

# ADC 710

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AOC P/N 033-0028

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 the Transposer, Capture Action and optional Rhythm Unit, 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 extensive tonal possibilities, plus absolutely authentic tone quality, these subjects can now be more readily explored than ever before.

- I Stop Description
- II Artistic Registration
- III Capture Action
- IV Transposer
- V Rhythm Unit (Optional)
- VI Installation, Voicing, Care of the Organ

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 the area of classical organ playing, we recommend the following texts:

Audsley, George Ashdown. Organ-Stops and their Artistic Registration.

H. W. Gray Co.: New York, N.Y.

Irwin, Stevens. Dictionary of Pipe Organ Stops.

H. W. Gray Co.: New York, N.Y.

Available from: Organ Literature Foundation, Braintree MA 02184

## 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<sup>b</sup>, 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.

## 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 and 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.

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.

## 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.

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 Flute 5-1/3', Flute 2-2/3' and Flute 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 ensembles of flutes (for example, see explanation of Cornet in Section II, page 1).

### 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

Diapason	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.
Octave	

#### Flute Tones

Flutes	Tones of lesser harmonic development than principals. Certain flutes are somewhat imitative. Present at all pitch levels.
Echo Flute	
Melodia	
Flute Mutation stops	

#### String Tones

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

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.

#### Reed Tones

Trumpet	Tones of great harmonic development; some
Clarinet	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; or © 1986 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.

#### STOPLIST ADC 710

The following is an alphabetical listing of all of the stops on the ADC 710. The pitch levels at which these stops are found on the organ are indicated as well. Any tabs which control effects rather than actual tones, such as Chiff, Celeste Tuning, Sustain, etc., as well as stops located in the General division of the organ, are listed alphabetically in the section headed GENERAL.

Bass 16'	The 16 member of the pedal diapason chorus - strongest pedal flue stop.
Chimes	Tubular bell sound.
Chrysoglott	Delicate bell sound which may be effectively used to play more than one note at a time.
Clarinet 8'	8' reed stop imitative of its orchestral counterpart which may be used as a solo voice or to add a touch of reed to an ensemble.
Diapason 16', 8'	The Diapasons are members of the principal chorus on the 710. Their tone is brighter and more harmonic than that of the flutes.
Echo Flute 8'	A relatively soft flute. Because it contains more harmonics than the Flute 8' and is therefore more colorful, the Echo Flute makes a nice solo voice or a useful voice in classical organ registration.
Flute 16', 8', 5-1/3', 4', 2-2/3', 2', 1-3/5', 1'	Pure flute tone present at all pitch levels. Useful in choruses with or without the Flute Trem or alone as solo voices.



Glockenspiel	A high, bright bell effect.
Harmonic 2-2/3'	A percussive tone at the 2-2/3' pitch.
Harp	A mellow percussion tone. Because this stop imitates a real harp, it will sound best when used in passages featuring Arpeggio-type figures.
Harpsichord	Percussion sound which is especially effective when used to play Baroque keyboard literature.
Melodia 8'	Flute stop which is heavier than the Echo Flute 8', but more harmonic than the Flute 8'.
Muted Violes II 8'	Beautiful soft strings useful in a large string chorus or as a soft accompaniment. The effect is enhanced by the addition of the Celeste Tuning.
Octave 4'	Bright 4' member of the principal chorus.
Strings II 8' and 4'	Orchestral string sounds which are fuller than the Muted Violes.
Trumpet 8'	Solo Trumpet stop useful alone or to cap off an ensemble combination.

#### GENERAL

Bass Coupler	Optional. When used, this couples the pedal up to the lower keyboard on the lowest key you are playing. This feature enables you to play the pedal stops without actually playing the pedals.
Celeste Tuning	Used to turn the Strings II or Muted Violes II into warm string celestes. Note that the Celeste Tuning on the lower keyboard also affects the strings in the Pedal division.
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 combinations that include reed stops.
Flute Tremulant	Adds a heavy "gospel tremulant" effect to all flutes drawn on the organ regardless of the division in which they are located.
Main Tremulant	Adds a heavy "gospel tremulant" effect to all stops drawn on the organ which are <u>not</u> flutes regardless of the division in which they are located.

NOTE: The seven percussions available in the Percussion section work individually but not together. This division has a system called righthand priority that allows only one percussion stop to play at a time. If you have several stops down in this section, only the farthest one to the right will play. For instance, if you have depressed the Harmonic 2-2/3', the Harpsichord and the Glockenspiel, since the Glockenspiel is the farthest to the right, it will be the one that plays.

Percussion Forte	Increases the volume of the percussion stops.
Percussion to Pedal	Connects all percussion stops to the Pedal division.
Percussion to Lower	Connects all percussion stops to the Lower keyboard.
Percussion to Upper	Connects all percussion stops to the Upper keyboard.
Piano Mode	When used in conjunction with a pedal stop, the piano mode adds a percussive piano-like attack to the tone.
Reverb	Adds "reverberation" which causes all notes to prolong slightly after they are released, giving the effect of better acoustics in the room. This tab is not included in the capture system.
Sustain	When used in conjunction with any of the tonal stops in the Pedal division, the Sustain will cause the tone to prolong after the release of the pedal. If the Sustain and Piano Mode are both added to any of the Pedal stops, particularly the Flute 16', a string bass effect is created.

The following two tabs are only functional if there are external speakers on the organ:

Console Speakers Off	Used in conjunction with the "External Speakers On" tab, it causes the organ to speak only from the external speakers and not from the console speakers.
External Speakers On	Causes the organ to speak from the external speakers. The organ will speak from both external and console speakers unless the "Console Speakers Off" is also used.

#### EXPRESSION PEDAL

On the ADC 710 there is one expression pedal which controls the volume for the entire organ: Pedal, Lower & Upper.

## 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.

Reed stops are among the most interesting solo tones. These tones can be effectively used by themselves or in combination with other stops, particularly flutes.

Likewise, flutes can be used alone or in combinations as solo voices. One special classical combination of flutes which creates an appealing and historically significant solo combination is the Cornet. The Cornet is created by using the following Upper stops: Flute 8', Flute 4', Flute 2-2/3', Flute 2', and Flute 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. It is effective with or without tremulant.

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.

### SOME TYPICAL CLASSICAL SOLO REGISTRATIONS

#### CLARINET SOLO

Pedal: Flute 16'  
Lower: Echo Flute 8'  
Upper: Clarinet 8'  
Play solo on Upper keyboard.

#### CHIME SOLO

Pedal: Flute 16'  
Lower: Muted Violes II 8', Celeste Tuning  
Upper: No stops drawn  
Percussion: Chimes, Percussion to Upper  
Play solo on Upper keyboard.

#### SWELL SOLO COMBINATION (Cornet)

Pedal: Flute 16', Flute 8'  
Lower: Flute 4', Echo Flute 8'  
Upper: Flute 8', Flute 4', Flute 2-2/3', Flute 2', Flute 1-3/5'  
Play solo on Upper keyboard.

### FLUTE SOLO

Pedal: Flute 16'  
Lower: Muted Violes II 8', Celeste Tuning  
Upper: Flute 4' or Flute 8' and Flute 4' or Flute 8' and Flute 2'  
Play solo on Upper keyboard.

### TRUMPET SOLO

Pedal: Flute 16', Flute 8'  
Lower: Diapason 8', Octave 4'  
Upper: Trumpet 8'  
Play solo on Upper keyboard.

### SOME TYPICAL GOSPEL SOLO REGISTRATIONS

I. Pedal: Flute 16', Sustain  
Lower: Muted Violes II 8', Celeste Tuning  
Upper: Flute 4', Trumpet 8', Celeste Tuning  
Percussion: (Optional) Harp, Percussion to Lower  
Generals: Flute Tremulant, Main Tremulant

The Pedal, Lower, Optional Percussion and Generals for the preceding registration may also be used for the following solo registrations.

II. Upper: Flute 8', Diapason 8', Melodia 8', Celeste Tuning

III. Upper: Flute 8', Clarinet 8', Celeste Tuning

IV. Upper: Flute 16', Flute 8', Flute 4', Flute 2'

V. Pedal: Bass 16', Sustain  
Lower: Echo Flute 8', Muted Violes II 8', Strings II 4', Celeste Tuning  
Upper: Flute 16', Flute 8', Flute 4', Flute 2', Diapason 16', Diapason 8', Melodia 8', Strings II 8', Celeste Tuning  
Generals: Flute Tremulant, Main Tremulant

VI. Pedal: Bass 16', Flute 16', Strings II 8', Sustain  
Lower: Diapason 8', Echo Flute 8', Strings II 8', Muted Violes II 8', Strings II 4', Celeste Tuning  
Upper: Flute 16', Flute 8', Flute 4', Flute 2', Flute 1', Diapason 16', Diapason 8', Diapason 4', Melodia 8', Strings II 8', Strings II 4', Trumpet 8', Celeste Tuning  
Generals: Flute Tremulant, Main Tremulant

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. These are the types of registrations used in hymn singing, choir accompaniments, and a large part of the contrapuntal literature.

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.

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

The Diapason chorus is represented at 16', 8' & 4' pitches. Diapason choruses are sometimes called the narrow scale flue chorus, a pipe reference to the relative thinness of Diapason tone pipes in relation to their length.

The Flute chorus is 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 than the Diapason chorus. The Flute chorus is sometimes called the wide scale flue chorus, owing to the generally "fatter" look of Flute pipes as compared to Diapasons.

The String chorus consists of two-rank string stops at 8' & 4' pitches. The Strings, although brighter than the Flutes, can create a lush registration when played in ensembles, particular with the addition of the Celeste Tuning.

Here are typical classical ensemble combinations for the Upper and Lower manuals:

### On the Lower Keyboard

1. Flute 8', Flute 4'
2. Flute 8', Flute 4', Flute 2'
3. Diapason 8', Octave 4'
4. Flute 8', Flute 4', Diapason 8', Octave 4'
5. Flute 8', Flute 4', Flute 2', Diapason 8', Octave 4'
6. Flute 8', Flute 4', Flute 2', Diapason 8', Octave 4',  
Echo Flute 8', Strings II 8', Strings II 4'
7. Flute 8', Flute 4', Flute 2', Diapason 8', Octave 4',  
Echo Flute 8', Strings II 8', Strings II 4', Trumpet 8'

### On the Upper Keyboard

1. Flute 8', Flute 4'
2. Flute 8', Flute 4', Flute 2'
3. Flute 8', Flute 4', Flute 2', Flute 1'
4. Diapason 8', Octave 4'
5. Flute 8', Flute 4', Flute 2', Diapason 8', Octave 4'
6. Flute 8', Flute 4', Flute 2', Flute 1', Diapason 8', Octave 4'
7. Flute 8', Flute 4', Flute 2', Flute 1', Diapason 8', Octave 4',  
Strings II 8', Strings II 4'
8. Flute 8', Flute 4', Flute 2', Flute 1', Diapason 8', Octave 4',  
Strings II 8', Strings II 4', Trumpet 8'

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.

Here are typical gospel ensemble combinations for the Upper and Lower manuals: The fourth combination is a typical flute organ type sound.

- I. Pedal: Flute 16', Sustain  
Lower: Flute 4', Flute 2', Strings II 8', Muted Violes II 8',  
Strings II 4', Celeste Tuning  
Upper: Flute 8', Flute 4', Flute 2', Diapason 8', Strings II 8',  
Strings II 4', Celeste Tuning  
Percussion: (Optional) Harp, Percussion to Lower  
Generals: Flute Tremulant, Main Tremulant
  
- II. Pedal: Flute 16', Sustain  
Lower: Flute 8', Flute 4', Diapason 8', Diapason 4', Strings II 8',  
Strings II 4', Celeste Tuning  
Upper: Flute 16', Flute 8', Flute 4', Diapason 16' Diapason 8',  
Strings II 8', Celeste Tuning  
Generals: Flute Tremulant, Main Tremulant
  
- III. Pedal: Flute 16', Flute 8', Sustain  
Lower: Flute 8', Flute 4', Flute 2', Diapason 8', Diapason 4',  
Strings II 8', Strings II 4', Muted Violes II 8', Celeste  
Tuning  
Upper: Flute 8', Flute 4', Flute 2', Diapason 8', Diapason 4',  
Strings II 8', Trumpet 8', Celeste Tuning  
Generals: Flute Tremulant, Main Tremulant
  
- IV. Pedal: Flute 16', Flute 8', Sustain  
Lower: Flute 8', Flute 2-2/3'  
Upper: Flute 16', Flute 8', Flute 5-1/3', Flute 1' (optional),  
Diapason 16', Celeste Tuning  
Percussion: (Optional) Harmonic 2-2/3', Percussion Forte, Percussion  
to Upper  
Generals: Flute Tremulant (Optional), Main Tremulant

#### 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.

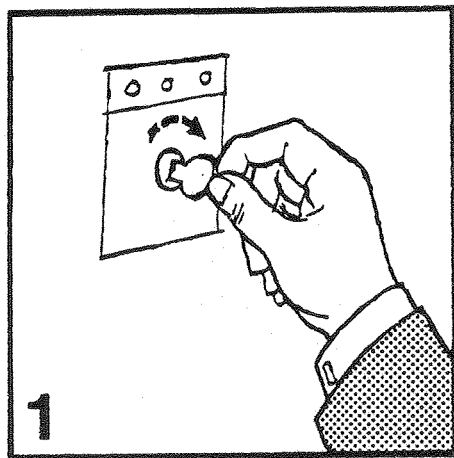
## CAPTURE COMBINATION ACTION

The ADC 710 Allen Organ is equipped with a combination action which can be set by the organist. There are seven pistons, located under the Upper manual. The organist can set these combinations by following the procedure on the following page. The seven pistons are general pistons, meaning they affect the entire organ. However, the capture action is "blind"; 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.

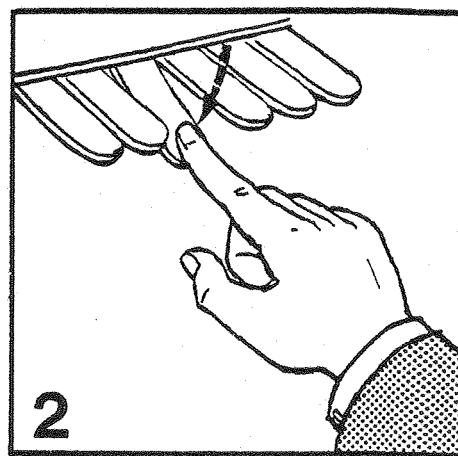
The ADC 710 capture action offers Double Memory, which means that it has twin memories providing a total of 14 general combinations even though there are only seven pistons. A special key lock switch located on the right side on the console next to the Lower manual allows the organist to set combinations on either memory, turn the switch to the other memory, and remove the key. This prevents anyone else from gaining access to the "locked-in" memory, thus preventing unauthorized tampering with these combinations. For example, the organist can turn the key so that it points to "A" on the switch and set 7 general combinations. Then he or she can turn the key to memory "B," and either set 7 additional general combinations for his/her own use, or remove the key and leave memory "B" for the use of another organist. If the organist chooses the second option and removes the key while the organ is set to memory "B", a visiting organist will be unable to get access to or change any of the "A" combinations.

Note that if one of the "A" combinations is on and the key is turned to memory "B," the combination will automatically change to that of the corresponding "B" piston. There is no need to cancel in between. For example, if the organist is playing Memory "A," #5 and switches the key to Memory "B," then the Memory "B," #5 will automatically be engaged. Also, note that the capture action is not fully operable until approximately six seconds after the organ is turned on.

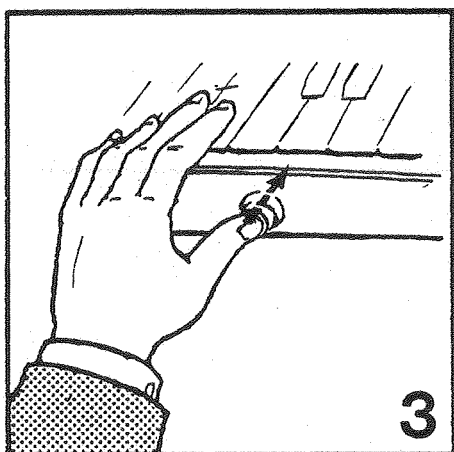
HOW TO SET A PISTON COMBINATION



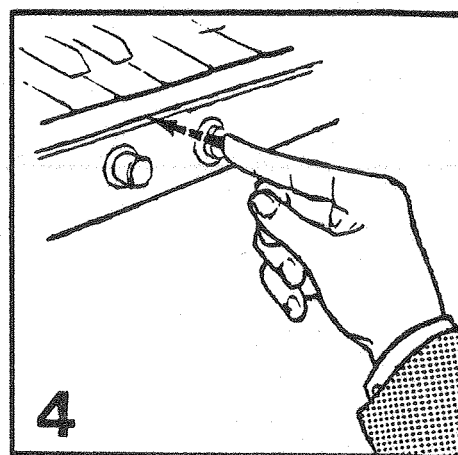
Select Memory "A" or "B".



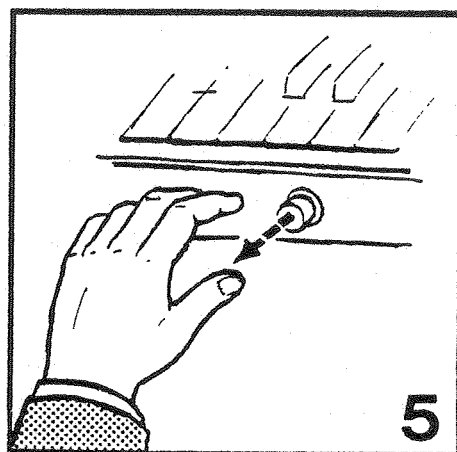
Select Registration



Press and HOLD  
Set Button



Press and Release  
Piston on which  
Registration is to  
be Retained



RELEASE Set Button



## ARTE - ALLEN RHYTHM TRAPS EFFECTS UNIT (OPTIONAL)

The ADC 710 may be equipped with the Allen Rhythm Traps Effects, a rhythm and special effects unit. If so, it is located in a drawer to the left side of the console under the lower keyboard.

Inside this drawer are four rows of white buttons. When a button is depressed, the small amber light on the button will go on.

The top row of buttons activates the "effects" part of the unit. The effects are labelled: they include a bass drum, cymbal, snare drum, tom tom, wood block, high hat, and two "special effects." Special Effect 1 is a police whistle, while Special Effect 2 is a siren. When the appropriate button is pressed, the effect will occur one time - the effects are not continuous as are the rhythms.

The second and third rows from the top of the unit are the buttons for the various rhythms, while the fourth row is the controls. Each of the rhythm buttons is actually used to play two rhythms, an "A" rhythm and a "B" rhythm listed above the button. For example, in the second row of buttons, the first one to the left will activate both the Samba, the "A" rhythm, and the Mambo, the "B" rhythm. Therefore, although there are 16 rhythm buttons, there are actually 32 rhythms available.

In order to get the desired "A" rhythm, it is necessary only to press the button under the desired name and the "Start/Stop" button in the bottom row. However, if the "B" rhythm is desired, the rhythm button, the "Start/Stop" button, and the "B" Rhythms" button must be depressed. The "B Rhythms" button is located in the bottom row, the first button on the left.

The second and third buttons from the left on the bottom row control the volume of the unit. By pressing and holding the "Volume Down" button, the rhythm pattern will be made softer, while holding the "Volume Up" button will increase the volume. Likewise, "Tempo Down" will make the rhythm pattern play slower, while "Tempo Up" will increase the tempo.

There are three different ways to start the rhythm pattern. The most common way is by using the "Start/Stop" button - press it once to start the rhythm, and again to stop it. The Solo Intro is a second alternative. When this button is pressed, the unit will play a two measure introduction appropriate to the selected rhythm, then go right into the rhythm pattern.

The third method for starting the rhythm is by using the Pedal Start. By depressing this button, the rhythm unit will not be activated until the first pedal is played. This is useful when playing a piece with an introduction during which no rhythm is desired. The organist can then play only on the manuals until it is time for the rhythm, then bring in the pedals, and the rhythm will start as well. NOTE: If the organist stops playing pedals at some point during the piece, the rhythm will only last for one more measure, then it will stop.

On the right side of the ARTE is a digital numerical readout. When a rhythm is not being played, this readout will show a number from 18 to 305. This number corresponds to a metronome, and indicates to the player the speed in

beats per minute at which the rhythm will play. This is a very useful feature, since the organist can decide on the best tempo for a piece, write this number in the music, then set the rhythm unit quickly and accurately each time before playing. It is also useful in matching the exact tempo desired by a composer when the metronome marking is listed in the music.

Once the rhythm unit is activated, the readout will show two single-digit numbers. The number on the left tells which measure in the pattern the rhythm unit is playing. Each rhythm pattern is either a one (i.e. the Beguine), two (i.e. the Waltz), four (i.e. the Bossa Nova), or eight (i.e. Rock 1) measure repetitive pattern. If a rhythm that has only a one measure pattern has been selected, this number will always be one. However, if a two, four, or eight measure pattern is selected, the number will change to indicate which measure the pattern is on. The number on the right tells which beat of the measure is playing. For example, in a Waltz the number on the right will count up to three, while in a 4/4 March it will count to four. This enables the player to more easily find the downbeat or first beat of the measure in order to start with the rhythm.

## 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.

#### 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.

If your ADC 710 has external speakers, you will find that 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.

If the organ does not have external speakers, realize that moving the console or turning it so that the speakers face a different direction will also affect the sound of the instrument.

## 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!