

Protégé™

Chamber Series™ / Console Controller
C-8c, C-14c

C-8c, C-14c
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ALLEN ORGAN COMPANY

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

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

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

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I. ORGAN STOPS

PITCH FOOTAGE

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

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

TONAL FAMILIES

1. Flues

Organ tones divide into two main categories: *flues* and *reeds*. In pipe organs, flue pipes are those in which the sound is set in motion by wind striking directly on the edge of the mouth of the pipe. Flues include principal, flute and string tones. Compound stops and hybrid stops are variations within these three stop families.

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

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

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

2. Reeds

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

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

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II. SPECIALIZED STOP CONTROLS

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

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

Tremulant	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."
Solo Organ Voices	A variety of solo stops that can be accessed from the Swell manual using the Solo Organ Voices. The stop names are printed on the stop tablets in red superscript. Certain stop tablets in the Solo have two stop names, one engraved in black, and the other in red.
Melody Coupler	When playing on the Great manual, the highest key played on the Great will automatically play all stops drawn on the Swell, in addition to those drawn on the Great. By choosing a Swell stop such as the Festival Trumpet, the melody played by the top note on the Great is accentuated.
Bass Coupler	Similar to the Melody coupler, however, in this case the lowest note played on the Great will also play all stops drawn in the Pedal Division. This allows voices normally played from the pedalboard to be heard without using the pedalboard.
Alternate Tuning On	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. Note: <i>Some historical temperaments will make the organ sound out of tune while playing in certain musical keys. This is a normal result when using these temperaments.</i>
GT-PD Unenclosed	This stop disables the expression for both Great and Pedal divisions. Great and Pedal stops are at full volume regardless of the expression pedal's position. -- <i>Not available on C-14c.</i>
Console Speakers OFF	Used to switch off the Console Speakers.
External Speakers OFF	Switches off all external speakers.

III. EXPRESSION SHOES (Volume Control Pedals)

The organ's two control pedals (called "shoes") to control expression. **Note**

- The left-hand side expresses the Great and Pedal Divisions.
- The right-hand shoe expresses the Swell Division. It affects the loudness of Swell Division voices.

IV. SETTING PISTONS AND TOE STUDS

SETTING GENERAL PISTONS

Your Allen organ's capture system lets you set stop registration combinations in each of its memories. The General pistons are located on the left-hand side of the console under the Swell and Great manuals. **Note:** The C-8c only includes General pistons.

- 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.

SETTING DIVISIONAL PISTONS (Not included on C-8c)

The organ has 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 and Great stops with the Great Divisional pistons.

The *MIDI on Pedal*, *MIDI on Swell*, and *MIDI on Great* stops can be set on either Divisional or General pistons. The *Swell to Pedal* and *Great to Pedal*, as well as *Swell to Great* 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) (C14c only)

Stop registration combinations may be set and drawn by toe studs, as well as by pistons. Toe Studs located on the left side of the Expression shoes are set in the same manner as thumb pistons and duplicate the General Pistons. To set a Pedal 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.

V. ARTISTIC REGISTRATION

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

Organ registrations fall into two broad categories; *solo combinations* and *ensembles*. A solo combination is one in which a melody is played on one keyboard, the accompaniment on another keyboard. The pedal often provides a light bass line. Almost any stop or combination of stops will sound good as a solo voice. A contrasting tone quality should be chosen for the

accompaniment, so that the accompaniment is softer than the solo voice. The Pedal stops must provide a foundation for the solo and accompaniment without covering them.

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

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

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

For accompaniment, the most desirable voices are the 8' flutes or strings on each manual. Celestes often make effective accompaniments. The correct choice depends on the volume of the solo tone (a soft solo voice requires the softest accompaniment stop), the element of contrast, and the location of the solo stop. A bright, harmonically rich solo reed, for example, can be accompanied by either a string or flute, though the flute often contributes greater interest because of its greater contrast. Try to seek a "natural" balance of volume between solo and accompaniment.

SUGGESTED SOLO REGISTRATIONS

CHIMES SOLO

Swell: Gedackt 8', Viola Pomposa 8', Viola Celeste 8'

Great: Chimes

Pedal: Lieblich gedackt 16', Swell to Pedal

Play solo on Great.

SWELL SOLO COMBINATION

Swell: Gedackt 8', Traverse Flute 4', Nasard 2-2/3', Piccolo 2', Tierce 1-3/5'

Great: Harmonic Flute 8', Spitzflöte 4'

Pedal: Lieblich gedackt 16', Flûte 8'

Play solo on Swell.

FLUTE SOLO COMBINATION

Swell: Viola Pomposa 8', Viola Celeste 8'

Great: Harmonic Flute 8'

Pedal: Lieblich gedackt 16', Swell to Pedal

[Play solo on Great.]

TRUMPET SOLO COMBINATION

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

SUGGESTED SWELL SOLO COMBINATION REGISTRATIONS (for C-14c model)

[Engage Swell Solo Voices stop tablet and play solos on Swell.]

COR ANGLAIS SOLO COMBINATION

Swell: Cor Anglais
Great: Flute Celeste II
Pedal: Lieblich gedackt 16', Great to Pedal

CLARINET SOLO COMBINATION

Swell: Clarinet
Great: Diapason 8'', Harmonic Flute 8', *expression shoe not fully opened*
Pedal: Lieblich gedackt 16', Flute 8'

FLUTE SOLO COMBINATION

Swell: Orchestral Flute
Great: Diapason 8'
Pedal: Lieblich gedackt 16', Great to Pedal

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

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

ENSEMBLE REGISTRATIONS

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

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

Two factors are always to be considered: tone quality and pitch. Ensembles begin with a few stops at the 8' and/or 4' pitch and expand "outward" in pitch as they build up. New pitches are usually added in preference to another 8' stop.

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

The Principal Chorus is the most fully developed with representation in various divisions of the organ and at every pitch from 16' to high mixtures. The Principal Chorus is sometimes called the narrow-scale flue chorus, a reference to the relative thinness of Principal pipes in relation to their length.

The Flute Chorus is also well represented with a diversity of stops at various pitches. Generally speaking, the Flute Chorus is composed of less harmonically developed tones, and is smoother and of lesser volume than the Principal Chorus. The Flute Chorus is sometimes called the wide-scale flue chorus, owing to the generally “fatter” look of Flute pipes as compared to Principals.

The Reed Chorus includes those reed tones designed to be used in the ensemble buildup. Not all reed voices are ensemble tones. A Clarinet, for example, is usually a solo stop. The various Trumpets, Clairons, Bassons, etc., are usually ensemble voices that add brilliance, power, and incisiveness to the sound. If you have questions as to whether a specific reed is a solo or ensemble stop, refer to the stop list in the preceding section.

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

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

SUGGESTED ENSEMBLE COMBINATION REGISTRATIONS:

GREAT ENSEMBLE COMBINATIONS

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

SWELL ENSEMBLE COMBINATIONS

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

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

The Pedal ensemble is created in much the same way as the manual ensembles, starting at 16' pitch instead of 8'. Be careful that the volume of the pedals is not greater than that of the manuals. Although the manual to pedal couplers are useful in bringing clarity to the pedal line, especially on softer registrations, avoid the temptation to rely constantly on one or two 16' stops and a coupler. Please note that the softest stops and flute mutations are normally not used with ensembles.

FULL ORGAN

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

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

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

VI. TRANSPOSER

Vast computer capability makes it possible to perform the sometimes difficult task of transposing, while allowing the organist to play in the notated key. The Alpha Dial of the Console Controller™ controls operation of the Transposer. The Alpha Dial is located on the face of the Console Controller™ located at the left side of the console. For additional Console Controller™ operation information please see the guide labeled "Console Controller and MIDI Guide for Chamber Organs".

Transposition to any of the twelve musical keys is possible. When the organ's power is first turned ON, the Console Controller™ window displays a brief message then displays MEM - 1, indicating the first capture memory. Also displayed is the Transposer setting of neutral pitch. The Transposer is displayed as a large digit in the Console Controller display. ("□" is on the right side of the display.) When the organ's power is switched ON, the organ starts up in Memory 1 and in this neutral pitch position.

To shift the music to a higher key, you must first move the cursor's position in the Console Controller's™ display window so that the "□" symbol is selected. To move the cursor, repeatedly press the button on the face of the Console Controller™ labeled "CURSOR" until the "□" symbol is selected. Once the "□" symbol is selected, turn the Console Controller's Alpha Dial to select the new musical key. Turning the dial in a clockwise manner selects higher keys and causes the organ's pitch to rise. Turning the dial in a counter-clockwise manner selects a lower key and causes the organ's pitch to go lower. The pitch can be raised a maximum of five half-steps or lowered a total of seven half-steps. Be aware that the

Transposer's range settings "wrap back around" from the plus five half-step setting to the minus seven half-step setting.

A red indicator light on the face of the console controller™ illuminates any time the Transposer setting is moved from the "□" neutral pitch position.

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^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.

VII. VIRTUAL ACOUSTICS™

Virtual Acoustics™ provide spatial ambiance to enhance any acoustical environment. Your service technician or sales representative will adjust the Default Virtual Acoustics™ setting to sound best for your installation and specifically to your taste. The organist may also choose one of many other Virtual Acoustics™ settings to use or it may be turned off with the switch on the face of the Console Controller™ labeled "Virtual Acoustics™". Please refer to the booklet, "Console Controller™ and MIDI Guide for Chamber Organs" regarding making changes to and selecting the various Virtual Acoustic choices.

VIII. INSTALLATION, VOICING, AND CARE OF THE ORGAN

INSTALLATION

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

VOICING

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

CARE OF THE ORGAN

Your Allen Organ constitutes a major advance in long-term maintenance-free operation. There are no regular maintenance procedures required and, therefore, no periodic maintenance schedules to be observed.

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

Keys and stop tablets should be cleaned in the following manner: Use two clean cloths. Immerse one in clear, lukewarm water and wring it thoroughly damp dry. Loosen the dirt with this cloth, and then polish immediately with the dry cloth. Do not use soap or detergent on keys or stop tablets.

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

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

IX. SAFETY INFORMATION

USA ONLY

CAUTION

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

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

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

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

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

INTERNATIONAL ONLY

CAUTION

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

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

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

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

Read and comply with all instructions and labels that may be attached to the instrument.

Warning: This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been type tested and found to comply with the limits for a Class B Computing Device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. Should this equipment cause interference to radio communications, the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Whether this equipment actually causes the interference to radio communications can be determined by turning the equipment off and on. The user is encouraged to attempt to correct the interference by one or more of the following measures:

Reorient the receiving antenna.

Relocate the organ with respect to the receiver.

Move the organ away from the receiver.

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

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

CE mark shows compliance with the EMC Directive.

CHAMBER SERIES ROTARY DIAL CONSOLE CONTROLLER™ GUIDE

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Introduction

The Console Controller™ is an interface that controls many organ functions and a variety of MIDI functions. It includes a window that displays functions one at a time, two function buttons and a rotary dial that may be used to make selections. Each window function is described here in detail.

A. BASIC OPERATION

1. START-UP SEQUENCE

Upon turning on the organ's main power switch the Console Controller™ will display "Allen Organ Co. Copyright (©) 200x" in its display window for several seconds.

During this start-up period do not press any keys, pedals, stops or move the expression shoe(s). You may also notice that the power LED will blink momentarily as well as the stop indicators. The organ's computer is booting up during this time period and this is considered a NORMAL condition. The organ will be ready to play when the Main window function appears on the Console Controller™ and the power LED glows steadily.

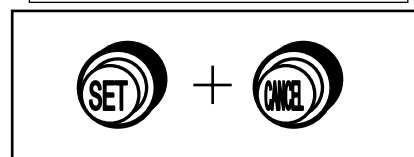
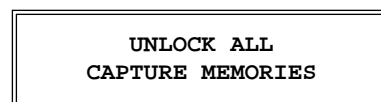
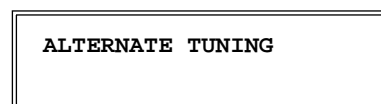
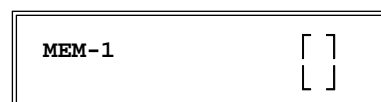
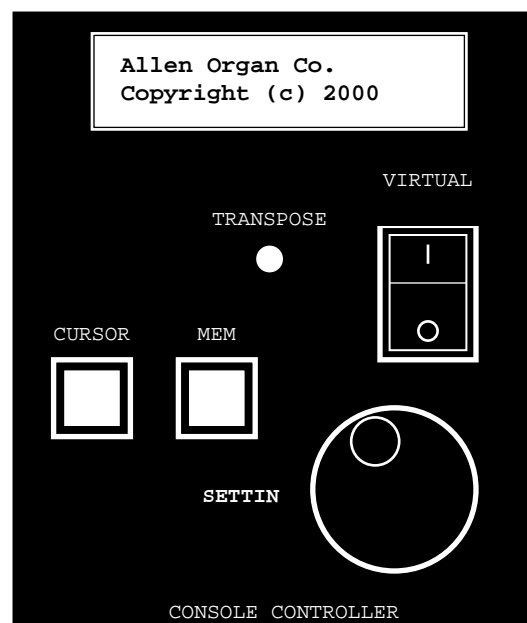
The Main window function is the window that indicates the current capture memory as well as the current Transposer value. The capture memory value is on the first line at the upper left of the display. The Transposer value is located on the right side of the display. The Transposer value actually encompasses both lines.

WARNING: If a warning is displayed in the start-up sequence, contact your authorized Allen representative immediately.

2. ADVANCING THROUGH ALL WINDOWS

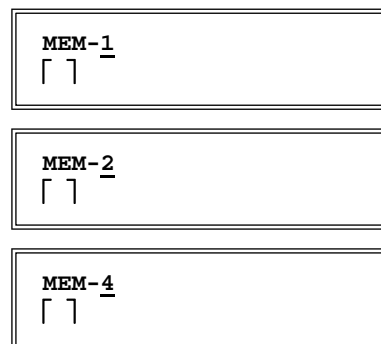
To advance the Console Controller™ display to each next window, press the **CURSOR** button until the blinking **CURSOR** is over the abbreviation **MEM** in the display. Once the abbreviation **MEM** is highlighted, slowly turn the **ROTARY DIAL** clockwise and the display will advance to the next window 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.

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.



3. SELECTING THE FOUR CAPTURE MEMORIES

The Main window function must be displayed (*See Section A-2*). 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 memory number is selected, 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 4, to MEM 3**.



The 4 memories allow you to save different registrations on each piston/toe piston 4 times. This means **General Piston 1** on **MEM-1**, may be totally different from **General Piston 1** on **MEM-2, MEM-3, or MEM-4**.

NOTE: On standard models a factory pre-registered set of registration examples is stored on each piston of the last capture memory (Memory 4). You may re-program Memory 4 registrations to your own registrations. To restore Memory 4 to the original factory settings, please see **RESTORING FACTORY SETTINGS** referenced later in this manual.

4. SAVING REGISTRATIONS USING PISTONS

A **registration** is any combination of stops. 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 on the organ. **Divisional Pistons** affect only those stops associated with the particular manual above them.

To save a registration to a General Piston.

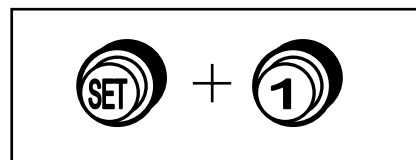
The Main window function in the Console Controller™ must be displayed (*See Section A-2*). Select any memory number (MEM-2, MEM-3, or MEM-4, etc.); however, for this example use MEM-1.

Next, **select the stops** you want General Piston 1 to remember. Once the stops are illuminated, press and hold the **SET** piston.



Then while holding it, press and release **General Piston 1**.

Finally, release the **SET** piston. General Piston 1 will now store in Memory 1 the stops you selected.



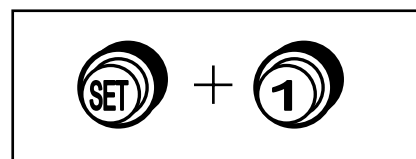
NOTE: General Pistons are sometimes set gradually from soft to loud. General 1 is softest and General 5 (*or 7, depending on the organ model*) the loudest.

To save registrations to a Divisional Piston. *(Applicable for some models)*

The Main window function in the Console Controller™ must be displayed, *(See Section A-2)*. Select any memory (MEM-1, MEM-2, etc.) as aforementioned for the General Pistons. Select the



division stops you want an associated Divisional piston to remember. Once the Divisional stops are illuminated, press and hold the **SET** piston. Then while holding it, press and release an associated Divisional piston. Finally, release the **SET** piston. The Divisional piston you pressed will now store the combination of stops, in the associated division, in the Memory you selected.



Registering the Intermanual Couplers.

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

5. LOCKING CAPTURE MEMORIES

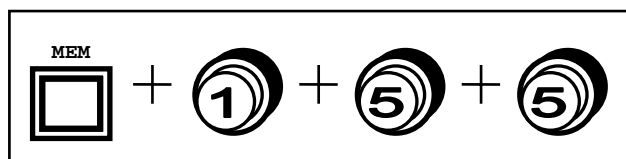
All memories except Memory 1 may be locked or unlocked individually to prevent unintentional or unauthorized changes to that memory's contents. Memory 1 remains unlocked as a convenience to visiting or substitute organists. Therefore it is important not to place any registrations you do not wish to lose in Memory 1.

The Main window function in the Console Controller™ must be displayed, *(See Section A-2)*. Select a memory (2 to 4) you wish to lock by highlighting the memory number and turning the **ROTARY DIAL** to the memory you want to lock.



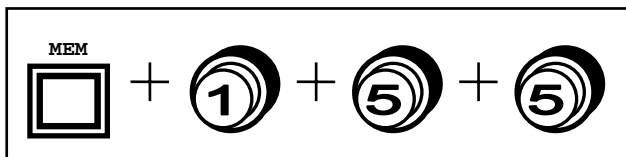
Once you have stored your registrations to pistons, *(See Section A-4)* choose three digits you can easily remember (e.g., 1-2-3, 1-1-1, etc.). Any combination of three numbers will do. Use General Piston 1 for the number one digit, General Piston 5 for the five digit and General Piston 7 for the seven digit if available. You may only use the General Pistons for this function. Divisional Pistons *(if applicable)* will not work.

With the memory number you wish to lock still selected, locate the **MEM** button on the Console Controller™. Press and hold the **MEM** button. While holding the **MEM** button, press the General Pistons that correspond to your three digit code one at a time in the order of your selected code. In other words, if your selected code is 1-5-5, press and hold the **MEM** button on the Console Controller™, then press and release General Piston 1, then press and release General Piston 5, and once again press and release General Piston 5. You may now release the **MEM** button on the Console Controller™. This procedure will cause an "L" to appear next to the MEM number on the display window indicating this memory is now locked. As long as it remains locked, the piston registrations on that memory cannot be changed. Other organists will still be able to use these locked registrations, however, they will not be able to change them. Again, it is important to choose a three digit code that will be easy to remember.



6. UNLOCKING MEMORIES USING YOUR CODE

The Main window function on the Console Controller™ must be displayed: (See Section A-2) To unlock a memory using your three digit code, select the memory to be unlocked. Use the same Memory you just locked in Section A-5. Press and hold the **MEM** button on the Console Controller™. While pressing the **MEM** button, enter the same three-digit code that was used to lock this memory using the General Pistons (1-5-5). Remember, Divisional Pistons will not operate this function, only General Pistons will. Release the **MEM** button. The "L" will disappear, indicating that this memory is now unlocked.

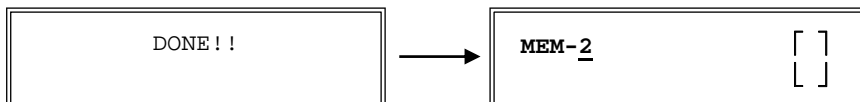
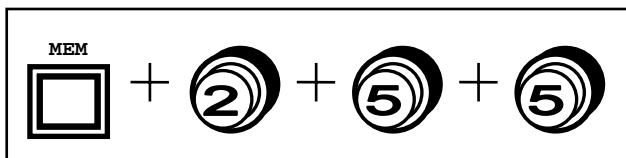
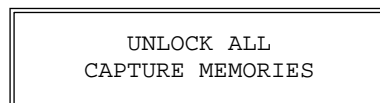


Should a memory be locked and no one knows the code, it can still be unlocked. (See Section A-7)

Note: Each Memory can be locked and unlocked individually. In the case of multiple organists, it means there can be up to three separate memory codes, one for each available memory.

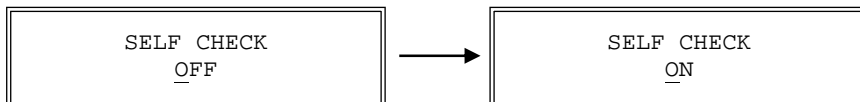
7. UNLOCKING ALL CAPTURE MEMORIES

Advance to the window function: "UNLOCK ALL CAPTURE MEMORIES". (See Section A-2) Press and hold the **MEM** button on the Console Controller™, then press General Pistons 2-5-5 in sequence one at a time. Release the **MEM** button on the Console Controller™, the window will display DONE!! when the organ is finished unlocking all the capture memories. The window display will then automatically return to the Main window function. All capture memories are now unlocked, including those memories, other organists may have locked. Registrations in all memories will remain unchanged.

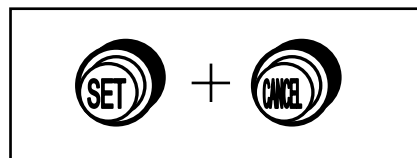


8. STOP ACTION and CAPTURE SELF CHECK

This feature self-checks the capture system. It tests to insure each stop is functioning properly and able to be controlled by the capture system. Advance to the window function: "SELF CHECK". (See section A-2) To start self-check, move the cursor to highlight **OFF** then turn the **ROTARY DIAL** until the display changes to **ON**. In a second or two, the self testing process will begin. During this self testing procedure each stop will illuminate ON then OFF sequentially. *If any stop does not illuminate, notify your Allen Organ authorized service technician.*



During this testing process you can interrupt and return to the Main window function at any time. Press and hold the **SET** piston, then press the **CANCEL** piston and then release both. The testing process will stop and the window will return to the Main window function.

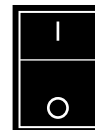


9. VIRTUAL ACOUSTICS SETTINGS™

There are 21 Virtual Acoustic reverb pallets to select from. One of these is the DEFAULT setting that is not adjustable. The other 20 styles are adjustable. This allows an organist to modify the sound of the organ to accommodate a room's changing acoustical properties. (E.g., a room's natural reverberation characteristics become less reverberant as the number of people present increases. A room's reverberation time changes when a room's windows are opened or closed. It also changes with different levels of humidity.)

The rocker switch labeled **VIRTUAL ACOUSTICS** on the Console Controller™ must be **ON** to hear the default reverb or one of the 20 customized Virtual Acoustic selections. The Virtual Acoustics switch on the Console Controller™ has graphics that are depicted as a LINE and a CIRCLE. The LINE on the switch is ON and the CIRCLE on the switch is OFF. The amount of reverberation can be changed on the 20 customized selections. The amount of reverb is shown in dB (decibels). The range of control is from 0 dB to -30 dB. -30 dB is the least amount of reverb and 0 dB is the most reverb available.

VIRTUAL
ACOUSTIC



To access the Virtual Acoustic settings, advance to the Set Reverb window function (*See Section A-2*). The window will display: "**SET REVERB**" and list one of 20 reverb types on the window's second line. For example, to change to a different reverb type press the **CURSOR** button on the Console Controller™ until the cursor is on the second line of the display and on the reverb type. Once the cursor is positioned, turn the **ROTARY DIAL** to select another reverb type. The display will also show the current amount of reverberation applied to the setting selected. To change the amount of reverberation applied to the selected reverb type, press the **CURSOR** button until the cursor is on the reverb amount (the decibel number). Turn the **ROTARY DIAL** to change the amount of reverberation. The amount of reverb is shown in dB (decibels). The range of control is from 0 dB to -30 dB. -30 dB is the least amount of reverb and 0 dB is the most reverb available.

```

ACOUSTICS:
--DEFAULT--
    
```

```

ACOUSTICS:      -
5dB
    
```

```

ACOUSTICS:      -
5dB
    
```

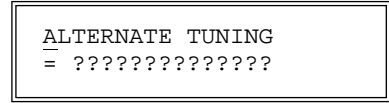
```

ACOUSTICS:      -
5dB
    
```

B. ADVANCED OPERATION

1. SELECTING AN ALTERNATE TUNING *(Church Organs, C-14c and Larger Models, Only)*

Advance to the Alternate Tuning window function (*See Section A-2*). It will display: "**ALTERNATE TUNING**". (*The current Alternate Tuning selected will appear after =.*) Allen Chamber Series Organs offer seven *Alternate Tuning Temperaments*, plus the standard Romantic tuning. These seven are accessible from the Console Controller™.



To select an *Alternate Tuning* from the list, press the **CURSOR** button on the Console Controller™ so that the cursor is on the name of the tuning. Turn the **ROTARY DIAL** to select one of the seven tuning temperaments. The organ's overall tuning will be changed to the selected *Alternate Tuning*, once you turn on the stop labeled ALTERNATE TUNING.



The selected tuning will remain the *Alternate Tuning* until either another *Alternate Tuning* shown in the Console Controller™ window is selected, or the ALTERNATE TUNING stop is turned OFF. Any time the ALTERNATE TUNING stop is OFF, the organ is tuned to the standard general purpose Romantic tuning. The standard Romantic tuning is “warmer” than the CLASSIC and BAROQUE *Alternate Tuning Temperaments*. These two alternate tunings are “tighter” than the Romantic tuning. In other words, most intervals are tuned slightly narrower than the intervals in the standard Romantic tuning.

NOTE I: The remaining tunings are primarily of historical interest; however, these tunings may be limited in their application to modern music. When one of these tunings has been selected, it is normal for some intervals to sound out of tune; music may sound strange when played in certain keys.

NOTE II: The Alternate Tuning function is not available on any of the Allen Theatre Organs.

2. CONFIGURING PISTONS

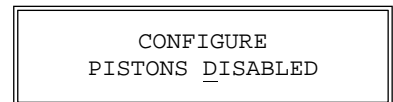
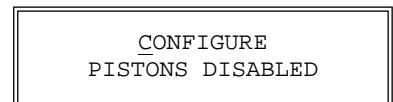
This procedure enables pistons to control stops that are normally not controlled by those pistons. Separate piston configuration changes can be made on each capture memory. E.g., A General Piston can be configured to respond like a Divisional Piston.

NOTE I: Changing the configuration of a piston *will not affect the registrations* previously remembered by that piston, prior to its reconfiguration. Piston configurations apply to all memories.

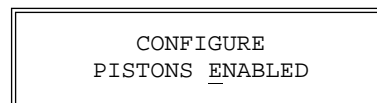
NOTE II: Reconfiguring a piston does not change its MIDI channel assignment. Divisional Pistons cannot make Expander II™ preset group selections.

TO RECONFIGURE PISTONS:

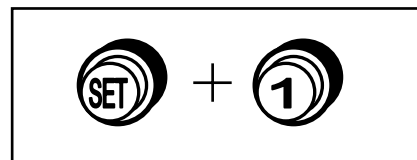
Advance to the Configure Pistons window function (*See Section A-2*). It will display: "**CONFIGURE PISTONS**". Press the **CURSOR** button until the cursor is on the “D” of disabled. Turn the **ROTARY DIAL** to change the display to **ENABLED** instead of **DISABLED**.



Once **ENABLED** is displayed, select *all* of the stops you want the General Pistons to be able to remember. Any stops not illuminated, will not be able to be registered later.



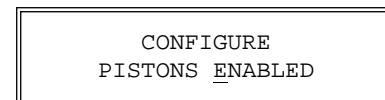
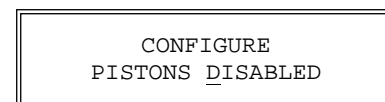
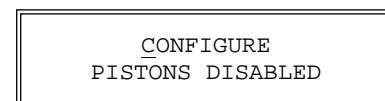
Once the stops you want are selected press and hold the **SET** piston. Then, while holding **SET**, press any or all General piston(s) that you want to reconfigure. You must return to the Main window function to store registrations to these General piston(s). (See Section A-4)



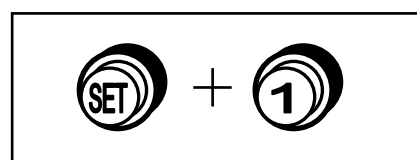
EXAMPLES

CONFIGURING A GENERAL PISTON TO BECOME A DIVISIONAL PISTON:

Advance to the Configure Pistons window function (See Section A-2). It will display: "**CONFIGURE PISTONS**". Press the **CURSOR** button until the cursor is on the "D" of disabled. Turn the **ROTARY DIAL** to change the display to **ENABLED** instead of **DISABLED**.



Select *all* of the stops from only one division. Any stops not illuminated, will not be able to be registered later. Press and hold the **SET** piston. Then, while holding **SET**, press any or all General Piston(s) you want to respond like Divisional piston(s). The associated piston(s) will only register stops from the selected division. You must return to the Main window function to store Divisional registrations to this General piston (See Section A-4).

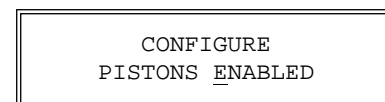
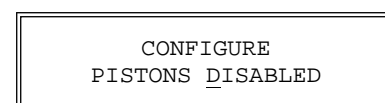
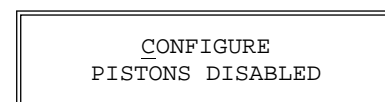


CONFIGURING DIVISIONAL PISTONS (Applicable for some models)

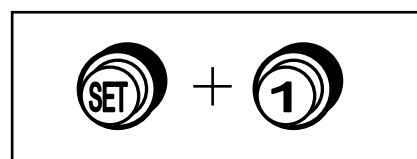
Several examples of how this feature might be used are: (1) Divisional Pistons can be configured to respond like General Pistons. (2) Divisional Pistons normally *will not remember* the settings of the Intermanual Couplers, (i. e., Swell to Great, Great to Pedal). Divisional Pistons can be configured such that, the Intermanual Couplers' settings *will be remembered* by the Divisional Pistons. (3) A Divisional Piston can be configured so that it will only affect the Tremulant stops in all divisions.

MAKE DIVISIONAL PISTONS BECOME GENERAL PISTONS:

Advance to the Configure Pistons window function (See Section A-2). It will display: "**CONFIGURE PISTONS**". Press the **CURSOR** button until the cursor is on the "D" of disabled. Turn the **ROTARY DIAL** to change the display to **ENABLED** instead of **DISABLED**.

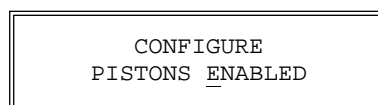
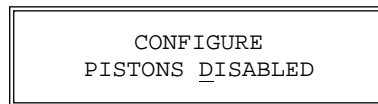
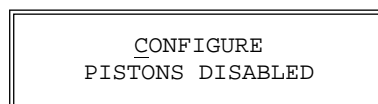


Select *all* of the stops on the organ. Any stops not illuminated, will not be able to be registered later. Press and hold the **SET** piston. Then, while holding **SET**, press the Divisional piston(s) you want to make respond like a General piston. These Divisional piston(s) will now register stops from all divisions. You must return to the Main window function to store registrations to this General piston (See Section A-4).

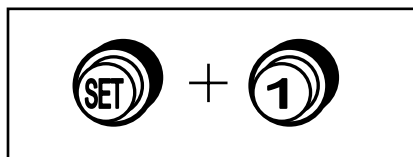


TO ADD "SWELL TO GREAT" INTERMANUAL COUPLER TO GREAT DIVISIONAL PISTONS:

Advance to the Configure Pistons window function (*See Section A-2*). It will display: "**CONFIGURE PISTONS**". Press the **CURSOR** button until the cursor is on the "D" of disabled. Turn the **ROTARY DIAL** to change the display to **ENABLED** instead of **DISABLED**.

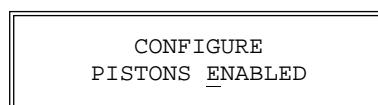
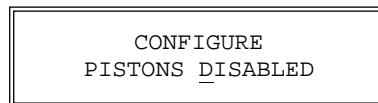
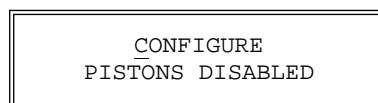


Select *all* of the Great Division stops, *and* the SWELL TO GREAT intermanual coupler. Press and hold the **SET** piston. Then, while holding **SET**, press the Great Divisional Piston(s) that you want the SWELL TO GREAT intermanual coupler assigned to. The Great Divisional piston(s) you selected will now also register the SWELL TO GREAT intermanual coupler in your registrations. You must return to the Main window function (*See Section A-4*) to save registrations to the Divisional Pistons, using combinations of stops and the SWELL TO GREAT coupler.



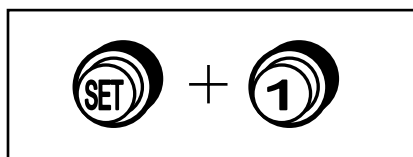
RECONFIGURE A DIVISIONAL PISTON TO CONTROL ONLY TREMULANT STOPS:

Advance to the Configure Pistons window function (*See Section A-2*). It will display: "**CONFIGURE PISTONS**". Press the **CURSOR** button until the cursor is on the "D" of disabled. Turn the **ROTARY DIAL** to change the display to **ENABLED** instead of **DISABLED**.



Select *all* of the organ's Tremulant Stops. Press and hold the **SET** piston. Then, while holding **SET**, press a Divisional piston. The Divisional piston you have selected will now *only* control the Tremulant stops. You must return to the Main window function (*See Section A-4*) to save registrations on this Divisional piston to only control the Tremulant stops.

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



3. RESTORING ORIGINAL FACTORY SETTINGS

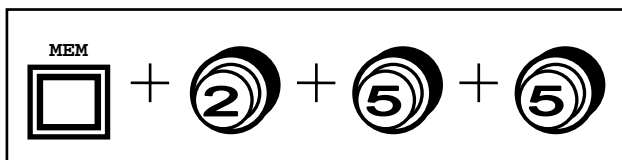
Advance to the Re-Initialize window function (*See Section A-2*). It will display: "**RE-INITIALIZE PISTON CONFIG.**" Certain functions can be restored to original factory settings. These functions are (1) Piston Configurations, (2) Capture Memory 4, (3) MIDI Settings. Each of these functions can be restored individually. To select one of these factory settings to restore press the **CURSOR** button on the Console Controller™ until the first letter of the bottom line is selected. Turn the **ROTARY DIAL** to select the item you want to re-initialize. Once selected, press and hold the **MEM** button on the Console Controller™. Then, while holding **MEM**, press General Pistons **2-5-5** in sequence.

REINITIALIZE
PISTON CONFIG.

REINITIALIZE
PISTON CONFIG.

REINITIALIZE
CAPTURE MEMORY 4

REINITIALIZE
MIDI SETTINGS



DONE !!

If Piston Configuration was selected then the original factory piston configuration settings will be restored. Capture Memory 4 will reset Memory 4 to the factory default combinations and MIDI Settings will restore all user configurable MIDI values to their respective factory default values.

C. MIDI FUNCTIONS

This section deals with the MIDI capabilities of your organ. Knowledge of this section is not required for everyday use of the organ, normal service playing, or normal 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, because this section is written with the assumption that you possess an understanding of MIDI. You need to understand the terms MIDI IN, OUT, and THRU and their function. If you need to increase your understanding of MIDI, there are other books that describe how to use MIDI.

NOTE: You must also consult the owner's manual that covers the external MIDI device you are using for more detail.

1. STANDARD MIDI CHANNEL ASSIGNMENTS

These are the Allen Organ standard MIDI channels settings:

<u>Classical Organs</u>		<u>Theatre Organs</u>	
Channel	Organ Division	Channel	Organ Division
1	Swell	1	Great
2	Great	2	Accompaniment
3	Pedal	3	Pedal
4	Choir	4	Solo
5	Solo	5	Accomp. 2nd Touch
6	Not Used	6	Not Used
7	G1/G2 Pistons		T1/T2 Pistons
8	General Pistons	8	General Pistons

NOTE: The Base Channel always resets to Channel 1 whenever the organ is turned ON (*see section C-6*).

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 to receiving MIDI devices when a piston is pressed. Once a particular program change mode is selected, the organ will retain this same program change mode (even if the organ is turned off) until a new program change mode is selected.

One of three Program Change Modes can be selected in the Console Controller™. These three modes are named “**PRESET**”, “**USER**”, AND “**NO**”. These three mode options determine how the organ is going to send program change information to external MIDI devices. They allow external MIDI device voice changes to occur quickly by simply pressing a piston. This means an external MIDI voice can be registered like traditional organ stops.

SELECTING A PROGRAM CHANGE MODE:

Advance to the Program Change window function (*See Section A-2*). It will display: "**PROG CHG**" along with other information. Use the **CURSOR** button on the Console Controller™ to place the cursor on either **USER**, **PRESET**, or **NO**, whichever one is displayed. Once the cursor is positioned, turn the **ROTARY DIAL** to make a selection.

```
PROG CHG:
USER
```

```
PROG CHG:
USER
```

```
PROG CHG:
USER
```

```
PROG CHG:
PRESET
```

```
PROG CHG:
NO
```

CAUTION: You must understand how to operate and when to use each of these modes before you change them!

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 through 5 (*or 7 depending on your model*) on MIDI Channel 8, the organ's General Piston control channel. The Divisional Pistons (*check if applicable on your particular model*) for each division will send program changes 1 through 4 on the channels as shown in the MIDI channel assignment list (*See Section C-1*). For example, Swell Piston 1 would send Program Change 1 on Channel 1. Great Piston 2 will send Program Change 2 on Channel 2, etc., (*See Section C-6, Changing the MIDI Base Channel for additional information on MIDI channel assignments*).

USER MODE: With this mode selected the organ will send program change information that can select voices, change banks, or change program "patch" numbers on an external MIDI device. Any program change number from 1 through 128 can be assigned to any General or Divisional Piston (blank or no digits may also be selected). Any bank switch number between 0 and 127 can be assigned to any Divisional Piston (*check if applicable on your particular model*). As in the 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-1*).

NO MODE: With this mode selected, NO information is transmitted or received. This mode cancels transmission and reception of all MIDI 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 (GM Level 1) sound names.

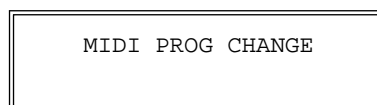
GENERAL MIDI SOUND NAMES:

First, make certain the word **USER** is selected as the program change mode (*see Section above*). Then, by using the **CURSOR** button on the Console Controller™, place the cursor on the second line of the display following the word **DISPLAY**. Turn the **ROTARY DIAL** until the display shows **GEN MIDI** following the word **DISPLAY** on the second line. Use the **CURSOR** button on the Console Controller™ to place the cursor back on the first line and on the word **PROG CHG**.

```
PROG CHG:
USER
```

```
PROG CHG:
GEN MIDI
```

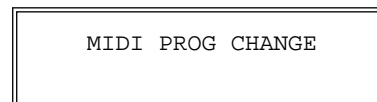
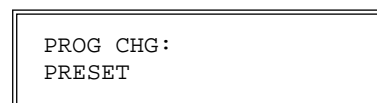
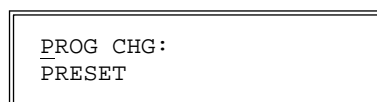
Advance to the next window function by turning the **ROTARY DIAL** clockwise until the window function "**MIDI PROG CHANGE**" appears on the display. Press any piston to view the General MIDI sound name assigned to that piston for any General MIDI device. For example, press General Piston 1. The Console Controller™ will display the General MIDI program change name and the current Bank number assigned to General Piston 1.



NOTE: In some cases, the General MIDI sound name will be abbreviated in the Console Controller™ window. A list of the General MIDI sound names (GM Level 1) is listed at the end of this manual.

MIDI PROGRAM NUMBERS:

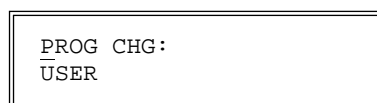
First, make certain the word **PRESET** is selected as the program change mode (*see Section C-2*). Then, by using the **CURSOR** button on the Console Controller™, place the cursor on the second line of the display following the word **DISPLAY**. Turn the **ROTARY DIAL** until the display shows **NUMBERS** following the word **DISPLAY**. Use the **CURSOR** button on the Console Controller™ to place the cursor back on the first line and on the word **PROG CHG**. Advance to the next window function by turning the **ROTARY DIAL** clockwise until the window function "**MIDI PROG CHANGE**" appears on the display. Press a General or Divisional Piston (*if applicable*). The Console Controller™ window will display the same MIDI program change number as the associated piston pressed.



Note: MIDI program change numbers will be displayed in **PRESET** mode, no matter if **NUMBERS** or **GEN MIDI** is displayed. You must select **USER** mode to view General MIDI sound names. You must also select **USER** mode to assign MIDI program change numbers larger than the overall number of pistons on your model organ.

ASSIGNING MIDI PROGRAM CHANGE NUMBERS

With **USER** selected as the program change mode (*See Section C-2*), along with **NUMBERS** selected 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.



After selecting NUMBERS along with USER mode. Advance to the next window function "**MIDI PROG CHANGE**", then press a General or Divisional Piston (*if applicable*) to view the Program Change numbers assigned to that particular piston. For example, press General Piston 1. The display will change to indicate that General Piston 1 has been pressed and that BANK 0 is assigned to that piston. On the second line of the display 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 MIDI Program Change number assigned to that piston, use the **CURSOR** button on the Console Controller™ to place the cursor on the second line of the display on the "P:". Turn the **ROTARY DIAL** clockwise/counter-clockwise to change the Program Change number.

GEN 1	BANK
0	

MIDI PROG CHANGE



Note: Allen Organs use MIDI Program Change 0 as a message for "MIDI OFF." Therefore, MIDI Program Change 1 corresponds to the General MIDI sound "Acoustic Grand Piano". Some MIDI devices do not use Program Change 0 for MIDI OFF. Consequently, Program Change 0, ("- -" *in the window*) when sent from the organ, will correspond to Program Change 1 on those MIDI devices. Program Change 1 sent from the organ will correspond to Program Change 2 on those MIDI devices etc. Please check the manufacturer's specification on MIDI Program Changes for your particular MIDI device for more information.

4. ASSIGNING MIDI PROGRAM CHANGES TO THE ORGAN'S PISTONS

This function allows the organist to select any voice from an external MIDI device by pressing any General or Divisional piston (*if applicable*) on the organ. The USER program change mode must be selected (*See Section C-2*).

PROG CHG:	USER
DISPLAY:	

If your organ has an Allen MDS-Expander II™ or MIDI Division II™ the selection procedure is simpler than the procedure described here; however, USER mode must still be selected. Please refer to the MDS-Expander II™ or MIDI Division II™ Owner's Manual for more information.

Advance to the MIDI Program Change window function (*See Section A-2*). It will display: "**MIDI PROG CHANGE**". For this example, press Swell Divisional Piston 2. The display will indicate that Swell Divisional Piston 2 has been selected and indicate the current BANK number assigned to that piston. The display also indicates the MIDI program number assigned to that piston. Using the **CURSOR** button on the Console Controller™ place the cursor on the second line of the display by the "P:". Turn the **ROTARY DIAL** to raise or lower the program number. A MIDI program number (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 C-1*).

MIDI PROG CHANGE



SW 2	BANK
0	

NOTE: On an organ with Divisional Pistons, changing a Divisional Piston to become a General Piston will NOT change the MIDI channel it transmits on. Therefore, Divisional Pistons cannot make group voice changes to an Allen MDS-Expander II™ or a MIDI Division II™.

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.

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 the 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, to have 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 also are MIDI devices that are **High Bank and Low Bank** compatible. It therefore, would be possible for these MIDI devices to have as many as (128 X 128 X 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.

Some MIDI devices 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 are able to communicate with all MIDI devices.

NOTE: You MUST know the capabilities of, and understand how to operate, any MIDI device you intend to use!

SELECTING HIGH BANK or LOW BANK:

Advance to the window function "MIDI Base Channel" (See Section A-2). It will display: "**MIDI BASE CH: ?**" along with the current BANK pointer. Using the **CURSOR** button on the Console Controller™ place the cursor on the second line after the word "BANK". Turn the **ROTARY DIAL** to select either **HIGH** or **LOW** Bank priority.

```
MIDI BASE CH:
1
```

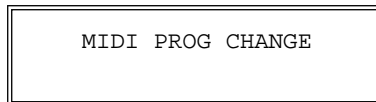
```
MIDI BASE CH:
1
```

```
MIDI BASE CH:
1
```

SELECTING MIDI BANK NUMBERS: *(Applicable for some models)*

Bank Numbers are able to be assigned the same way MIDI Program Numbers are (See Section C-3); except you must only select from the Divisional Pistons. Using a BANK Number to select an external MIDI Device sound/voice, can be done from any of the Divisional pistons. You must have USER mode selected as the program change mode (See Section C-2)

Advance to the MIDI Program Change window function (See Section A-2). It will display: "**MIDI PROG CHANGE**". For this example, press the Great Division Piston 1. The display will indicate that Great Divisional Piston 1 has been selected and the current BANK number assigned to that piston. The window also displays the current MIDI program number assigned to that piston. Using the **CURSOR** button place the cursor on the first line of the display after the word BANK. Turn the **ROTARY DIAL** to raise or lower the bank number. A 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). 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.

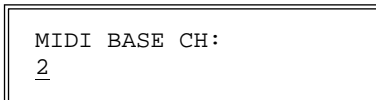
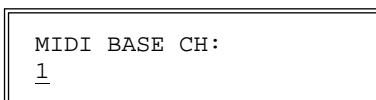
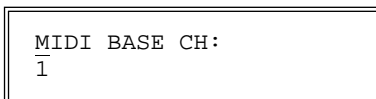


6. CHANGING the MIDI BASE CHANNEL

This operation 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 16 MIDI channels in relationship to it. 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 shifts the organ's range of MIDI channels. This is helpful when reassigning an external MIDI device from one organ division to another.

Note: The Base Channel always resets to Channel 1 whenever the organ is turned on.

Advance to the MIDI Base Channel window function (See Section A-2). It will display "**MIDI BASE CH: ?**" and also display the current BANK pointer. Using the **CURSOR** button on the Console Controller™, place the cursor on the MIDI channel number, which is on the first line of the display. Turn the **ROTARY DIAL** to change the MIDI Base Channel number. 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 on/off messages, and program changes (Swell Divisional Pistons) will be transmitted and received on Channel 1 (See Section C-1 MIDI Channel Assignments).



If the Base Channel is set to channel 2, all of the subsequent channels will shift higher by one number. Now, Swell = 2, Great = 3, Pedal = 4, Choir = 5, and 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*). It will display: "**MIDI EXPRESSION**" along with the current MIDI Expression setting on the second line of the display. There are four modes for transmitting expression data via MIDI. Use the **CURSOR** button on the Console Controller™ to place the cursor on the second line of the display. Then by turning the **ROTARY DIAL** select one of four modes. The four modes are as follows...

MIDI EXPRESSION
POLY - VOLUME

MIDI EXPRESSION
POLY - VOLUME

POLY-VOLUME — This setting will always be selected when the organ is turned on. In this mode, 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.

MIDI EXPRESSION
POLY - VOLUME

POLY-VELOCITY — This mode 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.

MIDI EXPRESSION
POLY - VELOCITY

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 mode causes MIDI expression data to be sent only on the Swell MIDI channel. *Some early sequencers can only interpret one volume message.*

MIDI EXPRESSION
SWELL VOLUME

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

MIDI EXPRESSION
NO EXPRESSION

8. MIDI SUSTAIN KICK SWITCH (optional)

A kick lever may be located to the left of the Great/Pedal expression shoe and controlled by the organist's foot. This kick switch 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). It will display: "MIDI SUSTAIN" along with the Swell Division's current switch status. Use the **CURSOR** button on the Console Controller™ to place the cursor on the division. Then turn the **ROTARY DIAL** to select **Sw, Gt, Pd**. You will also need to make the selection of either ON or OFF for each manual. Once you have selected the manual that you want the MIDI Sustain Kick-Switch to apply to, press the **CURSOR** button on the Console Controller™ once again to move the cursor to the switch status. Turn the **ROTARY DIAL** to select either ON or OFF. OFF status will cause no sustain information to be sent from the associated manual, ON will cause MIDI voices to sustain or decay slowly. An example is when a PIANO voice has been selected in a voice module. When the sustain function is **ON**, and the piano is played from the associated manual and the foot controlled lever is pressed, the piano sound will slowly decay similar to the way a sustain pedal on a piano operates.

MIDI SUSTAIN
SW = ON

MIDI SUSTAIN
SW = ON

MIDI SUSTAIN
SW = ON

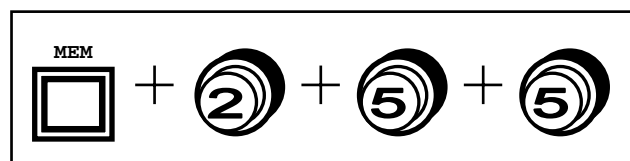
MIDI SUSTAIN
SW = OFF

Note: The Sustain Kick Switch does not effect the organ's internal voices or stops. An external MIDI sound device, i. e. MIDI Division II or MDS-Expander II, must be connected for the Sustain function to operate.

9. TRANSFERRING & SAVING CAPTURE MEMORY DATA TO A SEQUENCER

CAPTURE MEMORY refers to all of the remembered piston registrations on all 4 Memories. With this operation, the organist can copy and save all of this stored (remembered) information to a MIDI sequencer. Advance to the Capture Memory Save window function (See Section A-2). It will display: "CAPTURE MEMORY SAVE". Set your sequencer to the record mode and begin recording as you normally would. Press and hold the **MEM** button on the Console Controller. While holding **MEM**, 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 display will indicate that the saving process is proceeding. Once the transmission of data is completed, the Console Controller™ window will display.. "DONE!!"

CAPTURE MEMORY
SAVE



sending.....
capture memory

DONE!!

A copy of all the CAPTURE MEMORY information will exist in the sequencer and the original information will be retained in the organ's Console Controller™ memory.

10. 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 be transmitted to the organ. You must have a MIDI cable from the OUT port of the sequencer to the IN port of the Allen Organ. It does not matter what window or Memory number the Console Controller displays.

Note: Capture Memories must be unlocked (see section A-6) before you press "Play" on the sequencer, allowing the organ's 4 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.

11. TRANSMITTING STOP DATA

This operation allows the organist to turn 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. To turn OFF or ON the transmission and reception of individual stop data, advance to the Transmit/Receive Stop window function (See Section A-2). It will display: "**TRANSMIT/RECEIVE STOPS ???**". Using the **CURSOR** button on the Console Controller™, place the cursor on the second line after the word STOPS. This position is the function's status. Turn the **ROTARY DIAL** to select either ON or OFF.

TRANSMIT / RECEIVE STOPS ON

TRANSMIT / RECEIVE STOPS <u>ON</u>

TRANSMIT / RECEIVE STOPS <u>OFF</u>
--

NOTE: General Pistons or Divisional Piston changes will still be transmitted and received, because they are program changes.

D. QUICK REFERENCE GUIDE

- a. ADVANCING THROUGH THE WINDOWS: Press the **CURSOR** button on the Console Controller™ so as to highlight the first letter of the first line; then rotate the **ROTARY DIAL**.
- b. TO RETURN TO THE FIRST WINDOW: Press and hold **SET**, then press **CANCEL**, release both.
- c. SETTING PISTONS: Must be in Main window function. Select desired Memory. Select desired registration. Press and hold **SET** and press the piston to remember the registration. Release both.
- d. TO SELECT A MEMORY AND LOCK IT: Must be in Main window function. Select desired Memory. Press and hold the **MEM** button on the Console Controller™. Using the organ's General Pistons only, enter three-digit code, release **MEM**. "**L**" will appear next to selected Memory number in the display window.
- e. TO UNLOCK A MEMORY: Repeat d. above. "**L**" will disappear.
- f. TO UNLOCK ALL MEMORIES WITHOUT A CODE: Advance to the function "**Unlock All Capture Memories**" in the display window. Press and hold the **MEM** button on the Console Controller™. Then press General Pistons 2-5-5, release **MEM**. Window will display "**Done!**". "**L**" will disappear from all locked memories.
- g. SELF-CHECK CAPTURE AND STOP ACTION: Advance to the function: "**Self-Check**". Press Great Piston 1. To discontinue, Press and hold **SET**, then press **CANCEL**, release both. The display will return to the Main window function.

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 musical devices. MIDI enables devices of different types and manufacturers to easily communicate with each other. It is not necessary to understand all of the technical aspects of MIDI in order to take advantage of its benefits. It is important to explore the potential MIDI holds for musicians, as well as the various MIDI applications available today.

a. TYPES OF MIDI DEVICES

MIDI devices fall into two categories. The first category consists of musical instruments such as organs and synthesizers, which transmit and receive MIDI data. 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 a similar fashion. Most are equipped with record, playback, fast forward, and reverse controls that function in the same way as their tape recorder counterparts.

b. 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. This means that an organ equipped with MIDI can send information to other MIDI devices, e.g., electronic pianos, keyboard synthesizers or sequencers, and can play those devices simultaneously or record information to be played back later. Renaissance organs incorporate an expanded MIDI system, Smart MIDI™ allowing the transmission of volume changes, registrations, and more. It is even possible to control several devices from one manual simultaneously, or separately control different devices from each manual of the console.

c. 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, freeing the director from the role of accompanist, and allowing him to concentrate on directing the choir. The sequencer may even 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 increased 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 and to become aware of, from the earliest stage of learning a composition, the interrelationship of its voices, is especially valuable in learning contrapuntal works.

d. 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 acoustics of a room, or positioning of the console, the sound of the instrument may be different when listened to from a congregation or audience's vantage point. MIDI allows the organist to check registrations by recording his playing and registration to a sequencer and then listening from different locations in the room during the music's playback.

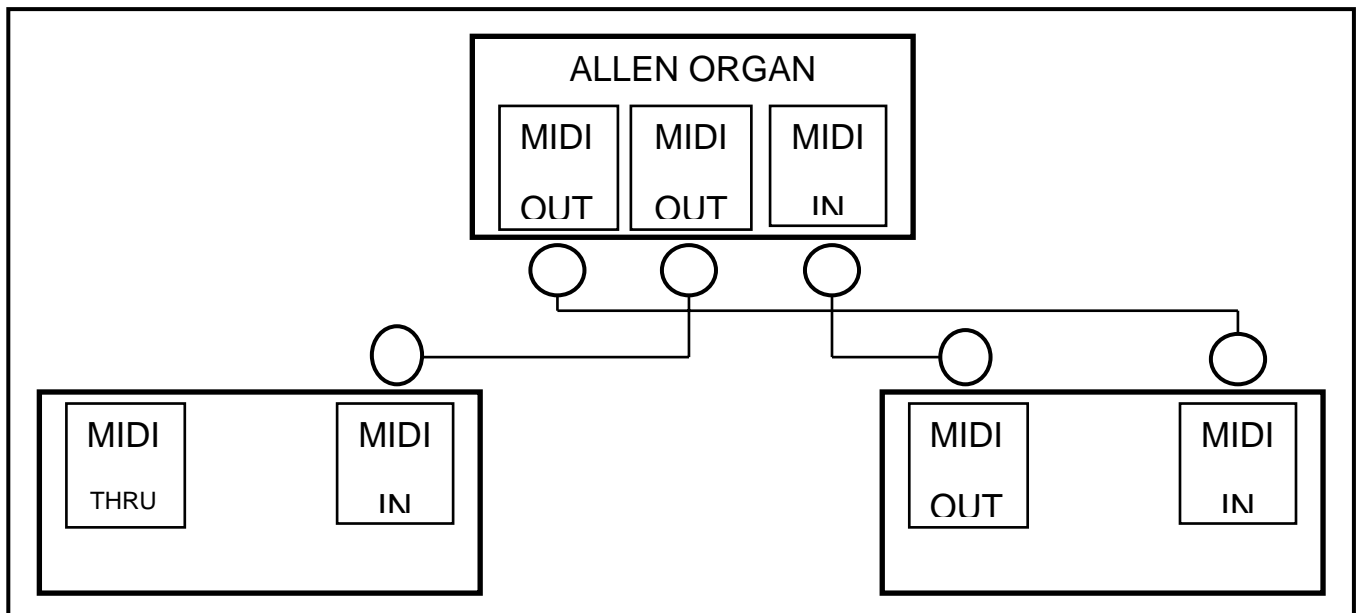
e. OTHER USES FOR MIDI

An organist's ability to control external keyboards or sound modules puts an ever increasing array of non-traditional sounds at the organist's fingertips, with a degree of control only possible through the flexibility of an organ console. The ability to record MIDI data with the use of a sequencer opens a variety of new possibilities, both in practice and performance situations. Computer programs are 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 Smart™ MIDI instruments will be compatible with tomorrow's MIDI innovations.

2. CONNECTING THE ALLEN ORGAN TO OTHER MIDI DEVICES

The Allen Organ may be connected to a variety of MIDI devices. The drawing below illustrates the proper procedure for connecting the Allen MDS-Expander II™ and Allen Smart Recorder™ to the Allen Protégé™ Chamber Series™ organ.

The drawing below illustrates the proper procedure for connecting the Allen MDS-Expander™ and Allen Smart Recorder™ to a Renaissance Series organ console.



If you are connecting to external MIDI devices not made by Allen Organ Company and more specific information is required, please consult the owner's manuals of the external MIDI devices being connected. Contacting the local Allen Organ representative also will be helpful.

3. **SmartMIDI™**

Your Allen Protégé™ Chamber Series™ organ features SmartMIDI™ an expanded MIDI system with increased flexibility yet, simple operation. Allen's SmartMIDI™ provides a comprehensive interface between MIDI sound modules such as the Allen MDS-Expander II™, and digital sequencers such as the Allen Smart Recorder™. Two MIDI Out ports, one switched and one un-switched, 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 un-switched MIDI port labeled MIDI OUT 1, eliminating the necessity of having to draw the MIDI stop controls before recording a digital sequence.

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 of one another similar to the way several 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. For example, the C-19c and Protégé Theatre Compact transmit MIDI information on the following channels:

Solo Manual	=	Channel 1
Accomp Manual	=	Channel 2
Pedal Manual	=	Channel 3
General Pistons	=	Channel 8

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 setting 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 note information, *MIDI Volume Change Information* is sent on MIDI channels 1, 2, and 3 by the organ's single expression pedal. In this manner, the volume level of connected sound producing MIDI devices may be controlled. Please consult your MIDI device's owner's manual for information on how MIDI volume information is handled by them.

If any external MIDI device is used to transmit information to the organ, the same assignment of MIDI channels must be used as outlined above.

5. General MIDI Sound Set

1. Acoustic Grand Piano
2. Bright Acoustic Piano
3. Electric Grand Piano
4. Honky-tonk Piano
5. Rhodes Piano
6. Chorused Piano
7. Harpsichord
8. Clavinet
9. Celesta
10. Glockenspiel
11. Music Box
12. Vibraphone
13. Marimba
14. Xylophone
15. Tubular Bells
16. Dulcimer
17. Hammond Organ
18. Percussive Organ
19. Rock Organ
20. Church Organ
21. Reed Organ
22. Accordion
23. Harmonica
24. Tango Accordion
25. Acoustic Guitar (nylon)
26. Acoustic Guitar (steel)
27. Electric Guitar (jazz)
28. Electric Guitar (clean)
29. Electric Guitar (muted)
30. Overdriven Guitar
31. Distortion Guitar
32. Guitar Harmonics
33. Acoustic Bass
34. Electric Bass (finger)
35. Electric Bass (pick)
36. Fretless Bass
37. Slap Bass 1
38. Slap Bass 2
39. Synth Bass 1
40. Synth Bass 2
41. Violin
42. Viola
43. Cello
44. Contrabass
45. Tremolo Strings
46. Pizzicato Strings
47. Orchestral Harp
48. Timpani
49. String Ensemble 1
50. String Ensemble 2
51. SynthStrings 1
52. SynthStrings 2
53. Choir Aahs
54. Voice Oohs
55. Synth Voice
56. Orchestra Hit
57. Trumpet
58. Trombone
59. Tuba
60. Muted Trumpet
61. French Horn
62. Brass Section
63. Synth Brass 1
64. Synth Brass 2
65. Soprano Sax
66. Alto Sax
67. Tenor Sax
68. Baritone Sax
69. Oboe
70. English Horn
71. Bassoon
72. Clarinet
73. Piccolo
74. Flute
75. Recorder
76. Pan Flute
77. Bottle Blow
78. Shakuhachi
79. Whistle
80. Ocarina
81. Lead 1 (square)
82. Lead 2 (sawtooth)
83. Lead 3 (caliope lead)
84. Lead 4 (chiff lead)
85. Lead 5 (charang)
86. Lead 6 (voice)
87. Lead 7 (fifths)
88. Lead 8 (brass + lead)
89. Pad 1 (new age)
90. Pad 2 (warm)
91. Pad 3 (polysynth)
92. Pad 4 (choir)
93. Pad 5 (bowed)
94. Pad 6 (metallic)
95. Pad 7 (halo)
96. Pad 8 (sweep)
97. FX 1 (rain)
98. FX 2 (soundtrack)
99. FX 3 (crystal)
100. FX 4 (atmosphere)
101. FX 5 (brightness)
102. FX 6 (goblins)
103. FX 7 (echoes)
104. FX 8 (sci-fi)
105. Sitar
106. Banjo
107. Shamisen
108. Koto
109. Kalimba
110. Bagpipe
111. Fiddle
112. Shanai
113. Tinkle Bell
114. Agogo
115. Steel Drums
116. Woodblock
117. Taiko Drum
118. Melodic Tom
119. Synth Drum
120. Reverse Cymbal
121. Guitar Fret Noise
122. Breath Noise
123. Seashore
124. Bird Tweet
125. Telephone Ring
126. Helicopter
127. Applause
128. Gunshot