

**ADC THREE MANUAL
CHURCH ORGAN**

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ALLEN ORGAN COMPANY

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Congratulations on the purchase of your new Allen Computer Organ! You have acquired the most advanced electronic organ ever built, one which harnesses a modern computer to create and control beautiful organ tones.

Familiarize yourself with the instrument by reading through this booklet. We call your attention particularly to sections on Alterable Voices, Transposer, and Capture Action since these elements are important to realizing the full potential of the instrument.

The sections on stop description and organ registration are intended for immediate use as well as future reference. Because the new Computer Organ offers limitless tonal possibilities, plus absolutely authentic tone quality, these subjects can now be more readily explored than ever before.

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- III Alterable Voices
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STOP DESCRIPTION

PITCH FOOTAGE

The number appearing on each stop along with its name indicates the "pitch" or "register" of the particular stop. It is characteristic of the organ that notes of different pitches may be sounded from a single playing key. When this sound corresponds to the actual pitch of the playing key, the note (or stop) is referred to as being of 8' pitch. Therefore, when an 8' stop is selected and middle C is depressed, the pitch heard will be middle C. If it sounds an octave higher, it is called 4' or octave pitch. If it sounds two octaves higher, it is called 2' pitch, while a stop sounding three octaves higher is at 1' pitch. Likewise, a 16' stop sounds an octave lower, and a 32' stop sounds two octaves lower.

Stops of 32', 16', 8', 4', 2', and 1' pitch all have octave relationships. That is, these "even numbered" stops all sound octaves of whatever key is depressed. Pitches other than octaves are also used in organ work, and because their footage number always contains a fraction, they are referred to as mutations, or fractional pitch stops, or simply fractionals. These are the Quinte $2\frac{2}{3}$, Nasat (or Nazard) $2\frac{2}{3}$, Terz (or Tierce) $1\frac{3}{5}$, and Larigot $1\frac{1}{3}$, and in the Pedal the Quint $5\frac{1}{3}$. Because they introduce unusual pitch relationships with respect to the fundamental (8') tone, they are most effective when combined with other stops and used either in solo passages or in small ensembles of flutes (see explanation of Cornet in Section II).

TONAL FAMILIES

Organ tones divide into two main categories: flues and reeds. In a pipe organ, flue pipes are those in which the sound is set in motion by wind striking directly on the edge of the mouth of the pipe. Flues include principal tones, flute tones, and string tones. Compound stops and hybrid stops are "variations" on these three families.

The term "imitative" means that the organ stop imitates the sound of the corresponding orchestral instrument. For example, an imitative "Viola 8'" would be one voiced to sound like an orchestral viola.

Principal Tones

Principals	Characteristic organ tone, non-imitative of orchestral instruments. Usually present at many pitch levels, as well as all divisions. Rich, warm, and well-developed harmonically.
Diapasons	
Octaves	
Super Octaves	
Quintes	

Flute Tones

Open Types:	Tones of lesser harmonic development than principals. Open types somewhat imitative; stopped types not. Present at all pitch levels.
Harmonic Flutes	
Melodia, etc.;	
Flute mutation stops	

Stopped Types:
Gedeckts, Bourdons,
Quintadenas,
Rohrflötes, etc.

String Tones

Salicionals
Violas
String Celestes

Mildly imitative voices of brighter harmonic development than principal. Usually appear at 8' pitch.

Compound Tones

Mixtures
Cornet

Tones produced by more than one rank sounding simultaneously.

Hybrid Tones

Gemshorn
Erzähler
Spitzflöte

Tones which combine the tonal characteristics of two families of sound, i.e. flutes and principals or strings and principals.

In reed pipes a tongue vibrates against an opening in the side of a tube called a shallot. The characteristic sounds of different reeds are produced through resonators of different shapes. The family of reeds subdivides as follows:

Reed Tones

Chorus or Ensemble Types:
Trumpets, Bombardes,
Clairons, etc.
Solo Types:
Hautbois, Clarinet,
Krummhorn, etc.

Tones of great harmonic development; some imitative, others not.

The Allen Computer Organ provides authentic examples of every type of tone listed above. Certain of these tones are the subject of copyrights owned by the Allen Organ Company. The tones are embodied in memory devices, each such device having affixed to it a copyright notice, © 1983 AOCO; © 1984 AOCO; © 1985 AOCO; pursuant to Title 17 of the United States Code, Section 101 et seq.

A discussion of individual stops and how they are generally used follows. Please note that these are sample specifications only - custom voicing makes it impossible to list every possible stop. If you have questions concerning a stop which does not appear on this list, consult your Allen Organ representative or one of the references listed at the end of this section. Note that all of these stops do not appear on every model.

The stops appear by name in alphabetical order. General stops, such as Alterables and Chiff, are treated in the separate section designated "General."

STOP GLOSSARY

Three Manual ADC Organs

Basson 16'	Reed stop imitative of the orchestral bassoon. Useful as the foundation of the Swell reed chorus or as a complement to the Hautbois or Trompette.
Blockflöte 2'	A delicate, clear open flute at 2' pitch.
Bombarde 16'	A solid, powerful, chorus reed tone with considerable harmonic development.
Bourdon 16'	Stopped flute tone of weight and solidity.
Chimes	Tubular chimes.
Choralbass 4'	Pedal 4' principal tone.
Clairon 4'	A bright 4' chorus reed. Combines with the Basson 16' and Trompette 8' to form the full Swell reed chorus.
Contra Violone 32'	Rich string tone at the bottom of the Pedal division.
Contre Basse 32'	Principal tone at the deep 32' pitch which underpins the Pedal principal chorus.
Contre Bombarde 32'	Robust French reed.
Contre Bourdon 32'	Stopped flute tone at the 32' pitch.
Diapason 16'	The 16' member of the Pedal diapason chorus. Strongest Pedal flue stop.
Doublette 2'	Bright 2' principal tone which combines with the Montre 8' and Prestant 4' to comprise the French Great principal chorus without mixtures.
Erzähler 8'	Hybrid stop combining gemshorn and string qualities. Useful in accompaniments or as a distinctive solo stop.
Fagott 8'	Light German trumpet tone.
Fagott 16'	Light trumpet-like tone which completes the trumpet or oboe choruses.
Festival Trumpet 8'	Strong solo trumpet voice of great brilliance and flair.
Flageolett 1'	Pure, clear flute imitative of the small instrument of the same name.

Flûte à Bec 2'	Open flute stop imitative of the Flûte à Bec, a French instrument similar to the English recorder.
Flûte à Fuseau 4'	Tapered open flute of medium brightness which has chiff.
Flûte Bouchée 8'	Stopped flute, more "flutey" than the Holzgedeckt.
Flute Dolce II 8'	Soft accompaniment stop. Becomes a beautiful Flute Celeste with the addition of the Celeste Tuning.
Flûte Ouverte 4'	Open flute tone of 4' pitch.
Fourniture IV	See Mixtures.
Gamba 8'	Rich string tone which takes its name from the Viola da Gamba, the medieval ancestor of the cello.
Gedecktflöte 8'	Stopped flute tone of 8' pitch, useful in adding clarity to a pedal line in combination with the Bourdon 16' or Lieblichgedeckt 16'.
Gemshorn 8'	Gentle string tone of lesser harmonic development, closer in tone to the principal family. Useful accompanimental voice.
Gemshorn 16'	A useful stop which blends well with any of the families of tone on the Great organ. Provides sub-octave pitch yet is not weighty in tone.
Gemshorn Celeste 8'	Stop used in combination with the Gemshorn 8' to create a warm celeste.
Hautbois 8'	Solo reed with the pungent nasal timbre of an oboe.
Hohlflöte 8'	Full bodied open flute tone.
Hohlpfeife 2'	Open flute with a strong fundamental and octave overtone.
Holzgedeckt 8'	A stopped wooden flute with chiff.
Klarine 4'	4' German trumpet.
Kleine Trompete 8'	Light clear trumpet, literally "little trumpet."
Krummhorn 8'	Solo reed imitative of the medieval krummhorn. Its timbre is reminiscent of the clarinet.

Lieblighgedeckt 16'	Softer stopped flute voice of delicacy and definition. Useful where soft 16' pitch is required.
Mixtur IV	See Mixtures.
Mixtures	A compound stop of principal tone. One key produces several pitches which are at octave and fifth relationships to the key being pressed. The number of ranks in the mixture is indicated by the Roman numeral behind its name. For example, the Mixtur III produces three pitches per key. Mixture "breaks" as it ascends the keyboard, shifting to the next lower octave or fifth in the series. Mixtures are never used without other lower pitched stops. Typically, a mixture is added to diapason or flute ensembles or to reed chorus 16', 8', and 4'.
Montre 8'	Full-bodied French principal at the 8' level.
Nasard 2-2/3 Nasat 2-2/3	Flute mutation which sounds one octave and a fifth above the keys played. Always used with other stops (usually 8') for coloration.
Octav 4'	The 4' member of the Great principal chorus, which consists of the Prinzipal 8', Octav 4' and Super Octav 2'.
Octave 2'	2' member of the principal family.
Octave 8'	8' member of the Pedal principal chorus.
Oktav 2'	2' principal which adds brightness and fullness to a Choir ensemble, particularly one including the Erzähler 8' and Prinzipal 4'.
Posaune 16'	A strong Pedal reed which lends strength and snarl to the pedal line.
Prestant 4'	The bright 4' member of the Montre family.
Principal Conique 4'	Modified principal tone.
Prinzpal 4'	Lowest pitched principal on the Choir.
Prinzpal 8'	Foundation stop of Great principal chorus.
Quint 5-1/3'	Open diapason mutation which sounds a pitch one octave and a fifth above the pedal played. Because it is based on the 16' overtone series, this stop must be combined with at least a 16' stop.

Quintaten 16'	Stopped flute tone characterized by an extremely strong third harmonic which sounds an octave and a fifth above the note played, hence the name <u>Quintaten</u> .
Quinte 2-2/3	Principal tone at the twelfth which colors the Great principal chorus. Generally not used without a 2' principal.
Quintflöte 1-1/3'	Open flute mutation which sounds a pitch two octaves and a fifth above the key played.
Regal 4'	A bright 4' reed which takes its name from the old portable reed organs used in court ceremonies.
Rohrkrumhorn 16'	Variant of the Krumhorn. Used to provide definition and depth in the Pedal.
Salicional 8'	Full-bodied string tone.
Schalmei 4'	The tone quality of the shawm, a medieval ancestor of the clarinet, is the basis for this light, bright, nasal reed. It can be used as a solo, combined with flues, or used as the 4' member of the Choir reed chorus.
Scharff III	See Mixtures.
Sifflet 1'	An open metal flute stop; the highest stop in the Swell flute chorus.
Spitzflöte 4'	Partially closed flute tone.
Spitz Geigen 8'	Principal which is closest in tone quality to the string family.
Super Octav 2'	An open metal stop which produces foundation tone at the 2' pitch level.
Terz 1-3/5 Tierce 1-3/5	Flute mutation which causes the pitch to sound a seventeenth (two octaves and a third) higher than played. Used with 8' stops or flute ensembles.
Traversflöte 4'	Wooden flute tone voiced to imitate an orchestral flute.
Trompete 8'	English trumpet useful as a chorus reed or a smoother solo reed.
Trompette 8'	Chorus reed stop of rich harmonic development. Can also be used as a solo voice.
Untersatz 32'	Stopped German flute at the 32' pitch.

Viola 8'	An imitative string stop with a bright timbre.
Viola Celeste 8'	String voice used in combination with the Choir Viola 8'.
Violone 16'	Lowest member of the string family.
Voix Celeste 8'	Celeste used with the 8' Salicional, creating a warm string tone.
Voix Humaine 8'	Originally a solo voice intended to imitate the human singing voice. Its light nasal quality is useful as a solo stop, especially with the addition of the Tremulant.
Waldflöte 2'	Open flute tone at 2' pitch level.

GENERALS

All Swells to Swell	Allows the organist to control the volume on all keyboards and Pedal by simply manipulating the Swell expression. See "Expression Pedals."
Alterable F	Increases the volume of the alterable stop(s).
Alterable Percussion	Produces percussive attack and release dimension appropriate to percussion-type voices. Use with green Alterable Voice cards. Since this stop affects only the Alterable Voices, it is possible to play both sustained and percussing sounds simultaneously on the same keyboard.
Alterable Voices	See separate section on Alterable Voices.
Celeste Tuning	Used to give added warmth to celestes (see separate section on Celestes).
Chiff	When chiff is employed, a high-pitched sound of short duration is heard on each note, an effect exhibited by low pressure, unnicked organ pipes. This is useful in adding clarity to large combinations and authenticity to Baroque literature. Certain stops, such as the 8' Holzgedeckt, already incorporate chiff. The chiff should not be used with reed stops.

Couplers

All three-manual ADC models feature the following couplers: Swell to Great, Choir to Great, Swell to Choir, Swell to Pedal, Great to Pedal, Choir to Pedal. These stops do not have their own tones; rather, they enable the organist to make stops which are sounding in one division also sound in another division. For example, if the Hautbois 8' is drawn on the Swell, and the Swell to Great is added, the Hautbois will sound on both the Swell and Great. This greatly expands registration possibilities.

In addition to the aforementioned couplers, the organ includes Alterable couplers which can couple the Alterable Voices to the Great, Choir, or Pedal. These couplers affect only the Alterable Voices, allowing them to be played anywhere on the organ independent of the Swell.

Great-Pedal Unenclosed

Causes the Great and Pedal divisions to remain at full volume regardless of the position of the Expression Pedal, as traditional in pipe organ building. The expression pedal continues to affect the Choir.

Reverberation System

Two blank tabs are provided as preparation for control of an optional reverberation system. These tabs are not included in the Capture System.

Tremulant

Tremulants are independent and affect only the stops in their division. Use of this stop provides a vibrato effect, natural in the human voice and wind instruments.

EXPRESSION PEDALS

All three manual ADC organs have a separate expression pedal for the Swell. The Pedal division expresses with the Great. Depending on the particular model, the Choir either has a separate expression pedal or expresses with the Great and Pedal. In the latter case depressing the "Great-Pedal Unenclosed" tab causes the Great and Pedal divisions to remain "open" despite the position of the expression pedal; the Choir, however, remains under expression. If "All Swells to Swell" is used, the "Swell" pedal becomes a master Swell for all divisions. A label above each expression pedal designates the division controlled by that pedal.

CRESCENDO PEDAL

One Master Crescendo, for all divisions, gradually adds stops as this Pedal is opened. Indicator lights show relative position of Pedal. Note that if either Tutti is added while the Crescendo Pedal is open, the green Crescendo light(s) will go off. The light(s) will come back on when the Tutti is removed. Indiscriminate use of the Crescendo Pedal, in lieu of careful registration, should be avoided.

TUTTI I & II

The Tutti I and II are settings of full organ registration. Tutti II is a fuller registration than Tutti I, most noticeably in the Pedal division. They can be turned on by using either a toe stud or manual piston. The Tutti toe studs are located to the extreme right, above other combination action toe studs. The pistons are found beneath the Great manual, directly above the cancel button. Both are reversible, meaning that pressing either the toe stud or the manual piston will turn the corresponding Tutti on or off. The cancel button will also turn off the Tuttis. Pressing Tutti II will cancel Tutti I. Red signal lights, appropriately labelled and located on the right side of the console, turn on when the Tutti I or II are in operation. Like the Crescendo, indiscriminate use of this device should be avoided.

REVERSIBLES

Six reversible pistons are provided for actuating the couplers. Pressing the appropriate piston moves the coupler visibly either "on" or "off," depending on its position. Pressing the piston repeatedly will cycle the stop "on" and "off." Each reversible is also equipped with a duplicating toe piston for foot operation in the event that hands are not free.

CELESTES

There are several stops on the Swell and Choir whose names contain the word "celeste." These stops, when combined with their "partner" stop, (i.e. Viole and Viole Celeste) create a celeste. If the Celeste Tuning is then added, a faster "beat" and warmer Celeste is created. The Celeste Tuning can also be used to create a faster celeste between two Alterable stops.

ARTISTIC REGISTRATION

Organ registrations fall into two broad categories: Solo Combinations and Ensembles.

Let us consider solo combinations first. What is required is a solo voice, an accompaniment, and pedal. Almost any stop or combination of stops will sound well as a solo voice. Whenever possible, remember to choose a contrasting tone quality for the accompaniment, and be sure the accompaniment is softer than the solo voice. The Pedal needs to provide a foundation for the sound without covering it.

All 8' reed stops make interesting solo tones. The addition of a 4' flute, or flute mutations (Nasat, Terz), colors the sound further and increases its volume slightly. Adding an 8' flute to a reed will add body to the sound.

Likewise, flutes can be used alone or in combinations as solo voices. One special combination of flutes which creates an appealing and historically significant solo combination is the Cornet. The Cornet is created by using the following Swell stops: Flûte Bouchée 8', Flûte à Fuseau 4', Nasard 2-2/3', Flûte à Bec, and Tierce 1-3/5. Historically, this combination was used as a solo in Baroque English and French music, but it is just as appropriate for some modern music.

When choosing stops for a solo voice, it is not necessary to always include an 8' stop. For example, since the 4' flute has a different tone quality than the 8' flute, the 4' flute can be used as an independent solo voice. By playing the solo an octave lower than written, the notes will sound at the correct pitch. In similar fashion, a 16' stop can be selected and the notes played an octave higher than written. The tonal variety gained in this way is possible because each stop has its own tone color.

For accompaniment, the most desirable voices are the 8' flutes and strings on each manual. Celestes often make effective accompaniments. The correct choice depends on the volume of the solo tone (a soft solo voice requires the softest accompanimental stop), the element of contrast, and the location of the solo stop. A bright, harmonically rich solo reed, for example, can be accompanied by either a string or flute, but the flute will often contribute greater interest because of its greater contrast.

Try to seek a "natural" balance of volume between solo and accompaniment. This will be especially helpful if the solo and accompaniment are under separate expression.

SAMPLE SOLO REGISTRATIONS

Following are four possible registrations for a three manual organ. Note that the specifications may not be exactly like those on your organ. If this is the case, simply substitute a stop of similar tone quality.

REED SOLO

Swell: Hautbois 8' (Tremulant optional)
Great: Hohlflöte 8'
Choir: Krummhorn 8' (Tremulant optional)
Pedal: Lieblichgedeckt 16', Gedecktflöte 8'

Play solo on the Swell or Choir, accompany on the Great. For more color, experiment with adding a 4' flute or a flute mutation to either reed. Adjust expression pedals as needed.

FLUTE SOLO

Swell: Flûte à Fuseau 4' (Tremulant optional)
Great: Hohlflöte 8' (Chiff optional)
Choir: Viole 8'
Pedal: Lieblichgedeckt 16', Choir to Pedal

Play solo on the Swell or Great, accompany on the Choir.

ROMANTIC SOLO

Swell: Salicional 8', Voix Celeste 8', Gemshorn 8', Gemshorn Celeste 8', Celeste Tuning
Great: Prinzipal 8', Gamba 8', Hohlflöte 8', Spitzflöte 4', Swell to Great, Choir to Great
Choir: Quintaten 16', Viole 8', Viole Celeste 8', Erzähler 8', Celeste Tuning, Swell to Choir
Pedal: Bourdon 16', Octave 8', Swell to Pedal

Play solo on the Choir or Great, accompany on Swell.

TRUMPET SOLO

Swell: Trompette 8', Alterables 1 & 2 with Trompette 8' installed in both, Alterable F
Great: Prinzipal 8', Hohlflöte 8', Octav 4', Spitzflöte 4', Super Octav 2', Doublette 2'
Choir: Erzähler 8', Prinzipal 4', Oktav 2'
Pedal: Diapason 16', Octave 8', Great to Pedal

Play solo on the Swell and accompany on the Great. The Choir can be used as an echo ensemble.

These few combinations demonstrate the basic techniques of solo registration. In making some of your own, remember these three simple rules:

1. Seek tonal contrast between solo and accompaniment.
2. Be sure the solo is louder than the accompaniment.
3. Choose a solo whose character is appropriate to the specific piece.

ENSEMBLE REGISTRATIONS

Ensemble registrations are groups of stops being played together, usually, but not always, with both hands on one keyboard. They are characterized by compatibility of tone, clarity, and on occasion, power. These are the types of registrations used in hymn singing, choir accompaniments, and a large part of the contrapuntal literature.

Volumes have been written on the subject of ensemble registration so that it would be presumptuous of us to do more here than just touch the highlights.

Ensembles are created by combining stops. Two factors are always to be considered: the tone quality and the pitch. Ensembles begin with a few stops at the 8' and/or 4' pitch and expand "outward" in pitch as they build up. New pitches are usually added in preference to another 8' stop.

Ensembles are generally divided into three tonal groupings or "choruses":

The Principal chorus is the most fully developed with representation in all divisions of the organ and at every pitch from 32' (Contre Basse) to high mixtures. Principal choruses are sometimes called the narrow scale flue chorus, a pipe reference to the relative thinness of Principal tone pipes in relation to their length.

The Flute chorus is also well represented with a diversity of stops at various pitches. Generally speaking, the Flute chorus is comprised of less harmonically developed tones, and is smoother and of lesser volume than the Principal chorus. The Flute chorus is sometimes called the wide scale flue chorus, owing to the generally "fatter" look of Flute pipes as compared to Principals.

The Reed chorus includes those reed tones designed to be used in the ensemble buildup. Not all reed voices are ensemble tones. A French Horn, for example, is strictly a solo effect. The various Trumpets, Posaunes, Contra Fagottos, etc. are ensemble voices and add brilliance, power, and incisiveness to the sound. If you have questions as to whether a specific reed is a solo or ensemble stop, refer to the stop glossary in the preceding section.

In classic registration, the wide and narrow Flue choruses were rarely combined in ensembles. Generally, it would have been one or the other because of wind supply problems. As the last Principals were drawn into the ensemble, the first reeds would be added. In many typical ensembles, particularly full-bodied contrapuntal ones, the first reed to appear would be drawn in the Pedal, usually the 16'.

The Swell reed chorus of 16' Basson, 8' Trompette, and 4' Clairon (frequently the Fourniture IV is added as well) represents an entity important to French organ music and the full ensemble of the organ. These stops create a "blaze" of richly harmonic sound which tops off both "flue" choruses.

Another special ensemble combination important in French music is the Cornet which was introduced in the section on Solo Registration. This compound stop combines with the chorus reeds and mutations to create the "Grand Jeu." The Cornet is also useful in Romantic ensembles (i.e. the works of Reger) to add weight and thickness to the sound.

Here are typical ensemble combinations for the Swell, Great, and Choir manuals:

On the Great

1. Hohlflöte 8', Spitzflöte 4'
2. Hohlflöte 8', Spitzflöte 4', Waldflöte 2'
3. Prinzipal 8' alone
4. Prinzipal 8', Octav 4'
5. Prinzipal 8', Octav 4', Super Octav 2'
6. Prinzipal 8', Octav 4', Super Octav 2', Mixtur IV

On the Swell

1. Flûte Bouchée 8', Flûte à Fuseau 4'
2. Flûte Bouchée 8', Flûte à Fuseau 4', Flûte à Bec 2', Sifflet 1'
3. Gemshorn 8', Principal Conique 4'
4. Gemshorn 8', Principal Conique 4', Octave 2'
5. Gemshorn 8', Principal Conique 4', Octave 2', Fourniture IV
6. Gemshorn 8', Principal Conique 4', Octave 2', Fourniture IV, Trompette 8'

On the Choir

1. Holzgedeckt 8', Traversflöte 4'
2. Holzgedeckt 8', Traversflöte 4', Blockflöte 2, Flageolett 1'
3. Erzähler 8' alone
4. Erzähler 8', Prinzipal 4'
5. Erzähler 8', Prinzipal 4', Oktav 2'
6. Erzähler 8', Prinzipal 4', Oktav 2', Mixtur IV

The use of the couplers allows these separate ensembles to be combined on the Great or Choir manuals.

The Pedal ensemble is created in much the same way as the manual ensembles, starting at 16' pitch. Be careful that the volume of the pedals is not greater than that of the manuals. Although the manual to pedal couplers are useful in bringing clarity into the pedal line, especially on softer registrations, avoid the temptation to rely constantly on one or two 16' stops and a coupler.

Please notice that the softest stops and flute mutations are normally not used with ensembles.

FULL ORGAN

Due to the immense capabilities of the digital computer organ, distortion will NOT result if the organ is adjusted properly even if all stops and couplers are used simultaneously. However, in good registration practice the organist would not haphazardly put on every stop on the instrument. For best results, listen and include only those stops which really contribute to the fullness and brilliance of the ensemble. Eliminate soft stops and solo stops which make no purposeful contribution.

This short treatment barely scratches the surface of a highly interesting subject: organ registration. Your Allen Computer Organ, however, has the tonal potential to pursue the subject to its limits. For those interested in gaining further insight into this vital area of organ playing, we recommend the following texts:

Audsley, George Ashdown. Organ-Stops and their Artistic Registration.
Longwood Press: Wakefield, N.H.

Irwin, Stevens. Dictionary of Pipe Organ Stops.
H. W. Gray Co.: New York, N.Y.

ALTERABLE VOICES

The Alterable Voice stop tabs constitute a totally new development in organ design, permitting the organist to add stops or adjust specifications to suit a variety of musical situations. A bright Trompette 8', for example, could be programmed for special festive occasions. A classic flute or reed voice especially suited for a certain piece can be programmed. Any number of "percussion" type voices, including chimes, bells, harp, etc., can be used as desired.

Each three-manual ADC organ includes two Alterable stops, whose tabs or drawknobs are located with those of the Swell division. To program an Alterable stop, simply put down the Alterable stop, 1 or 2, and insert the computer card with the printed side up and the arrow pointing toward the slot. Stop feeding the card when resistance is felt (about 1" of the card remains outside of the slot). The card should then be removed. It is not necessary to insert the computer cards particularly slowly.

If both Alterable stop tabs are down when the computer card is inserted, the tone will automatically be programmed into both Alterables simultaneously. You then have two separate identical voices, each coming from a different speaker system. A celeste beat between them will speed up when Celeste Tuning is added. If more volume is desired, add the "Alterable F" (forte) tab.

Turning off the organ will not cancel the Alterable voices - the same voices will still be there when the organ is turned back on. To change an Alterable Voice to a new tone, simply insert the new card. The old voice is automatically erased.

Although the controls for the Alterables are located in the Swell division, the voices are not limited to that keyboard. Through the use of special couplers, labelled "Alterable to Great," "Alterable to Choir," and "Alterable to Pedal," it is possible to couple Alterable Voices to these other divisions without coupling the entire Swell division. For example, if the organist wanted to add a special 4' reed to the Pedal division, he or she could do so by putting down Alterable 1 and/or 2, inserting the appropriate tone card, then adding the "Alterable to Pedal."

Alterable Voices are available in a wide variety of tones and pitch levels. They are color-coded by families: red cards are reeds, green are percussions, yellow are strings, and white are flutes and diapasons. More information about specific cards and their uses is available in the Tone Card Library Catalog. You will find the Alterable Voices one of the most interesting developments in the history of organ playing. The unprecedented flexibility they offer brings new excitement to organ registration, and a built-in protection against obsolescence.

PERCUSSION VOICES

Green computer cards are intended to be used as percussion voices. Program them like any other Alterable Voice, then add the "Alterable Voice Percussion" tab. This will add the "attack and decay" appropriate to sounds of this type. A percussion length knob on the console adjusts the length of the decay for percussion voices, thereby increasing the authenticity of the sound. For example, the decay should be shorter for a harpsichord than it would be for chimes. Because the percussion on the Swell affects only the Alterable Voices, it is possible to play both bells and other stops on the Swell simultaneously. For example, the Chrysoglott (Alterable Voice) could be combined with a beautiful celeste chorus on the Swell for a lyrical prelude. The bells will percuss properly, while the other voices will speak normally.

CHIMES AND CARILLON

Certain Chimes and Carillon bells are produced by using two different computer cards, a "left" and a "right." Each of these cards is programmed into one Alterable stop. It does not matter which card goes into which of the two Alterables. When both Alterable tabs and the Alterable Voice Percussion are depressed, the resulting bells are amazingly accurate. Although these bell effects can be played on all sixty-one notes, they are most effective when the parts are played one octave lower than written.

A NOTE ABOUT IMITATIVE ORCHESTRAL VOICES

Many true orchestral tones are available for the Computer Organ with Alterable Voice cards. In most instances, these voices have been obtained directly from the instrument involved. In using them, one should keep in mind the normal range of the particular instrument. The Oboe, for example, has Middle "C" as its lowest note. Its natural range extends upwards about two and a quarter octaves. However, when you program this voice into the Computer Organ, you have a five octave range. The voice will sound most authentic when played in its natural range. Played toward the ends of the keyboard, either extremely low or high, the tone will sound less authentic since the Oboe is incapable of producing these notes.

The general rule of using imitative orchestral stops is to adhere as closely as possible to the natural compass of these instruments.

TRANSPOSER

The vast capability of the computer makes it possible to perform the sometimes difficult task of transposing within the system so that the organist merely plays the notes as written.

Operation of the Transposer is controlled by the Transposer knob. Neutral (no transposition) position for this knob is marked "N."

To shift the music to a higher key, move the knob upward one or more half-steps. The key can be raised a maximum of five half-steps, in half-step increments.

To shift to a lower key, move the Transposer knob downward from "N." It can be lowered a total of seven half-steps.

A RED LIGHT COMES ON WHENEVER TRANSPOSER KNOB IS MOVED FROM "N" POSITION.

WHY TRANSPOSE?

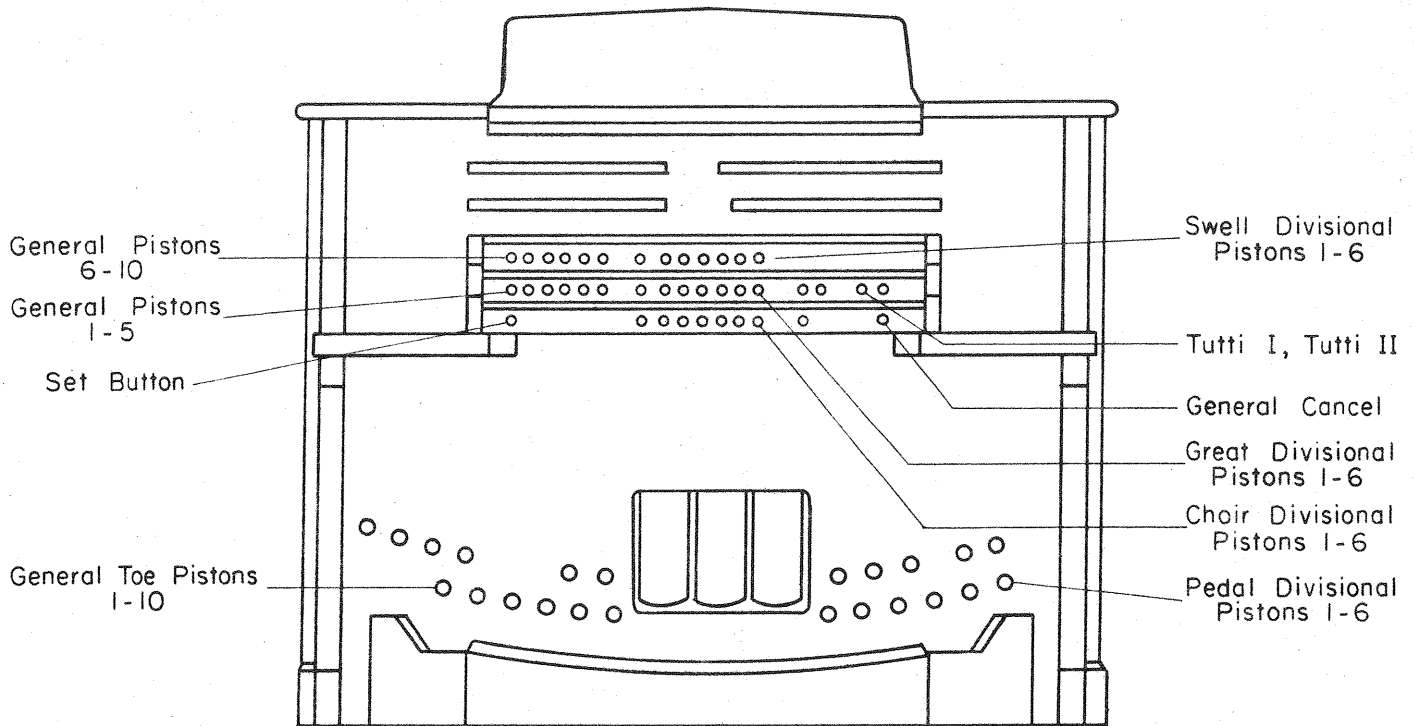
Because the range of a given song will not always suit the vocal range of a particular singer. By adjusting the key upward or downward, whichever is appropriate, it can be sung more comfortably and effectively.

Because some instruments are non-concert pitch. A trumpet in B^b, for example, can read the same music as the organist, if the Transposer knob is set two half-steps lower.

Because hymn singing can sometimes be improved by a more favorable key selection. Hymn singing can also be enhanced by playing the hymn in its original key, playing a short modulation at the end of the verse which leads into the key one-half step above the key in which the hymn is written, then turning the Transposer up a half-step. Thus, the organist can play the next verse in its original key and it will sound one-half step higher. If the hymn is already in a fairly high key, it may be preferable to play the first few verses with the Transposer set down one-half or one whole step, then modulate up to the original key for the final verse. The use of modulation with the aid of the Transposer creates a climactic effect for the last verse of a hymn.

CAPTURE COMBINATION ACTION

All three manual ADC organs are equipped with Allen's Double Memory Capture Action which offers the ultimate in registration control and convenience. Twin memories provide a total of 68 separate combinations. A special key lock switch allows the organist to set combinations on either memory, turn the switch to the other memory, and remove the key, thus preventing unauthorized "tampering" with these combinations. When the key points to "A" on the Memory Switch, Memory "A" is in use, and when it points to "B," then "B" is in use.



THINGS TO REMEMBER

General pistons (duplicated by toe pistons) affect all stops. Swell, Great, Choir, and Pedal pistons only affect stops in their division. Intermanual couplers (Swell to Great, Swell to Pedal, Great to Pedal) operate from the General Pistons only.

Pedal pistons are toe operated only.

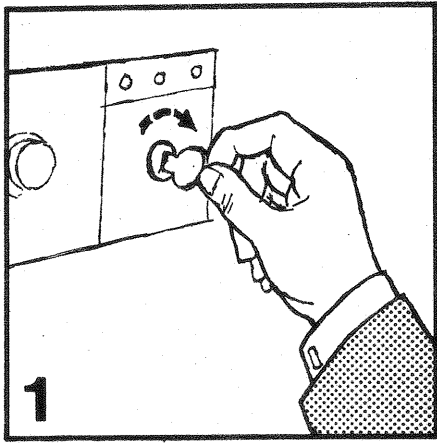
All pistons operate independently from each other. Tutti and coupler pistons are reversible.

The capture action is not fully operable until approximately six seconds after the organ is turned on.

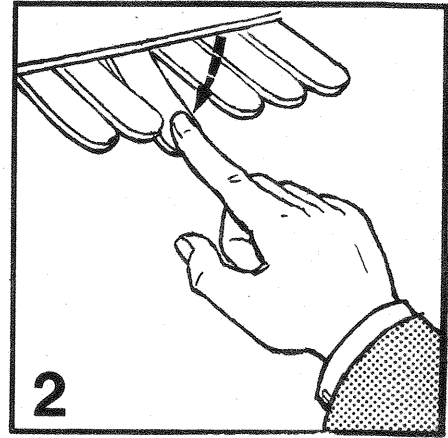
The layout of the toe studs on the ADC 8000 is slightly different from the above sketch due to the addition of a fourth expression pedal.

The pistons on a drawknob console are set up identically to those on the stop-tab console shown above.

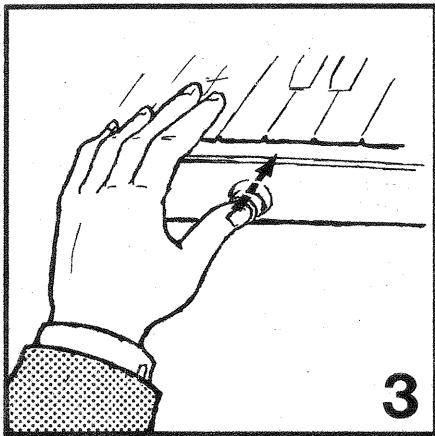
HOW TO SET A PISTON COMBINATION



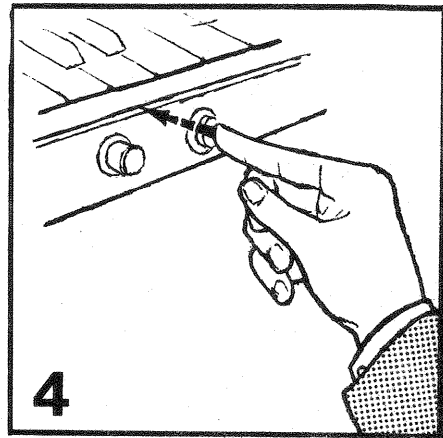
Select Memory "A" or "B".



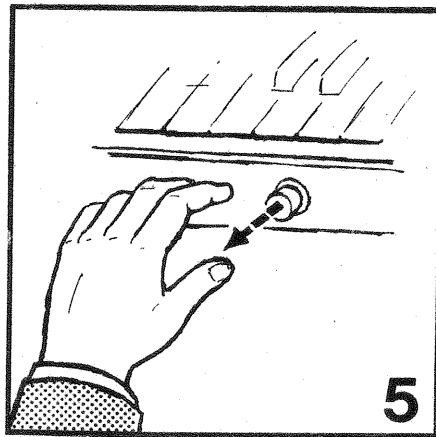
Select Registration



Press and HOLD
Set Button



Press and Release
Piston on which
Registration is to
be Retained



RELEASE Set Button

INSTALLATION, VOICING AND CARE OF THE ORGAN

INSTALLATION

Wherever your three manual organ may be situated, careful installation is a prerequisite for successful results. Your Allen representative is qualified to guide you in planning for this.

Factory assistance in planning the installation is also available and may, in fact, be sought by your representative, in order that maximum results may be obtained.

CAUTION

Do not plug the instrument into any current source other than 105-128 volts, 50/60 Hertz alternating current (AC). A verified earth grounded outlet is essential to proper operation and protection of the instrument. Proper polarity should be checked with an A.C. circuit analyzer before connecting the organ.

Do not change the cable plug or remove the ground pin or connect with a two pole adaptor.

If you are in doubt about your electrical connection, consult your local electrician or power company.

Where circuit breakers are shut off between services, etc., that circuit breaker affecting the organ console AC power should have a guard installed to prevent its being accidentally switched off.

Read and comply with all instructions and labels which may be attached to the instrument.

VOICING

The three manual Allen Digital Computer Organs enjoy unprecedented accuracy in the voicing and scaling of each note of every stop. This musical breakthrough is an inherent part of the engineering design of the instrument. Once the instrument has been delivered to the owner, final musical adjustments are then made to match the organ to the acoustics of the room in which it is played. These voicing adjustments are carefully made by trained personnel from your Allen Organ dealer.

This voicing procedure involves the adjustment of controls both within the console and in equipment connected to the console. It is done as part of the installation, and once completed, should not require readjustment unless the instrument is moved to a new location.

Bass frequency projection is strongly affected by tone cabinet location. Although none of the tone cabinets should be moved once the installation has been completed, extra care should be exercised not to inadvertently move bass tone cabinets.

CARE OF THE ORGAN

Your Computer Organ constitutes a major advance in long term maintenance free operation. There are no regular maintenance procedures required and, therefore, no periodic maintenance schedules to be observed. The organ never even needs to be tuned!

Reasonable care will keep the instrument looking beautiful for years to come. If desired, polish the wood portions with a high grade furniture wax. Do not use abrasive type polishes, cleaners, or waxes containing silicone.

Keys and stop tablets should be cleaned in the following manner: Use two clean cloths. Immerse one in clear lukewarm water and wring it thoroughly damp dry. Loosen the dirt with this cloth, then immediately polish with the dry cloth. Do not use soap or detergent on keys or stop tablets.

A silent key can be caused by a foreign substance on the contact surface. Depressing the key with rapid repetition usually clears the phenomenon.

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been type tested and found to comply with the limits for a Class A Computing Device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial, business or institutional environment. However, operation of this equipment in a residential area may cause interference. If this equipment does cause interference to radio communications, the user at his own expense will be required to take whatever measures may be required to correct the interference.

You have purchased a remarkable organ which not only faithfully reproduces the organ traditions of the past but also anticipates the innovations of the future. Should you have questions which are not dealt with in this manual, please do not hesitate to contact your local Allen Organ representative. Welcome to the family of satisfied Allen Organ owners!