ADC
1100 - 2100 - 3100
SERIES

ALLEN ORGAN COMPANY

For over forty-five 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.

Warning: 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.

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. Their footage number always contains a fraction, and they are referred to as mutations. These are the 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, pages 1 and 3).

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

Principal	Characteristic organ tone, non-imitative of
Diapason	orchestral instruments. Usually present at
Octave	many pitch levels, as well as all divisions.
Super Octave	Rich, warm, and well-developed harmonically.
Quinte	

Flute Tones

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

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

Stopped Types:
Gedeckt, Bourdon,
Quintadena,
Rohrflöte, etc.

String Tones

Salicional
Viola
String Celeste

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

Compound Tones

Mixture
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.

*On the ADC 3100, these stops are located above the Swell keyboard.

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.
Gedeckt 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.
Trompette (Sw) 8'	Pedal reed which has less "bite" than the Posaune 16'. Useful in adding extra definition to a loud or active pedal line.
*Great to Pedal	Connects all Great stops to the Pedal.
*Swell to Pedal	Connects all Swell stops to the Pedal.

SWELL ORGAN

Violas II 8'	Full bodied two-rank string tone. When Celeste Tuning is added to this stop, a warm string celeste is created.
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 Violas II 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.
Basson 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.
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 Basson 16' and Trompette 8' to form the full Swell reed chorus. Also usable as a solo voice.
*Celeste Tuning	Used to turn the Violas II 8' into a warm string celeste.
*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.
*Tremulant	Use of this stop provides a vibrato effect, natural in the human voice and wind instruments to the stops in the Swell division. It does not couple to the Great.

GREAT ORGAN

Lieblichgedeckt 16'	Stopped wooden flute useful as the bass line in a continuo bass accompaniment or in pieces with full registrations where the notes lie mainly in the upper half of the keyboard, as in some of the 20th century French repertoire. NOT to be used in hymn playing.

Principal 8'	Foundation stop of the Great principal chorus.
Violas II (Sw) 8'	Full bodied two-rank string tone. When Celeste Tuning is added to this stop, a warm string celeste is created. NOTE: This voice, although on the Great, is affected by the Swell Tremulant and by the Swell expression pedal.
Rohrflöte 8'	Full bodied partially stopped flute tone.
Octave 4'	The 4' member of the Great principal chorus, which consists of the Principal 8', Octave 4', and Superoctave 2'.
Spitzflöte 4'	Partially closed flute tone.
Superoctave 2'	An open metal stop which produces foundation tone at the 2' pitch level.
Waldflöte 2'	Open flute tone at 2' pitch level.
Mixture 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.
Chimes	Tubular bell sound.
Celeste Tuning	Used to turn the Violas II 8' into a warm string celeste.
Great 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. It also affects Swell stops when coupled to and played from the Great.
*Swell to Great	Connects all Swell stops to the Great manual.

ALTERABLE VOICES

The following stops relate to the optional Alterable Voices. For information
on how these stops are used, see Section III.

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 Alterable Voice 1 (Sw)
 Alterable Voice 2 (Sw)
 Alterable to Swell
 Alterable to Great
 Alterable to Pedal
*Alterable F (Forte)
*Percussion Short
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GENERALS

*Alterable F   See separate section on Alterable Voices.

*Great Chiff   See description under Great Division.

*Percussion Short   See separate section on Alterable Voices.

Memory B (ADC 1100 & 2100)   See Section V, page 3 for explanation.

Presence Projectors   Activates the Presence Projector speakers, which
(ADC 1100 only)   are the two small speakers at either side of the
                                      console above the Swell. These speakers
                                      accentuate the highs in a registration, and
                                      function in addition to the main speakers.

Reverb   A blank tab is provided as preparation for
                                      control of an optional ADAC reverberation
                                      system. This tab is not included in the capture
                                      system.

Great Vibrato   Two tabs on the ADC 3100 & one on the ADC 1100
Swell Vibrato   and ADC 2100 organs are provided as preparation
                                      for control of an optional "gospel tremulant"
                                      effect.

The following two tabs are only functional if there are Antiphonal speakers on
the organ. (ADC 2100 and 3100 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 1100 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 1100 or 1110 there is one expression pedal which affects the whole organ. The ADC 2100 or 2110 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 3100. 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 3100 only)

One Master Crescendo, for all divisions, gradually adds stops as this Pedal is opened. Indicator lights show relative position of Pedal. Indiscriminate use of the Crescendo Pedal, in lieu of careful registration, should be avoided.

TUTTI I & II
(ADC 3100 only)

The Tutti I and II are settings of full organ registration. Tutti I is the same registration as that which results when the crescendo pedal is fully open. 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.

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.

<div align="center">SOME TYPICAL SOLO REGISTRATIONS</div>

KRUMMHORN SOLO

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

Play solo on Great.

CHIMES SOLO

Swell: Violas II 8', Celeste Tuning
Great: Chimes
Pedal: Lieblichgedeckt 16', Swell to Pedal

Play solo on Great.

SWELL SOLO COMBINATION

Swell: Gedeckt 8', Koppelflöte 4', Nasat 2-2/3', Blockflöte 2',
        Terz 1-3/5'
Great: Rohrflöte 8', Violas II 8'
Pedal: Lieblichgedeckt 16', Gedeckt 8'

Play solo on Swell.

FLUTE SOLO

Swell: Violas II 8' (Celeste Tuning Optional)
Great: Rohrflöte 8' or Spitzflöte 4' (Tremulant Optional)
Pedal: Lieblichgedeckt 16', Swell to Pedal

Play solo on Great.

TRUMPET SOLO

Swell: Trompette 8', *Alterable Voice (Trompette 8' card), *Alterable F
Great: Principal 8', Octave 4', *Superoctave 2', *Mixture IV
Pedal: Diapason 16', Octave 8', *Choralbass 4', *Mixture 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.

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 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. Krummhorn, for example, is strictly a solo effect. The various Trumpets, Posaunes, Bassons and Clairons 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' Basson, 8' Trompette, and 4' Clairon 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:

<u>On the Great</u>
1. Violas II 8', Rohrflöte 8'
2. Rohrflöte 8', Spitzflöte 4'
3. Rohrflöte 8', Spitzflöte 4', Waldflöte 2'
4. Principal 8', Octave 4'
5. Principal 8', Octave 4', Superoctave 2'
6. Principal 8', Octave 4', Superoctave 2', Mixture IV

The principal & flute choruses can also be combined, such as combining #3 & #5.

<u>On the Swell</u>
1. Gedeckt 8', Koppelflöte 4'
2. Gedeckt 8', Koppelflöte 4', Blockflöte 2', Sifflöte 1'
3. Violas II 8', Spitzprinzipal 4'
4. Violas II 8', Gedeckt 8' Spitzprinzipal 4', Blockflöte 2'
5. Violas II 8', Gedeckt 8', Spitzprinzipal 4', Koppelflöte 4', Blockflöte 2', Sifflöte 1', Trompette 8'
6. Gedeckt 8', Spitzprinzipal 4', Blockflöte 2', Sifflöte 1', Basson 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. <u>Organ-Stops and their Artistic Registration</u>.
     Longwood Press: Wakefield, N.H.
Irwin, Stevens. <u>Dictionary of Pipe Organ Stops</u>.
     H. W. Gray Co.: New York, N.Y.

ALTERABLE VOICES

(Optional on ADC 1100, 2100 and 3100 Series)

The Alterable Voices 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 Trumpet 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 and harp can be used as desired.

All ADC 1100, 2100 and 3100 organs include two Alterable Voices. The tabs for these stops are located in a separate "Alterables" section. To program an Alterable stop, simply put down the stop tab, or pull out the drawknob labelled Alterable 1 or Alterable 2, and insert the computer card into the slot 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, there are two options. The organist can program the same card into both Alterable Voices, which can be done simultaneously by drawing both stops before inserting the card. The other option is to add the "Alterable F" (forte) tab, which increases the volume of the Alterable Voice(s).

Since the controls for the Alterable Voices are located in the separate Alterable division, the voices operate as a "floating division"; that is, they are not tied in directly to any one keyboard. Through the use of special couplers, labelled "Alterable to Swell," "Alterable to Great," and "Alterable to Pedal," it is possible to make the Alterable Voices sound on either keyboard or in the pedals, or even in all divisions at once. Notice that the Alterable Voice stops have the indication (Sw) printed after their names. This is because the volume of the Alterable Voices is controlled by using the Swell expression pedal.

All information necessary to make each Alterable Voice sound authentic is already programmed onto the card. For example, certain flute stops have chiff automatically added, while sounds which require percussion, such as bells and harpsichord tone cards, have that programmed in as well. However, if a shorter decay is desired on certain percussion stops, the organist should program the Alterable Voice in the usual manner and then add the "Percussion Short" tab.

Turning off the organ will cancel the Alterable Voices. To change an Alterable Voice to a new tone, simply insert the new card. The old voice is automatically erased.

Alterable Voice tone cards are available in a wide variety of tones and pitch levels. 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.

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.
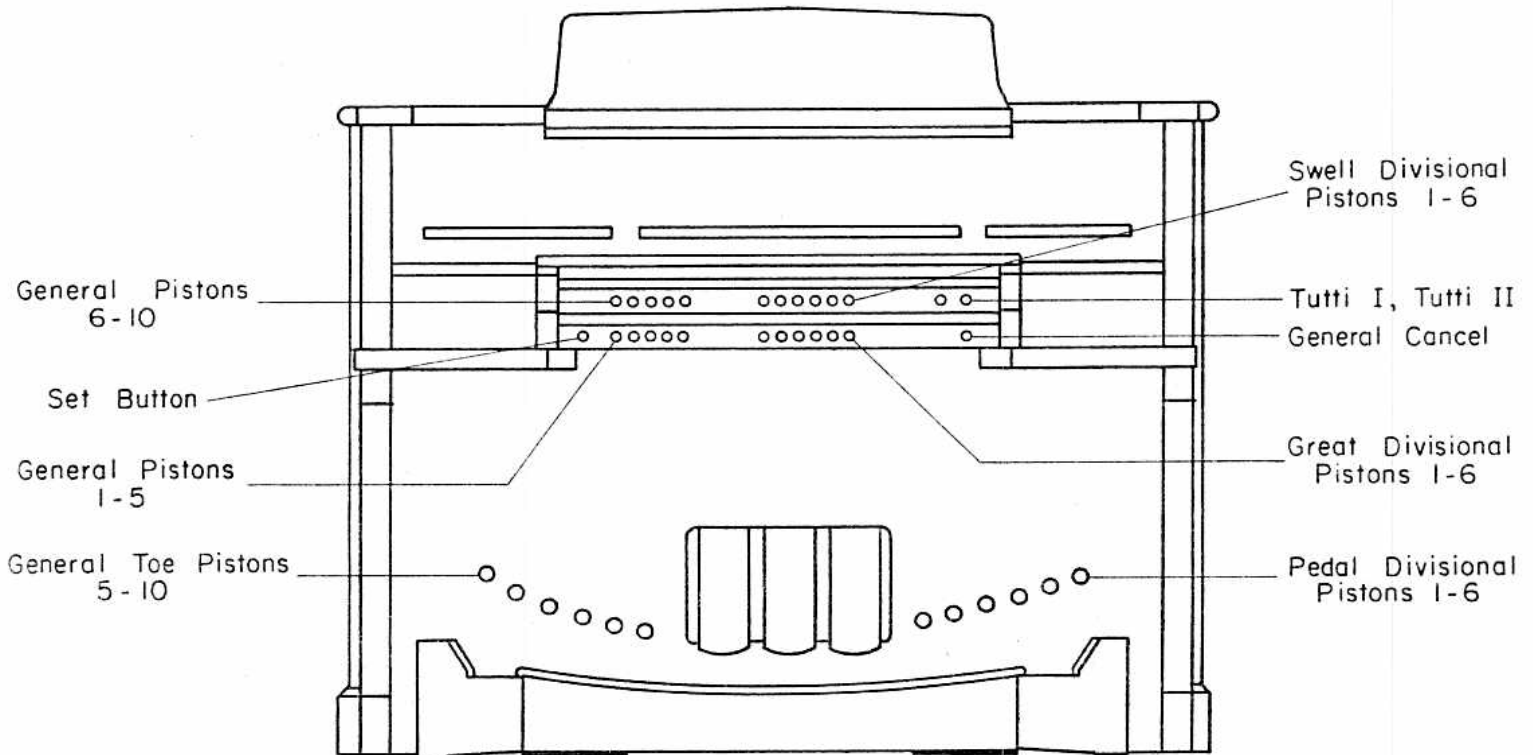

WHY TRANSPOSE?

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 Allen Organs in the 1100, 2100 and 3100 series are equipped with some form of capture action. Organs equipped with Allen's Double Memory Capture Action option offer twin memories providing a total of 56 separate combinations with moving stops. 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 organ sketch below illustrates the piston locations on a console that uses this type of Capture Action. This Capture Action is standard on all ADC 3100 models, and optional in the ADC 1100 and 2100 series organs.

Swell Divisional Pistons 1-6

General Pistons 6-10

Tutti I, Tutti II

General Cancel

Set Button

General Pistons 1-5

Great Divisional Pistons 1-6

General Toe Pistons 5-10

Pedal Divisional Pistons 1-6

NOTE: Not all models will include all features illustrated above.

THINGS TO REMEMBER

General pistons (some of which are duplicated by toe pistons on the ADC 3100) 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 3100 series. On 1110 and 2110 series organs, pedal pistons are on the right side under the Swell manual.
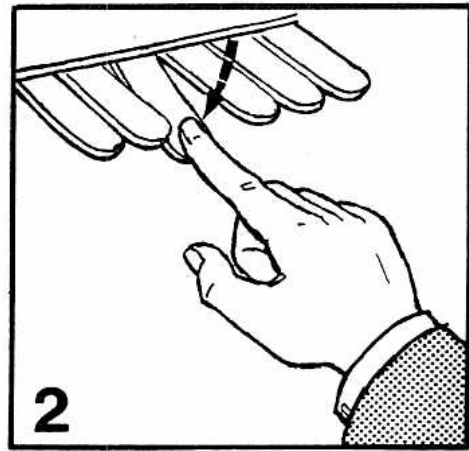
All pistons operate independently from each other. Tutti I and II are reversible. (ADC 3100 only.)

The capture action is not fully operable until approximately six seconds after the organ is turned on.
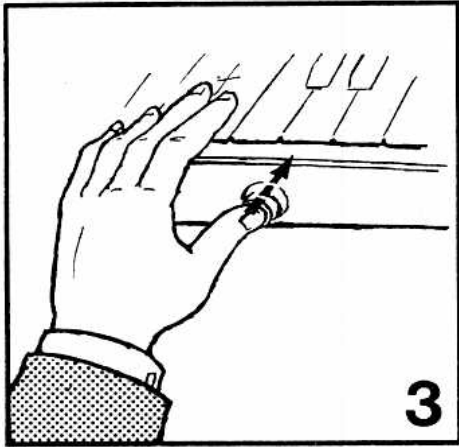
HOW TO SET A PISTON COMBINATION
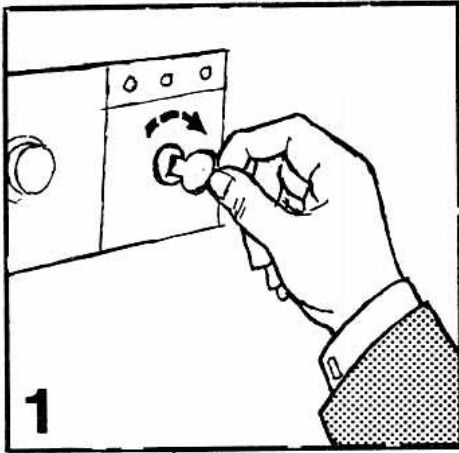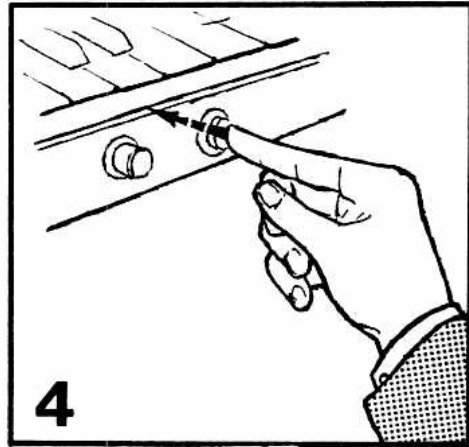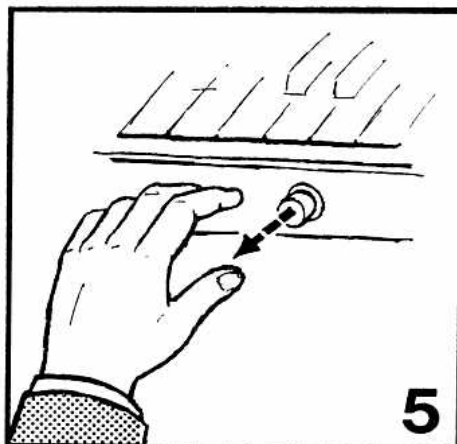

Select Memory "A" or "B".

Select Registration

Press and HOLD
Set Button

Press and Release
Piston on which
Registration is to
be Retained

RELEASE Set Button

Organs in the ADC 1100 and ADC 2100 Series that do not have the aforementioned capture action option still offer programmable pistons. These organs feature seven presets, located under the Swell manual. Use of the Memory B tab gives the organist access to another set of seven presets. In this type of capture action, the stops themselves do not actually move. A digital readout on the right side of the console tells the organist the number of the combination which he or she has chosen or set.

In this standard capture action, 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.

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.

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┌─────────────────────────────────────────────────────────────────┐
│                            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.                                     │
└─────────────────────────────────────────────────────────────────┘
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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 1100 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!