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# Organ Registration

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As a clinician, I'm often asked by beginning organists for suggestions on how to use registration. This is complex subject to address, because the "right" selection of stops for any given composition depends upon two things: the first is the type of sounds appropriate for that particular composition; the second is the organist's understanding of how the instrument works to create these sounds.

Much of the terminology used in registration is confusing until you understand that it refers to the way sounds are produced on a pipe organ. This terminology is always the same, whether you are playing a pipe or an electronic instrument. A good example is the way we express the pitch of the stops.

## **Pitch Levels**

The pitch level of a particular stop is indicated by a number which refers to the physical length of the longest pipe (lowest note) in the rank of pipes controlled by that stop. ( A "rank" is a row of pipes that is voiced as a unit.) A stop marked "8'," for example, controls a rank of pipes the longest of which is eight feet long.

An 8' stop always speaks at a "concert" or "piano" pitch. A 4' stop sounds an octave higher, a 2' stop, two octaves higher, and a 1' stop three octaves higher, Conversely, a 16' stop sounds an octave lower, and so forth.

## **Mutations**

Stops that are indicated by numbers that include fractions ( $2\frac{2}{3}'$ ,  $1\frac{3}{5}'$ ,  $1\frac{1}{3}'$ ) are know as mutations. When you use a mutation stop, you are not hearing octaves. If you pull a  $2\frac{2}{3}'$  stop and play "C," for example, you will hear "C" plus one octave and a fifth higher. A  $1\frac{3}{5}'$  stop would produce a "C" plus the E3 (two octaves and a third higher.) A  $1\frac{1}{3}'$  stop produces the "C" plus the G3 (two octaves and a fifth above).

It is necessary to combine mutation stops with an 8' stop to bring out their tonal "colors." You can create a clarinet sound for example, by pulling a Flute 8' stop and combining it with the  $2\frac{2}{3}'$ .

Some solo stops combine octave and mutation sounds for you. If your organ has a stop called the Cornet (pronounced Kor-nay) it combines Flute 8', 4' and 2' with the mutations  $2\frac{2}{3}'$  and  $1\frac{3}{5}'$ . Its sound is used in many Baroque and contemporary works.

## Mixtures

A Roman numeral on a stop indicates that it brings into "play" a compound sound of two (II) to seven (VII) pitches. Mixtures are not stops to be used by themselves, as they are clusters of high pitches (octaves, thirds and fifths). Their purpose is to add brilliance to 8', 4' and 2' foundations and clarity to the independent voices of contrapuntal music such as Bach fugues. They are unique because they "break back," or repeat, at each octave as you play up the keyboard. The mixture stops are derived from the "Principal" family of organ tones.

Once you understand the musical relationships behind the numerical markings on the stops, you're ready to tackle their names. The names of organ stops have developed over centuries and they may be of English, German, French or Italian derivation. All stops on the organ, however, are divided into four tonal "families," - Principals, Flutes, Strings and Reeds.

## Principals

The Principal stops of a church organ are the tonal colors which have the characteristic sounds of the organ and do not imitate any orchestral instrument. The Principals on your organ may be referred to as "Principal," "Diapason" or "Montre," and also include any stops which include the words "Octave" or "Bass." The Principal sounds are often used for hymns and the liturgy, and you should familiarize yourself with your instrument's Principal Chorus (A chorus is a group of stops designed to work together as a cohesive sound.) Here is an example of a typical Principal Chorus: Principal 8', Octave 4', Super Octave 2', Mixture VIII.

***Some tips for using Principals:*** When you are accompanying congregational singing, remember that the congregation sings at the 8' pitch level. To lead, and to enable the congregation to hear, it is wise to use at least the 4' above the 8'.

Principals 8', 4', and 2' should be accompanied by the same timbre in the pedals at 16', 8', and 4' (The pedal line has a tendency to disappear unless a 16' is used.). If your instrument has a Gemshorn 8', you can use this stop in place of the Principal 8', to lighten the sound of the Principal Chorus - an effect that is useful in contrapuntal music.

## Flutes

Flutes are divided into two main categories: "open," and "stopped." (These terms simply refer to the kinds of pipes on which these sounds are made.) Flutes have a variety of names such as Gedeckt and Bourdon (the most common), and include any stop ending with the word "flote" (of German derivation) and any stop beginning with the word "flute" (a French derivation). A real fooler is the "stopped Diapason" which is not a Diapason at all but a stopped Flute.

***Some tips for using Flutes:*** For a round, full effect useful in recessionals and majestic hymns, try using Flute sounds combined with the Principals. (If you don't have the Gemshorn stop I mentioned earlier, using an 8' Flute stop on the Great manual will also lighten the sound of the Principal Chorus.)

Flutes can also serve as accompaniments to the choir or a soloist and may be used as solo stops (separately or in groups). Why not try a 4' Flute as a solo voice? Many Baroque manual pieces and Neo-Baroque compositions use the combination of Flute 8' and 2' or Flute 8' and 1' for fast-moving passages. Try experimenting with your Flute stops. An 8' Flute added to an 8' Reed can give the Reed a horn like quality, while a 4' Flute added to the 8' Reed gives a plaintive effect.

## **Strings**

Although one would assume so, the String stops of the organ are not meant to imitate actual orchestral strings. They are generally found on the Swell manual and have names such as Viole, Viole Celeste, Violene, Salicional (most common) and Gamba.

The word "Celeste" in the name of a stop denotes that there are two ranks of pipes speaking at the same time, slightly de-tuned (sharp), producing an undulating effect.

***Some tips for using Strings:*** Strings can be used as background music during communion or as an accompaniment to Flutes. (Gambas and Salicionals can speak singularly or can also create a "celeste" effect with a twin. Because of the vibrato effect of a Celeste, this stop is not a wise choice to accompany singing.

## **Reeds**

The Reeds were the last of the tonal "families" to appear on the organ and date from about the 16th century. Their name is also misleading, in that Reed stops include some sounds (like the trumpet) which would be found in the brass, rather than woodwind, section of an orchestra. Some common solo Reeds are the Oboe (Hautbois), Krummhorn and Schalmei. The Oboe has a pungent, nasal sound and is often the only Reed available on a smaller instrument. The Krummhorn is the stop most often used to carry the cantus firmus in a chorale prelude. The Schalmei, (usually at 4' on the Pedal division of the organ) is used for solo pedal melodies. The Posaune and Bombarde in the pedal support the full ensemble, even with couplers drawn.

While the pipes for most Reed stops are mounted vertically, there are available on some instruments a body of Reeds called the "Trompette en Chamade." On a pipe instrument, these pipes are mounted "en chamade," or in a horizontal position to allow the sound to spread throughout the air space without interference from the other pipes or shutters. You would use this stop in majestic processions, or to sound a trumpet fanfare.

***Some tips for using Reeds:*** Adding the Schalmei to the foundations can brighten and clarify the pedal line in a fugue. A 16' Fagott, another light pedal Reed, also helps keep pedal passages clear and clean.

The Bassoon 16, Trompette 8' and Clarion 4' are pleasingly used in ensemble as well as solo stops. The three together create a majestic fanfare effect. As solo stops, try playing them in different registers: the Bassoon 16' one octave higher; or the Clarion 4' or Trompette 8' one octave lower. Accompany them with Flutes.

## **Resources**

Obviously, in a basic discussion or registration such as this, I can give you only the barest start in learning "when to stop." To learn more, and discover the great creative pleasure a musician can derive from interpreting music with the tonal colors of the organ, I recommend the following references:

***Organ Registration: In Theory and Practice***, by Harold E. Geer, Published by Carl Fisher, Glen Rock NY 1951.

***Dictionary of Pipe Organ Stops***, by Steven Irwin, Published by G. Schirmer, NY 1965.

***The Organ***, by William Summer, Published by MacDonald, London, England 1964.