

# HAMMOND



*Sh* **PRO**

**MIDI**  
**(incl. INT. /EXT. ZONES)**

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## MIDI

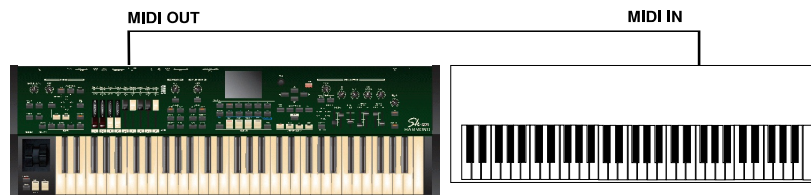
### ◆ A Word About What MIDI Can Do

The letters MIDI stand for Musical Instrument Digital Interface. MIDI is an international standard for allowing electronic musical instruments equipped with MIDI capability to exchange performance information. For example, a synthesizer can be used to communicate with a drum machine, an electronic piano can interface with a computer, and so forth. Additionally, since MIDI is an international standard recognized and implemented by all musical instrument manufacturers worldwide, instruments made by different manufacturers can communicate with each other via MIDI.

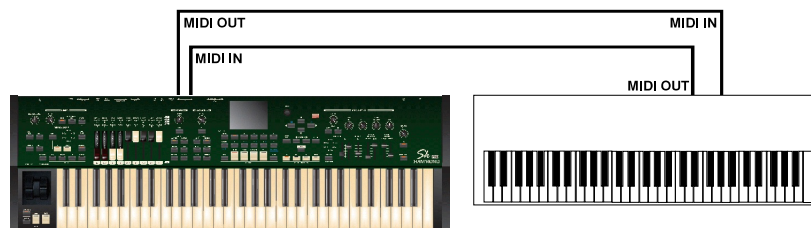
### ◆ MIDI Connections

#### ◆ MIDI IN and MIDI OUT

In order to allow communication to take place, all MIDI-equipped instruments have at least two MIDI jacks - MIDI IN and MIDI OUT. MIDI IN is for receiving MIDI data from another instrument, while MIDI OUT is for sending MIDI data out to another instrument.



In the example above, the keyboard(s) of the sending or transmitting instrument (MIDI OUT) are being used to control the sound generators of the receiving instrument (MIDI IN). When a key is played on the sending instrument, the corresponding note will play on the receiving instrument as though the appropriate key had been pressed on the receiving instrument's keyboard. When the key is released on the sending instrument, the tone being played by the receiving instrument will stop. (This is called "Note On / Note Off" data.) The instrument receiving the MIDI data is called a MIDI secondary and the sending instrument is called the MIDI controller. This is the most basic MIDI hookup.

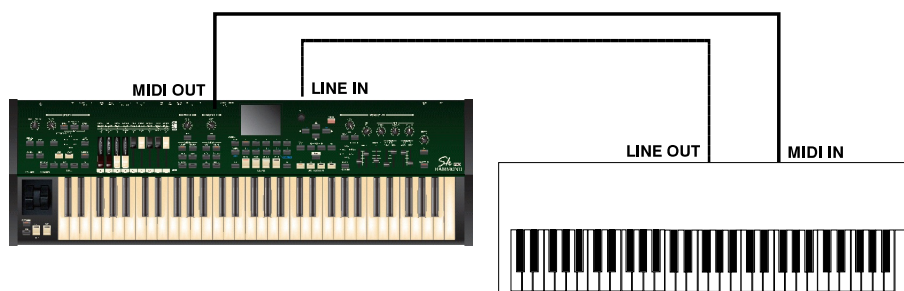


The above is an example of two-way communication between two MIDI-equipped devices. In this example, the keyboard(s) of either instrument can be used to control the sound generators of the other.

**NOTE:** In some MIDI tutorials, you may also see references to **Main** and **Secondary** or **Source** and **Destination**.

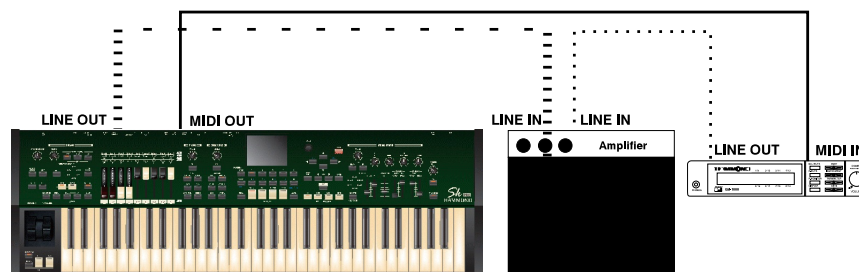
## ◆ Audio and MIDI Connections

### ◆ Example: A synthesizer



If you connect the MIDI OUT jack of the SK PRO to the MIDI IN jack on the synthesizer and the synthesizer's LINE OUTPUT jack to the organ's LINE IN jack, you can play both instruments simultaneously from the SK PRO keyboard.

### ◆ Example: A sound module



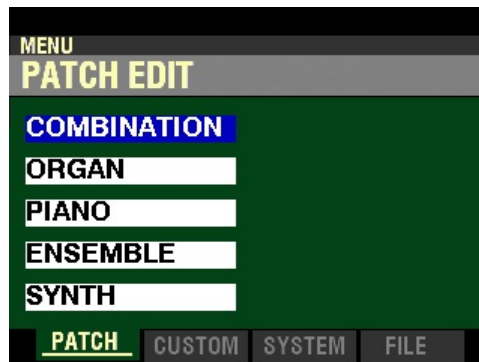
Note that the LINE OUT or AUDIO OUT signal connection is made to an external amplifier. The LINE OUT audio connection from the module, of course, could also be connected to the LINE IN of the SK-PRO.

## ◆ MIDI FUNCTION Mode

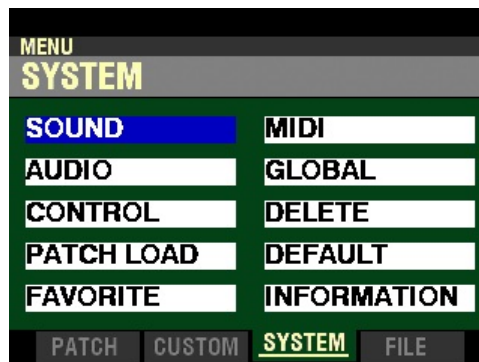
This Parameter Menu allows you to set the overall MIDI parameters for the instrument.

### TRY THIS:

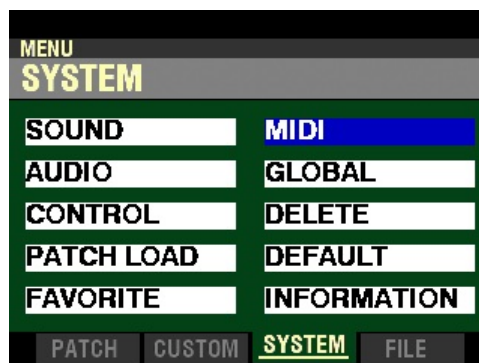
1. From any of the PLAY Mode screens, press the MENU/EXIT button once. The Information Center Display should now look like this:



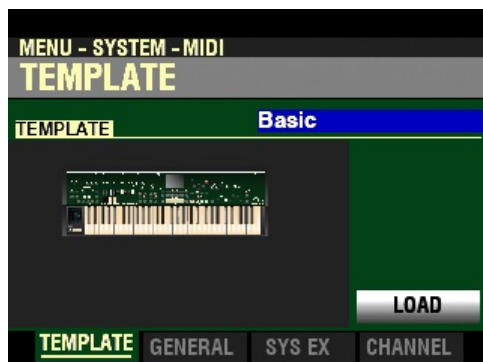
2. Press the PAGE "▶" button two times. The word, "SOUND" should be highlighted.



3. Press the DIRECTION "▶" button. The Information Center Display should now look like this:



4. Press the ENTER button. The Information Center Display should now look like this:



You are now in the MIDI FUNCTION Mode. You may now use the DIRECTION and PAGE buttons in conjunction with the VALUE knob to change the MIDI performance of your SK PRO. This is explained starting below.

#### ◆ How MIDI Works on the SK PRO:

The SK PRO can function in a large variety of MIDI environments. In addition to transmitting basic MIDI information such as Note On/Note Off and Note Velocity, the SK PRO also can transmit Program Changes, Control Changes, NRPN and System Exclusive (SyxEx) codes.

It is also possible to use the SK PRO as a MIDI Master or Controller Keyboard for layering or multi-timbral (playing more than one sound at the same time) applications. The following paragraphs explain this in more detail.

#### ◆ INTERNAL ZONES

The internal sounds of the instrument - both Drawbars and Extra Voices - will play on what are called the Internal Zones. The Internal Zones transmit Note On/Note Off and Velocity data from the UPPER, LOWER and PEDAL Parts. These channels will both send (MIDI OUT) and receive (MIDI IN) data, and are therefore used when recording and playing back sequences.

**NOTE:** The UPPER Channel, in addition to Note On/Note Off and Velocity, also is used for transmitting Controller data.

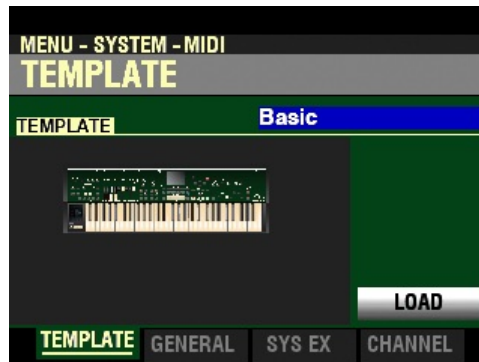
#### ◆ EXTERNAL ZONES

The External Zone Channels allow you to use the SK PRO as a MIDI Master or Controller Keyboard. These allow you to play additional sounds from another MIDI instrument such as a sound module. The External Zones transmit but do not receive MIDI data - in other words, they are MIDI OUT only.

There are three (3) External Zone Channels which can be assigned to the UPPER, LOWER or PEDAL Parts. In addition, different configurations can be saved to different Patches - for example, one Patch can have all three External Zones assigned to UPPER, another Patch can have one External Zone each for UPPER, LOWER and PEDAL, etc.

The Internal and External Channels of the instrument are referred to as Zones. The features available for the Zones are found in the ZONE Edit Menu. This is explained fully starting on page 20.

## ◆ TEMPLATE



### What Is a “MIDI Template?”

Because MIDI can be used with such a wide variety of devices - such as synthesizers, sound modules, sequencers, etc. - there are a number of features associated with MIDI, such as Program Change, Controller Change, etc., that allow each MIDI setup to be optimized for the best results in each application. However, making all of these settings manually can be quite time-consuming and error-prone.

Therefore, your SK PRO contains a number of pre-formatted settings for the various MIDI parameters which represent the most ideal settings for each MIDI environment. A group of these settings is called a MIDI Template.

This Parameter Menu Page allows you to select the MIDI Template you want to use.

Use the VALUE knob to see the various Template settings.

When you have made your selection, Press the ENTER button. The MIDI parameters will be set according to the Template you selected.

**IMPORTANT NOTE:** For a complete listing of the MIDI Templates for the SK PRO, consult the next two pages. In addition to the specific Parameter settings, the chart also contains explanations for the performing environment each Template is designed for. Therefore please read the descriptions carefully to determine the best setting for your particular setup.

## MIDI Templates - SK PRO

Template		Basic	2 Man Lower	2 Man Upper
Messages	MIDI IN	Sequence	Lower	Upper
	Local Control	On	On	On
	NRPN	On	On	On
	Program Change	On	On	On
	Drawbar Registration	On	On	On
	External Zone	Off	Off	Off
Transmit Channel	Tx. Upper	1	1	1
	Tx. Lower	2	2	2
	Tx. Pedal	3	3	3
	Rx. Upper	1	1 (disregarded, off)	1 (disregarded, off)
	Rx. Lower	2	2 (disregarded, off)	2 (disregarded, off)
	Rx. Pedal	3	3 (disregarded, omni)	3 (disregarded, omni)
Comments		Record and Playback between the SK PRO (stand alone) and external sequencer.	Play with expanded LOWER Keyboard into the MIDI IN Port. (*1) Your performance will be transmitted from the MIDI OUT Port and recorded by an external sequencer.	Play with expanded UPPER Keyboard into the MIDI IN Port. Same as (*1).

Template		Pedal KBD	3 KBD Lower	3 KBD Upper
Messages	MIDI IN	Pedal	Low + Ped	Up + Ped
	Local Control	On	On	On
	NRPN	On	On	On
	Program Change	On	On	On
	Drawbar Registration	On	On	On
	External Zone	Off	Off	Off
Transmit Channel	Tx. Upper	1	1	1
	Tx. Lower	2	2	2
	Tx. Pedal	3	3	3
	Rx. Upper	1 (disregarded, off)	1	1
	Rx. Lower	2 (disregarded, off)	2	2
	Rx. Pedal	3 (disregarded, omni)	3	3
Comments		Play with expanded Pedalboard into the MIDI IN Port. Same as (*1).	Play with both expanded LOWER Keyboard (Ch. 2) and Pedalboard (Ch. 3) into the MIDI IN Port. Same as (*1).	Play with both expanded UPPER Keyboard (Ch. 1) and Pedalboard (Ch. 3) into the MIDI IN Port. Same as (*1).

Template		Organ Upper	Piano	Ensemble
Messages	MIDI IN	Organ Upper	Piano	Ensemble
	Local Control	On	On	On
	NRPN	On	On	On
	Program Change	On	On	On
	Drawbar Registration	On	On	On
	External Zone	Off	Off	Off
Transmit Channel	Tx. Upper	1	1	1
	Tx. Lower	2	2	2
	Tx. Pedal	3	3	3
	Rx. Upper	1 (disregarded, off)	1 (disregarded, off)	1 (disregarded, off)
	Rx. Lower	2 (disregarded, off)	2 (disregarded, off)	2 (disregarded, off)
	Rx. Pedal	3 (disregarded, off)	3 (disregarded, off)	3 (disregarded, off)
Comments		Play the ORGAN Section Upper directly by expanded MIDI keyboard into the MIDI IN Port.	Play the PIANO Section directly by expanded MIDI keyboard into the MIDI IN Port.	Play the ENSEMBLE Section directly by expanded MIDI keyboard into the MIDI IN Port.

## MIDI Templates - SK PRO

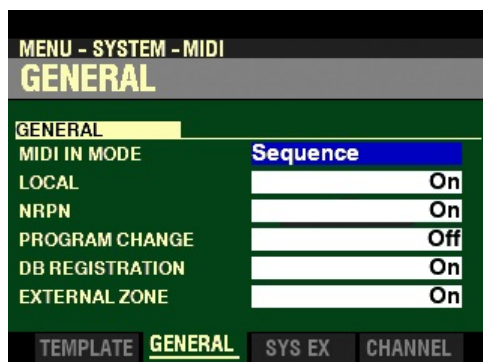
Template		Synth	EXZ	EXZ 2 Man Lower
Messages	MIDI IN	Synth	Sequence	Lower
	Local Control	On	On	On
	NRPN	On	On	On
	Program Change	On	On	On
	Drawbar Registration	On	On	On
	External Zone	Off	On	On
Transmit Channel	Tx. Upper	1	Off	Off
	Tx. Lower	2	Off	Off
	Tx. Pedal	3	Off	Off
	Rx. Upper	1 (disregarded, off)	Off	Off
	Rx. Lower	2 (disregarded, off)	Off	Off
	Rx. Pedal	3 (disregarded, off)	Off	Off
Comments		Play the MONO SYNTH Section directly by expanded MIDI keyboard into the MIDI IN Port.	(*2) Control the MIDI equipment by using External Zones and MIDI OUT Port.	Play with expanded LOWER Keyboard into the MIDI IN Port. Same as (*2).

Template		EXZ 2 Man Upper	EXZ Pedal KBD	EXZ 3 KBD Lower
Messages	MIDI IN	Upper	Pedal	Low + Ped
	Local Control	On	On	On
	NRPN	On	On	On
	Program Change	On	On	On
	Drawbar Registration	On	On	On
	External Zone	On	On	On
Transmit Channel	Tx. Upper	Off	Off	Off
	Tx. Lower	Off	Off	Off
	Tx. Pedal	Off	Off	Off
	Rx. Upper	Off	1 (disregarded, off)	1
	Rx. Lower	Off	2 (disregarded, off)	2
	Rx. Pedal	Off	3 (disregarded, omni)	3
Comments		Play with expanded UPPER Keyboard into the MIDI IN Port. Same as (*2).	Play with expanded Pedalboard into the MIDI IN Port. Same as (*2).	Play with both expanded LOWER Keyboard (Ch. 2) and Pedalboard (Ch. 3) into the MIDI IN Port. Same as (*2).

Template		EXZ 3 KBD Upper
Messages	MIDI IN	Up + Ped
	Local Control	On
	NRPN	On
	Program Change	On
	Drawbar Registration	On
	External Zone	On
Transmit Channel	Tx. Upper	Off
	Tx. Lower	Off
	Tx. Pedal	Off
	Rx. Upper	1
	Rx. Lower	2
	Rx. Pedal	3
Comments		Play with both expanded UPPER Keyboard (Ch. 1) and Pedalboard (Ch. 3) into the MIDI IN Port. Same as (*2).



From the screen shown on page 492, press the PAGE “▶” button once. The GENERAL FUNCTION Mode Page should now display.



## ◆ GENERAL

This Page allows you to set the MIDI Parameters which affect how the entire instrument will function in a MIDI environment. It consists of several screens.

**NOTE:** This is separate from **General MIDI**, which is explained in the **Appendix** starting on page 601

Use the DIRECTION “▲” and “▼” buttons to move up and down among the various screens.

### MIDI IN MODE

This Parameter allows you to set how incoming MIDI data (external MIDI device connected via the MIDI IN port) is handled. The data chart below shows the options you may select.

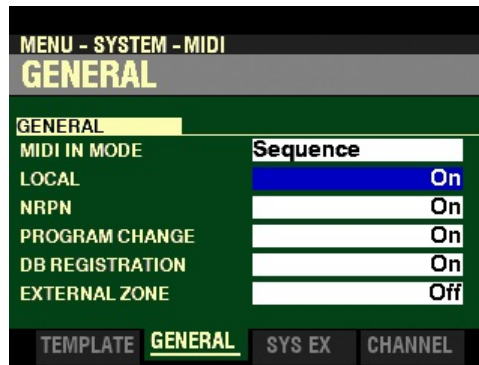
MIDI IN jack options	
Setting	Description
Upper / Lower / Pedal	Incoming MIDI data will sound the Sections allocated to the (UPPER / LOWER / PEDAL) keyboard ignoring the MIDI Channel, and is re-transmitted to both MIDI OUT and USB-MIDI.
Upper + Pedal / Lower + Pedal	Incoming MIDI data will sound the Sections allocated to (UPPER + PEDAL / LOWER + PEDAL) keyboards on the assigned MIDI Channels, and is re-transmitted to both MIDI OUT and USB MIDI.
Organ Upper / Piano / Ensemble / Synth	Incoming MIDI data plays the selected Voice Section. Data is not retransmitted.
Sequence	Incoming MIDI data plays UPPER, LOWER and PEDAL parts, but is not retransmitted.

**NOTE:** The ORGAN Section will play from an UPPER Keyboard only.

**NOTE:** The SPLIT does not function when the MIDI IN mode is set at “Upper / Lower,” “Lower + Pedal” or “Upper + Pedal”

Turn the VALUE knob to make your selection.

From the screen shown on the previous page, press the DIRECTION “▼” button once.



The box to the right of “LOCAL” should be highlighted.

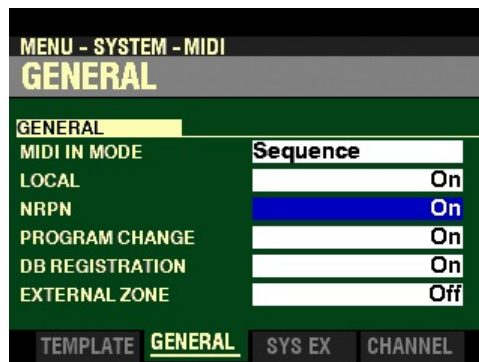
### LOCAL - MIDI Local Control

This Parameter allows you to turn Local Control "ON" or "OFF." When Local Control is "ON," the SK PRO will play both its internal sounds and the sounds from a connected MIDI device. When Local Control is "OFF," the SK PRO will play only the sounds from a connected MIDI device (synthesizer, sound module, Digital Audio Workstation or hardware sequencer) and the SK PRO's internal sounds are silenced.

**NOTE:** Even if LOCAL is “ON,” MIDI messages sent from an external MIDI device to the SK PRO will play.

Turn the VALUE knob to turn LOCAL “ON” or “OFF.”

From the above screen, press the DIRECTION “▼” button once.



The box to the right of “NRPN” should be highlighted.

### MIDI NRPN

This Parameter allows you to turn NRPN "ON" or "OFF.”

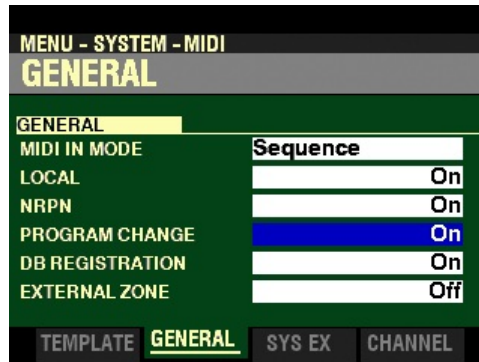
What Is “NRPN?”

"NRPN," or Non-Registered Parameter Number, is an expanded control change message, each function of which is implemented differently by different manufacturers. The Hammond SK PRO uses NRPN to control parameters such as Percussion 2nd and 3rd Harmonic ON/OFF, Vibrato or Chorus ON/OFF, etc. Most of the buttons on the SK PRO have NRPN Controller numbers assigned to them. When NRPN is “ON,” NRPN codes are transmitted and received along with other MIDI data. When NRPN is “OFF,” NRPN codes will not be transmitted or received but other MIDI data such as Note On/Note Off, Note Velocity, etc. will continue to be transmitted and received..

**NOTE:** To see a complete list of all NRPN codes transmitted and recognized by the SK PRO, consult the APPENDIX.

Turn the VALUE knob to turn NRPN “ON” or “OFF.”

From the screen shown at the bottom of the previous page, press the DIRECTION “▼” button once.



The box to the right of “PROGRAM CHANGE” should be highlighted.

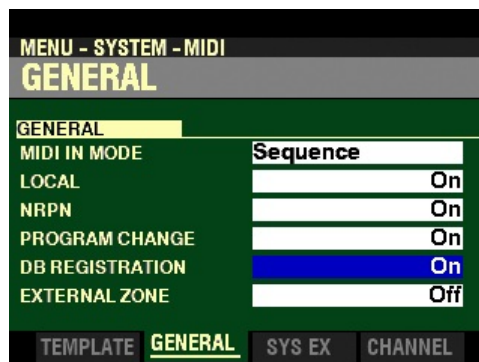
## PROGRAM CHANGE

Program is the MIDI term for a particular sound or effect, such as Piano, Trumpet, Thunder, etc. Each MIDI program is assigned a number from 1 through 127, and these numbers are transmitted to a connected MIDI device such as a sound module. In this way, changes in sound, or what organists refer to as registration, can be made.

This Parameter allows you to turn Program Change "ON" or "OFF." When Program Change is "ON," the SK PRO will send and receive Program Changes out to or from a connected MIDI device. When Program Change is "OFF," Program Changes are not transmitted or received.

Turn the VALUE knob to turn PROGRAM CHANGE “ON” or “OFF.”

From the above screen, press the DIRECTION “▼” button once.



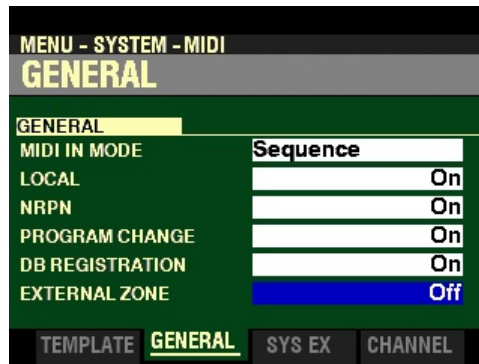
The box to the right of “DB REGISTRATION” should be highlighted.

## DB REGISTRATION

This Parameter allows you to decide whether you want to transmit the current Drawbar registration to a connected MIDI device such as a sequencer, another Hammond Organ, etc. When this switch is "ON," the SK PRO will send Drawbar Data out to a connected MIDI device. When this switch is "OFF," Drawbar Data will not be transmitted.

Turn the VALUE knob to turn DB REGISTRATION “ON” or “OFF.”

From the screen shown at the bottom of the previous page, press the DIRECTION “▼” button once. The Information Center Display should now look like this:



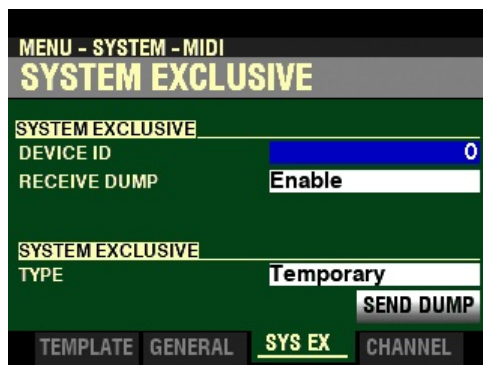
The box to the right of “EXTERNAL ZONE” should be highlighted.

## EXTERNAL ZONE

This is a Master Parameter which allows you to decide whether you want to transmit External Zone data to a connected MIDI device. When this switch is “ON,” the SK PRO will send External Zone data out to a connected MIDI device. When this switch is “OFF,” External Zone data will not be transmitted.

Turn the VALUE knob to turn EXTERNAL ZONE “ON” or “OFF.”

From the screen shown on the previous page, press the PAGE “▶” button once. The **SYSTEM EXCLUSIVE FUNCTION Mode Page** should now display.



### What Is “SYSTEM EXCLUSIVE?”

Most MIDI messages are ones that are universally recognized by all instruments which implement MIDI. Examples are Note On/Note Off/Note Velocity data, Program Changes, Controller Changes, etc. However, there is a provision within the MIDI standard called System Exclusive (often abbreviated SysEx or Sysx) which allows for individual manufacturers to create MIDI messages to be sent and received which are unique to that manufacturer. These messages are determined by each manufacturer; therefore they will be different for each make, and sometimes they will differ from model to model from a particular manufacturer.

The SYSTEM EXCLUSIVE FUNCTION Mode contains several different functions. Use the DIRECTION “▲” and “▼” buttons to move up and down among the various functions.

### MIDI Instrument ID

This Parameter allows you to set the Device ID when transmitting System Exclusive messages.

### What Is a “Device ID?”

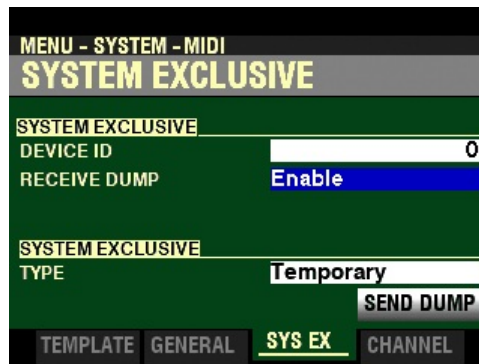
In order to facilitate communication between MIDI devices from different manufacturers, the MIDI Manufacturer’s Association (MMA) assigns each maker of MIDI devices a unique ID number. This ID number is treated as part of the System Exclusive information and is embedded in the firmware of each device from a particular manufacturer. This allows different MIDI instruments to identify each other and to transmit and receive MIDI information which may be unique to a particular maker.

Turn the VALUE knob to select the Device ID.

**NOTE:** Hammond’s Device ID number is “17.”

**NOTE:** If you perform a MIDI Dump to a non-Hammond instrument, you may be required to know the Device ID of the device to which you are Dumping. As explained above, each manufacturer of MIDI devices is assigned a unique ID number by the MMA.

From the screen shown on the previous page, press the DIRECTION “▼” button once.



The box to the right of “RECEIVE DUMP” should be highlighted.

#### MIDI RECEIVE DUMP ENABLE / DISABLE

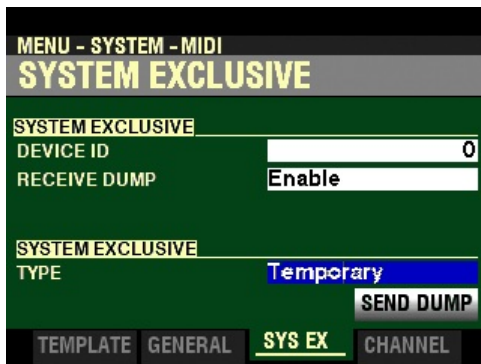
The MIDI Dump Advanced Features are for use when you want to record and save a musical performance to a connected MIDI Data recorder.

On the SK PRO, the total onboard memory can be transmitted and received as a series of System Exclusive (SysEx) messages called a Memory Dump. This Parameter allows you to select whether or not you want System Exclusive messages received as part of a Sequence. When this Parameter reads Enable Sysx data will be received. When it reads Disable, SysEx data will not be received.

Turn the VALUE knob to make your selection.

**IMPORTANT NOTE:** If you attempt to receive a Data Dump to the SK PRO when Disable is displayed, the Information Center Display will flash, "Data Protect !" This ensures that you do not overwrite data accidentally.

From the screen shown on the previous page, press the DIRECTION “▼” button once.



The box to the right of “TYPE” should be highlighted.

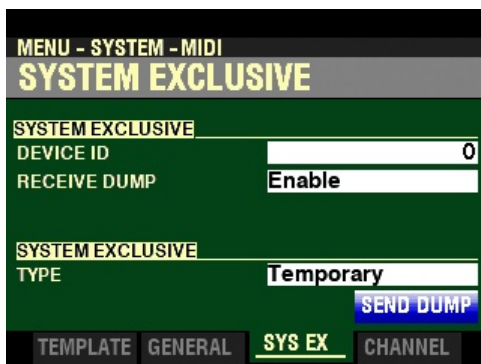
#### Temporary Dump Send

This Parameter allows you to transmit the current registration to a connected MIDI data recorder.

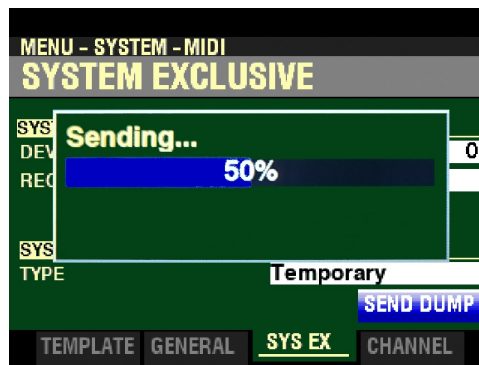
**NOTE:** A “MIDI data recorder” can be an external hardware device, or a Digital Audio Workstation or DAW, which is a software program installed on a computer.

**NOTE:** It is recommended that you perform this operation prior to recording a sequence to ensure that your sequence will play back with the correct settings.

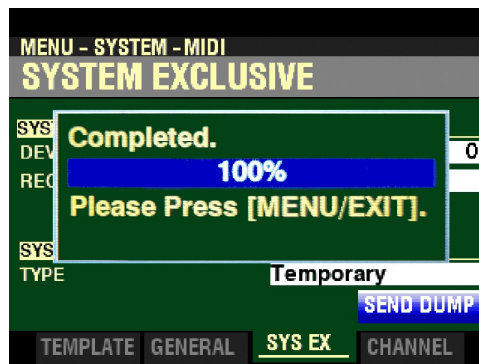
1. Make sure that the MIDI recorder is ready to receive data (RECORD).
2. Press the DIRECTION “▼” button. The “SEND DUMP” box should be highlighted.



3. Press the ENTER button to start the data dump to the MIDI Data recorder. The Information Center Display will show:



When all information has been sent, the Information Center Display will display:

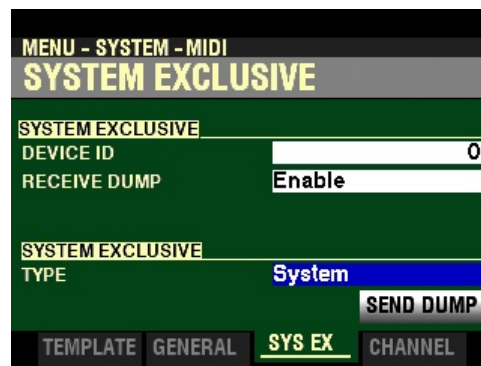


4. Press the MENU/EXIT button. The "Completed." message will disappear.
5. Press the PLAY button to return to PLAY Mode.



## System Dump Send

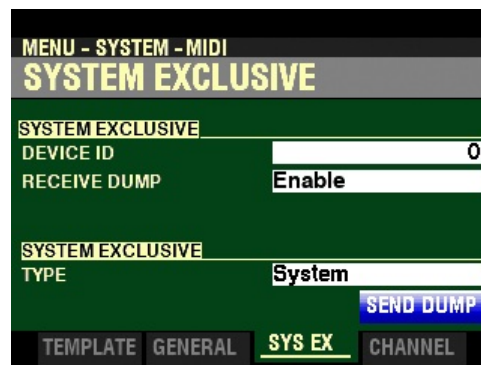
From the previous screen, turn the VALUE knob so that the box to the right of “TYPE” displays “System.”



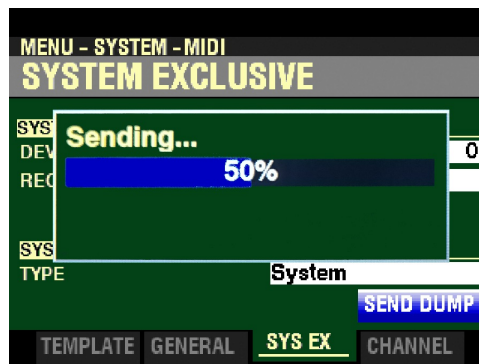
This Parameter allows you to transmit all of the settings to a connected MIDI recorder.

To transmit your settings, do the following

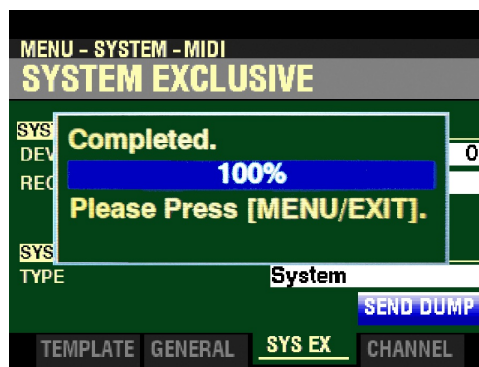
1. Make sure that the MIDI recorder is ready to receive data (RECORD).
2. Press the DIRECTION “▼” button. The “SEND DUMP” box should be highlighted.



3. Press the ENTER button to start the data dump to the MIDI Data recorder. The Information Center Display will show:

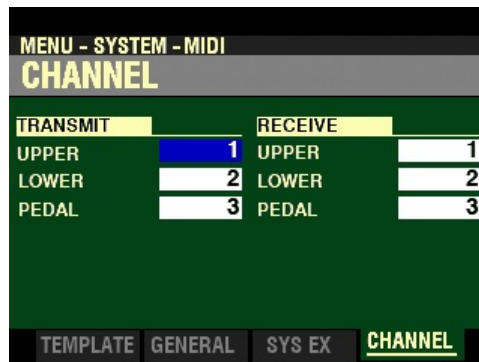


When all information has been sent, the Information Center Display will display:



4. Press the MENU/EXIT button. The "Completed." message will disappear.
5. Press the PLAY button to return to PLAY Mode.

From the screen shown at the bottom of page 503, press the PAGE “▶” button once. The CHANNEL FUNCTION Mode Page should now display.



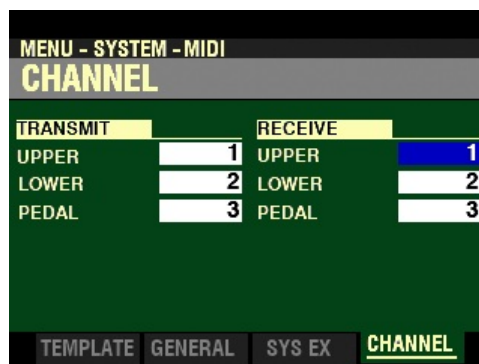
### MIDI TRANSMIT - INTERNAL ZONES

This Menu Page allows you to select on which MIDI Channel each Part will transmit. You can select from 1 through 16 as well as OFF.

Use the DIRECTION “◀” and “▶” buttons to move back and forth among UPPER, LOWER and PEDAL.

Turn the VALUE knob to make your selection.

From the above screen, press the PAGE “▶” button once.



### MIDI RECEIVE - INTERNAL ZONES

This Menu Page allows you to select on which MIDI Channel each Part will receive. You can select from 1 through 16 as well as OFF.

Use the DIRECTION “▲” and “▼” buttons to move up and down among UPPER, LOWER and PEDAL.

Turn the VALUE knob to make your selection.

**NOTE:** As explained previously, Hammond’s standard protocol is to transmit and receive UPPER, LOWER and PEDAL MIDI data on MIDI Channels 1, 2 and 3 respectively.

## ◆ INTERNAL and EXTERNAL ZONES

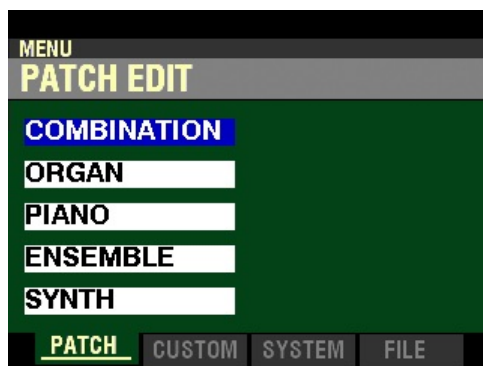
As explained on page 491, the Internal and External Channels of the instrument are referred to as Zones. The features available for the Zones are found in the COMBINATION FUNCTION Mode. This is explained starting below.

### ◆ INTERNAL ZONES

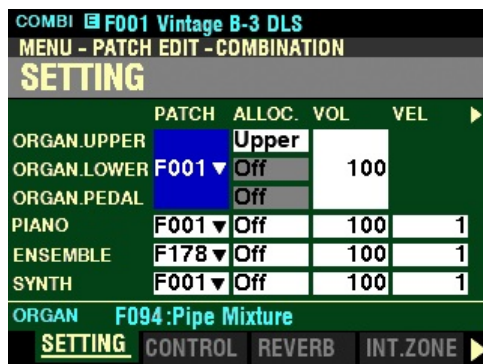
This FUNCTION MODE Page allows you to change the characteristics of the Internal or Keyboard Zones of your SK PRO. All of these Parameters can be Recorded to a Combination.

#### TRY THIS:

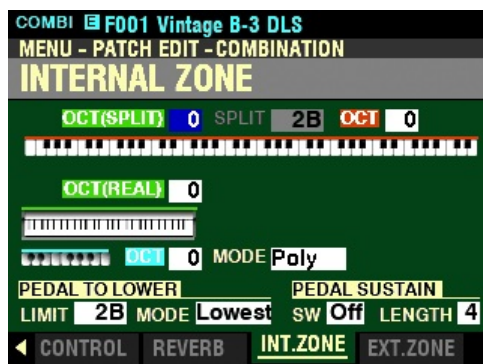
1. From any of the PLAY Mode screens, press the MENU/EXIT button once. The Information Center Display should now look like this:



2. Press the ENTER button. The COMBINATION FUNCTION Mode should be highlighted.

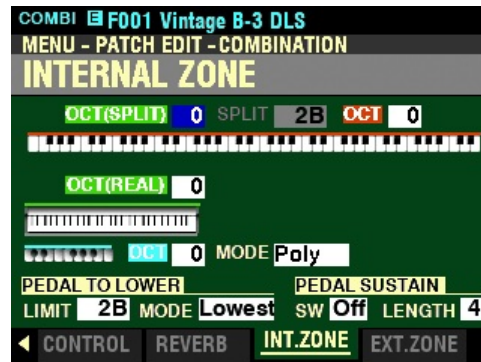


3. Press the PAGE “▶” button three times. The Information Center Display should now look like this:



You may now use the DIRECTION buttons in conjunction with the VALUE knob to make changes to the Internal Zones of your SK PRO. These changes are explained starting on the next page.

If you followed the instructions on the previous pages, you should now see the **INTERNAL ZONE FUNCTION Mode**. The box to the right of “OCT(SPLIT)” should be highlighted.



Notice the three Keyboard graphics. The top keyboard represents the SK PRO, the middle one represents a connected MIDI keyboard used as part of an expanded MIDI system and the small one on the left represents a connected MIDI pedalboard such as the Hammond XPK-130G.

#### OCT(SPLIT) - Lower Octave Setting for SPLIT

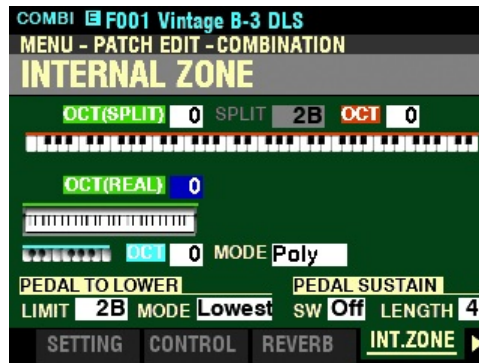
This Parameter allows you to set the octave for the LOWER Part when the SPLIT button is “ON.” The data chart below shows the options you may select.

LOWER Octave Options - SPLIT	
Parameter	Description
-2	The sound is two octaves below the regular pitch.
-1	The sound is one octave below the regular pitch.
0	The sound is at normal pitch.
+1	The sound is one octave above the regular pitch.
+2	The sound is two octaves above the regular pitch.

Turn the VALUE knob to the right to raise the Octave.

Turn the VALUE knob to the left to lower the Octave.

From the screen shown on the previous page, press the DIRECTION “▼” button once.



### OCT(REAL) - Lower Octave Setting for Expanded Keyboard

The term REAL refers to a physical keyboard connected via MIDI rather than a LOWER Part created by the SPLIT feature. This Parameter allows you to set the octave for the LOWER Part when a connected MIDI keyboard is used for the LOWER Part. The data chart below shows the options you may select.

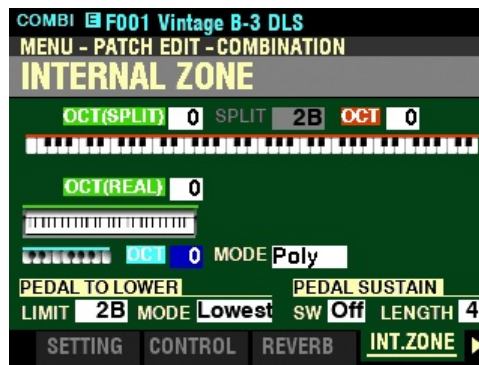
LOWER Octave Options - REAL	
Parameter	Description
-2	The sound is two octaves below the regular pitch.
-1	The sound is one octave below the regular pitch.
0	The sound is at normal pitch.
+1	The sound is one octave above the regular pitch.
+2	The sound is two octaves above the regular pitch.

Turn the VALUE knob to the right to raise the Octave.

Turn the VALUE knob to the left to lower the Octave.

**NOTE:** When MIDI IN MODE is set to UPPER or UPPER + PEDAL, the SK PRO Keyboard is automatically assigned to the LOWER Part. Therefore, the settings for LOWER OCTAVE (REAL) are applied to the SK PRO Keyboard.

From the screen shown on the previous page, press the DIRECTION “▼” button once.



### OCT PEDAL - Pedal Octave Setting

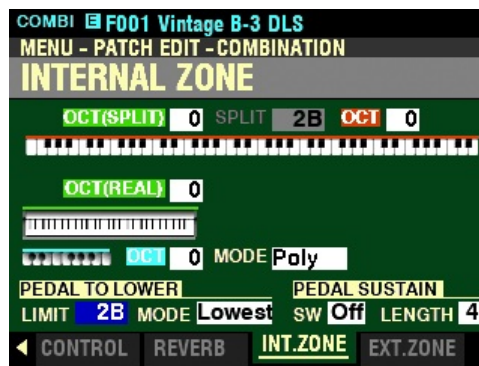
This Parameter allows you to set the octave for the PEDAL Part. The data chart below shows the options you may select.

PEDAL Octave Options	
Parameter	Description
-2	The sound is two octaves below the regular pitch.
-1	The sound is one octave below the regular pitch.
0	The sound is at normal pitch.
+1	The sound is one octave above the regular pitch.
+2	The sound is two octaves above the regular pitch.

Turn the VALUE knob to the right to raise the Octave.

Turn the VALUE knob to the left to lower the Octave.

From the screen shown on the previous page, press the DIRECTION “▼” button once.



The box to the right of “LIMIT” should be highlighted.

**NOTE:** The PEDAL TO LOWER button must be “ON” (orange LED lit) in order to hear the effect of this Parameter setting.

#### PEDAL TO LOWER LIMIT

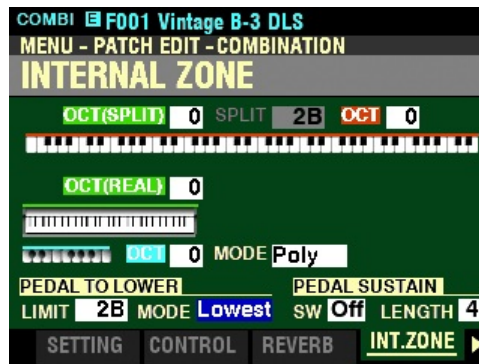
This Parameter allows you to set the range of the Pedal tones when PEDAL TO LOWER is “ON” (orange LED lit). You can select from 1C (the lowest note on the keyboard) to 3C (the third “C” on the keyboard).

Turn the VALUE knob to the right to locate the Manual Bass Split Point higher on the manual.

Turn the VALUE knob to the left to locate the Manual Bass Split Point lower on the manual.



From the screen shown on the previous page, press the DIRECTION “▶” button once.



### PEDAL TO LOWER Mode

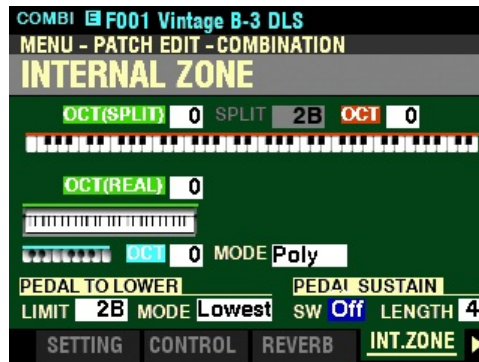
This Parameter allows you to select how the PEDAL TO LOWER feature works. The data chart below shows the options you may select.

PEDAL TO LOWER MODE	
Parameter	Description
LOWEST	The bass note will sound the lowest note played if multiple notes are depressed.
CHRD	The keyboard is scanned for Chord Root and Chord Type and plays an appropriate bass note. For example, if the notes “G,” “C” and “E” are played, it will be interpreted as a C major chord and the bass note will sound the note “C.”
POLY	The bass tone will sound on all notes depressed.

Playing keys on the LOWER Part with PEDAL TO LOWER “ON” will allow you to hear the effects of the Mode setting.

Turn the VALUE knob to make your selection.

From the screen shown on the previous page, press the DIRECTION “▶” button once.



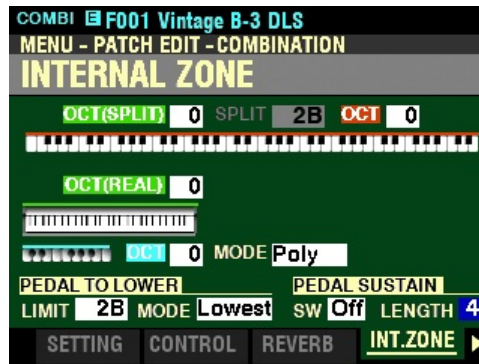
The box to the right of “SW” should be highlighted.

#### SW - Pedal Sustain Switch

This Parameter allows you to turn Pedal Sustain “ON” or “OFF.” When this feature is active, the Pedal tones will smoothly decay upon release, much in the manner of a string bass.

Turn the VALUE knob to turn PEDAL SUSTAIN “ON” or “OFF.”

From the above screen, press the DIRECTION “▶” button once.



The box to the right of “LENGTH” should be highlighted.

#### LENGTH - Pedal Sustain Length

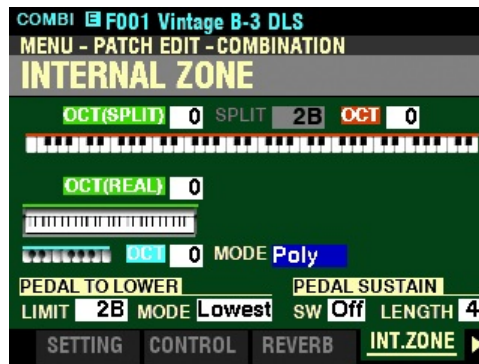
This Parameter allows you to change the amount of Pedal Sustain, or length of time the Pedal note will continue to sound after the pedal is released. You can select from 1 (shortest) to 5 (longest).

Turn the VALUE knob to make your selection.

**NOTE:** The PEDAL SUSTAIN Switch (SW) must be “ON” in order to enable this feature.

**NOTE:** The USER button can also be programmed to turn PEDAL SUSTAIN “ON” or “OFF.” For more information, consult page 475.

From the screen shown at the bottom of the previous page, press the DIRECTION “▲” button once.



The box to the right of “MODE” should be highlighted.

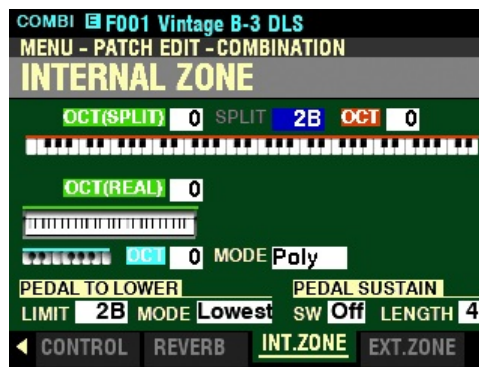
#### PEDAL MODE

This Advanced Feature allows you to select the playing mode of the Pedals. The data chart below shows the options you may select.

PEDAL MODE Options	
Parameter	Description
POLY	Polyphonic - more than one pedal note can sound at a time, as on a vintage organ.
LAST	Monophonic low-note select - if more than one pedal is played only the lowest note will sound.

Turn the VALUE knob to make your selection.

From the screen shown on the previous page, press the DIRECTION “▲” button once.



The box to the right of “SPLIT” should be highlighted.

SPLIT - Keyboard Split Point

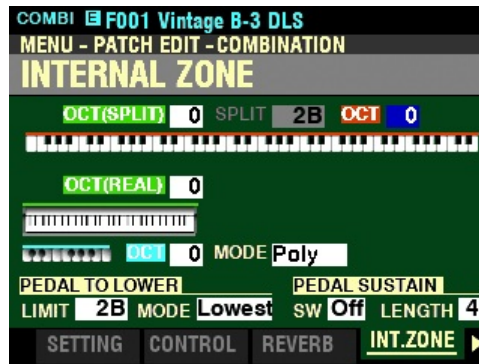
**NOTE:** If the SPLIT button is not “ON” (orange LED lit), this Parameter will be “greyed out.” However, you can still change the Split Point by following the procedure described below.

This Parameter allows you to change the Split point. You can select from 1C (the lowest note on the keyboard) to 6C (the highest note on the keyboard).

Turn the VALUE knob to the right to locate the Split Point higher.

Turn the VALUE knob to the left to locate the Split Point lower.

From the screen shown on the previous page, press the DIRECTION “▶” button once.



The box to the right of “OCT” should be highlighted.

### OCT - Upper Octave Setting

This Parameter Menu Page allows you to select the Octave range in which the UPPER Part will play. The data chart below shows the options you may select.

UPPER OCTAVE Options	
Parameter	Description
-2	The sound is two octaves below the regular pitch.
-1	The sound is one octave below the regular pitch.
0	The sound is at normal pitch.
+1	The sound is one octave above the regular pitch.
+2	The sound is two octaves above the regular pitch.

Turn the VALUE knob to the right or press the OCTAVE UP button on the Control Panel to raise the Octave.

Turn the VALUE knob to the left or press the OCTAVE DOWN button on the Control Panel to lower the Octave.

## ◆ EXTERNAL ZONES

This FUNCTION MODE Page allows you to change the characteristics of the External Zones of your SK PRO. All of these Parameters can be Recorded to a Combination.

### ◆ Using External Zones

The External Zones present the most flexible method for using the SK PRO to control an external MIDI instrument (synthesizer, sound module, digital workstation or a MIDI-equipped Hammond Organ/Keyboard).

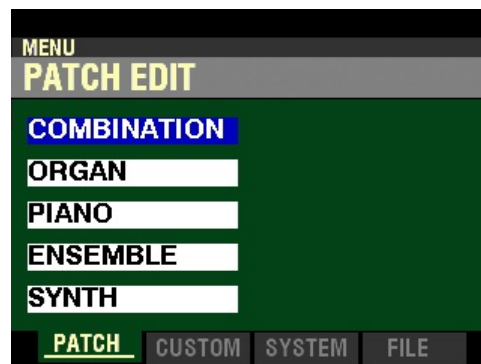
Please consult the Owner's Manual or Reference Guide for your particular instrument or software for information regarding the Program Numbers and Bank Numbers for specific sounds, plus Controller Numbers for specific functions.

**IMPORTANT NOTE:** Hammond's standard protocol is to transmit and receive **UPPER**, **LOWER** and **PEDAL** MIDI data on MIDI Channels **1**, **2** and **3** respectively. If you connect the SK PRO to the MIDI device you want to control, all MIDI messages from the SK PRO - Note On/Note Off, Program Changes, Controller Changes, etc. - will be "mirrored" on the connected device. Please consult the MIDI Template portion of this chapter (starting on page 492) and select the correct **EXZ** Template BEFORE you set the EXTERNAL ZONE parameters below.

**NOTE:** Both Internal and External Zones are also covered in the **MIDI** chapter of this Guide.

### TRY THIS:

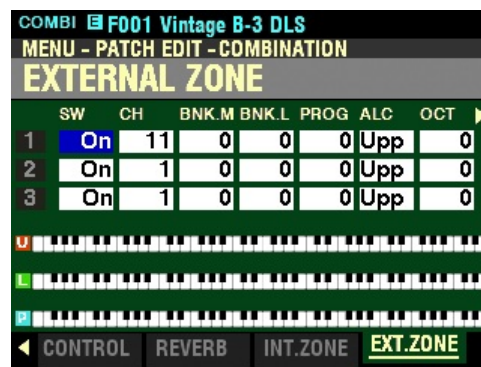
1. From any of the PLAY Mode screens, press the MENU/EXIT button once. The Information Center Display should now look like this:



2. Press the ENTER button. The COMBINATION FUNCTION Mode should be highlighted.

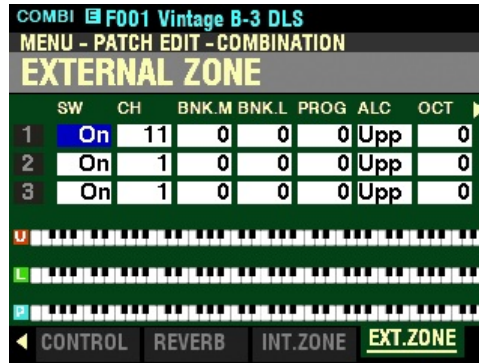


3. Press the PAGE “▶” button four times. The Information Center Display should now look like this:



Use the DIRECTION “▲” and “▼” buttons to move up and down among the three External Zones, “1” “2” and “3.” The External Zone Parameters are identical for all three External Zones; therefore for the sake of brevity only “1” screens will be shown and described.

If you followed the instructions on the previous page, you should now see the **EXTERNAL ZONE FUNCTION Mode**. The box underneath “SW” should be highlighted.



#### SW - External Zone Switch

This Parameter allows you to turn the selected External Zone “ON” (MIDI information will be transmitted) or “OFF” (no MIDI information will be transmitted).

Turn the VALUE knob to make your selection.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “CH” should be highlighted.

#### CH - External Zone Channel

This Parameter allows you to select the MIDI Channel on which MIDI data from the selected External Zone will be transmitted. You can select from “1” through “16.”

Turn the VALUE knob to make your selection.



From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



The box underneath “BNK-M” should be highlighted.

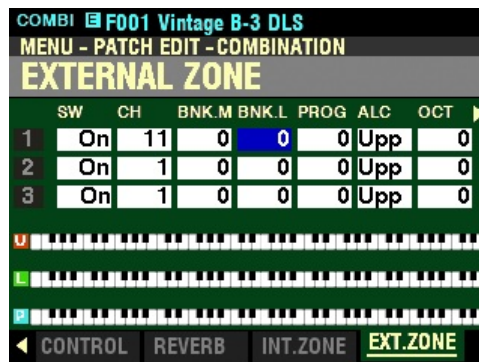
The two Parameters described on this page allow you to perform a Bank Select to give you access to more sounds. For a fuller explanation of Bank Select, consult the APPENDIX of this Guide starting on page 603.

#### BNK-M - External Zone Bank Select MSB

This Parameter allows you to set the value for Controller #0 - Most Significant Bit.

Turn the VALUE knob to make your selection.

From the above screen, press the DIRECTION “▶” button once.



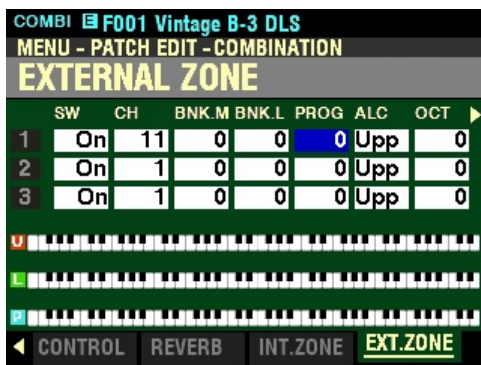
The box underneath “BNK-L” should be highlighted.

#### BNK-L - External Zone Bank Select (LSB)

This Parameter allows you to set the value for Controller #32 - Least Significant Bit.

Turn the VALUE knob to make your selection.

From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



The box underneath “PROG” should be highlighted.

PROG - External Zone Program Number

This Parameter allows you to select from the Program Number, and therefore the Voice, for the selected External Zone.

Turn the VALUE knob to make your selection.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “ALC” should be highlighted.

ALC - External Zone Allocate

This Parameter allows you to select which Part will control the selected External Zone.

The data chart below explains each of the settings in more detail.

External Zone ALLOCATE Options	
Description	Function
Upp	Use this setting if you are using the SK PRO with no Lower Manual or MIDI pedalboard.
Low	Use this setting if you are using SPLIT, or a connected MIDI keyboard as a Lower Manual on the SK PRO.
Ped	Use this setting if you are using PEDAL TO LOWER, a connected MIDI pedalboard on the SK PRO.
Off	Use this setting if you have external MIDI instruments connected and you do not wish to send Note messages (Note On, Note Off and Note Velocity), but you still want to transmit MIDI Program Changes or Controller Changes.

Turn the VALUE knob to make your selection.

From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



The box underneath “OCT” should be highlighted.

#### OCT - External Zone Octave

This Parameter allows you to determine the Octave or pitch at which the External Zone will sound. Use this Parameter if an external sound plays in a pitch range other than the one you find desirable.

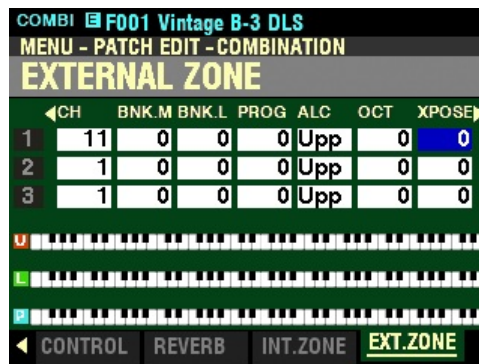
The data chart below shows the options you may select.

Octave Options	
Setting	Description
-2	The sound is two octaves below the regular pitch.
-1	The sound is one octave below the regular pitch.
0	The sound is at normal pitch.
+1	The sound is one octave above the regular pitch.
+2	The sound is two octaves above the regular pitch.

Turn the VALUE knob to the right to raise the Octave.

Turn the VALUE knob to the left to lower the Octave.

From the screen shown on the previous page, press the DIRECTION “▶” button once.



The box underneath “XPOSE” should be highlighted.

#### XPOSE - External Zone Transpose

This Parameter allows you to adjust the sounding pitch of the selected External Zone by half-steps or semitones. You can select from -63 (down five octaves and a third) to 63 (up five octaves and a third). At 0 there is no transposition.

Turn the VALUE knob to the right to transpose the selected External Zone higher.

Turn the VALUE knob to the right to transpose the selected External Zone lower.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “LOW” should be highlighted.

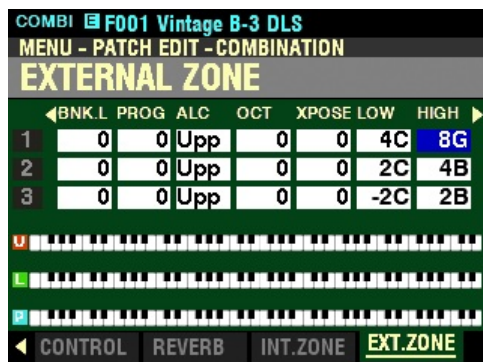
#### LOW - External Zone Lower Note Limit

This Parameter allows you to set the lower note limit for the External Zone. You can select from “-2C” to “8G.”

Turn the VALUE knob to the right to locate the note range higher.

Turn the VALUE knob to the left to locate the note range lower.

From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



The box underneath “HIGH” should be highlighted.

#### HIGH - External Zone Upper Note Limit

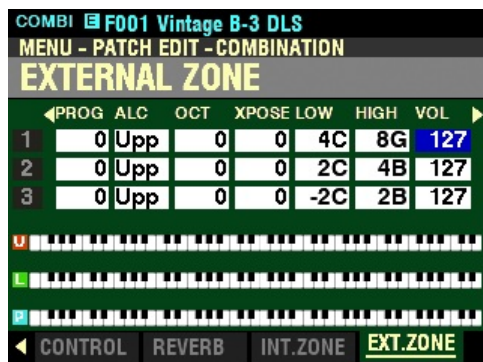
This Parameter allows you to set the upper note limit for the External Zone. You can select from -2C to 8G

Turn the VALUE knob to the right to locate the note range higher.

Turn the VALUE knob to the left to locate the note range lower.

**NOTE:** The Upper Limit number cannot be lower than the Lower Limit number.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “VOL” should be highlighted.

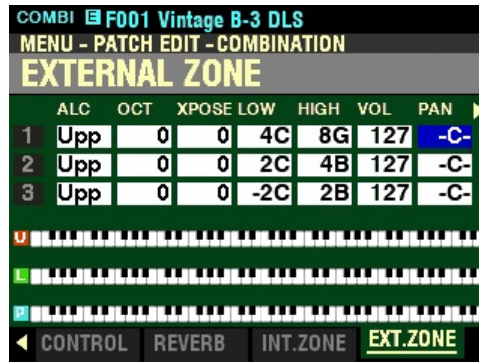
#### VOL - External Zone Volume

This Parameter allows you to control the volume (Controller #7) of the sound controlled by the selected External Zone. You can select from 0 (no volume) through 127 (maximum volume).

Turn the VALUE knob to make your selection.

**NOTE:** In order for this Parameter to work, the Expression Control Number must be set to 7:VOL. If the Expression Control Number is set to “11:EXP,” changing this parameter will have no effect.

From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



The box underneath “PAN” should be highlighted.

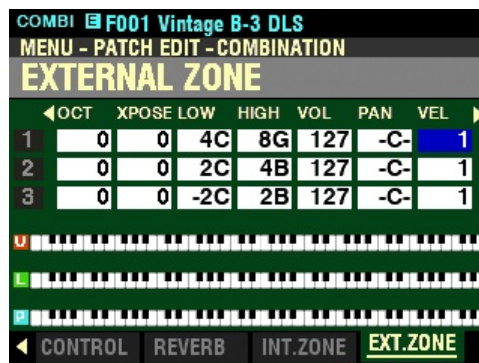
#### PAN - External Zone Pan

This Parameter allows you to set the directionality or Pan setting (Controller #10). You can select from “L63” (the sound plays entirely through the Left channel), through to “0” (the sound is heard equally through both channels) and on through “R63” (the sound plays entirely through the Right channel).

Turn the VALUE knob to make your selection.

**NOTE:** In order to hear the effect of this Parameter, the sound controlled from the External Zone must be connected via Stereo (both Left and Right channel) outputs.

From the above screen, press the DIRECTION “▶” button once.



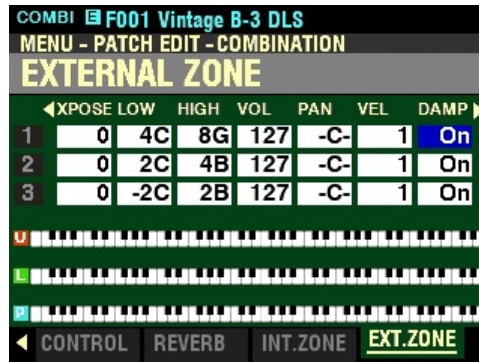
The box underneath “VEL” should be highlighted.

#### VEL - External Zone Velocity

This Parameter allows you to set the character of the velocity to send to this zone. The setting range is 0F and 1 to 4. At 0F, the velocity is fixed at 100. The “press” (velocity response) of the keyboard progresses from 1 (heavier) through 4 (lighter).

Turn the VALUE knob to make your selection.

From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



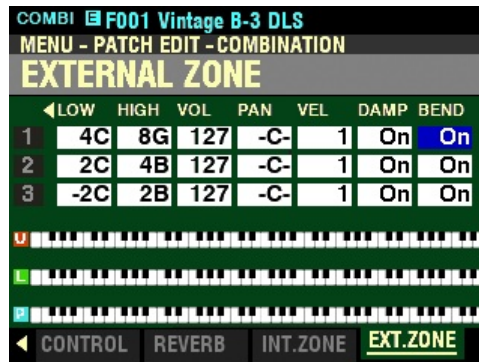
The box underneath “DAMP” should be highlighted.

#### DAMP - External Zone Damper

This Parameter allows you to select whether you want to send Damper (Controller #64) information as part of the selected External Zone.

Turn the VALUE knob to make your selection.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “BEND” should be highlighted.

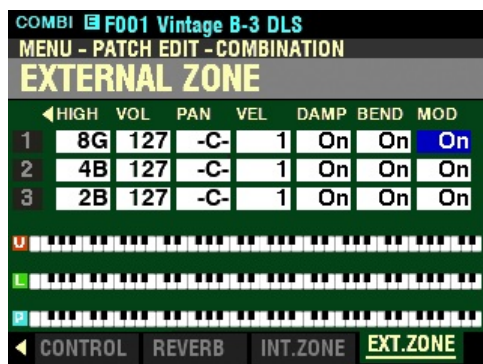
#### BEND - External Zone Pitch Bend

This Parameter allows you to select whether you want to send Pitch Bend information as part of the selected External Zone.

Turn the VALUE knob to make your selection.



From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



The box underneath “MOD” should be highlighted.

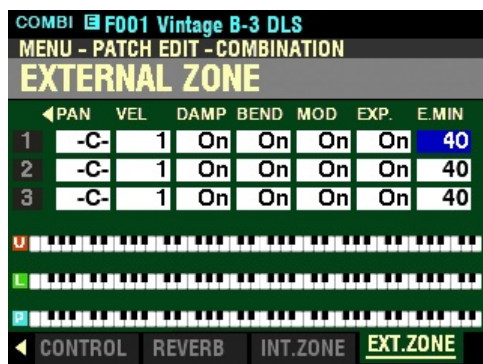
#### MOD - External Zone Modulation Wheel

This Parameter allows you to select whether you want to send information from the Modulation Wheel as part of the selected External Zone.

Turn the VALUE knob to make your selection.

**NOTE:** The Modulation Wheel transmits Controller 01. The type of change generated by the Modulation Wheel depends on the specifications of the connected device.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “E.MIN” should be highlighted.

#### E.MIN - External Zone Minimum Volume

This Parameter allows you to adjust the volume level when the Expression Pedal is “closed,” or set at minimum. You can select from “0” through “63.” At “0” no sound will be heard.

Turn the VALUE knob to make your selection.



From the screen shown at the bottom of the previous page, press the DIRECTION “▶” button once.



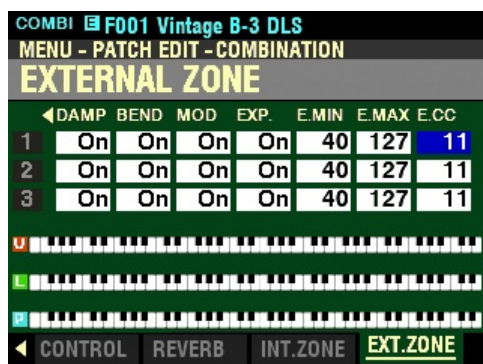
The box underneath “E.MAX” should be highlighted.

E.MAX - External Zone Maximum Volume

This Parameter allows you to adjust the volume level when the Expression Pedal is all the way “open,” or set at maximum. You can select from 64 through 127.

Turn the VALUE knob to make your selection.

From the above screen, press the DIRECTION “▶” button once.



The box underneath “E.CC” should be highlighted.

E.CC - External Zone Expression Control Number

This Parameter allows you to select how you want to control the level of the selected External Zone. You can select either VOL (Volume or Controller #7) or EXP (Expression or Controller #11).

Turn the VALUE knob to make your selection.

What Is the Difference Between “Volume” and “Expression?”

In purely technical terms, Volume and Expression are identical - both control sound level. The difference lies with how they are customarily used in MIDI applications, particularly in creating and playing back MIDI sequences.

The generally accepted protocol is to use Controller #7 (Volume) to set the overall or absolute level of a voice or sound, and use Controller #11 (Expression) to make variations (such as crescendi or diminuendi) against the overall level set by Controller #7. This is recommended particularly if you want to use your SK PRO as a MIDI input device to record a sequence.

**NOTE:** In order for the External Zone Volume feature to work, the Expression Control Number must be set to “7:VOL.” If this parameter is set to “11:EXP,” changing the External Zone Volume setting will have no effect.

### ◆ MIDI All Notes Off and Parameter Reload (“MIDI Panic”)

MIDI plays notes from an external instrument by sending two commands - “Note On” which starts the note playing, and “Note Off” which releases the note and stops it from playing. These two commands are always sent in pairs.

Once in a while, a Note Off command may not follow a Note On command, causing a note or notes to cipher, or sound continuously (the phenomenon popularly referred to a “stuck notes”). In this case, you need to send a MIDI command to the receiving instrument to clear the ciphering notes.

To do this, press the DIRECTION “▼” and “▲” buttons simultaneously.



Doing this will send a “MIDI All Notes Off” as well as a “MIDI Reset All Controllers” command to the receiving instruments. The stuck notes will be turned off and the settings for the External Zones will be reset, then the External Zone settings will be re-sent. Normal playing can then be resumed.