RENAISSANCE
CONSOLE CONTROLLER™
AND MIDI GUIDE

CONSOLE CONTROLLER™ GUIDE

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

INTRODUCTION

The Console Controller™ is an interface that controls many organ functions and a variety of MIDI functions. The Console Controller is pictured below and includes a window that displays functions, one at a time, as well as two rows of buttons used to make selections. Each window is described in this booklet.

A. BASIC OPERATION

1. START-UP SEQUENCE
Open the Console Controller drawer before turning the organ on. Now turn on the organ's main power switch. The window in the drawer will display:

```
        RENAISSANCE
         BY ALLEN
```

Next it will display:

```
        VERSION ----
     please wait
```

Then finally the Main window is displayed:

```
  MEM - 1
  00:00:00 am      P
```

The symbol "U", "P", or "N" in the window's lower right corner indicates the organ's mode (See Section C-2).

WARNING: If a warning is displayed in this sequence, you should contact you Allen authorized representative immediately!

The Allen Organ includes self-testing features. Here are examples of what WARNING displays might look like when viewing the Console Controller display:

```
┌─────────────────────┐   ┌─────────────────────┐
│  Warning:  Replace  │   │  Power Failure      │
│  Clock Module       │   │  REPLACE BATTERY!   │
└─────────────────────┘   └─────────────────────┘
```

2. ADVANCING THROUGH THE WINDOWS

To advance the Console Controller display to the next window, press and hold the organ's **SET** piston. While holding **SET**, press the **R** piston. Each time you press and release **R**, the display will advance to the next window.

```
┌──────────┐   ╭────────╮   ┌──────────┐   ╭────────╮   ┌──────────┐
│  PRESS   │   │        │   │  THEN    │   │        │   │ RELEASE  │
│  AND     │   │  SET   │   │  PRESS   │   │   R    │   │ BOTH     │
│  HOLD    │   │        │   │          │   │        │   │          │
└──────────┘   ╰────────╯   └──────────┘   ╰────────╯   └──────────┘
```

R is for RECALL. Repeat this procedure to advance through all of the windows until the last window is displayed. The last window will display:

```
┌─────────────────────┐
│  UNLOCK ALL         │
│  CAPTURE MEMORIES   │
└─────────────────────┘
```

The displays will only advance. To return to any previous window, you must return to the main window and start the sequence over. **REMEMBER:** To return to the *Main Window* at any time, press and hold in the **SET** piston. While holding **SET**, press the **CANCEL** piston, and then release both pistons.

```
┌──────────┐   ╭────────╮   ┌──────────┐   ╭────────╮   ┌──────────┐
│  PRESS   │   │        │   │  THEN    │   │        │   │ RELEASE  │
│  AND     │   │  SET   │   │  PRESS   │   │ CANCEL │   │ BOTH     │
│  HOLD    │   │        │   │          │   │        │   │          │
└──────────┘   ╰────────╯   └──────────┘   ╰────────╯   └──────────┘
```

3. SELECTING THE CAPTURE MEMORIES

The main window must be displayed (see above). Then, locate the two buttons marked "↑" and "↓" on the Console Controller. Press one of these to move through the memories, forward or backward. The memories move sequentially forward from MEM 1 to MEM 2 to MEM 3, ...or backwards MEM 1 to MEM 16 to MEM 15, etc. as you press either the "↑" or the "↓" button. The number of available memories is dependant on the Allen organ. There may be 16 or less memories in an organ.

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

NOTE: On most Allen Organs (not customized organs) a factory set of registration examples is stored on each piston of the last available capture memory. You may change these registrations; however, they can then be restored to the original factory settings. Please see, **RESTORING FACTORY SETTINGS** in Section B-4, of this manual.

4. SAVING REGISTRATIONS USING PISTONS AND TOE STUDS

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

General Pistons are those that affect all stops and drawknobs on the organ. These are located on the left side, underneath the keyboards on the piston rails and are numbered 1 through 10.

Divisional Pistons affect only those stops associated with the particular manual above them. They are located in the center of the piston rails/keyboard and numbered 1 to 6.

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

To Save a Registration to a General Piston.

The main window in the Console Controller drawer must be displayed (*See Section A-2*). Select any memory number (MEM-2, MEM-3, ... MEM-16, etc.); however, for this example use MEM-1. (Press the "↑" or "↓" buttons, if necessary.) Next, select the desired stops/drawknobs you want General Piston 1 to remember. Once the stops/drawknobs are drawn, press and hold the **SET** piston, the press and release General Piston 1. Finally, release the **SET** piston. General Piston 1 will now store in memory the stops/drawknobs you selected. **NOTE:** General Pistons are often set gradually from soft to loud with General 1 the softest and General 10 the loudest.

To Save a Registration to a Divisional Piston.

The main window must be displayed, (*See Section A-2*). Select a memory (MEM-1, MEM-2, etc.) using the "↑" and "↓" buttons. Select the division stops/drawknobs you want the associated Divisional piston to remember. While holding the **SET** piston, press and release the Divisional Piston (1 through 6) you want to save to. Finally release the **SET** piston. The Divisional Piston pressed will now store the stops and/or drawknobs selected.

Saving Intermanual Couplers/Reversibles

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

Reversible pistons also control Intermanual couplers. These pistons reverse the condition of the related intermanual coupler. If an intermanual coupler is ON when the associated Reversible piston is pressed, that coupler will turn OFF. If the coupler is OFF when pressed, it will turn ON.

To Save Registrations using Toe Studs/Toe Pistons

Toe Studs/Toe Pistons can store registrations similar to General and Divisional pistons. Toe Studs allow stored registrations to be addressed using feet instead of hands. **NOTE:** Setting a General Toe Stud/Piston will change the registration for BOTH the toe stud and the corresponding hand piston, i.e. General Piston 10 is identical to General Toe Stud 10, while General Piston 6 is identical to General Toe Stud 6.

5. LOCKING CAPTURE MEMORIES

All memories, except Memory 1, may be locked or unlocked individually to prevent unintentional or unauthorized changes to that memory's contents. Memory 1 remains unlocked as a convenience to visiting or substitute organists. The Console Controller must display the main window in the drawer (*See Section A-2).* Select the memory to lock by pressing "↑" and "↓". After registrations are stored to pistons, (*See Section A-4)* choose three digits you can easily remember (e.g., 1-2-3, 0-0-7, etc.). Use General Piston 1 for the 1 digit and General Piston 10 for the zero digit. On the Console Controller locate the button with MEMORY beneath it. Press

and hold this MEMORY button. While holding MEMORY, press the General Pistons that correspond to your three-digit code. Release the MEMORY button and an "L" will appear next to the MEM number in the window, indicating this memory is now locked.

```
MEM - 2 L
00:00:00 am      P
```

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

6. UNLOCKING MEMORIES USING YOUR CODE

The main window must be displayed (*See Section A-2).* To unlock a memory using, select the memory to be unlocked, using the "↑" and "↓" buttons. Once selected, press and hold the MEMORY button on the Console Controller. While pressing MEMORY, enter the same three-digit code that was used to lock this memory (*See Section A-5),* using General Pistons 1 through 10 (Piston 10 = zero). Then release the MEMORY button. The "L" will disappear, indicating that this memory is now unlocked.

```
MEM - 2
00:00:00 am            P
```

7. UNLOCKING ALL MEMORIES IF YOU FORGET YOUR CODE

Advance to the Last Window *(see section A-2).* It will display:

```
UNLOCK ALL
CAPTURE MEMORIES
```

Press and **hold** the MEMORY button on the Console Controller and press General Pistons 2-5-5. Release the MEMORY button, the window displays:

```
DONE!!
```

The display will automatically return to the Main window. All capture memories are now unlocked, including those memories, other organists may have locked. Registrations remain unchanged.

8. SETTING THE CLOCK

Advance to the SET CLOCK window. It will display:

```
SET CLOCK
00:00:00 am
```

Use the "↑" and "↓" buttons to change the digits and "→" and "←" to move between hours and minutes. Press and hold the **SET** piston. Then press and release the **CANCEL** piston to reset the clock. **NOTE:** The clock always resets the seconds to zero when you use **SET** and **CANCEL** to leave this window.

9. STOP ACTION and CAPTURE SELF CHECK

This feature self-checks the capture system. It tests to insure each stop is functioning properly and controllable by the capture system. Advance to the SELF CHECK window. It will display:

```
+----------------------------+
|        SELF-CHECK          |
|          (GT-1)            |
+----------------------------+
```

To start self-check, press Great Piston 1. The stop tablets will move down and up consecutively (drawknobs out and in). *If any stop does not move, notify your Allen service technician.* During this testing process you can interrupt and return to the Main Window. Do so by pressing and holding SET, then press the CANCEL piston simultaneously and then release both.

10. VIRTUAL ACOUSTICS™ SETTINGS

There are 21 Virtual Acoustic™ reverb pallets to select from. Of these, 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 reverberation characteristics become less as the number of people present increases. Also, a room's reverberation time changes when the room's windows are opened or closed.)

The rocker switch labeled VIRTUAL ACOUSTICS in the Console Controller drawer must be ON to hear the default reverb or one of the 20 customized Virtual Acoustic selections. The amount of reverb can be changed on the 20 customized selections and is shown in dB (decibels). The range of control is from Ø dB to -3Ø dB. -3Ø dB is the least amount of reverb and Ø dB is the most available. Advance to the 'SET REVERB' Window.

```
+----------------------------+
|        SET REVERB          |
|        --DEFAULT--         |
+----------------------------+
```

Use "↑" or "↓" to select one of the 20 adjustable Virtual Acoustic pallets. An example:

```
+----------------------------+
|   SET REVERB:     0dB      |
|    MEDIUM CHAMBER 3        |
+----------------------------+
```

Use "→" or "←" to highlight a field within the REVERB display. Use "↑" or "↓" to adjust REVERB input dB gain.

B. ADVANCED OPERATION

1. SELECTING AN ALTERNATE TUNING

Advance to the 'ALTERNATE TUNING' window.

```
+----------------------------+
|    ALTERNATE TUNING        |
|    = ----------------------|
+----------------------------+
```

(The current Alternate Tuning will appear after =)

Allen Organs offer seven *Alternate Tunings,* plus the standard Romantic Tuning. These tunings are accessible from the Console Controller. Select an *Alternate Tuning* by pressing the "↑" and "↓" buttons on the Console Controller. The organ's overall tuning will be changed to the

selected *Alternate Tuning*, by pulling the drawknob, or stop tablet labeled ALTERNATE TUNING.

The selected tuning will remain the *Alternate Tuning* until: either another *Alternate Tuning* in the Console Controller window is selected, or the stop/drawknob is turned off.   Any time the ALTERNATE TUNING stop is off, the organ is tuned to a standard general purpose tuning. The standard Romantic Tuning is "warmer" than CLASSIC and BAROQUE *Alternate Tunings*.   In other words, most intervals are tuned slightly narrower than the intervals in the standard Romantic Tuning. **NOTE:** The remaining tunings are of historical interest, but are limited in application to modern music. When selected, it is normal for some intervals to sound out of tune.

2.   CONFIGURING DIVISIONAL PISTONS and GENERAL PISTONS

This procedure enables pistons to control stops/drawknobs that are normally not controlled by those pistons. **NOTE:** The Piston Configuration is common to all memories. E.g., (1) Divisional Pistons can be configured to respond like General Pistons. (2) Divisional Pistons normally *will not remember* the settings (on/off) of the Intermanual Couplers, (i. e., Swell to Great, Great to Pedal). Divisional Pistons can be configured such that the Divisional Pistons will remember the Intermanual Couplers' settings. (3) A Divisional Piston can be configured so that it will only affect the Tremulant stops in all divisions. (4) A General Piston can be configured to respond like a Divisional Piston.

NOTE 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. Divisionals cannot make Expander II™ Preset group selections.

EXAMPLES:
Configuring Divisional Pistons to become additional General Pistons:

Advance to the 'CONFIGURE PISTONS' window.

<div style="border:2px solid black; text-align:center; font-weight:bold;">
CONFIGURE
PISTONS
</div>

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

To add the SWELL TO GREAT Intermanual Coupler to the Great Divisional Pistons:
Advance to the 'CONFIGURE PISTON' window.

<div style="border:2px solid black; text-align:center; font-weight:bold;">
CONFIGURE
PISTONS
</div>

Select **all** of the Great Division stops/drawknobs and the SWELL TO GREAT intermanual coupler. Press and hold the **SET** piston. While holding **SET**, press the Divisional Piston(s) that you will use when finished to save registrations.   Return to the main window and save registrations to these Divisional Pistons, using combinations of stops/drawknobs and the SWELL TO GREAT coupler.

To reconfigure a Divisional Piston so it controls only the Tremulant stops/drawknobs:
Advance to the 'CONFIGURE PISTON' window.

```
┌─────────────────────────┐
│       CONFIGURE         │
│        PISTONS          │
└─────────────────────────┘
```

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

Restoring Original Factory Settings
See section B-4 for the window that displays:

```
┌─────────────────────────┐
│      RE-INITIALIZE      │
│    PISTON CONFIG.       │
└─────────────────────────┘
```

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

3.   MODIFYING THE CRESCENDO AND TUTTIS
The original factory settings include a second set of Tuttis and a second set of Crescendo settings that can be altered to suit the organist's needs. To view the current settings advance to the 'SET SECONDARY CRESCENDO AND TUTTIS' window.

```
┌─────────────────────────┐
│      SET SECONDARY      │
│    CRESC AND TUTTIS     │
└─────────────────────────┘
```

To view the order that stops/drawknobs are turned on by Crescendo "B"**,** slowly push open the Crescendo Shoe. You will see the stop/drawknobs turn on and off in response to the pedal movement when this window is selected.

To view the stops/drawknobs registered to the second TUTTI I or TUTTI II, press either TUTTI. If you press TUTTI I or TUTTI II when this window is displayed, the associated stops/drawknobs will turn on.

To Reset the Stops/Drawknobs Activated by Crescendo "B"
The Crescendo includes 22 positions evenly dispersed along the Crescendo Shoe's range of travel. Each of these 22 positions corresponds to a piston that must be set. They correspond as follows: General Pistons 1-10 represent Crescendo positions 1 to 10, Great Pistons 1-6 represent Crescendo positions 11 to 16, and Swell Pistons 1-6 represent Crescendo positions 17 to 22. Advance to the 'SET SECONDARY CRESCENDO AND TUTTIS' window.

```
┌─────────────────────────┐
│      SET SECONDARY      │
│    CRESC AND TUTTIS     │
└─────────────────────────┘
```

When re-setting the Crescendo "B", use only the pistons and the stops/drawknobs, not the Crescendo Shoe. Start by selecting the stops/drawknobs to be remembered at Crescendo Shoe position 1. You can use all stops/drawknobs on the organ, including celestes, intermanual

couplers, and tremulants; however, celestes and tremulants are automatically disabled when the louder voices are added, such as reeds or mixtures.

Once selected, press and hold **SET** and press General Piston 1, then release both. The Crescendo Shoe will now engage the same stops/drawknobs you selected, when you slightly push open the Crescendo Shoe. You must set a registration to *each* of the remaining 21 positions, even if you must duplicate a previous registration. For each remaining position, select the new stop(s) that you will add or use the same stops you selected for the previous position. It is normal to progress from quieter settings to louder ones.

Manually disabling Celestes and Tremulants:
You can manually disable the celestes and tremulants at any of the 22 Crescendo steps or Tutti I or Tutti II positions. Advance to the SET SECONDARY CRESCENDO AND TUTTI window.

```
┌─────────────────────────┐
│    SET SECONDARY        │
│   CRESC AND TUTTIS      │
└─────────────────────────┘
```

Select the stops/drawknobs for the Crescendo step you wish to program or select a current Crescendo step or Tutti I or II position. If the current Crescendo step or Tutti position has already been programmed, the stops/drawknobs will turn on or off in respect to the Crescendo step or Tutti position selected. Turn the Tranposer switch until the Transposer's Red LED lights. Press and hold the **SET** piston, then press the corresponding Crescendo step piston or Tutti I or II position to store the setting. To retain the manual disabling of the celestes and tremulants in a Crescendo sequence, the above procedure must be programmed into all subsequent Crescendo steps. After you complete this process, return to the Main Window *(See Section A-2)*. **NOTE:** Registrations and memory settings for the PISTONS are not affected by resetting the CRESCENDO "B".

Play Organ Using Secondary Crescendo "B"
The Main Window must be displayed. Press the **CRES. B** piston.

```
┌─────────────────────────┐
│  MEM - 1                │
│  00:00:00 am         P  │
└─────────────────────────┘
```

On the bar-graph display, the green CRESC-B indicator will illuminate. Push open the Crescendo Shoe and play.

Change Registrations Activated When Secondary TUTTI-I/TUTTI-II Are Selected
Advance to the SET SECONDARY CRESCENDO AND TUTTI window.

```
┌─────────────────────────┐
│    SET SECONDARY        │
│   CRESC AND TUTTIS      │
└─────────────────────────┘
```

Create a registration (select the stops) to be remembered by Secondary TUTTI I or TUTTI II. Press and hold **SET**. Next press the **Tutti** Piston you wish to change, and the release both. The new registration is now stored. It can be selected during normal playing conditions.

Play organ Using Secondary Tuttis

The Main Window must be displayed. Press the **CRES. B** piston.

```
┌─────────────────────────────┐
│      SET SECONDARY          │
│     CRESC AND TUTTIS        │
└─────────────────────────────┘
```

On the bar-graph display, the green CRESC-B indicator will illuminate. Press the **Tutti** piston of your choice. The **Tutti** pistons function like General Pistons and customarily have large registrations. However, the registered stops / drawknobs do not move to their ON positions when a Tutti piston is selected.

4.   RESTORING ORIGINAL FACTORY SETTINGS

Advance to the RE-INITIALIZE window.

```
┌─────────────────────────────┐
│       RE-INITIALIZE         │
│       PISTON CONFIG         │
└─────────────────────────────┘
```

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

```
┌──────────────────────┐   ┌──────────────────────┐
│    RE-INITIALIZE     │   │    RE-INITIALIZE     │
│    PISTON CONFIG     │   │    MIDI SETTINGS     │
└──────────────────────┘   └──────────────────────┘
┌──────────────────────┐   ┌──────────────────────┐
│    RE-INITIALIZE     │   │    RE-INITIALIZE     │
│  CAPTURE MEMORY XX   │   │   CRESC B SETTINGS   │
└──────────────────────┘   └──────────────────────┘
┌──────────────────────┐   ┌──────────────────────┐
│    RE-INITIALIZE     │   │    RE-INITIALIZE     │
│    TUTTI/VENTIL B    │   │    AUDIO SETTINGS    │
└──────────────────────┘   └──────────────────────┘
```

Each of these functions can be restored individually. Select the factory settings you wish to restore by using the "↑" and "↓" buttons on the Console Controller. Press and hold the **MEMORY** button in the Console Controller drawer. While holding it, press General Pistons 2-5-5 in sequence.

If **TUTTI/VENTIL B** was selected, the window will display:

```
┌─────────────────────────────┐
│       RE-INITIALIZE         │
│      TUTTI/VENTIL B         │
└─────────────────────────────┘
```

The original factory settings/registrations for the secondary TUTTI B function have been restored. Follow this procedure to restore each factory setting.

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

5. SOSTENUTO
NOTE: Only if your Allen organ has Software Version 2.02 or higher, then the Sostenuto feature is available on your model organ. *Sostenuto* is an Italian word meaning "sustained." Unlike the sustain switch, which sustains any notes played as long as the sustain switch is held on, the *Sostenuto* switch sustains only the notes being held at the very moment it is pressed. Sostenuto is actuated by the organ's Sustain switch (optional on some organs) located to the left of the Great/Pedal expression shoe. However, the Sostenuto function must first be enabled before using it.

Advance to the 'SOSTENUTO' window.

```
┌─────────────────────────┐
│      SOSTENUTO          │
│       GT = ON           │
└─────────────────────────┘
```

The LCD will indicate what keyboard Sostenuto is assigned to and show the current on/off status. The keyboard that Sostenuto is assigned to cannot be changed, but the on/off status can. Use the "↑" and "↓" buttons to turn the Sostenuto function **ON** and **OFF**. Sostenuto will affect the internal voices of the organ as well as a MIDI instrument connected to the MIDI output. Keep in mind that the Sustain function will operate in tandem with the Sostenuto function. N**OTE:** Check your specific MIDI instrument's owners manual to verify that it will receive and/or respond to MIDI Sostenuto messages.

6. GLOBAL TUNING
Global Tuning allows the organist to adjust the pitch of the entire organ. This tuning adjustment allows the organ to be tuned to another instrument more easily. Tuning can be adjusted either ± 100 cents from A-440 pitch. To adjust Global Tuning, advance to the GLOBAL TUNING window and it will display:

```
┌─────────────────────────┐
│     GLOBAL TUNING       │
│          0              │
└─────────────────────────┘
```

Use "↑" or "↓" buttons on the Console Controller to raise or lower the pitch. The tuning adjustment will be retained when the organ is powered off.

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 use of Allen SmartMIDI™ devices. This information's usefulness will ultimately be determined by your needs, along with the type and capabilities of any external MIDI devices you choose to use--e.g., sequencers, voice/sound modules and external MIDI keyboards. The MIDI topics covered by this manual are limited in scope. You need to understand the terms MIDI-IN, OUT and THRU and their basic functions. To increase your understanding of MIDI you will need to read books that describe how to use MIDI. **NOTE:** You must also consult the owner's manual that covers the external MIDI device you are using for more details.

1. STANDARD MIDI CHANNEL ASSIGNMENTS
These are the Allen Organs' standard MIDI channels settings:

Classical Organs		
Channel		**Organ Division**
1	=	Swell
2	=	Great
3	=	Pedal
4	=	Choir
5	=	Solo
6	=	Not Used
7	=	G1/G2
8	=	General

Theatre Organs		
Channel		**Organ Division**
1	=	Great
2	=	Accomp
3	=	Pedal
4	=	Solo
5	=	Acc. 2nd Touch
6	=	Not Used
7	=	T1/T2
8	=	General

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

2. SELECTING PROGRAM CHANGE MODES, VIEWING PROGRAM NUMBERS or GENERAL MIDI SOUND NAMES

Program change modes establish how MIDI program changes will be sent from the organ when a piston is pressed and what the resulting display will be in the Console Controller window. Once a particular program change mode is selected, the organ will retain this same program change mode (even if the organ is turned off) until a new program change mode is selected. During normal playing conditions, the main window displays one of three letters, "U", "P" or "N", in the lower right-hand corner to signify the current program change mode. These three mode options determine how the organ sends program change information to MIDI devices.

SELECTING A PROGRAM CHANGE MODE
Advance to the 'PROG CHG' window. It will display:

```
PROG CHG:      USER
DISPLAY:  NUMBERS
```

Use the "→" and "←" buttons on the Console Controller to select either "Preset", "User" or "No" modes. **Note**: You must understand how to operate and when to use each of these modes before you change them!

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

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

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

3. GENERAL MIDI SOUND NAMES or PROGRAM NUMBERS
The Console Controller window can display MIDI program changes as either MIDI program numbers or as General MIDI sound names. Use the "↑" and "↓" buttons to select one of the two modes.

GENERAL MIDI SOUND NAMES
With General MIDI selected, the 'PROG CHG' window will display:

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

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

```
MIDI PROG CHANGE
```

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

```
GEN 1           BANK 0
P: Ac. Grand Piano
```

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

PROGRAM NUMBERS:
With NUMBERS selected, the 'PROG CHG' window will display:

```
PROG CHG:   PRESET
DISPLAY:   NUMBERS
```

With PRESET selected as the program change mode, press a General or Divisional Piston. The Console Controller window will display the same MIDI program change number as the associated piston pressed. The MIDI program change number will be displayed in PRESET mode, no matter if NUMBERS or GEN MIDI is displayed. You must select USER mode to view GEN MIDI sound names. You must also select USER mode to assign MIDI program change numbers larger than 10 (the largest number of any piston).

With USER selected as the program change mode, along with NUMBERS, following the word DISPLAY 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 PRESET or USER, advance to the next window, then press a General or Divisional Piston to view the Program Change Numbers. The next window will display:

```
┌─────────────────────────────┐
│      MIDI PROG CHANGE       │
│                             │
└─────────────────────────────┘
```

After pressing a General or Divisional Piston, the Console Controller window will now display the number that has been selected for that piston. For example, press General Piston 1 and the display will change to:

```
┌─────────────────────────────┐
│  GEN 1           BANK 0     │
│  P:----                     │
└─────────────────────────────┘
```

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.

Use the "↑" and "↓" buttons to change the Program Change Numbers. Use the "→" and "←" buttons to change the BANK Numbers (*See Section C-*). **NOTE:** The Allen organs use MIDI Program Change Zero as a message for "MIDI OFF." Therefore, MIDI Program Change 1 corresponds to the General MIDI sound "Grand Piano." Some MIDI devices do not use Program Change zero for MIDI OFF. Consequently, Program Change Zero, ("- - -" *in the window*) when sent from the organ, will correspond to Program Change 1 on those MIDI devices. Program Change 1 sent from the Allen will correspond to Program Change 2 on those MIDI devices etc.

4. ASSIGNING MIDI PROGRAM CHANGES TO ORGAN PISTONS
This function allows the organist to select any voice from an external MIDI device by pressing any General or Divisional piston on the organ. The "USER" program change mode must be selected *(See Section C-2)*. **If the organ is equipped with an Allen MDS-Expander II™ or MIDI Division, then the selection procedure is simpler than the procedure described here**. However, the USER mode must still be selected. Please refer to the MDS-EXPANDER™ II Owner's Manual. Advance to the 'MIDI PROG CHANGE' window and it will display:

```
┌─────────────────────────────┐
│      MIDI PROG CHANGE       │
│                             │
└─────────────────────────────┘
```

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

```
┌─────────────────────────────┐
│  SW 1            BANK 0     │
│  P:----                     │
└─────────────────────────────┘
```

The window displays the last piston pressed and the MIDI program number being sent by that piston. Use the "↑" and "↓" buttons to raise or lower the program number. A 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*). **NOTE:** 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 and on again.

5. MIDI BANK SELECTING

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

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

There are MIDI devices that are High Bank and Low Bank compatible. It would be possible for these MIDI devices to have as many as (128 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. There are also MIDI devices that offer only General MIDI sounds/voices. These General MIDI devices may operate using High Bank or Low Bank, but only the sub-group Ø Bank Number is used to store the 128 General MIDI sound settings. Allen Organs are able to access any of the Banks and therefore can communicate with all MIDI devices. **NOTE:** You MUST know the capabilities of, and understand how to operate, the MIDI device you intend to use with any organ!

SELECTING HIGH BANK or LOW BANK:
Advance to the 'MIDI BASE CHANNEL' window. It will display:

```
MIDI BASE CH: 1
BANK: LOW
```

Use "→" and "←" buttons on the Console Controller to select either HIGH or LOW Bank priority.

SELECTING MIDI BANK NUMBERS:
Bank Numbers are assignable the same way MIDI Program Numbers were (*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 <u>MUST</u> have USER mode selected in the 'PROG CHG' window! Advance to the 'MIDI PROG CHANGE' window and will display:

```
MIDI PROG CHANGE
```

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

```
┌──────────────────────────────────┐
│  GT 1              BANK 0         │
│  P:----                          │
└──────────────────────────────────┘
```

The window displays the last piston pressed, the MIDI BANK Number, and the program number being sent by that piston. Use the "→" and "←" buttons on the Console Controller to select MIDI BANK Number. The BANK number (Ø-127) will be transmitted on the channel assigned to the division from which you selected the piston, in this case, the Great Division on Channel 2. (*See Section C 1*). Also, refer to the Bank selection/program number chart in the owner's manual for the external MIDI device you are using.

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

6. CHANGING the MIDI BASE CHANNEL

This allows you to change the setting of the MIDI Base Channel. The Base Channel is a reference point to establish the positioning of the other 15 MIDI channels. On Allen Organs, the Base Channel equals the Swell's channel of transmission (i.e., if the Base Channel = 1, then the Swell Channel = 1, if the Base Channel = 2, then the Swell Channel = 2, etc.). Moving the Base Channel allows you to shift the organ's range of MIDI channels, 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 CH' window and it will display:

```
┌──────────────────────────────────┐
│  MIDI BASE CH: 1                 │
│  BANK: LOW                       │
└──────────────────────────────────┘
```

Use the "↑" and "↓" buttons to change the Base Channel. All functions associated with a particular division will transmit and receive on its assigned channel. For example, MIDI Channel 1 is normally assigned to the Swell Division and the Swell Manual. Therefore, keying velocity or on/off messages, and program changes (Swell Divisional Pistons) will be transmitted and received on Channel 1 (*See Section C-1 for Allen MIDI Channel Assignments*).

If the Base Channel is reset to 2, in the display all of the channels will shift higher by one. Now, Swell = 2, Great = 3, Pedal = 4, Choir = 5, and the General Pistons = 9. **NOTE:** 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 and it will display:

```
┌──────────────────────────────────┐
│  MIDI EXPRESSION                 │
│  POLY - VOLUME                   │
└──────────────────────────────────┘
```

There are four modes for transmitting expression data via MIDI. They are selected by pressing the "↑" and "↓" buttons on the Console Controller.

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.

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. **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.

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

8. MIDI SUSTAIN KICK SWITCH

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

```
┌─────────────────────────────┐
│  MIDI SUSTAIN               │
│          Sw = ON            │
└─────────────────────────────┘
```

Use the "→" and "←" buttons to select **Sw, Gt, Ch or Pd.** Use the "↑" and "↓" buttons to turn the selected manual **ON** and **OFF. OFF** will cause no sustain information to be sent, **ON** will cause MIDI expander voices to sustain or decay slowly. An example is when the **PIANO** voice in a voice module has been selected. When the sustain is **ON,** the piano is played and the foot controlled lever is pressed, the piano sound will slowly decay.

9. TRANSFERRING and SAVING CAPTURE MEMORY DATA TO A SEQUENCER
CAPTURE MEMORY refers to: all of the remembered piston registrations on all available Memories, plus all 22 Crescendo "B" position settings and the Secondary Tutti "B" settings. With this operation, the organist can copy and save all of this stored (remembered) information to a MIDI digital sequencer. **NOTE:** This operation is not required if you are using an Allen Smart Recorder™ to save capture memories. Refer to the Smart Recorder™ Owners Manual for details.

Advance to the 'CAPTURE MEMORY SAVE' window and it will display:

```
┌─────────────────────────────┐
│  CAPTURE MEMORY             │
│          SAVE               │
└─────────────────────────────┘
```

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

16

sending.......... capture memory	➡	DONE!! 00:00:00 xx
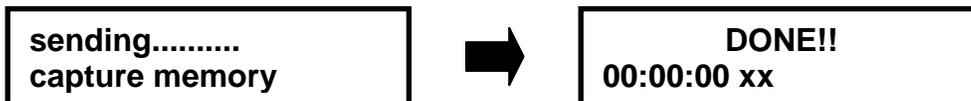
A copy of the CAPTURE MEMORY information will exist in the sequencer and the original information will be retained in the Console Controller™ memory.

10. RETURN CAPTURE MEMORY DATA FROM A SEQUENCER TO 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 number window 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 available memories to receive capture information. It is a good idea to first save whatever is stored in the organ's memory because, it will be erased by this procedure.

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. When this occurs, select the "OFF" position by pressing the "↑" and "↓" buttons. **NOTE:** Piston changes will still be transmitted and received, because they are program changes.

Advance to the 'TRANSMIT / RECEIVE STOPS' window and it displays:

TRANSMIT / RECEIVE STOPS ON

Press "↑" and "↓" buttons to change transmit/receive mode.

D. PERFORMANCE RECORDER™ OPERATING INSTRUCTIONS

The Allen Console Controller includes an internal sequencer called the Performance Recorder™. It allows you to record and playback music, note for note, with expression and registration changes, including any piston selections. Recordings can be made from the Allen console or from an external MIDI keyboard connected to the MIDI ports.

The Performance Recorder is an easy-to-use sequencer designed for performance review to aid organists. It enables organists to listen to a performance from various locations in a room and make judgments regarding volume and registration, as listeners might hear the organ. If a more feature-oriented sequencer is required, the more advanced Allen sequencers are available from your local Allen representative.

1. SELECTING RECORD/PLAY-BACK MODES

All Performance Recorder operations are controlled by the lower row of buttons on the Console Controller. Pressing any one of the three buttons (RECORD, STOP/CONTINUE or START) will cause the window to display the Performance Recorder™ mode:

00000   STOP MEM = 100% SP=100%

NOTE: The number in the upper left corner of the window is the counter number for the recorder. ØØØØØ (all zeros) indicates the starting point.

2. START RECORDING

To start recording, press and hold the **RECORD** button (lower left). While holding RECORD, momentarily press the **START** button. Position the Expression Shoes, press a piston or select stops/drawknobs and begin to play. **CAUTION! ALL PREVIOUSLY RECORDED MATERIAL WILL BE ERASED when you start recording.**

NOTE: At the beginning of a recording, the sequencer automatically checks which stops/drawknobs are currently engaged, as well as the current expression pedal, Crescendo Pedal, and Tutti settings. Therefore, to minimize registration time (silence) during playback, set your registration before starting the Recorder. Registration information is then placed at the beginning of the recording. Upon playback, the organ is automatically returned to the same settings that were selected at the beginning of the original recording. When you have finished playing, press the STOP/ CONTINUE button to pause the recording. You can playback what you recorded by pressing START.

3. PLAYING BACK A RECORDING

IMPORTANT - BEFORE STARTING any playback sequence, be sure the EXPRESSION SHOES are FULLY OPEN. The Performance Recorder mode window must be displayed to play back previously recorded material. Press the START button and the sequencer will play from the beginning the material saved in its memory. The counter number will start at the all zeros position. The stops will turn on and the organ will play.

If you want to start anyplace in the counter number sequence other than all zeros, see CONTINUE PLAYBACK below.

To STOP PLAYBACK
Press the button marked STOP/CONTINUE.

To CONTINUE PLAYBACK
To continue playback when the sequencer is stopped at a given point other than all zeros, press the **STOP/CONTINUE** button. **NOTE:** When continuing playback from any point after the starting point of a recording, the registrations will not automatically reset. **BE SURE THE APPROPRIATE STOPS HAVE BEEN SELECTED BEFORE CONTINUING PLAYBACK FROM WITHIN A RECORDING. IF PISTONS WERE USED DURING RECORDING, BE SURE THE SAME CAPTURE MEMORY IS USED DURING PLAYBACK.**

4. POSITIONING THE COUNTER NUMBER

The Performance Reorder™ (internal Console Controller sequencer) is designed to make single recordings starting at number 0000. Once a recording is made and the "Stop/Continue" button is pressed to stop the recording session, the user begins playback from the counter position 0000 using the "Start" key.

5. CHANGING PLAYBACK SPEED

While stopped, or during playback, the playback speed can be gradually increased or decreased by using the "↑" and "↓" buttons. The playback speed ranges from 50% to 200%, with the original recorded rate being 100%. Changes are made incrementally and remain in effect until further adjustments are made or until the organ's power is turned off.

Turning off the organ's power will automatically reset the playback speed to the originally recorded speed (100%). During playback, you can press and hold the "←" button to reduce the playback speed instantly to 50% of the recorded speed. Releasing this button returns playback to

its original speed. Pressing and holding the "→" button during playback will instantly increase (double) playback speed to 200% of recorded speed. Releasing this button returns playback to its original speed. This process is especially useful in scanning an existing recording to locate a desired point for continuing playback or recording. Upon reaching the desired point in the recording, press STOP/CONTINUE to stop playback.

6. RECORDING AN EXTERNAL MIDI DEVICE

Input from an external MIDI device can be recorded to the sequencer. Make sure the MIDI OUT of the external device is connected to the Allen Organ MIDI IN. The same rules apply when recording from an external MIDI sequencer. **NOTE:** The external MIDI device's current tonal and expression settings <u>ARE NOT </u>recorded automatically at the beginning of recordings. For this reason, it is best to START recording before setting registration and expression levels of external devices.

For the external MIDI device to play on playback, the MIDI stop for the appropriate division on the organ must be turned on, and the MIDI OUT of the organ must be connected to the MIDI IN of the external device. The audio output of the device must also be connected to an audio system.

<u>**CAUTION!**</u>   **Make sure that the external MIDI device has been properly programmed to transmit the types of messages desired (MIDI channel selected, program changes, control data, etc.) before recording is started.**

7. RETURNING TO THE MAIN WINDOW

To return to a normal playing mode, press MEMORY on the Console Controller, or press and hold the SET piston, press the CANCEL piston, release both. Either method gets the same result.

PRESS AND HOLD	SET	THEN PRESS	CANCEL	RELEASE BOTH

E. QUICK REFERENCE GUIDE

1. BASIC OPERATIONS REVIEW

a. ADVANCING THROUGH THE WINDOWS:
Hold SET, press "R".

b. RETURN TO THE FIRST WINDOW:
Hold SET, press CANCEL, release both.

c. SETTING PISTONS:
First window. Select desired registration. Hold SET and press piston to remember registration.

d. SELECT MEMORY AND LOCK IT:
First window. Select desired memory using "↑" and "↓" buttons. Press and hold MEMORY, enter three-digit code, release MEMORY, "L" will appear.

e. UNLOCK A MEMORY:
Repeat d. above. "L" will disappear.

f. UNLOCK ALL MEMORIES WITHOUT CODE:
Advance to display "Unlock All Capture Memories". Press and hold MEMORY, press General Pistons 2-5-5, release MEMORY. Window will display "Done!"

g. SET CLOCK:
Advance to display: "Set Clock". Use "↑" and "↓" to change the digits. Use "→" and "←" to move from hours to minutes. Press and hold SET, press CANCEL, release both to reset clock.

h. SELF-CHECK CAPTURE AND STOP ACTION:
Advance to display: "Self-Check". Press Great Piston 1. To discontinue, Press and hold SET, press CANCEL, release both, and return to the main window.

2. ADVANCED OPERATIONS REVIEW

a. RECONFIGURING PISTONS:
Advance to display: "Configure Pistons". Select the desired stops. Press and hold SET, press the desired piston. Return to First Window (press SET and CANCEL) and set new registrations *(see section E-1, c.)*.

b. SET SECONDARY CRESCENDO "B":
Advance to display: "Set Secondary Cresc. and Tuttis". Set stops in all 22 positions (Generals 1-10, Great 1-6, and Swell 1-6) just as you would set pistons. YOU MUST SET ALL 22 POSITIONS EVEN IF YOU DUPLICATE A PRIOR SETTING.

c. SET SECONDARY TUTTIS:
Advance to display: "Set Secondary Cresc. And Tuttis". Select stops. Press and hold SET, press the Tutti piston you want to memorize setting. In normal play, press Cres B piston, and then press Tutti Piston I or II to access memorized registration.

d. RESTORE FACTORY SETTINGS:
Advance to display: "Re-Initialize Piston Configuration". Use "↑" and "↓" to select the settings you want to restore. Press and hold MEMORY, press 2-5-5 using General Pistons.

F. MIDI GUIDE

1. MIDI FOR ORGANISTS

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

TYPES OF MIDI DEVICES
MIDI devices fall into two categories.

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

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

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

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

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

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

MIDI AS A REGISTRATION TOOL
In some churches and auditoriums it is difficult to judge the effectiveness of a registration from

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

OTHER MIDI USES

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

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

2. CONNECTING ALLEN ORGANS TO OTHER MIDI DEVICES

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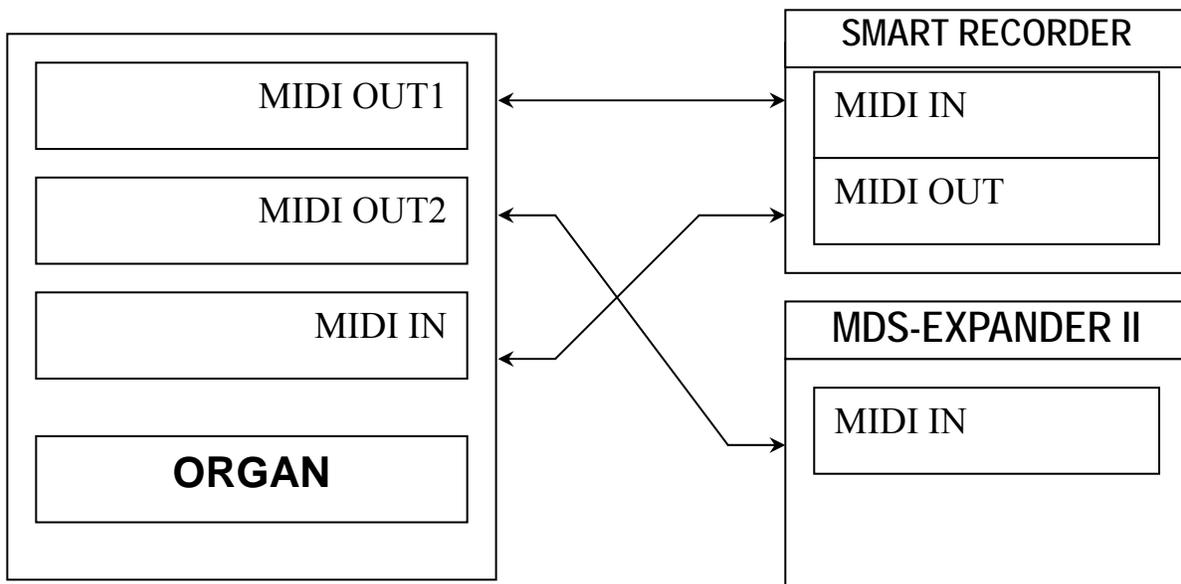
3. SmartMIDI™

Allen Organs organ feature SmartMIDI™, an expanded MIDI system with increased flexibility. 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 unswitched, allow unprecedented control over external MIDI devices attached to the organ.

Under normal circumstances, MIDI sound modules should be connected to the switched MIDI port labeled MIDI OUT 2. Doing so allows the organist to disable the sending of MIDI data from the organ to the sound module. Devices such as MIDI sequencers should be connected to the unswitched MIDI port labeled MIDI OUT 1, eliminating the necessity of having to draw the

MIDI stop controls before recording a digital sequence. The drawing below illustrates the proper procedure for connecting the Allen MDS-Expander™ and Allen Smart Recorder™ to a Allen Organ.

4. MIDI TRANSMISSION CHANNELS

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

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

MIDI Program Change Messages are transmitted from the organ's General Pistons on MIDI Channel 8. These program change messages can be used to change the settings of MIDI sound modules or synthesizers that are connected to the organ. Please consult the owner's manual of your MIDI device(s) for more information on how MIDI Program Change Messages are handled by that particular device.

In addition to keying and divisional registration information, MIDI Volume Messages are sent on the individual MIDI channels for each division of the organ. These volume messages are controlled by the division's expression shoe. In this manner, the volume of connected MIDI devices may be controlled.

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