

GeniSys™ Display Reference Guide

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I. GENISYS™ DISPLAY REFERENCE GUIDE

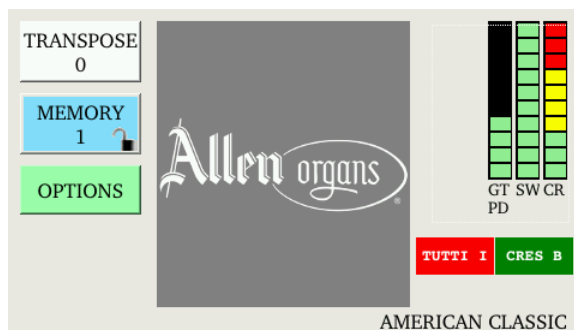
INTRODUCTION

The GeniSys™ Display is an interface that controls many organ functions and a variety of MIDI functions. The GeniSys™ Display includes an LCD (liquid crystal display) GUI (graphical user interface) touch screen that displays a variety of functions, at any given time. The GeniSys™ operation software is vast. While the GeniSys™ Display operation is simplistic, many of the features require more in-depth details. This guide will attempt to explain those details.

A. BASIC OPERATION

1. Start-Up Sequence

Turn on the organ's main power switch. The organ will take several seconds to start-up before it is ready to be played. It is important that no keys, pedals or stop controls are pressed or operated while the organ is starting up as this could cause errors to occur. During the start-up sequence, the GeniSys™ Display will display the Allen Organ logo and also indicate the main computer's status. Once the organ has completed starting up, the GeniSys™ Display will display the “home” screen indicating the organ is ready to play.



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

The “Home” screen displays the current Transposer setting, capture memory level (and lock condition of the memory level), expression/crescendo positions, voicing suite, Tutti and Crescendo B selections (if active) and the last piston/toe stud selection (if active).

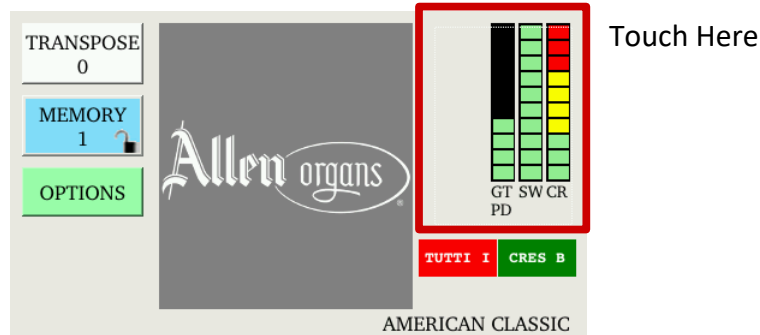
To access a specific function, simply touch a button or area of the screen. For example, to change the Transposer setting, touch the Transposer button and GeniSys™ Display will enter the Transposer control screen. To return to the “Home” screen, touch the HOME button.

Most of the function screens contain two navigation buttons; BACK and HOME. The BACK button will move the screen back to the previous screen/function/menu while the HOME button will return the display to the “Home” screen.



Important!: Only a light touch is needed to select the buttons on the GeniSys™ Display touch screen. Use only the tip or pad of your finger to touch the screen. Do NOT use any sharp objects such as fingernails, pencil/pen tip, etc. to touch the screen as this could scratch and irreparably damage the touch screen display.

The GeniSys™ Display screen is very bright so that the contents of the screen can be seen in brightly lit environments. However, there may be times where the brightness of the screen can interfere with the organist and/or environment, ex: candlelight or evening services. Therefore, GeniSys™ Display includes a special “hidden” function to turn off the display for those times. To turn off the display, simply touch the screen anywhere within the expression/crescendo bar graph area and the screen will turn off (see illustration below).



To turn the display back on, touch any area of the screen.

2. Capture Memory Physics

The capture memories allow you to save different registrations on each piston/toe stud. This means General Piston 1 on Memory 1 can be totally different from General Piston 1 on Memory 2, 3, 4, etc. Select a different capture memory level by touching the Memory level button on the GeniSys™ Display and then use the up and down buttons to select a different memory level number. Return to the *Home* screen by touching the HOME button.

3. 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.

Note: Memory 1 remains unlocked as a convenience to visiting or substitute organists (*if applicable*).

The Memory level button within the GeniSys Display includes a “padlock” illustration to indicate whether the selected capture memory level is locked or unlocked.

To lock a selected memory level, touch the Memory level button on the GeniSys™ Display to enter the memory level selection screen. Then, touch the padlock button to enter the memory combo-lock screen. Enter a three-digit lock code using any combination of the six (6) available buttons on the display. Once a code has been entered, press the ENTER button to lock the memory level. If a change to a number is needed before the ENTER button is pressed, press the RESET button to clear the code to start over. Once the ENTER button is pressed, the memory level will be locked and the RESET button will only clear the code number displayed. The lock code needs to be re-entered to unlock the memory level.

Remember! Choose an easy to remember three-digit code.

Note: Each capture memory level lock code can be different!

4. Unlocking Memories Using Your Code

To unlock a selected memory level, touch the Memory level button on the GeniSys™ Display to enter the memory level selection screen. Then, touch the padlock button to enter the memory combo-lock screen. Using the six (6) available buttons, enter the three-digit lock code that was used to lock the selected memory level. Once the code has been entered, press the “ENTER” button to unlock the memory level. If a change to the number is needed before the “ENTER” button is pressed, press the “RESET” button to clear the code to start over. If the correct code was entered, the memory level will unlock, otherwise the memory level will remain locked.

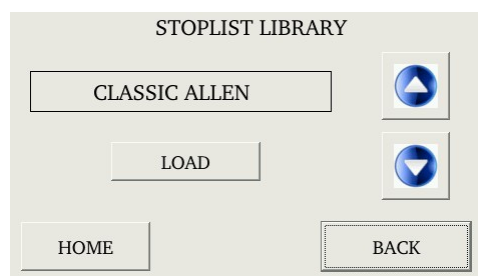
5. Stoplist Library™

Most GeniSys™ model organs are equipped with multiple voicing suites.

To change the voicing suite, advance to the 'Stoplist Library' menu function within GeniSys™ Display; touch:

OPTIONS >> STOPLIST LIBRARY.

The display will indicate the current voicing suite loaded. To change the voicing suite, use the UP and DOWN buttons. Once the desired voicing suite is displayed, touch the LOAD button. The display will indicate the selected voicing suite is loading. Once the voicing suite has loaded, the capture system will automatically cancel all stops indicating the organ is now ready to play.



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

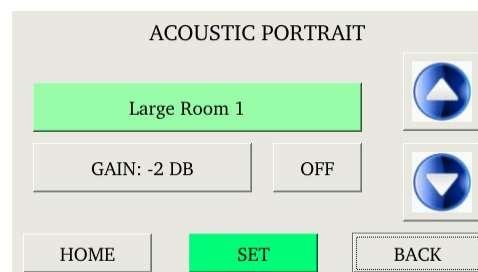
6. Acoustic Portrait™

Several Acoustic Portrait parameters are controlled within GeniSys™ Display. To access the Acoustic Portrait control screen, touch:

OPTIONS >> ACOUSTICS.

From this screen, Acoustic Portrait can be turned on or off, the Acoustic Portrait selection may be changed and the gain (volume) may also be adjusted. To turn Acoustic Portrait on or off, touch the ON/OFF button. The button will “toggle” the on or off status.

The gain is displayed in dB (decibels). The gain range is adjustable from +6dB to minus 35dB. Minus 35dB is the least amount of gain while +6dB is the most amount of gain available. To change the gain value, touch the gain value button to highlight it and then use the UP and DOWN buttons to change the gain value.



To change the Acoustic Portrait selection, touch the Acoustic Portrait selection button and use the UP and DOWN buttons to change to a different Acoustic Portrait selection. Once the desired selection is displayed, touch the SET button. Loading takes approximately 3 to 4 seconds to complete.

Acoustic Portrait™:

Available Reverb Selections

1. Pipe Chamber
2. Small Theatre
3. Small Church
4. Medium Room 1
5. Medium Room 2
6. Medium Room 3
7. Large Room 1
8. Large Room 2
9. Cathedral
10. Large Cathedral

7. Alternate/Global Tuning

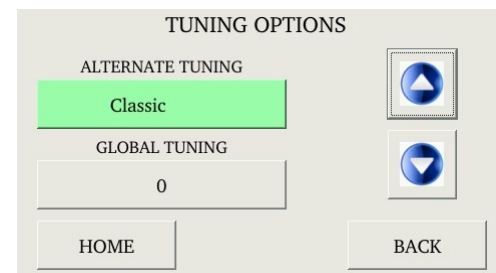
Allen Organs offer seven **Alternate Tunings**, plus one standard tuning. In addition, the Global Tuning feature allows the overall tuning of the organ to be adjusted from the standard A-440 tuning ± 100 cents.

The available tuning options are accessible from the GeniSys™ Display. To access the Tuning Options control screen; touch:

OPTIONS >> TUNING.

To select a different *Alternate Tuning*, touch the Alternate Tuning button to highlight the selection and then use the UP and DOWN buttons to select an *Alternate Tuning*. The organ's overall tuning will be changed to the selected *Alternate Tuning*, by actuating the stop control engraved 'Alternate Tuning'.

Any time the 'Alternate Tuning' stop is turned off, the organ will revert to the Classic style 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.*

Alternate Tunings:

1. Romantic
2. Classic
3. Baroque
4. Kirnberger 3
5. Werckmeister 3
6. Just Intonation
7. Young 2
8. Pythagorean

Global Tuning allows the organist to adjust the pitch of the entire organ. *Global Tuning* can be adjusted either ± 100 cents from A-440 pitch. To adjust *Global Tuning*, touch the Global Tuning button to highlight the *Global Tuning* value. Then, use the UP and DOWN buttons to adjust the tuning value.

Note: The Alternate and Global Tuning adjustments are retained in memory when the organ is powered off.

8. Unlocking All Capture Memories

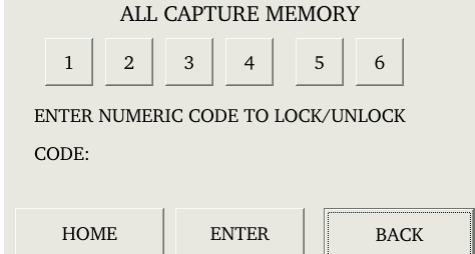
There may be times when capture memory lock codes are lost or forgotten. The Unlock All Capture Memory function unlocks all capture memory levels including those memories other organists may have locked. However, programmed registrations on the capture memory levels will remain unchanged.

To access the Unlock All Capture Memory function, touch:

OPTIONS >> CONFIGURE CONSOLE >> MORE >> UNLOCK ALL CAPT MEM

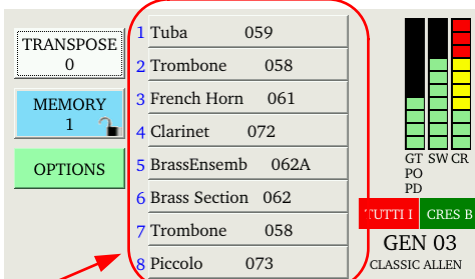
Enter code 2 – 5 – 5 by touching the number buttons on the display and then touch the ENTER button to unlock all the capture memory levels.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

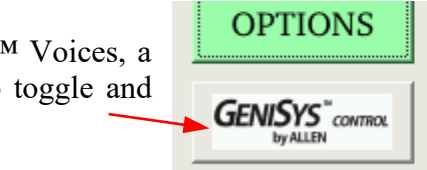


9. GeniSys™ Voices (optional on some models)

GeniSys™ Voices is a set of over 260 classical and contemporary style voices, including eight drum kits and various special effect voices, which can be assigned and activated by stop controls within the each division of the organ. Each division contains two GeniSys™ Voice stop controls. The current GeniSys Voices™ assigned to the GeniSys™ Voice stop controls are displayed within the center portion of the GeniSys Display. The number preceding the voice name corresponds to the GeniSys™ Voice stop control number.



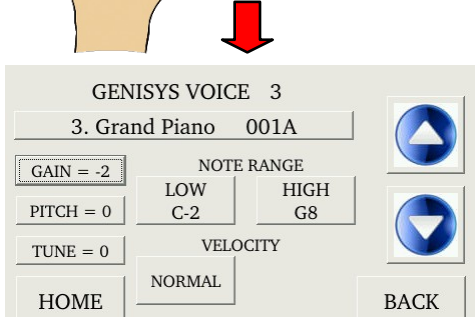
Note: If an organ contains more than eight (8) GeniSys™ Voices, a special button will appear below the OPTIONS button to toggle and display the remaining GeniSys™ Voice selections.



To change the voice or the various settings of a GeniSys™ Voice, touch any one of the GeniSys Voices within the GeniSys™ Display. Doing this will open up the voice selection screen. Touch the number/voice to edit and/or use the UP or DOWN buttons to select a voice that is currently not displayed. Once selected, the voice parameter edit screen will display.



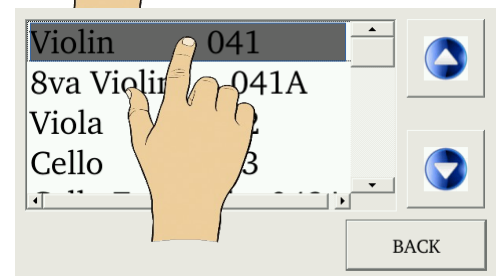
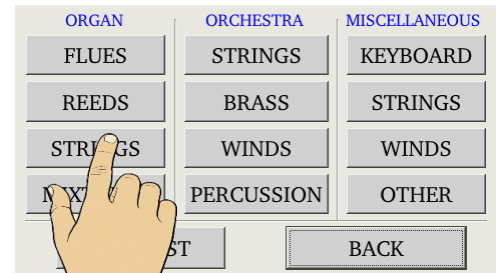
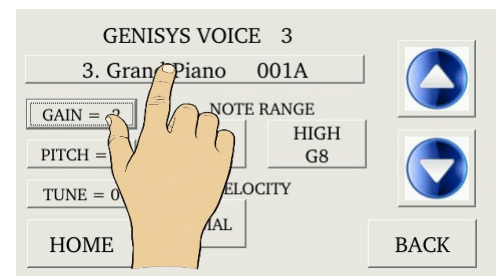
In addition to selecting a voice for a stop control's position, the voice's gain (volume), tuning, pitch, velocity setting and note range may also be adjusted. All voice parameter changes are retained when the organ is turned off.



Selecting a GeniSys™ Voice:

To change the voice, touch the voice name. A category selection screen will display allowing the selection of voices via category or the full list can be displayed. To view a list of voices within a category, touch a category name. For example, for all voices relating to string style voices, touch the “STRINGS” button. Use the UP and DOWN arrows to move through the voice list. Once the desired voice appears, touch the voice name to select it and then touch the BACK button to return the voice editing screen.

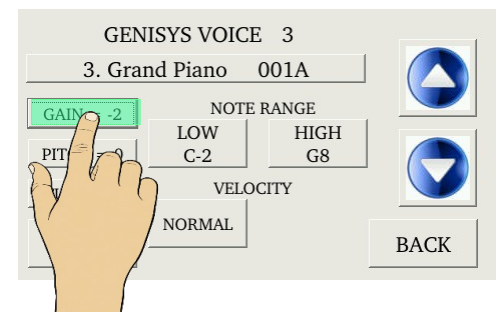
To view the complete GeniSys voice list, touch the “FULL LIST” button. Again, use the UP and DOWN arrows to move through the voice list. Once the desired voice appears, touch the voice name to select it and then touch the BACK button to return the voice editing screen.



Adjusting the GAIN (volume):

To change the GAIN (volume) of the selected GeniSys Voice, touch the GAIN value to highlight it. Then, use the UP and DOWN arrows to increase or decrease the value. Touch the BACK button to return to the voice editing screen or the HOME button to return to the *Home* screen.

Note: The maximum amount of gain available is 0dB (loudest) and the least amount of gain available is -35dB (softest).

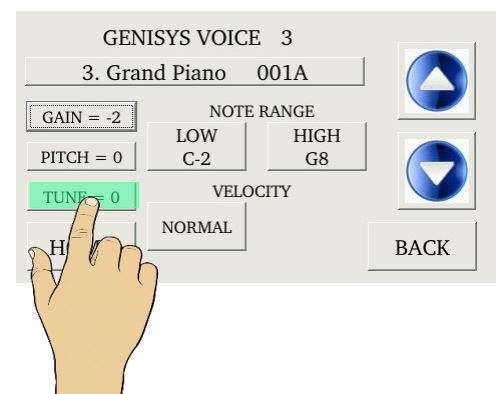


Adjust the Tuning:

The tuning of the selected GeniSys™ voice may be adjusted separately from other available GeniSys™ Voice position(s) as well as the organ's stops.

To adjust the Tuning, touch the TUNE button to highlight it. Then, use the UP and DOWN arrows to increase or decrease the value. Touch the BACK button to return to the voice editing screen or the HOME button to return to the *Home* screen.

Note: The tuning may be adjusted ± 100 cents from A-440 pitch reference.

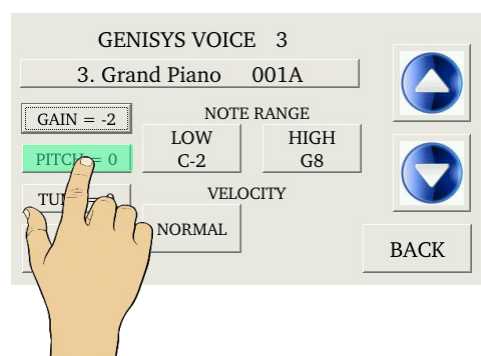


Adjust the Pitch (Transpose Value):

The pitch, or Transpose value, of the selected GeniSys™ voice may also be adjusted separately from the other available GeniSys™ voice stop positions as well as the main organ stops.

To adjust the Pitch, touch the PITCH button to highlight it. Then, use the UP and DOWN arrows to increase or decrease the value. Touch the BACK button to return to the voice editing screen or the HOME button to return to the *Home* screen.

Note: The pitch can be adjusted either ± 12 steps. A value of 12 is a full octave higher, while a value of -12 is a full octave lower.



Adjust Velocity:

The Velocity response of the selected GeniSys™ voice may also be adjusted separately from the other available GeniSys™ voice stop positions. Non-velocity keyboards transmit a fixed velocity value of 64. The Velocity parameter allows keyboards without velocity sensitivity to key the voice with a harder or lighter touch as some sounds can produce a different timbre based on touch. The Velocity parameter allows the standard fixed value to be changed to a different fixed value.

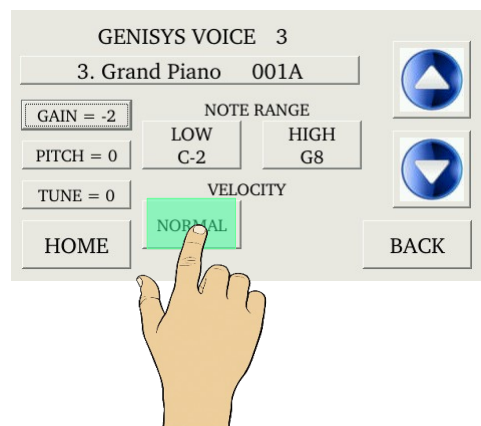
Two Velocity settings are available: Normal and Fixed.

Normal = Velocity sensitivity is enabled. The GeniSys™ voice will respond to keyboard velocity.

Fixed = Velocity sensitivity is disabled. The GeniSys™ voice will respond to the predetermined set velocity value displayed.

To adjust the Velocity response, touch the VELOCITY button. The setting will “toggle” between Normal and Fixed. When Fixed is displayed, an additional button will appear and display a “fixed” velocity value. To change the fixed velocity value, touch the “fixed” value button to highlight it and then use the UP and DOWN arrows to increase or decrease the value. Touch the BACK button to return to the voice editing screen or the HOME button to return to the *Home* screen.

Note: Any value of between 1 and 127 may be selected.



Adjust the Note “Range”:

The Note Range settings allows the ability to set note/key limits on the selected GeniSys™ Voice. Note Range is the ideal tool to “split” the keyboard utilizing the two separate GeniSys™ voices within a single division. There are two Note Range values; one for the LOW note and one for the HIGH note.

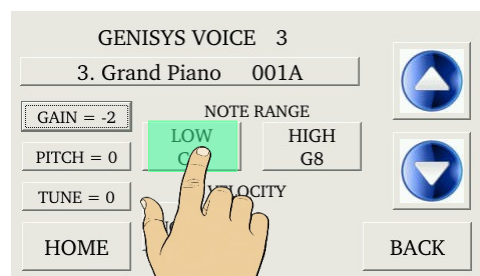
Note: The standard values of “C-2” for the LOW note value and G8 for the HIGH note value allow the selected GeniSys™ Voice to play over the entire keyboard's note range.



LOW Note Range:

To change the LOW note range value, touch the LOW note range value button to highlight it. Use the UP and DOWN arrows to increase or decrease the note value. Touch the BACK button to return to the voice editing screen or the HOME button return to the *Home* screen.

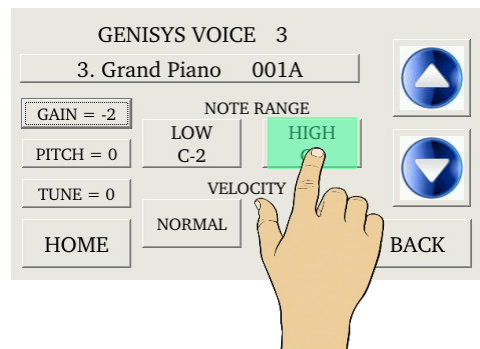
Note: The minimum note range value is C-2 (two octaves below C1).



HIGH Note Range:

To change the HIGH note range value, touch the HIGH note range value button to highlight it. Use the UP and DOWN arrows to increase or decrease the note value. Touch the BACK button to return to the voice editing screen or the HOME button return to the *Home* screen.

Note: The maximum note range value is G8 (2-1/2 octaves above C6).



GeniSys™ Voices “Note Range” Examples:

Example #1 (Acoustic Jazz Club Setup):

This example illustrates how the note range settings can be used to “split” the keyboard to utilize two different sounds on the same keyboard. These settings will allow the first GeniSys™ Voice to play the lower note range and the second GeniSys™ Voice to play the upper note range of a single keyboard. For this example, GeniSys™ Voice #3 and GeniSys™ Voice #4 will be referenced.

1. Select GeniSys™ Voice #3
 2. Select voice “Acoustic Bass 033”
 3. Set the LOW note range value to C-2
 4. Set the HIGH note range value to B2
-
1. Select GeniSys™ Voice #4
 2. Select the voice “Tenor Sax 067”
 3. Set the LOW note range value to C3
 4. Set the HIGH note range value to G8

Synopsis: These settings essentially “split” the keyboard into two sections and allow the Acoustic Bass to play up to note B2, or first two octaves and the Tenor Sax from note C3 to the top of the keyboard or the remaining three octaves. In this configuration, the bass is played with the left hand while the melody is played with the right hand.

Example #2 (Extended Piano Setup):

Another example configuration could allow two keyboards to extend the range of a piano. A standard piano is 88 notes. An organ's keyboard is only 61 notes which greatly limits the upper and lower sections of the piano. By using two keyboards and three GeniSys™ Voice positions, the entire 88 note range of the piano can be realized and played. For this example, GeniSys™ Voices #3, #4 and #5 are referenced. GeniSys™ Voices #3 and #4 are located on the Swell keyboard while GeniSys™ Voice #5 is located on the Great keyboard.

1. Select GeniSys™ Voice #3
2. Select the voice “Grand Piano 001”
3. Set Pitch to -12
4. Set the LOW note range value to C-2
5. Set the HIGH note range value to F3

1. Select GeniSys™ Voice #4
2. Select the voice “Grand Piano 001”
3. Set Pitch to 12
4. Set the LOW note range value to F#3
5. Set the HIGH note range value to G8

1. Select GeniSys™ Voice #5
2. Select the voice “Grand Piano 001”
3. Set Pitch to 0
4. Set the LOW note range value to C-2
5. Set the HIGH note range value to G8

Synopsis: GeniSys™ Voice #5 is setup so the Grand Piano plays normally across the entire range of the Great keyboard. However, GeniSys™ Voices #3 and #4 are setup so the Swell keyboard is “split” at note F3. The lower section of the Swell keyboard (C1 to F3) is transposed down an octave to extend the range of the piano an octave lower than C1 on the Great keyboard. The upper section of the Swell keyboard (F#3 to C6) is transposed up an octave to extend the range of the piano an octave higher than C6 on the Great keyboard. Essentially, the central part of the piano keyboard is located on the Great keyboard while the upper and lower parts of the piano keyboard are located on the Swell keyboard.

These are just two examples of how to use the note range settings to extend the limits of the GeniSys™ Voice system. Dozens of many different and creative configurations could be utilized. It is all dependent on the requirements of the music and the creativity of the organist.

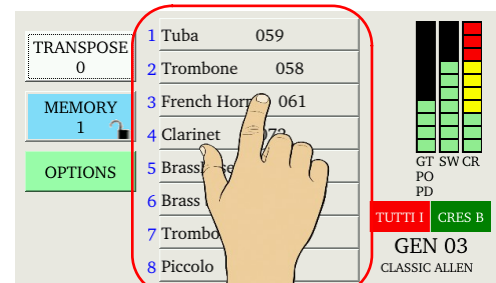
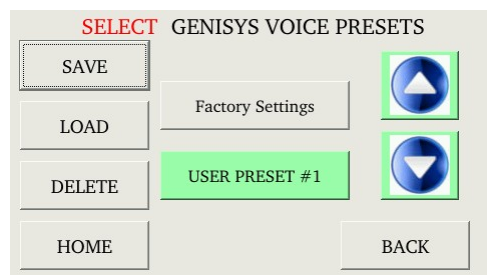
Note: For additional assistance on selecting notes values, use the Visual Note Range Chart, located in Appendix B of this manual, as a guide for selecting note values to enter into the LOW and HIGH note range settings.

GeniSys™ Voices Preset Save/Load:

GeniSys™ Voices Preset registrations may be both saved and loaded for literally an unlimited number of available Preset registrations. The factory supplied USB flash device contains several Factory Preset sample registrations which may be loaded and used as-is or also as a starting point for creating new Preset registrations.

To save or load a GeniSys™ Voices Preset, touch any one of the GeniSys™ Voices within the GeniSys™ Display. Doing this will open up the GeniSys™ Voices voice selection screen.

To access the Load/Save Preset functions, touch the LOAD/SAVE PRESET button.



Important! Factory Presets cannot be deleted and User Presets cannot be saved to any Factory Preset location.

Load Factory/User Preset:

To load a Factory Preset, touch the FACTORY SETTINGS button. Use the UP and DOWN buttons to select a Factory Preset. Once the desired selection is displayed, touch the LOAD button. The display will indicate “Success” if the preset loaded correctly.

To load a User Preset, touch the USER PRESET button to highlight it. Use the UP and DOWN buttons to select a User Preset file number. Once the desired file number is displayed, touch the LOAD button. The display will indicate “Success” if the preset loaded correctly. If a User Preset file for the number displayed does not exist, the display will indicate the file does not exist. If this occurs, select another User Preset file number to load.

Save User Preset:

To save a User Preset, touch the USER PRESET button to highlight it. Use the UP and DOWN buttons to select a User Preset file number. Once the desired file number is displayed, touch the SAVE button. The display will indicate “Success” if the preset saved correctly. If a User Preset file for the number displayed already exists, the display will indicate the file already exists. If this occurs, select another User Preset file number to save to or delete the current selected User Preset file number and then touch the SAVE button again.

Delete User Preset:

To delete a User Preset, touch the USER PRESET button to highlight it. Use the UP and DOWN buttons to select a User Preset file number. Once the desired file number is displayed, touch the DELETE button. The display will indicate “Success” if the preset deleted. If a User Preset file for the number displayed does not exist, the display will indicate the file does not exist. If this occurs, select another User Preset file number to delete.

Important! Refer to Section B-7 for additional information on this subject!

B. USB OPERATION

1. USB Memory Port

GeniSys™ consoles are equipped with a USB type memory port. Depending on the model instrument, the USB memory port can be located at various locations on the console. The USB memory port can accept USB flash devices up to 32GB in size.



Important! USB flash devices larger than 32GB will not operate correctly within GeniSys™ model instruments. Data loss may occur if flash devices larger than 32GB are used.

The USB flash device is used for a variety of different GeniSys™ features. These features will not operate unless a USB flash device has been inserted into the USB memory port.



Note: The USB flash device does not need to be installed for normal playing operation of the instrument.

Insert a USB Flash Device

Locate the USB memory port on the organ and carefully insert the USB flash device into the port socket. The USB flash device can only be inserted in one orientation. Do not force the USB flash device into the socket if it doesn't fit correctly. Doing so may damage the port socket and the USB flash device. If the USB flash device doesn't fit correctly, re-orient the USB flash device and re-insert it into the port socket. Once the USB flash device is seated correctly into the port socket, the organ will automatically connect to the USB flash device. This may take a few seconds.

Remove a USB Flash Device



Important! Never remove a USB flash device from the USB memory port without first operating the REMOVE USB STICK function within the GeniSys™ Display. Removing the USB flash device without performing this function may cause data loss to occur on the USB flash device.

To remove a USB flash device, touch:

OPTIONS >> REMOVE USB STICK

The display will indicate when the USB flash device can be removed.

2. Recorder

GeniSys™ instruments contain the added versatility of a built-in console song recorder. Similar to the operation of an external MIDI song sequencer, the Recorder will record and playback an organist's performance in exacting detail. Every key, pedal, piston, stop and expression movement is recorded and played back as it was originally recorded by the organist. Performances are saved and loaded for playback from the USB flash device. The Recorder is limited to a single-pass recording only.

Note: Multi-track recording is not supported.

To access the Recorder; touch:

OPTIONS >> AUTO PLAY >> RECORDER.

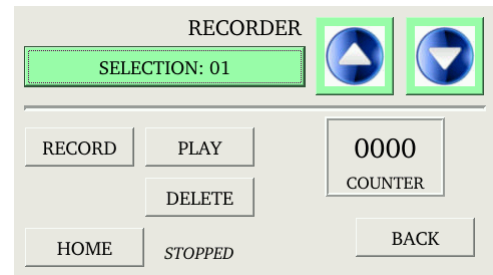
The Recorder contains many display functions. Here is a quick breakdown of those functions and what they do:

Control Function:

PLAY: PLAY mode will play the selected song file number.

RECORD: RECORD mode will record a performance and save the recorded performance data as the selected song file number.

DELETE: DELETE mode will delete the selected song file number.



Selection Song File Number:

Any file number between 01 and 99 may be selected. To select a song file number, touch the Selection button to highlight the Selection. Then, use the UP and DOWN buttons to select a song file number. ***Refer to the Important note at the bottom of this page regarding organs with APEX+ technology.*

Counter:

The counter indicates the current position of the Recorder within the selection song file number.

Recorder Status:

The Recorder Status is located at the bottom of the display and indicates the current status of the recorder; Stopped, Playing, Recording.

Delete a Song File:

To delete the selected song file number, touch the DELETE button.



Important! If a selected song file number is not located, the display will indicate the file does not exist.

Play a Song File

To play the selected song file number, touch the PLAY button.



Important! If a selected song file number is not located when playback is started, the display will indicate the file does not exist and playback will not begin.

To “pause” playback, touch the PAUSE button. The counter will stop counting and the song file will stop playing. To resume playback, touch the PLAY button. The song file will “continue” from the current counter value.

Note: The counter value cannot be changed from its current value.

To stop playback, press the STOP button. The counter will reset to zero (0000) and the song file will stop playing.



Important! Organs that contain APEX+ technology will only display song file numbers that exist on the USB flash device. If the song file number does not exist, it will not be displayed nor can it be selected.

Record a Song File:

First, select a song file number (refer to note Important! below).



Important! On organs that contain APEX+ technology, the Recorder will automatically select the next available song file number when starting a recording. For example, if song files #2 through #5 already exist, but song file #1 does not, the Recorder will automatically select song file #1 and begin recording. Likewise, if song files #1 through #19 already exist, the Recorder will automatically select song file #20 and begin recording.



Important! If the selected song file already exists when a recording is started, the display will indicate the file exists and recording will not begin. Either delete the selected song file number or select a different song file number to continue.



Hint! To ensure the console setup information is recorded within a song, perform the steps/procedure below once the recording has been started.

Note: The counter within the display will begin counting to indicate the Recorder is now recording.

- Press the **CANCEL** piston. This will turn off any stops which are turned on and also transmit the currently selected capture memory level into the beginning of the song. Doing this will ensure the organ is set to the correct capture memory level when the song is played back preventing the potential for incorrect piston registrations to be selected.



Important! The piston registration settings used within a song is dependent on the current capture memory settings within the organ at the time the song is recorded. If the piston registrations are changed after a song has been recorded, the piston registrations will not be the same when the song is played back and the song will not sound as it was originally recorded.

- Select a piston registration or manually select stops.
- Move the expression shoe(s) and set them to a desired position. Doing this will record the organ's volume information within the song. This way when a song is played back, the organ's volume will be set to the correct level.
- At this point, begin playing the song. Remember, all key, pedal, piston, stop or expression movements will be recorded.
- Upon completion of a recording, press the **CANCEL** piston to turn off all of the stops and move the expression shoes to their lowest position.
- To stop recording, touch the STOP button. The counter will reset to zero (00000) and the song file will stop recording. To playback the recording touch the PLAY button.

To "pause" during recording, touch the PAUSE button. The counter will stop counting indicating recording has stopped. To continue recording, touch the CONTINUE button. The Recorder will resume recording from the current counter value.



Important! Any changes; registration, expression, etc. made to the organ while the recording has been paused will not be recorded!

Note: The counter value cannot be changed from its current value while the song is paused.

3. Hymn Player

GeniSys™ organs contain a Hymn Player which plays pre-recorded hymns.

Note: Additional hymns cannot be added to the existing list of available hymn selections.

To access the Hymn Player; touch:

OPTIONS >> AUTO PLAY >> HYMN PLAYER.

To select a Hymn, touch the Hymn title to highlight the selection. Then, use the UP and DOWN buttons to change the Hymn.

To play the selected Hymn, touch the PLAY button. To stop Hymn playback, touch the STOP button.

Playback Parameters:

To change the value of any of the playback parameters, touch the associated parameter button to highlight it and then use the UP and DOWN buttons change the parameter value.

Intro: Determines whether an Introduction passage is played before the Hymn.

Note: *Intro value cannot be changed during playback.*

Tempo: Tempo may be adjusted up or down in increments of 10. Maximum tempo value is plus/minus 50.

Verses: Maximum number of verses is 9.

Pitch: Pitch may be raised or lowered in half-step increments. Standard Transposer range is applicable; pitch can be raised a maximum of five half-steps or lowered a minimum of seven half-steps.

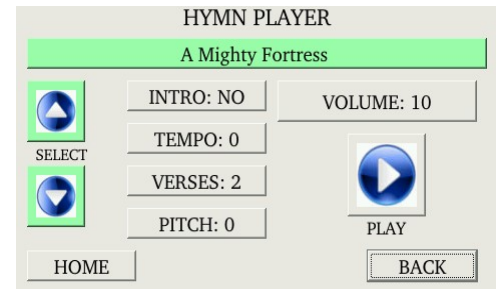
Note: *Pitch value cannot be changed during playback.*

Volume: Sets the overall volume of the organ relative to the expression shoe position(s) for hymn playback. Volume range is 1 (softest) through 10 (loudest).

Note: *Volume cannot be adjusted during playback.*

Note: Both the Tempo and number of Verses may be adjusted during hymn playback.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.



4. Performance Player

GeniSys™ contains a Performance Player which plays pre-recorded Performances.

Note: Additional Performances cannot be added to the existing list of available selections.

To access the Performance Player; touch:

OPTIONS >> AUTO PLAY >> PERFORMANCE PLAYER.

To select a Performance song title, touch the Performance song title to highlight it and then use the UP and DOWN buttons to change the performance title.

To begin playback, touch the PLAY button. To stop playback, touch the STOP button.

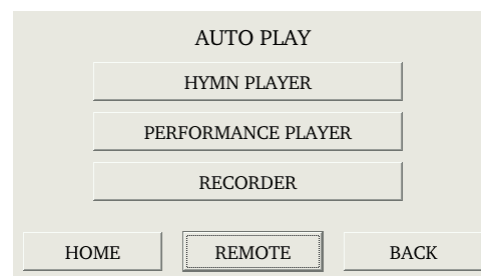
To adjust the volume of a Performance, touch the volume button to highlight it and then use the UP and DOWN buttons to adjust the value.

Volume range is 1 (softest) through 10 (loudest).

Note: *Volume cannot be adjusted during playback.*

5. “Remote” Access Functionality (*GeniSys Display v1.10 or later*)

GeniSys™ instruments that contain an internal WiFi Router include the ability to control the Recorder, Performance Player and Hymn Player from an Allen Organ APP, available for both Apple and Android products such as an iPhone, iPad or Android based device (tablet or phone). The Allen Organ APP is available for download via the App store (for Apple devices) or Google Play (for Android devices). The device must first be connected to the WiFi Router in the organ in order for the APP to fully function. Please reference the instructions for the selected device on how to connect to a WiFi Router. A password is required for connection to the WiFi Router. Please reference the documentation that accompanied the WiFi Router for more information.

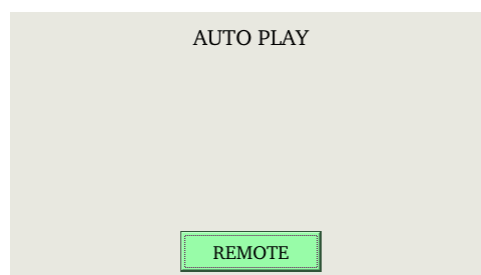


Once a connection is established, the Remote function must be enabled in order for the APP to have control. To enable the Remote function, navigate to the Auto Play menu:

OPTIONS >> AUTO PLAY.

To enable APP control, touch the REMOTE button. The three Auto Play control buttons will disappear and the remote button will highlight green to indicate the APP now has control of the organ.

To disable APP control, touch the REMOTE button again. The control screen will return to the standard display indicating GeniSys™ Display now has control over the Auto Play functions.



6. Capture Load/Save

GeniSys™ instruments can both save and load capture registration data to the USB flash device. Capture registrations, piston configuration, MIDI settings, Crescendo/Tutti B settings can be saved and loaded.

To access the Capture Save/Load feature, touch:

OPTIONS >> CONFIG CONSOLE >> CAPTURE SAVE/LOAD.

The Capture Save/Load feature contains several functions. Here is a quick breakdown of those functions and what they do:

Mode Select: LOAD, SAVE or DEL.

LOAD: Loads a selected capture file number.

SAVE: (4) options (Type Select):

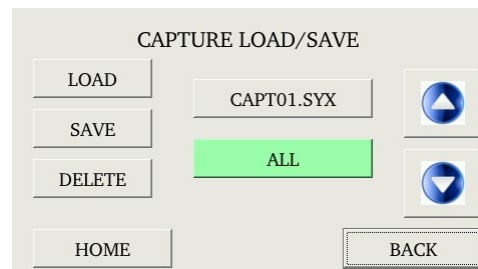
“ALL” Saves all capture registrations, piston configuration, MIDI settings, Crescendo/Tutti B settings and custom Piston Sequences.

“MEM XX” Saves only the selected capture memory level.

“PISTON CONFIG” Saves only the piston configuration data.

“CRESC/TUTTI B” Saves only the Crescendo/Tutti B data.

DELETE: Deletes the selected capture file number.



Select a Capture File:

To select a capture file to either save or load, touch the capture file number to highlight it, then use the UP and DOWN buttons to select a file number.

Load a Capture File:

To load a selected capture file number, touch the LOAD button. Then, touch the ACT button to start the load process. The display will indicate the status once completed.

 **Important!** If a selected capture file number is not located, the display will indicate the file does not exist. Select a different capture file number to proceed.

Save a Capture File:

To save the selected capture file number, touch the SAVE button. To change the type of data to save, touch the Type Select button to highlight it and then use the UP and DOWN buttons to change the data type. Touch the ACT button to start the save process. The display will indicate the status once completed.

 **Important!** If a selected capture file number already exists, the display will indicate the file exists. Either delete the selected capture file number or select a different capture file number to proceed.

Delete a Capture File:

To delete a the selected capture file number, touch the DELETE button. Then, touch the ACT button to delete the capture file. The display will indicate the status.

 **Important!** If a selected capture file number is not located, the display will indicate the file does not exist. Select a different capture file number to proceed.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

7. GeniSys™ Voices Piston Mode

Note: Operating software 2.08 (or later) and GeniSys Display software v1.10.1 (or later) is required for this mode.

GeniSys™ Voices registration settings may be set to either a single registration setting not affected by General or Divisional pistons or set to an Advanced mode where registration settings are affected by individual General or Divisional pistons. A General piston affects a complete registration setting while a Divisional piston only affects a particular division's voice setting. The GeniSys™ Voices registration stored to a piston is a complete setting, including all underlying voice parameter settings. What's more, each capture memory level can contain different sets of piston registrations, similar to that of the organ's capture registration system.

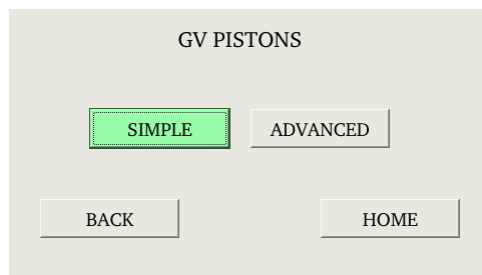
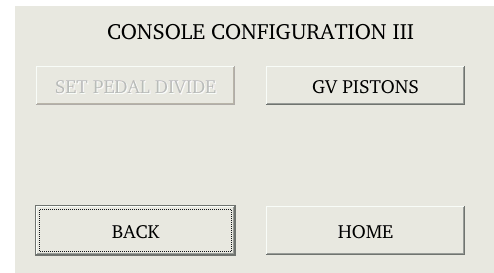
To access the GeniSys™ Voices Piston Mode; touch:

OPTIONS >> CONSOLE CONFIGURATION >> MORE >> MORE.

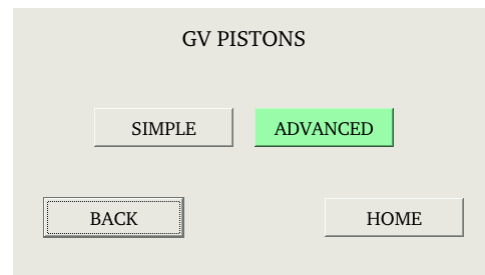
SIMPLE = One registration setting, unaffected by General/Divisional pistons.

ADVANCED = Programmable registration settings affected by General/Divisional pistons.

Touch SIMPLE or ADVANCED to select a piston mode.



Simple Mode



Advanced Mode

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

Addendum: GeniSys Voices User Preset Save/Load when in Advanced Mode.

The GeniSys Voices (GV) User Preset Save/Load function operates much differently when in ADVANCED piston mode than it does in SIMPLE piston mode. Remember, in SIMPLE piston mode, User Preset registrations are analogous to all of the available capture memory levels in the organ and do not change when pressing General or Divisional pistons.

In ADVANCED mode, each General and/or Divisional piston can contain a different GV preset registration in each capture memory level. However, in ADVANCED piston mode the User Preset Save function will not save all of the GV piston registrations from all capture memory levels into a single file. Only the GV piston registrations from within the currently selected capture memory level is saved. Therefore, in order to save the GV preset registrations from other capture memory levels, first select a capture memory level and then select a different User Preset file number and finally touch SAVE. For example, if (5) of the organ's capture memory levels contain different GV preset registrations, then (5) separate User Preset file numbers will be needed; one for each capture memory level on the organ.

A saved User Preset file can also be loaded/copied into another capture memory level other than the one it was originally saved from. To do this, first select a capture memory level and then select a User Preset file number and touch LOAD. The GV preset registrations are now loaded in the selected capture memory level.

C. ADVANCED OPERATION

1. Configuring General Pistons

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

Important! The Piston Configuration is common to all capture memories.

For example:

- (1) Pistons can be configured to control only certain specific stops.
- (2) A piston can be configured so that it will only affect the Tremulant stops.
- (3) A General piston can be configured to respond like a Divisional Piston.

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

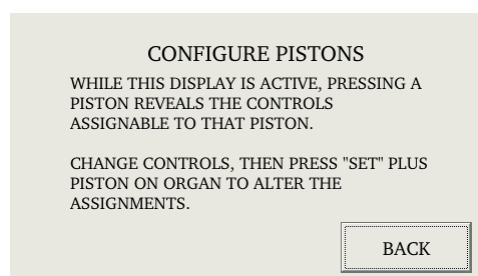
Note 2: Re-configuring a piston does not change its MIDI channel assignment.

To access the Configure Piston feature, touch:

OPTIONS >> CONFIG CONSOLE >> CONFIGURE PISTONS

At this point, pressing any piston will actuate stops controlled by that particular piston.

To return to the previous menu, touch the BACK button.



EXAMPLE CONFIGURATIONS

To reconfigure a piston to control only the MIDI stops:

Select just the MIDI stop controls. Press and hold the **SET** piston. Then, while holding **SET**, press a General piston that you want only the MIDI stops to respond on. Release both. The General piston just pressed will now only be able to program the MIDI stop controls and will no longer affect other stops.

To reconfigure a General Piston so it controls only the Swell Division stops:

Select *all* of the Swell division stops. Press and hold the **SET** piston. Then, while holding **SET**, press a General piston that you want only the Swell division stops to respond on. Release both. The General piston just pressed will now only be able to program the Swell division stops and will no longer affect other stops.

To add the “Swell To Great” Intermanual Coupler to the Great Divisional Pistons:

Select *all* of the Great Division stops controls and also the “Swell To Great” intermanual coupler. Press and hold the **SET** piston. Then, while holding **SET**, press each Great Divisional Piston, in sequence while holding **SET**. Release **SET** when completed. The “Swell To Great” coupler can now be registered to the Great Divisional pistons.

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

Select *all* of the organ’s Tremulant sop controls. Press and hold the **SET** piston. Then, while holding **SET**, press a General/Divisional piston. The General/Divisional piston just pressed will now only be able to program the Tremulant stops and will no longer affect other stops.

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

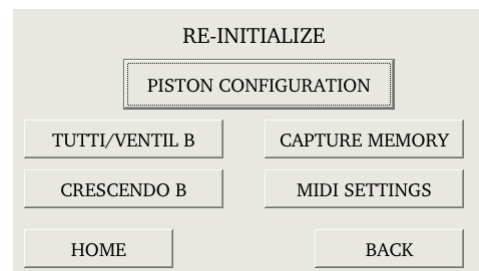
2. Restoring Original Factory Settings

To access the reinitialize feature, touch:

OPTIONS >> CONFIGURE CONSOLE >> MORE >> REINITIALIZE

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

- Piston Configuration
- Tutti/Ventil B
- Crescendo B
- Capture Memory
- MIDI Settings



The Piston Configuration re-initialization includes all the Configure Piston settings. The MIDI Settings re-initialization includes all MIDI program change mapping. The Capture Memory re-initialization will reset the last available capture memory back to factory default registrations (*if applicable*).

Each of these functions can be restored individually. Touch the associated function to be restored. The display will ask to confirm the function selected to be restored. Touch “YES, I AM SURE” to reinitialize the function or “NO” to abort.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

3. Self Check; Stop Action and Capture

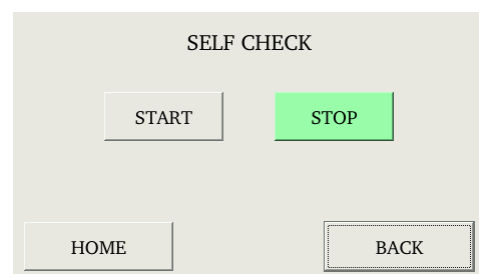
This feature self-checks the capture system. The test insures each stop is functioning properly and is controllable by the capture system.

To access the Self Check function, touch:

OPTIONS >> CONFIGURE CONSOLE >> MORE >> SELF CHECK

To start the self-check, touch the START button. The button will highlight indicating the selection and the stops will turn on and off consecutively one at a time.

Lumitech stops indicators will turn on and off one at a time and drawknobs/rockertabs will move in and out or down and up one at a time. If any stop position does not light or move please notify your certified Allen service technician.



During the testing process you can stop the Self Check function at any time touching the STOP button.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

4. Sostenuuto (optional – requires Sustain Kick Switch)

Sostenuuto 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 *Sostenuuto* switch sustains only the notes being held at the very moment it is pressed. *Sostenuuto* is actuated by the organ’s MIDI Sustain switch (optional) located to the left of the Great/Pedal expression shoe. The *Sostenuuto* function must first be enabled before using it.

To access the Sostenuto function, touch:

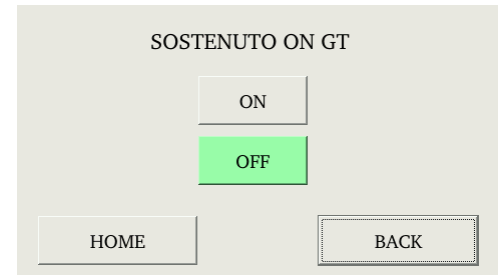
OPTIONS >> CONFIGURE CONSOLE >> SOSTENUTO.

The display will indicate which manual Sostenuto is assigned to and indicate the current on/off status.

Note: The manual which Sostenuto is assigned to cannot be changed, only the on/off status can.

To turn Sostenuto “on”, touch the ON button. To turn Sostenuto “off” touch the OFF button.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.



Important! Sostenuto will affect the internal voices of the organ as well as a MIDI instrument connected to the MIDI output. The Sustain function will operate in tandem with the Sostenuto function. Check your specific MIDI instrument’s owner’s manual to verify that it will receive and/or respond to MIDI Sostenuto messages.

5. Modifying Crescendo and Tutti B Settings

A second set of Crescendo and Tutti settings can be altered to suit the organist’s needs.

To access the Crescendo/Tutti B function, touch:

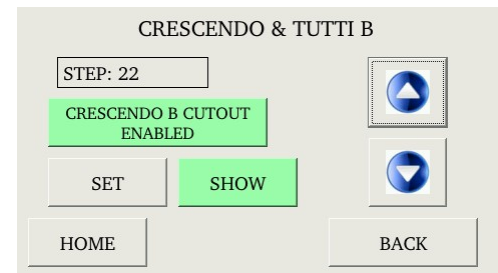
OPTIONS >> CONFIGURE CONSOLE >> CRESC/TUTTI B

There are two modes available; "SET" and "SHOW".

SET: Set mode allows the organist to edit a Crescendo B sequence.

SHOW: Show mode allows the organist to preview the programmed Crescendo B sequence.

Touch the SET or SHOW button to highlight and select which mode will be active.



To view the stops registered on the second (B) Tutti I or Tutti II, press either Tutti piston. This will cause all associated stops programmed on the Tutti selected to turn on.

Important: Do not use the Crescendo shoe while within the Crescendo B/Tutti B function!

Setting a Crescendo B Sequence:

Crescendo includes 22 step positions (50 steps on large instruments), evenly dispersed along the Crescendo shoe’s range of travel. To set the Crescendo B sequence, touch the SET button to highlight it and activate the program mode. Then, using the UP and DOWN buttons, select a STEP position. The "STEP" indicator displays either "step --" to indicate position 0 (*Crescendo shoe off*) or any step between 1 and 22 (1 through 50 on large instruments).



Important! While in SET mode, moving through the step positions using the UP and DOWN buttons will not cause stops to turn on or off indicating what registration is programmed on a particular step.

To set a Crescendo B sequence, use the UP and DOWN buttons to select step 1. Adjust the stops to a suitable registration for step 1. (*Note: You can play the organ at any time to hear your selected registration*) To save the selected stop registration to step 1, press and hold the **SET** piston. Then, while holding **SET**, press the **CRESC B** button. Step 1 is now programmed. Repeat the above procedure to set all available crescendo step positions.

Preview/Editing A Crescendo B Sequence

Touch the SHOW button to highlight it and activate the preview mode. Use the UP and DOWN buttons to move through the step positions. The stops will turn on or off indicating the stop registrations programmed on each step position.

To make a change to a step position, touch the SET button to highlight it and enter the program mode. Stops can now be turned on or off to change the step registration. Once changes are complete, press and hold the **SET** piston. Then, while holding **SET**, press the **CRES B** piston to program the changes to the step position. Return to SHOW mode by touching the SHOW button on the display. Use the UP and DOWN buttons to move through the step positions.

Celestes and Tremulant Cutout:

To disable the Celestes and/or Tremulants at any of the available Crescendo B steps positions, first select a step position where the cutout will begin. Touch the SET button to enter the programming mode. Then, touch the “Crescendo B Cutout Enabled” button to highlight it. Doing this will set the cutout starting point on the displayed step position. All subsequent step positions will be automatically set.

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

Play the Organ Using Crescendo B

The *Home* screen must be displayed. Press HOME to return to the *Home* screen. Press the **CRES. B** piston. On the GeniSys display, the green CRES B indicator will illuminate below the expression bar graphs. Depress the Crescendo shoe and play the organ.

Editing/Preview Tutti B Registrations

While in the Crescendo B and Tutti B programming function, pressing a Tutti piston will change the STEP display to indicate which Tutti piston was pressed. If SHOW mode is selected, the stop registration programmed on the Tutti selected will be activated. To change the selected Tutti, touch the SET button to highlight it and activate/enter the program mode. Stops can now be turned on or off to change the Tutti registration. Once changes are complete, press and hold the **SET** piston. Then, while holding **SET**, press the associated **TUTTI** piston selected to save the changes. Return to SHOW mode by touching the SHOW button on the display.

Play the organ Using Tutti B

The *Home* screen must be displayed. Press HOME to return to the *Home* screen. Press the **CRES. B** piston. On the GeniSys display, the green CRES B indicator will illuminate below the expression bar graphs. Press the **Tutti** piston of your choice. The red Tutti indicator will display to indicate which Tutti is active.

6. Piston Sequencer (optional on some models)

The Piston Sequencer allows the organist to step through a sequence of registrations using pistons/toe studs labeled as *Next* and *Prev*.

Important: The piston sequencer control buttons were originally labeled (+) and (-). The previous labeling is reflected within the GeniSys Display. The new labeling has (+) = *Next* and (-) = *Prev*. Please take note to this change!

To access the Piston Sequencer function, touch:

OPTIONS >> CONFIGURE CONSOLE >> PISTON SEQUENCER.

Four modes of operation are available:

OFF: The Piston Sequencer is disabled. The *Next* and *Prev* pistons/toe studs will not function.

SIMPLE: This mode allows the organist to step sequentially through the available General pistons of a single capture memory level.

ADVANCED: This mode allows the organist to sequentially step through the available General pistons of all capture memory levels.

CUSTOM: This mode allows the organist to sequentially step through a user programmed piston sequence of any available piston and capture memory level. The Piston Sequencer memory allows for 512 steps allocated to a maximum of 99 sequences.

Note: Custom piston sequence data is saved to the USB flash device when selecting the ALL capture data type option when saving capture memory registration data.

OFF MODE:

To select the OFF mode, touch either the UP or DOWN buttons within the mode select area on the GeniSys Display until the word OFF appears.

Note: The organ will remember the Piston Sequencer mode setting when power is turned off. If Piston Sequencer was previously enabled, OFF mode may be selected to disable the Piston Sequencer.

SIMPLE MODE:

To select the SIMPLE mode, touch either the UP or DOWN buttons within the mode select area on the GeniSys Display until the word SIMPLE appears.

Once SIMPLE mode has been selected, touch the HOME button to return to the *HOME* screen.

USING SIMPLE MODE

If SIMPLE mode is enabled, using the *Next* or *Prev* pistons/toe studs will cause the organ's capture system to step up or step down sequentially through all General Pistons within the selected capture memory level, stopping when either extreme is reached.

To operate, first select a capture memory level and then press General piston #1. The registration associated with the selected capture memory level and General piston #1 will set the stops accordingly and the GeniSys Display will indicate that General #1 has been pressed. This will also set the stepper's starting step position.

Note: Pressing the *Next/Prev* piston will also select General #1 and also set the stepper's starting step position.

Pressing the *Next* piston/toe stud will select the next General piston number, in this case General Piston #2.

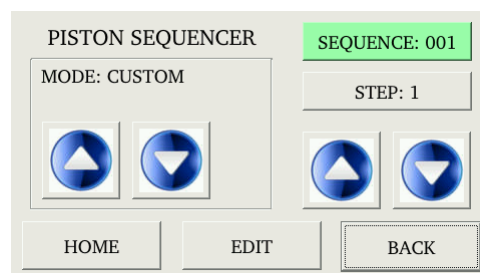


Figure 1: Piston Sequencer -- Custom Mode

Remember! If General #1 is displayed, pressing the *Prev* piston will do nothing since General #1 is the lowest possible General piston number available.

The step position may be changed at any time, on-the-fly, by pressing a different General piston than the one displayed. The stepper will then step up or step down from the newly selected General piston number when either the *Next* or *Prev* piston/toe stud is pressed.

For example; if the current step position is General #4, pressing General #7 will not only change the registration, but will also set the stepper's step position to General #7. At this point, pressing either the *Next* or *Prev* piston/toe stud will step up or step down from General #7.

The capture memory level may also be changed at any time while within SIMPLE mode. To change the capture memory level, touch the Memory level button to enter the capture memory level and then use the UP or DOWN buttons to select a different capture memory level.



Important! Changing the capture memory level will reset the stepper's step position value back to General #1. To select a different starting step position press a different General piston.

SIMPLE mode will also remember the last General piston pressed and will resume stepping from that step position based on whether the *Next* or *Prev* piston/toe stud is pressed. Even if the CANCEL piston has been pressed and the piston display cleared and/or a Divisional piston has been pressed, the stepper will remember the last General piston pressed and will resume stepping from that step position whenever the *Next* or *Prev* piston/toe stud is pressed.

For example, let's say that General #5 is the currently selected General piston and the organist presses the CANCEL piston to clear the stop registration. Afterward, the organist then presses the *Next* piston. The piston display will now indicate General #6 and the stop registration is set accordingly.

Synopsis: General #6 was selected because General #5 was the last active General piston before the CANCEL piston was pressed.

ADVANCED MODE

To select the ADVANCED mode, touch either the UP or DOWN buttons within the mode select area on the GeniSys Display until the word ADVANCED appears.

Once ADVANCED mode has been selected, touch the HOME button to return to the *HOME* screen.

USING ADVANCED MODE

If ADVANCED mode is enabled, using the *Next* or *Prev* pistons/toe studs will cause the organ's capture system to step up or step down sequentially through all General Pistons and within all available capture memory levels, stopping when either extreme is reached. If using the *Next* piston/toe stud, the stepper will stop at the last available General piston while within capture memory level 128 or if using the *Prev* piston/toe stud the stepper will stop at General #1 within capture memory level #1.

To operate, first select a capture memory level and then press General piston #1. The registration associated with the selected capture memory level and General piston #1 will register on the stops and the GeniSys Display will display the selected capture memory level and also that General #1 has been pressed. This will also set the stepper's starting step position.

Note: Pressing the *Next* or *Prev* piston/toe stud will also select General #1 and also set the stepper's starting step position.

Pressing the *Next* piston/toe stud will select the next General piston number and in this case General Piston #2.

Remember! If capture memory level #1 is selected and General #1 is displayed, pressing the *Prev* piston will do nothing since capture memory level #1 and General #1 is the lowest possible capture memory level and General piston number available.

Pressing the *Next* piston/toe stud will begin stepping through each General piston within the selected capture memory level. When the last General piston has been reached and the *Next* piston/toe stud is pressed, the capture memory level value will increment by one (1) and General #1 will be selected within the next highest capture memory level. The same is true in reverse. In other words, if General #1 is currently displayed and the *Prev* piston is pressed, the capture memory level will decrement by one (1) and the last available General piston will be selected within the next lowest capture memory level.

If capture memory level #1 is displayed as is General #1 then pressing the *Prev* piston/toe stud will do nothing since capture memory level #1 and General #1 is the lowest possible capture memory level and General piston number available.

As with SIMPLE mode, the stepper's step position, while within ADVANCED mode, may be changed at any time, on-the-fly, by selecting a different capture memory level and/or by pressing a different General piston other than the one currently displayed. The stepper will then step up or step down from the newly selected capture memory level and/or General piston number when either the *Next* or *Prev* piston/toe studs are pressed.

Important! Changing the capture memory level will reset the stepper's step position back to General #1 within the newly selected capture memory level.

To select a different General piston as a starting step position within the current capture memory level, simply press another General piston number.

ADVANCED mode will also remember the last General piston pressed and will resume stepping from that step position based on whether the *Next* or *Prev* piston/toe stud is pressed. Even if **CANCEL** has been pressed and the piston display cleared and/or if a Divisional piston is pressed, the stepper will remember the last General piston pressed and will resume stepping from that step position whenever the *Next* or *Prev* piston/toe stud is pressed.

As an example, let's say that General #9 is the currently selected General piston, but Swell Divisional piston #4 was pressed to temporarily change the Swell registration (note that "Sw 4" will now show within the piston display). When the *Next* piston is pressed, the piston display will now display General #10 and set the stop registration accordingly.

Synopsis: General #10 was selected because General #9 was the last active General piston before Swell Divisional #4 piston was pressed. Divisional pistons are not recognized as valid step positions when using either the SIMPLE or ADVANCED modes.

CUSTOM MODE

To select CUSTOM mode, touch either the UP or DOWN buttons within the mode select area on the GeniSys Display until the word CUSTOM appears.

CUSTOM mode allows the creation of a custom piston sequence utilizing different capture memory levels as well as the ability to use both General or Divisional pistons within each step. The custom piston sequence is stepped through sequentially using the *Next* or *Prev* pistons/toe studs.

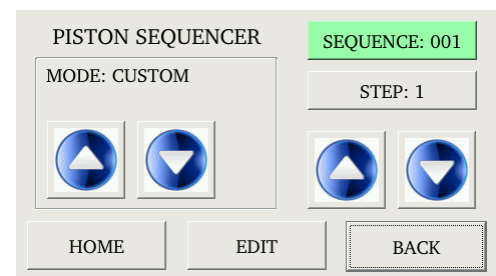


Figure 2: Piston Sequencer -- Custom Mode

USING CUSTOM MODE

To select a sequence, touch to highlight the SEQUENCE button and then use the UP or DOWN buttons to select a sequence number.

To change the starting step position, touch to highlight the STEP button and then use the UP or DOWN buttons to change the step position value/number. When the *Next* or *Prev* piston/toe studs are pressed, the step position will either increase or decrease by (1) one step depending on the piston pressed.

Once a sequence number and step number has been selected, touch the HOME button to return to the *HOME* screen. The sequence and step number will be displayed in the lower right corner of the GeniSys Display. To start the stepper, press *Next* piston/toe stud and the stop combination for the selected step displayed will register on the organ's stopboard.

Note: Once the stepper is active and should the stepper's current step position be equal to (1) one, pressing *Prev* will do nothing since the stepper's step position is already at it's lowest count. Pressing *Next* will produce the same result if the stepper's step position counter is positioned at it's highest programmed step position. The step position's number will not "roll-over" or reset back to (1) one once the highest programmed step position has been reached.

CUSTOM SEQUENCE EDITING FUNCTIONS

Custom Piston Sequences are created and modified within the EDIT function.

Note: The EDIT function may only be accessed if CUSTOM mode is selected.

To access the EDIT functions, touch the EDIT button at the bottom of the GeniSys Display.

Four different editing functions are available:

INSERT: Insert enters a new step position into an existing sequence. The capture memory level, piston division, and piston number may be inserted into any available step position.

EDIT: Edit allows changes to be made to a programmed step within a sequence. The capture memory level, piston division, and piston number may be edited within any available step position.

SHOW: Show allows the use of the *Next* and *Prev* pistons/toe studs to step through a sequence viewing the capture memory level, piston, and stop registration of each step. The stop registration selected will also display on the organ's stopboard.

DELETE: Delete removes a single step position from within a sequence.

INSERT – CREATING AND/OR INSERTING A STEP

A "step" consists of the capture memory level and a General or Divisional piston assignment.

To insert a step, first confirm the edit mode is set to INSERT. To change the editing mode, touch the edit mode button to highlight the button and then use the UP or DOWN buttons to change the mode.

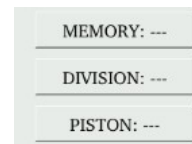
Note: Changing the editing mode will reset the Sequence number back to (1) one.

Confirm the correct sequence number to be edited is displayed on the Sequence button. If the sequence number displayed is incorrect, touch the Sequence button to highlight the button and then use the UP or DOWN buttons to select the sequence number to be edited.

The screenshot shows the GeniSys Display interface in the INSERT editing mode. The top row features a green 'INSERT' button and a 'MEMORY: ---' field. The second row has 'SEQUENCE: 1' and 'DIVISION: ---'. The third row shows 'STEP: 1' and 'PISTON: ---'. At the bottom, there are two blue circular buttons with up and down arrows, and a 'DONE' button. A text prompt 'PRESS SET (+) TO CONFIRM' is located above the 'DONE' button.

To add/insert a step or append a step to the end of a sequence, touch the STEP button to highlight the button and then use the UP or DOWN buttons to select a step position.

Note: A step position that has not been programmed will contain “--” (two dashes) within the MEMORY, DIVISION and PISTON buttons. In this case, this means the step position selected is positioned at the end of a sequence.



MEMORY: ---
DIVISION: ---
PISTON: ---

To select a capture memory level, touch the MEMORY button to highlight the button and then use the UP or DOWN buttons to select a capture memory level.

To select a Division, touch the DIVISION button to highlight the button and then use the UP or DOWN buttons to select a division.

To select a piston number, touch the PISTON button to highlight the button and then use the UP or DOWN buttons to select an available piston number within the division selected.

To program the selected data into the step, press and hold the *Set* piston on the organ. Then, while holding *Set*, press the *Next* piston. The GeniSys Display will briefly display “SUCCESS” if the programming was successful.



Important! A step position that already contains data displayed within the MEMORY, DIVISION and PISTON buttons means that the selected step number has already been programmed. In this case, selecting a step that has already been programmed and then changing and saving any newly selected data into that step will cause the data originally programmed within that step to be moved forward into the next step position. Any data that was programmed within any subsequent steps will also be moved forward by one step position.

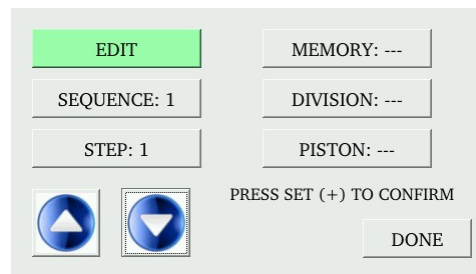
As an example, let's say that Step #2 is selected and data IS displayed within the MEMORY, DIVISION and PISTON buttons. This means the selected step has already been programmed. Changing the data within any of the buttons and then re-programming the step will move the data that was already programmed on Step #2 into Step #3. In this case, a step was *inserted* in-between Steps #1 and #3. In addition, if the total number of steps within the selected sequence was originally 10, inserting a step will increase the total number of steps to 11. All of the data that was originally programmed within steps #2 and higher was moved forward by one step. In other words, after the insert, the data that was originally programmed on step 2 was moved to step 3 and data that was originally programmed within step 3 was moved to step 4 and the data that was originally programmed within step 4 was moved to step 5, etc..

EDITING AN EXISTING STEP POSITION

To edit a step, first confirm the edit mode is set to EDIT. To change the editing mode, touch the edit mode button to highlight the button and then use the UP or DOWN buttons to change the mode.



Important! Do not use INSERT mode to edit a step position. INSERT will only add/insert or append steps into a sequence at the selected step position.



EDIT	MEMORY: ---
SEQUENCE: 1	DIVISION: ---
STEP: 1	PISTON: ---
PRESS SET (+) TO CONFIRM	
DONE	

Note: Changing the editing mode will reset the Sequence number back to (1) one.

Confirm the correct sequence number to be edited is displayed on the Sequence button. If the sequence number displayed is incorrect, touch the Sequence button to highlight the button and then use the UP or DOWN buttons to select the sequence number to be edited.

To edit a step, touch the STEP button to highlight the button and then use the UP or DOWN buttons to select a step position. Once the desired step has been selected:

To change the capture memory level, touch the MEMORY button to highlight the button and then use the UP or DOWN buttons to select a different capture memory level.

To change the Division, touch the DIVISION button to highlight the button and then use the UP or DOWN buttons to change the division.

To change the piston number, touch the PISTON button to highlight the button and then use the UP or DOWN buttons to change the piston number within the division selected.

To program the edited data, press and hold the *Set* piston on the organ. Then, while holding *Set*, press the *Next* piston. The GeniSys Display will display “SUCCESS” if the programming was successful.

DELETING A STEP

To delete a step, first confirm the edit mode is set to DELETE. To change the editing mode, touch the edit mode button to highlight the button and then use the UP or DOWN buttons to change the mode.

Note: Changing the editing mode will reset the Sequence number back to (1) one.

Confirm the correct sequence number to be edited is displayed on the Sequence button. If the sequence number displayed is incorrect, touch the Sequence button to highlight the button and then use the UP or DOWN buttons to select the sequence number to be edited.

To delete a step, touch the STEP button to highlight the button and then use the UP or DOWN buttons to select a step position. Once the desired step is selected, touch the CONFIRM button on the GeniSys Display to delete the step. The GeniSys Display will display “SUCCESS” if the delete process was successful.

Important! Once a step has been deleted, the command cannot be undone.

Note: Deleting a step position within the middle of a sequence will cause the data within all subsequent steps to shift down by one step. Steps without data are not allowed.

Note: There is no available command to delete an entire sequence. Only individual steps can be deleted from within a sequence. To delete a sequence, all the individual steps within the sequence must be deleted.

SHOWING/PREVIEWING A SEQUENCE

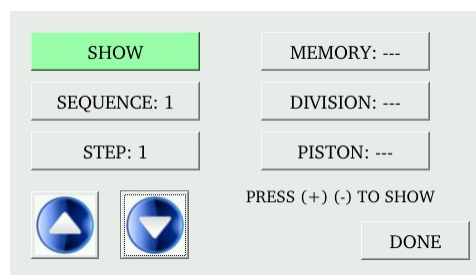
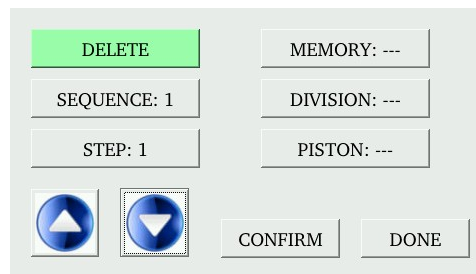
SHOW mode is provided as a "shortcut". Instead of having to return to the *Home* screen to preview a custom sequence, the contents of custom sequences may be viewed while within the sequence editing function.

To show/preview a sequence, first confirm the edit mode is set to SHOW. To change the editing mode, touch the edit mode button to highlight the button and then use the UP or DOWN buttons to change the mode.

Note: Changing the editing mode will reset the Sequence number back to (1) one.

Confirm the correct sequence number to be showed/previewed is displayed on the Sequence button. If the sequence number displayed is incorrect, touch the Sequence button to highlight the button and then use the UP or DOWN buttons to select the sequence number to be showed/previewed.

To show a sequence, use the *Next* and *Prev* pistons/toe studs to step forward and/or backwards through the selected sequence. The data programmed within the selected step will display on the buttons within the GeniSys Display and the stop combination associated with the step will register on the stopboard.



D. MIDI FUNCTIONS

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

Note: Please consult the owner's manual of the external MIDI device(s) being used for more details of their operation.

1. Standard MIDI Channel Assignments

These are the Allen Organs' standard MIDI channels settings:

GeniSys™ Classic Organs	
Channel	Organ Division
1 =	Swell
2 =	Great
3 =	Pedal
4 =	Choir
5 =	Solo
7 =	G1/G2
8 =	General

GeniSys™ Theatre Organs	
Channel	Organ Division
1 =	Great
2 =	Accompaniment
3 =	Pedal
4 =	Solo or Orchestral
5 =	Accomp 2 nd Touch
6 =	Solo (4/5 man Theatre's)
7 =	Great 2 nd Touch
8 =	General
9 =	Trems or Ancillary
10 =	Traps
11 =	Bombarde

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

Note: Always check the specific MIDI channel assignments on Theatre models as the channels may vary from the chart.

2. Selecting Program Change Modes

Program change modes establish how MIDI program changes are sent from the organ when a piston is pressed. Once a particular program change mode is selected, the organ will retain the same program change mode (even when the organ is turned off) until a new program change mode is selected. These three mode options determine how the organ sends program change information to MIDI devices.

Selecting a Program Change Mode

To access the Program Change mode function, touch:

OPTIONS >> MIDI >> PROGRAM CHANGE & DISPLAY OPTIONS



Important! It is important to understand how to operate and when to use each of these modes before they are changed!

Program Change Modes:

PRESET Mode: This mode causes the organ to send a program change number equal to the piston number that is pressed. Preset mode also causes the organ to transmit the capture memory level value whenever the capture memory level is changed or whenever the CANCEL piston is pressed. General Pistons will send program changes 1-10 on MIDI Channel 8, the organ's General Piston control channel. The Divisional Pistons for each division will send program changes on the respective MIDI channels as shown above.

For example, Swell Piston 1 will send Program Change 1 on MIDI Channel 1. Great Piston 2 will send Program Change 2 on MIDI Channel 2, etc.

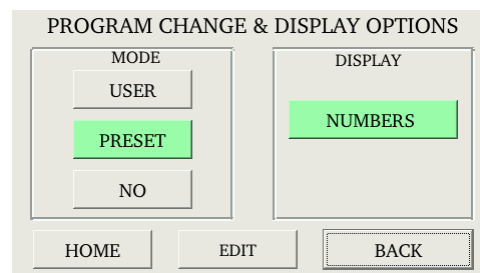
USER Mode: In this mode, the organ is capable of sending any program change number on any piston that will select voices, change banks, or change program "patch" numbers on another MIDI device. Any MIDI program change number from 1 through 128 can be assigned to any General or Divisional Piston (blank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

Note: The capture memory level value is not transmitted while in USER mode.

NO Mode: With this mode selected, NO program change information is either transmitted or received.

Display Options: General MIDI Sound Names or Program Numbers

While in PRESET mode, MIDI program changes will only be displayed as MIDI program change numbers. However, USER mode allows MIDI program changes to be displayed as either MIDI program change numbers or as General MIDI sound names. This flexibility allows for simpler programming, especially if the connected MIDI sound module is General MIDI compatible. Any piston can be programmed to access any General MIDI sound/voice by selecting and assigning the same name to a piston.



General MIDI Sound Names

When a piston is pressed, the General MIDI sound name will display which corresponds to the MIDI program change selected. Any General MIDI sound name may be selected and assigned to a piston.

Note: In some cases, the General MIDI sound name may be abbreviated.

Program Numbers:

With NUMBERS selected as the display mode, the corresponding MIDI program change number assigned to a selected piston will be displayed. Any MIDI program change number, 1 through 128, may be selected and assigned to a piston.

3. 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.

MIDI devices can have as many as 128 sounds/voices per BANK Number. There can also be 128 available BANK Numbers (0 through 127). With 128 BANK Numbers, each Bank could contain up to 128 voices/sounds, for a total of 16,384 sounds. For an easier explanation, think of the 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 also those MIDI devices which can have both LOW bank and HIGH bank memory sections. This ability can then increase the number of available voices substantially. Imagine, 128 LOW and HIGH Banks with each Bank containing a possible 128 voices. That's a total of 32,768 possible voices!

Fortunately, most MIDI devices do not use all of the available locations as it would be very expensive as well as very difficult to remember the address for each sound location. With the added flexibility of Bank control along with the ability to program any MIDI program change number to any piston, Allen Organs are able to 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 the organ!

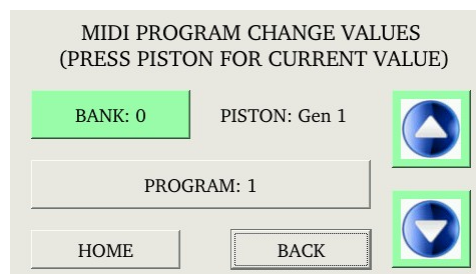
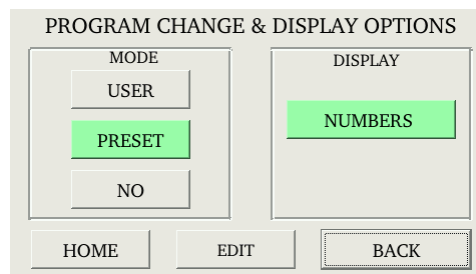
4. Assigning MIDI Program Changes to Pistons

While the Program Change & Display Options function is displayed, first make sure USER mode is selected and then touch the EDIT button to program and assign MIDI program changes to pistons.

Once in edit mode, pressing a piston will display the MIDI program change specifics for that piston. The piston pressed, Bank and MIDI program change information will be displayed.

To change the Bank number, touch the BANK button to highlight it, then use the UP and DOWN buttons to change the bank value.

To change the MIDI program change value, touch the PROGRAM button to highlight it, then use the UP and DOWN buttons to change the program value (or General MIDI name).



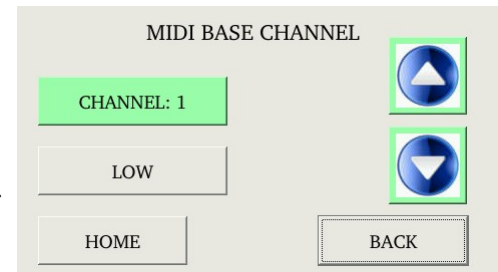
To change the MIDI program change settings on another piston, simply press that piston and the display will change to display the selected piston's MIDI program change settings.

Note: MIDI program change data will remain assigned to the pistons even if the organ has been turned off.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

5. MIDI Base Channel

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



Important! The Base Channel always resets to MIDI Channel 1 whenever the organ is turned on.

To access the MIDI Base Channel function, touch:

OPTIONS >> MIDI >> MIDI BASE CHANNEL

To change the MIDI Base Channel, touch the CHANNEL button to highlight it, then use the UP and DOWN buttons to change the MIDI channel value.

Remember, if the Base Channel is set to 2, all of the other MIDI channels will shift higher by one. Now; Swell = 2, Great = 3, Pedal = 4 and the General Pistons = 9.

Note: MIDI Channel numbers will wrap, i.e. as MIDI channel numbers only go to 16 and then repeat to 1.

Selecting High Bank or Low Bank:

To change the Bank value, touch the BANK value button to highlight it, then use the UP and DOWN buttons to change to use either the LOW or HIGH Bank value.

Note: Refer to the Bank selection/program number chart in the owner's manual for the external MIDI device you are using to be sure you are using a valid Bank number value.

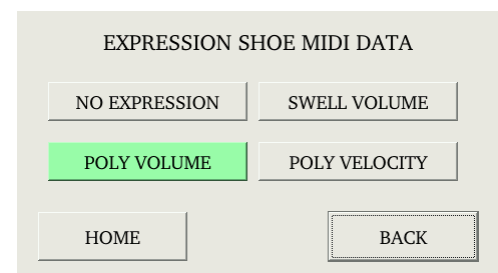
Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

6. MIDI Expression Settings

There are four modes for transmitting expression data via MIDI; Poly Volume, Poly Velocity, Swell Volume and No Expression. To access the MIDI Expression setting, touch:

OPTIONS >> MIDI >> EXPRESSION

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



MIDI Expression Modes:

POLY-VOLUME — this is the normal expression mode setting where the expression data is distributed among the appropriate MIDI channels.

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



Important! This mode setting should only be used if the organ does not contain velocity sensitive keying.

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

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

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.

7. MIDI Sustain Kick Switch (optional)

A lever located to the left of the expression shoe 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.

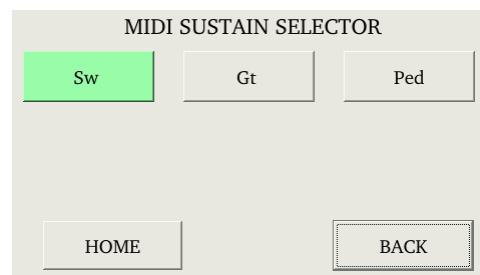
To access the MIDI Sustain selection display, touch:

OPTIONS >> MIDI >> SUSTAIN

Touch the associated manual's button to change the on or off status. The function will "toggle" each time the button is touched. If a manual button is highlighted, the Sustain function is "on". If a manual button is not highlighted, the Sustain function is "off".

OFF will not allow MIDI Sustain messages to be transmitted, **ON** will allow MIDI sustain messages to be transmitted on a given keyboard (manual) or MIDI channel. For example, when a **PIANO** voice in an external MIDI device (voice module) is selected and the MIDI sustain for that given MIDI channel (division) is turned **ON**, and the foot controlled sustain lever is actuated, the piano sound will slowly decay.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.



8. Organ Local Off

Organ Local Off is a function that will “virtually” disconnect the organ’s keyboards, pedalboard and pistons from the organ’s tone generation and capture system. In essence, the organ is transformed into a sophisticated multi-manual MIDI controller.

To access the Organ Local Off function, touch:

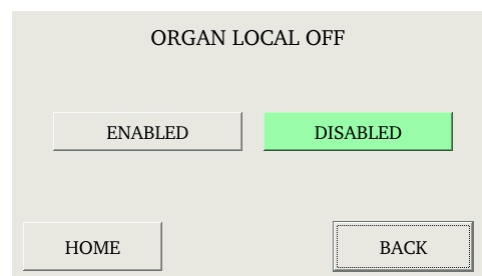
OPTIONS >> MIDI >> ORGAN LOCAL OFF

To **enable** the Organ Local Off function, touch the ENABLE button to highlight it.

To **disable** the Organ Local Off function, touch the DISABLED button to highlight it.

Note: When Organ Local Off is enabled, the MIDI stops do not need to be turned on to play the external MIDI device(s).

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.



10. Transmission/Reception of Individual Stop Data

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

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

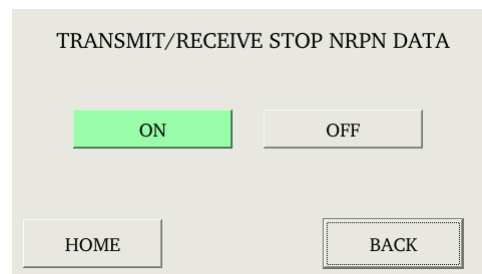
Note: This function always defaults to “on” whenever the organ is turned on.

To access the Transmit/Receive Stop function, touch:

OPTIONS >> MIDI >> TRANSMIT/RECEIVE

To change the on/off status of the Transmit/Receive Stops function, touch either the ON or OFF button to highlight it.

Touch the HOME button to return to the *Home* screen or the BACK button to return to the previous menu screen.



E. MIDI GUIDE

1. MIDI for Organists

The term MIDI is an acronym for Musical Instrument Digital Interface. Since 1983, MIDI has been adopted by the music industry as a standard means of communication between digital musical devices enabling instruments 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.

- ❑ The first category consists of musical instruments such as organs and synthesizers that 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 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, sustain, registrations and much 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

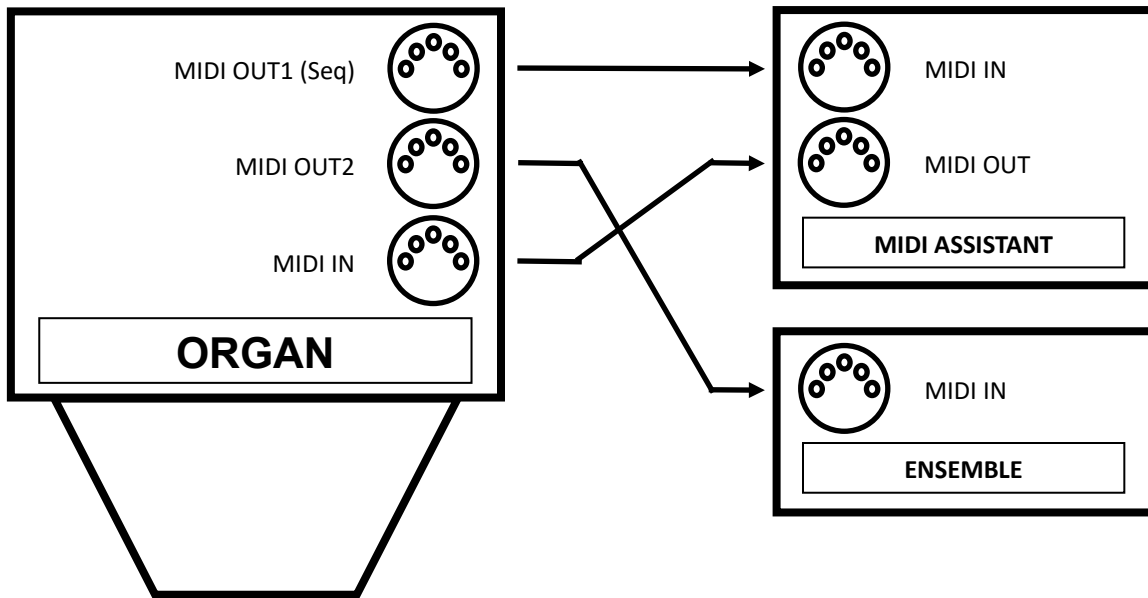
MIDI has created new possibilities for the organist. The ability of the organ console to control external keyboards or sound modules puts an ever-increasing array of non-traditional sounds at the organist's fingertips. A superior degree of control is made possible by the flexibility of an organ console. 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. Allen's Exclusive MIDI System

Allen Organs feature an advanced MIDI system with increased flexibility. This system provides a comprehensive interface between MIDI sound modules, such as the Allen Ensemble™, and digital sequencers such as the Allen MIDI Assistant™. 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 keying data from the organ to the sound module. Devices such as MIDI sequencers should be connected to the unswitched MIDI port, labeled MIDI OUT 1, eliminating the necessity of having to draw the MIDI stop controls before recording a digital sequence. The drawing below illustrates the proper procedure for connecting the Allen Ensemble™ and Allen MIDI Assistant™ to an Allen Organ.



3. **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 multiple 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 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.

4. General MIDI Sound List

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

APPENDIX A: MIDI IMPLEMENTATION CHART

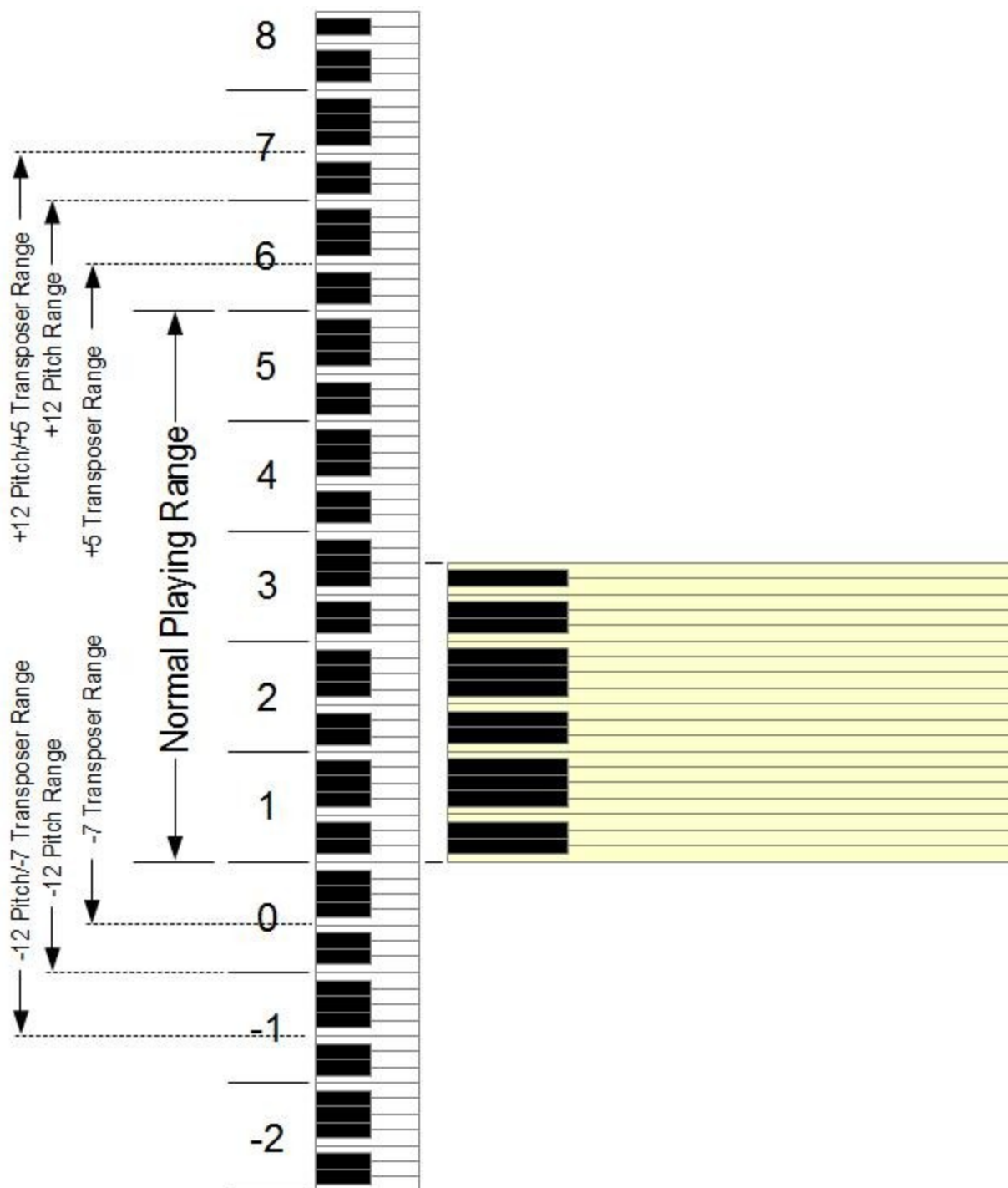
FUNCTION		TRANSMITTED	RECEIVED
Basic Channel	Default	1 – 16	1 – 16
	Changed	1 – 16	1 – 16
Mode	Default	3	3
	Messages	X	X
	Altered	X	X
Note Number		O (1 – 127)	O (1 – 127)
Velocity	Note ON	9nH, v = 1 – 127	9nH, v = 1 – 127
	Note OFF	9nH, v = 0	9nH, v = 0
Aftertouch	Keys	X	X
	Channels	X	X
Pitch Bend		O	O
Control Change	0 (bank select)	O	X
	6 (Data MSB)	O	O
	7 (volume)	O	O
	64 (sustain)	O	O
	66 (sostenuto)	O	O
	98 (NRPN: LSB)	O	O
	99 (NRPN: MSB)	O	O
Program Change		O (1 – 127)	O (1 – 127)
System Exclusive		O	O
System Common		X	X
System Real Time		X	X
Aux Messages		X	X

Mode 1: Omni On, Poly
Mode 3: Omni Off, Poly

Mode 2: Omni On, Mono
Mode 4: Omni Off, Mono

O: Yes
X: No

APPENDIX B: VISUAL NOTE RANGE CHART



APPENDIX C: ADVANCED MIDI INFORMATION

This appendix section is for those advanced in using MIDI.

KEYBOARDS: Industry standard keyboards and those organs with optical sensor keying will transmit key “velocity” values other than a static value of ‘64’. Key velocity values are determined by how hard the keys are played. This is similar to the effect of a piano. Valid velocity values of between 1-127 may be transmitted.

Note: A velocity value of ‘0’ is considered a note off event.

MANUAL/PEDALBOARD DIVISIONS:

MIDI note events contain three pieces of data: 1) MIDI Channel, 2) Note Number, and 3) Velocity (listed here as a value). Most sequencer programs will list the MIDI data as “MIDI Events”. The data can be displayed within a "view MIDI event" window of the sequencer program. For example:

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	NOTE G5	64	100

This example illustrates that Track 1 contains a Note-On event to be transmitted via MIDI for MIDI channel #1 to play note "G5" with a velocity value of "64" for a duration of "100" ticks (a length measurement used by most sequencer programs).

Note: The length measurement value is dependent on the note resolution setting within the sequencer program and MIDI Song File. The note resolution setting determines the number of TICKS per quarter note.

PISTONS: Pistons are generally listed as "MIDI Program Changes" or "Patch Changes" in MIDI speak and usually correspond to the manual they are attached to. "Patch" events in MIDI begin at "0", but note the first piston in each division is "1". Therefore, by subtracting “1” from each piston number will equal the equivalent MIDI program change number.

Example:

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	PC	0	
1	XX:XXX:XX	8	PC	9	

The first MIDI event indicates piston #1 was pressed on MIDI channel #1. The second MIDI event indicates General piston #10 was pressed.

Note: There are no duration values transmitted for MIDI Program Change events.

EXPRESSION: MIDI expression (volume) changes fall under the broad heading of "MIDI Control Changes". MIDI Control Changes can consist of many items from expression (volume), to stops, to sustain, to sostenuto, etc. Each control type has a separate control number value assigned to them to differentiate the type of MIDI Control it is. For example, MIDI volume is assigned a MIDI Control Change value of 7. MIDI Control Change event data will contain 1) MIDI channel, 2) Control type, and 3) a number for the control change "value". In the case of MIDI volume, the control change value could be any number between 0 and 127. Since an organ's volume level never truly goes to "0", the lower limit is approximately a value of 20. Expression event data, within a sequencing program, may look similar to this example:

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	Volume	100	
1	XX:XXX:XX	1	Volume	98	
1	XX:XXX:XX	1	Volume	96	
1	XX:XXX:XX	1	Volume	94	

This brief example illustrates the volume is reducing/lowering on the division assigned to MIDI channel #1.

It is important that any external MIDI devices (MIDI tone generation or sound devices, in particular) connected to the organ respond to the current expression setting. Therefore, it is good practice to move the expression shoes when an organ is first turned on to align the MIDI sound device's volume to the organ.

Note: There are no duration values transmitted for MIDI Control Change events.

STOPS: Allen organs contain an internal MIDI stop control number system or "map" which allows a MIDI Song File recorded on one Allen organ to be played back on another Allen organ of the same OR different model. If the piston registration changes (i.e. MIDI Program Changes) within the MIDI Song File are converted to transmit the individual MIDI stop control numbers of the individual stops within the organ's various piston registrations, the MIDI Song File could then be used on various model Allen organs without the need to change or reprogram the organ's various capture memory registrations.

***Note:** The Allen MIDI Assistant Librarian program, included with the purchase of the Allen MIDI Assistant, features a MIDI stop control conversion utility within the program. See your local Allen Organ dealership representative for more details.*

Individual stops on the organ are handled by specially assigned MIDI stop control numbers. MIDI has a "catchall" for anything not specifically defined by the MIDI standard called "Non-Registered Parameter Numbers" or simply NRPN. NRPN numbers are classified as MIDI stop control changes and use the assigned Control Change number values of 98 and 99. NRPN messages are arranged as 3 byte MIDI events:

- ❑ Byte #1: MIDI Control Change #99 is the "high" byte value or MSB and the first MIDI event transmitted.
- ❑ Byte #2: MIDI Control Change #98 is the "low" byte value or LSB and the second MIDI event transmitted.
- ❑ Byte #3: MIDI Control Change #6 or DATA value is the third MIDI event transmitted. The third byte is the "on and off" byte for the NRPN value figured within the first 2 bytes. MIDI Control Change #6 with a value of 127 turns the stop on, while a value of 0 turns the stop off.

For example, a Gedackt 8' is assigned a MIDI control number value of “40” within the MIDI system map of the organ. The Primary Gedackt 8' on any of our organs would be assigned the value of "40". Therefore, any MIDI Song File which transmits a NRPN value of “40” will turn on or off the stop assigned the MIDI stop control number value of “40”.

The best way to illustrate this is to display an example (see below). The first MIDI event message packet displayed will turn on the Gedackt 8' on the division assigned to MIDI channel #1. The second MIDI event message packet will turn off the Gedackt 8'.

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	Control 99	0	
1	XX:XXX:XX	1	Control 98	40	
1	XX:XXX:XX	1	Control 6	127	

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	Control 99	0	
1	XX:XXX:XX	1	Control 98	40	
1	XX:XXX:XX	1	Control 6	0	

If a MIDI stop control number value is 128 or larger, the number must then be “split” into separate "bytes" using both MSB and LSB byte values because MIDI can only transmit values between 0 and 127.

For example, suppose a stop contains an assigned MIDI stop control number value of 132. The number 132 must be split into separate bytes in order for MIDI to be able use it as a valid MIDI stop control number. The MIDI event message data would look like this:

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	Control 99	1	
1	XX:XXX:XX	1	Control 98	4	
1	XX:XXX:XX	1	Control 6	127	

<u>TRACK</u>	<u>TIME</u>	<u>CHANNEL</u>	<u>EVENT</u>	<u>VALUE</u>	<u>DURATION</u>
1	XX:XXX:XX	1	Control 99	1	
1	XX:XXX:XX	1	Control 98	4	
1	XX:XXX:XX	1	Control 6	0	

How did the displayed values get computed? The formula to compute the MSB and LSB values is relatively simple:

- ❑ First, figure out the MSB value. As a rule, any number value assigned to the MIDI Control #99 (MSB) will be multiplied by 128. Since the MIDI stop control number value is 132, this example is simplified as 128 will divide by 132 one time for a value of 1.
***Note:** Only use the whole number value to the left of the decimal when dividing by 128 as the result. The remainder or numbers to the right of the decimal are dropped.*
 Therefore, MIDI Control #99 (MSB) = 1.
- ❑ To find the LSB value, subtract the MIDI stop control number, which in this case is 132, from the computed MSB value (1 x 128 = **128**). In this case, 132 – 128 = **4**. 4 will be the number value entered within MIDI Control #98 (LSB).

- ❑ To verify the number values are correct, add the LSB value to the computed MSB value ($4 + 128 = 132$). 132 is the value of the stop being transmitted so the conversion is correct!

Here is another example with an even larger value MIDI stop control number:

A stop is assigned a MIDI stop control number value of 290. In order to transmit the correct MIDI stop control number, the number is split into two bytes using both MSB and LSB values:

- ❑ First, figure the MSB value. $290 \text{ divided by } 128 = 2$ (*remember, only use the whole number value to the left of the decimal as the result, the remainder or the numbers to the right of the decimal are dropped*). Therefore, MIDI Control #99 (MSB) = 2.
- ❑ Figure the LSB value. First, compute the MSB value ($2 \times 128 = \mathbf{256}$) and then compute the LSB value by subtracting the computed MSB value from the MIDI stop control number ($290 - 256 = \mathbf{34}$). Therefore, MIDI Control #98 (LSB) = 34.
- ❑ Verify, add the computed MSB value to the LSB value: ($256 + 34 = \mathbf{290}$) Conversion is correct!

Important Note: This information is supplied as a convenience and without user support.

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