

# **Chapel Series™**

**CF-2a & CF-7**

CF-2a and C-7  
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# ALLEN ORGAN COMPANY

For more than sixty years--practically the entire history of electronic organs-- Allen Organ Company has built the finest organs that technology would allow.

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

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

Only a radical technological breakthrough could improve upon the performance of Allen's oscillator organs. Such a breakthrough came in conjunction with the United States Space Program in the form of highly advanced digital microcircuits. In 1971, Allen produced and sold the world's first musical instrument utilizing digitally sampled voices!

Your organ is significantly advanced since the first generation Allen digital instrument. Organs with Renaissance™ technology are the product of years of advancements in digital sound and control techniques by Allen Organ Company. This system represents the apex of digital technology applied to exacting musical tasks. The result is a musical instrument of remarkably advanced tone quality and performance.

**Congratulations** on the purchase of your new Allen Organ! You have acquired the most advanced electronic organ ever built, one that harnesses a sophisticated custom computer system to create and control beautiful organ sound. Familiarize yourself with the instrument by reading through this booklet.

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# I. ORGAN STOPS

## PITCH FOOTAGE

The number appearing on each stop, along with its name, indicates the “pitch” or “register” of the particular stop. Organs can produce notes of different pitches from a single playing key. When this sound corresponds to the actual pitch of the played key, the stop is referred to as being of 8’ (eight foot) pitch; therefore, when an 8’ stop is selected and Middle C is depressed, the pitch heard is Middle C. If the sounds are an octave higher, it is called 4’ or octave pitch. If two octaves higher, it is called 2’ pitch. A stop sounding three octaves higher is at a 1’ pitch. Similarly, a 16’ stop sounds an octave lower and a 32’ stop two octaves lower.

Stops of 16’, 8’, 4’, 2’ and 1’ pitch all have octave relationships, that is, these whole numbered stops all sound at octaves of whatever key is depressed. Non-octave pitches are also used in organs. Their footage numbers contain a fraction and they are referred to as *Mutations*. Among these are the 2-2/3’ *Nasard*, 1-3/5’ *Tierce*, 1-1/3’ *Quintflöte* and 2-2/3’ *Twelfth*. Because they introduce unusual pitch relationships with respect to the 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

### 1. Flues

Organ tones divide into two main categories: *flues* and *reeds*. In pipe organs, 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, flute and string tones. Compound stops and hybrid stops are variations within these three stop families.

The term “imitative” means that the organ stop imitates the sound of a corresponding orchestral instrument; for example, an imitative 8’ Viola stop sounds like an orchestral viola.

<u>Principal Voices</u> Principal, Diapason, Octave, Fifteenth, Quinte	Characteristic organ tones, not imitative of any orchestral instruments. Usually present at many pitches and in all divisions. Rich, warm and harmonically well developed.
<u>Flute Voices - Open:</u> Harmonic Flute, Koppleflöte, flute mutation stops	Lesser harmonic development than Principals. Open flutes are somewhat imitative; stopped flutes are not. Present at all pitch levels and in all divisions.
<u>Flute Voices - Stopped:</u> Holzgedackt, Bourdon, Lieblichgedackt, Rohr Bourdon	

<u>String Voices</u> Viola Pomposa Viola Céleste	Mildly imitative and brighter harmonic development than Principals. Usually appear at 8' first; can be 4' & 16' ranks.
<u>Compound Voices</u> Mixture, Fourniture	Voices produced by more than one rank sounding simultaneously. Best registered with other stops.
<u>Hybrid Voices</u> Erzähler, Spitzflöte	Voices that combine the tonal characteristic of two families of sound, e.g., flutes and principals, or strings and principals.

## 2. Reeds

In *reed* pipes, a metal tongue vibrates against an open flattened side of a metal tube called a shallot. The characteristic sounds of different reeds are produced through resonators of different shapes. The family of reeds subdivides as follows:

<u>Chorus or Ensemble:</u>  Basson, Trompette, Posaune, Clarion	Voices of great harmonic development; some are imitative of their orchestral counterparts.
<u>Solo:</u>  Hautbois, Clarinet, Krummhorn, Trompette	

Your Allen Organ provides authentic, digitally sampled voices. They are protected by copyrights owned by the Allen Organ Company and are stored in memory devices, each having affixed to it a copyright notice; e.g., © 2003 AOCO, © 2001 AOCO, etc., pursuant to Title 17 of the United States Code, Section 101 et seq.

## II. SPECIALIZED STOP CONTROLS

Some organ stop controls do not turn voices on/off, but instead turn on/off console functions such as outlined in this Section. **Note:** This Section includes a general listing of stop controls found on two-manual organs. Not all of these controls are included in every Allen Organ model.

Great to Pedal	Connects all Great stops to the Pedal.
Swell to Pedal	Connects all Swell stops to the Pedal.
Swell to Great	Intermanual coupler connecting all Swell stops to the Great manual.
MIDI on Pedal	Opens MIDI channel to the Pedal.
MIDI on Swell	Opens MIDI channel to the Swell
MIDI on Great	Opens MIDI channel to Great.

- Tremulant (CF-7) This stop provides a vibrato effect, natural in the human voice and wind instruments. Separate for Swell and Great divisions.
- General Tremulant (CF2a) This stop provides a vibrato effect, natural in the human voice and wind instruments. Affects both Swell and Great at the same time.
- Tremulants Full (CF-7) When activated with one or more of the organ's tremulants, it causes the tremulants to become much deeper than normal classical tremulants. Useful for Gospel music. Also known as "Vibrato."
- Melody Coupler (CF-7) When playing on the Great manual, the highest key played on the Great will automatically play all stops drawn on the Swell, in addition to those drawn on the Great. By choosing a Swell stop such as the Festival Trumpet, the melody played by the top note on the Great is accentuated.
- Bass Coupler Similar to the Melody coupler, however, in this case the lowest note played on the Great will also play all stops drawn in the Pedal Division. This allows voices normally played from the pedalboard to be heard without using the pedalboard.
- GT-PD Unenclosed (CF-7) This stop disables the expression for both Great and Pedal divisions. Great and Pedal stops are at full volume regardless of the expression pedal's position. .
- Console Speakers OFF (CF-7) Used to switch off the Console Speakers.
- External Speakers OFF (CF-7) Switches off all external speakers.

### III. EXPRESSION SHOE

The volume of the entire organ is controlled by a single pedal called the "expression shoe."

### IV. SETTING PISTONS

Your capture system lets you set stop registration (preset) combinations in TWO memories:

The default Memory and Memory "B."

Having two memories allows two organists each to have their own preset combinations. You might use both of them yourself or offer the "B" memory to a substitute or assistant organist. The Memory "B" rocker tab is at the far right end of the stop rail.

- First, select and depress the stops you wish to save.
- Then, turn on Memory "B" if you want the combination on Memory "B"
- Press and hold the SET Piston.
- Press and release the desired GENERAL piston.
- Finally, release the SET Piston.

Remember, the General pistons are customarily set from soft to loud using graduated stop combinations. The pistons you have set “remembers” the registration combinations that you have assigned to each of them. Each time a General piston is pressed, the registration assigned to it is activated. You can change stop registration combinations at any time by repeating the above procedures.

## **V. ARTISTIC REGISTRATION**

(Trained organists might not need to review this section.)

Organ registrations fall into two broad categories; *solo combinations* and *ensembles*. A solo combination is one in which a melody is played on one keyboard, the accompaniment on another keyboard. The pedal often provides a light bass line. Almost any stop or combination of stops will sound good as a solo voice. A contrasting tone quality should be chosen for the accompaniment, so that the accompaniment is softer than the solo voice. The Pedal stops must provide a foundation for the solo and accompaniment without covering them.

Most 8’ reed stops make interesting solo voices. The addition of a 4’ flute or a flute mutation (e.g., Nasard or Tierce) to a reed such as the Trompette colors the sound further and increases its volume slightly. Adding an 8’ flute to a reed adds body to the sound.

Flutes can be used alone or in combinations as solo voices. One special combination of flutes that creates an appealing and historically significant solo combination is the Cornet (pronounced kor-NAY). The Cornet is created by using the following Swell stops: Gedackt 8’, Traverse Flute 4’, Nasard 2-2/3’, Piccolo 2’, and Tierce 1-3/5’. This solo combination, widely used for Baroque organ music, is just as appropriate for some modern music. Useful variations of the Cornet may be achieved by eliminating the 4’, the 2’, or both.

When choosing stops for a solo voice, it is not always necessary to include an 8’ stop; for example, since the 4’ flute has a tone quality different from that of the 8’ flute, the 4’ flute can be used as an independent solo voice. By playing a solo voice an octave lower than written, the notes sound at the correct pitch. In similar fashion, a 16’ stop can be selected and the notes played an octave higher than written. Tonal variety is gained, because each stop has its own tone color.

For accompaniment, the most desirable voices are the 8’ flutes or 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 accompaniment 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, though the flute often contributes greater interest because of its greater contrast. Try to seek a “natural” balance of volume between solo and accompaniment.

## SUGGESTED SOLO REGISTRATIONS

### CHIMES SOLO

Swell: Gedackt 8', Viola Pomposa 8', Viola Celeste 8'  
Great: Chimes  
Pedal: Lieblich Gedackt 16' or Bourdon 16', Swell to Pedal  
*Play solo on Great.*

### SWELL SOLO COMBINATION

Swell: Gedackt 8', Traverse Flute 4', Nasard 2-2/3', Piccolo 2', Tierce 1-3/5'  
Great: Harmonic Flute 8', Spitzflöte 4'  
Pedal: Lieblich Gedackt 16' or Bourdon 16', Flûte 8'  
*Play solo on Swell.*

### FLUTE SOLO COMBINATION

Swell: Viola Pomposa 8', Viola Celeste 8'  
Great: Harmonic Flute 8'  
Pedal: Lieblich Gedackt 16' or Bourdon 16', Swell to Pedal  
*[Play solo on Great.]*

### TRUMPET SOLO COMBINATION

Swell: Trompette 8'  
Great: Diapason 8', Octave 4', Fifteenth 2', Mixture IV  
Pedal: Bourdon 16', Octave 8', Choral Bass 4'  
*[Play solo on Swell.]*

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

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

## ENSEMBLE REGISTRATIONS

Volumes have been written on the subject of ensemble registration. Following is a summary of the major points.

Ensemble registrations involve groups of stops that are played together, usually, but not always, with both hands on one keyboard. They are characterized by compatibility of tone, clarity, and occasionally power. Such registrations are used in hymn singing, choir accompaniments, and much of the contrapuntal organ literature.

Two factors are always to be considered: tone quality and 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 called “choruses”:

**The Principal Chorus** is the most fully developed with representation in various divisions of the organ and at every pitch from 16’ to high mixtures. The Principal Chorus is sometimes called the narrow-scale flue chorus, a reference to the relative thinness of Principal 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 composed of less harmonically developed tones, and is smoother and of lesser volume than the Principal Chorus. The Flute Chorus is sometimes called the wide-scale flue chorus, owing to the generally “fatter” look of Flute pipes as compared to Principals.

**The Reed Chorus** includes those reed tones designed to be used in the ensemble buildup. Not all reed voices are ensemble tones. A Clarinet, for example, is usually a solo stop. The various Trumpets, Clairons, Bassons, etc., are usually ensemble voices that 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 list in the preceding section.

**The Swell Reed Chorus** is a special ensemble of Basson 16’ and Trompette 8’. It represents an entity important to French organ music and the full ensemble of the organ. These stops create a “blaze” of richly harmonic sounds that tops off both flue choruses.

Another special ensemble combination important in French music is the **Cornet** (described in the section on Solo Registration). This combination can be used with the chorus reeds and mutations to create the “Grand Jeu.” The Cornet is also useful in Romantic ensembles, adding weight and thickness to the sound.

### **SUGGESTED ENSEMBLE COMBINATION REGISTRATIONS:**

#### **GREAT ENSEMBLE COMBINATIONS**

1. Harmonic Flute 8’, Spitzflöte 4’
2. Harmonic Flute 8’, Spitzflöte 4’, Fifteenth 2’
3. Diapason 8’, Octave 4’
4. Diapason 8’, Octave 4’, Fifteenth 2’
5. Diapason 8’, Octave 4’, Fifteenth 2’, Mixture IV
6. Diapason 8’, Harmonic Flute 8’, Octave 4’, Spitzflöte 4’, Fifteenth 2’, Mixture IV

#### **SWELL ENSEMBLE COMBINATIONS**

1. Gedackt 8’, Viola Pomposa 8’
2. Gedackt 8’, Viola Pomposa 8’ Traverse Flute 4’
3. Gedackt 8’, Viola Pomposa 8’ Traverse Flute 4’, Piccolo 2’
4. Gedackt 8’, Viola Pomposa 8’ Traverse Flute 4’, Piccolo 2’, Fourniture IV
5. Gedackt 8’, Viola Pomposa 8’ Traverse Flute 4’, Piccolo 2’, Fourniture IV, Trompette 8’
6. Gedackt 8’, Viola Pomposa 8’ Traverse Flute 4’, Piccolo 2’, Fourniture IV, Basson 16’ Trompette 8’



The use of the Swell to Great coupler allows these separate ensembles to be combined on the Great manual. It is also possible to combine some of these ensembles within the same division; for example, when the #5 Great and #3 Swell registrations are coupled together and played on the Great, they combine to form a nice round hymn combination.

The Pedal ensemble is created in much the same way as the manual ensembles, starting at 16' pitch instead of 8'. 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 note that the softest stops and flute mutations are normally not used with ensembles.

## FULL ORGAN

Due to the immense capabilities of the organ, every stop and coupler on the instrument could be used simultaneously without distortion, if the organ is adjusted properly. In good registration practice, however, the organist would not haphazardly put on every stop on the instrument. For best results, listen and include only those stops that really contribute to the fullness and brilliance of the ensemble. Eliminate soft stops and solo stops that make no purposeful contribution.

This short treatment barely scratches the surface of the fascinating subject of organ registration. For those interested in gaining further insight into this vital area of organ playing, we recommend the following texts:

- Audsley, George Ashdown. *Organ Stops and their Artistic Registration*.  
Hialeah, FL: C.P.P. Belwin, 1985.
- Irwin, Stevens. *Dictionary of Pipe Organ Stops*. 2nd ed.  
New York: Macmillan Books, 1983.

## VI. TRANSPOSER

Vast computer capability makes it possible to perform the sometimes difficult task of transposing, while allowing the organist to play in the notated key. Use the Transposer control to transpose the organ's sound either up or down as required.

Why Transpose?

- ❑ Because a song's range does not always suit the vocal range of a particular singer. By adjusting the Transposer, the piece can be sung more comfortably and effectively.
- ❑ Because some instruments are non-concert pitch. A trumpet in B<sup>b</sup>, for example, can play 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.

You will find the Transposer knob located to the left end of the stop rail. The knob has 13 positions: 7 sharp, NORMAL and 5 flat. Turn counter-clockwise for sharp and clock-wise for flat. Pitch moves by semi-tones. Leave the knob in the "N" position when playing at "A" 440 – normal non-transposed. The knob has a positive detent snapping into each position assuring that it will remain where you left it. In case you forget or someone else moves the

knob in your absence, a RED light over the knob will turn-on brightly reminding you. This same RED light will light again when the organ is first turned-on, remaining on for about 5 seconds while organ is “waking-up.” When red light goes out, the organ is ready to registrate and play.

## **VII. VIRTUAL ACOUSTICS™**

Virtual Acoustics™ provide spatial ambiance to enhance any acoustical environment. Your service technician or sales representative will adjust the default Virtual Acoustics™ setting to sound best for your installation and specifically to your taste.

## **VIII. INSTALLATION, VOICING, AND CARE OF THE ORGAN**

### **INSTALLATION**

Wherever your organ may be situated, careful installation is a prerequisite to successful results. Your Allen representative is well qualified to guide you in planning the finest possible installation. Factory assistance in planning the installation is also available and may, in fact, be sought by your Allen Organ representative.

### **VOICING**

Your organ presents unprecedented accuracy in the scaling and voicing of each note of every stop. Should you require that these parameters be changed, your Allen Organ representative is able to help make such changes. Final adjustments in scaling and voicing involve procedures that are best left to an expert. These adjustments normally are a part of installation, and once done, should not require changes. If the organ is moved to a new location or major changes are made to the acoustical properties of the room the organ resides in, the instrument may need to be tonally finished again.

### **CARE OF THE ORGAN**

Your Allen 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. The wood surfaces may be cleaned using a soft cloth dampened with lukewarm water. A mild solution of lukewarm water and dish detergent may be used to remove fingerprints, etc. Polish dry with a soft cloth. Do not use wax, sprays or oils on the finish. Satin finished surfaces will take on a semi-gloss appearance when waxed and will eventually become yellowed.

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, and then polish immediately with the dry cloth. Do not use soap or detergent on keys or stop tablets.

To polish the clear music rack, a furniture wax polish may be sprayed on a soft dry cloth and rubbed on the front of the music rack. Keep the wax off of the wood finishes. This will help keep the music rack clear.

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

## **IX. SAFETY INFORMATION**

### **USA ONLY**

#### **CAUTION**

Never plug the instrument into any current source other than 110 to 120 volts, 50/60 Hertz alternating current (AC). A verified grounded outlet is essential to proper operation and protection of the instrument. Proper polarity should be checked with an AC circuit analyzer before connecting the organ.

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

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

In facilities where circuit breakers are turned off between uses (as for example, between worship services), the circuit breaker affecting the organ console AC power should have a guard installed to prevent it from accidentally being switched off.

It is important that you read and comply with all instructions and labels that might be attached to the instrument.

### **INTERNATIONAL ONLY**

#### **CAUTION**

Do not plug the instrument into any current source other than that stated by the selling dealer. Proper polarity should be checked with an AC circuit analyzer before connecting the organ.

Do not change the cable plug or remove the ground pin (if applicable).

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

In facilities where circuit breakers are turned off between uses (as for example, between worship services), the 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 that may be attached to the instrument.

*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. Should this equipment cause interference to radio communications, the user at his own expense will be required to take whatever measures may be necessary 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 organ with respect to the receiver.

Move the organ away from the receiver.

Plug the organ into a different electrical outlet, so that the organ and receiver are on different branch circuits.

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

CE mark shows compliance with the EMC Directive.