ADC
1000 - 2000 - 3000
SERIES

ALLEN ORGAN COMPANY

For over forty years - practically the entire history of electronic organs - Allen's role has been to build the finest organs technology allows.

In 1939 Allen built and marketed the world's first purely electronic oscillator organ. The tone generators for this first instrument used two hundred forty-four vacuum tubes, contained about five thousand components, weighed nearly three hundred pounds; with all this, the specification included relatively few stops.

By 1959 Allen replaced vacuum tubes in the oscillator organs with transistors. Thousands of such instruments were built, including some of the largest, most sophisticated oscillator organs.

Only a radical technological breakthrough could improve upon the fine performance of Allen's solid-state oscillator organs. Such a breakthrough came from the U.S. Space Program in the form of highly advanced digital microcircuits.

Your ADC organ is the product of years of refining of digital techniques by Allen engineers. It represents the apex of computer technology applied to exacting musical tasks.

The result is an instrument of remarkably advanced tone quality and performance.

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.

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.

Stops of 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 2-2/3, Nasat 2-2/3 and Terz 1-3/5. 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
Diapasons	orchestral instruments. Usually present at
Octaves	many pitch levels, as well as all divisions.
Super Octaves	Rich, warm, and well-developed harmonically.
Quintes	

Flute Tones

Open Types:
  Harmonic Flutes
  Melodia, etc.;
  Flute mutation stops

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

Tones of lesser harmonic development than principals. Open types somewhat imitative; stopped types not. Present at all pitch levels.

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, Posaunes,
  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; or © 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 slight variations in specifications can be encountered.

PEDAL ORGAN

Diapason 16'   The 16' member of the Pedal diapason chorus.
                                Strongest pedal flue stop.

Bourdon 16'   Stopped flute tone of weight and solidity.

Lieblichgedeckt 16'   Softer stopped flute voice of delicacy and
                                definition. Useful where soft 16' pitch is
                                required.

Octave 8'   8' member of the Pedal principal chorus.

Gedecktflöte 8'   Stopped flute tone of 8' pitch, useful in adding
                                clarity to a pedal line in combination with the
                                Bourdon 16' or Lieblich Gedeckt 16'.

Choralbass 4'   Pedal 4' principal tone.

Mixtur III   Compound stop of principal tone. One pedal
                                produces three distinct pitches at octave and
                                fifth relationships to the pedal being pressed.
                                Used to crown the Pedal principal chorus.

Posaune 16'   A strong Pedal reed which lends strength and
                                "snarl" to the Pedal line.

Great to Pedal   Connects all Great stops to the Pedal.

Swell to Pedal   Connects all Swell stops to the Pedal.

**Alterable to Pedal   Connects only the Alterable Voice to the Pedal.

SWELL ORGAN

Salicional 8'   Full bodied string tone.

Voix Celeste 8'   Celeste used with the 8' Salicional, creating a
                                warm string tone.

Gedeckt 8'   Stopped flute tone of moderate harmonic
                                development. Provides the 8' member of the
                                Swell flute chorus and is useful by itself or
                                with other flutes and mutations in creating solo
                                voices.

Spitzprinzipal 4'   Bright principal tone which works well with the
                                Salicional 8'.

Koppelflöte 4'	Distinctive stopped flute voice which works well in ensembles of flutes or strings, or as a solo voice.
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.
Blockflöte 2'	A delicate, clear open flute at 2' pitch.
Terz 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.
Sifflöte 1'	An open metal flute stop. The highest stop in the Swell flute chorus.
Mixtur III	A compound stop of principal tone. One key produces three distinct pitches at octave and fifth relationships to the key being pressed. The Mixtur should never be used without lower pitch stops. Typically the Mixtur III is added to diapason or flute ensembles, or to reed chorus 16', 8' & 4'.
Contra Fagotto 16'	Chorus reed tone at the 16' pitch level, designed to supplement and undergird the other chorus reeds. Also usable as a distinctive solo reed tone.
*Hautbois 8'	Solo reed with a timbre more mellow than that of an orchestral oboe.
Trompette 8'	Chorus reed stop of rich harmonic development. Can also be used as a solo voice.
Clairon 4'	A bright 4' chorus reed. Combines with the Contra Fagotto 16' and Trompette 8' to form the full Swell reed chorus. Also usable as a solo voice.
**Alterable Voice	See separate section on Alterable Voices.
**Alterable F (forte)	Increases the volume of the alterable stop.
**Swell Alterable Off	Used in conjunction with either Alterable to Great or Alterable to Pedal to remove the Alterable tone from the Swell keyboard.

Percussion	Produces percussive attack and release dimension appropriate to percussion type voices. Use with green Alterable Voice cards. Affects all stops drawn on the Swell.
Celeste Tuning	Used to add extra warmth to a celeste. 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. The Chiff should not be used with reed stops.
*Chimes	Tubular chime sound.
Tremulant	Use of this stop provides a vibrato effect natural in the human voice and wind instruments to the stops in the Swell division.

GREAT ORGAN

Prinzipal 8'	Foundation stop of the Great principal chorus.
Erzähler 8'	Hybrid stop combining gemshorn and string qualities. Useful in accompaniments or as a distinctive solo stop.
Hohlflöte 8'	Full bodied open flute tone.
Octav 4'	The 4' member of the Great principal chorus, which consists of the Prinzipal 8', Octav 4', and Super Octav 2'.
Spitzflöte 4'	Partially closed flute tone.
Quinte 2-2/3'	Principal tone at the twelfth which colors the Great principal chorus. Generally not used without the Super Octav 2'.
Super Octav 2'	An open metal stop which produces foundation tone at the 2' pitch level.
Waldflöte 2'	Open flute tone at 2' pitch level.

Mixtur IV	A compound stop of principal tone. Four notes in octave and fifth relationships sound together when a single key is depressed. As pitches progress upward they "break" back to the next lower octave or fifth. Used to cap the Great principal chorus, adding brilliance and pitch definition to the entire compass.
Krummhorn 8'	Solo reed imitative of the medieval krummhorn. Its timbre is similar to that of the clarinet, but with a more nasal quality.
Chiff	Same as Chiff on Swell, but only affects stops in the Great division.
Tremulant	Same as Tremulant in Swell, but affects stops in the Great and Pedal, except for the bottom octave in both divisions.
Swell to Great	Intermanual coupler connecting all Swell stops to the Great manual.
**Alterable to Great	Intermanual coupler which connects only the Alterable stop to the Great manual. See section on Alterable Voices.

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*Your ADC organ will feature <u>either</u> the Hautbois or the Chimes.

**Present on ADC 3000 only, unless added as an option to ADC 1000 and 2000 series. If there is no Alterable Voice, these tabs will be blank.

<u>GENERALS</u>

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

The following two tabs are only functional if there are Antiphonal speakers on the organ. (ADC 2000 and 3000 only.)

Main Organ Off	Used in conjunction with the "Antiphonal Organ On" tab, it causes the organ to speak only from the Antiphonal speakers and not from the Main speakers.
Antiphonal Organ On	Causes the organ to speak from the Antiphonal speakers. The organ will speak from both Antiphonal and Main divisions unless the Main Organ Off is also used.

On the ADC 1000 the following two tabs are only functional if there are external speakers on the organ:

Console Speakers Off   Causes the organ to speak only from the external speakers.

External Speakers Off   Causes the organ to speak only from the console speakers.

EXPRESSION PEDALS

On the ADC 1000 or 1010 there is one expression pedal which affects the whole organ. The ADC 2000 or 2010 features two expression pedals, the left one controlling the Great and Pedal divisions and the right one the Swell division.

There are three control pedals on the ADC 3000. The one on the far right is the crescendo pedal (see below). The pedal on the left expresses the Great and Pedal divisions, while the center expression pedal affects the Swell.

CRESCENDO PEDAL
(ADC 3000 only)

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
(ADC 3000 only)

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 are turned on by using manual pistons located beneath the Swell manual directly above the cancel button. The pistons are reversible, meaning that pressing them will turn the corresponding Tutti on or off. The cancel button will also turn off the Tuttis. Pressing Tutti II will cancel Tutti I and vice versa. 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 these devices should be avoided.

CELESTES

Celestes are created by using two ranks of sound, one playing unison pitch and one tuned slightly sharp of the other, creating a warm, undulating "celestial" effect. The combination of the Salicional 8' and the Voix Celeste 8' on the Swell division will create a beautiful string celeste. If Celeste Tuning is added to this combination, a faster celeste "beat" results.

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: Gedeckt 8', Koppelflöte 4', Nasat 2-2/3', Blockflöte 2', and Terz 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.

SOME TYPICAL SOLO REGISTRATIONS

KRUMMHORN SOLO

    Swell: Gedeckt 8'
    Great: Krummhorn 8' (Tremulant Optional)
    Pedal: Lieblichgedeckt 16', Gedecktflöte 8'

Play solo on Great.

OBOE SOLO OR CHIMES SOLO

    Swell: Hautbois 8' (Tremulant optional) or Chimes (<u>never</u> with Tremulant)
    Great: Erzähler 8'
    Pedal: Lieblichgedeckt 16', Great to Pedal

Play solo on Swell. For more color add Koppelflöte 4' or Nasat 2-2/3' to Hautbois.

SWELL SOLO COMBINATION

    Swell: Gedeckt 8', Koppelflöte 4', Nasat 2-2/3', Blockflöte 2',
           Terz 1-3/5'
    Great: Erzähler 8', Hohlflöte 8'
    Pedal: Lieblichgedeckt 16', Gedecktflöte 8'

Play solo on Swell.

FLUTE SOLO

    Swell: Gedeckt 8' (Tremulant optional) or Koppelflöte 4'
    Great: Erzähler 8'
    Pedal: Lieblichgedeckt 16'

Play solo on Swell.

TRUMPET SOLO

    Swell: Trompette 8', *Alterable Voice (Trompette 8' card), *Alterable F
    Great: Prinzipal 8', *Octav 4', *Super Octav 2', *Mixtur IV
    Pedal: Diapason 16', *Octave 8', *Choralbass 4', *Mixtur III

*These voices should be used only on organs which include an Alterable
 Voice.

Play solo on Swell.

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

    1.   Seek <u>tonal</u> 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.

<u>ENSEMBLE REGISTRATIONS</u>

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 16' (Diapason) 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. An Hautbois, 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.

The Swell reed chorus of 16' Contra Fagotto, 8' Trompette, and 4' Clairon (frequently the Mixtur III 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 and Great manuals:

On the Great

1. Erzähler 8', Hohlflöte 8'
2. Hohlflöte 8', Spitzflöte 4'
3. Hohlflöte 8', Spitzflöte 4', Waldflöte 2'
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. Gedeckt 8', Koppelflöte 4'
2. Gedeckt 8', Koppelflöte 4', Blockflöte 2', Sifflöte 1'
3. Salicional 8', Spitzprinzipal 4'
4. Salicional 8', Spitzprinzipal 4', Blockflöte 2', Mixtur III
5. Salicional 8', Gedeckt 8', Spitzprinzipal 4', Blockflöte 2',
    Sifflöte 1', Mixtur III, Trompette 8'
6. Salicional 8', Gedeckt 8', Spitzprinzipal 4', Blockflöte 2',
    Sifflöte 1', Mixtur III, Contra Fagotto 16', Trompette 8',
    Clairon 4'

The use of the Swell to Great coupler allows these separate ensembles to be combined on the Great manual.

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 to 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 should 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.

MODELS 1000 AND 2000 PRESETS

		MEMORY A PISTONS								MEMORY B PISTONS						
		1	2	3	4	5	6	7		1	2	3	4	5	6	7
PEDAL																
Diapason	16'				X	X	X	X								
Bourdon	16'		X	X				X								
Lieblichgedeckt	16'	X			X	X	X			X	X	X	X	X	X	X
Octave	8'				X	X	X	X								
Gedecktflöte	8'		X							X			X	X		
Choralbass	4'					X	X	X								
Mixtur III							X	X								
Posaune	16'							X								
Great to Pedal		X					X	X			X	X			X	X
Swell to Pedal				X	X	X										
SWELL																
Salicional	8'	X	X	X	X	X	X								X	
Voix Celeste	8'	X	X	X	X	X	X							X	X	
Gedeckt	8'		X							X	X	X	X			
Spitzprinzipal	4'				X	X	X									
Koppelflöte	4'										X		X		X	
Nasat	2-2/3'							X					X		X	
Blockflöte	2'					X	X	X				X	X			
Tierce	1-3/5'												X			
Sifflöte	1'					X	X	X								
Mixtur III							X	X								
Contra Fagotto	16'							X								
Hautbois	8'															X
Trompette	8'							X						X		
Clairon	4'							X								
Celeste Tuning		X	X													
Chiff												X				
Chimes																X
Tremulant																
GREAT																
Prinzipal	8'		X	X	X	X	X	X								
Erzähler	8'	X									X	X	X	X	X	X
Hohlflöte	8'	X	X	X	X	X	X	X						X	X	X
Octav	4'				X	X	X	X								
Spitzflöte	4'				X	X	X	X						X		
Quinte	2-2/3'															
Super Octav	2'					X	X	X								
Waldflöte	2'					X	X	X								
Mixtur IV							X	X								
Krummhorn	8'									X						
Chiff																
Tremulant																
Swell to Great			X	X	X	X	X	X								

Description of Preset Combinations

MEMORY A PISTONS

1. Swell celestes with a soft flute combination in Great.

2. 8' foundations in the Great with Celestes in the Swell.

3. This piston starts the build-up to full organ. It contains the 8'
    foundation tones, the heavier combination being in the Great with a
    lighter registration on the Swell.

4. 8' and 4' foundation tones.

5. 8', 4' and 2' foundation tones.

6. Full organ without the reeds.

7. Full organ including reeds.

MEMORY B PISTONS

1. 8' Krummhorn on the Great accompanied by the 8' Gedeckt in the Swell.

2. 8' and 4' Flutes in the Swell accompanied by the Erzähler in the Great.

3. 8' and 2' Flutes with Chiff on the Swell accompanied by the Erzähler.

4. A French Cornet combination on the Swell.

5. 8' Trompette on the Swell.

6. A solo combination using a mutation in the Swell with a soft
    accompaniment in the Great.

7. The Swell registration will depend on whether you have chosen the Oboe or
    the Chimes option for your organ. Either of these is accompanied by the
    Erzähler in the Great.

NOTE: If Memory A is desired, the organist need only push the button of the
       desired number to have the "A" combination sound. In order to get a
       Memory B combination, the "Memory B" tab must be depressed. If one of
       the "A" presets is on and the "Memory B" tab is depressed, the piston
       will automatically change to the same number on Memory B. For example,
       if the organist is playing Memory A, #5 and puts on the "Memory B" tab,
       Memory B, #5 will automatically be engaged.

ALTERABLE VOICE

(ADC 3000; Optional 1000 and 2000 Series)

The Alterable Voice stop tab constitutes 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 ADC 3000 organ includes one Alterable Voice. The tab for this stop is located in the Swell division. To program the Alterable stop, simply put down the stop tab 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. If more volume is desired from the Alterable Voice, add the "Alterable F" (forte) tab.

Turning off the organ will not cancel the Alterable Voice - the same voice 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 control for the Alterable Voice is located in the Swell division, the voice is not limited to that keyboard. Through the use of special couplers, labelled "Alterable to Great" and "Alterable to Pedal," it is possible to couple the Alterable Voice 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 the Alterable Voice, inserting the appropriate tone card, then adding the "Alterable to Pedal." The new 4' reed will sound on the Pedal. If the organist wishes this reed to sound only on the Pedal and not on the Swell, the "Swell Alterable Off" tab should be added. Any other stops drawn on the Swell will now sound on the Swell only and the Alterable will sound only on the Pedal.

Alterable Voice tone cards 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 "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. If the Percussion is being used with an Alterable Voice which is being coupled to the Great or Pedal division, the Percussion will also couple.

All bell effects can be played on all 61 notes. However, some bells, such as the chimes and carillon, 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

Organs equipped with Allen's Double Memory Capture Action offer the ultimate in registration control and convenience. Twin memories provide a total of 56 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.

(The sketch below illustrates the console of the ADC 3000. Smaller models may not include all of the features shown.)

General Pistons 6-10

General Pistons 1-5

Set Button

General Toe Pistons 5-10

Swell Divisional Pistons 1-6

Tutti I, Tutti II

General Cancel

Great Divisional Pistons 1-6

Pedal Divisional Pistons 1-6

THINGS TO REMEMBER
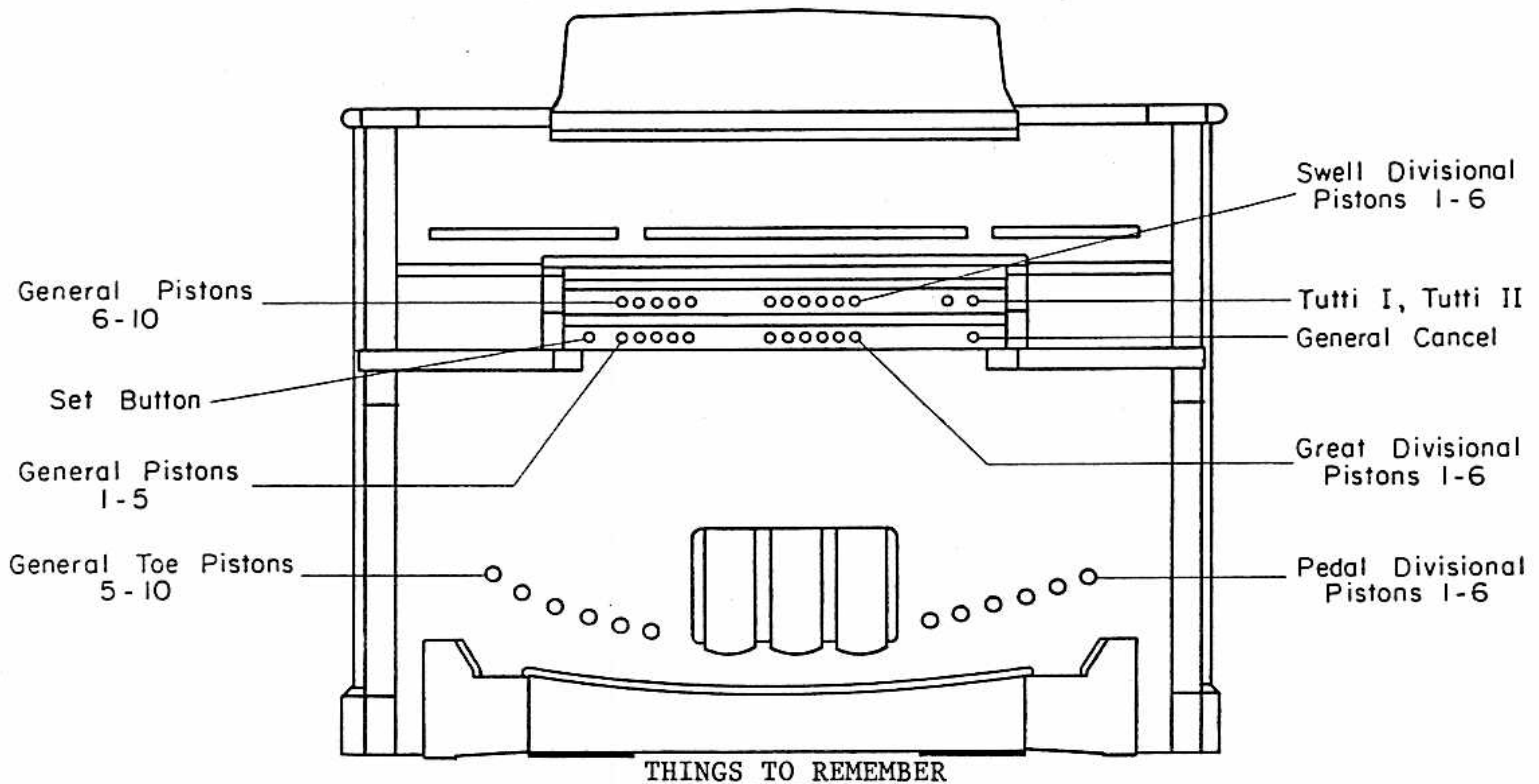
General pistons (some of which are duplicated by toe pistons on the ADC 3000) affect all stops. Swell, Great and Pedal pistons only affect stops in their division. Intermanual couplers (Swell to Great, Swell to Pedal, Great to Pedal) operate from the General Pistons only.

Pedal pistons are toe operated only in the 3000 series. On 1010 and 2010 series organs, pedal pistons are on the right side under the Swell manual.

All pistons operate independently from each other. Tutti I and II are reversible. (ADC 3000 only.)
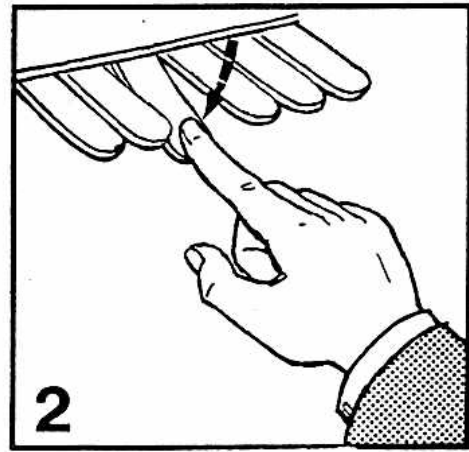
The capture action is not fully operable until approximately six seconds after the organ is turned on.

Models 1000 and 2000 feature seven presets, located under the Swell manual, which are not changeable by the organist. Use of the Memory B tab gives the organist access to another set of seven presets. (See "1000 and 2000 Presets," Section II, page 5).
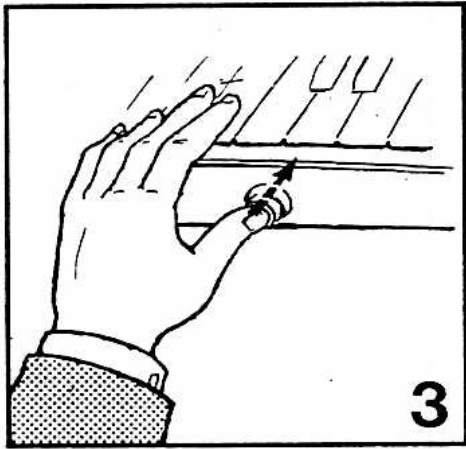
1
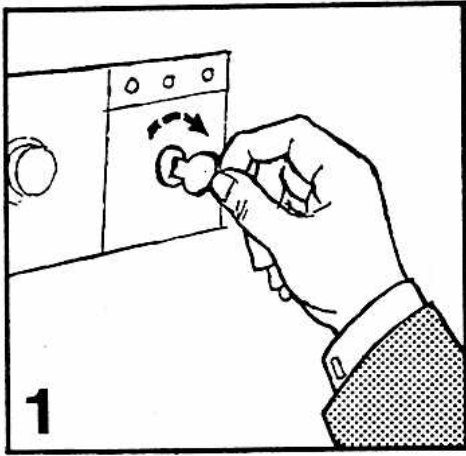
Select Memory "A" or "B"
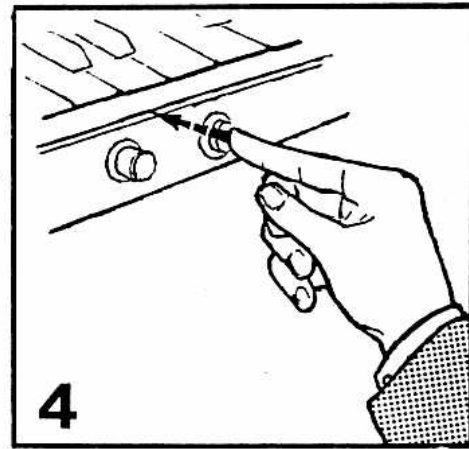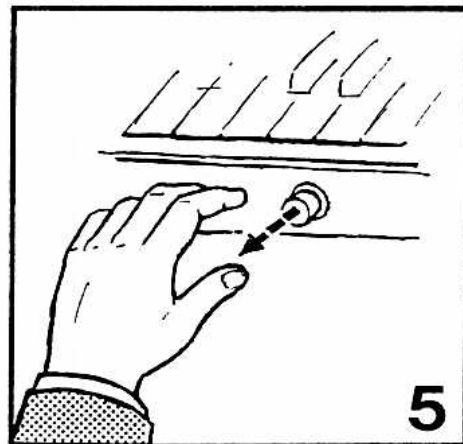
2

Select Registration

3

Press and HOLD
Set Button

4

Press and Release
Piston on which
Registration is to
be Retained

5

RELEASE Set Button

INSTALLATION, VOICING AND CARE OF THE ORGAN

INSTALLATION

Wherever your ADC organ may be situated, careful installation is a prerequisite for successful results. Your Allen representative is well 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 ADC 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. Very little further voicing is required, other than adjustment of volume.

Other adjustments in the voicing involve controls within the console and are best left to an expert. These adjustments are normally a part of installation, and once done, 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. In the ADC 1000 series this applies to the console, since the speakers are located in the console.

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.

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 B 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 in a residential installation. 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. Whether this equipment actually causes the interference to radio communications can be determined by turning the equipment off and on. The user is encouraged to attempt to correct the interference by one or more of the following measures:

Reorient the receiving antenna.

Relocate the computing device (organ) with respect to the receiver.

Move the computing device (organ) away from the receiver.

Plug the computing device (organ) into a different electrical outlet so that the computer device (organ) and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio technician for additional suggestions.

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!