216 [E-P, A-E]

Dobson Pipe Organ Builders, Ltd.

200 North Illinois St., PO Box 25
Lake City IA 51449
(712) 464-8065 [M]

Randall Dyer & Associates

PO Box 489
Jefferson City TN 37760
(423) 475-9539 [A-E, E-S]

C. B. Fisk, Inc.

18 Kondelin Rd.
Gloucester MA 01930
(978) 283-1909 [M]

Paul Fritts

630 E. 121 St.
Tacoma WA 98445
(206) 535-3374 [M]

Frobenius

Hovedgaden 102
 DK-2800 Lyngby
 Copenhagen, Denmark
 011-45-45-870755 [M]

Steuart Goodwin & Co.

294 South D Street
 San Bernardino CA 92401
 (909) 885-3951 [M, E-P, A-E]

Goulding & Wood, Inc.

823 Massachusetts Avenue
 Indianapolis IN 46204
 (317) 637-5222 [E-P]

Guilbault-Therien, Inc.

C.P. 610
 St. Hyacinthe, Quebec
 Canada J2S 7C2
 (514) 796-3231 [M, E-P]

Holtkamp Organ Co.

2909 Meyer Avenue
 Cleveland OH 44109
 (216) 741-5180 [M, E-P, E-S]

Jaeckel, Inc.

1600 London Road
 Duluth MN 55812-1620
 (218) 728-2394 [M]

Denis Juet

6 Rue la France Est
 St. Basile le Grand, Quebec
 Canada J3N1L5 [M]

Orgues Letourneau

16355 ave Savoie
 St. Hyacinthe, Quebec
 Canada J2T 3N1
 (514) 774-2698 [M, E-P]

Lewis & Hitchcock, Inc.

8466-A Tyco Rd.
 Vienna VA 22182
 (800) 952-PIPE [M, A-E]

N. P. Mander, Ltd.

St. Peter's Organ Works
 London, E27AF England

U.S. Representative:

Malcolm Wechsler
 PO Box 1193
 Stamford CT 06904-1193
 (203) 348-8085

Marceau & Assoc. Pipe Organ

921 S.E. 47th Ave.
 Portland OR 97215-2506
 (800) 600-9566 [M, E-P, A-E]

Miller Pipe Organ Co.

1291 Bardstown Road
 Louisville KY 40204-1303
 (800) 827-6710 [M, E-P]

A. David Moore, Inc.

HC 69, Box 6
 North Pomfret VT 05053
 (802) 457-3914 [M]

Nichols & Simpson, Inc.

PO Box 7375
 Little Rock AR 72217
 (501) 661-0197

Noack Organ Co., Inc.

Main and School Streets
 Georgetown MA 01833
 (978) 352-6266 [M]

J.F. Nordlie Co. Organbuilders

504 S. Charlotte Ave.
 Sioux Falls SD 57103-2612
 (800) 456-0834 [M, E-P, A-E]

Martin Ott Pipe Organ Co.

1353 Baur Blvd.
 St. Louis MO 63132
 (314) 569-0366 [M]

Peebles-Herzog, Inc.

50 Hayden Ave.
Columbus OH 43222
(614) 279-2321 [E-P, A-E]

Peragallo Organ Co.

302-308 Buffalo Avenue
Paterson NJ 07503
(201) 684-3414 [E-P, A-E, D-E]

Quimby Pipe Organs, Inc.

208 Marshall, Box 434
Warrensburg MO 64093
(816) 747-3066 [M, E-P]

Redman Organ Company

826 East Vickery
Fort Worth TX 76104
(817) 332-2953 [M]

Reuter Organ Co.

P. O. Box 486
Lawrence KS 66044
(913) 843-2622 [M, E-P, A-E]

Rosales Organ Builders

2939 East 11th Street
Los Angeles CA 90023-3407
(213) 262-9253 [M]

Charles M. Ruggles Pipe Organs

13641 W. Cedar Dr.
Conifer CO 80433
(303) 838-0065 [M]

Schantz Organ Co.

626 S. Walnut Street, PO BOX 156
Orrville OH 44667
(216) 682-6065 [E-P, E-S]

The Schlicker Organ Co.

1530 Military Road
Buffalo NY 14217
(716) 874-1818 [M, E-P]

Schoenstein & Company

3101 Twentieth Street

San Francisco CA 94110
(415) 647-5132 [E-P]

Steiner-Reck, Inc.

415 East Woodbine Street
Louisville KY 40208
(502) 634-3636 [M, A-E]

Taylor and Boody Organ Builders

Rt. 10, Box 58-B
Staunton VA 24401
(703) 886-3583 [M]

Visser-Rowland Associates, Inc.

2033 Johanna B
Houston TX 77055
(713) 688-7346 [M]

J. W. Walker & Sons, Ltd.

Wimbledon Avenue
Brandon, Suffolk
United Kingdom 1P270NF
01-44-842-810296 [M, E-P]

David E. Wallace & Co. LLC

147 County Rd.
Gorham ME 04038
(207) 839-6291 [M, E-P]

Wicks Pipe Organ Co.

P. O. Box 129
Highland IL 62249
(800) 444-WICK [M, A-E, D-E]

Karl Wilhelm, Inc.

835 rue Benoit
Mt. St. Hilaire, Quebec
J3G 4S6 Canada
(514) 464-0612 [M]

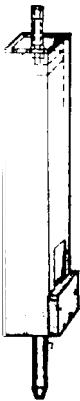
W. Zimmer & Sons, Inc.

9801 W. Kinsey Ave., Ste. 176
PO Box 1409
Huntersville NC 28078
(704) 948-0356 [M, A-E]

Pipe Organ Basics

Pipes

Most organ pipes are variations of two basic kinds of pipes: flues and reeds. Most pipes belong to the flue pipe family and have no moving parts. These pipes, much like children's whistles, have very narrow flues (hence the name) where the wind passes through, exciting the column of air inside to pipe into vibration, creating the sound wave.



The "non-flue" pipes in the organ are the reeds. Their sound wave is produced by a vibrating tongue held in place by the block and wedge. Stops which generate their sound in this manner include the Trumpet, Oboe, Vox Humana, Clarinet and Tuba, to name a few. The wind passing through the toe hole, pushes the curved reed tongue against the shallot. The springiness of the brass then causes the tongue to "spring" away, reopening the windway. This recurring cycle of opening and closing the aperture in the shallot generates the pipe's sound wave. The top of the pipe, or resonator, amplifies the buzz of the reed tongue, and together with the opening of the shallot, shapes the sound wave to the desired tone color.

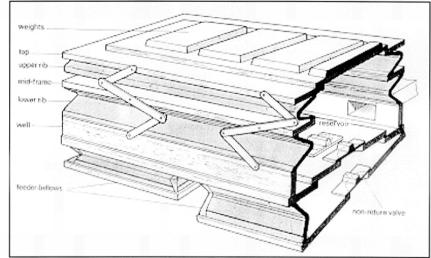
Chests and Action

The chests on which the pipes sit, contain the actions which admits the air into the bottom of each of the pipes at the command of the organist. The earliest windchests were of the slider and pallet design and were call slider chests. The action was mechanical and the chest actions were linked to the keyboards by thin wooden strips called trackers. Thus the entire design was known as "tracker action." Tracker action has been built for at least 1000 years. Since the keys on the console are closer together than the pipes can be placed, a series of levers and rollers are used to spread the motion of the action outward. At many of the connecting points, the actions are joined by a threaded wire and small nut punched out of leather.

"In a simple mechanical organ, air passes from the windchest into the pipes, access to which is regulated in part by sliders, moveable wood slats with holes cut to correspond to the pipes' toe holes. Each slat controls a group of pipes, usually of the same tone and known collectively as a stop. Movement of these slats is controlled by 'draw knobs,' which are often called stop knobs or stops, as in 'pulling out all the stops.' When a stop is pulled open, a slate slides into place, allowing wind to move from the chest through a hole in the slat and into the appropriate pipe as a note is played. When a stop is shut, the slat slides out of place, blocking airflow and the silencing the pipes." (Smithsonian, July 1997, Vol. 28, No. 4) Each note on the keyboard has its own pallet which is linked directly to the keyboard to which it is assigned. Opening the pallet permits air to be admitted under all the pipes of the same note.

Wind System

Before the advent of electricity, wind for the organ was produced by hand pumping. In some very large instruments, as many as six to ten people were required to pump the organ. Consequently, organists did not have many opportunities to practice on the organ and did much of their preparation work on a pedal harpsichord. Other systems such as water motors followed until reliable electric service made it possible to use a motor-driven rotary fan called a blower for this task.



The organ blower pumps the wind to the organ's reservoirs. As large chords require sudden sizeable amounts of air, ribbed reservoirs are installed between the blower and the chests to hold extra air, or "wind". These also regulate the pressure of the wind going to the pipes.

Console

The console with its tiered keyboards—called manuals, is the control panel for the organ. It is usually delineated by the number of manuals of keyboards present. Most instruments have at least two keyboards with large instruments having up to six or seven. The keyboards for the hands, and the pedalboard for the feet, activate the organ's actions which admit the air into the individual pipes and cause them to speak. It is at the console that the organist chooses which stops will sound together. This is done by "drawing" the knobs on either side of the keyboards.

Tonal Considerations

The pipe organ has four families of tone: Diapason, Flute, String and Reed. The first three families are whistles with no moving parts, which we call flue pipes.

The Diapason, or Principal tone, is the most basic timbre in the organ. When people think of the pipe organ, this is the sound they associate with "The King of Instruments." It should be heard in all divisions of the instrument, and is considered the basic organ sound. It is the tonal quality and dynamic value from which all other stops are classified. It is the family which leads congregational singing. The pipes are modest in size compared to their height and those less than four feet in length are nearly always made of spotted metal or tin, except in some older organs where a very high lead content metal was used.

The Flutes of the organ come in many different configurations ranging from stopped, to open, to half open. They generally have a "rounder" sound and are physically larger note for note than the Diapasons or Strings. Many extremes of pitch exist in this family. Flute pipes are usually fatter than Diapason pipes of the same length and may be constructed of wood or metal. The metal used for flutes usually contains more lead so that the sound of the pipes is a bit duller, as befits flute voices.

The Strings are an incisive, bright-toned family of flues characterized by narrower than average scales (pipe diameter in relation to height) and bountiful harmonics that create a really brilliant. They are nearly always made of spotted metal (lead and tin) which contributes to their abundant overtones.

The fourth and last family of organ tone is the Reed family the non-flue pipes of the organ. As mentioned earlier, the sound wave in a reed pipe is produced by the vibrating of the reed tongue which is held against a brass shallot by a wedge. Reed stops are used to add color to the ensemble and as solo voices. They are often very powerful voices. Sometimes a special solo reed will be found in the organ which is strong enough to be used as a solo against the balance of the organ's ensemble. On occasion, this stop will be mounted horizontally in plain sight so that it speaks directly into the room.

The acoustical properties of the room have a profound effect on the sound of the organ, which utilizes the entire building structure as its "sounding board." Ernest M. Skinner, a famous American organ builder, pointed out that perhaps the most important stop in the organ is the room. In a live acoustical environment, the lower frequencies will be naturally reinforced by the reflective surfaces. The long sound waves of the largest pipes have ample time to develop in such a room. Therefore, it is necessary to increase the scale of the upper pitches (diameter of the pipe in relationship to its height) of the upper work to compensate for the added boost received by the low frequencies. In a "dryer" acoustical environment, the lower pitches need a little extra help, but not too much.



82. Positive organ: engraving of an organist and his wife by Israel van Meckenem (ca. 1500)

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