Quantum™
3 Manual Series Classical Organs
Organs w/Ren-25 Systems, Ver. 2.xx Software
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.

<table>
<thead>
<tr>
<th>Principal Voices:</th>
<th>Characteristic organ tones, not imitative of any orchestral instruments. Usually present at many pitches and in all divisions. Rich, warm and harmonically well developed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal, Diapason, Octave, Fifteenth, Quinte</td>
<td></td>
</tr>
<tr>
<td>Flute Voices - Open:</td>
<td>Lesser harmonic development than Principals. Open flutes are somewhat imitative; stopped flutes are not. Present at all pitch levels and in all divisions.</td>
</tr>
<tr>
<td>Harmonic Flute, Koppelflöte, flute mutation stops</td>
<td></td>
</tr>
<tr>
<td>Flute Voices - Stopped:</td>
<td></td>
</tr>
<tr>
<td>Holzgedackt, Bourdon, Lieblichgedackt, Rohr Bourdon</td>
<td></td>
</tr>
<tr>
<td>String Voices:</td>
<td>Mildly imitative and brighter harmonic development than Principals. Usually appear at 8’ first; can be 4’ &amp; 16’ ranks.</td>
</tr>
<tr>
<td>Gamba, Salicional, Viole Celeste</td>
<td></td>
</tr>
<tr>
<td>Compound Voices:</td>
<td>Voices produced by more than one rank sounding simultaneously. Best registered with other stops.</td>
</tr>
<tr>
<td>Mixture, Fourniture</td>
<td></td>
</tr>
<tr>
<td>Hybrid Voices:</td>
<td>Voices that combine the tonal characteristic of two families of sound, e.g., flutes and principals, or strings and principals.</td>
</tr>
<tr>
<td>Erzähler, Spitzflöte</td>
<td></td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Chorus or Ensemble:</th>
<th>Solo:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Trumpet, Tromba,</td>
<td>Hautbois, Clarinet,</td>
</tr>
<tr>
<td>Posaune, Clarion,</td>
<td>Krummhorn</td>
</tr>
<tr>
<td>Bombarde</td>
<td></td>
</tr>
</tbody>
</table>

Voices of great harmonic development; some are imitative of their orchestral counterparts.

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 three-manual organs. Not all of these controls are included in every three-manual Allen Organ model.

- **Swell Unison Off** Turns off stops in the Swell Division at their normal pitch, while allowing them to speak at octave and sub-octave pitch when the octave and sub-octave couplers are drawn.
- **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 the Great.
- **MIDI on Choir** Opens MIDI channel to the Choir.
- **Tremulant** This stop provides a vibrato effect, natural in the human voice and wind instruments.
- **Tremulants Full** 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.”
- **Swell Solo Voices** Engaged along with stop controls having red italicized additional voice names located in the Swell Division lets the voice qualities of the secondary red italicized voices to be heard.
Gt-Pd Unenclosed When engaged, the Great Choir Pedal Shoe will express only the Choir Division. Also, the expression control for the Great and Pedal Divisions is disabled, causing the Great and Pedal stops to sound at full volume, regardless of the position of the Great-Choir-Pedal expression shoe.

Choir Unenclosed When engaged, the Great Choir Pedal Shoe will express only the Great and Pedal Divisions. Also, the expression control for the Choir Division is disabled, causing the Choir stops to sound at full volume, regardless of the position of the Great-Choir-Pedal expression shoe.

All Swells to Swell When engaged, it allows all voices to be expressed from the Swell Division’s Expression Shoe.

Melody Coupler When playing on the Great manual, the highest key played on the Great (Ch>Gt), (Sw>Gt) will automatically play all stops drawn on the Swell or Choir (based on the stop engraving), in addition to those drawn on the Great. By choosing a Swell or Choir 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.

Alternate Tuning When activated, the organ’s tuning will change to the alternate tuning selected from the Console Controller™. See the Console Controller Guide, later in this Manual, for more information relating to Alternate Tunings.

Swell Main Off Used in conjunction with Antiphonal controls. This control disables the specified divisional Main speakers. If engaged and the Antiphonal controls are not engaged, the organ will not sound.

Swell To Antiphonal Causes the organ to speak from the Antiphonal speakers. The organ will speak from both Antiphonal and Main speakers. When the divisional specific Main Off control is also drawn, the Antiphonal speakers will sound alone.

8’ Great to Pedal Connects all Great Division voices to the pedalboard at the pitch indicated on the Great stops.

8’ Swell to Pedal Connects all Swell Division voices to the pedalboard at the pitch indicated on the Swell stops.

4’ Swell to Pedal Connects all Swell Division voices to the pedalboard an octave higher in pitch than the Swell stop indicates.

16’ Swell to Great Intermanual coupler connecting most Swell stops to the Great manual at an octave lower than indicated.

8’ Swell to Great Intermanual coupler connecting most Swell stops to the Great manual at the Swell stop’s indicated pitch.
4’ Swell to Great  Intermanual coupler connecting most Swell stops to the Great manual at an octave higher than indicated.

16’ Swell to Swell  This is the Swell Division Sub-Octave Coupler. It makes Swell voices speak one octave lower than the pitch indicated.

4’ Swell to Swell  This is the Swell Division Octave Coupler. It makes Swell voices speak one octave higher than the pitch indicated.

8’ Choir to Great  Intermanual coupler connecting all Choir stops to the Great manual at the Choir stop’s indicated pitch.

16’ Swell to Choir  Intermanual coupler connecting most Swell stops to the Choir manual at an octave lower than indicated.

8’ Swell to Choir  Intermanual coupler connecting most Swell stops to the Choir manual at the Swell stop’s indicated pitch.

4’ Swell to Choir  Intermanual coupler connecting most Swell stops to the Choir manual on octave higher than indicated.

Choir Unison Off  Turns off all Choir stops on the Choir manual. Stops coupled into the Choir from other divisions continue to sound from the Choir manual. Also, Choir Division stops coupled to other manuals or the pedalboard continue to sound.

Manual Transfer  Exchanges stops and Divisional Pistons in the Great and Choir Divisions so the stops from the Great Division are played from the bottom Choir Manual and the stops from the Choir Division are played from Great manual.

III. EXPRESSION & CRESCENDO SHOES

The organ’s control pedals (called “shoes”) control expression and crescendo.

- The left-most shoe expresses the Great, Pedal, Choir Divisions.
- The next shoe expresses the Swell Division.
- The next shoe expresses the Solo Division (available on the larger three-manual models).
- The right-most shoe is the Crescendo shoe. It is a master Crescendo for all divisions. It gradually adds stops as it is opened. Sequential green, yellow and red lights on the organ’s bar graph indicator display relative pedal position. Indiscriminate use of the Crescendo, in lieu of careful registration, should be avoided.

**Note:** Only larger three-manual models include the Solo expression shoe.

The Crescendo B thumb piston is associated with the Crescendo shoe. Crescendo B accesses a second set of Crescendo registrations that can be different from the standard Crescendo registrations. See the Console Controller™ Guide later in this Manual for more information relating to changing the registration settings of this secondary Crescendo.
IV. TUTTI I and TUTTI II

The Tutti I and II pistons are sets for full organ registrations. Tutti II has a larger, louder registration, than Tutti I. The Tuttis are turned on and off by pressing manual thumb pistons TUTTI I or TUTTI II. The pistons are “toggled” meaning that pressing them a second time reverses the ON or OFF setting of the corresponding Tutti. Only one Tutti can be turned ON at a time. Pressing the other Tutti piston that is not turned ON will turn OFF the Tutti that was ON and turn ON the Tutti that was OFF. The Cancel piston button will turn OFF the Tuttis.

Red signal lights illuminate when Tutti I or II is in operation. These lights are labeled and located on the Bar Graph Indicator. A second set of Tuttis can be programmed by the organist. Like the Crescendo, indiscriminate use of Tuttis should be avoided. See the Console Controller™ Guide later in this Manual for more information relating to changing secondary Tutti settings.

V. SETTING PISTONS

SETTING GENERAL PISTONS

Your Allen Organ’s capture system lets you set stop registration combinations in each of its memories. Each Allen Organ model has different piston layouts to accommodate organ size. The maximum number of available capture memories is 16.

To set a capture combination:

- First, select and depress the stops you wish to save.
- 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. For more advanced information on setting capture combinations in multiple memories see the Console Controller™ Guide later in this manual.

SETTING DIVISIONAL PISTONS

If your Allen Organ contains Divisional pistons in addition to General pistons, the piston setting process in each case is the same as SETTING GENERAL PISTONS described above. Only Swell stops can be set with the Swell Divisional pistons, Great stops with the Great Divisional pistons.

The MIDI stops can be set on either Divisional or General pistons. The intermanual couplers can only be set on General Pistons. These rules can be modified if you wish to reconfigure the pistons. See the Console Controller™ Guide later in this Manual for more information relating to reconfiguring pistons.
SETTING TOE PISTONS (STUDS)

Stop registration combinations may be set and drawn by toe studs, as well as by pistons. Toe Studs, located on each side of the Expression and Crescendo shoes, are set in the same manner as thumb pistons. The Toe Studs on the left are duplicates of General Pistons. The Toe Studs on the right are Pedal Divisional Toe Studs.

To set a Pedal Divisional Toe Stud...

- Select the desired Pedal stops.
- Hold the SET button, and momentarily press the desired Pedal Toe Stud.
- Finally, release the SET button.

When you set a General Piston, that combination is set automatically on the Toe Stud of the same number. That is, setting General Piston 3 also places its combination on General Toe Stud 3.

*Note: The organ’s capture system is not operable until about six seconds after the organ is turned on.*

RECALL PISTON

The “R” Piston recalls the last combination set prior to using any General or Divisional piston.

VI. 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, and 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 sound without covering it.

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 will add 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 Swell flute stops at these pitches: 8’, 4’, 2-2/3’, 2’ and 1-3/5’. This combination was used widely in Baroque organ music, but it 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 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. Tonal variety will be 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 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.

Seek a “natural” balance of volume between solo and accompaniment. This will be especially easy to accomplish if the solo and accompaniment are under separate expression.

**SUGGESTED SOLO REGISTRATIONS**

**CHIMES SOLO**

Swell: Bourdon 8’ or Voix Celeste 8’, Salicional 8’  
Great: Chimes  
Choir: Viole 8’ and Viole Celeste 8’, Swell to Choir 8’  
Pedal: Bourdon doux (Sw) 16’, Swell to Pedal 8’  
*Play solo on Great and accompaniment on Swell or Choir*

**SOLO CORNET COMBINATION**

Swell: Bourdon 8’, Traverse Flute 4’, Nasard 2-2/3’, Piccolo 2’, Tierce 1-3/5’  
Great: Gamba 8’  
Choir: Viole 8’  
Pedal: Bourdon doux 16’, Gedacktflöte 8’  
*Play solo melody on Swell and accompaniment on Great or Choir.*

**TRUMPET SOLO**

Swell: Salicional 8’, Bourdon 8’, Traverse Flute 4’,  
Choir: Trompetta Real 8’  
Great: Diapason 8’, Gamba 8’, Octave 4’, Swell to Great 8’  
Pedal: Contre Bourdon 32’, Bourdon 16’, Violone 16’, Octave 8’, 8’ Swell to Pedal  
*Play melody on Choir and accompaniment on Great.*

These few combinations demonstrate basic techniques of solo registration. In creating registrations 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 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.

Ensembles are created by combining stops. Two factors to be considered are: tone quality and pitch. Ensembles begin with a few stops at 8’ pitch and expand “outward” in pitch as they build up. New pitches are usually added in preference to additional 8’ stops.
Ensembles are generally divided into three groups or “choruses”:

- The **Principal** chorus, the most fully developed, is represented in most divisions of the organ and at pitches from 16’ (Diapason) 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. An Hautbois, for example, is usually a solo stop. The various Trumpets, Clairons, Posaunes, etc., are ensemble voices that add brilliance, power, and incisiveness to the sound.

The Swell Reed chorus of Waldhorn 16’ and French Trumpet 8’ represents an entity important to French organ music and the full ensemble of the organ. These stops create a “blaze” of harmonic richness that tops off the Principal and Flute choruses.

Another special ensemble combination important in French music is the Cornet, which was discussed 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 to add weight and thickness to the sound.

Here are typical ensemble combinations for the Swell and Great manuals:

**GREAT**

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

**SWELL**

1. Gedackt 8’, Viola 8’
2. Gedackt 8’, Viola 8’, Flute 4’

The use of the **Swell to Great** coupler allows these separate ensembles to be combined on the Great manual. For example, the Great #5 and Swell #4 registrations coupled together and played on the Great combine to form a nice round hymn combination.
CHOIR

1. Viole 8’, Holzgedackt 8’
2. Viole 8’, Holzgedackt 8’, Koppelflöte 4’
3. Viole 8’, Holzgedackt 8’, Koppelflöte 4’, Prinzipal 4’

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 in ensembles.

FULL ORGAN

Due to the immense capabilities of your Allen Organ, every stop and coupler on the instrument could be used simultaneously. 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 whose contribution to the fullness and brilliance of the ensemble you can hear when they are added. Eliminate soft stops and solo stops that make no audible contribution.

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


VII. TRANSPOSER

The organ can perform the difficult task of transposing, while allowing the organist to play in the noted key. Operation of the Transposer is controlled by the Transposer function, found in the Console Controller. Neutral (no transposition) position is indicated by the number “0” in the Console Controller’s display. To shift the music to a different key, position the cursor on the transposer value then turn the ROTARY KNOB in either direction. The display will indicate the new transposer value. The key can be raised a maximum of five half steps and lowered a total of seven half steps.

A RED INDICATOR LIGHT COMES ON WHENEVER THE TRANSPOSER IS OUT OF THE NEUTRAL (“0”) POSITION. This is to warn the organist that the instrument is not ready to play in the same key as when in the Neutral position. It is a good habit to operate the organ with the Console Controller™ drawer open (if applicable).
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♭, 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.

**VIII. ACOUSTIC PORTRAIT™ SETTINGS**

Acoustic Portrait™ — Quantum™ instruments are the only digital organs to bring the science of sampling to acoustics! Ordinary electronic reverb is a synthetic imitation of acoustics “applied to” the sound, not created as an integral part of it. Acoustic Portrait™ produces the real thing in exacting detail!

Acoustic Portrait™ begins with a sampling process that uses impulse responses that measure an actual room’s acoustic properties. These measurements are then stored in the organ’s computer memory. Through an advanced real-time mathematical process called convolution, the acoustics of the sampled room actually become an integral part of the organ’s sound, producing a noticeably smoother, more natural result than synthetic reverb. Allen engineers have recorded the acoustics of cathedrals and other acoustically desirable buildings throughout the world. With advanced processors (DSP) and patented low-latency convolution algorithms, Acoustic Portrait™ reproduces the true acoustic response of each original room with stunning realism! Each Quantum™ organ features 10 different Acoustic Portraits™, ranging from intimate rooms to cavernous cathedrals.

The switch labeled ACOUSTIC PORTRAIT™ in the Console Controller™ must be ON to hear the selected Acoustic Portrait™. The overall Acoustic Portrait™ gain can be changed. The selected Acoustic Portrait™ gain, measured in dB (decibels), is shown in the Console Controller™ window. The range of control for each Acoustic Portrait™ is from +6dB to minus 35dB. Minus 35dB is the least amount of gain. +6dB is the maximum amount of gain.

When changing to a different Acoustic Portrait™, the new selection will automatically load in 3 seconds.
IX. QUAD SUITE™

QuadSuite™ provides the versatility of four separate and distinct organs in one console. Choose from American Classic, English Cathedral, French Romantic, or Neo-Baroque for the stop list that perfectly complements your music. The specifications are comprised of unique pipe samples from the world’s finest examples of each major organ-building style. The touch of a button changes the entire organ to the stop list of your choice!

An Orchestral specification, perfect for blended worship, is available as an alternative to the English Cathedral specification at time of purchase only! In addition to a compliment of traditional organ voices, the Orchestral specification offers many sounds typically found in MIDI modules. These include: Strings, Piano, Brass, Woodwinds and Percussion.

Some models contain a display in the organ's center section to indicate which specification is active. Those that do not have the display indicator can view the active voice specification in the Console Controller window.

X. REAL XPRESSION™

Your Allen Organ is equipped with Real Xpression™. Real Xpression not only changes the organ’s volume, but also it’s response. This is the same thrilling feeling you get when you hear a pipe organ really open up. Real Xpression™ faithfully recreates how expression shutters affect a pipe organ’s sound. The Real Expression feature is always active and may be adjusted to suit the room’s acoustics the organ is installed in. Please contact your Allen Organ representative to complete adjustments.

XI. 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.

MEMORY SYSTEM

The memory for the capture system and other miscellaneous settings on your Allen Organ utilizes revolutionary “flash” technology for storage. This allows capture settings and related items to be retained in memory when the organ is switched off or unplugged. No batteries are ever required which means that regular battery maintenance, normally required every few years, has been eliminated.
CARE OF THE ORGAN

Your Allen Organ constitutes a major advance in long-term maintenance-free operation. There is 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!

XII. 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.
XIII. CONSOLE CONTROLLER™ GUIDE

**Note:** This Guide is designed to serve various Console Controller™ software versions. As a result, there may be variations in the way a particular Console Controller™ operates.

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Software Version 2.xx
INTRODUCTION
The Console Controller™ is an interface that controls many organ functions and a variety of MIDI functions. The Console Controller is pictured below and includes a window that displays functions, one at a time, as well as an integrated Rotary Dial with push buttons used to make selections. Each window function is described in detail in this booklet.

A. BASIC OPERATION

1. Start-Up Sequence
Open the Console Controller drawer before turning the organ on. Turn on the organ's main power switch. The LCD window in the drawer will display, in sequence:

![LCD Display]

**Note:** The LCD will display the current stopmap level (SMAP) and operating software base code level (CODE) currently installed in the organ.
Then finally the *Main Window* function is displayed:

```
MEM - 1
```

**Important:** The Allen Organ includes several self-testing features. If a warning is displayed in this sequence, you should contact your Allen authorized representative immediately!

2. **Advancing Through the Windows**

The Allen Organ operating software contains many settings that are user-programmable. Each setting can be programmed via the Console Controller’s display. These settings are divided up into many window functions. To advance the Console Controller’s display to the next window function, press the **CURSOR** button until the blinking **CURSOR** is over the abbreviation **MEM** in the display. Once the cursor is positioned, slowly turn the **ROTARY DIAL** clockwise, the display will advance to the next window function. When the second window function is displayed, rotate the **ROTARY DIAL** counter-clockwise, the window will return to the Main window display function. Turn the **ROTARY DIAL** counter-clockwise again and the last window function will display. The window functions “wrap around” for ease of accessing parameters quickly.

**Remember:** You may return to the *Main Window* function at any time by pressing and holding the **SET** piston. Then, while holding **SET**, press the **CANCEL** piston, then release both pistons. This procedure will always return the Console Controller’s display to the *Main Window* function.

Repeat this procedure to advance through all of the windows. The last window function will display:

```
UNLOCK ALL CAPTURE MEMORIES
```

3. **Selecting the Capture Memories**

Locate the **CURSOR** button on the face of the Console Controller™. Press this button to move the cursor to the first number to the right of the abbreviation “**MEM**” on the display. Once the cursor is positioned on the memory number, turn the **ROTARY DIAL** clockwise to select the memories sequentially from **MEM 1**, to **MEM 2**, to **MEM 3**. Or, turn the **ROTARY DIAL** counter-clockwise to select the memories sequentially from **MEM 1**, to **MEM 8** (see Note 2 below), to **MEM 7**.

The capture memories allow you to save different registrations on each piston/toe piston. This means General Piston 1 on MEM-1 may be totally different from General Piston 1 on MEM-2, MEM-3, etc.
Note 1: Standard model Allen Organs include a factory set of registration examples stored on each piston of the last available capture memory. You may re-program factory registrations to your own registrations. To restore the factory registrations to the original settings, please see RESTORING FACTORY SETTINGS referenced later in this manual.

Note 2: The number of available memories is dependent on the Allen Organ model you have. There may be 8 or less memories in a REN-25 equipped organ.

4. Saving Registrations Using Pistons and Toe Studs

A registration is any combination of stop tabs and/or drawknobs. These registrations can be stored (remembered) by the organ’s capture memory system. The pistons and toe studs/toe pistons provide a way to make changes quickly from one registration to another.

General Pistons are those that affect all stops and drawknobs on the organ. These are located on the left side, underneath the keyboards on the piston rails.

Divisional Pistons affect only those stops associated with the particular manual above them. They are located in the center of the piston rails below the keyboards.

Located just above the pedalboard are Toe Studs. Toe Studs to the left of the expression shoes duplicate the General Pistons (GEN-10, GEN-9, GEN-8, etc.). Those to the right of the shoes are Pedal Divisional Pistons (PED-1, PED-2, PED-3, etc.).

To Save a Registration to a General Piston:

The Main Window function in the Console Controller™ drawer must be displayed (See Section A-2). Select any memory number (MEM-1, MEM-2 ... MEM-8, etc.) (see section A-3 and Note 2 above regarding capture memory levels); however, for this example use MEM-1. Next, select the desired stops/drawknobs you want General Piston 1 to remember. Once the stops/drawknobs are drawn, press and hold the SET piston, the press and release General Piston 1. Finally, release the SET piston. General Piston 1 will now store in memory the stops/drawknobs you selected.

Note: General Pistons are often set gradually from soft to loud with General 1 the softest and General 10 the loudest.

To Save a Registration to a Divisional Piston:

The Main Window function must be displayed, (See Section A-2). Select a memory (MEM-1, MEM-2, etc.) (see section A-3 and Note 2 above regarding capture memory levels). Select the division stops/drawknobs you want the associated Divisional piston to remember. While holding the SET piston, press and release a Divisional Piston you want to save to. Finally, release the SET piston. The Divisional Piston pressed will now store the stops and/or drawknobs selected.

Saving Intermanual Couplers/Reversibles

The intermanual coupler’s, (e.g., Swell to Great, Great to Pedal, etc.) settings can be remembered only by the General pistons, not Divisional pistons unless Divisional pistons are reconfigured. (see Section B-2).

Reversible pistons may also control Intermanual couplers. These pistons reverse the condition or "toggle" the associated stop. If a stop is ON when the associated Reversible piston is pressed, that stop will turn OFF. If the stop is OFF when pressed, it will turn ON.
To Save Registrations using Toe Studs/Toe Pistons

Toe Studs/Toe Pistons can store registrations similar to General and Divisional pistons. Toe Studs allow stored registrations to be addressed using feet instead of hands.

Note: Setting a General Toe Stud/Piston will change the registration for BOTH the toe stud and the corresponding hand piston, i.e. General Piston 10 is identical to General Toe Stud 10, while General Piston 6 is identical to General Toe Stud 6.

5. Locking Capture Memories

All memories, except Memory 1, may be locked or unlocked individually to prevent unintentional or unauthorized changes to that memory’s contents. Memory 1 remains unlocked as a convenience to visiting or substitute organists. The Console Controller must display the Main Window function in the drawer (See Section A-2). Select a capture memory to lock. After registrations are stored to pistons, (See Section A-4) choose three digits you can easily remember (e.g., 1-2-3, 0-0-7, etc.). Use General Piston 1 for the 1 digit and General Piston 10 for the zero digits. In the Console Controller™ locate the MEMORY button. Press and hold the MEMORY button. While holding MEMORY, press the General Pistons that correspond to your three-digit code. Release the MEMORY button and an "L" will appear next to the MEM number in the display, indicating this memory is now locked.

\[
\text{MEM: 2L} \\
\text{[ ]}
\]

As long as the memory remains locked, the piston registrations on that memory cannot be changed. Other organists will still be able to use the locked registrations; however they cannot be changed. Remember; choose an easy to remember three-digit code.

6. Unlocking Memories Using Your Code

The Main Window function must be displayed (See Section A-2). To unlock a memory, select the capture memory to be unlocked. Remember, locked capture memories will have an “L” behind the number. Once a capture memory is selected, press and hold the MEMORY button in the Console Controller™. While pressing MEMORY, enter the same three-digit code that was used to lock this memory (See Section A-5), using General Pistons 1 through 10 (Piston 10 = zero). Release the MEMORY button. The "L" will disappear, indicating that this memory is now unlocked.

\[
\text{MEM: 2} \\
\text{[ ]}
\]
7. Unlocking All Memories If You Forget Your Code

Advance to the 'UNLOCK ALL CAPTURE MEMORIES' window function (see section A-2).

[UNLOCK ALL CAPTURE MEMORIES]

Press and hold the MEMORY button on the Console Controller™ and press General Pistons 2-5-5. Release the MEMORY button. The display will automatically return to the Main Window function. All capture memories are now unlocked, including those memories other organists may have locked. Registrations remain unchanged.

8. Stop Action and Capture Self Check

This feature self-checks the capture system. It tests to insure each stop is functioning properly and controllable by the capture system. Advance to the ‘SELF CHECK’ window function (see Section A-2).

[SELF CHECK OFF]

To start the self-check, press the CURSOR button on the Console Controller to position the flashing cursor on the word “OFF”. Turn the ROTARY DIAL to start the Self Check function. The display will indicate that the Self Check function is now “ON”. The stop tablets will move down and up consecutively (drawknobs out and in). If any stop does not move, notify your Allen service technician. During the testing process you can interrupt and return to the Main Window function at any time by turning the ROTARY DIAL until “OFF” appears in the display or by using the SET and CANCEL pistons to return to the Main Window function (see Section A-2).

9. Quad Suite™

Most Quantum classical organs include four complete voicing specifications. A new voicing specification can be selected from the Console Controller™ at any time. To change a voicing specification, advance to the 'QUAD SUITE™' window function (see Section A-2).

[QUAD SUITE AMERICAN CLASSIC]

The display will indicate the current voicing specification loaded. To change to a different voicing specification, press the CURSOR button on the Console Controller to position the flashing cursor on the voicing specification name. Turn the ROTARY DIAL to select a different voicing specification. When the desired voicing specification is displayed, press and hold the SET piston. Then press the MEMORY button on the Console Controller. Release both. If the organ contains a Voicing Display Unit (VDU), it will flash indicating the new voice specification is loading.
Once the new specification is loaded the VDU will stop flashing and the capture system will automatically cancel all stops when the new voicing specification is loaded. The organ is now ready to play. To return to the Main Window function, press and hold the SET piston then press the CANCEL piston. Release both.

**Important:** The organ will not be able to be played while a new voicing specification is loading.

**Note:** It is a normal condition for the organ's power indicator to flash when turning the organ on. This action indicates the start-up voicing specification is loading. When the power indicator stops flashing the capture system will automatically cancel all stops indicating that the voicing specification is loaded and the organ is ready to play.

**VOICING DISPLAY UNIT (VDU)**

Many Quad Suite™ organs contain a Voicing Display Unit or VDU to indicate which voicing specification is loaded. If the organ is equipped with Quad Suite™ and it does not contain a VDU, to view which voicing specification is currently loaded, advance to the Quad Suite window function *(See Section A-2)*. The Console Controller’s LCD display will indicate which voicing specification is loaded.

There are two types of Quad Suite™ voicing specifications. One that includes an English Cathedral voice specification and one that includes an Orchestral voice specification. The organ's power indicator is the Quad Suite™ legend located at the top of the VDU. The Quad Suite™ legend will emit a white glow when the organ is turned on. All other legends will be glow blue to indicate which voicing specification is currently active.

10. **Acoustic Portrait™ Settings**

There are 10 available Acoustic Portrait™ pallets to select from. The rocker switch labeled ACOUSTIC PORTRAIT™ in the Console Controller™ drawer must be ON to hear the Acoustic Portrait™ selection. The Acoustic Portrait™ gain (volume) can be adjusted. The gain is indicated in dB (decibels). The Acoustic Portrait™ gain range is adjustable from +6dB to minus 35dB. Minus 35dB is the least amount of gain while +6dB is the most available.
To change the active Acoustic Portrait™ or adjust the Acoustic Portrait™ gain, advance to the ‘ACOUSTIC PORTRAIT’ window function (see Section A-2). The window will display the name of the currently selected Acoustic Portrait™ pallet on line 1 with the Gain setting on line 2.

To change the Acoustic Portrait pallet, press the CURSOR button on the Console Controller until the flashing cursor is positioned on the Acoustic Portrait pallet name. Turn the ROTARY DIAL on the Console Controller to select a different pallet name.

Note: The change will not be immediate. You must wait 3 seconds for the newly selected Acoustic Portrait pallet to load. The display will indicate that the newly selected pallet is loading:

If the organ is equipped with a VDU, the VDU will also flash while the new pallet is loading. Once the newly selected pallet is loaded the display will change back to the Acoustic Portrait™ pallet name and the VDU will stop flashing.

Acoustic Portrait Gain (Volume) Adjustment:

To change the Acoustic Portrait Gain setting, press the CURSOR button on the Console Controller until the flashing cursor is positioned on the Acoustic Portrait gain setting. Turn the ROTARY DIAL on the Console Controller to change the gain setting. Gain adjustment range is from -35dB to +6 db. -35db is the least amount of gain while +6 dB is the maximum amount of gain.
B. ADVANCED OPERATION

1. Selecting an Alternate Tuning

Advance to the ‘ALTERNATE TUNING’ window function (see section A-2).

(The current Alternate Tuning will appear on line 2 of the display)

Allen Organs offer seven Alternate Tunings, plus one standard tuning. These tunings are accessible from the Console Controller™. To select an Alternate Tuning, press the CURSOR button on the Console Controller until the flashing cursor is positioned on the Alternate Tuning name (line 2). Turn the ROTARY DIAL to select one of the seven available tunings. The organ’s overall tuning will be changed to the selected Alternate Tuning, by actuating the drawknob, or stop tablet engraved ALTERNATE TUNING.

The selected tuning will remain the Alternate Tuning until:

- Either another Alternate Tuning in the Console Controller is selected,
- Or, the stop/drawknob is turned off.

Any time the ALTERNATE TUNING stop is off, the organ is tuned to a standard general purpose tuning. **Note:** The remaining tunings are of historical interest, but are limited in application to modern music. When selected, it is normal for some intervals to sound out of tune.

2. Configuring Divisional Pistons and General Pistons

This procedure enables pistons to control stops/drawknobs that are normally not controlled by those pistons.

**Note:** The Piston Configuration is common to all capture memories.

For example:

1. Divisional Pistons can be configured to respond like General Pistons.
2. Divisional Pistons normally *will not remember* the settings (on/off) of the Intermanual Couplers, (i.e., Swell to Great, Great to Pedal). Divisional Pistons can be configured such that the Divisional Pistons will control the Intermanual Couplers’ settings.
3. A Divisional Piston can be configured so that it will only affect the Tremulant stops in all divisions.
4. A General Piston can be configured to respond like a Divisional Piston.

**Note 1:** Changing the configuration of a piston *will not affect the registrations* previously remembered by that piston prior to its reconfiguration.

**Note 2:** Reconfiguring a piston does not change its MIDI channel assignment.
Configuring Divisional Pistons to become General Pistons:

Advance to the ‘CONFIGURE PISTONS’ window function (see section A-2).

Select all of the stops and drawknobs. Any stops/drawknobs not engaged, will not be able to be registered later. While holding in the SET piston, press the Divisional piston that you want to respond like a General Piston. Return to the Main Window to store General registrations to the Divisional pistons you pressed (See Section A-4).

To add the SWELL TO GREAT Intermanual Coupler to the Great Divisional Pistons:

Advance to the ‘CONFIGURE PISTONS’ window function (see section A-2).

Select all of the Great Division stops/drawknobs and the SWELL TO GREAT intermanual coupler. Press and hold the SET piston. While holding SET, press the Divisional Piston(s) you wish to have the Swell to Great coupler register on. Return to the Main Window and save registrations to these Divisional Pistons, using combinations of stops/drawknobs and the SWELL TO GREAT coupler.

To reconfigure a Divisional Piston so it controls only the Tremulant stops/drawknobs:

Advance to the ‘CONFIGURE PISTONS’ window function (see section A-2).

Select all of the organ’s Tremulant Stops/Drawknobs. Next press and hold SET. While holding SET, press a Divisional piston. Return to the Main Window. You can use this reconfigured divisional piston to control just the Tremulant Stops without affecting any other stops.

The use of the CONFIGURE PISTONS function is only limited by one’s creative imagination.

Remember: The above examples only determine which stops/drawknobs will become accessible by the reconfigured pistons; they will not change previously saved registrations.

To Restore Original Factory Piston Configuration Settings:

See Section B-4 for the window function that displays:

RE-INITIALIZE PISTON CONFIG.
3. Modifying the Crescendo and Tuttis

The original factory settings include a second set of Tuttis and a second set of Crescendo settings that can be altered to suit the organist’s needs.

Advance to the ‘CRESC/TUTTI B’ window function (see section A-2). There are two modes available in this window function, "SET" and "SHOW".

**SET Mode:** Set mode allows the organist to create or edit a Crescendo B sequence.

**SHOW Mode:** Show mode allows the organist to view the Crescendo B sequence using the ROTARY DIAL on the Console Controller or by using the Crescendo Shoe.

To toggle between modes press the CURSOR button on the Console Controller until the flashing cursor is positioned on the mode name (Set or Show). Turn the ROTARY DIAL to change modes. The display will indicate which mode is activated.

The word "step xx" indicates that you are now editing or viewing (dependant if SET or SHOW mode is active) the Crescendo B sequence. The "step xx" indicator will display either "step --" to indicate position 0 (Crescendo shoe off) or any step between 1 and 22. As in previous software versions, any stops/controls associated with a particular Crescendo step will move to indicate their status when using the Crescendo Shoe only. While in 'SET' mode, turning the ROTARY DIAL will not cause the stops/controls to indicate their status.

To set a Crescendo B sequence, turn the ROTARY DIAL to select step 1. Adjust the stops to a suitable registration for step 1.  (*Note: You can play the organ at any time to hear your selected registration*) Press and hold the SET piston, then while holding SET press the MEMORY button in the Console Controller. "DONE!!" will briefly flash on the first line of the display to indicate the step has been programmed. Release both the SET piston and MEMORY button. Step 1 is now programmed. Repeat the above procedure to set all available crescendo step positions.
**Important!** DO NOT USE THE CRESCENDO SHOE TO MOVE BETWEEN STEPS WHILE PROGRAMMING CRESCENDO B STEP POSITIONS. Crescendo B data in other step positions will cause the current stop registration on the stopboard to change, i.e. a blank step position would turn all stops off or another subsequent step position with data \(\textit{not yet re-programmed}\) will change the current stop registration on the stopboard. When programming Crescendo steps always use the **ROTARY DIAL** to move between steps.

To copy the current Crescendo step's stop registration to another step, use the **ROTARY DIAL** on the Console Controller to select a different step. Press and hold the SET piston, then while holding SET press the MEMORY button on the Console Controller. The display will briefly flash the word "DONE!!" on the first line. Release both the SET piston and MEMORY button. The previous step has now been copied to the step position indicated in the display.

**Editing A Crescendo B Sequence**

Advance to the ‘CRESC/TUTTI B’ window function (\textit{see section A-2}). To enter the "SHOW" mode, press the CURSOR button until the flashing cursor is positioned on the mode name in the Console Controller. Turn the **ROTARY DIAL** until the word “SHOW” appears in the display. Press the CURSOR button until the flashing cursor is positioned on the word “step” in the display. As before, the display will indicate which step is currently activated. Use the **ROTARY DIAL** to move through the step positions one by one while observing the stops/controls. The stops/controls will change accordingly as to which step position is currently active.

To make a change to a step position you must re-enter the "SET" mode by pressing the CURSOR button until the flashing cursor is positioned on the mode name “SHOW”. Turn the **ROTARY DIAL** until the word “SET” appears in the display.

**Note:** The step position indicator will remain at the current step position that was selected in "SHOW mode. Adjust the stop registration for that step.

**Important:** DO NOT MOVE THE CRESCENDO SHOE AT THIS TIME.

Once changes to the registration are complete, save the step by pressing and holding the SET piston. Then, while holding SET press the MEMORY button in the Console Controller. The display will briefly flash the word "DONE!!" on the first line. Release both the SET piston and MEMORY button. The step is now saved to the step position indicated in the display. To continue viewing steps you must return to "SHOW" mode by pressing the CURSOR button until the flashing cursor is positioned on the word “step” in the display. Turn the **ROTARY DIAL** to view additional crescendo steps.

**Shortcut:** While in "SET" mode you can view the Crescendo B sequence without having to enter the "SHOW" mode by using the Crescendo shoe. However, it is important that all Crescendo step positions be programmed before doing this. By depressing the Crescendo shoe, the stops/controls will move accordingly as to the step displayed. You may play the organ while moving the crescendo shoe to hear the Crescendo sequence.
Manually disabling Celestes and Tremulants:

To manually disable the celestes and/or tremulants at any of the available Crescendo B steps positions, advance to the ‘CRESC B CUTOUT’ window function *(see section A-2)*. 

![CRESC B CUTOUT LEVEL: DISABLED](image)

Press the CURSOR button until the flashing cursor is positioned on the ‘LEVEL’ setting located on line two of the display. If the LEVEL setting is set to DISABLED, turn the ROTARY DIAL counter-clockwise to select a specific step position on which the cutout is to occur. Otherwise, turning the ROTARY DIAL either direction will raise or lower the step position number. To disable the Crescendo B cutout, turn the ROTARY DIAL clockwise until the word “DISABLED” appears.

Note: Registrations and/or the memory settings for the PISTONS are not affected by resetting the Crescendo B.

Play Organ Using Secondary Crescendo B

The *Main Window* function must be displayed *(see Section A-2)*. Press the CRES. B piston. On the bar-graph display, the green CRESC-B indicator will illuminate. Push open the Crescendo shoe and play.

Editing Tutti B Registrations

Advance to the ‘CRESC/TUTTI B’ window function *(see Section A-2)*. The display will automatically revert to "SET" mode when pressing either Tutti piston if in the "SHOW" mode.

To view a Tutti registration, press either Tutti piston. The display will indicate which Tutti was selected.

![CRESC/TUTTI B SET step --](image)

You may now view/edit the Tutti registration. To save any changes press and hold the SET piston. Then, while holding SET, press the MEMORY button in the Console Controller. The display will briefly flash the word "DONE!!" on the first line. Release both the SET piston and MEMORY button. The new Tutti registration is now stored as the Tutti number indicated in the display.

Playing the organ Using Secondary Tuttis

The *Main Window* function must be displayed *(see Section A-2)*. Press the CRES. B piston. On the bar-graph display, the green CRESC-B indicator will illuminate. Press the Tutti piston of your choice. The bar-graph's red Tutti indicators will light to indicate which Tutti is active. The Tutti pistons function like General Pistons and customarily have large registrations. However, the registered stops/drawknobs will not move to their ON positions when a Tutti piston is selected.
4. Restoring Original Factory Settings

Advance to the ‘RE-INITIALIZE’ window function (see Section A-2). The window will display...

```
RE-INITIALIZE
Piston Config.
```

Certain functions can be restored to the original factory settings. They are:

```
RE-INITIALIZE
Piston Config.  
RE-INITIALIZE
MIDI Settings
RE-INITIALIZE
Capture Mem. XX
RE-INITIALIZE
Crescendo B
RE-INITIALIZE
Tutti/Ventil B
```

The Piston Configuration re-initialization includes all the Configure Piston settings. The MIDI Settings re-initialization includes all MIDI program change mapping. The Capture Memory re-initialization will reset the last available capture memory to factory default registrations. The Crescendo B and Tutti/Ventil B re-initialization will reset those functions back to factory default settings.

Each of these functions can be restored individually. To select the factory settings you wish to restore press the CURSOR button until the flashing cursor is positioned on the command function which is location on the 2nd line of the display. Press and hold the MEMORY button on the Console Controller. Then, while holding the MEMORY button, press General Pistons 2-5-5 in sequence. The display will briefly flash the word "WORKING" on the first line of the display to indicate that the current command function is being re-initialized.

Notice the term VENTIL B on the TUTTI/VENTIL B initialize window. This is a function that is used on an Allen custom organ. On most Allen Organs you can disregard the term VENTIL B as it does not apply. If you are playing a custom model, the RE-INITIALIZE procedure described above will return the secondary TUTTI B as well as the VENTIL B settings to the original factory settings.

5. Sostenuto

*Sostenuto* is an Italian word meaning “sustained.” Unlike the sustain switch, which sustains any notes played as long as the sustain switch is held on, the *Sostenuto* switch sustains only the notes being held at the very moment it is pressed. Sostenuto is actuated by the organ’s Sustain switch (which is optional on some organs) located to the left of the Great/Pedal expression shoe. The Sostenuto function must first be enabled before using it.
Advance to the ‘SOSTENUTO’ window function (see Section A-2).

![SOSTENUTO GT = ON]

The LCD will indicate what keyboard Sostenuto is assigned to and show the current on/off status. The keyboard that Sostenuto is assigned to cannot be changed, but the on/off status can. To turn the Sostenuto function on or off, press the CURSOR button until the flashing cursor is positioned on the status value (on/off). Turn the ROTARY DIAL to enable or disable the Sostenuto feature. Sostenuto will affect the internal voices of the organ as well as an external MIDI sound device connected to the organ’s MIDI output. Keep in mind that the Sustain function will operate in tandem with the Sostenuto function.

**Note:** Check your specific MIDI instrument’s owner’s manual to verify that it will receive and/or respond to MIDI Sostenuto messages.

6. **Global Tuning**

Global Tuning allows the organist to adjust the pitch of the entire organ. This tuning adjustment allows the organ to be tuned to another instrument more easily. Tuning can be adjusted either ±100 cents from A-440 pitch. To adjust Global Tuning, advance to the ‘GLOBAL TUNING’ window function (see Section A-2).

![GLOBAL TUNE: 0]

Press the CURSOR button until the flashing cursor is positioned on the current tuning value. Turn the ROTARY DIAL in either direction to raise or lower the pitch of the organ. The Global Tuning adjustment will be retained in memory when the organ is powered off.

7. **Hymn Player (if so equipped)**

1. Move cursor to MEM in the Console Controller window.
2. Scroll to “Hymn Player”.
3. Press the CURSOR button.
4. Scroll to the desired hymn title. (Hymns are arranged in alphabetical order.)
5. Tempo: Increase or decrease tempo, if desired, by moving the cursor to T and scrolling up or down by increments of 10.
6. Verses: Change the number of verses, if desired, by moving the cursor to V and scrolling up or down.
7. Introduction: Move the cursor to I and select (+) for yes, or (-) for no introduction.
8. Pitch: Raise or lower the pitch, if desired, by moving the cursor to P and scrolling up or down by half-steps.
9. Press the MEM button to start the hymn.
10. Press the Cancel piston on the organ console to stop the hymn at any time.
11. Press and hold the “SET” and “CANCEL” pistons on the organ console to return to the main window.
**Note:** You can change the organ’s registration at anytime during playback, either manually or by using pistons. However, the registration will return to the hymn player default at the beginning of each verse.

### C. MIDI FUNCTIONS

This section explains the MIDI capabilities of your Allen Organ. Knowledge of this section is **not** required for everyday use of the organ, normal service playing, or use of Allen SmartMIDI™ devices. This information’s usefulness will ultimately be determined by your needs, along with the type and capabilities of any external MIDI devices you choose to use—e.g., sequencers, voice/sound modules and external MIDI keyboards. The MIDI topics covered by this manual are limited in scope. You need to understand the terms MIDI IN, OUT and THRU and their basic functions. To increase your understanding of MIDI you will need to read books that describe how to use MIDI.

**Note:** You must also consult the owner’s manual that covers the external MIDI device(s) you are using for more details of their operation.

1. **Standard MIDI Channel Assignments**

These are the Allen Organs’ standard MIDI channels settings:

<table>
<thead>
<tr>
<th>Classical Organs</th>
<th>Theatre Organs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Channel</strong></td>
<td><strong>Organ Division</strong></td>
</tr>
<tr>
<td>1 = Swell</td>
<td>1 = Great</td>
</tr>
<tr>
<td>2 = Great</td>
<td>3 = Pedal</td>
</tr>
<tr>
<td>3 = Pedal</td>
<td>4 = Choir</td>
</tr>
<tr>
<td>4 = Choir</td>
<td>5 = Solo</td>
</tr>
<tr>
<td>5 = Solo</td>
<td>7 = G1/G2</td>
</tr>
</tbody>
</table>

**Note:** The Base Channel always resets to Channel 1 whenever the organ is turned on *(see section C-5)*.

2. **Selecting Program Change Modes, Viewing Program Numbers or General Midi Sound Names**

Program change modes establish how MIDI program changes will be sent from the organ when a piston is pressed and what the resulting display will be in the Console Controller window. Once a particular program change mode is selected, the organ will retain this same program change mode (even when the organ is turned off) until a new program change mode is selected. These three mode options determine how the organ sends program change information to MIDI devices.

**Selecting a Program Change Mode**

Advance to the 'PROG CHG' window function *(see Section A-2)*. It will display:

```
PROG CHG: USER
DISPLAY: NUMBERS
```
Press the **CURSOR** button until the flashing cursor is positioned on the Program Change mode value. Turn the **ROTARY DIAL** to change and select either "Preset", "User" or "No" modes. **Note:** You must understand how to operate and when to use each of these modes before you change them!

**“P”** is for PRESET MODE: This mode causes the organ to send a program change number equal to the piston number that is pressed. The General Pistons will send program changes 1-10 on MIDI Channel 8, the organ’s General Piston control the channel. The Divisional Pistons (1-6) for each division will send program changes 1-6 on the channels as shown on the previous page. For example, Swell Piston 1 will send Program Change 1 on Channel 1. Great Piston 2 will send Program Change 2 on Channel 2, etc., (See Section C-6).

**“U”** is for USER MODE: In this mode the organ is capable of sending any program change number on any piston that will select voices, change banks, or change program “patch” numbers on another MIDI device. Any MIDI program change number from 1 through 128 can be assigned to any General or Divisional Piston (blank or no digit may also be selected). Any MIDI bank switch number between 0 and 127 can be assigned to any Divisional Piston. As in PRESET mode, General Pistons will send program change information on MIDI Channel 8. Divisional Pistons will send information on their respective MIDI channels. (See Section C-6)

**“N”** is for NO MODE: With this mode selected, NO information is transmitted or received. This mode cancels transmission and reception of all program change information.

### 3. General MIDI Sound Names or Program Numbers

The Console Controller™ window can display MIDI program changes as either MIDI program numbers or as General MIDI sound names. Press the **CURSOR** button until the flashing cursor is positioned on the Display mode value. Turn the **ROTARY DIAL** to change and select one of the two modes.

**General MIDI Sound Names**

With General MIDI mode selected, the 'PROG CHG' window will display:

```
PROG CHG: USER
DISPLAY: GEN MIDI
```

Make sure the word USER is selected as the mode and that GEN MIDI has been selected following the word DISPLAY. You must advance to the next window function then press a piston to view the sound names for any General MIDI device. The next window will display:

```
MIDI PROG CHANGE
```
As you press a General or Divisional Piston, the Console Controller™ window will now display the General MIDI sound name that corresponds to the MIDI program change selected. For example, press General Piston 1. The Console Controller™ will display the MIDI program change names.

**Note:** In some cases, the General MIDI sound name will be abbreviated in the Console Controller window.

![GEN 1 BANK 0
P:Ac Grand Piano](image)

**Program Numbers:**

With NUMBERS selected as the display mode, the 'MIDI PROG CHANGE' window function will display:

![GEN 1 BANK 0
P: 1](image)

With PRESET selected as the program change mode, press a General or Divisional Piston. The Console Controller™ window will display the same MIDI program change number as the associated piston pressed. For example, pressing General Piston 1 will display:

![GEN 1 BANK 0
P:XXX](image)

The MIDI program change number will be displayed in PRESET mode, no matter if NUMBERS or GEN MIDI is displayed. You must select USER mode to view the GENERAL MIDI sound names. You must also select USER mode to assign MIDI program change numbers larger than 10 (the largest number of any piston).

With USER selected as the program change mode, along with NUMBERS as the display mode, you will be able to assign “- - -” (OFF) or any program change number from 1 through 128 to any General or Divisional Piston.

There may be a number or “- - -” following the “P:”. This “P:” represents the Program Change Number and does not stand for PRESET in this window. If there is “- - -” following “P:” this means that the “ZERO” Program Change Number will be sent from the associated piston.

To change the program change numbers, press the CURSOR button until the flashing cursor is positioned on the program change number value. Turn the ROTARY DIAL to change the program number value.

**Note:** The Allen Organ uses MIDI Program Change Zero as a message for "MIDI OFF."
Important! MIDI Program Change 1 corresponds to the General MIDI sound "Acoustic Grand Piano." Some MIDI devices do not use Program Change zero for MIDI OFF. Consequently, Program Change Zero, ("- - -“ in the window) when sent from the organ, will correspond to Program Change 1 on those MIDI devices. Program Change 1 sent from the Allen will correspond to Program Change 2 on those MIDI devices etc.

4. Assigning MIDI Program Changes to Organ Pistons

This function allows the organist to select any voice from an external MIDI device by pressing any General or Divisional piston on the organ. The "USER" program change mode must be selected (See Section C-2). Advance to the 'MIDI PROG CHANGE' window function (see Section A-2).

MIDI PROG CHANGE

For this example press the Swell Division Piston 1. The display will change to:
The LCD will display the last piston pressed and the MIDI program number being sent by that piston. Press the CURSOR button until the flashing cursor is positioned on the program change number value. Turn the ROTARY DIAL to change the program number value.

Sw 1  BANK  0
P:  1

A program number of (1-128) will be transmitted on the channel assigned to the division from which you selected the piston; in this case, the Swell Division on Channel 1. (See Section C1).

Sw 1  BANK  0
P:128

Note: Reconfiguring a Divisional Piston to become a General Piston will NOT change the MIDI channel it transmits on. Also, refer to the program number chart in the owner’s manual of the external MIDI device you are using. Once you have assigned a MIDI program change number to a piston, that number will remain assigned to that piston even if the organ has been turned off.

Important! Once MIDI program change programming is complete the user must exit the piston programming window function, by using the SET and CANCEL pistons (see Section A-2), for any changes to take effect.

5. MIDI Bank Selecting

Many MIDI devices permit access to a variety of sounds in addition to the General MIDI sounds. Normally these additional sounds are stored in groups called BANKS. A BANK in MIDI terminology means a group of voices or sounds. There are two levels of banks. One level offers two choices, High Bank and Low Bank. Each of these, High Bank and Low Bank, has as sub-groups other level of banks, BANK Numbers.

MIDI devices can have as many as 128 sounds/voices per BANK Number. There are also 128 BANK Numbers (Ø through 127). Therefore it is possible that a MIDI device that is
only High Bank or Low Bank compatible. With 128 BANK Numbers, each could contain up to 128 voices/sounds, for a total of 16,384 sounds. Think of these BANK Numbers as floors or stories in a tall building. Each floor would contain 128 rooms and each room could then contain 128 voices.

There are MIDI devices that are High Bank and Low Bank compatible. It would be possible for these MIDI devices to have as many as \((128 \times 128 \times 2 = 32,768\) voices/sounds) 128 voices/sounds in each of the 128 BANK Numbers, in each of the High and Low Banks. Most MIDI devices do not use all of the locations available. It would be very expensive as well as difficult to remember the address for each sound location. There are also MIDI devices that offer only General MIDI sounds/voices. These General MIDI devices may operate using High Bank or Low Bank, but only the sub-group Ø Bank Number is used to store the 128 General MIDI sound settings. Allen Organs are able to access any of the Banks and therefore can communicate with all MIDI devices.
Note: You MUST know the capabilities of, and understand how to operate, the MIDI device you intend to use with any organ!

Selecting High Bank or Low Bank:

Advance to the 'MIDI BASE CHANNEL' window function (see Section A-2).

<table>
<thead>
<tr>
<th>MIDI BASE CH: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BANK: LOW</td>
</tr>
</tbody>
</table>

Press the CURSOR button until the flashing cursor is positioned on the BANK select value. Turn the ROTARY DIAL to select either HIGH or LOW Bank priority.

Selecting MIDI Bank Numbers:

Bank Numbers are assignable in the same way that MIDI Program Numbers are (See Section C-3); except that you must only use Bank numbers on the Divisional Pistons. You MUST have USER mode selected before assigning Bank numbers! Advance to the 'MIDI PROG CHANGE' window function (see Section A-2).

| MIDI PROG CHANGE |

For this example press the Great Division Piston 1. The display will change to:

| GT 1  BANK   0 |
| P:    1       |

The window displays the last piston pressed, the MIDI BANK Number, and the program number being sent by that piston. Press the CURSOR button until the flashing cursor is positioned on the MIDI Bank number value. Turn the ROTARY DIAL to select or change the MIDI BANK number value. The BANK number (0-127) will be transmitted on the channel assigned to the division from which you selected the piston, in this case, the Great Division on Channel 2 (See Section C-1). Also, refer to the Bank selection/program number chart in the owner’s manual for the external MIDI device you are using.

Once you have assigned a MIDI BANK Number to a piston, that number will remain assigned to that piston even if the organ has been turned off.

Important! Once MIDI Bank change programming is complete the user must exit the piston programming window function, by using the SET and CANCEL pistons (see Section A-2), for any changes to take effect.

6. Changing the MIDI Base Channel

This function allows you to change the setting of the MIDI Base Channel. The Base Channel is a reference point to establish the positioning of the other 15 MIDI channels. On Allen Organs, the Base Channel equals the Swell Division's channel of transmission (i.e., if the Base Channel = 1, then the Swell Channel = 1, if the Base Channel = 2, then the Swell Channel = 2, etc.). Moving the Base Channel allows you to shift the organ’s range of MIDI channels, this is helpful when reassigning an external MIDI device from one organ division to another.
Important! The Base Channel always resets to Channel 1 whenever the organ is turned on.

Advance to the 'MIDI BASE CH' window function (see Section A-2).

```
MIDI BASE CH: 1
BANK: Low
```

Press the CURSOR button until the flashing cursor is positioned on the MIDI Base Channel value. Turn the ROTARY DIAL to change the MIDI Base Channel value. All functions associated with a particular division will transmit and receive on its assigned channel. For example, MIDI Channel 1 is normally assigned to the Swell Division and the Swell Manual. Therefore, keying velocity or on/off messages, and program changes (Swell Divisional Pistons) will be transmitted and received on Channel 1 (See Section C-1 for Allen MIDI Channel Assignments).

If the Base Channel is reset to 2, in the display all of the channels will shift higher by one. Now, Swell = 2, Great = 3, Pedal = 4, Choir = 5, and the General Pistons = 9. Note: MIDI Channel numbers will wrap, i.e. channel numbers go only to 16 and will then repeat to 1. FOR NORMAL USE, DO NOT USE A BASE CHANNEL LARGER THAN 9.

7. MIDI Expression Settings

Advance to the 'MIDI EXPRESSION' window function (see Section A-2).

```
MIDI EXPRESSION
POLY-VOLUME
```

There are four modes for transmitting expression data via MIDI. To select an expression mode, press the CURSOR button until the flashing cursor is positioned on the expression setting value (line 2) of the display. Turn the ROTARY DIAL to select one of the four different expression modes.

Note: The default expression mode setting is always POLY-VOLUME.

POLY-VOLUME — This is the normal expression mode setting where the expression data is distributed among the appropriate MIDI channels. This is the proper mode to use when recording to, or playing back from, a sequencer.

POLY-VELOCITY — This setting should be selected if you are using a percussion-type voice from a sound module or an external MIDI keyboard. For example, if a digital piano sound were played from the organ keyboard through MIDI Channel 1, the piano could be made to sound more realistic. By opening the Swell expression shoe, the piano strings would appear to be struck harder than when the Swell pedal was in the closed position.

Note: This mode setting should only be used if your Allen Organ does not contain velocity sensitive keying (OST).

Note: In POLY-VELOCITY mode, all expression information is sent in key velocity form. Changes in velocity will occur only when a new key is struck. Consequently, if you change the position of the Swell pedal after a key is struck there will be no change in velocity until a new key is struck. Use this mode only when a velocity-sensitive external MIDI device is connected. If this mode is selected when recording to a sequencer, the expression on the organ will not function when playing back from the sequencer.
**SWELL-VOLUME** — This setting causes MIDI expression data to be sent only on the Swell MIDI channel. Some early sequencers can only interpret one volume message.

**NO EXPRESSION** — No MIDI expression (volume) data sent.

### 8. MIDI Sustain Kick Switch

A lever located to the left of the Great/Pedal expression shoe (optional in many organs) and controlled by the organist’s foot, operates MIDI sustain. This function can be assigned to any one of or all of the instrument’s manuals. Advance to the 'MIDI SUSTAIN' window function *(see Section A-2).*

![MIDI Sustain GT = OFF]

To select an organ keyboard (manual), press the CURSOR button until the flashing cursor is positioned on the manual abbreviation. Turn the ROTARY DIAL to select an organ keyboard. Then, to turn the MIDI Sustain function on/off on the selected manual, press the CURSOR button until the flashing cursor is positioned on the MIDI Sustain value. Turn the ROTARY DIAL to turn the selected manual ON/OFF. OFF will not allow MIDI Sustain messages to be transmitted, ON will allow MIDI sustain messages to be transmitted on a given keyboard (manual) or MIDI channel. For example, when a PIANO voice in an external MIDI device (voice module) is selected and the MIDI sustain for that given MIDI channel (division) is turned ON, and the foot controlled sustain lever is actuated, the piano sound will slowly decay.

### 9. Organ Local Off

Organ Local Off is a function that allows the user to “virtually” disconnect the organ’s keyboards, pedalboard and pistons from the organ’s tone generation and capture system. In essence, the organ is transformed into a sophisticated multi-manual MIDI controller. To enable/disable the Organ Local Off function, advance to the ‘ORGAN LOCAL OFF’ window function *(see Section A-2).*

![Organ Local Off = Disabled][Organ Local Off = Enabled]

To enable/disable the Organ Local Off function, press the CURSOR button until the flashing cursor is positioned on the Local Off control value. Turn the ROTARY DIAL to change the enable/disable value.

**Note:** When Organ Local Off is enabled, the MIDI stops do not need to be on to play the external MIDI device(s).
10. Transferring and Saving Capture Memory Data to a Sequencer

CAPTURE MEMORY refers to all of the piston registrations on all available memories, plus all positional secondary Crescendo “B” settings and the secondary Tutti “B” settings. With this operation, the organist can copy and save all of this stored information to a digital MIDI sequencer. Advance to the 'CAPTURE MEMORY SAVE' window function (see Section A-2).

Set your sequencer to the record mode and begin recording as you normally would. Press and hold the MEMORY button in the Console Controller™. While holding MEMORY, press General Pistons 2-5-5 in sequence. The Capture Memory information will be transmitted to the sequencer. During the memory data transfer process the window will display:

The 'dot' behind the word 'SENDING' on line one of the display will move as the data is transmitted.

Note: Depending on the number of capture memories this procedure can take an extended period of time, please be patient. Once completed, a copy of the Capture Memory information will exist in the sequencer and the original information will be retained in the Console Controller™ memory.

11. Return Capture Memory Data from a Sequencer to the Organ

To replace previously recorded Capture Memory information into the organ from your sequencer, simply press "Play" on the sequencer and the recorded capture data will automatically be transmitted to the organ. You must have a MIDI cable connected from the OUT port of the sequencer to the IN port of the Allen Organ. It does not matter what window function the Console Controller displays.

Note: The Capture Memories must be unlocked (see section A-6) before you press “Play” on the sequencer, allowing the organ’s available memories to receive capture information. It is a good idea to first save whatever is stored in the organ’s memory because, it will be erased by this procedure.

Note: The 'dot' on line two of the display will move as data is received.
12. Transmission/Reception of Individual Stop Data

This function allows the organist to turn on/off the transmission and reception of individual stop data, known in MIDI terminology as "Non-Registered Parameters". In some cases individual stop data (on/off) from the organ may conflict with data from an external MIDI device. When this occurs, select the "OFF" position.

**Note:** Piston changes will still be transmitted and received, because they are classified as program changes.

Advance to the 'TRANSMIT / RECEIVE STOPS' window function:

```
TRANSMIT/RECEIVE STOPS ON
```

To change the on/off status of the Transmit/Receive Stops function, press the CURSOR button until the flashing cursor is positioned on the status control value. Turn the ROTARY DIAL to turn the transmit/receive status on/off.
D. QUICK REFERENCE GUIDE

1. Basic Operations Review
   a. Advancing Through the Windows:
      Use the ROTARY DIAL in the Console Controller.
   b. Return to the Main Window function:
      Hold SET, press CANCEL, release both or use the ROTARY DIAL in the Console Controller.
   c. Setting Pistons:
      Main Window. Select desired registration. Hold SET and press piston to remember registration.
   d. Select Memory and Lock It:
      Main Window. Select desired memory using CURSOR button and ROTARY DIAL. Press and hold MEMORY button, enter three-digit code on general pistons, release MEMORY, "L" will appear next to capture memory number in display.
   e. Unlock a Memory:
      Repeat d. above. "L" will disappear.
   f. Unlock All Memories Without Code:
      Advance to display "Unlock All Capture Memories". Press and hold MEMORY, press General Pistons 2-5-5, release MEMORY. Display returns to Main Window function.
   g. Self-Check Capture and Stop Action:
      Advance to display: "Self-Check". Turn ROTARY DIAL to activate/de-activate Self-Check or to de-activate, press and hold SET, press CANCEL, and then release both.

2. Advanced Operations Review
   a. Reconfiguring Pistons:
      Advance to display: "Configure Pistons". Select the desired stops. Press and hold SET, and then press the desired piston. To return to the Main Window, (press and hold SET, press CANCEL and then release both). Set new registrations (see section E-1, c.).
   b. Set Secondary Crescendo “B”:
      Advance to display: "Set Cresc B and Tutti B". Maneuver/Set step positions using the Console Controller™ controls, SET piston.
   c. Set Secondary Tuttis:
      Advance to display: "Set Cresc B and Tutti B". Press Tutti piston you want to program. Select/Adjust Stops. Use MEMORY button in conjunction with the SET piston to set the Tutti pistons.
   d. Restore Factory Settings:
      Advance to display: "Re-Initialize Piston Configuration". Use CURSOR button and ROTARY DIAL to select the settings you want to restore. Press and hold MEMORY, press General Pistons 2-5-5.
E. MIDI GUIDE

1. MIDI for Organists

The term MIDI is an acronym for Musical Instrument Digital Interface. MIDI has been adopted by the music industry as a standard means of communication between digital musical devices enabling devices of different types and manufacturers to communicate. MIDI by itself will not make a sound. It is not necessary to understand all of the technical aspects of MIDI in order to take advantage of the benefits it offers. It is important to explore the potential MIDI holds for musicians, as well as the various MIDI applications available today.

Types of MIDI Devices

MIDI devices fall into two categories.

1. The first category consists of musical instruments such as organs and synthesizers that transmit and receive MIDI data.

2. The second category includes controllers and processors that, as their name implies, can transmit, receive or manipulate MIDI data, but do not necessarily produce sound themselves. Sequencers, which are MIDI recording devices, fall into this category. Although the technical nature of their recording and editing processes differs from those of a tape recorder, many operate in similar fashion. Most are equipped with record, playback, fast forward and reverse controls that function in the same way as their tape recorder counterparts.

Types of MIDI Data

There are several types of MIDI messages that can be sent from one device to another. The most common is keying information, allowing one device to sense which keys have been played on another device. This means an organ equipped with MIDI can send information to other MIDI devices, e.g., synthesizers or sequencers, and can play those devices simultaneously or record information to be played back later.

Allen Organs incorporate an advanced MIDI system allowing the transmission and reception of all types of MIDI information (velocity keying, volume change, sustain, registrations, Crescendo settings and more). It is even possible to control several devices from one manual simultaneously, or control a different device from each manual of the console.
MIDI as a Practice Tool

For the organist/choir director, the MIDI organ console and sequencer are valuable rehearsal tools for both choral and organ works. Anthem accompaniments may be recorded in advance and played back by the sequencer during choir rehearsal. The director, freed from the role of accompanist, can focus entirely on directing the choir. The sequencer can play the music back at a slower tempo without affecting pitch, or at a lower pitch without affecting tempo, features that are useful in rehearsing difficult choral passages.

If the sequencer allows multi-tracking, each vocal section’s part may be recorded on a different track, and then played back individually, or in any combination, for more flexibility. Multi-tracking can also be used in teaching and learning new organ works. The teacher may record each hand or pedal part on a different track, allowing the student to "mute" or turn off any part being practiced while still being able to hear the sequencer play the rest of the composition. The student’s ability to hear the piece in its entirety from the earliest stage of learning a composition, and to become aware of the interrelationship of its voices, is especially valuable in learning contrapuntal works.

MIDI as a Registration Tool

In some churches and auditoriums it is difficult to judge the effectiveness of a registration from the organ console. Due to the acoustics of the room, or positioning of the console, the sound of the instrument may be different when listened to from the congregation’s or audience’s vantage point. MIDI allows the organist to evaluate registrations by recording the music using a sequencer, and then listening from different locations in the room during the music’s playback.

Other MIDI Uses

MIDI has created new possibilities for the organist. The ability of the organ console to control external keyboards or sound modules puts an ever-increasing array of non-traditional sounds at the organist’s fingertips. A superior degree of control is made possible by the flexibility of an organ console. The ability to record MIDI data using a sequencer opens a variety of new possibilities during practice and performance situations.

Computer software programs are also available that allow musicians to play MIDI devices connected to a computer, and have their performance printed as conventional five-line musical notation. Because MIDI is an industry-wide standard, today’s MIDI instruments will be compatible with tomorrow’s MIDI innovations.

2. Connecting Allen Organs to Other MIDI Devices

Allen Organs can be connected to a variety of MIDI devices. A connecting diagram for a variety of MIDI devices can be found at the end of this section. Although the diagram is not meant to be an exhaustive list of possibilities, it illustrates the most commonly used connections of MIDI devices. If more specific information is required, please consult the owners’ manuals of the external devices being connected to the organ.
3. Allen’s Exclusive MIDI System

Allen Organs feature an advanced MIDI system with increased flexibility. This system provides a comprehensive interface between MIDI sound modules, such as the Allen Ensemble™, and digital sequencers such as the Allen Smart Recorder™. Two MIDI Out ports, one switched and one unswitched, allow unprecedented control over external MIDI devices attached to the organ.

Under normal circumstances, MIDI sound modules should be connected to the switched MIDI port labeled MIDI OUT 2. Doing so allows the organist to disable the sending of MIDI data from the organ to the sound module. Devices such as MIDI sequencers should be connected to the unswitched MIDI port labeled MIDI OUT 1, eliminating the necessity of having to draw the MIDI stop controls before recording a digital sequence. The drawing below illustrates the proper procedure for connecting the Allen Ensemble™ and Allen Smart Recorder™ to an Allen Organ.

![MIDI Connection Diagram]

4. MIDI Transmission Channels

MIDI information may be transmitted on several different channels simultaneously. This allows many channels of information to be sent through one cable and used independently from one another, similar to the way many television broadcasts can be sent through one cable. In order to receive the intended information, a MIDI device must be tuned to the same channel as the device that is sending the information.

Your Allen Organ transmits MIDI information on several channels. When external MIDI devices are connected to the organ, it is important to make sure that the devices’ channels of transmission and reception match the MIDI channels of the Allen Organ divisions to which they are assigned.

MIDI Program Change Messages are transmitted from the organ’s General Pistons on MIDI Channel 8. These program change messages can be used to change the settings of MIDI sound modules or synthesizers that are connected to the organ. Please consult the owner’s manual of your MIDI device(s) for more information on how MIDI Program Change Messages are handled by that particular device.
In addition to keying and divisional registration information, MIDI Volume Messages are sent on the individual MIDI channels for each division of the organ. These volume messages are controlled by the division’s expression shoe. In this manner, the volume of connected MIDI devices may be controlled.

Please consult the owner’s manual of your MIDI device(s) for more information on how MIDI Volume information is handled by that device. If any external MIDI device is used to transmit information to the Allen organ, the same assignment of MIDI channels must be used as described elsewhere in this manual.
5. **General MIDI Sound Set**

<table>
<thead>
<tr>
<th>No.</th>
<th>Sound Name</th>
<th>No.</th>
<th>Sound Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Acoustic Grand Piano</td>
<td>44</td>
<td>Contrabass</td>
</tr>
<tr>
<td>2</td>
<td>Bright Acoustic Piano</td>
<td>45</td>
<td>Tremolo Strings</td>
</tr>
<tr>
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<td>GodofGraceGlory</td>
<td>God of Grace and God of Glory</td>
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<td>Abide with Me</td>
<td>GodoftheAgesHand</td>
<td>God of the Ages, Whose Almighty Hand</td>
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<td>AllHolyJesus</td>
<td>Ah! Holy Jesus</td>
<td>GodRestYouMerry</td>
<td>God Rest You Merry, Gentlemen</td>
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<td>DidMySaviorBleed</td>
<td>Alas! And Did My Savior Bleed</td>
<td>GodTakeCareofYou</td>
<td>God Will Take Care of You</td>
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<td>AllCreatures</td>
<td>All Creatures of Our God and King</td>
<td>GodHiddenMajesty</td>
<td>God with Hidden Majesty</td>
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<td>GloryLaudHonor</td>
<td>All Glory, Laud, and Honor</td>
<td>GoodChristianMen</td>
<td>Good Christian Men, Rejoice</td>
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<td>AllHailPower-A</td>
<td>All Hail the Power of Jesus' Name - A</td>
<td>GreatThyFaithful</td>
<td>Great Is Thy Faithfulness</td>
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<td>All Hail the Power of Jesus’ Name - B</td>
<td>GuideGratJehovah</td>
<td>Guide Me, O Thou Great Jehovah</td>
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<tr>
<td>AllPeopleEarthDo</td>
<td>All People That on Earth Do Dwell</td>
<td>HarkHeraldAngels</td>
<td>Hark! The Herald Angels Sing</td>
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<td>AllPraiseTheeGod</td>
<td>All Praise to Thee, My God, This Night</td>
<td>HereIAmLord</td>
<td>Here I Am Lord</td>
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<td>AllThingsBright</td>
<td>All Things Bright and Beautiful</td>
<td>HolyGodPraiseNam</td>
<td>Holy God, We Praise Your Name</td>
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<td>Alleluia! Sing to Jesus!</td>
<td>HolySpiritTruth</td>
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<td>Amazing Grace</td>
<td>HolyHolyHoly</td>
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<td>America</td>
<td>HowBrightlyBeams</td>
<td>How Brightly Beams the Morning Star</td>
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<tr>
<td>AllHailPower-B</td>
<td>America</td>
<td>HowFmFoundation</td>
<td>How Firm A Foundation</td>
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<td>AllPeopleEarthDo</td>
<td>Angels from the Realms of Glory</td>
<td>HowGreatThouArt</td>
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<td>I Am the Bread of Life</td>
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<td>At the Cross Her Station Keeping</td>
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<td>iSingMightyPower</td>
<td>If Thou but Trust in God to Guide Thee</td>
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<td>Be Still My Soul</td>
<td>TrustGodGuidThee</td>
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<td>In Christ There Is No East or West - A</td>
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<td>ChristEastWest-B</td>
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<td>Jesus Christ Is Risen Today</td>
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<td>Jesus Loves Me!</td>
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<td>Come, Christians, Join to Sing</td>
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<td>JesusVeryThought</td>
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<td>Just As I Am, without One Plea</td>
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<td>Lead on O King Eternal</td>
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<td>LiftUpYourHeads</td>
<td>Lift Up Your Heads, Ye Mighty Gates</td>
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<td>Lord, Speak to Me That I May Speak</td>
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<td>LoveDivine-A</td>
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<td>For All the Saints</td>
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<td>Love Divine, All Loves Excelling - B</td>
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<td>More Love to Thee, O Christ</td>
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<td>My Hope Is Built on Nothing Less</td>
<td>SongsThankPraise</td>
<td>Songs of Thankfulness and Praise</td>
</tr>
<tr>
<td>NeartoHeartofGod</td>
<td>Near to the Heart of God</td>
<td>SpiritDivinePray</td>
<td>Spirit Divine, Accept Our Prayers</td>
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<tr>
<td>NowThankWeAllGod</td>
<td>Now Thank We All Our God</td>
<td>SpiritGodDescend</td>
<td>Spirit of God, Descend Upon My Heart</td>
</tr>
<tr>
<td>NowtheDaysIsOver</td>
<td>Now The Day Is Over</td>
<td>StandUpBlessLord</td>
<td>Stand Up and Bless the Lord</td>
</tr>
<tr>
<td>BeautifulSpacSky</td>
<td>O Beautiful for Spacious Skies</td>
<td>SweetHourPrayer</td>
<td>Sweet Hour of Prayer</td>
</tr>
<tr>
<td>ComeSingUntoLord</td>
<td>O Come and Sing Unto the Lord</td>
<td>TakeMyLife</td>
<td>Take My Life</td>
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<tr>
<td>OComeAllYeFaith</td>
<td>O Come, All ye Faithful</td>
<td>ChurchFoundation</td>
<td>The Church Is One Foundation</td>
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<tr>
<td>OComeEmmanuel</td>
<td>O Come, O Come Emmanuel</td>
<td>DayResurrection</td>
<td>The Day of Resurrection!</td>
</tr>
<tr>
<td>OGodHelpAgesPast</td>
<td>O God, Our Help in Ages Past</td>
<td>TheFirstNowell</td>
<td>The First Nowell</td>
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<tr>
<td>OJesusIPromised</td>
<td>O Jesus, I Have Promised</td>
<td>TheGodAbrahamAbr</td>
<td>The God of Abraham Praise</td>
</tr>
<tr>
<td>OTownnoBethlehem</td>
<td>O Little Town of Bethlehem</td>
<td>KingLoveShepherd</td>
<td>The King of Love My Shepherd Is</td>
</tr>
<tr>
<td>OLoveNotLetMeGo</td>
<td>O Love That Wilt Not Let Me Go</td>
<td>LordIsMyShepherd</td>
<td>The Lord Is My Shepherd, I'll Not Want</td>
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<tr>
<td>OMasterLetMeWalk</td>
<td>O Master, Let Me Walk with Thee</td>
<td>OldRuggedCross</td>
<td>The Old Rugged Cross</td>
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<tr>
<td>OPerfectLove</td>
<td>O Perfect Love</td>
<td>TheStrifeIsOver</td>
<td>The Strife Is O'er</td>
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<td>OSacredHeadNow</td>
<td>O Sacred Head Now Wounded</td>
<td>ThineIsTheGlory</td>
<td>Thine Is the Glory</td>
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<td>WordGodIncarnate</td>
<td>O Word of God Incarnate</td>
<td>MyFathersWorld</td>
<td>This Is My Father's World</td>
</tr>
<tr>
<td>OWorshiptheKing</td>
<td>O Worship the King</td>
<td>ToGodBetheGlory</td>
<td>To God Be the Glory</td>
</tr>
<tr>
<td>CloserWalkGod-A</td>
<td>O, for a Closer Walk with God - A</td>
<td>OurSovereignKing</td>
<td>To Jesus Christ Our Sovereign King</td>
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<tr>
<td>CloserWalkGod-B</td>
<td>O, for a Closer Walk with God - B</td>
<td>WakeSleepNoLong</td>
<td>Wake, O Wake, and Sleep No Longer</td>
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<tr>
<td>ThousandTongues</td>
<td>O, for a Thousand Tongues to Sing</td>
<td>WeGatherTogether</td>
<td>We Gather Together</td>
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<tr>
<td>OnJordanBankCry</td>
<td>On Jordan's Bank the Baptist's Cry</td>
<td>WeGiveTheeThine</td>
<td>We Give Thee but Thine Own</td>
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<tr>
<td>OpenMyEyesMaySee</td>
<td>Open My Eyes That I May See</td>
<td>ThreeKingsOrient</td>
<td>We Three Kings of Orient Are</td>
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<tr>
<td>Console Controller</td>
<td>Full Title</td>
<td>Console Controller</td>
<td>Full Title</td>
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<tr>
<td>OpenNowThyGates</td>
<td>Open Now Thy Gates of Beauty</td>
<td>WhatFriendJesus</td>
<td>What A Friend We Have in Jesus</td>
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<tr>
<td>PraiseMySoulKing</td>
<td>Praise My Soul, the King of Heaven</td>
<td>WhatChildIsThis</td>
<td>What Child Is This</td>
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<td>PraiseToTheLord</td>
<td>Praise to the Lord, the Almighty</td>
<td>WhatWondrousLove</td>
<td>What Wondrous Love Is This</td>
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<td>RejoiceLordKing</td>
<td>Rejoice, the Lord Is King</td>
<td>SurveyWonCross-A</td>
<td>When I Survey the Wondrous Cross - A</td>
</tr>
<tr>
<td>RejoiceYePure</td>
<td>Rejoice, Ye Pure In Heart</td>
<td>SurveyWonCross-B</td>
<td>When I Survey the Wondrous Cross - B</td>
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<td>RideOnInMajesty</td>
<td>Ride On ! Ride On in Majesty</td>
<td>MusicGodGlorified</td>
<td>When in Our Music God Is Glorified</td>
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<tr>
<td>RockOfAges</td>
<td>Rock of Ages</td>
<td>MorningGildsSkies</td>
<td>When Morning Gilds the Skies</td>
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<tr>
<td>SaviorShepherd</td>
<td>Savior, Like a Shepherd Lead Us</td>
<td>CrossCrowdedWays</td>
<td>Where Cross the Crowded Ways of Life</td>
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<td>AmidWinterSnow</td>
<td>See Amid the Winter's Snow</td>
<td>ShepherdsWatched-A</td>
<td>While the Shepherds Watched Their Flocks - A</td>
</tr>
<tr>
<td>WeGatherRiver</td>
<td>Shall We Gather at the River</td>
<td>ShepherdsWatched-B</td>
<td>While the Shepherds Watched Their Flocks - B</td>
</tr>
<tr>
<td>SilentNight</td>
<td>Silent Night, Holy Night</td>
<td>MasterProclaim</td>
<td>Ye Servants of God, Your Master Proclaim</td>
</tr>
<tr>
<td>SingPraiseToGod</td>
<td>Sing Praise to God Who Reigns Above</td>
<td>YeWatchersHolyOne</td>
<td>Ye Watchers and Ye Holy Ones</td>
</tr>
<tr>
<td>SoftlyTenderly</td>
<td>Softly and Tenderly</td>
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</table>

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