ADC 3500

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 Voice, 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 of both theatrical and classical voices, 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 Twelfth 2-2/3', Flute 2-2/3', and Tierce 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.

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.

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.
Diaphones	Rich, warm, and well-developed harmonically.

Flute Tones

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

String Tones

| Sal (Salicionals), Cellos, Violones, Violes, etc. | Mildly imitative voices of brighter harmonic development than principal. Usually appear at 8' pitch. |

In <u>reed</u> 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: Tubas, Tuba Horns, Trumpets, Saxophones, etc. Solo Types: Vox Humanas, Oboes, Krumets, Clarinets, 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 may be encountered.

PEDAL ORGAN

Tuba 16'   Powerful reed which lends snarl to the pedal
                             line.

Diaphone 16'   Smooth, strong diapason-like pedal stop which
                             provides weight and pitch definition in the
                             pedal division.

Tibia Clausa 16'   Major pedal flute, stopped in character, with
                             less harmonic development than Diaphone.

Post Horn 8'   Large, brilliant reed which incorporates some
                             horn-like qualities.

Tuba Horn 8'   8' pedal reed, more mellow than the Post Horn.
                             Useful in pedal ensembles to provide reed
                             quality without being overpowering.

Diapason 8'   Pedal flue related to the Diaphone 16'.

Tibia Clausa 8'   Complement to the Tibia Clausa 16'; stopped in
                             character, and purer than its 16' counterpart.

Accomp. to Pedal   Coupler. All stops that are on in the
                             Accompaniment division will also sound on the
                             Pedal.

Orchestral to Pedal   Coupler. All stops that are on in the
                             Orchestral division will also sound on the
                             Pedal.

Bass Drum)   Independent percussion stops playable on the
Cymbal   )   pedals.

ACCOMPANIMENT ORGAN

Tuba Horn 8'   A mild reed voice useful as either a solo or
                             ensemble stop.

Diapason 8'   Basic sound of the church organ. This stop
                             makes an excellent accompaniment stop for almost
                             any solo.

Tibia 8'   Full-bodied flute with the tone of a stopped
                             wooden pipe.

Cello 8'   Mellow string voice.

Quint 8'	Stopped metal flute with a strong overtone at the fifth. Although classically voiced and useful in light classical literature, the Quint is a very successful choice for theatre accompaniments.
Vox Humana 8'	Famous whisper "vox" sound, added to strings or flutes. Originally a solo voice intended to imitate the human singing voice.
Octave 4'	The 4' member of the principal chorus, designed to work with the Diapason 8'.
Tibia 4'	Matches the 8' stop of the same name.
Piccolo 2'	Clear open flute which completes the flute chorus of the Accompaniment manual.
Orch. to Accomp.	Coupler. All stops that are on in the Orchestral division will also sound on the Accomp.
Snare Drum) Tom-Tom) Wood Block) Sand Block) Castanents)	Independent percussion stops playable on the Accompaniment manual.

SOLO

Post Horn 16'	Bright, brassy reed stop at the 16' pitch.
Tuba 16'	Mellow 16' reed - a solo or ensemble stop.
Tibia Clausa 16'	Major Tibia voice, of stopped wooden flute character, with a strong fundamental and mild third harmonic development.
Violone 16'	Keen, full-bodied string stop.
Krumet 16'	A colorful, moderately-loud, nasal reed voice most often used with Tibia 8'.
Sax 16'	NOT the orchestral variety! This stop was included in larger theatre pipe organs and was very popular when used in combination with Tibias -- really an overgrown Vox Humana.
Trumpet 8'	Smooth solo reed sound.
Tibia Clausa 8'	8' counterpart of the 16' Tibia Clausa.
Oboe 8'	Solo reed with a pungent nasal timbre similar to the orchestral oboe.

Sal 8'	String voice matching the Violone 16'.
Tibia 4'	4' flute matching other Tibias in this division.
Salicet 4'	Highest member of the Solo string chorus.
Twelfth 2-2/3'	Tibia tone at the twelfth. A coloration stop never used alone.
Piccolo 2'	High, bright flute.
Tierce 1-3/5'	Flute mutation which causes the pitch to sound a seventeenth (two octaves and a third) higher than played. Used with 8' stops or flute ensembles.
Fife 1'	Pure, clear flute imitative of the small instrument of the same name. Highest pitched flute on the organ. Blends with Tibias 16', 8', 4', and 2' for brilliant theatrical tibia chorus (with Tibia trem).
Orch. to Solo	Coupler. All stops that are on the Orchestral division will also sound on the Solo.

ORCHESTRAL ORGAN

Bass Violes II 16'	16' strings which turn into a beautiful rich string celeste with the addition of Celeste Tuning.
Violes D'Orch II 8'	8' strings which turn into a string celeste with the addition of Celeste Tuning.
Violes II 4'	4' strings which turn into a string celeste with the addition of Celeste Tuning, capping off a celeste string chorus of 16', 8', and 4'.
Flute 8'	Beautiful open flute tone somewhat imitative of its orchestral counterpart.
Flute 4'	Blends with Flute 8'.
Flute 2-2/3'	Open flute which sounds a twelfth above the note being played.
Clarinet 8'	Solo reed imitative of orchestral instrument. Can also be used as an ensemble stop.
Chrysoglott	"Golden bells" — a beautifully delicate percussion useful as a solo or as an added sparkle in an ensemble combination. Adjust length of sustain to long using console knob on right of console.

Glock	Bright glockenspiel bell. Adjust percussion length to taste using knob on the right side of the console.
Piano	Creates an electric piano sound. It is not necessary to add Piano mode and sustain tabs; however, the percussion length knob should be adjusted to an appropriate length.
Alt. Voice	See separate section on Alterable Voices.
Alt. F	Increases the volume of the Alterable Voice. See separate section on Alterable Voices.
Piano Mode	Percussive attack with piano-like decay when key is held down.
Sustain	Adds sustain to all orchestral voices. When combined with Piano Mode, "percussion" effect is created.

GENERAL

Tibia Trem	Adds theatrical tremulant to all tibia and flute voices on the Solo and Accomp. except the Quint.
Main Trem	Adds theatrical tremulant to all voices on the Solo and Accomp. which are not affected by the Tibia Trem.
Orch. Trem	Adds theatrical tremulant to all voices in the Orchestral division.
Celeste Tuning	Creates a beautiful string celeste when added to any of the two rank (II) strings in the Orchestral division (i.e., Bass Violes II 16', Violes D'Orch. II 8', Violes II 4').
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.
Chorus Reverb	People often tend to think of an organ apart from its acoustic environment. Some may expect that it will sound the same wherever it is placed. The organ, perhaps more than any other musical instrument, benefits from having a live, reverberant room as its sounding board. Any organ will be more satisfying to play and enjoy, when placed in a sympathetic "live" environment, whether a small living room or a large auditorium.

Lack of rèverberation can exist in rooms of any size, but especially in the typical living room.

If you desire a realistic room-filling full range reverberation, we have developed the Total Ambience System. In a typical living room, the addition of a TAS system produces the effect of a much larger room. Reverberation lends highly desirable interest to most organ music. Auditoriums capable of producing such reverberation are considered to have "good acoustics."

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

Your local Allen representative will be glad to provide you with more information on Allen TAS.

Memory B

Use of this tab permits the organist to set 10 additional general pistons and 6 additional pistons in each division without affecting the original settings on the "A" memory.

REGISTRATIONS

HOW TO GET THE MOST OUT OF YOUR NEW ALLEN ORGAN

Before considering the specifics of recommended registrations, it would be well to cover a brief history of the pipe organ.

Sometime in the dim past, perhaps thousands of years ago, someone discovered that by blowing air into a piece of reed or cane a sound could be produced. Thus was born the first flute. Later holes were added to vary the pitch.

Still later in history, approximately two thousand years ago, a predecessor of the pipe organ appeared, called the hydraulus. This instrument used water to generate air pressure, which in turn "energized" a number of flute pipes. By the Middle Ages churches were installing organs using hundreds of "flue" pipes. These included a later development; namely, Principal or Diapason tone. Pipes producing Principal tone were similar to Flute pipes, except that such pipes had somewhat more harmonic development, thus producing a tone somewhat less pure than that of Flutes.

It was not long thereafter that two other families of tone were added; namely, Reeds and Strings. These tones were characterized by having many more harmonics produced by each pipe as compared to those of Flutes and Principals. When a properly designed pipe organ with an aggregation of all of these families of tones was placed in the reverberant building characteristic of that period, a very thrilling sound was achieved. It is most probable that the emotional response thereby achieved represented a tremendous addition to the worship services of those churches. Who could help but be moved by the sound of "state trumpets" sounding the Agincourt Hymn, or Purcell's Trumpet Tune in such a tonal environment!

By the 1920's theatre pipe organs had arrived and were flourishing. Such organs included all of the families of tones previously described, excepting that the tonalities produced were specifically directed toward the playing of romantic and popular music within the theatre environment. The earlier church type Flutes were modified into large Tibias with deep tremulants. Principal sound became less important with such an instrument. In fact, the Tibias became the "Principal" sound of the theatre organ. The Strings and Reeds became perhaps even keener in character, and certain special playing techniques were developed so as to afford the best presentation of such tonalities in the popular music idiom.

More recently, the application of electronics to the production of organs has allowed such instruments to be installed in homes. However, because the tonal environment of the average home is lacking in natural reverberation, the presence of certain musical problems must be considered.

Within the intimate tonal environment of the home, flutes present no particular problem. However, when reeds or strings are utilized either alone or in combination, it must be recognized that this same intimacy and the lack of natural reverberation cause the high frequencies to appear to be overemphasized. This becomes especially apparent when an attempt is made to play such combinations in a slow moving, ponderous fashion. Bright reeds, in particular, can become a problem unless the volume is kept "within bounds."

The "Suggested Registration" section in this owner's manual is a handy introduction to the subject of organ registration. It is recommended for a start, at least, that you follow the procedures it outlines and the piston combinations it describes. This will serve to introduce some of the main features of the Allen Organ, including Alterable Voices, Percussions, etc.

For those with a few years playing experience, very little additional explanation is required in the areas of registration techniques. Others, lacking this experience, may find themselves somewhat mystified by the profusion of unfamiliar names and controls. In this section we will attempt to organize the subject for the beginner.

The main rule, in matters of organ registration, is a simple one: If the combination sounds good to you, then go ahead and use it! All registration, ultimately, is a matter of discriminating listening; therefore, it is good to develop this critical faculty from the start.

Registrations generally fall into one of two categories: "Solo" and "Ensemble."

"Solo" combinations are those in which one hand plays the melody (or solo) on one keyboard, with the accompaniment played on a different keyboard.

"Ensembles" are those in which both hands play on the same keyboard.

SOLO COMBINATIONS

Most popular music registrations are of the solo type. The solo may be played using just one stop, or the stop registration can be quite full. In either case, it is still a solo registration; that is, the melody and the accompaniment are played on different keyboards.

Almost any group of stops can be used for solo purposes, particularly when only single note melodies are involved. Where the solo part involves chords, more care is needed since some stops do not blend so well in close harmonies. Fractional pitch stops or pungent sounding reeds are the ones to avoid, unless their particular "spice" is the sought-after effect.

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 the accompaniment, two factors guide stop selection:

  1. Whenever possible, the tone color of the accompaniment should contrast with the solo. A "reedy" sounding solo combination, for example, should be accompanied by strings or, for even more contrast, flutes.

2. The accompaniment must be softer than the solo.

   Celestes, such as those on the Orchestral division, are often particularly beautiful as an accompaniment.

ENSEMBLES

When a musical passage calls for both hands on one keyboard, registration becomes simpler. Ensemble combinations can range from a single stop or two all the way to Full Organ. Often a full solo keyboard combination can also be used for ensemble playing as well.

A WORD ABOUT "CLASSIC ORGAN" REGISTRATION

Should your musical adventures ever take you in this direction, you will find the Allen Organ a versatile, gifted companion. With all Tremolos off, this instrument becomes capable of very credible "legitimate" organ performance. The Alterable Voice feature enables specific classical voices, principals, etc., to be programmed at will. The chiff is useful in making the flute and diapason stops sound more classical. A full Great organ effect might be achieved with the following stops:

> Diapason 8'
> Tibia 8'
> Octave 4'
> Tibia 4'
> Piccolo 2'

> (No Vibratos or Tremulants)

For those interested in knowing more about classical type registrations, we suggest you obtain, through your Allen representative, an owner's manual for Allen church-type instruments. We also 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.

FULL ORGAN

Due to the immense capabilities of the digital computer organ, distortion should not result if the organ is adjusted properly even if most 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.

HINTS FOR REGISTRATION

You can assure satisfying results by observing the following "DO'S":

1. DO read this Owner's Manual thoroughly, especially the registration section.

2. DO remember that the best combinations are not necessarily the ones with the most stops depressed - or the most keys. One of the most famous and well respected organists of all time used three or four stops at a time but changed them often for continual color changes.

3. DO try all the combinations at least once to see if you like them or can improve upon them.

SUGGESTED REGISTRATIONS

Pages 6 through 9 are Registration Charts to help you set up your organ. These registrations should be used merely as a place to start.

Memory "A" combinations are mainly for solo playing with one-finger right hand melodies. Memory "B" would be more advanced with chords in the right hand on the Solo keyboard.

Note: Remember -- Pedal stops set with the Accompaniment Divisional Pistons. When setting the Accompaniment Pistons (1-6 below Accompaniment Manual), be sure to select your Pedal registration, too.

REGISTRATIONS

Generals   Memory "A"
1. 8' Tibia and Flute Solo
2. 8' and 4' Tibias and Flutes
3. Smooth 8' Trumpet Solo
4. 16', 8' and 4' Tibias with Strings
5. Low Smooth Reed Sound
6. Typical Theatrical Solo
7. Clarinet Solo
8. Bells and Organ Together
9. Piano with Organ
10. Low Brassy Reed Solo

Divisionals   Memory "A"
Pedal/Accompaniment 1-6 -- Softest (1) Graded up to
  Full Accompaniment (6)

Solo
1. Oboe Solo
2. 16', 8' and 4' Tibias
3. Low Buzzy Reed
4. Typical Kinura/Krumet with Tibia 1920's Combination
5. Lighter Solo-Strings and Tibias
6. 16' and 4' Tibias with Saxophone

                         Memory "B"

Generals
1. String/Sax Chorus in Solo with Horn Solo in Accompaniment
2. Piano with Organ in All Divisions
3. Typical Roaring '20's Combination
4. Low Buzzy Reed
5. Krumet/Tibia Combo -- Use Solo Piston 2 for Post Horn Snaps
6. Bells and Organ
7. - 10. Build up to Full Organ with Post Horn

		GENERAL										DIVISIONAL					
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6
PEDAL																	
Tuba	16'																
Diaphone	16'										X					X	X
Tibia Clausa	16'	X	X	X	X	X	X	X	X	X		X	X	X	X		X
Post Horn	8'																
Tuba Horn	8'																
Diapason	8'														X	X	X
Tibia Clausa	8'					X	X		X	X	X				X	X	X
Accomp. to Pedal					X								X	X			X
Orch. to Pedal																	
Bass Drum																	
Cymbal																	
ACCOMPANIMENT																	
Tuba Horn	8'																X
Diapason	8'								X						X	X	X
Tibia	8'										X			X	X	X	X
Cello	8'	X		X	X	X	X	X		X	X	X	X	X	X	X	X
Quint	8'		X	X	X	X	X		X	X	X		X	X	X	X	X
Vox Humana	8'															X	X
Octave	4'																
Tibia	4'															X	X
Piccolo	2'																
Orch. to Accomp.			X	X	X	X	X										
Snare Drum																	
Tom-Tom																	
Wood Block																	
Sand Block																	
Castanets																	
SOLO																	
Post Horn	16'										X						
Tuba	16'					X					X		X				
Tibia Clausa	16'				X	X	X		X	X	X		X	X			X
Violone	16'				X	X	X		X		X		X		X		
Krumet	16'												X	X			
Sax	16'					X	X				X		X			X	X
Trumpet	8'			X									X				
Tibia Clausa	8'	X	X	X	X	X		X	X	X	X			X	X	X	
Oboe	8'						X					X					
Sal	8'			X					X						X		
Tibia	4'		X	X	X	X	X		X		X	X	X	X		X	X
Salicet	4'														X		
Twelfth	2-2/3'						X								X		
Piccolo	2'														X		
Tierce	1-3/5'																
Fife	1'																
Orch. to Solo		X	X	X	X	X	X	X	X	X	X						

		GENERAL										DIVISIONAL					
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6
ORCHESTRAL																	
Bass Violes II	16'										X						
Violes D'Orch. II	8'				X	X											
Violes II	4'																
Flute	8'	X	X	X	X	X				X	X						
Flute	4'				X	X											
Flute	2-2/3'																
Clarinet	8'							X									
Chrysoglott							X		X								
Glock									X								
Piano										X							
Alt. Voice																	
Alt. F																	
Piano Mode																	
Sustain																	
GENERALS																	
Tibia Trem		X	X	X	X	X	X	X	X	X	X						
Main Trem		X	X	X	X	X	X	X	X	X							
Orch. Trem		X	X	X	X	X					X						
Celeste Tuning		X	X	X	X	X	X	X									
Chiff																	
Chorus																	
Reverb																	
Memory B																	

		GENERAL										DIVISIONAL					
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6
PEDAL																	
Tuba	16'										X						
Diaphone	16'		X	X	X		X	X	X	X	X						
Tibia Clausa	16'	X				X		X	X	X	X						
Post Horn	8'										X						
Tuba Horn	8'									X	X						
Diapason	8'		X														
Tibia Clausa	8'	X	X	X	X		X	X	X	X	X						
Accomp. to Pedal							X	X	X	X	X						
Orch. to Pedal			X			X											
Bass Drum																	
Cymbal																	
ACCOMPANIMENT																	
Tuba Horn	8'	X			X					X	X						
Diapason	8'	X	X				X	X	X	X	X						
Tibia	8'	X	X		X		X	X	X	X	X						
Cello	8'	X	X				X	X	X	X	X						
Quint	8'			X		X	X	X	X	X							
Vox Humana	8'	X		X													
Octave	4'																
Tibia	4'	X															
Piccolo	2'																
Orch. to Accomp.			X	X	X	X		X	X	X	X						
Snare Drum																	
Tom-Tom																	
Wood Block																	
Sand Block																	
Castanets																	
SOLO																	
Post Horn	16'										X		X				
Tuba	16'		X		X		X			X	X						
Tibia Clausa	16'		X		X		X	X	X	X	X						
Violone	16'	X	X		X		X	X	X	X	X						
Krumet	16'				X	X						X	X				
Sax	16'	X			X						X						
Trumpet	8'																
Tibia Clausa	8'	X	X	X	X	X	X	X	X	X	X	X	X				
Oboe	8'			X													
Sal	8'	X	X				X	X	X	X	X						
Tibia	4'		X	X	X		X	X		X	X						
Salicet	4'	X					X			X	X						
Twelfth	2-2/3'			X	X												
Piccolo	2'	X					X		X	X	X						
Tierce	1-3/5'																
Fife	1'										X						
Orch. to Solo		X	X	X			X	X	X	X	X						

REGISTRATION MINDER
"B" MEMORY

		GENERAL										DIVISIONAL					
		1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6
ORCHESTRAL																	
Bass Violes II	16'																
Violes D'Orch. II	8'	X						X	X	X	X						
Violes II	4'	X								X	X						
Flute	8'		X					X	X	X	X						
Flute	4'						X			X	X						
Flute	2-2/3'																
Clarinet	8'			X		X											
Chrysoglott					X		X										
Glock							X										
Piano			X														
Alt. Voice																	
Alt. F																	
Piano Mode																	
Sustain																	
GENERALS																	
Tibia Trem		X	X	X	X	X	X	X	X	X	X						
Main Trem		X	X	X	X		X	X	X	X							
Orch. Trem		X		X				X	X	X	X						
Celeste Tuning		X	X	X	X		X	X	X	X							
Chiff																	
Chorus																	
Reverb																	
Memory B																	

ALTERABLE VOICE

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 Posthorn, for example, could be programmed, or a classic flute or reed voice especially suited for a certain piece can be programmed. Any number of "percussion" type voices, including chimes, music box, harp, etc., can be used as desired.

Each ADC 3500 organ includes one Alterable Voice. The tab for this stop is located in the Orchestral 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.

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 Piano Mode and Sustain tabs. Together, these tabs will add the "attack and decay" appropriate to sounds of this type. A percussion length knob on the right side of 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.

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.

ARTE - ALLEN RHYTHM TRAPS EFFECTS UNIT

The ADC 3500 should be equipped with the Allen Rhythm Traps Effects, a rhythm and special effects unit. 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.
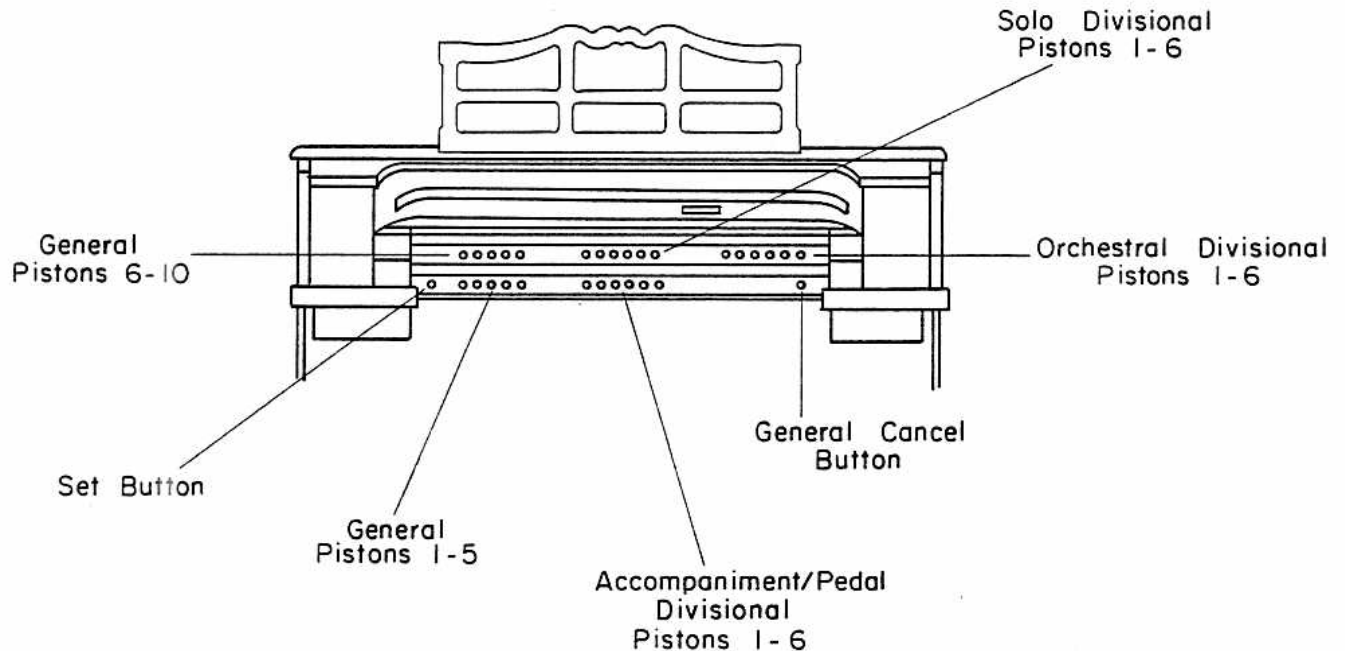
The third method for starting the rhythm is by using the Pedal Start. By depressing this button, the rhythm unit will not be activated until the first pedal is played. This is useful when playing a piece with an introduction during which no rhythm is desired. The organist can then play only on the manuals 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.

CAPTURE COMBINATION ACTION

The Allen Organ is equipped with Allen's Double Memory Capture Action offering the ultimate in registration control and convenience. As many as 10 general registrations and 6 registrations on each division can be retained and summoned at the touch of a button. Then, with the change of one stop tab (Memory "B"), you have 10 _more_ general pistons and 6 _more_ pistons per division.


Solo Divisional Pistons 1-6

General Pistons 6-10

Orchestral Divisional Pistons 1-6

General Cancel Button

Set Button

General Pistons 1-5

Accompaniment/Pedal Divisional Pistons 1-6

THINGS TO REMEMBER

General pistons affect all stops.

Solo, Orchestral, and Accompaniment/Pedal pistons only affect stops in their division.

All pistons operate independently from each other.

The capture action is not fully operable until approximately six seconds after the organ is turned on.
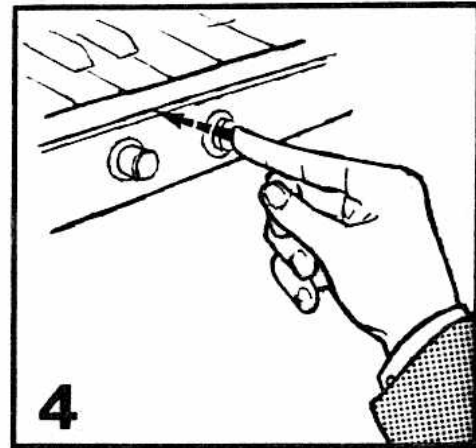
1.   Select   either Memory A or Memory B by using the Memory Piston B stop   tab.   The   up position   is   Memory A. Depressing the stop tab selects Memory B.
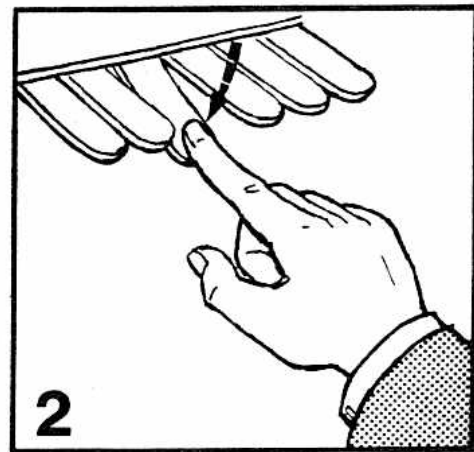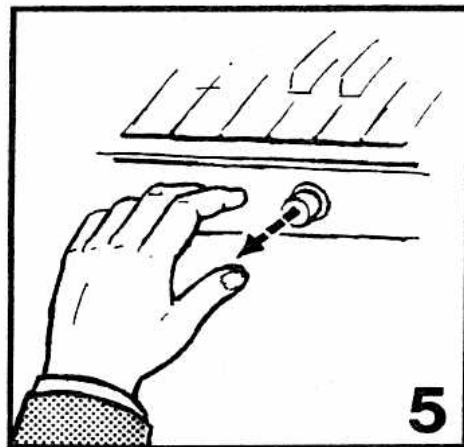

Select   Registration
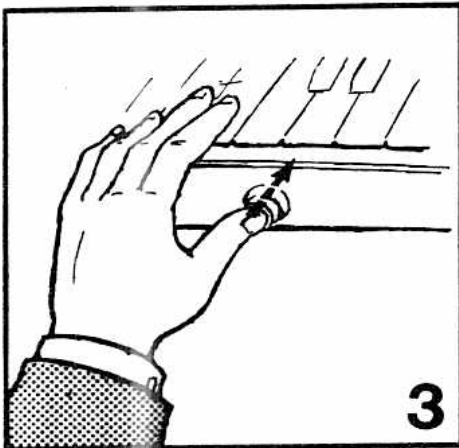
Press and HOLD
Set Button

Press   and   Release
Piston   on   which
Registration   is   to
be Retained

RELEASE   Set   Button

Now when you have the stop tab in Memory A position,   you   may recall   one   piston 10; but, when you change to Memory B, you can have an   entirely   separate piston 10.   This   is true with all pistons.

INSTALLATION, VOICING AND CARE OF THE ORGAN

INSTALLATION

Wherever your ADC 3500 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 3500 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 a service technician. These adjustments are normally a part of installation, and once done, should not require readjustment unless instrument is moved to a new location.

Bass frequency projection is strongly affected by console and/or tone cabinet location. The location of the console or tone cabinets should not be changed once the installation has been completed.

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. <u>Do not</u> 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!