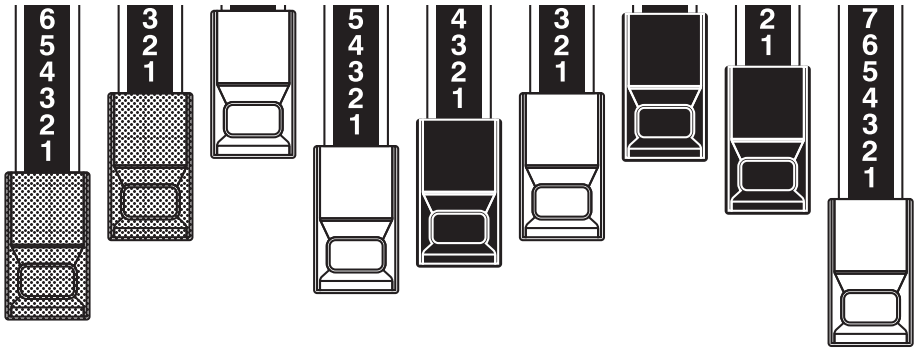


HAMMOND

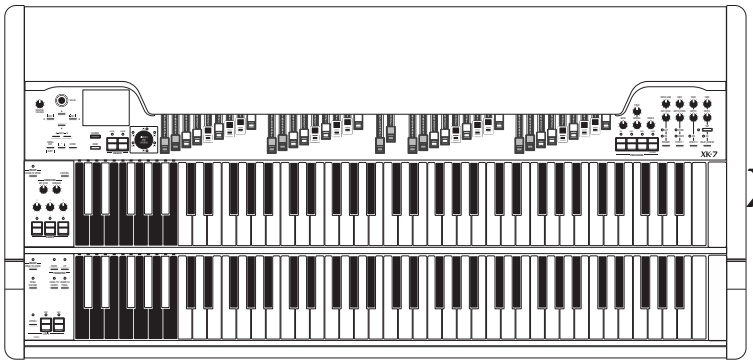
Model: **XK-7 / XK-7D**

STAGE ORGAN

Thank you, and congratulations on your choice of the Hammond XK-7 / XK-7D Stage Organ.

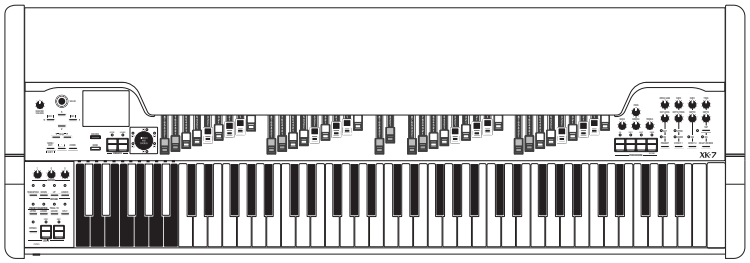
The Hammond XK-7 / XK-7D features the sound and playability of the vintage Hammond Organ, Transistor Organs, and Pipe Organs into a 61 notes, the vintage model B-3/C-3 inspired cabinet. The XK-7 has a single Keyboard while the XK-7D has two Keyboards.

Please take the time to read this Manual completely in order to take full advantage of the many features of your XK-7 / XK-7D, and please retain it for future reference.



XK-7D

XK-7



Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with dry cloth.

Do not block any ventilation openings.
Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When cart is used: use caution when moving the cart/apparatus combination to avoid injury from tip-over.

Unplug this apparatus during lightning storms, or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
ATTENTION: Pour réduire les risques de choc électrique ou d'incendie, ne pas exposer cet appareil à la pluie ou à l'humidité.

-THIS APPARATUS MUST BE EARTHED.

-The socket-outlet shall be installed near the apparatus and shall be easily accessible.

The lightning flash with arrowhead symbol within an equilateral triangle, indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

The exclamation point within equilateral triangle, indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

For the USA

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital unit, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For CANADA

This class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

For EU countries

In case in the future your instrument gets too old to play/use or malfunctions beyond repair, please observe the instructions of this mark, or, if any question, be sure to contact your dealer or your nearest town or municipal office for its proper disposal.

For UNITED KINGDOM

FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a molded 3-pin mains plug for your safety and convenience.

The plug contains a 13 amp fuse.

Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BSI1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced.

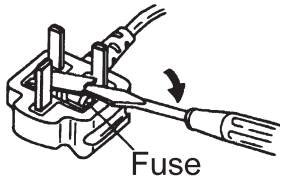
If the fuse cover is lost, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be obtained from your local Hammond Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME, THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

To replace the fuse, open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



IMPORTANT - PLEASE READ

Power Supply

1. Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
2. Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.
3. This unit features an Auto Power Off function that automatically turns the power off if the unit is not operated for a specified period of time. The setting will revert to its default value if not backed up before the power is turned off.

Placement

1. Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
2. This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
3. Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
4. Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.
5. When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
6. XK-7D: To prevent the organ from falling or tipping over, please place it on our recommended keyboard stand.

   ST-XLK3, ST-XLK5, ST-XLK5W, ST-XKD-W
7. Do not allow rubber, vinyl, or similar materials to remain on the unit for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
8. Do not paste stickers, decals, or the like to this instrument. Peeling such matter off the instrument may damage the exterior finish.

Maintenance

8. To clean the unit, use a dry, soft cloth; or one that is slightly dampened.
9. To remove stubborn dirt off plastic parts, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth. Try to wipe the entire surface using an equal amount of strength, moving the cloth along with the grain of the wood. Rubbing too hard in the same area can damage the finish.
10. Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

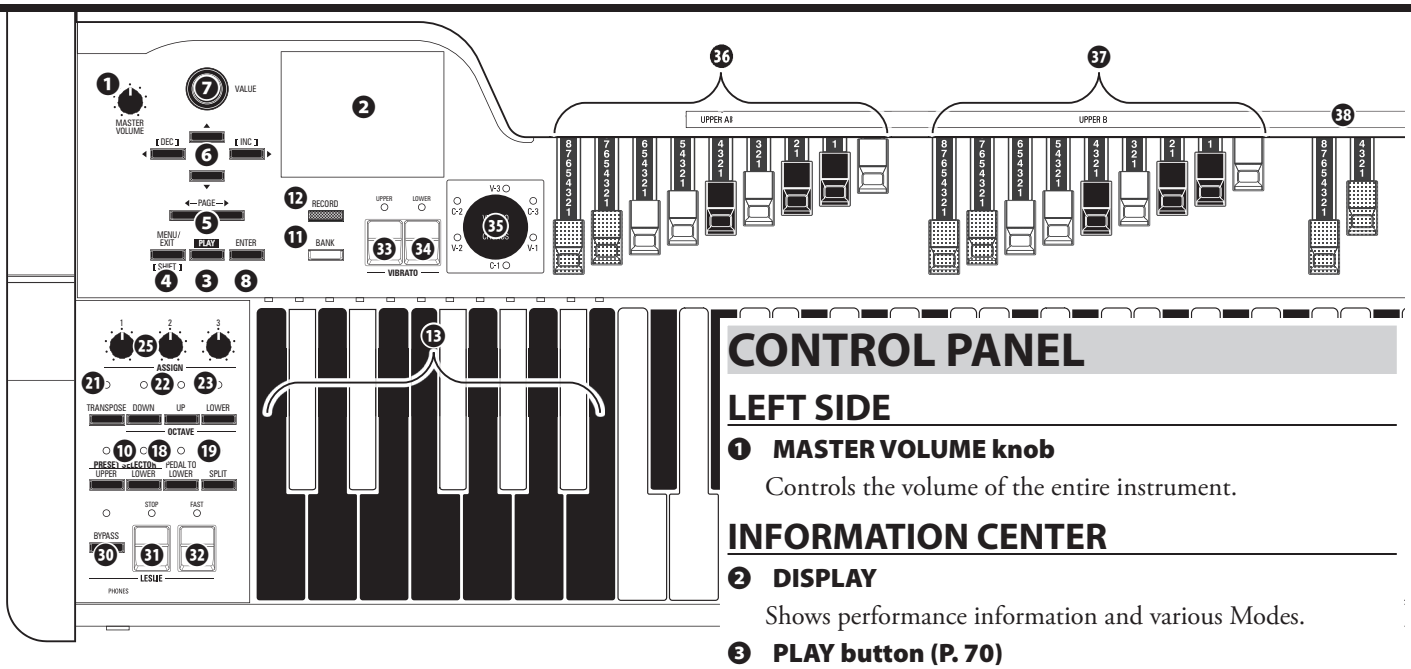
Additional Precautions

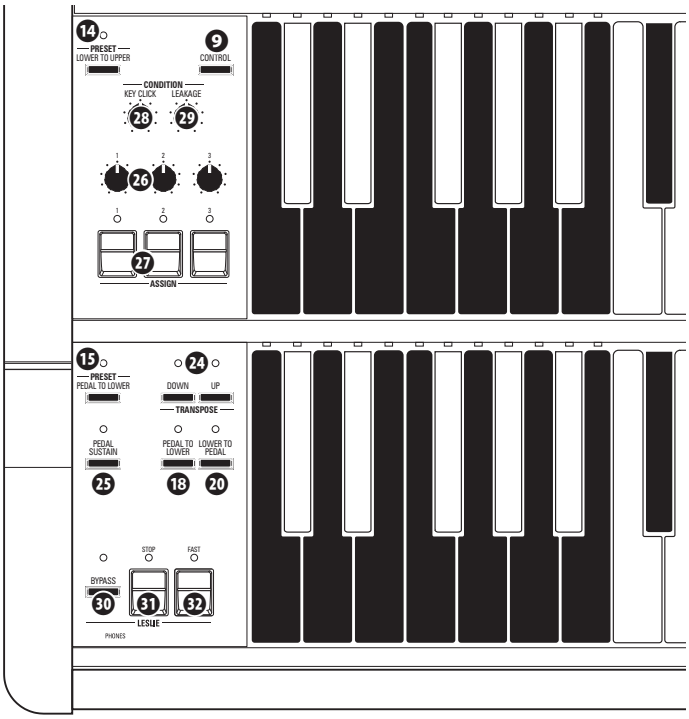
1. Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in USB Flash Drive.
2. Unfortunately, it may be impossible to restore the contents of data that was stored in another MIDI device (e.g., a sequencer) once it has been lost. Hammond assumes no liability concerning such loss of data.
3. Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
4. When connecting / disconnecting all cables, grasp the connector itself - never pull on the cable. This will avoid causing short circuits, or damage to the cable's internal elements.
5. To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
6. When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

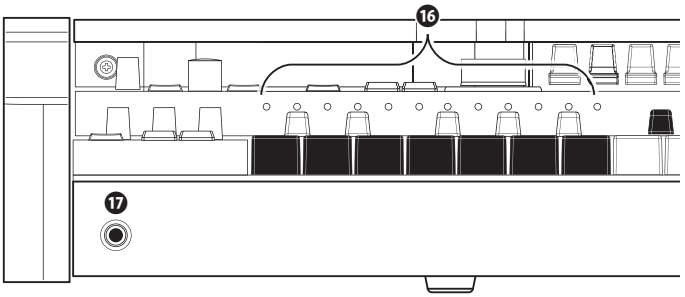
Trademark

INTRODUCTION

TABLE OF CONTENTS







CONTROL PANEL

LEFT SIDE

❶ MASTER VOLUME knob

Controls the volume of the entire instrument.

INFORMATION CENTER

❷ DISPLAY

Shows performance information and various Modes.

❸ PLAY button (P. 70)

Returns to the PLAY Mode.

❹ MENU / EXIT / SHIFT button

1. Opens the MENU Mode (P. 72).
2. Exits or goes back one level from the current Page.
3. Allows alternate functions for designated buttons.

❺ PAGE ◀ / ▶ button

Use these buttons to navigate the PLAY (P. 70), MENU (P. 72) and FUNCTION (P. 74) Mode Pages.

❻ DIRECTION / DEC / INC buttons

1. Moves the cursor in the Display.
2. Increments or decrements a value while Pressing and Holding the [SHIFT] button ❹.

❼ VALUE knob

Increments or decrements Patch numbers while performing, or adjusts values during editing.

Press and Hold the [SHIFT] button ❹ to change values by larger degrees.

❽ ENTER button

Use this button to confirm the current entry or procedure when editing sounds or features.

❾ CONTROL button (XK-7D only) (P. 130)

Locate the **CONTROL** FUNCTION Mode in the Display to set Parameters for a Foot Switch or Expression Pedal.

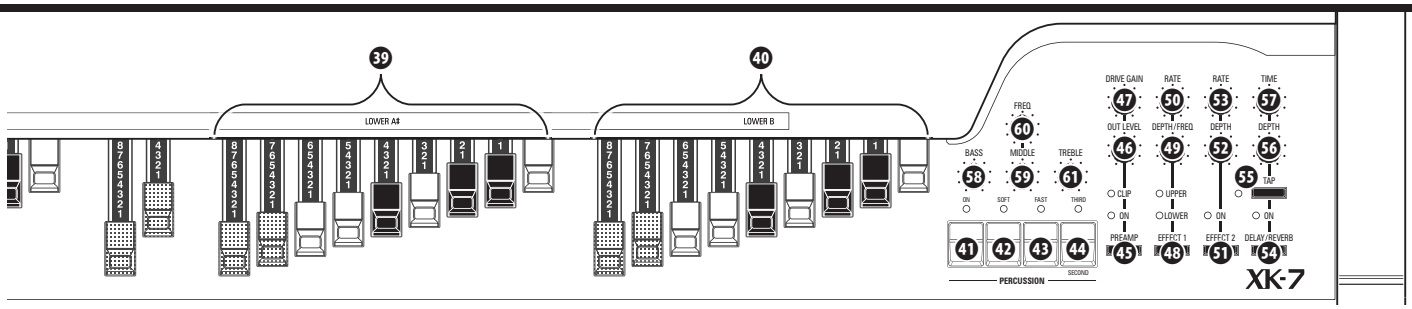
PRESETS

❿ PRESET SELECTOR buttons (XK-7 only)

1. Selects Patches or Favorites for UPPER, LOWER or both using the Preset Keys ⓭ (P. 36).
2. Matches the sounding Registration to the physical Registration for the [A♯] Drawbar Set (P. 50).

⓫ BANK button (P. 36)

Selects Favorite Banks by Pressing and Holding this button and pressing a Preset Key ⓭.



⓬ RECORD button

Records various Parameters:

- Patch (P. 64)
- Favorite (P. 140)
- Custom Parameters (P. 124)
- System Parameters (P. 142)

⓭ PRESET KEYS (P. 36)

Recalls / Records Patches or Favorites.

The Preset Keys [C] through [A] select Patches as part of a Preset Bank, or Patches which are registered as Favorites.

The [A♯] and [B] Preset Keys recall the Drawbar settings on their respective Drawbar Sets as well as the settings of each effect knob or control.

⓮ PRESET LOWER TO UPPER button (XK-7D only)

1. Couples LOWER and UPPER Preset Keys. When an UPPER Preset Key is selected, the LOWER Preset Key will also be selected (P. 36).
2. Matches the UPPER Registration to the [A♯] Drawbar Set (P. 50).

⓯ PRESET PEDAL TO LOWER button (XK-7D only)

1. Couples PEDAL and LOWER Preset Keys. When a LOWER Preset Key is selected, the corresponding PEDAL Patch will also be selected (P. 36).
2. Matches the LOWER Registration to the [A♯] Drawbar set (P. 50).

⓰ PRESET LEDs

Indicates the currently selected Preset Keys.

XK-7.....The LED for the UPPER Part will light red and the LED for the LOWER Part will light green.

XK-7D.....All the LEDs light orange.

HEADPHONES

⓱ PHONES jack

Use this jack to connect a set of stereo headphones.

NOTE: Connecting Headphones does NOT mute the LINE OUT or LESLIE audio outputs.

KEYBOARD CONTROL

⓲ PEDAL TO LOWER button (P. 63)

Couples the PEDAL and LOWER Keyboards. When a LOWER key is played, the PEDAL Part sounds together.

⓳ SPLIT button (XK-7 only) (P. 62)

Divides the Keyboard into UPPER (right) and LOWER (left) Keyboards.

⓴ LOWER TO PEDAL button (XK-7D only) (P. 63)

Couples the LOWER and PEDAL Keyboards. When a PEDAL key is played, the LOWER Part sounds along with the PEDAL Part.

㉑ TRANSPOSE button (XK-7 only) (P. 66)

Transposes the musical pitch of the entire instrument when used in conjunction with OCTAVE [DOWN] / [UP] buttons ㉒.

㉒ OCTAVE DOWN / UP button (XK-7 only) (P. 62)

Shifts the octave for the UPPER Keyboard.

㉓ OCTAVE LOWER button (XK-7 only) (P. 62)

Shifts the octave for LOWER Keyboard by operating OCTAVE [DOWN] / [UP] buttons ㉒ with pressing this button.

㉔ TRANSPOSE DOWN / UP buttons (P. 66)

Transposes the musical pitch of the entire instrument.

㉕ PEDAL SUSTAIN button (P. 63)

Adds a smooth decay to a PEDAL note when it is released.

ASSIGNABLE CONTROLLERS (P. 101)

These control the values of assigned Parameters.

㉖ ASSIGN knobs

For continuous Parameters.

㉗ ASSIGN buttons

For switching or triggering Parameters.

CONDITION (XK-7D ONLY) (P. 61)

These adjust the Key Click for the Tone Wheel and Transistor Organ Types, and the Leakage for the Tone Wheel Organ Type.

㉘ KEY CLICK knob

Adjusts the condition of the Virtual Multi-Contacts.

This knob is linked with “Key Click Level” (P. 82).

㉘ LEAKAGE knob

Adjusts level of the Leakage Tones.

This knob is linked with “Leakage Level” (P. 82).

LESLIE (P. 59)

These buttons control the internal Digital Leslie or a connected Leslie Speaker system.

㉚ LESLIE BYPASS button

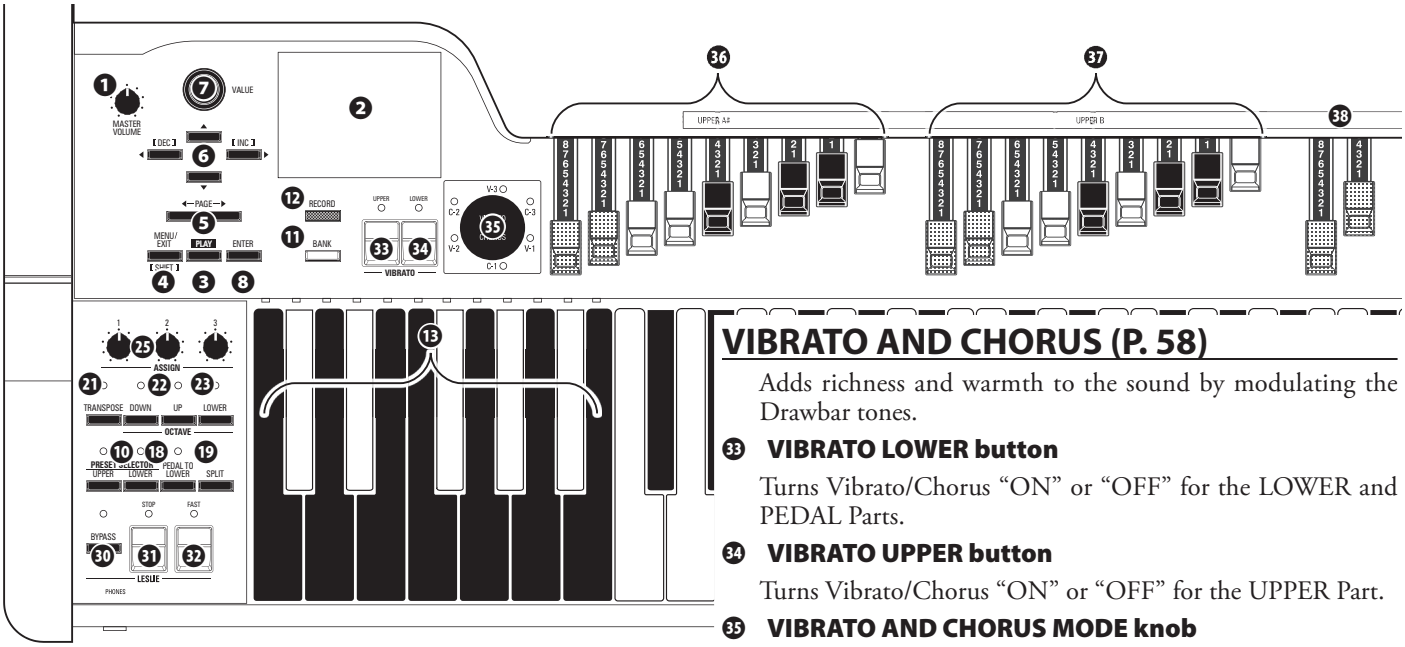
Channels the sounds produced by the Drawbars from the Rotary channel to the Stationary channel. The LED lights at bypassed.

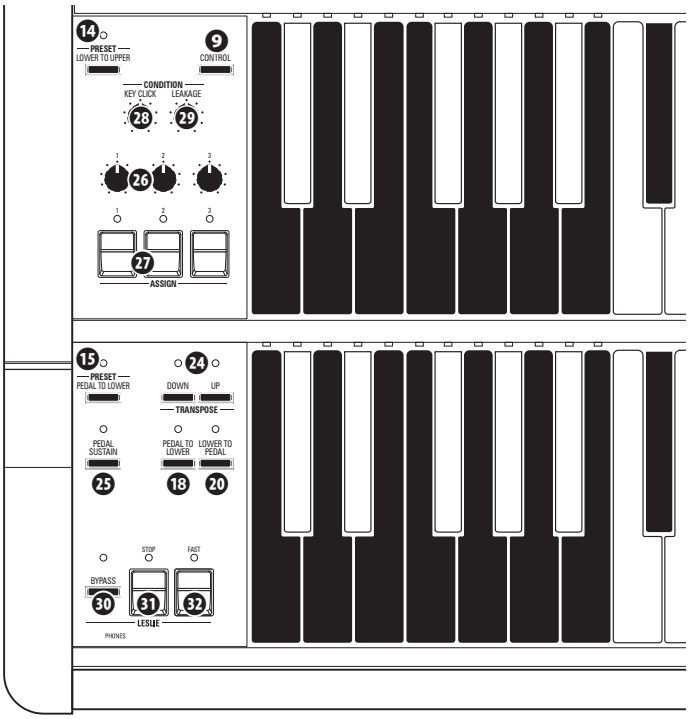
㉛ LESLIE STOP button

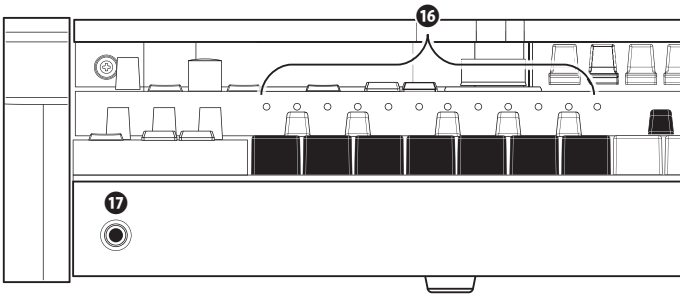
Stops the Leslie Rotors from turning when the [FAST] button ㉜ is “OFF.” The LED lights at “Stop.”

㉜ LESLIE FAST button

Selects “FAST” Leslie Rotor mode. The LED lights at “Fast.”







VIBRATO AND CHORUS (P. 58)

Adds richness and warmth to the sound by modulating the Drawbar tones.

㉝ VIBRATO LOWER button

Turns Vibrato/Chorus "ON" or "OFF" for the LOWER and PEDAL Parts.

㉞ VIBRATO UPPER button

Turns Vibrato/Chorus "ON" or "OFF" for the UPPER Part.

㉟ VIBRATO AND CHORUS MODE knob

Selects the Vibrato and Chorus depth and switches between Vibrato and Chorus.

DRAWBARS (P. 50)

The Drawbars adjust the basic harmonics of the organ.

The function of each Drawbar changes depending on the Organ Types.

㊱ UPPER A♯ DRAWBARS

Adjusts the UPPER Part Registration. To enable this,

XK-7.....Select the [UPPER] PRESET SELECTOR ⑩ and select the [A♯] Preset Key ⑬.

XK-7D.....Select the UPPER [A♯] Preset Key ⑬.

NOTE: This Drawbar Set is also used for adjusting recalled Patches.

㊲ UPPER B DRAWBARS

Adjusts the UPPER Part Registration. To enable this,

XK-7.....Select the [UPPER] PRESET SELECTOR ⑩ and select the [B] Preset Key ⑬.

XK-7D.....Select the UPPER [B] Preset Key ⑬.

㊳ PEDAL DRAWBARS

Adjusts the PEDAL Part Registration.

㊴ LOWER A♯ DRAWBARS

Adjusts the LOWER Part Registration. To enable this,

XK-7.....Select the [LOWER] PRESET SELECTOR ⑩ and select the [A♯] Preset Key ⑬.

XK-7D.....Select the LOWER [A♯] Preset Key ⑬.

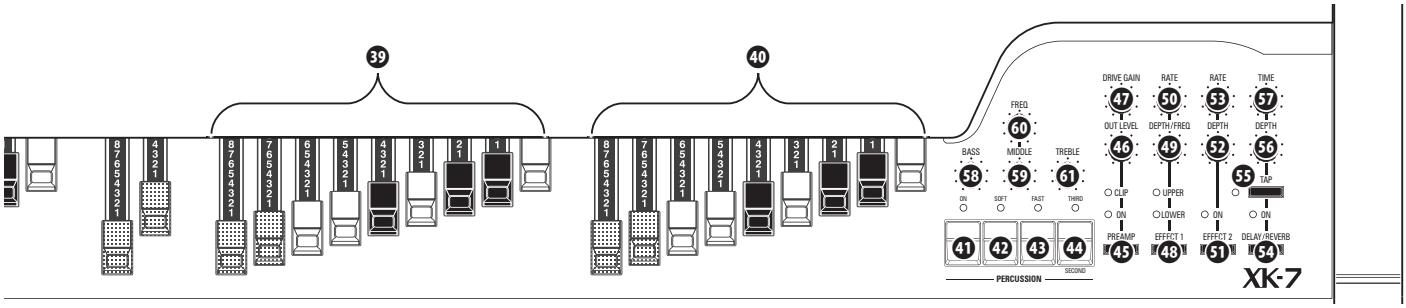
NOTE: This Drawbar Set is also used for adjusting recalled Patches.

㊵ LOWER B DRAWBARS

Adjusts the LOWER Part Registration. To enable these,

XK-7.....Select the [LOWER] PRESET SELECTOR ⑩ and select the [B] Preset Key ⑬.

XK-7D.....Select the LOWER [B] Preset Key ⑬.



PERCUSSION (P. 58)

Adds Harmonic Percussion (decay) to the UPPER Part.

NOTE: The Percussion will be enabled only on the [B] Preset Key on the [G♯] and [A] Banks and enabled on all Preset Keys on Banks [C] through [G] as shipped from the factory.

41 ON button

Adds Percussion (decay) to the UPPER Part.

42 SOFT button

Reduces the volume of the Percussion.

43 FAST button

Causes the Percussion tone to decay more rapidly.

44 THIRD button

Switches the harmonic between SECOND (4′) and THIRD (2 ⅔′).

EFFECTS (P. 60)

45 PREAMP button

Turns Preamplifier "On" and "Off."

The [ON] LED lights at "On."

46 PREAMP DRIVE GAIN knob

Adjusts the gain of the Preamplifire to add Overdrive to the sound.

The [CLIP] LED lights at the onset of Overdrive.

47 PREAMP OUT LEVEL knob

Adjusts the output level of the Preamplifier and balances the level between "On" and "Off."

48 EFFECT 1 button

Turns EFFECT 1 "On" and "Off."

The LED [UPPER] / [LOWER] lights for the engaged Parts while "On."

49 EFFECT 1 DEPTH / FREQ knob

Adjusts a Parameter of EFFECT 1, particularly Depth, Frequency or Gain.

50 EFFECT 1 RATE knob

Adjusts a Parameter of EFFECT 1, particularly Rate or Sensitivity.

51 EFFECT 2 button

Turns EFFECT 2 "On" and "Off."

This Effect affects all the Parts.

52 EFFECT 2 DEPTH knob

Adjusts a Parameter of EFFECT 2, particularly Depth.

53 EFFECT 2 RATE knob

Adjusts a Parameter of EFFECT 2, particularly Rate.

54 DELAY / REVERB button

Turns Delay / Reverb "On" and "Off."

55 DELAY TAP button

Set the Delay Time by tapping this button.

56 DELAY / REVERB DEPTH knob

Adjusts the Depth of the Delay / Reverb effect.

57 DELAY / REVERB TIME knob

Adjusts the Time of the Delay / Reverb effect.

MASTER EQUALIZER (P. 39)

Adjusts the overall tone of the instrument.

58 BASS knob

Boosts or reduces the bass range.

59 MIDDLE GAIN knob

Boosts or reduces the bass range.

60 MIDDLE FREQ knob

Adjust the central frequency of the middle range.

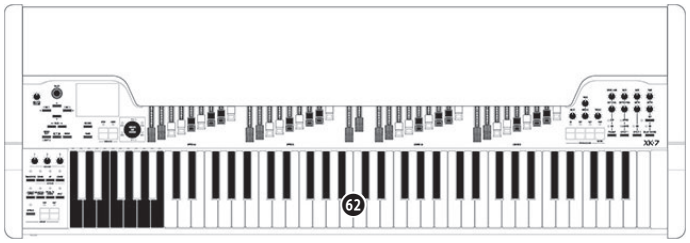
61 TREBLE knob

Boosts or reduces the treble range.

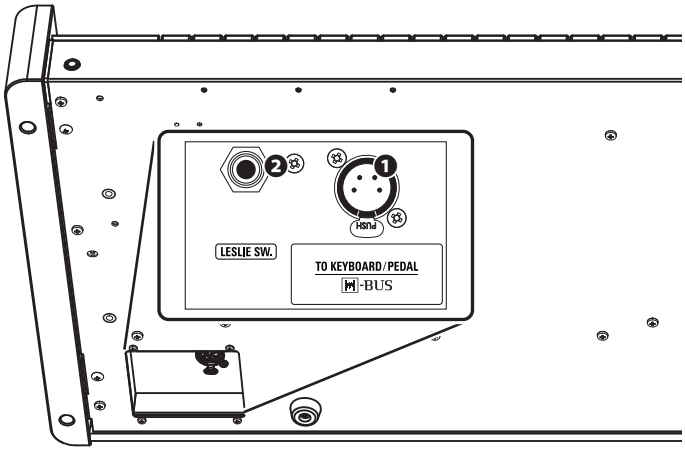
KEYBOARD

62 KEYBOARD

61 notes of musical keys, 12 notes of Preset keys, square-front ("waterfall") type, non-weighted, Virtual Multi-Contact Keyboard.



BOTTOM



RECESS

❶ **H-BUS jack**

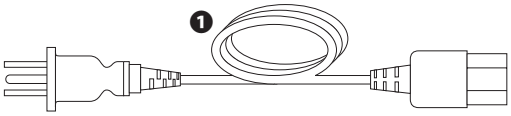
Connect **H-BUS** compatible equipment.

- Lower Keyboard XLK-5 (XK-7 only)
- Pedalboard XPK-250W or mk2 series
- Pedalboard XPK-250W mk3

❷ **LESLIE SW. jack**

Connect a Leslie Switch:
HAMMOND ...CU-1, FS-10TL

ACCESSORIES



❶ **AC CORD SET**

Supplies the AC power.

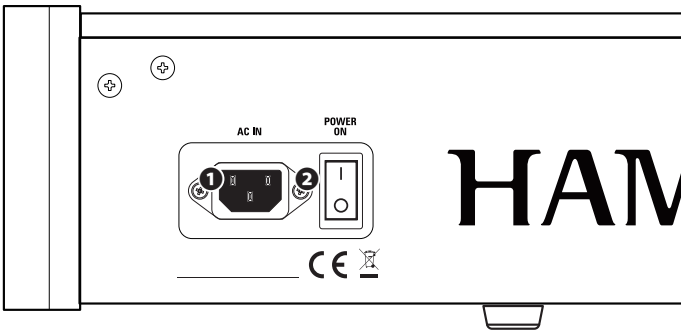
FOR XK-7D

❷ **TAPPING SCREW (4)**

❸ **RUBBER FOOT (4)**

Attach these on the bottom of the Side Panel to mount the XK-7D on the 4-legged metal stand, ST-XLK5 / ST-XLK3.

ACCESSORY PANEL



POWER

❶ **AC POWER RECEPTACLE**

Connect the female end of a grounded AC Power Cord here, and the male end into a grounded AC power outlet.

❷ **POWER switch**

Turns the AC power to the instrument "ON" or "OFF."

AUDIO OUTPUT JACKS

❸ **Leslie® socket (P. 20)**

Use to connect a Leslie Speaker Cabinet having an 11-pin interface.

❹ **LINE OUT L/MONO jack**

❺ **LINE OUT R jack**

Use these jacks to connect external audio equipment.

If the connected mixer or monitor speaker is stereophonic, connect both the L and R jacks. If it is monaural, connect only the L/MONO jack.

❻ **ROTARY OUT jack (P. 22)**

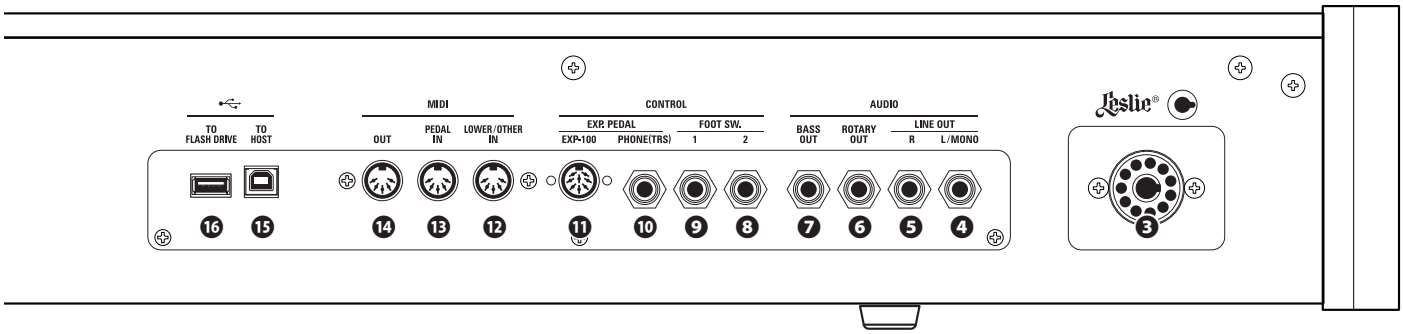
Outputs the Rotary Channel of the Drawbars. Use this jack to bypass the inbuilt digital Leslie if you want a "dry" audio output from the Drawbars.

NOTE: Set the "ROTARY OUT" switch in the AUDIO portion of the FUNCTION Mode to "Used" if you use this jack (P. 128).

❼ **BASS OUT jack (P. 22)**

Outputs the bass range. Use this jack to connect a powered sub-woofer to increase the bass.

NOTE: Set the "BASS OUT" switch in the AUDIO portion of the FUNCTION Mode to "Used" if you use this jack (P. 128).



CONTROL JACKS

❽ FOOT SW. 2 jack (P. 130)

❾ FOOT SW. 1 jack

Connect a Foot Switch to control functions such as Leslie modes, Damper, or changing Patches.

The compatible Controllers are listed below:
HAMMOND ... FS-9H, VFP1
BOSS FS-5U
YAMAHA..... FC4A, FC5

❿ EXP. PEDAL PHONE jack (P. 132)

Use this jack to connect an Expression Pedal to control loudness while playing.

The compatible Expression Pedals and polarities are listed below:
HAMMOND ... EXP-50/50J/20, EXP-20, V-20H, V-20R; **NORM**
KORG..... XVP-10, XVP-20; **REV**
ROLAND ..... EV-5; **NORM**
YAMAHA..... FC7; **REV**

⓫ EXP. PEDAL EXP-100 jack (P. 132)

Connect an EXP-100 series Expression Pedal.

NOTE: Each Controller needs to be set in order to operate properly. Please refer to each page for a connected Controller for instructions on how to set it correctly.

MIDI PORTS (P. 148)

⓬ MIDI LOWER / OTHER IN port (XK-7)
MIDI OTHER IN port (XK-7D)

Receives MIDI data from a connected MIDI device.

This port receives and operates with regarding MIDI Channels for 3 Parts. Also, this port receives MIDI data from a LOWER Keyboard regardless of MIDI Channel settings (P. 155).

⓭ MIDI PEDAL IN port

Receives MIDI data from a connected MIDI Pedalboard.

⓮ MIDI OUT Port

Transmits MIDI data to a connected MIDI device.

USB PORTS

⓯ USB TO HOST port (P. 148)

Use to connect to a computer to transmit MIDI messages.

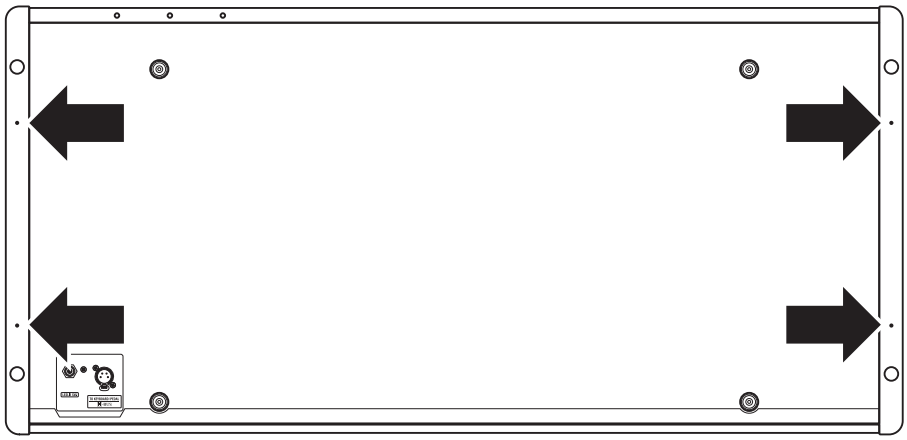
⓰ USB FLASH DRIVE port (P. 160)

Use to connect a USB Flash Drive to Load or Save files (such as Setups, Patches, etc.) as well as to Update the software.

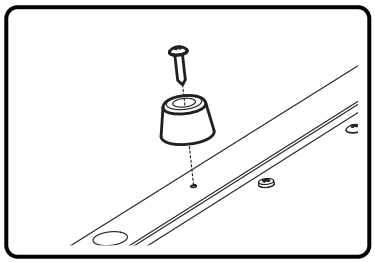
ATTACH THE RUBBER FEET (XK-7D ONLY)

To mount the XK-7D on a ST-XLK5/ST-XLK3 metal stand, attach the supplied Rubber Feet on the bottom of the Side Panels in the guide holes provided.

1. Place the organ upside down on a blanket or soft cloth. You will find the four guide holes on the Side Panels (see arrows on the illustration below).

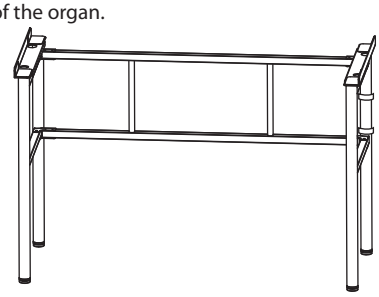


2. Attach the Rubber Feet via Tapping Screws (both included) to the guide holes using a #2 Phillips screwdriver.



tips **ST-XLK5/ST-XLK3**

These are 4-legged metal stands that match with the XK-7D and which have openings on the top to accommodate the rubber feet on the Side Panels of the organ.



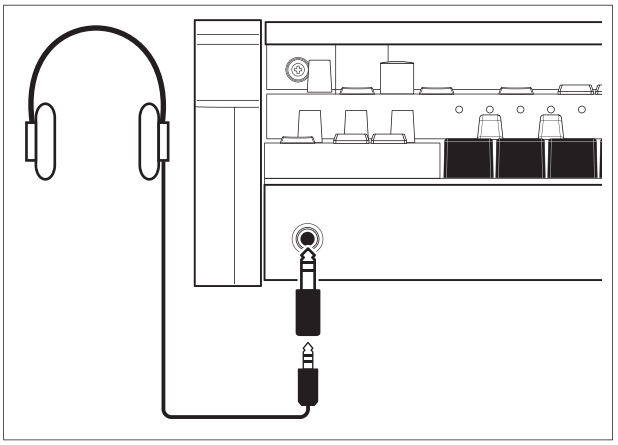
MAKING THE CONNECTIONS

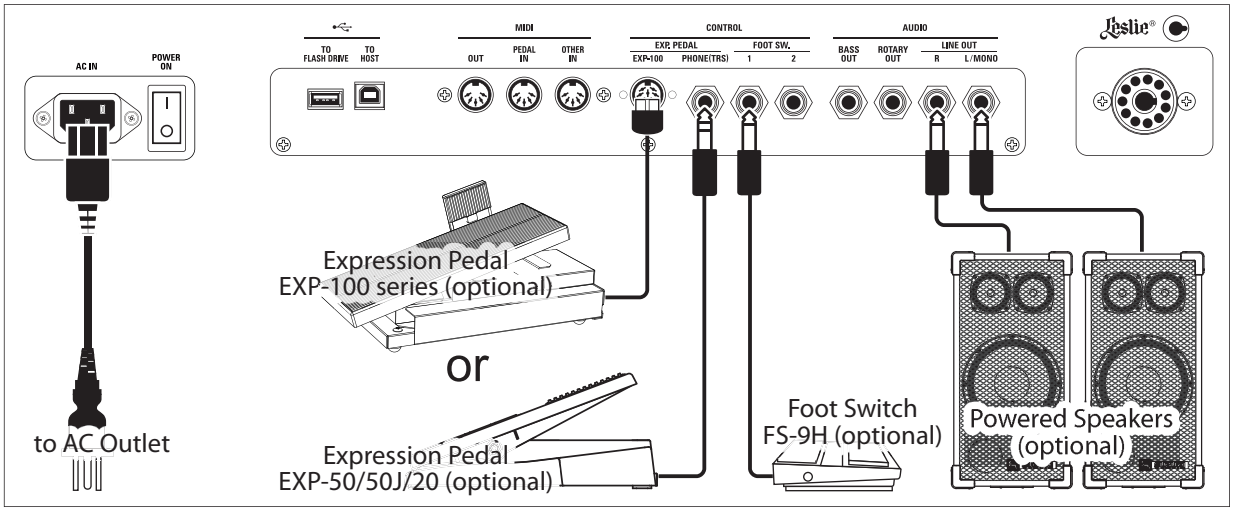
BASIC CONNECTIONS

Connect audio cables and accessories as shown below.

This organ is not self-contained - an external amplifier/speaker system is required in order to hear the sound. However, if you connect a set of stereo headphones to the [PHONES] jack, you can hear the sound through the headphones even if an external amplifier is not connected.

NOTE: Be sure that both the instrument and amplifier are "OFF" before connecting amplifiers or headphones.





NOTE: The Expression Pedal and Foot Switch Parameters must be set properly. This is explained in more detail starting on page 130.

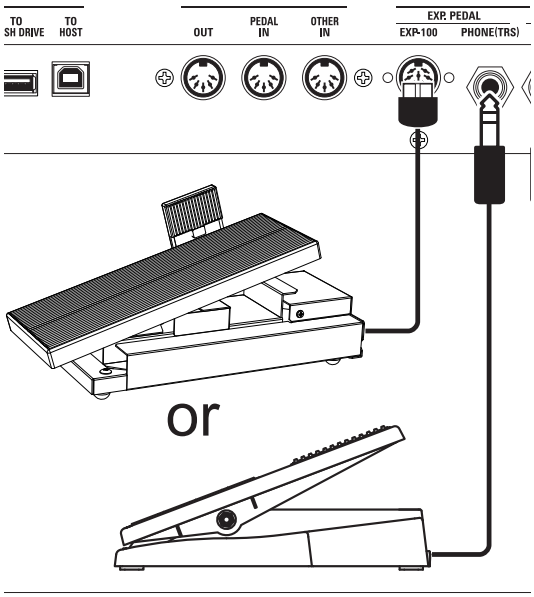
⚠ CAUTION

This instrument draws a slight amount of power even if the [POWER] switch is "○" (OFF). Therefore, if the instrument will not be used for a long period of time, disconnect the AC plug from the outlet.

Do not place this instrument in direct sun light, near heat sources, or in a hot location.

This page explains how to connect and set the Controllers.
Please refer to "FUNCTION MODE" (P. 74) for operation in the Display.

EXPRESSION PEDAL



HOOK-UP

1. Insert the plug of the Expression Pedal into the [EXP-100] jack (for EXP-100 series), or [PHONE (TRS)] jack (for EXP-50/50J/20).

SETTING FOR EXPRESSION

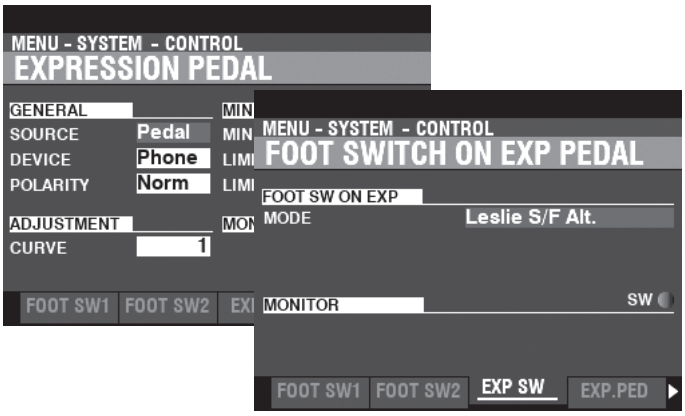
2. Locate the [MENU] - **SYSTEM** - **CONTROL** - **EXPRESSION PEDAL** (P. 132).
3. Set the SOURCE at "Pedal" or "Both."
4. Set the DEVICE for the connected device.
   EXP-100 .....via **EXP-100 jack**
   PHONE.....via **PHONE (TRS) jack**
5. If the device is connected to the [PHONE (TRS)] jack, set the POLARITY according to the polarity of the device you are using.
   HAMMOND ...EXP-50/50J/20, V-20H, V-20R; **Norm**
   KORG.....XVP-10, XVP-20; **Rev**
   Roland.....EV-5; **Norm**
   YAMAHA.....FC7; **Rev**

SETTING FOR FOOT SWITCH (EXP-100F)

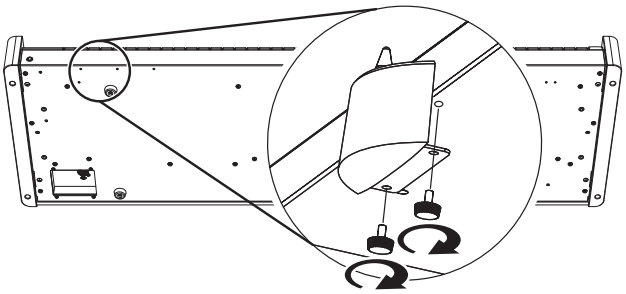
6. Locate the [MENU] - **SYSTEM** - **CONTROL** - **FOOT SWITCH ON EXP PEDAL** (P. 130).
7. Set the MODE at the desired function.

RECORDING

8. Record the above setting by pressing the [RECORD] button. (P. 142)



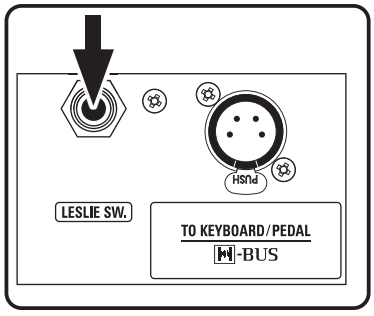
LESLIE SWITCH



Attaching the Leslie Switch CU-1 (sold separately)

HOOK-UP

1. Attach the Leslie Switch (see the illustration on the left).
2. Insert the plug of the Leslie Switch into the [LESLIE SWITCH] jack.

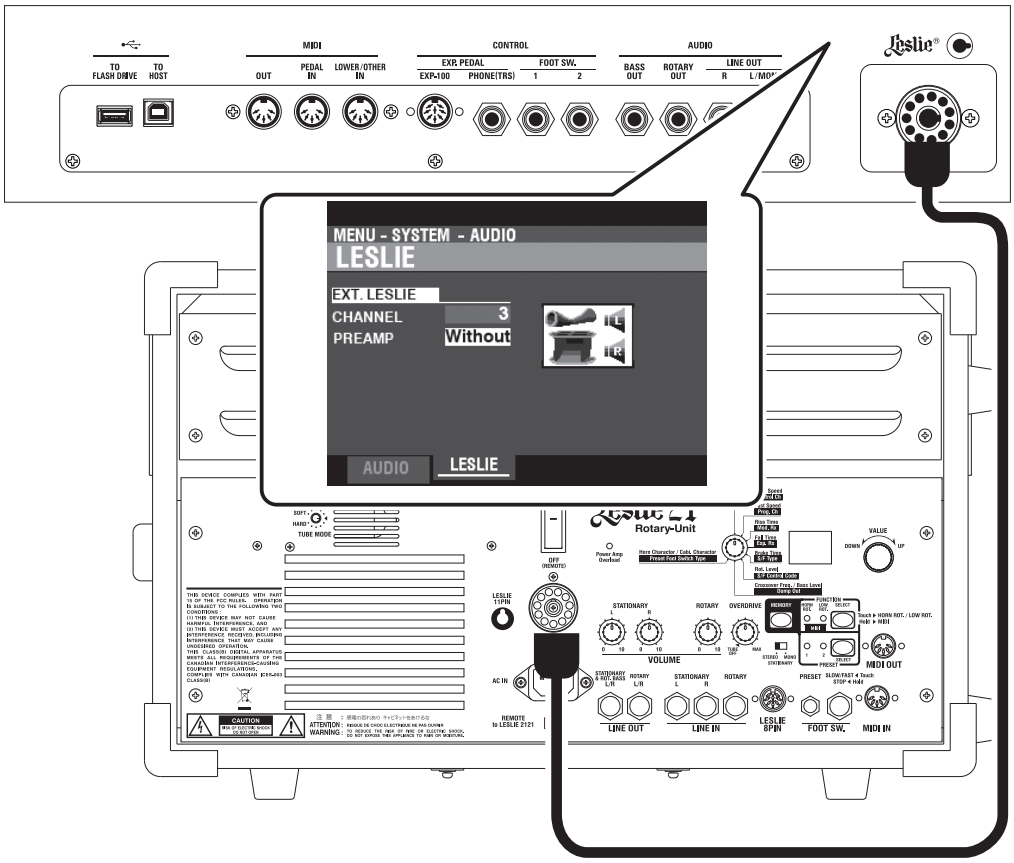


CONNECTING A LESLIE SPEAKER

An 11-pin Leslie Speaker can be directly connected to the organ.
See “FUNCTION Mode” (P. 74) for operation details.

3 CHANNEL LESLIE SPEAKER

Applicable Leslie models: 2101/mk2 etc.



HOOK-UP

1. Turn the power “OFF” to all the equipment.
2. Connect the Leslie speaker and the Leslie® socket on the organ with the exclusive 11-pin Leslie cable (not included).
3. Turn the power to the organ “ON.”
   The Leslie Speaker also turns on automatically.

SETTING AND RECORDING

4. Locate the [MENU] - **SYSTEM** - **AUDIO** - **LESLIE** (P. 129).
5. Set the CHANNEL at “3.”
6. Set the “w/PREAMP” Parameter at “Without.”
7. Record the above setting by pressing the [RECORD] button.

ADJUSTMENT

8. Make sure the “TW” Organ Type is selected; e.g. Patch “F00.”
9. Turn the [BYPASS] button “OFF” (LED not lit) and set the [ROTARY VOLUME] of the 2101/mk2 at the desired level.
10. Turn the [BYPASS] button “ON” and “OFF” repeatedly while playing the organ and adjust the STATIONARY VOLUME [L] and [R] of the 2101/mk2 at the same audible volume level as the ROTARY level.

NOTE: The XK-7 / XK-7D cannot control the Leslie Speaker Parameters (Slow & Fast Speeds, Rise and Fall Times, etc.) of a 2101-series Leslie via MIDI commands.

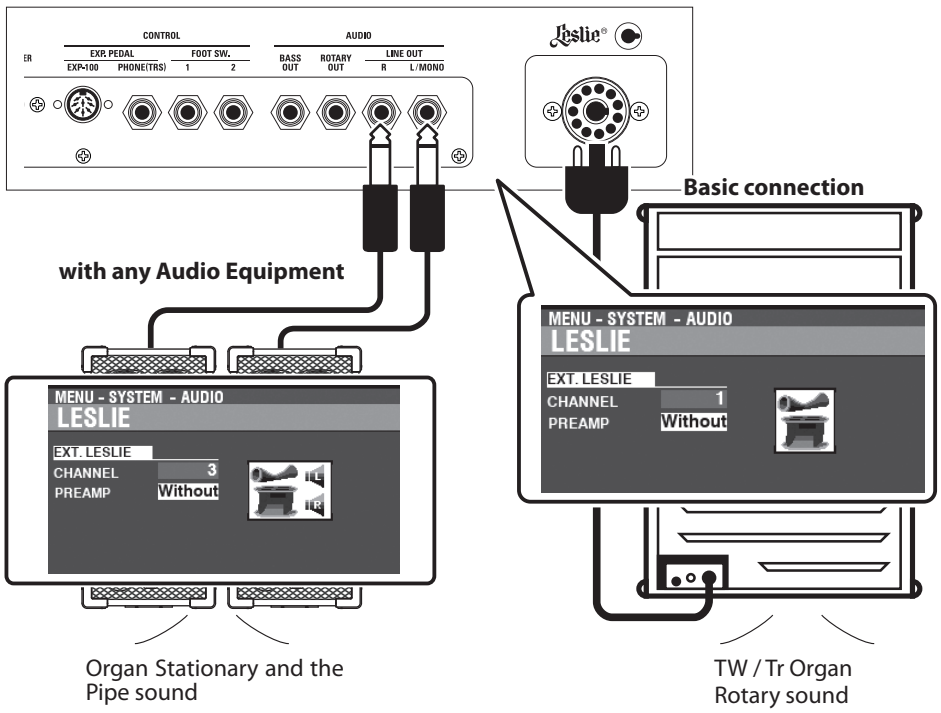
tips **LESLIE CHANNEL**

3-channel Leslie Speakers are equipped with a stereo speaker system, independent of the rotor, to provide “dry” or direct organ sounds.

A traditional single-channel Leslie Speaker, such as a #122 or #147 has no stationary speaker system, requiring a separate amplifier/speaker for the direct organ sounds.

SINGLE-CHANNEL LESLIE SPEAKER

Applicable Leslie models: 122XB, 122H, 981, 3300, 3500 or 991



HOOK-UP

1. Turn the power "OFF" to all the equipment.
2. Connect the Leslie speaker and the Leslie® socket on the organ with the exclusive 11-pin Leslie cable (not included).
3. If you are using the other audio equipment e.g. powered speaker system for a Stationary channel, connect between its input and the LINE OUT jacks of the organ.
4. Turn the power to the organ "ON."

   Turn the power to the Leslie Speaker "ON" if needed, as well as any external audio equipment you are using.

SETTING AND RECORDING

5. Locate the [MENU] - **SYSTEM** - **AUDIO** - **LESLIE** (P. 128).
6. Set the CHANNEL.
   - **1**.....Use with Leslie Speaker only.
   - **3**.....Use with Leslie Speaker with audio equipment.
7. Set the "W/PREAMP" Parameter.
   - **With**.....122H, 142H
   - **Without**.....Other Leslie Speaker models.
8. Record the above setting by pressing the [RECORD] button.

ADJUSTMENT (WITH AUDIO EQUIPMENT)

9. Make sure the "TW" Organ Type is selected; e.g. Patch "F00."
10. Turn the [BYPASS] button "OFF" (LED not lit) and set the [VOLUME] of the Leslie Speaker at the desired level.
11. Turn the [BYPASS] button "ON" and "OFF" repeatedly while playing the organ and adjust the audio equipment at the same audible volume levels for both settings.

tips **W/ PREAMP**

Both "Preamp" in the organ and the Leslie 122H / 142H have a function or circuit which replicates the preamplifier of a vintage organ B-3/C-3.

To avoid "doubling" of this effect, set the "w/ PREAMP" Parameter in the "PREAMP" FUNCTION Mode Page of the organ to "With" when connecting to a Heritage series Leslie Speaker (122H, 142H) (P. 128).

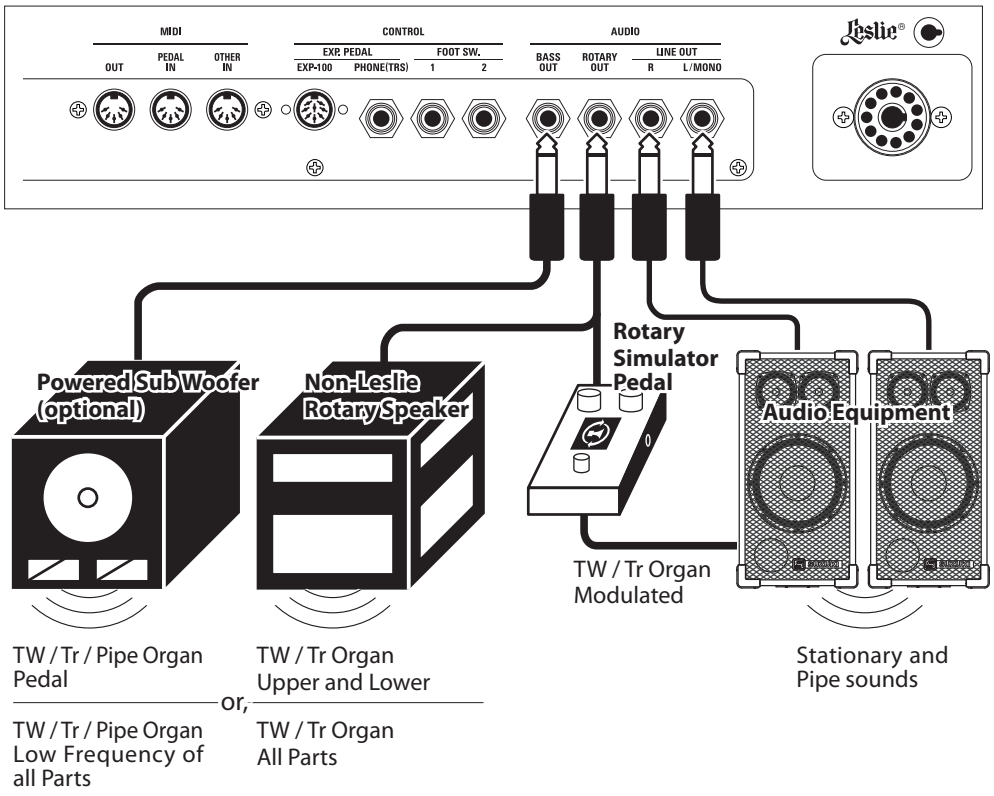
tips **REMOTE POWER SWITCH**

Depending on the model and settings, some Leslie Speakers will work in conjunction with the organ's power switch, while others will not.

This comes from the fact that in the past, power for the Tone Cabinet was supplied from the organ.

For details, please read the instruction manual for the Leslie Speaker you are connecting.

CONNECTING EXTERNAL AUDIO EQUIPMENT



ROTARY OUT jack

Use the [ROTARY OUT] jack if you want to output a "dry" organ signal without the inbuilt digital Leslie.

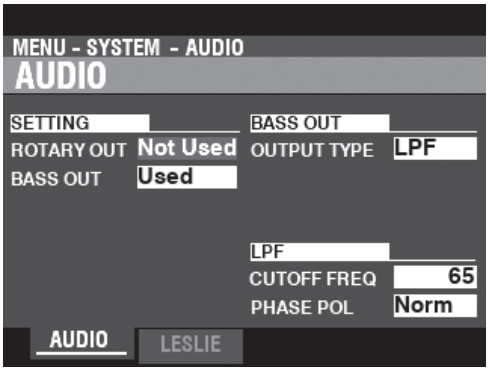
NOTE: Set the "ROTARY OUT" switch in the AUDIO FUNCTION Mode at "Used" when using this jack to mute the ORGAN Section from the [LINE OUT] jacks. See page 128 for more details.

BASS OUT jack

This jack outputs the PEDAL Part or bass sound.

Connect the [BASS OUT] jack to a powered sub-woofer if you want to reinforce the bass or bypass the Leslie for the PEDAL Part.

NOTE: Set the "BASS OUT" at "Used" and the "OUTPUT TYPE" at "Pedal" in the AUDIO FUNCTION Mode when using this jack to mute the PEDAL Part from the LINE OUT [L/MONO] [R] jacks, [ROTARY OUT] jack or Leslie® socket. See page 128 for more details.

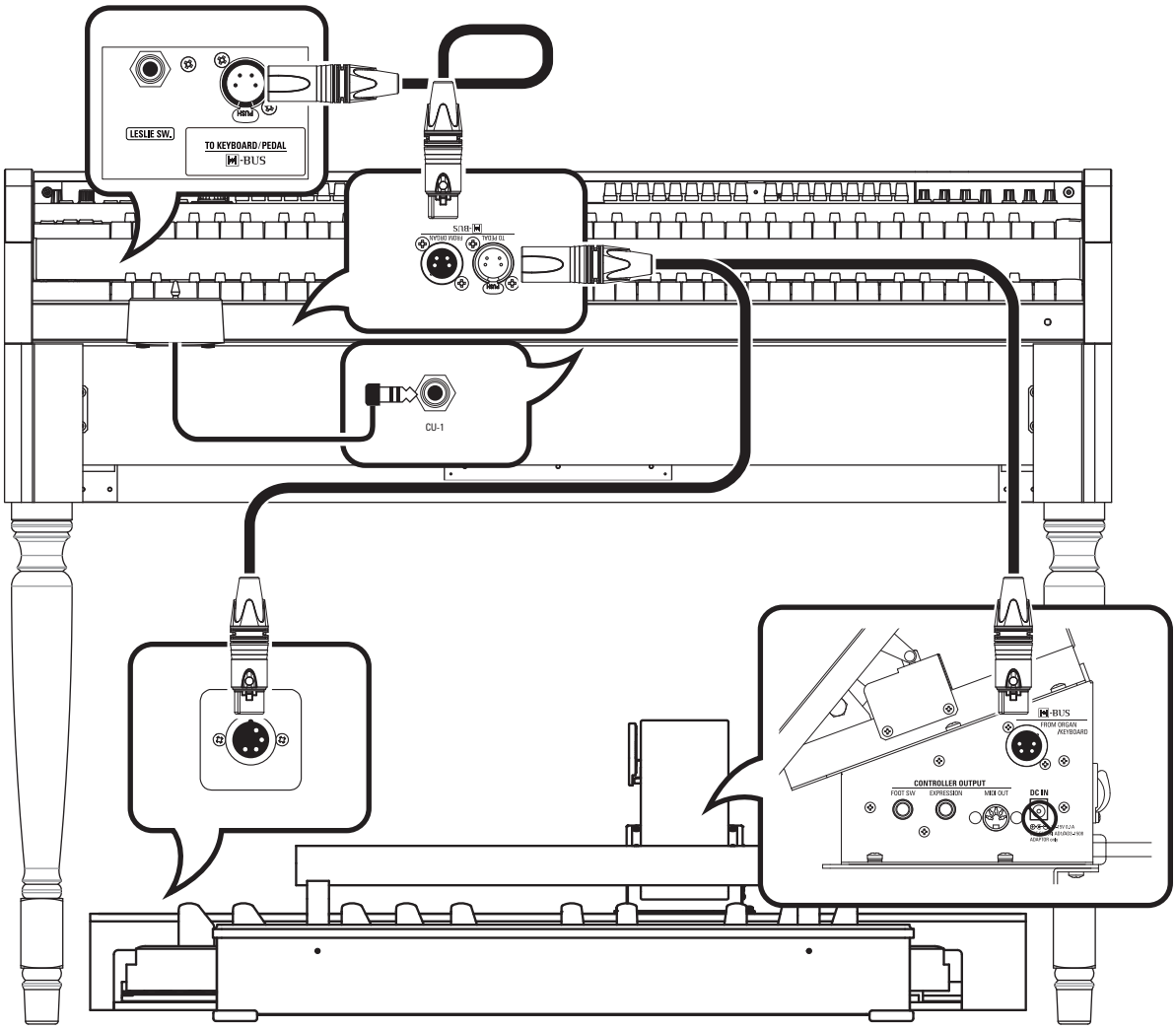


This instrument can be upgraded to 2 or 3 Keyboards by connecting an external Keyboard and pedalboard.

3 KEYBOARDS (WITH H-BUS)

Compatible models:

- Lower Keyboard XLK-5
- Pedalboards XPK-250W or mk2, XPK-250W mk3



HOOK-UP

1. Connect as illustrated above.

   NOTE: This illustration shows only the Keyboard expansion. See P. 18 for the basic hook-up of the power supply, audio, etc.

2. Turn the power to the organ "ON."

Refer to the Owner's Manual of the connected equipment as required.

NOTE: Due to the difference in the XLK-5 keyboard mechanism, the playing feel and sounding points are different between the XLK-5 and the XK-7.

tips **EXPANDED KEYBOARD AND V.M.C.**

The full operation of the Virtual Multi-Contacts can be realized only on the internal Keyboard(s) or the XPK-250W mk3.

If the external Keyboards are connected via H-BUS or MIDI, the instrument sounds methods as shown below:

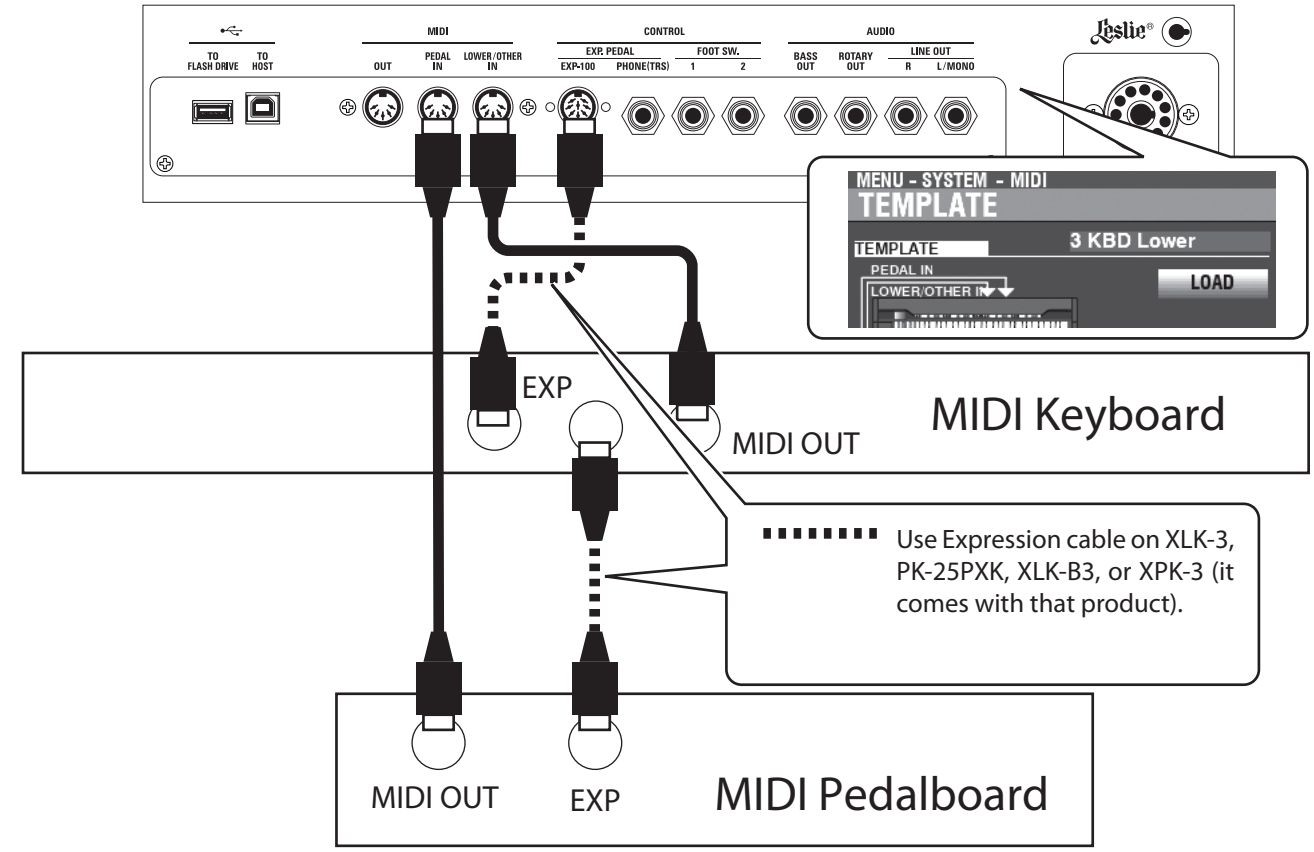
XLK-5.....Sounding via Custom Contacts (adapted 3 physical contacts).

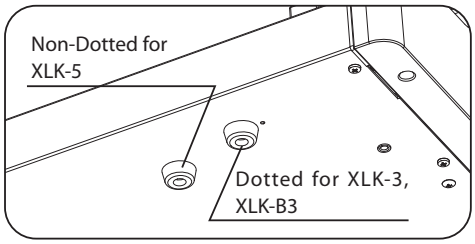
XPK-250W or mk2
.....Sounds via Custom Contacts (triggering all the virtual contacts by a physical contact).

XPK-250W mk3
.....Sounds via Custom Contacts (adapted 3 physical contacts).

MIDI.....Sounding via a delay with corresponding velocity data.

3 KEYBOARDS (WITH MIDI KEYBOARDS)





To place this unit correctly, align the rubber feet on the bottom panel to match the MIDI Keyboard (Lower Keyboard).

Use a Phillips #2 screwdriver to attach the rubber feet.

HOOK-UP

1. Connect as illustrated above.

NOTE: This illustration shows only the Keyboard expansion. See P. 18 for the basic hook up of the power source, audio, etc.

SETTING AND RECORDING

2. Turn the power to the organ "ON," and recall the "3 KBD Lower" MIDI Template for MIDI Keyboard as LOWER, or "3KBD Upper" for the MIDI Keyboard as UPPER (P. 154).
3. Record the above setting by pressing the [RECORD] button (P. 142).

   Refer to the Owner's Manual of the MIDI Keyboards as required.

◆ COMPATIBLE MIDI KEYBOARDS

Compatible HAMMOND MIDI Keyboards and Pedalboards, including legacy models, are shown below:

Lower Keyboard... XLK-3, XLK-B3

Pedalboard..... XPK-130G, XPK-200G, XPK-200GL, PK-25PXK, XPK-100, XPK-200, XPK-200L

tips **HOW DOES THIS ORGAN HANDLE MIDI KEYBOARDS?**

If a MIDI Template other than "Basic" such as "3 KBD Lower" is recalled, a connected MIDI Keyboard will work as a "local" Keyboard of the system.

All performance data from the connected Keyboard will be transmitted from its MIDI OUT port.

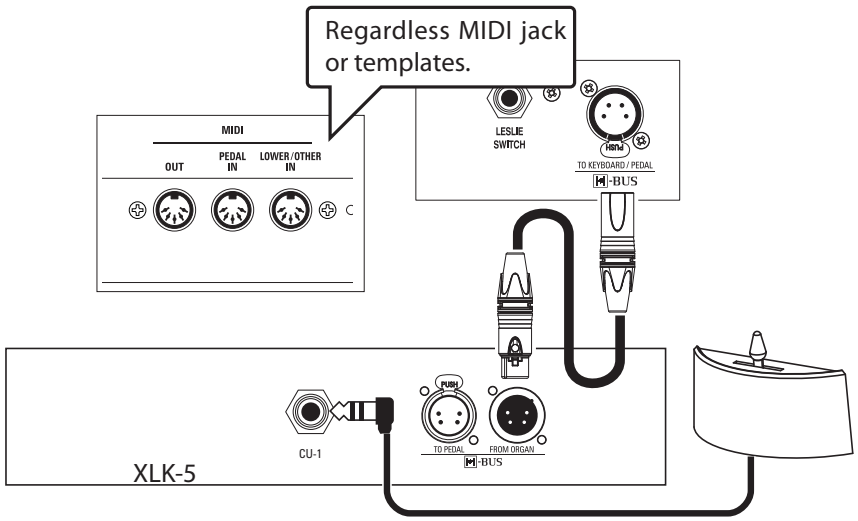
tips **MIDI KEYBOARD EXPANSION AND VIRTUAL MULTI-CONTACTS**

If a MIDI Template other than "Basic" such as "3 KBD Lower" is recalled, a connected MIDI Keyboard will transmit Note data via Velocity Multi-Contact (P. 155), regardless of the setting of the Sounding Point (P. 137).

2 MANUALS (WITH H-BUS)

Compatible models:

- Lower Keyboard XLK-5



Playing the UPPER Part on the Keyboard of the organ and the LOWER and PEDAL Parts using an XLK-5 as a LOWER Keyboard (using the PEDAL TO LOWER feature).

HOOK-UP

1. Connect as illustrated above.

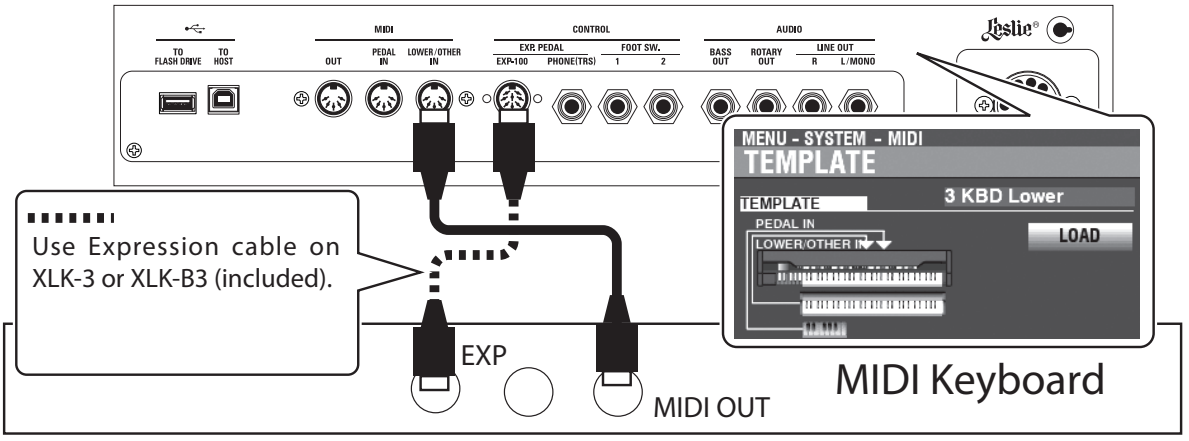
   NOTE: This illustration shows only the Keyboard expansion. See P. 18 for the basic hook up of the power source, audio, etc.

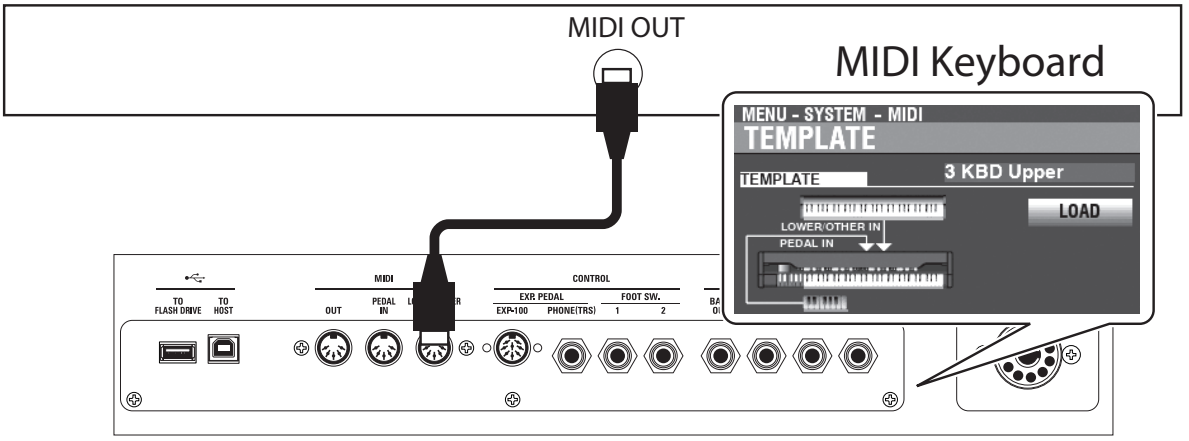
2. Turn the power to the organ "ON."

   Refer to the Owner's Manual of the connected equipment as required.

   NOTE: Due to the difference in the XLK-5 keyboard mechanism, the playing feel and sounding points are different between the XLK-5 and the XK-7.

2 MANUALS (WITH MIDI KEYBOARD)





This system can be allocated in 2 ways:

- Playing the UPPER Part on the Keyboard of the organ and the LOWER and PEDAL Parts using a MIDI Keyboard (using the PEDAL TO LOWER feature).
- Playing the UPPER Part using a MIDI Keyboard and the LOWER and PEDAL Parts on the Keyboard of the organ (using the PEDAL TO LOWER feature).

HOOK-UP

1. Connect as illustrated above.

   NOTE: This illustration shows only the Keyboard expansion. See P. 18 for the basic hook-up of the power source, audio, etc.

SETTING AND RECORDING

2. Turn the power to the organ "ON," and recall the
   - "3KBD Lower" MIDI Template for the MIDI Keyboard as LOWER, or
   - "3KBD Upper" MIDI Template for the MIDI Keyboard as UPPER (P. 154).
3. Record the above setting by pressing the [RECORD] button (P. 142).

   Refer to the Owner's Manual of the connected equipment as required.

◆ COMPATIBLE MIDI KEYBOARDS

Compatible HAMMOND MIDI Keyboards, including legacy models, are shown below:

Lower Keyboard... XLK-3, XLK-B3

tips **HOW DOES THIS ORGAN HANDLE MIDI KEYBOARDS?**

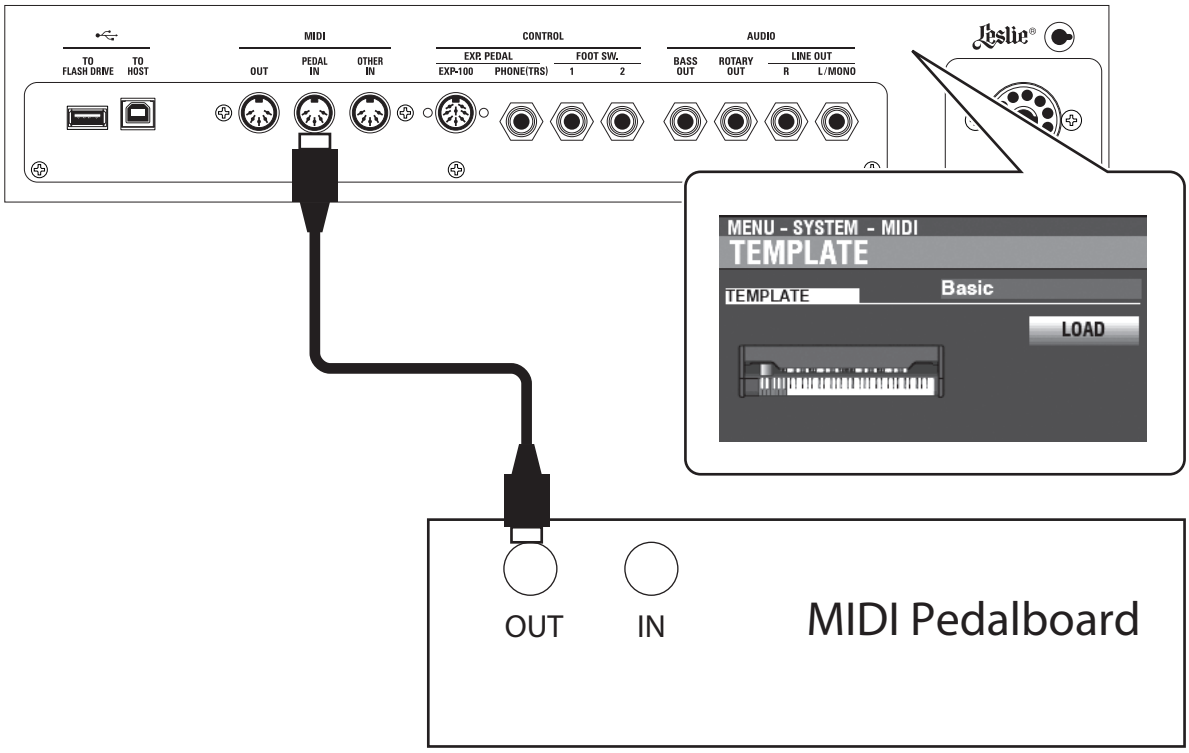
If a MIDI Template other than "Basic" such as "3 KBD Lower" is recalled, a connected MIDI Keyboard will work as a "local" Keyboard of the system.

All performance data from the connected Keyboard will be transmitted from its MIDI OUT port.

tips **MIDI KEYBOARD EXPANSION AND VIRTUAL MULTI-CONTACTS**

If a MIDI Template other than "Basic" such as "3 KBD Lower" is recalled, a connected MIDI Keyboard will transmit Note data via Velocity Multi-Contact (P. 155), regardless of the setting of the Sounding Point (P. 137).

1 MANUAL + PEDALBOARD (WITH MIDI PEDALBOARD)



Playing the UPPER and LOWER Parts on the Keyboard of the organ (using the Split feature) and the PEDAL Part using a MIDI Pedalboard.

HOOK-UP

1. Connect as illustrated above.

   NOTE: This illustration shows only the Keyboard expansion. See P. 18 for the basic hook-up of the power source, audio, etc.

SETTING AND RECORDING

2. Turn the power to the organ "ON," and recall the "Basic" MIDI Template (P. 154).
3. Record the above setting by pressing the [RECORD] button (P. 142).

   Refer to the Owner's Manual of the MIDI Pedalboards you are using as required.

◆ COMPATIBLE MIDI PEDALBOARDS

Compatible HAMMOND MIDI Pedalboards, including legacy models, are shown below:

Pedalboard..... XPK-130G, XPK-200G, XPK-200GL, PK-25PXK, XPK-100, XPK-200, XPK-200L

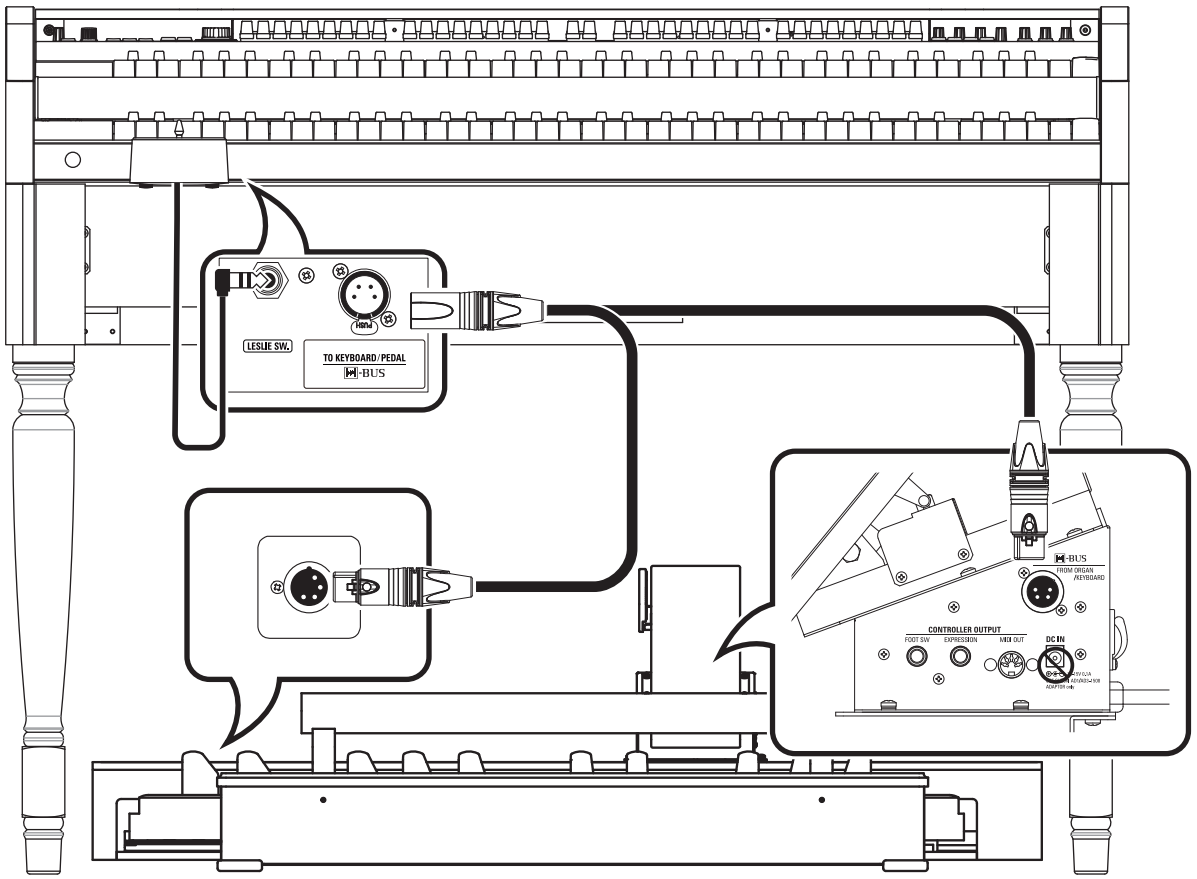
CONNECTING A PEDALBOARD: XK-7D

The XK-7D can be upgraded to 3 Keyboards by connecting an external pedalboard.

3 KEYBOARDS (WITH H-BUS)

Compatible models:

- Pedalboard XPK-250W or mk2, XPK-250W mk3



HOOK-UP

1. Connect as illustrated above.

   NOTE: This illustration shows only the Keyboard expansion. See P. 18 for the basic hook-up of the power supply, audio, etc.

2. Turn the power to the organ "ON."

   Refer to the Owner's Manual of the Pedalboard as required.

tips **EXPANDED KEYBOARD AND V.M.C.**

On the XK-7D, the full operation of the Virtual Multi-Contacts can be realized only on the internal Keyboard(s) or the XPK-250W mk3.

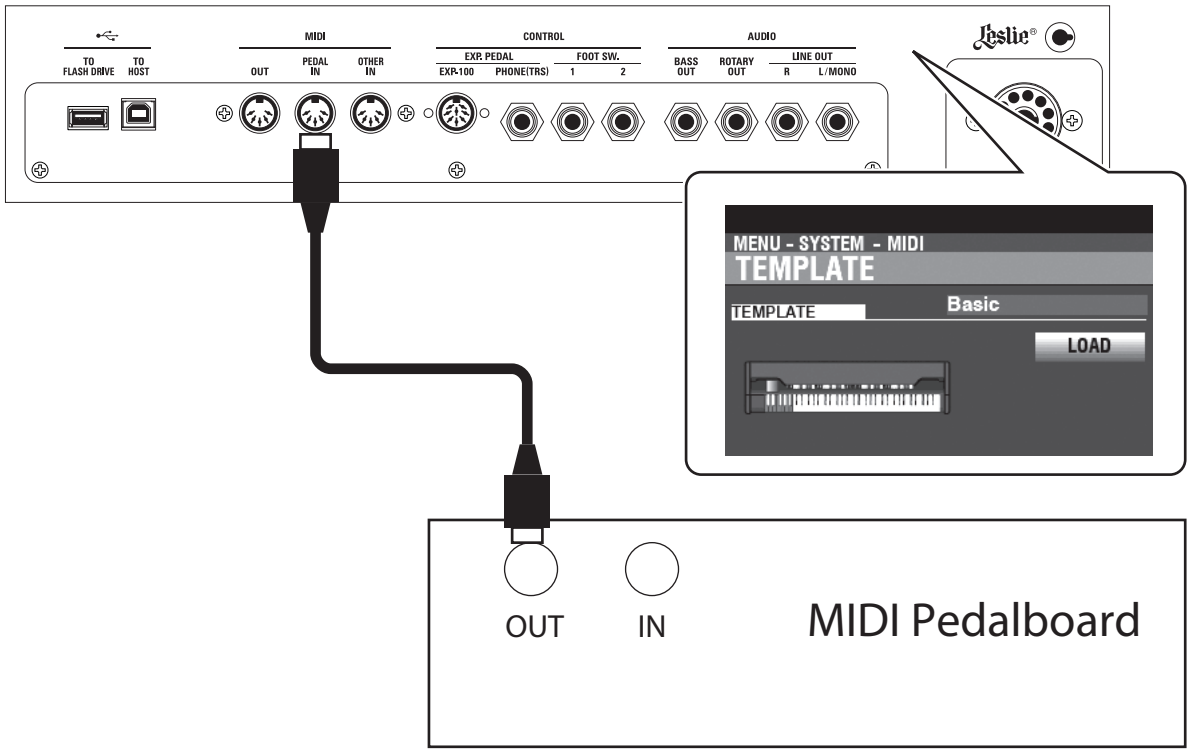
If the external Keyboards are connected via H-BUS or MIDI, the instrument sounds as shown below:

XPK-250W or mk2
.....Sounds via Custom Contacts (triggering all the virtual contacts by a physical contact).

XPK-250W mk3
.....Sounds via Custom Contacts (adapted 3 physical contacts).

MIDI.....Sounding via a delay with corresponding velocity data.

3 KEYBOARDS (WITH MIDI PEDALBOARD)



HOOK-UP

1. Connect as illustrated above.

   NOTE: This illustration shows only the Keyboard expansion See P. 18 for the basic hook-up of the power source, audio, etc.

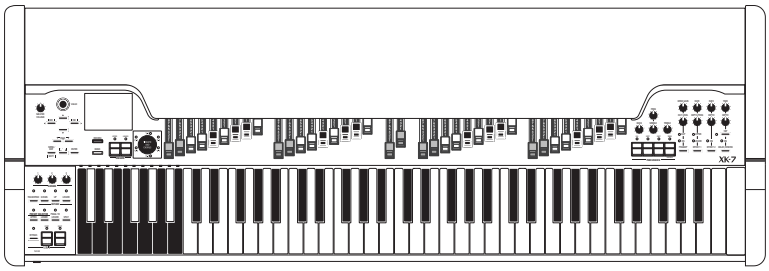
SETTING AND RECORDING

2. Turn the power to the organ "ON," and recall the "Basic" MIDI Template (P. 154).
3. Record the above setting by pressing the [RECORD] button (P. 142).
   Refer to the Owner's Manual of the MIDI Pedalboard as required.

◆ COMPATIBLE MIDI KEYBOARDS

Compatible HAMMOND MIDI Pedalboards, including legacy models, are shown below:

Pedalboard..... XPK-130G, XPK-200G, XPK-200GL, PK-25PXK, XPK-100, XPK-200, XPK-200L



TURN ON AND PLAY

HOW TO POWER ON

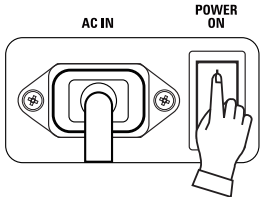
After making the connections described on the previous pages, you are ready to turn the XK-7 / XK-7D power "ON." Follow the procedure below to prevent malfunction or damage.

POWER ON PROCEDURE

① PREPARE THE ORGAN

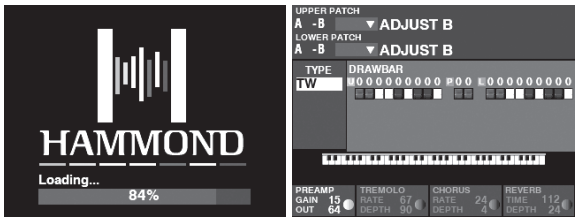
Set the [MASTER VOLUME] knob to its minimum setting.

② POWER ON THE ORGAN



The [POWER] switch is located on the right side of the Accessory Panel facing the organ. Turn the power to the organ "|" (ON).

NOTE: Do not press Foot Switches in this step. The organ detects the correct polarity setting for connected Foot Switches automatically.



The Display will show, "Loading..." in the lower portion of the opening screen for approximately 20 seconds while the system software loads, then the PLAY Mode screen will display.

NOTE: If you have a Leslie Speaker connected to the instrument via the Leslie® 11-pin socket, the Leslie can be turned "ON" automatically.

③ POWER ON AUDIO EQUIPMENT

If you are connected to an external amplifier, turn its power "ON."

④ ADJUST VOLUME

Hold down a playing key and turn the [MASTER VOLUME] clockwise slowly. Adjust the [MASTER VOLUME] and the volume of the amplifier as needed.

NOTE: If the [A♯] or [B] Preset Key is pressed in the Default setting and no Drawbars are pulled out, no sound will be heard. You can select any of the [C] to [A] Preset Keys to hear sounds.

HOW TO POWER OFF

To turn the XK-7 / XK-7D power "OFF," reverse the above procedure.

1. Turn the power to a connected amplifier "OFF."
2. Turn the power to the organ "○" (OFF).
   This will prevent a loud "pop" from the amplifier.

POWER ON STATE

The XK-7 / XK-7D does not remember the status of the playing controls before the power is turned "OFF."

When the power is "ON," the [A] Preset Bank and [B] Preset Key (or [C] Preset Bank and [C] Preset Key if the FAVORITE Switch Parameter is "On") are selected (P. 140).

AUTO POWER OFF

The XK-7 / XK-7D has an "AUTO POWER OFF" feature which will automatically turn the power to the instrument "OFF" if no keys or buttons are pressed for 20 minutes.

See page 139 "GLOBAL" for instructions on enabling or disabling AUTO POWER OFF.

NOTE: Disabling the AUTO POWER OFF may consume more power.

NOTE: If the power is turned "OFF," any unsaved setting is lost. Before the power turns off, press [RECORD] to record a setting that you want to keep.

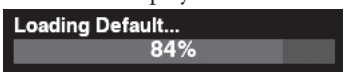
NOTE: Turn the [POWER] switch "ON" to use the organ again after it has turned "OFF" automatically.

RESTORING THE FACTORY SETTINGS

To reset all Parameters of the XK-7 / XK-7D to their default settings, do the following:

1. Turn the power to the XK-7 / XK-7D "OFF."
2. Press and Hold the red [RECORD] button.
3. While holding the red [RECORD] button, turn the [POWER] switch "ON."
4. Continue to hold down the red [RECORD] button.

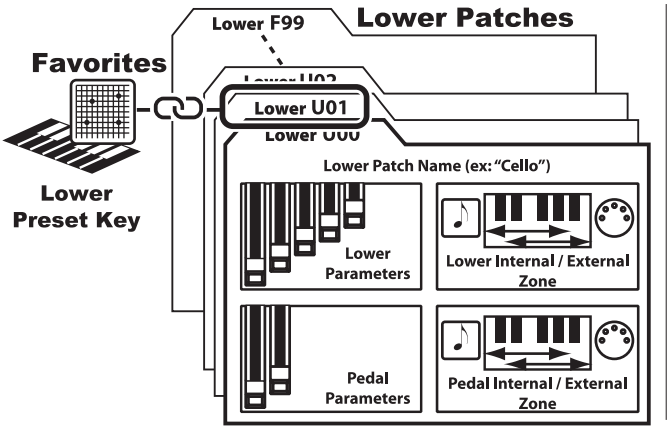
   When the Display shows:

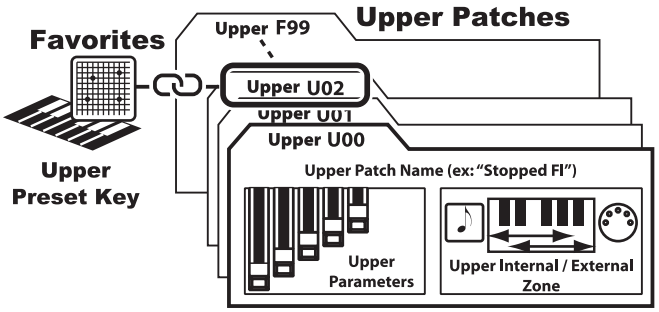


   release the red [RECORD] button. The system will load.
5. When the PLAY Mode is displayed, the factory settings have been restored.

STRUCTURE OF THE ORGAN

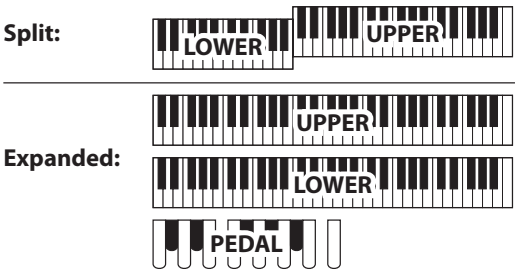
The illustration below shows the structure of the Keyboards and memory.





KEYBOARDS AND PARTS

KEYBOARDS



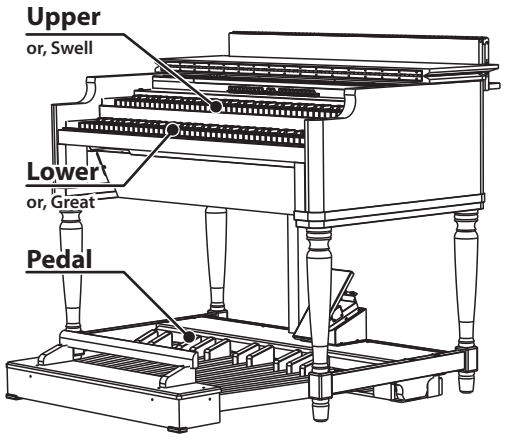
The Parts of the XK-7 can be played using the SPLIT feature or adding Keyboards.

When SPLIT is active, the Keyboard is divided into UPPER (right portion), LOWER (left portion) and PEDAL (a connected MIDI Pedalboard or the lower portion of the Keyboard when PEDAL TO LOWER is active).

PARTS

The word "Part," as used in this Manual, denotes a Keyboard or Pedal division. This instrument has 3 Parts - UPPER, LOWER and PEDAL - to replicate the performance of a classic Hammond Organ with two manuals and pedals.

On this instrument, "Keyboard" and "Part" are used to denote that there are certain features which affect the connection between a Keyboard and the internal sound engine.



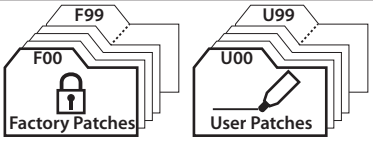
MEMORY

PATCHES

A **Patch** (above illustration) is the basic memory unit of this instrument. A Patch contains:

- Organ settings (Organ Type, Drawbar Registration...)
- Internal Zone (Split, Octave...)
- External Zones (MIDI Channel, Program...)
- Effects (Vibrato, Preamp, Leslie...)

FACTORY AND USER



The Patches are grouped in two ways. "F" (Factory) Patches are set at the factory and cannot be changed. "U" (User) Patches can be changed by the player.

There are 100 Factory and 100 User Patches (F00 – F99, U00 – U99).

The User ("U") Patches are pre-programmed from the factory with the same settings as the Factory ("F") Patches (P. 172).

FAVORITES

By using the [BANK] button, the reverse-color Preset Keys on the left side of the Keyboard can recall 10 Banks of 10 Patches for each Bank, making a total of 100 Patches. 10 Keys = 100 Patches from "C-C"(U00) to "A-A"(U99).

However, there may be occasions where you will want to recall Patches from different Preset Banks. The "FAVORITE" feature allows you to do this (P. 140).

"Patches" are the basic memory units of this instrument. This is explained in detail starting below.

WHAT IS A "PATCH"?

The various sounds and Parameter settings of the instrument are grouped into units called Patches (P. 34).

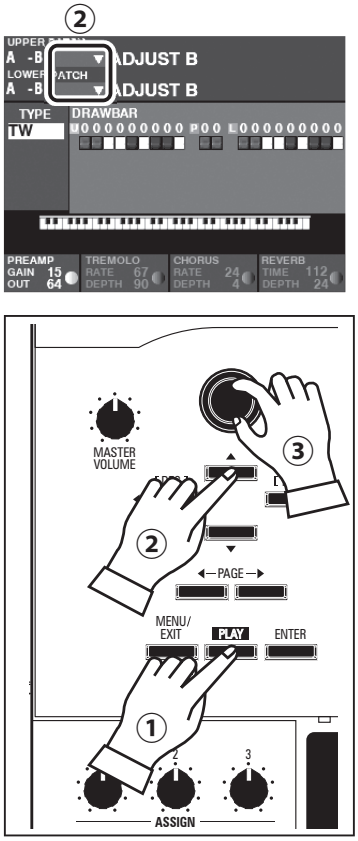
There are 100 Factory (F00 – F99) and 100 User (U00 – U99) Patches, making a total of 200 Patches.

NOTE: The User ("U") Patches are pre-programmed from the factory with the same settings as the Factory ("F") Patches (P. 172).

SELECT A PATCH

USING THE [VALUE] KNOB

You can use the [VALUE] knob to recall all the Patches. Below are instructions on how to do this.



① LOCATE THE PLAY MODE

If the PLAY Mode is not displaying, press the [PLAY] button to display it.

② MOVE THE CURSOR TO THE PATCH NUMBER

Use the DIRECTION buttons to move the cursor to the Patch Number box (white lettering with blue background) if it is not already highlighted.

NOTE: You can select the Part (P. 34) to recall. Use the DIRECTION [▲] and [▼] buttons to move the cursor between "both UPPER and LOWER" ⇔ "UPPER" ⇔ "LOWER."

NOTE: The "LOWER" Part includes the PEDAL Part.

③ SELECT A PATCH

Use the [VALUE] knob to select a Patch. The Patch will be recalled.

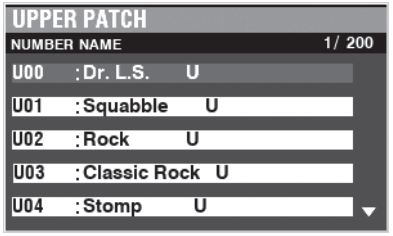
In this way, you can play using various Patches.

A Patch can recall various effects (e.g. Leslie, Reverb, etc.) in addition to Drawbar registrations.

tips **"▼" INDICATES A LIST**

An arrow ("▼") shown to the right of the items in the screen indicates a List Menu is available to select among multiple values or selections.

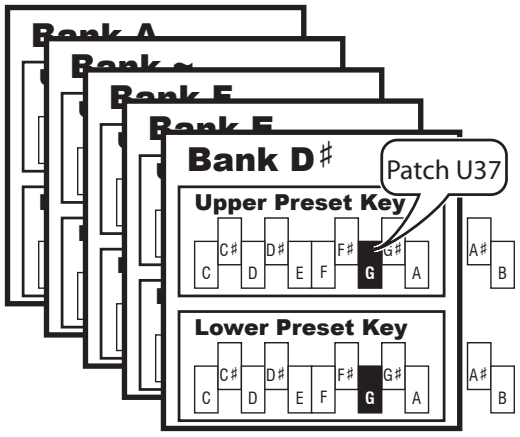
To open a List Window, press the [ENTER] button with the cursor on the "▼" item. Use the [VALUE] knob or the [▲]/[▼] buttons to select the item you want, then press the [ENTER] button. The highlighted item will be selected and the List Window will close.



USING THE PRESET KEYS

Playing with Patches assigned to the Preset Keys is explained starting below.

WHAT ARE "PRESET KEYS"?



Patches are assigned to the Preset Keys. Use the Preset Keys to select Patches quickly (see the illustration on the left).

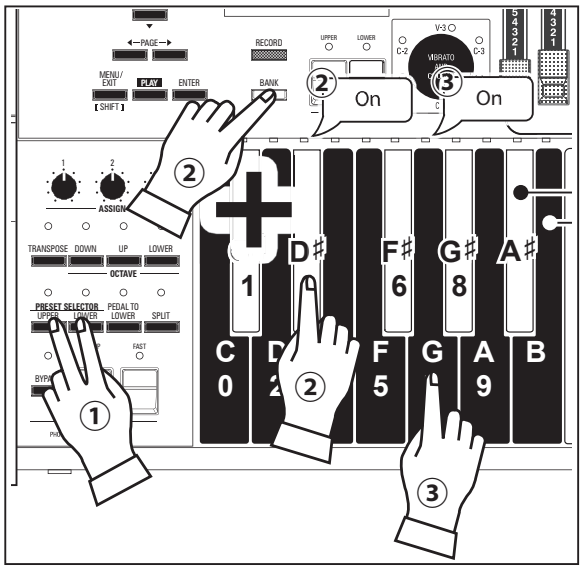
NOTE: The relationship between "Preset Key" and "Patch is explained in "Favorite" (P. 140).

There are 10 "Banks" of Preset Keys. In this Manual, "D♯-G" refers to [D♯] Preset Bank - [G] Preset Key.

The example below shows how to recall the "D♯-G" as shown in the illustration on the left.

RECALL USING THE PRESET KEYS

ex: Recall D♯-G (XK-7)



① SELECT THE PART TO RECALL

Select the Part(s) to recall a Patch by using the PRESET SELECTOR [LOWER] and [UPPER] buttons.

The contents of both LOWER and UPPER Parts will be recalled if both [LOWER] and [UPPER] buttons are "ON."

② SELECT THE BANK

While holding down the [BANK] button, press the [D♯] Preset Key.

NOTE: The LED for the Preset Key indicates the "Bank," while the [BANK] button is pressed. The LED for the UPPER Part will light red and the LED for the LOWER Part will light green.

NOTE: This step can be skipped if you don't wish to change the Bank.

UPPER BANK : D#		
C	U30	PrinciplChors+Mi
C#	U31	Flute Chorus
D	U32	Gamba Celeste
D#	U33	Sesquialtera II
E	U34	Stopped Flute
F	U35	Diapason 8'&4'
F#	U36	Bourdn16'&Prin2'
G	U37	Flutes w/Trem
G#	U38	Haoutbois Solo
A	U39	Sforzando

NOTE: When a Bank is selected, a list of the Patches for each Preset Key (see the above illustration) will be shown and the LEDs on the Preset Keys will flash slowly. You can now proceed to the next step.

③ SELECT THE KEY

Press the [G] Preset Key.

The [G] Preset Key will now recall the Patches from the [D♯] Bank.

NOTE: While the [BANK] button is released, the Preset Key LED indicates the "KEY."

The LED for the UPPER Part will light red and the LED for the LOWER Part will light green.

Try recalling different Preset Banks using this procedure.

From the factory,

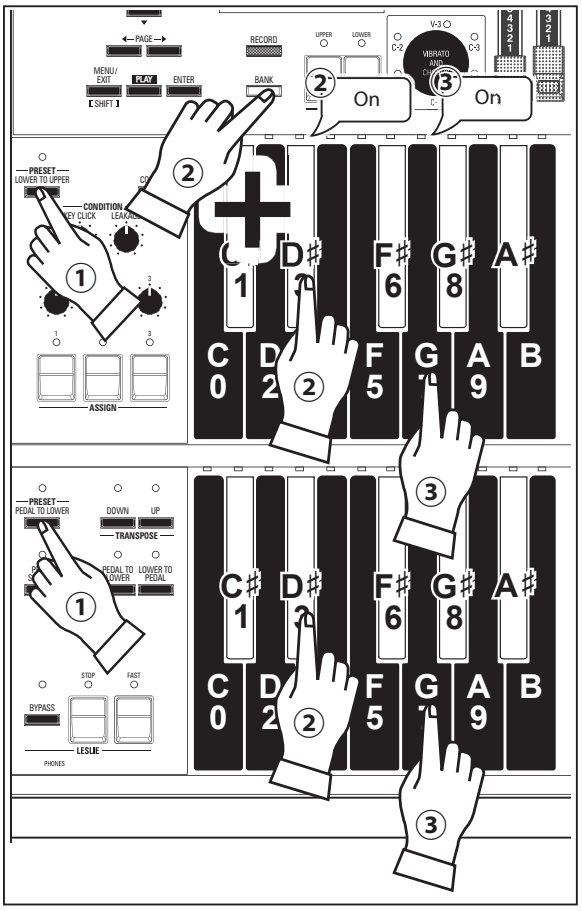
- On Preset Banks [C] through [G], if you recall a Patch, effects such as Leslie, Reverb, etc., will also be recalled in addition to Drawbar registrations.
- The [G♯] and [A] Preset Banks will recall Drawbar registrations only, to replicate the Presets on the B-3/C-3.

NOTE: You can select which Parameters are recalled (P. 138).

NOTE: The sound may be interrupted when certain Presets are recalled.

NOTE: When the XLK-5 is connected, its Preset Keys can be used to recall the LOWER Patches.

ex: Recall D♯-G (XK-7D)



① SELECT THE PART TO RECALL

Normally, Patches are recalled for each Part by the Preset Keys, but, Patches for multiple Parts can be recalled together using the methods below:

PRESET [LOWER TO UPPER] .....for the LOWER Part using the UPPER Preset Keys,

PRESET [PEDAL TO LOWER].....for the PEDAL Part using the LOWER Preset Keys

② SELECT THE BANK

While holding down the [BANK] button, press the [D♯] Preset Key.

NOTE: The LED for the Preset Key indicates the "Bank," while the [BANK] button is touched.

NOTE: This step can be skipped if you don't wish to change the Bank.

UPPER BANK :D#		
C	U30	PrinciplChors+Mi
C#	U31	Flute Chorus
D	U32	Gamba Celeste
D#	U33	Sesquialtera II
E	U34	Stopped Flute
F	U35	Diapason 8'&4'
F#	U36	Bourdn16'&Prin2'
G	U37	Flutes w/Trem
G#	U38	Haoutbois Solo
A	U39	Sforzando

NOTE: When a Bank is selected, a list of the Patches for each Preset Key (see the above illustration) will be shown and the LEDs on the Preset Keys will flash slowly. You can now proceed to the next step.

③ SELECT THE KEY

Press the [G] Preset Key.

The Preset is selected and the setting changes.

NOTE: While the [BANK] button is released, the Preset Key LED indicates the "KEY".

Try recalling different Preset Banks using this procedure.

From the factory,

- On Preset Banks [C] through [G], if you recall a Patch, effects such as Leslie, Reverb, etc., will also be recalled in addition to Drawbar registrations.
- The [G♯] and [A] Preset Banks will recall Drawbar registrations only, to replicate the Presets on the B-3/C-3.

NOTE: You can select which Parameters are recalled (P. 138).

NOTE: The sound may be interrupted when certain Presets are recalled.

tips CANCEL

From the factory, Patch U80 and F80 on the [G#] Bank and Patches U90 and F90 on the [A] Bank are "Cancel" settings with no Drawbar registrations.

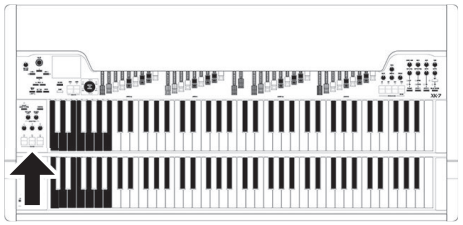
This is done to replicate the [C] Preset Key on the B-3/C-3 which canceled other Preset Keys.

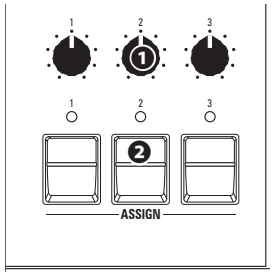
tips ADJUST PRESET

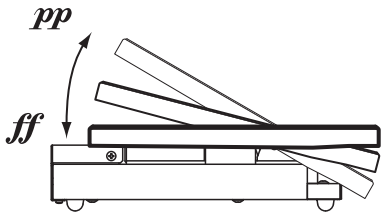
The [A♯] and [B] Preset Keys are called "Adjust Presets." These make all current Control Panel settings active, allowing for real-time registration and the creation of new Patches.

USING CONTROLLERS

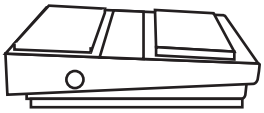
The various Controllers of this instrument are explained in detail starting below.



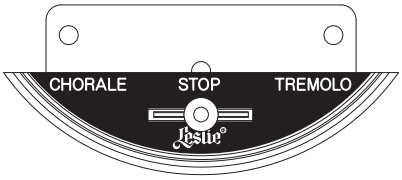




Expression Pedal EXP-50J (optional)



Foot Switch FS-9H (optional)



Leslie Switch CU-1 (optional)

ON-BOARD CONTROLLER

The illustration on the left shows the XK-7D.

❶ ASSIGN knobs (P. 101)

These knobs can be assigned various functions for each individual Patch.

❷ ASSIGN buttons (P. 101)

These buttons can be assigned various functions for each individual Patch.

NOTE: The assignment of the function to the ASSIGN knobs or ASSIGN buttons can be confirmed in the PLAY Mode (ASSIGNs). (P. 70)

NOTE: The XK-7 does not have ASSIGN buttons; however, the OCTAVE buttons can be used as ASSIGN buttons. (P. 134)

EXPRESSION PEDAL

A connected Expression Pedal allows you to control the overall volume and sound quality of the instrument while playing.

Press forward with the front of your foot to increase the volume and back with your heel to decrease the volume.

NOTE: You can adjust the minimum volume of the Expression Pedal (P. 132).

NOTE: You can control the Expression value from an ASSIGN knob (P. 101).

FOOT SWITCH

You can use a Foot Switch (optional) to control various functions - for example, switching Leslie rotor speeds.

NOTE: You can assign a Foot Switch to control various functions (P. 130).

LESLIE SWITCH

This allows you to switch among "SLOW," "STOP" and "FAST" modes of a connected Leslie Speaker or the inbuilt digital Leslie.

This is a high-durability switch for players who switch speeds frequently while playing.

NOTE: This explanation applies to a Leslie Mode Switch. Although there is also a "Leslie Main/Echo Switch" used to control the sounds from multiple Leslie cabinets, the XK-7 / XK-7D support the Leslie Mode Switch only.

The generic term "Leslie Switch" refers to the Mode Switch in most cases.

tips **NAMES OF LESLIE MODES**

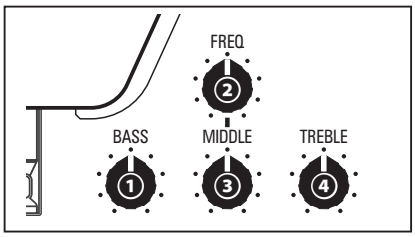
The original Leslie "Vibratone" speaker had only one speed, called "Tremolo" or "FAST" Mode.

Later model Leslie cabinets incorporated two speed modes, called "Chorale" and "Tremolo."

The original names are used on the CU-1 Leslie Switch, but in more recent times "SLOW" is more often used to describe the "Chorale" mode while "FAST" denotes the "Tremolo" mode.

MASTER EQUALIZER

The Master Equalizer allows you to tailor the sound during performance by boosting or cutting certain portions of the frequency spectrum.



❶ BASS

This allows you to adjust the Boost/Cut of the BASS.

The setting range is -9 to +9. In the center position the response is flat.

❷ MIDDLE FREQUENCY

This allows you to adjust the center frequency (Middle) to be attenuated.

The setting range is 125 Hz - 4.0 kHz.

❸ MIDDLE GAIN

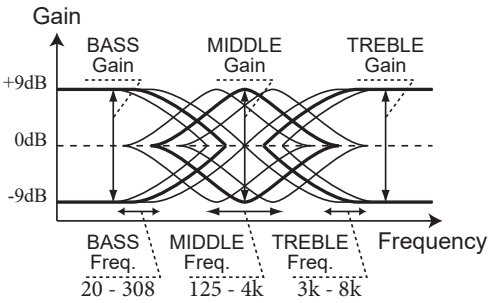
This allows you to adjust the Boost/Cut of the MIDDLE range.

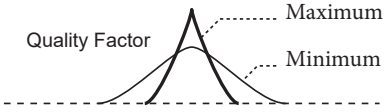
The setting range is -9 to +9. In the center position the response is flat.

❹ TREBLE

This allows you to adjust the Boost/Cut of the TREBLE.

The setting range is -9 to +9. In the center position the response is flat.





NOTE: The sound may distort if gains are raised too high. Adjust accordingly.

NOTE: The settings of these controls are not Recorded as Patch Parameters.

NOTE: You can adjust the corner or "turnover" frequency of the BASS and TREBLE and the "Q" (Quality factor) of the MIDDLE range (P. 127).

tips HERTZ (Hz), KILOHERTZ (kHz)

"Hertz" (Hz) and "Kilohertz" (kHz) are units for measuring the frequency at which a tone sounds. The numbers refer to the number of vibrations ("cycles") per second.

On this organ, middle "A" on the Drawbar 8´ is 440 Hz, and its above octave is 880 Hz.

The 1 kilohertz (kHz) means 1000 hertz (Hz).

tips DECIBEL (dB)

A decibel (dB) is a unit for measuring the intensity of a sound.

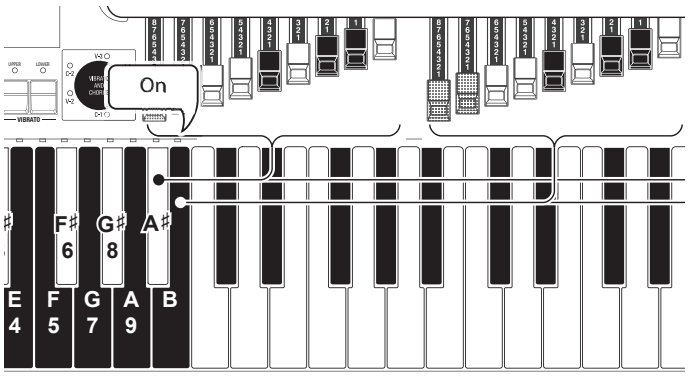
For example, "0 dB" is a reference level, "+6 dB" doubles the sound intensity and "-6 dB" decreases the sound intensity by about 50%.

CREATE YOUR OWN SETTING

The XK-7 / XK-7D can be registered for vintage Hammond Organ, Combo Organ and Pipe Organ sounds.

This example shows you how to register the organ for a classic "Jazz Organ" sound.

SELECT PRESET KEY [B]



Press the [B] Preset Key "ON" (LED lit).

The [A♯] and [B] Preset Keys are also called "Adjust Presets," which makes the applied Drawbars control the registration directly, allowing for real-time registration, and the creation of new Patches.

NOTE: The function of the other knobs and buttons, e.g. ASSIGN or PREAMP is affected by the Parameters of the PATCH LOAD - BANK (P. 138) for the current Bank.

If "On," the values used by the last-recalled [A♯] or [B] Adjust Preset Key will be recalled.

If "Off ," the values will be the current knob settings.

The Adjust Preset feature is useful for creating new Patches from the "ground up," or when making all registration changes manually - playing "on the fly," in other words.

(INFO) INITIALIZE ADJUST PRESET

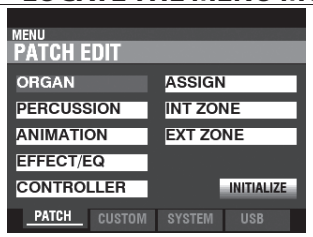
Some internal Parameters may not be set the way you wish even if the [A♯] or [B] Adjust Preset is selected.

If you encounter this, you can initialize all the Patch Parameters in the selected Adjust Preset using the following procedure.

① SELECT THE PRESET KEY TO INITIALIZE

Press the [A♯] or [B] Preset Key "ON" (LED lit) to initialize.

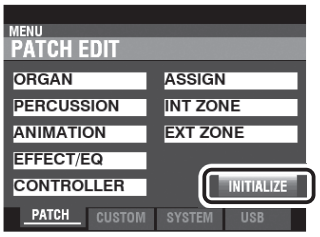
② LOCATE THE MENU MODE



Press the [MENU/EXIT] button to display it.

If the **PATCH EDIT** page does not display, locate this page by using the [◀]-PAGE-[▶] buttons.

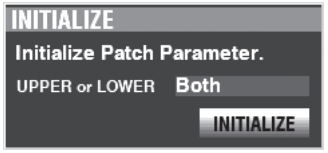
③ SELECT "INITIALIZE"



Select the [**INITIALIZE**] icon by using the [▼][▶] buttons, and press the [ENTER] button.

The "**INITIALIZE**" dialog box will display.

④ SELECT THE PART TO INITIALIZE



Select the Part to initialize by using [VALUE] knob.

Upper.....UPPER Part
Lower.....LOWER Part
Both.....Both Parts

⑤ COMPLETE THE PROCEDURE

Use the DIRECTION [▼] button to move the cursor to the [**INITIALIZE**] icon, and press the [ENTER] button.

The Display will show "Initializing..." for approximately 1 second.

NOTE: If you DO NOT wish to Initialize, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

⑥ RETURN TO PLAY MODE

Press the [PLAY] button to return to the PLAY Mode.

⑦ INITIAL STATUS

When initializing an Adjust Preset, the following Parameters are set:

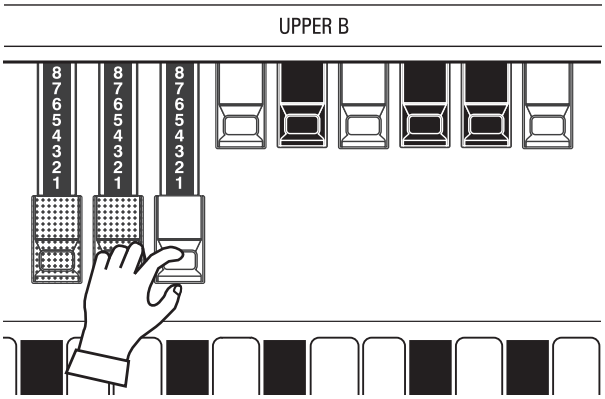
Organ Type.....TW
Percussion.....Off
Vibrato and Chorus.....Off, C-3
Leslie.....On, Slow
Preamp.....On
Other Effects.....Off

tips **DIFFERENCE BETWEEN [A♯] AND [B]**

Both the [A♯] and [B] Preset Keys match the sounding Drawbars with the registration shown in the Display. However, the Percussion tones are normally available only with the UPPER [B] Preset Key. This replicates the Percussion on a B-3/C-3.

However, you can set the Percussion so that it is available on every Preset Key if you wish (P. 138).

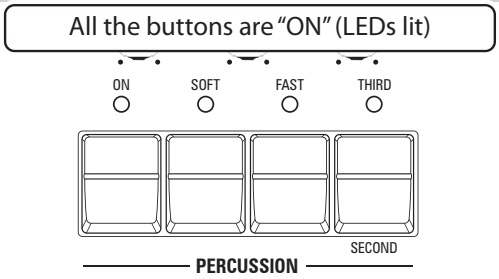
PULL OUT THE UPPER B DRAWBARS



The Drawbars control the basic organ sounds. You can hear the effect each Drawbar has on the sound by pulling out or pushing in Drawbars while holding keys.

For this example, pull the first 3 Drawbars in the UPPER B Drawbar Set out all the way as shown in the illustration above.

ADD PERCUSSION

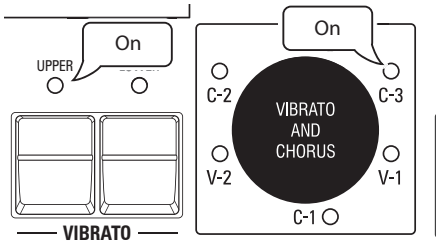


"PERCUSSION," as used here does not refer to percussion instruments (drums, mallets, etc.) but the classic crisp attack unique to the Hammond Organ. It is commonly used to add an accent to Drawbar settings when desired.

For this example, press all four -PERCUSSION- buttons "ON" (LEDs lit).

ADD EFFECTS

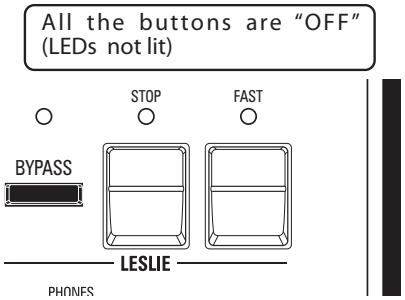
VIBRATO AND CHORUS



The Vibrato & Chorus adds richness and warmth to the sound by modulating the Drawbar tones.

For this example, use the [VIBRATO AND CHORUS] knob to select "C-3" as the Mode and turn the [UPPER] button "ON" (LED lit).

LESLIE



The Digital Leslie adds the classic "Leslie Tremolo and Chorale" effect to the sound.

For this example, make sure all the -LESLIE- controls shown in the illustration above are "OFF" (no LEDs lit).

NOTE: As an alternate setting, press the [STOP] button "ON" (LED lit). This will stop the rotors from turning, creating an effect suitable for solos.

When you play this setting, you will hear the iconic "Jazz Organ" sound.

RECORDING A PATCH / ADJUST PRESET

After you have created your own setting, you can record it as a User Patch (P. 34) or an Adjust Preset ([A♯] or [B]).

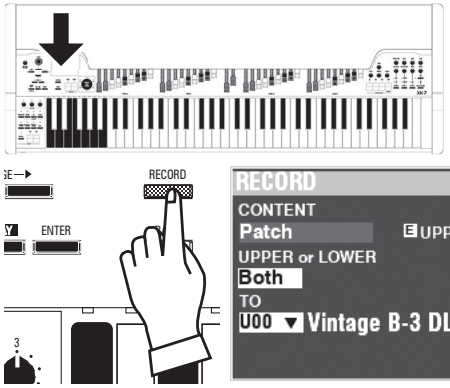
There are two ways to record a Patch or Adjust Preset.

1. Use the [VALUE] knob to select the Patch number or Adjust Preset Key.
2. Use the Preset Keys to select the Bank and Key.

EX.1: USING THE [VALUE] KNOB TO SELECT

Example: Record to Patch U32

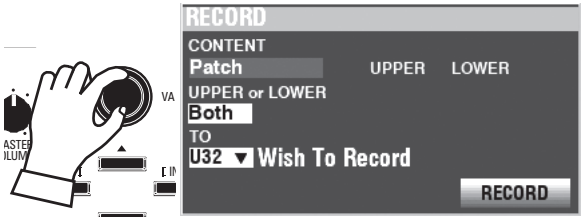
① PRESS THE RED [RECORD] BUTTON



After you have made your changes to a Patch, press the [RECORD] button. The **RECORD** Dialog Box will display.

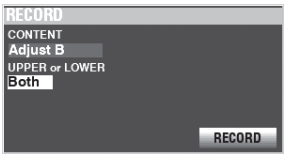
NOTE: The "E" mark beside UPPER or LOWER in the dialog box indicates "Edited" Part.

② SELECT THE ITEM TO RECORD



Use the [VALUE] knob and the DIRECTION buttons to set the CONTENT at "Patch," and the TO at the Patch number you wish to record.

NOTE: To record to an Adjust Preset, select the "Adjust A♯" or "Adjust B" for CONTENT.



Use the DIRECTION buttons and [VALUE] knob, set the values below:

CONTENT ..... Patch
UPPER or LOWER.. Both
TO U32

Next, move the cursor to the [**RECORD**] icon and press the [ENTER] button.

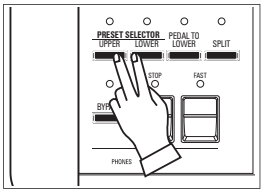
Go to step ④➪

EX.2: USING THE PRESET KEYS TO SELECT THE BANK AND KEY

This procedure is enabled when the FAVORITE Parameter is set to "Off." (P. 140)

Example: Record to "D♯-D" (Patch U32).

① SELECT THE PART (XK-7 ONLY)

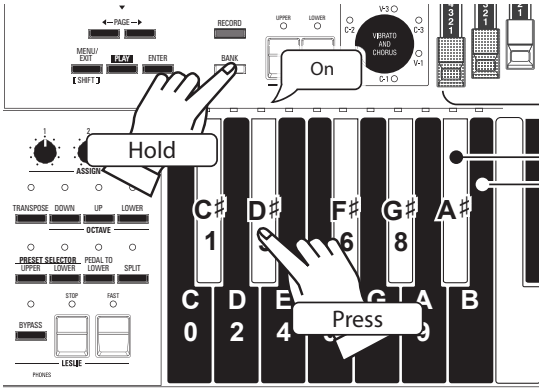


Press the PRESET SELECTOR [UPPER] [LOWER] buttons to select the Part to Record.

② SET THE BANK

Skip this step if you are Recording to the same Bank or if you are Recording to an Adjust Preset.

NOTE: The Adjust Presets have no Banks.

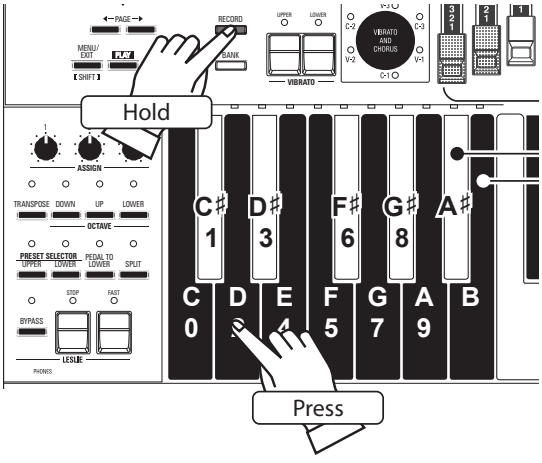


Press the [D♯] Preset Key while holding the [BANK] button.

NOTE: The LED on the Preset Keys indicates the Bank while the [BANK] button is Pressed and Held.

NOTE: When a Bank is selected, a list of the Patches for each Preset Key (see the above illustration) will be shown and the LEDs on the Preset Keys will flash slowly. You can now proceed to the next step.

③ SELECT THE KEY

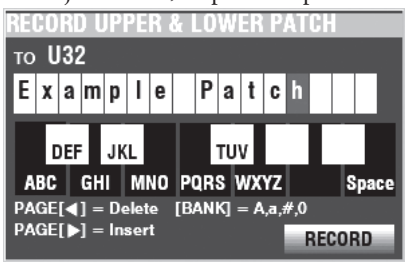


Press the [D] Preset Key while holding the [RECORD] button.

NAMING AND RECORDING

④ INPUT THE PATCH NAME

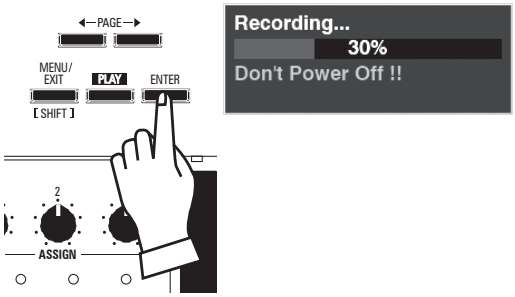
The Adjust Presets do not have names. If you are Recording to an Adjust Preset, skip this step.



Input the Patch Name.

DIRECTION [◀][▶] .....Move the cursor in the text area.
DIRECTION [▲][▼] .....Move the cursor between text area and [RECORD] icon.
[VALUE] knob .....Change the letter.
PAGE [◀] .....Delete the letter.
PAGE [▶] .....Insert a space.
Preset Keys .....Type a letter directly.
[BANK] .....Change the key's character group.

⑤ RECORD THE PATCH



After you are finished Naming, move the cursor to the [**RECORD**] icon and press the [ENTER] button.

NOTE: If you DO NOT wish to Record, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

The above message will display for approximately 1 second.

NOTE: Do not turn the power "OFF" while the above message is displaying.

When the Display shows:

the Recording process is finished and your setting has been Recorded.

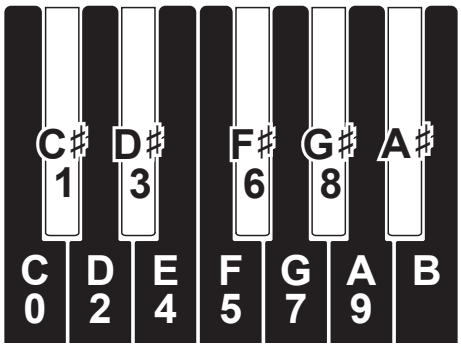
NOTE: If you connected the organ to the computer via a USB cable, the connection will interrupted during recording. This is not a mulfunction.

FURTHER NOTES

PATCHES AND PRESET KEYS

From the factory, the Patches and the Preset Keys are assigned as shown on the chart below:

Key / Bank	C	C♯	D	D♯	E	F	F♯	G	G♯	A
C	U00	U01	U02	U03	U04	U05	U06	U07	U08	U09
C♯	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19
D	U20	U21	U22	U23	U24	U25	U26	U27	U28	U29
D♯	U30	U31	U32	U33	U34	U35	U36	U37	U38	U39
E	U40	U41	U42	U43	U44	U45	U46	U47	U48	U49
F	U50	U51	U52	U53	U54	U55	U56	U57	U58	U59
F♯	U60	U61	U62	U63	U64	U65	U66	U67	U68	U69
G	U70	U71	U72	U73	U74	U75	U76	U77	U78	U79
G♯	U80	U81	U82	U83	U84	U85	U86	U87	U88	U89
A	U90	U91	U92	U93	U94	U95	U96	U97	U98	U99

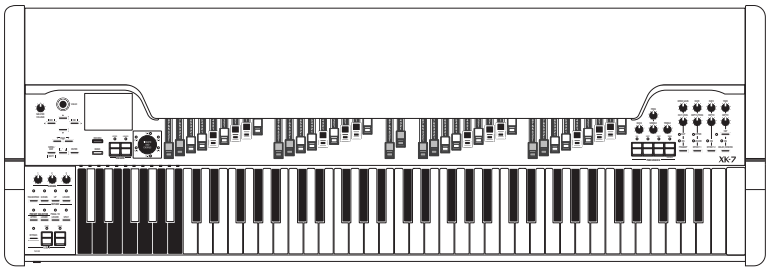


NOTE: You can relate a desired Patch to a Preset Key (Favorites) (P. 140).

RECALLED SETTINGS

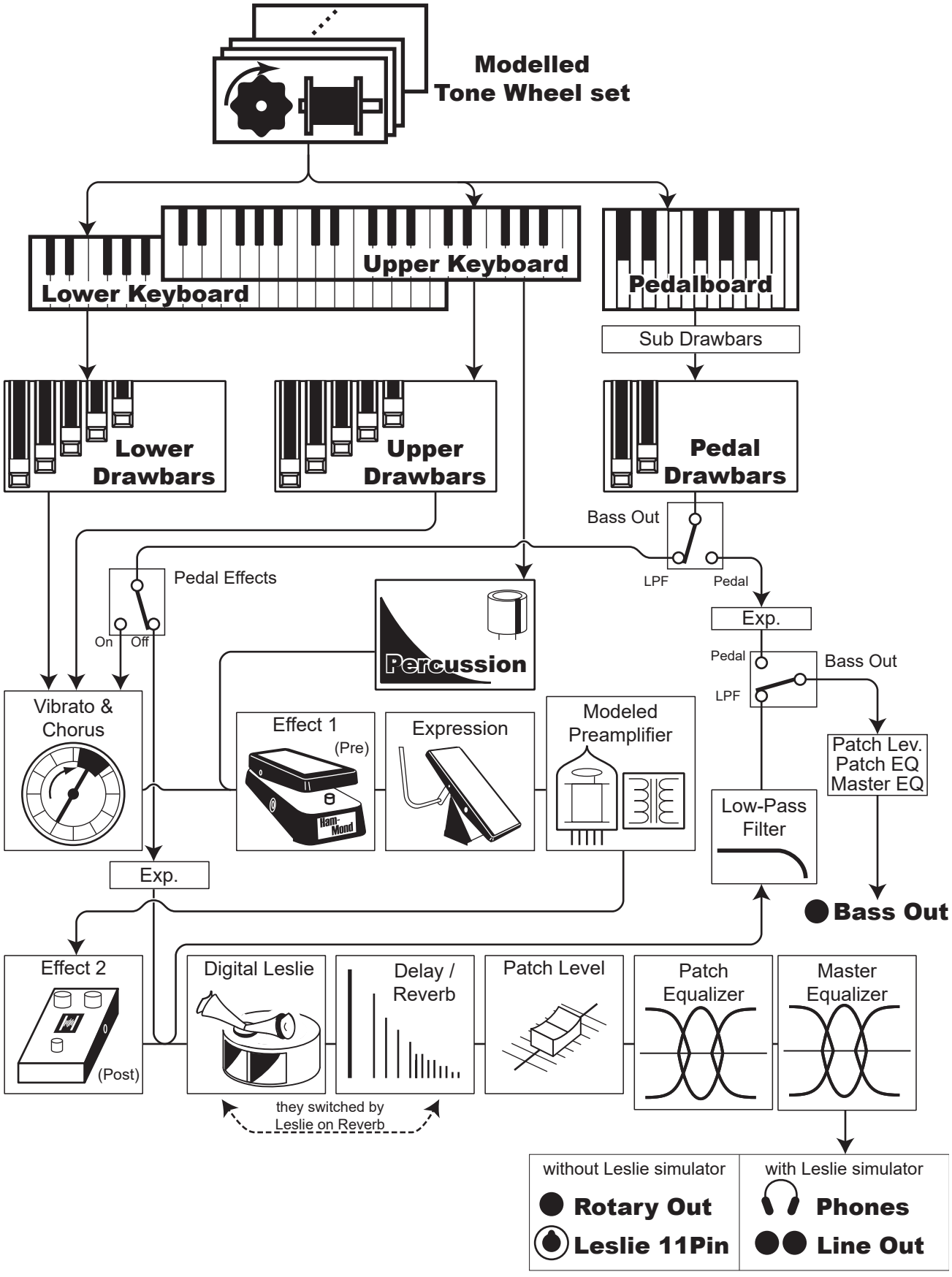
The recalled settings will be limited if Patches or Adjust Presets are selected.

- Setting the Part to be recalled:
  XK-7: PRESET SELECTOR [UPPER][LOWER] buttons
  XK-7D: PRESET [LOWER TO UPPER][PEDAL TO LOWER] buttons (P. 36).
- The recalled contents in the Patch when a Preset Key is selected are set in the PATCH LOAD (P. 138) by Bank.
- When an Adjust Preset is selected, the physical Drawbar registration will be selected.
- The contents of the Adjust Presets are common in all Banks. The PATCH LOAD (P. 138) affects whether the recorded values or knob settings for certain Parameters (Preamp, EFFECT 1 & 2, and Delay/Reverb) are Recorded and recalled for each Patch.



SETTING UP

SOUND ENGINE STRUCTURE



The Sound Engine Structure of the XK-7 / XK-7D is explained in more detail starting below.

◆ TONE WHEELS

The sound source or "engine" of the classic Hammond Organ is an electro-mechanical "Tone Wheel" generator. On this organ, the Tone Wheel engine is replicated digitally.

While the power to the organ is "ON," the 96 virtual Tone Wheels continue to oscillate as they did in the vintage Hammond Organs.

tips 96 TONE WHEELS

On the B-3/C-3, there are 91 sounding tone wheels. Later Hammond models had 96 sounding Tone Wheels, with the 5 additional wheels used to extend the high frequency range.

◆ KEYS

The tone signals created with the 96 virtual Tone Wheels are "switched" at the keys.

The signals corresponding to the pitch and harmonics are distributed to each key, and when you touch or release a key the switch connects or cuts the tone signals, in the same manner as a faucet controls water flow.

◆ DRAWBARS

Each Drawbar adjusts the volume of each harmonic. There are 9 Drawbars corresponding to 9 different harmonics.

tips HARMONICS

A "harmonic" is a frequency which is an integer or whole-number multiple of the fundamental or "base" frequency. For example, if you start with the first white Drawbar then add the second white Drawbar, the first white Drawbar is the "fundamental" while the second white Drawbar is the "2nd harmonic." The presence or absence of harmonics allows us to distinguish among different sounds - identifying the sound of a clarinet as distinct from the sound of a violin, for example.

◆ TOUCH-RESPONSE PERCUSSION

The Percussion creates a distinctive attack on the UPPER Part.

◆ VIBRATO AND CHORUS

The Vibrato & Chorus gives depth and richness to the organ sound by slightly varying the pitch (Vibrato), or doubling the voice by mixing a vibrato with a non-vibrato signal (Chorus).

◆ EFFECT 1

EFFECT 1 contains effects which are inserted pre-Expression or Preamp such as Tremolo, Wah-Wah etc.

◆ PREAMPLIFIER, OVERDRIVE

"Preamplifier" is the circuit for amplifying the audio signal. However, "Overdrive" can be added to create a purposely distorted ("overdriven") sound.

The Tone Control is also included in this block similar to the Tone Control on the preamp of a B-3/C-3.

tips PEDAL SUB DRAWBARS

Though there are only two PEDAL Drawbars, these includes multiple harmonics, not a single tone. Their composition varies depending on the model or manufacturing date.

On this organ, the harmonic composition of the PEDAL Drawbars can be adjusted.

◆ EFFECT 2

EFFECT 2 contains effects which are inserted post-Preamp such as Phaser, Chorus etc.

tips PEDAL EFFECTS

The PEDAL Part can be separated from the Vibrato/Chorus and the Preamp if you wish to have a "clean" bass sound with no modulation.

◆ EQUALIZER

The normal function of an Equalizer is to correct sound quality, but on this organ it can also be used to process the tone in real time.

◆ PATCH LEVEL

This adjusts the volume level for each Patch.

tips BASS OUT

The BASS OUT jack can be used for to reinforce the bass range of the Leslie Speaker.

You can select "PEDAL Part" or "Bass range of all the Parts," depending on your particular playing style.

◆ LESLIE, REVERB

A Digital Leslie to replicate a Leslie Speaker cabinet, and Delay/Reverb.

When LESLIE ON REVERB, which adds Reverb to the digital Leslie, is "On," this connection order is reversed.

NOTE: The Digital Leslie does not affect the Leslie® socket or the [ROTARY OUT] jack.

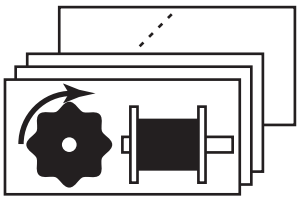
◆ MASTER EQUALIZER

The Master Equalizer allowing you to tailor your sound for the provided venue, amp, sound system or recording. These settings are not saved in Patch memory.

ORGAN TYPES

The Drawbars on your XK-7 / XK-7D can be made to control organ sounds other than traditional Hammond Drawbars. Several makes of combo organs, for example, also used Drawbar-type controls to register the sounds, which were actual organ voices rather than individual harmonics as with Hammond Drawbars.

TONE WHEEL (TW, Mellow)



The Hammond Organ's original purpose was to duplicate the pipe organ, however, they became famous for producing a unique sound of their own.

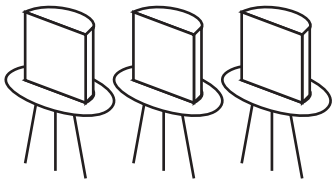
"Tone Wheels" are the method by which tone-wheel Hammond Organs generate sound. Each frequency is generated by a steel disk 1⅞" in diameter and containing a number of high spots on its outer edge (see the illustration on the left.) These disks are the Tone Wheels. The most common Tone Wheel generator has a total of 96 Tone Wheels, all with different numbers of teeth - some wheels have 2 teeth, others have 4, 8, 16, 32, 64, 128, up to 192 teeth. The classic Tone Wheel design uses 91 Tone Wheels to generate the musical tones.

The "Mellow" setting is not a Tone Wheel, but is intended to replicate a non-mechanical electronic Hammond Organ with Drawbars such as the B-3000 and the SX/CX series.

tips **CUSTOM TONE WHEELS - REPLICATING INDIVIDUAL TONE WHEEL ORGANS**

You can duplicate the characteristics of virtually any Hammond Organ by using the **Custom Tone Wheel** feature to adjust various Parameters and Record them as Custom Tone Wheels.

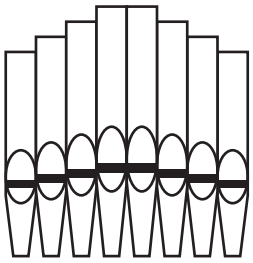
TRANSISTOR (Vx., Farf., Ace.)



As transistors gradually replaced vacuum tubes in electronic circuits it became possible to produce light-weight combo organs. These have been used extensively in rock and popular music since the early 60's. The type of circuitry is different from maker to maker or model by model. We have replicated 3 representative types here.

Vx. replicates a British combo organ which combines triangle waves and square waves using several footages. "**Farf.**" and "**Ace.**" both replicate combo organs (Italian and Japanese) which use tablets to combine sound waves which are filtered to produce different tones.

PIPE



A pipe organ produces sounds by pushing pressurized air through sets of wood or metal pipes called Ranks or Stops. There are many different types of Pipe Stops which produce sounds of different pitches, timbres and levels of volume. Each Stop is identified by a unique Name indicating what type of sound it will produce when selected.

The **Pipe** Organ replicates several different types of pipe organs by using the Drawbars as drawstops or stop tablets to create pipe organ registrations.

tips **PEDAL ORGAN TYPES**

The Organ Types for the PEDAL Part will be selected automatically by selecting the Organ Types for UPPER and LOWER.

Tone Wheel: Normal (Tone Wheel)

Mellow: Muted (electronic oscillators)

Vx., **Farf.**, and **Ace.**: Muted (electronic oscillators)

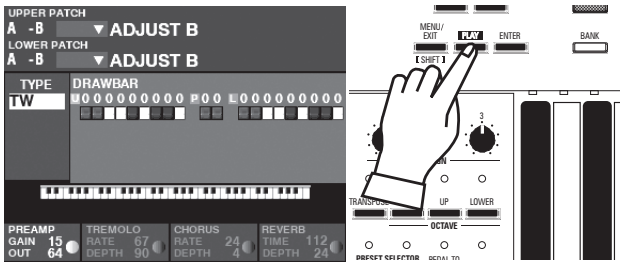
Pipe: Pipe

SELECTING ORGAN TYPES

You can select an Organ Type either from a PLAY Mode or from the **DRAWBARS** FUNCTION Mode.

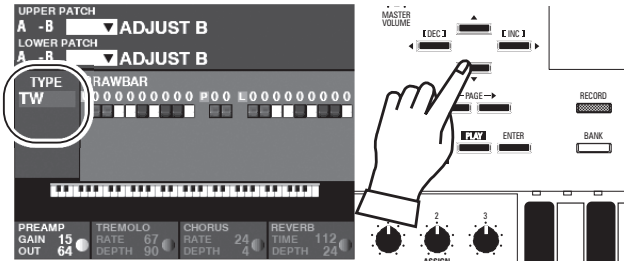
This page explains how to select an Organ Type from a PLAY Mode.

① LOCATE THE PLAY MODE



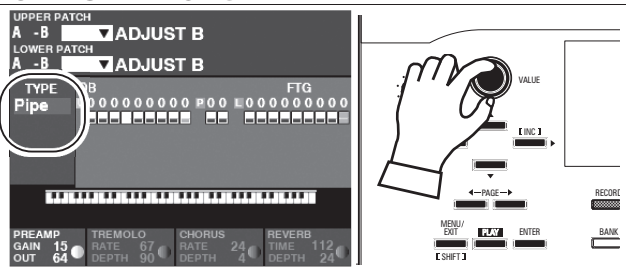
If the PLAY Mode is not displaying, press the [PLAY] button to display it.

② MOVE THE CURSOR



Use the DIRECTION [▲][▼] buttons to move the cursor to "TYPE."

③ SELECT THE ORGAN TYPE



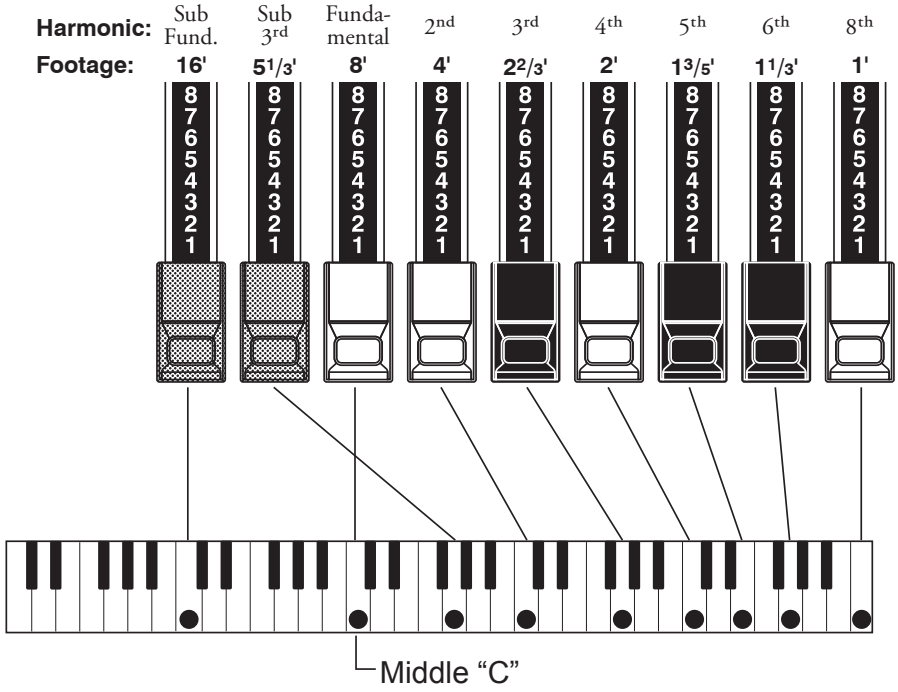
Use the [VALUE] knob to select the Organ Type you want.

HARMONIC DRAWBARS™

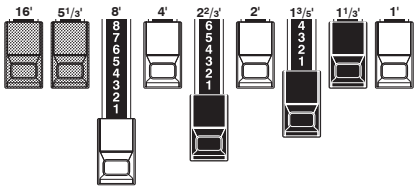
The Harmonic Drawbars (hereinafter "Drawbars") are the heart of the renowned Hammond Sound and have been used since the first Hammond Organ Model A was introduced in 1935. There are approximately 253,000,000 possible sound combinations that can be produced by the Drawbars.

DRAWBARS (TW: Tone Wheel, Mellow)

The illustration below shows how each Drawbar relates to the Keyboard when middle "C" is pressed.



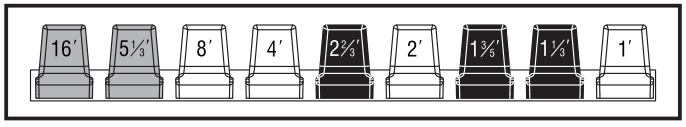
Each Drawbar may be set in eight different positions in addition to the silent or "0" position. Each position, as marked on the Drawbars, represents a different degree of intensity of the harmonic it controls. When drawn out to position "1," the harmonic it represents will be present with minimum intensity, when drawn out to position 2 with greater intensity, and so on up to position "8."



If you pull the fundamental (8′), the third harmonic (2⅔′) plus the fifth harmonic (1⅗′) Drawbars out completely and play the Keyboard you will notice the sound resembles a clarinet.

If you push the 8′ Drawbar half-way, you'll notice the sound becomes more high-pitched and a bit "harder." Now pull the 8′ Drawbar back out fully and push the 2⅔′ and 1⅗′ in halfway. Notice how the sound becomes mellower.

Experiment with the Drawbars to obtain your own favorite registrations.



For "Tone Wheel" Organs, the relationship between each Drawbar and its footage is shown on the Drawbar knobs (see the illustration on the left).

tips **DRAWBAR REGISTRATION**

A "Drawbar Registration" is a setting of the Drawbars to create a particular sound. Drawbar settings are expressed in numbers - for example "86 8868 446" to create a Full Organ sound or "00 8740 000" to create the sound of a French Horn.

See P. 52 for a fuller explanation of Drawbar Registrations.

tips **MATCH THE REGISTRATION TO DRAWBARS**

When you recall a Patch, the Drawbar registration of the recorded Patch is heard, instead of the physical Drawbar setting.

If you move any Drawbar, its position takes precedence over the recorded registration by CONTROL - CONTROL MODE is set at "ALWAYS A♯," although the recorded Preset is not altered.

If you wish to switch to the A♯ Drawbars setting, Press and Hold the corresponding button until the light blinks, then release it.

The physical registration now becomes "current."

XK-7

Use the PRESET SELECTOR

[UPPER] button: UPPER A♯ Drawbars

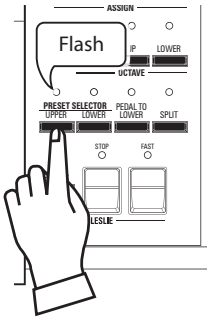
[LOWER] button: LOWER A♯ and PEDAL Drawbars

XK-7D

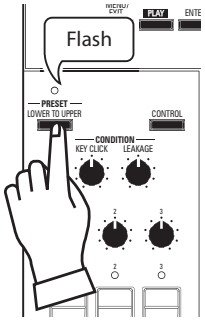
Use the -PRESET-

[LOWER TO UPPER] button: UPPER A♯ Drawbars

[PEDAL TO LOWER] button: LOWER A♯ and PEDAL Drawbars



XK-7 UPPER



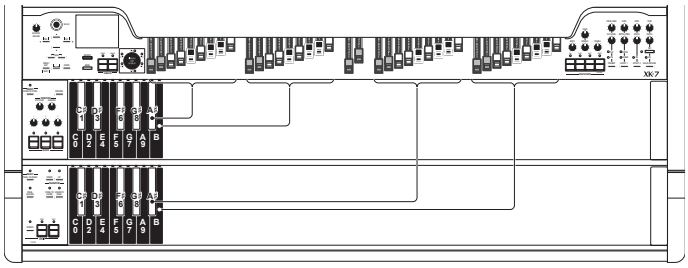
XK-7D UPPER

DRAWBARS FOR THE UPPER AND LOWER PARTS

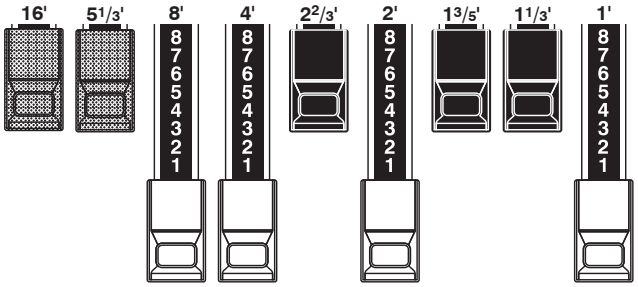
PRESET KEYS AND DRAWBARS

There are 2 sets of Drawbars for the UPPER Part on the left and the LOWER Part on the right. Use the [A♯] and [B] Preset Keys to engage each one. The [A♯] Drawbar Set is enabled when other Preset Keys are selected.

NOTE: You can disable Drawbar Registration changes when the [C] to [A] Preset Keys are selected, replicating the B-3/C-3 (P. 135).

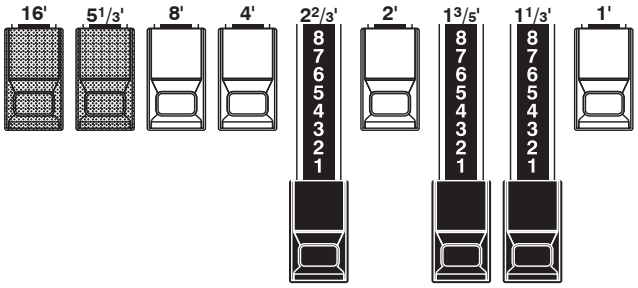


◆ WHITE DRAWBARS



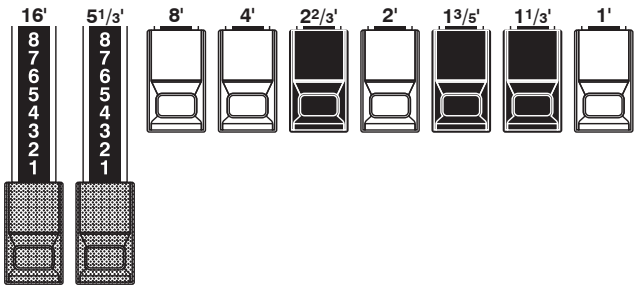
In each Drawbar Set, the first white Drawbar represents the "fundamental" or "8′ base" tone. All of the other white Drawbars are octave intervals or harmonics of the fundamental tone.

◆ BLACK DRAWBARS



The black Drawbars represent the dissonant (discordant) harmonics which are also necessary in building rich tone colors. They will sound either a fifth or a third in relation to the fundamental tone.

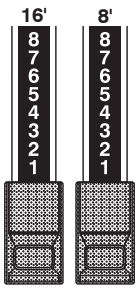
◆ BROWN DRAWBARS



In addition to the white and black Drawbars, there are two brown Drawbars in the group. These two Drawbars produce "sub-octave" effects. The first brown Drawbar is the sub-octave of the fundamental Drawbar and is one octave lower in sound. The second brown Drawbar is the "sub-octave" of the third harmonic. Both of these Drawbars are used to add depth and richness to many combinations.

Normally, the tones are built on the 8′ fundamental, but, if you want to add depth to the tone or to expand the playing range by one octave lower, build your tones on a 16′ fundamental.

DRAWBARS FOR PEDAL PART



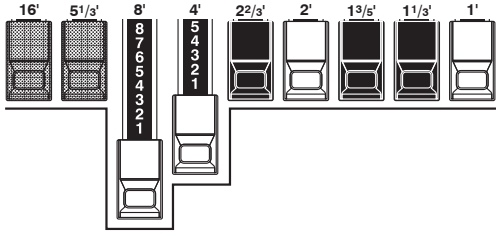
The two brown Drawbars located between the Drawbars for the UPPER and LOWER Keyboards control the sounds produced by the Pedals or Bass section.

The Pedalboard plays the bass line and uses the 16′ and 8′ Drawbars. The first Pedal Drawbar produces a tone at 16′ pitch for a deep foundation bass, while the second Pedal Drawbar produces a tone at 8′ pitch, or one octave higher.

DRAWBAR REGISTRATION PATTERNS

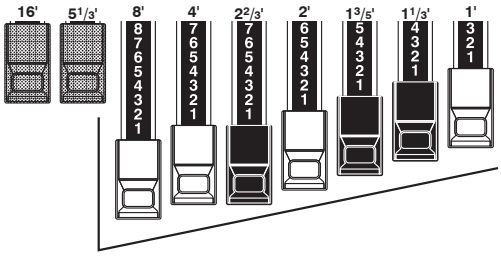
Regardless of the size of a pipe organ or its number of stops, all of its voices are related to four basic families of tone. The four basic families - Flute, Reed, String and Diapason - can be quickly set up on the Drawbars by relating a pattern or shape to each family.

Flute family (2 step pattern)



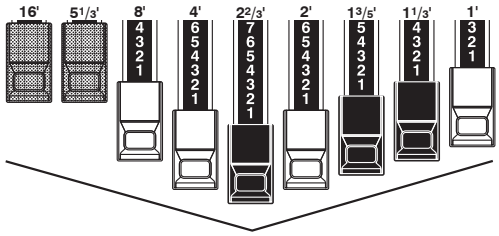
Accompaniment Flute 8′ I 00 8460 000
Accompaniment Flute 8′ II 00 3220 000
Accompaniment Flute 8′ III 00 8600 000
Chorus of Flutes 16′ 80 8605 002
Orchestral Flute 8′ 00 3831 000
Piccolo 2′ 00 0006 003
Stopped Flute 8′ 00 5020 000
Tibia 8′ 00 7030 000
Tibia 4′ 00 0700 030
Tibia (Theater) 16′ 80 8605 004
Wooden Open Flute 8′ 00 8840 000

Diapason family (check mark pattern)



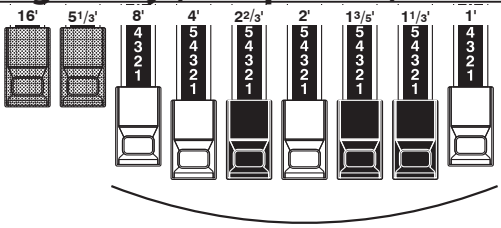
Accomp. Diapason 8′ 00 8874 210
Chorus Diapason 8′ 00 8686 310
Diapason 8′ 00 7785 321
Echo Diapason 8′ 00 4434 210
Harmonic Diapason 16′ 85 8524 100
Harmonic Diapason 8′ 00 8877 760
Harmonic Diapason 4′ 00 0606 045
Horn Diapason 8′ 00 8887 480
Open Diapason 8′ 01 8866 430
Solo Diapason 01 8855 331
Wood Diapason 8′ 00 7754 321

Reed family (triangle pattern)



Bassoon 16′ 44 7000 000
Clarinet 8′ 00 6070 540
English Horn 8′ 00 3682 210
Flugel Horn 8′ 00 5777 530
French Horn 00 7654 321
Kinura 8′ 00 0172 786
Oboe 8′ 00 4764 210
Trombone 8′ 01 8777 530
Trumpet 8′ 00 6788 650
Tuba Sonora 8′ 02 7788 640
Vox Humana 8′ 00 4720 123

String family (bow pattern)



Cello 8′ 00 3564 534
Dulciana 8′ 00 7770 000
Gamba 8′ I 00 3484 443
Gemshorn 8′ 00 4741 321
Orchestral String 8′ 00 1464 321
Salicional 8′ 00 2453 321
Solo Viola 8′ 00 2474 341
Solo Violin 8′ 00 3654 324
Viola da Gamba 8′ 00 2465 432
Violina 4′ 00 0103 064
Violone 16′ 26 3431 000

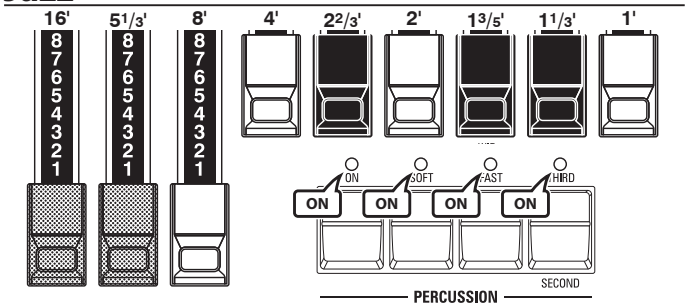
Notice that Drawbar registrations are expressed in number groups of 2, 4 and 3. This “2-4-3” number formula for Drawbar Registration has been a Hammond convention since the beginning. It has been found to be the easiest way to convey a specific setting.

The first two numbers correspond to the two brown Drawbars of either manual. The middle four numbers designate the 8′, 4′, 2⅔′, 2′ Drawbars, and the remaining three numbers refer to the last three Drawbars.

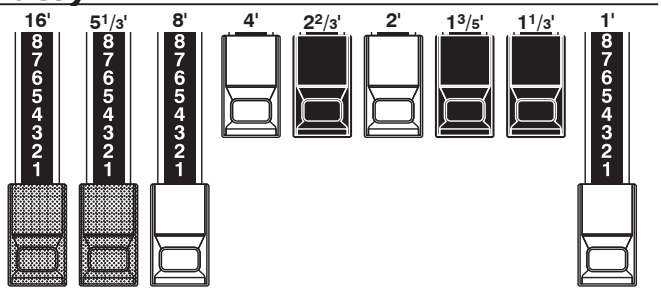
MODERN DRAWBAR REGISTRATIONS

The Drawbar registration patterns shown on the previous page are intended to simulate the four basic families of tone found on a classical pipe organ, since this was the original intention of the Hammond Organ. Later on, as the Hammond Organ began to be used in Jazz, Pop and Rock music, other sounds became identified with the "Hammond Sound." The figures below illustrate some of these modern registrations.

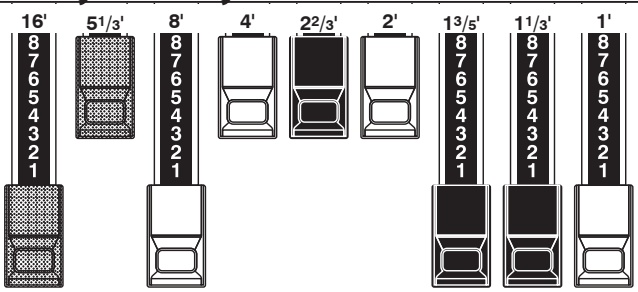
Jazz



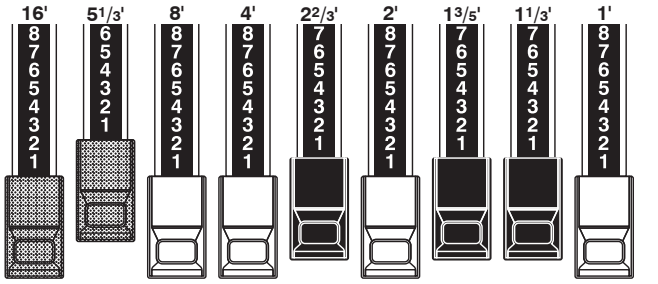
Bluesy



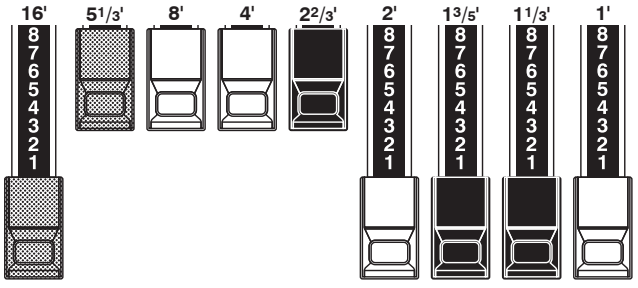
Groovy & Funky



Max Power



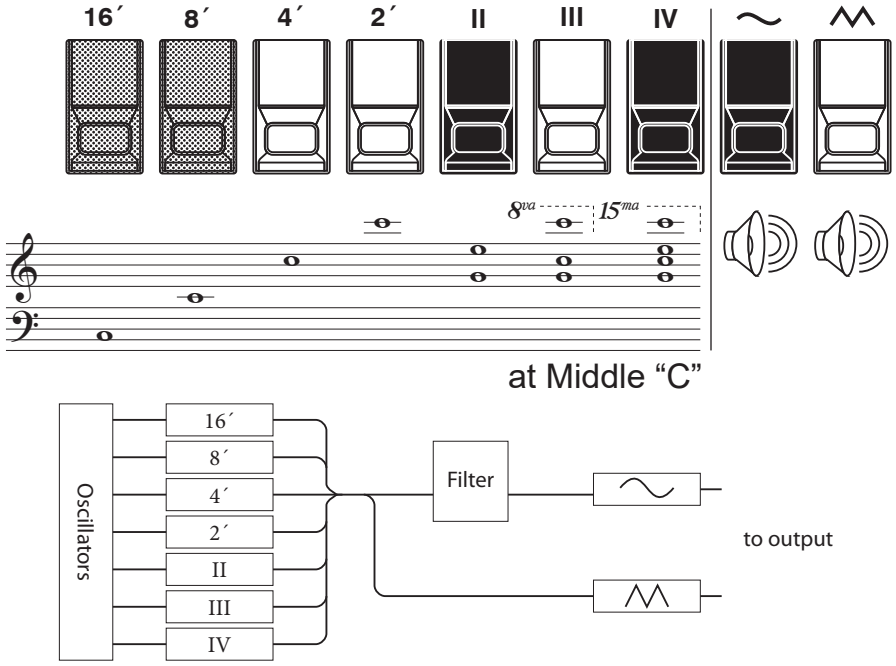
SQUABBLE ("Erroll Garner" Registration)



tips **APPLICATION OF PERCUSSION**

When Percussion is used, the sound of the 1′ Drawbar is cancelled just as it is on vintage organs (B-3, C-3, A-100, M-3, etc.). Some jazz organists have taken advantage of this idiosyncrasy by keeping the 1′ Drawbar pulled out and turning Percussion "ON" and "OFF" while playing. The result is an instantaneous registration change with a single motion.

DRAWBARS (Vx.)

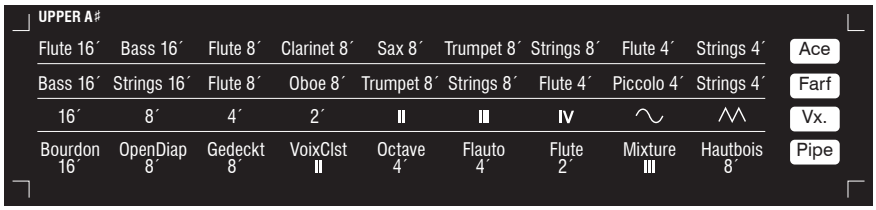


The type of British combo organ replicated by the "Vx." ORGAN Type had Drawbar-type controls, but they functioned differently from Hammond Harmonic Drawbars. The first four Drawbars control individual pitches, while the next three are "Mixture" Drawbars which cause multiple pitches to sound. "II," "III" and "IV" refer to the number of pitches represented by that Drawbar.

The last two Drawbars control the type of tone produced by the first seven Drawbars.

The "~" Drawbar causes mellow tones to sound while the "⋀" Drawbar causes brighter and more harmonically complex tones to sound.

NOTE: The first seven Drawbars WILL NOT sound unless one or both of the right two Drawbars are also "out." These two Drawbars regulate the overall volume as well as timbre of the total Drawbar registration, and can be used separately or together.



Please see the corresponding row on the Voice and Footage Label (P. 189) for the relation between Drawbars and footages for each Organ Type.

tips FOOTAGE

"Footage" is a term inherited from the pipe organ.

It is used to designate the pitch at which a particular organ stop will sound. The number refers to the length of pipe necessary to produce the lowest note of that particular stop.

For example, if a stop is marked "8'" it means that the lowest note on a standard 5-octave organ Keyboard "C" will require a pipe 8 feet long.

tips FOOTAGE INDICATOR

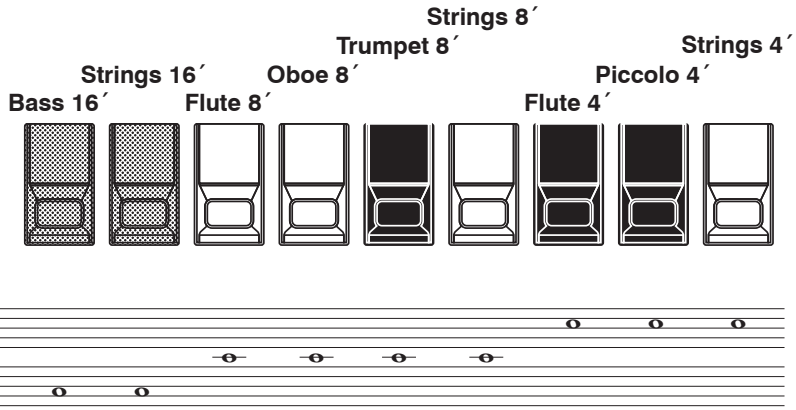
The last manipulated Drawbar will be shown in the "Drawbar Registration" dialog box or the PLAY Mode for the ORGAN Section.

tips DRAWBAR COLORS

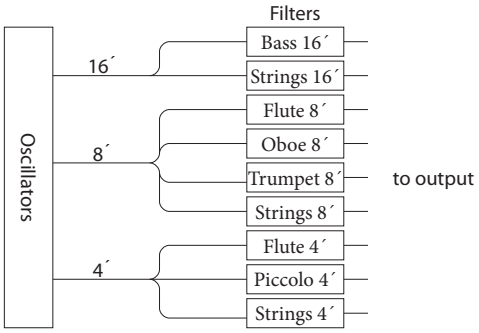
For the "Vx.", "Farf.", "Ace." and "Pipe" Organ Types, the Drawbar icons in the Display will change color according to the sound registered for each Drawbar.

DRAWBARS (Farf., Ace.)

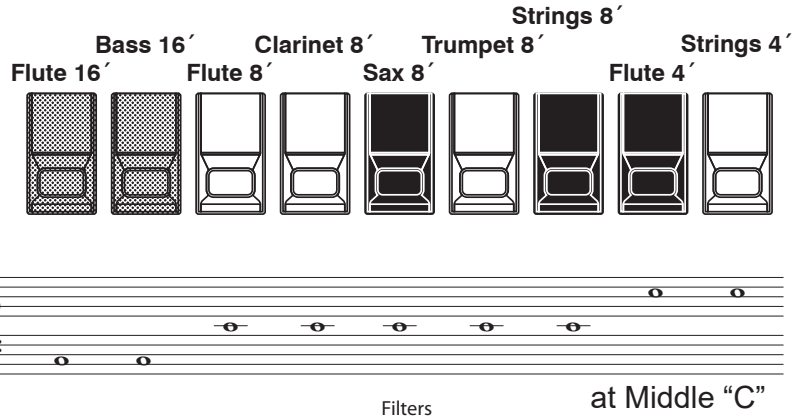
Farf.



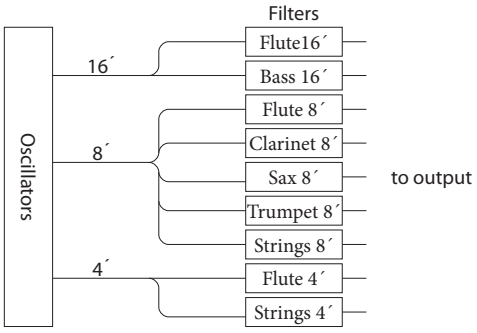
at Middle "C"



Ace.



at Middle "C"

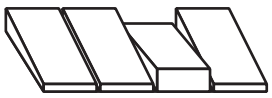


The illustrations to the left follow the layout of the Italian "Combo Compact" and the Japanese "TOP 7" combo organs, which used rocker-type tilt tablets rather than Drawbars to turn voices "ON" and "OFF." On the XK-7 / XK-7D, the Drawbars are used to control the same sounds.

To replicate the effect of tablets, simply pull the Drawbar(s) representing the tone(s) you want "out" all the way. Or, you can create shadings of tones by using the Drawbars in the more traditional fashion.

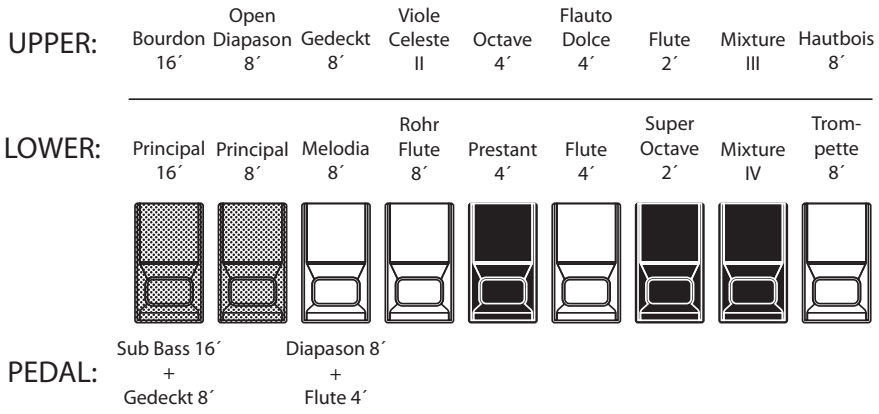
tips **TABLET**

The word "tablet" refers to a tilting or "rocker"-type control used on many analog organs to turn voices "ON" and "OFF" as well as to add effects (see figure below).

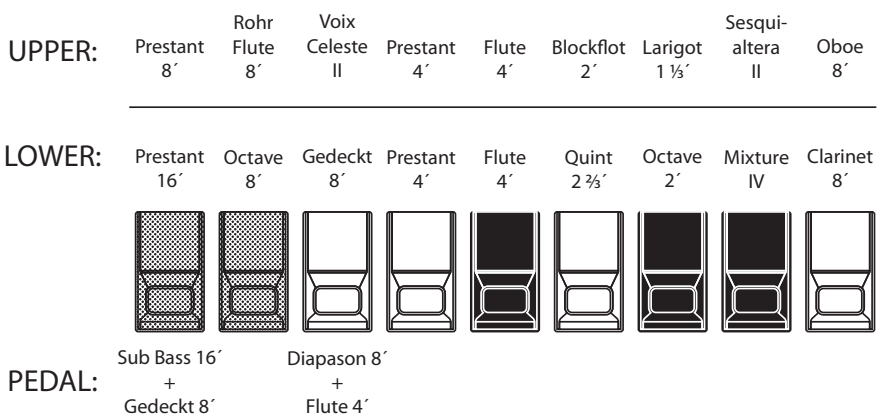


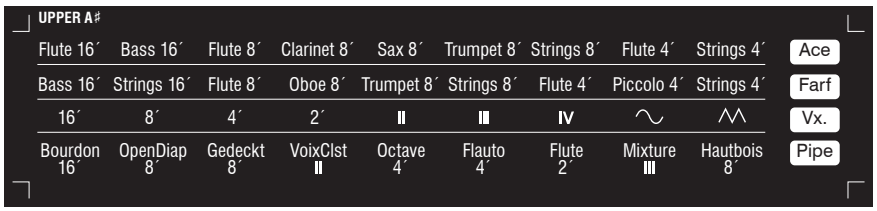
DRAWBARS (Pipe)

F1: Classic 1



F2: Classic 2





Please see the corresponding row on the Voice and Footage Label (P. 189) for the relation between Drawbars and footages for each Organ Type.

When using the Pipe Organ, the stops are registered through the Drawbars. The "Classic 1" and "Classic 2" types follow the classic organ layout left to right as follows: Flue, Mixture and Reed.

"Classic 1" is a stop complement of a traditional "American Classic" organ while "Classic 2" is a stop complement more suited to Baroque-era music.

On the UPPER and LOWER Parts, each Drawbar corresponds with a pipe organ rank or stop.

On the PEDAL Part, two stops sound with one Drawbar (Compound stop).

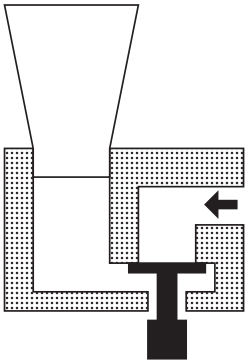
NOTE: When either of the "Classic" Custom Pipes is selected, the Drawbars will function in a manner similar to drawstops on a traditional pipe organ - pulling a Drawbar "out" will turn the associated Pipe Voice "ON" while pushing the Drawbar "in" will turn the Pipe Voice "OFF." The Pipe Voices do not have gradations of volume - they are either "ON" or "OFF."

NOTE: The labels "F1" and "F2" refer to Custom Pipes (P. 174).

NOTE: The digital Leslie is not available on the Pipe Voices. However, the Vibrato/ Chorus feature becomes a pipe organ Tremulant when the PIPE Organ Type is selected (P. 58) .

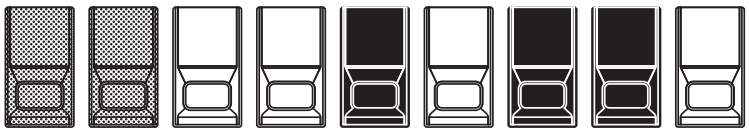
tips **STOP**

A single voice or sound on a pipe organ is referred to as a "Stop" due to the fact that air flow is "stopped" (or started) by manipulating the individual controls which turn sounds "ON" or "OFF."



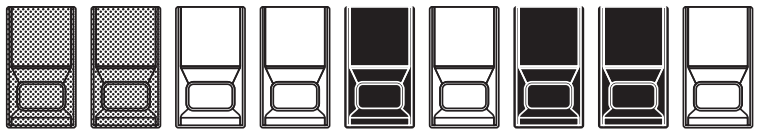
F3: Theatre 1

UPPER:	Tibia Clausa 16´	Vox Humana 8´	Style "D" Trumpet 8´	Tibia Clausa 8´	Clarinet 8´	Viol d'Orch 8´	Vox Humana 8´	Tibia Clausa 4´	Tibia Clausa 2´
LOWER:	Style "D" Trumpet 8´	Open Diapason 8´	Clarinet 8´	Viol d'Orch 8´	Flute 8´	Vox Humana 8´	Open Diapason 4´	Tibia Clausa 4´	Vox Humana 4´
PEDAL:	Tibia 16´ + Flute 8´		Diapason 8´ + Flute 4´						



F4: Theatre 2

UPPER:	Tibia Clausa 16´	English Post Horn 16´	Brass Trumpet 8´	Tibia Clausa 8´	Clarinet 8´	Vox Humana 8´	Tibia Clausa 4´	Tibia Clausa 2⅔´	Tibia Clausa 2´
LOWER:	Brass Trumpet 8´	Diapason 8´	Clarinet 8´	Viol Celeste 8´	Oboe 8´	Flute 8´	Vox Humana 8´	Viol Celeste 4´	Flute 4´
PEDAL:	Tibia 16´ + Flute 8´		Diapason 8´ + Flute 4´						



The Theatre 1 and Theatre 2 PIPE settings provide a complement of organ stops characteristic of a theatre or "cinema" organ. "Theatre 1" is a stop complement similar to a Wurlitzer "Style 210" while "Theatre 2" is derived from the stops from a Wurlitzer "Style 260 Special," including English Post Horn. The figures on the left show the stop complements for the Theatre 1 and Theatre 2 Custom Pipe sets.

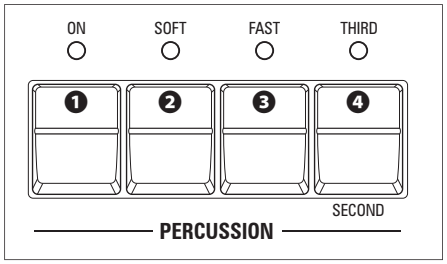
NOTE: When "Theatre 1" or "Theatre 2" is activated, the Drawbars will function in a manner similar to tablets on a theatre organ console - pulling a Drawbar "out" will turn the associated Pipe Voice "ON" while pushing the Drawbar "in" will turn the Pipe Voice "OFF." The Pipe Voices do not have gradations of volume - they are either "ON" or "OFF."

NOTE: The labels "F3" and "F4" refer to Custom Pipes (P. 174).

NOTE: The digital Leslie is not available on the Pipe Voices. However, the Vibrato/ Chorus feature becomes a pipe organ Tremulant when the PIPE Organ Type is selected.

ORGAN FEATURES AND EFFECTS

PERCUSSION



An important component of the Hammond Sound is "Touch-Response Percussion Control™." The Percussion controls on the XK-7 / XK-7D consist of four separate buttons (shown at left) which control harmonic Percussion tones. These four buttons control all the same functions as the tilt or "rocker" tablets on a vintage tone-wheel Hammond Organ.

❶ ON button

This button, when "ON" (LED lit), turns the Percussion effect "ON." The Percussion tone will sound in accordance with the settings for the other three Percussion controls.

NOTE: In the "ON" position, all of the UPPER Manual Drawbars will be effective except the 1′ (fourth white) Drawbar. This duplicates the performance of a vintage Tone Wheel Organ such as a B-3/C-3. In the "OFF" position, the 1′ Drawbar is effective as usual. However, you can change this Parameter if you wish (see page 85).

NOTE: You can select whether Percussion sounds only on the [B] Preset Key as on the B-3/C-3, or on all the Preset Keys (P. 138).

❷ SOFT button

This button regulates the volume of the Percussion tone. When it is "OFF" (LED not lit), the Percussion effect will be very prominent. The Drawbar tones will also be reduced in volume to compensate for the addition of the Percussion tones. When this button is "ON" (LED lit), the Percussion effect is much less prominent. The volume of the Drawbar tones remains unaffected by the addition of the Soft Percussion effect.

❸ FAST button

When this button is "OFF" (LED not lit) the Percussion tone will decay slowly like a bell. When it is "ON" (LED is lit) the Percussion tone will decay rapidly like a xylophone.

❹ THIRD button

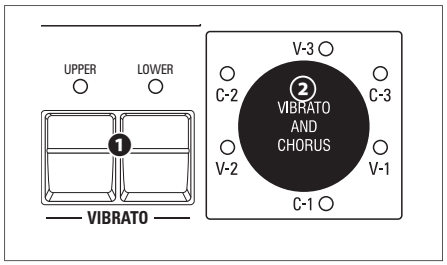
This button determines the pitch at which the Percussion tone sounds. When set at "SECOND" (LED not lit), the pitch is up one octave with respect to the Fundamental (8′) Drawbar; when set at "THIRD" the Percussion pitch is up an octave and a fifth with respect to the Fundamental Drawbar.

NOTE: The Percussion feature works with the "TW" or "Mellow" Organ types only, and on the UPPER Part only.

NOTE: You can adjust the Parameters of the Percussion to your liking. See page 122 for more details.

B-3/C-3 LEGENDARY EFFECTS

VIBRATO AND CHORUS



"Vibrato and Chorus" allows you to add "Vibrato" (a periodic raising and lowering of pitch) or "Chorus" (a "shimmering" effect having the periodicity of Vibrato) to your Drawbar registrations.

❶ UPPER, LOWER buttons

These allow you to turn Vibrato & Chorus "ON" or "OFF" for each Part. When "ON" the red LEDs will light.

❷ VIBRATO AND CHORUS knob

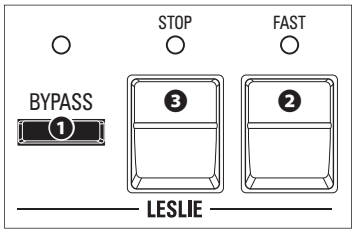
This allows you to select from three degrees of Vibrato and three degrees of Chorus. Each position of this knob selects a different amount of Vibrato or Chorus.

Organ Type	Effect	MODE
TW, Mellow	Vibrato and Chorus	V: Vibrato C: Chorus number: depth of the Vibrato or Chorus effect.
Vx., Farf., Ace.	Vibrato	Six degrees of Vibrato increasing in intensity from V-1 through C-3.
Pipe	Tremulant	Six degrees of Tremulant increasing in intensity from V-1 through C-3.

NOTE: You can adjust the Vibrato & Chorus effect to your liking. This is explained in more detail on page 86.

LESLIE

The XK-7 and XK-7D have an inbuilt digital Leslie which replicates the sound of a twin-rotor Leslie Speaker Cabinet.



❶ BYPASS button

Disables the Digital Leslie, producing a "dry" organ sound.

❷ FAST button

Toggle the Rotor Mode between "FAST" and "SLOW" or "STOP."

Lit.....Fast
Not lit.....Slow or Stop

NOTE: For the Leslie effect, "FAST" mode is also called "Tremolo" and "SLOW" mode is also called "Chorale."

❸ STOP button

Selects the Rotor Mode when the [FAST] button is "OFF."

Lit.....Stop. The [FAST] button toggles between Fast and Stop.
Not lit.....Slow. The [FAST] button toggles between Fast and Slow.

To Stop the rotor, turn the [FAST] button "OFF" while the [STOP] button is "ON" (LED lit).

This comes from the fact that in the past, when the only Leslie mode choices were "Slow" and "Fast" (such as a B-3/C-3 with a Leslie 122), the only way to stop the rotors was either to install a Brake kit, or unplug the Slow motor and select "Slow."

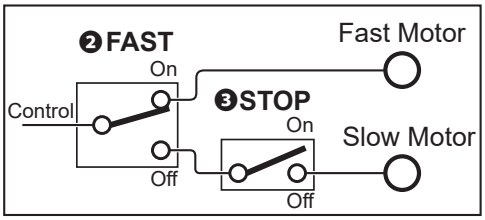
NOTE: The digital Leslie is <u>not</u> available for the Pipe Organ.

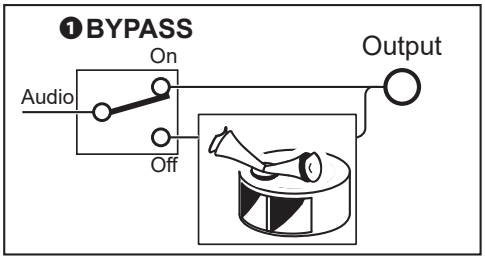
NOTE: These controls perform the same functions when a Leslie Speaker Cabinet is connected via the Leslie® socket.

NOTE: You can adjust the Parameters of the inbuilt digital Leslie. See the pages 87 and 119 for more details.

NOTE: The Parameters described on this page are Patch Parameters, and can be Recorded to a Patch. For a complete list of all Patch Parameters, please see the APPENDIX starting on page 178.

tips **LESLIE BUTTONS AND MODES**



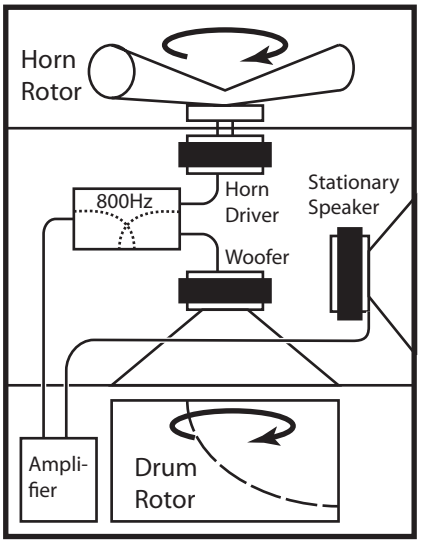


tips **WHAT IS THE LESLIE EFFECT?**

When the Hammond Organ was first introduced in the mid 1930's, the sound-reproducing apparatus was not contained within the console. A separate "tone cabinet" had to be connected to the organ console via a special cable. For many years, Hammond manufactured tone cabinets specifically for use with Hammond Organs. The best known of these is probably the PR-40 model.

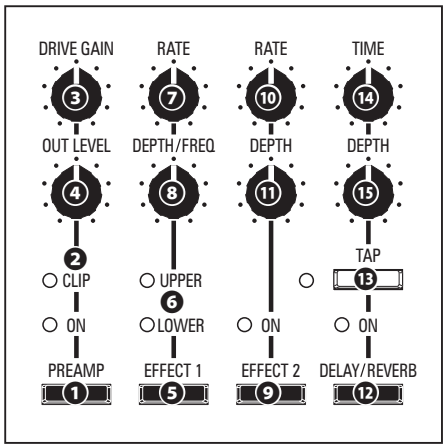
In the late 1930's, an independent engineer and organ enthusiast named Donald J. Leslie found that rotating a baffle in front of a stationary speaker created the effect of a tremulant (the well-known "Doppler effect") and called the subsequent speaker the "Vibratone." (The "Vibratone" designation was eventually dropped and subsequent models would be known simply as Leslie Speakers.) Many models of Leslie Speakers have been made over the years; probably the best known being the models 122, 142, 145 and 147. The figure below shows the configuration of a typical twin-rotor Leslie Speaker Cabinet.

The inbuilt digital Leslie on the XK-7 / XK-7D reproduces all three modes - "FAST," "SLOW" and "STOP." In addition, all three modes are available when the XK-7 / XK-7D is connected to an 11-pin Leslie Speaker Cabinet.



ADVANCED EFFECTS

You can add variations to your playing by using Multi-Effects, Preamplifier and Delay/Reverb.



PREAMPLIFER

The term "preampfier" (hereinafter "preamp") was originally a device that amplifies audio signals, as built into the B-3/C-3, but here it refers not only to a simple amplification function, but also to the function that results in changes in tone and distortion.

❶ PREAMP button

Turns the virtual Preamp "ON" or "OFF."

The [ON] LED lights when the preamp is in use.

❷ CLIP LED

Indicates saturating or clipping the audio in the preamp.

Use this for reference when making settings.

❸ DRIVE GAIN knob

Adjusts the input level to the preamp.

Turning this knob clockwise adds an "overdrive" to the sound.

❹ OUT LEVEL knob

Adjusts the volume level if the volume is at an undesired level by setting the [DRIVE GAIN].

NOTE: You can adjust the characteristics of the Preamplifer (P. 92).

EFFECT 1

EFFECT 1 is an effect processor placed before the Preamp.

These effects enhance the sound by changing the amplitude or tone, such as Tremolo or Wah-Wah.

These buttons or knobs can be used not only for editing Parameters but also real-time control during performance.

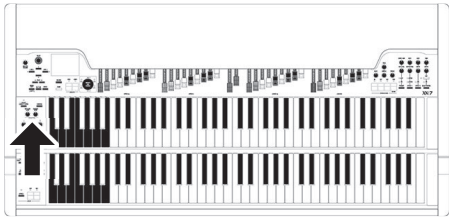
❺ EFFECT 1 button

Turns EFFECT 1 "On" or "Off."

❻ PART lamps

Indicates the Parts which are affected by EFFECT 1.

The Parts which are affected are selected via internal Parameters.



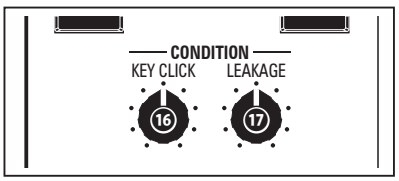
❼ RATE knob

Adjusts the Rate or Sensitivity of the effect.

❽ DEPTH/FREQ knob

Adjusts the Depth, Center Frequency or Gain of the effect.

NOTE: See "EFFECT 1" in the "Setting the Parameters" for a detailed information about EFFECT 1 (P. 88).



EFFECT 2

EFFECT 2 is an effect processor placed after the preamp.

These effects "spread" or modulate the sound, such as Chorus or Phaser.

These buttons or knobs are not only for editing Parameters but also real-time control during playing.

❾ EFFECT 2 button

Turns EFFECT 2 "On" or "Off."

The [ON] LED lights when EFFECT 2 is in use.

❿ RATE knob

Adjusts the rate or speed of the effect.

⓫ DEPTH knob

Adjusts the depth of the effect.

NOTE: See "EFFECT 2" in "Setting the Parameters" for detailed information about EFFECT 2 (P. 94).

DELAY/REVERB

The Delay/Reverb creates two types of effects - Delay, which is a repeating sound, or Reverb which replicates room or hall ambience.

⓬ DELAY/REVERB button

Turns Delay/Reverb "ON" or "OFF."

The [ON] LED lights while Delay/Reverb is in use.

⓭ TAP button

1. Set the Delay time by tapping this button.

   The Delay Time is indicated by the flashing of the [TAP] LED.

2. Erase the Feedback sound by Pressing and Holding this button.

   The beginning of the erasing procedure is indicated by the rapid flashing of the [TAP] LED. Continue to Press and Hold the button longer than the Delay time.

NOTE: The [TAP] button and LED are enabled when Allocate (P. 97) is at "Delay" or "Reverb + Delay."

⓮ TIME knob

Adjusts the Delay/Reverb time.

⓯ DEPTH knob

Adjusts the depth of the Delay/Reverb.

NOTE: See "Delay/Reverb" in "Setting the Parameters" for detailed information about the Delay/Reverb (P. 97).

NOTE: You can select whether the Leslie effect receives Reverb (P. 87).

OTHER ADJUSTMENTS

CONDITION(XK-7D)

These adjust the Key Click for the Tone Wheel and Transistor Organ Types, and the Leakage for the Tone Wheel Organ Type.

⓰ KEY CLICK LEVEL

Setting Range: 0 – 127

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

This allows you to adjust the intensity of the Virtual Multi-Contacts for the UPPER and LOWER Parts.

At "0," the note will sound with no "click" at the onset of the sound as with a traditional electronic instrument.

A higher value will create a faster attack as well as introduce Key Click.

This knob is linked with the **PATCH** - **ORGAN** - **DRAWBARS** - **KEY CLICK** Parameter (P. 82).

⓱ LEAKAGE LEVEL

Setting Range: 0 – 127

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓					

This allows you to adjust the total volume of the Leakage Tone.

A higher value will result in a louder Leakage Tone.

This knob is linked with the **PATCH** - **ORGAN** - **DRAWBARS** - **LEAKAGE LVL** Parameter (P. 82).

tips **ROUTING OF THE DELAY/REVERB**

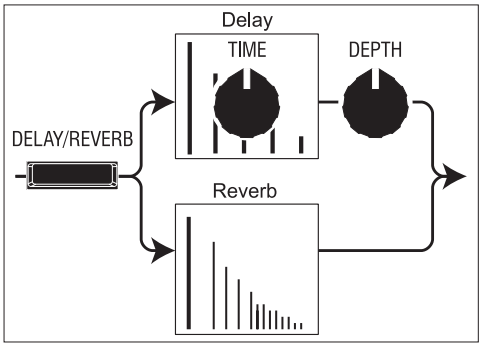
The [DELAY/REVERB] button controls the "send" to the effect, and the [DEPTH] knob controls the "return" from the effect.

If you are using an effect intermittently while playing, use the [DELAY/REVERB] button to avoid silencing the effect sounds suddenly when the effect is "Off."

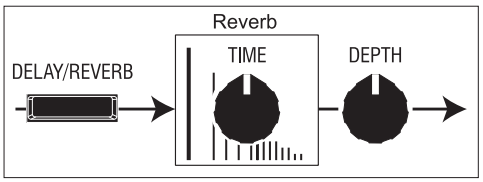
tips **COMBINED EFFECT ALLOCATION OF THE DELAY/REVERB AND KNOBS**

There effect allocations for Delay and Reverb are combined.

If Delay is selected, the [TIME] and [DEPTH] knobs control the Delay.



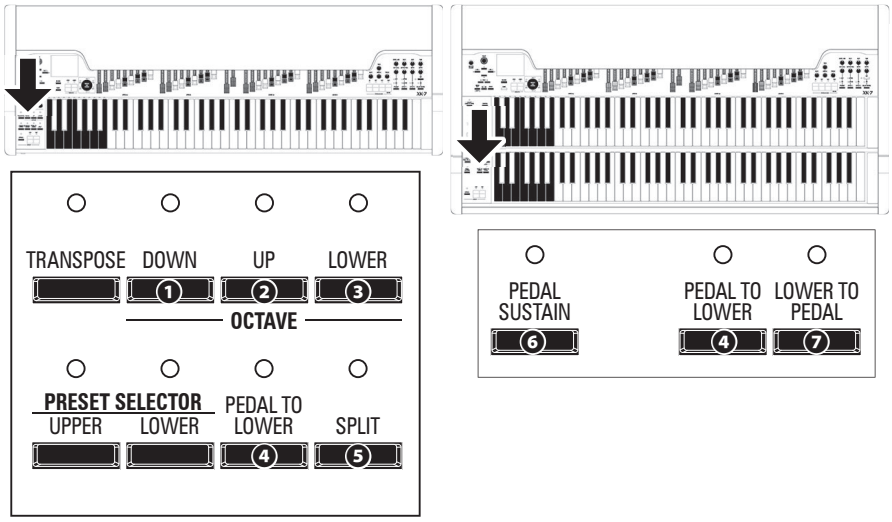
Knob assignment when "Delay" or "Delay + Reverb" is selected.

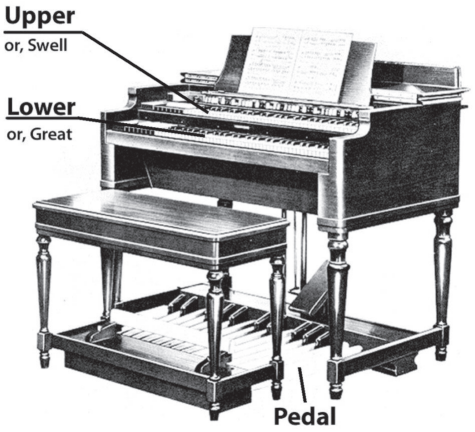


Knob assignment when "Reverb" is selected.

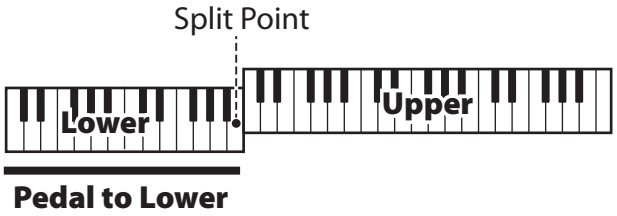
COMBINING PARTS

This instrument can be played as a console organ having Upper and Lower Manuals and Pedals.





KEYBOARD SPLIT (XK-7)



The XK-7 is a single-keyboard instrument, but by using the SPLIT feature it can be made to perform as if it were a two-manual instrument.

USING THE SPLIT FEATURE

To enable the SPLIT feature, press the ❺[SPLIT] button "ON." The LED will light. When SPLIT is active the left portion of the Keyboard is referred to as LOWER while the right portion of the Keyboard is UPPER.

NOTE: You can change the SPLIT Point. This is explained in more detail on page 102.

NOTE: The SPLIT does not function when the MIDI IN mode (P. 155) is set at "Upper / Lower."

CHANGING THE OCTAVE

When using the SPLIT function, the range of notes you want to play may be outside the range of the physical Keyboard. You can solve this by adjusting the octave of the Keyboard.

To change the Octave for each Keyboard,

UPPER.....Press the OCTAVE ❶[DOWN] or ❷[UP] button.

LOWER.....Press and Hold the ❸[LOWER] button and press the OCTAVE ❶[DOWN] or ❷[UP] button.

The current Octave setting is shown in the Display. The LEDs on the buttons will light if the Octave setting is not "0."

NOTE: This instrument has additional OCTAVE Parameters in addition to the OCTAVE buttons (P. 81).

NOTE: You can select the whether add or not add these OCTAVE values to the notes of the External Zones (P. 155).

tips **KEYBOARD AND PARTS**

The classic Hammond Organ has two manuals or Keyboards and a Pedal Keyboard (or pedal clavier). Commonly, the two Keyboards will be registered differently - for example, the UPPER Keyboard will be registered for Melody while the LOWER Keyboard will be registered for either harmonic accompaniment or playing a bass line. In addition, the PEDALs will have a setting appropriate for bass notes.

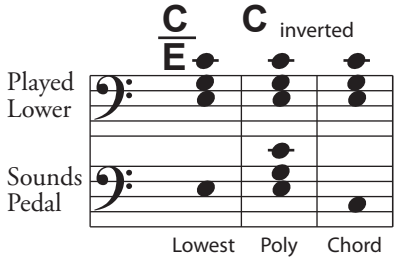
This instrument can function as a classic Hammond Organ by dividing or "Splitting" the Keyboard into two Parts. This spread explain this in more detail.

In addition, the PEDAL Part can be played either from a connected MIDI pedalboard, or from the Keyboard by using the PEDAL TO LOWER feature when SPLIT is active.

tips **DIFFERENCE BETWEEN "SPLIT" AND "PEDAL TO LOWER"**

The "SPLIT" feature divides the Keyboard into two Parts - "UPPER" (right of Split point) and "LOWER" (left of Split point). This allows the instrument to function similarly to a Hammond Organ with two Keyboards. The PEDAL TO LOWER transfers or couples the PEDAL Part to the portion of the Keyboard designated as "LOWER." In addition, you can cause the PEDAL Part to play the lowest note you are holding, or the root note if you are playing a chord on the LOWER portion of the Keyboard. In this way, you can play all three Parts - UPPER, LOWER and PEDAL - from the single Keyboard.

PEDAL TO LOWER



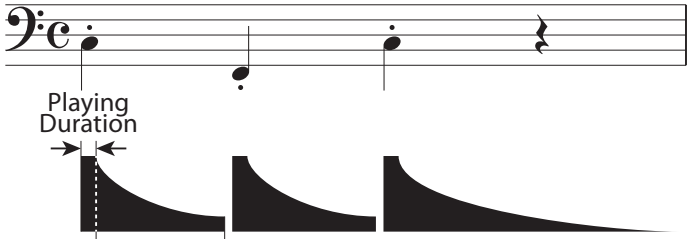
The **PEDAL TO LOWER** feature allows you to play the PEDAL Part from the LOWER Keyboard (left portion of the Keyboard when SPLIT is active, or an expanded MIDI Keyboard).

USING PEDAL TO LOWER

To engage PEDAL TO LOWER, press the ❹[PEDAL TO LOWER] button so the LED lights ON.

NOTE: You can adjust the sounding range or condition of the PEDAL TO LOWER feature. This is explained in more detail on page 102.

PEDAL SUSTAIN



This organ incorporates a feature called **PEDAL SUSTAIN**. When this feature is active, the PEDAL tones will smoothly decay upon release, much in the manner of a string bass.

USING PEDAL SUSTAIN

To engage PEDAL SUSTAIN:

On the XK-7, the PEDAL SUSTAIN is placed in the **CONTACT/SUSTAIN** FUNCTION Mode. (P. 84)

On the XK-7D, press the ❻[PEDAL SUSTAIN] button so the LED lights ON.

NOTE: You can adjust the length of the PEDAL SUSTAIN (P. 84).

LOWER TO PEDAL

The **LOWER TO PEDAL** feature allows you to play the LOWER Part from an expanded PEDAL Keyboard.

USING LOWER TO PEDAL (XK-7D)

To engage LOWER TO PEDAL, press the ❼[LOWER TO PEDAL] button so the LED lights ON.

NOTE: To engage LOWER TO PEDAL on the XK-7, use the Display (P. 102).

tips **TRIGGERING THE PEDAL PART BY USING THE FOOT SWITCH**

You can trigger the PEDAL Part without using a Pedalboard by using a Foot Switch (P. 130).

tips **COUPLER**

"Coupler" is an organ term for a feature such as like the "PEDAL TO LOWER" or "LOWER TO PEDAL." One keyboard or division is "linked" to another, allowing one keyboard to play the sounds of another in addition to its own sounds.

NOTE: The Parameters described on this page are Patch Parameters, meaning that different settings can be Recorded to different Patches.

RECORDING A PATCH / ADJUST PRESET

After you have created your own setting, you can record it as a User Patch (P. 35) or an Adjust Preset ([A♯] or [B]).

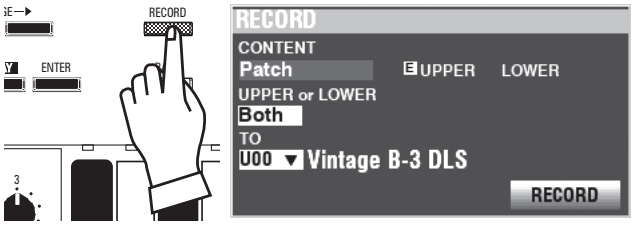
There are two ways to record a Patch or Adjust Preset.

1. Use the [VALUE] knob to select the Patch number or Adjust Preset Key.
2. Use the Preset Keys to select the Bank and Key.

Ex.1: USING THE [VALUE] KNOB TO SELECT

Example: Record to Patch U32

① PRESS THE RED [RECORD] BUTTON



After you have made your changes to a Patch, press the [RECORD] button. The **RECORD** Dialog Box will display.

② SELECT THE ITEM TO RECORD

Use the [VALUE] knob and the DIRECTION buttons to set the CONTENT at "Patch," UPPER or LOWER at Part to Record, and the TO at the Patch number you wish to record.

NOTE: To record to an Adjust Preset, choose the "Adjust Preset A♯" or "B" for CONTENT.

Use the DIRECTION buttons and [VALUE] knob to set the values below:

CONTENT ..... Patch
UPPER or LOWER.. Both
TO U32

Next, move the cursor on the [**RECORD**] icon, press the [ENTER] button.

NOTE: To record different names for the UPPER and LOWER Patches, even within the same Patch Number, do this procedure twice - once for the UPPER and once for the LOWER.

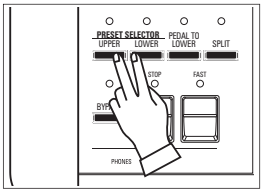
Go to step ④➪

Ex.2: USING THE PRESET KEYS TO SELECT THE BANK AND KEY

This procedure is enabled when the FAVORITE Parameter is set to "Off." (P. 140)

Example: Record to "D♯-D" (Patch U32).

① SELECT THE PART (XK-7 ONLY)

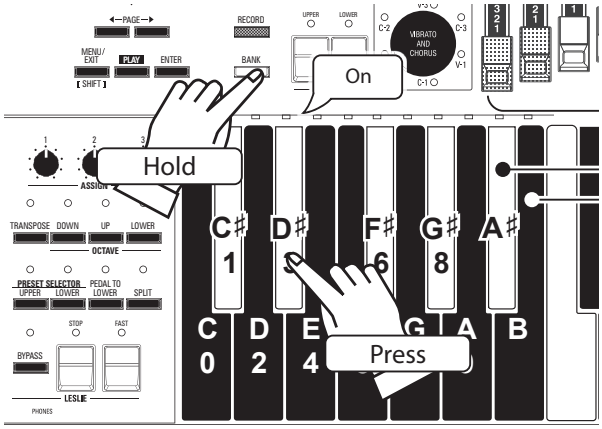


Press the PRESET SELECTOR [UPPER] [LOWER] buttons to select the Part to Record.

② SET THE BANK

Skip this step if you are using the same Preset Bank or if you are Recording to an Adjust Preset.

NOTE: The Adjust Presets has no Banks.

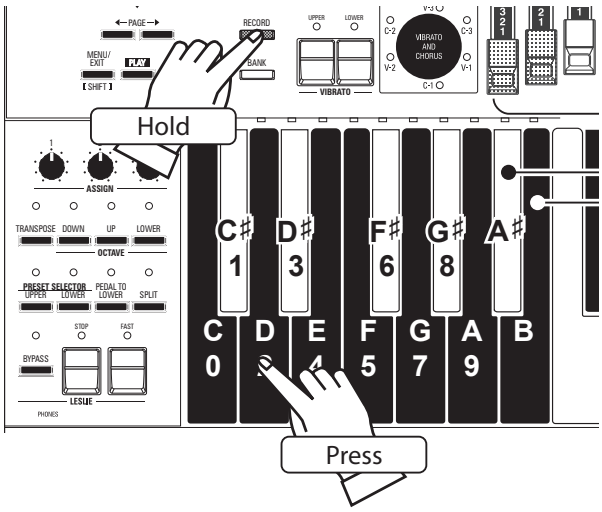


Press the [D♯] Preset Key while holding the [BANK] button.

NOTE: The LED on the Preset Keys indicates the Bank while the [BANK] button is pressed.

NOTE: All the LEDs are flashing slowly when the [BANK] button is released. This indicates a Preset Key has not been selected.

③ SELECT A PRESET KEY

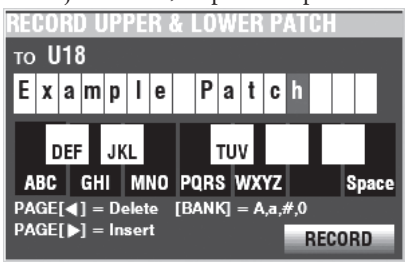


Press the [D] Preset Key with holding [RECORD] button.

NAMING AND RECORDING

④ INPUT THE PATCH NAME

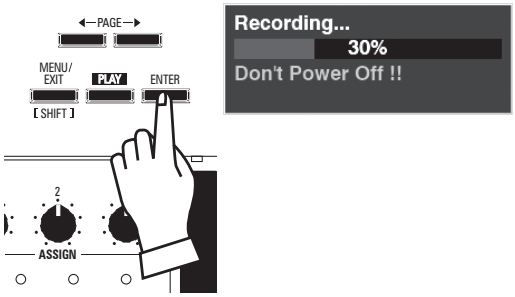
The Adjust Presets do not have Names. If you are Recording to an Adjust Preset, skip this step.



Input the Patch Name.

DIRECTION [◀][▶] .....Move the cursor in the text area.
DIRECTION [▲][▼] .....Move the cursor between text area and [RECORD] icon.
[VALUE] knob .....Change the letter.
PAGE [◀] .....Delete the letter.
PAGE [▶] .....Insert a space.
Preset Keys .....Type a letter directly.
[BANK] .....Change the Key's character group.

⑤ RECORD THE PATCH



After you are finished Naming, move the cursor to the [**RECORD**] icon and press the [ENTER] button.

NOTE: If you DO NOT wish to Record, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

The above message will display for approximately 1 second.

NOTE: Do not turn the power "OFF" while the above message is displaying.

When the Display shows:

the Recording process is finished and your setting has been Recorded.

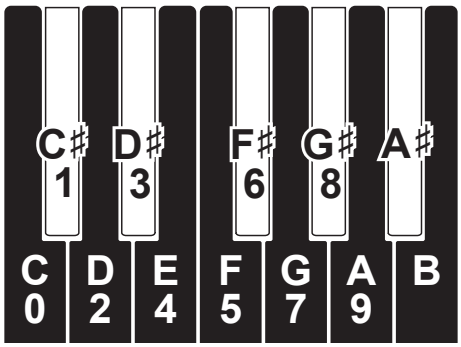
NOTE: If the organ is connected to the computer via a USB cable, the connection will be interrupted during recording. This is normal operation and not a mulfunction.

FURTHER NOTES

PATCHES AND PRESET KEYS

From the factory, the Patches and the Preset Keys are assigned as shown on the chart below:

Key / Bank	C	C♯	D	D♯	E	F	F♯	G	G♯	A
C	U00	U01	U02	U03	U04	U05	U06	U07	U08	U09
C♯	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19
D	U20	U21	U22	U23	U24	U25	U26	U27	U28	U29
D♯	U30	U31	U32	U33	U34	U35	U36	U37	U38	U39
E	U40	U41	U42	U43	U44	U45	U46	U47	U48	U49
F	U50	U51	U52	U53	U54	U55	U56	U57	U58	U59
F♯	U60	U61	U62	U63	U64	U65	U66	U67	U68	U69
G	U70	U71	U72	U73	U74	U75	U76	U77	U78	U79
G♯	U80	U81	U82	U83	U84	U85	U86	U87	U88	U89
A	U90	U91	U92	U93	U94	U95	U96	U97	U98	U99



NOTE: You can make a relate a desired Patch to a Preset Key (Favorites) (P. 140).

RECALLED SETTINGS

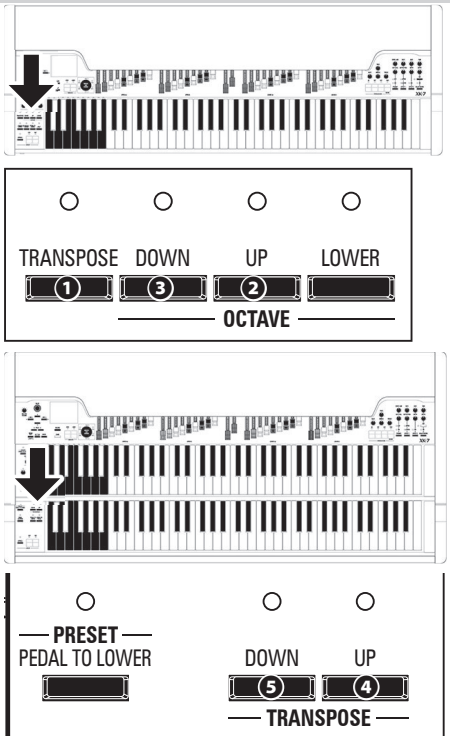
The recalled settings will be limited if Patches or Adjust Presets are selected.

- Setting the Part to be recalled:
  XK-7: PRESET SELECTOR [UPPER][LOWER] buttons.
  XK-7D: PRESET [LOWER TO UPPER][PEDAL TO LOWER] buttons (P. 36).
- The recalled contents in the Patch when a Preset Key is selected are set in the PATCH LOAD (P. 138) by Bank.
- When an Adjust Preset is selected, the physical Drawbar registration will be selected.
- The contents of the Adjust Presets are common in all Banks. The Banks are affected by PATCH LOAD (P. 138) of the current Bank, whether the recorded values or current knob settings for certain Parameters (Preamp, EFFECT 1 & 2, and Delay/Reverb).

TRANSPOSE, TUNE

These Parameters allows you to shift the musical key and the overall tuning of the entire instrument.

TRANSPOSE



❶ TRANSPOSE button (XK-7)

- To raise/lower the pitch by semitones, Press and Hold the [TRANSPOSE] button and press the ❷ [UP] / ❸ [DOWN] button.

❹❺ TRANSPOSE buttons (XK-7D)

- To raise/lower the pitch by semitones, press the ❹ [UP] / ❺ [DOWN] button.

Example: The Transpose is set at "+5."

The Transpose can be set at between -6 to +6 semitones. The Transpose value is shown in the Display.

WHAT IS AFFECTED BY THE TRANSPOSE FUNCTION?

TRANSPOSE will affect:

1. The internal sounds of the instrument.
2. MIDI IN Note Data.
3. MIDI Note Data sent OUT to the External Zones.

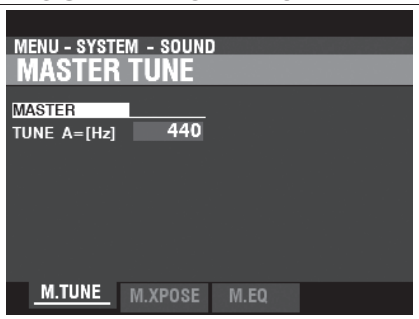
NOTE: TRANSPOSE is a System Parameter; therefore, when the power to the instrument is turned "OFF," it resets to 0. Also, it is not recorded to a Patch.

NOTE: You can select whether Transpose changes while notes are being held or when the next note is pressed after releasing the notes being held (P. 134).

MASTER TUNE

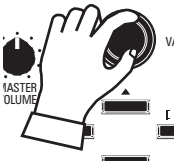
This Parameter changes the overall tuning pitch of the entire instrument. The reference pitch is "A-440." The selectable range is from "A-430" through "A-450."

① LOCATE "MASTER TUNE"



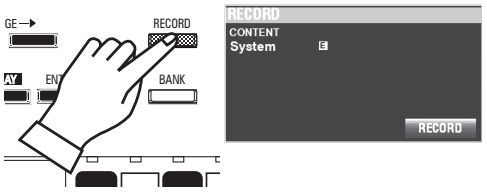
Locate the "**MASTER TUNE**" Page by operating [MENU/EXIT] button - **SYSTEM** - **SOUND** - **M.TUNE**.

② SELECT THE VALUE



Use the [VALUE] knob to set the pitch.

③ RECORD THE SETTING



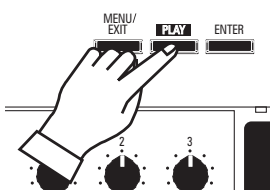
You can Record this setting to be remembered the next time the power is turned "ON."

To do this, press the [RECORD] button in this "**MASTER TUNE**" page. (P. 142)

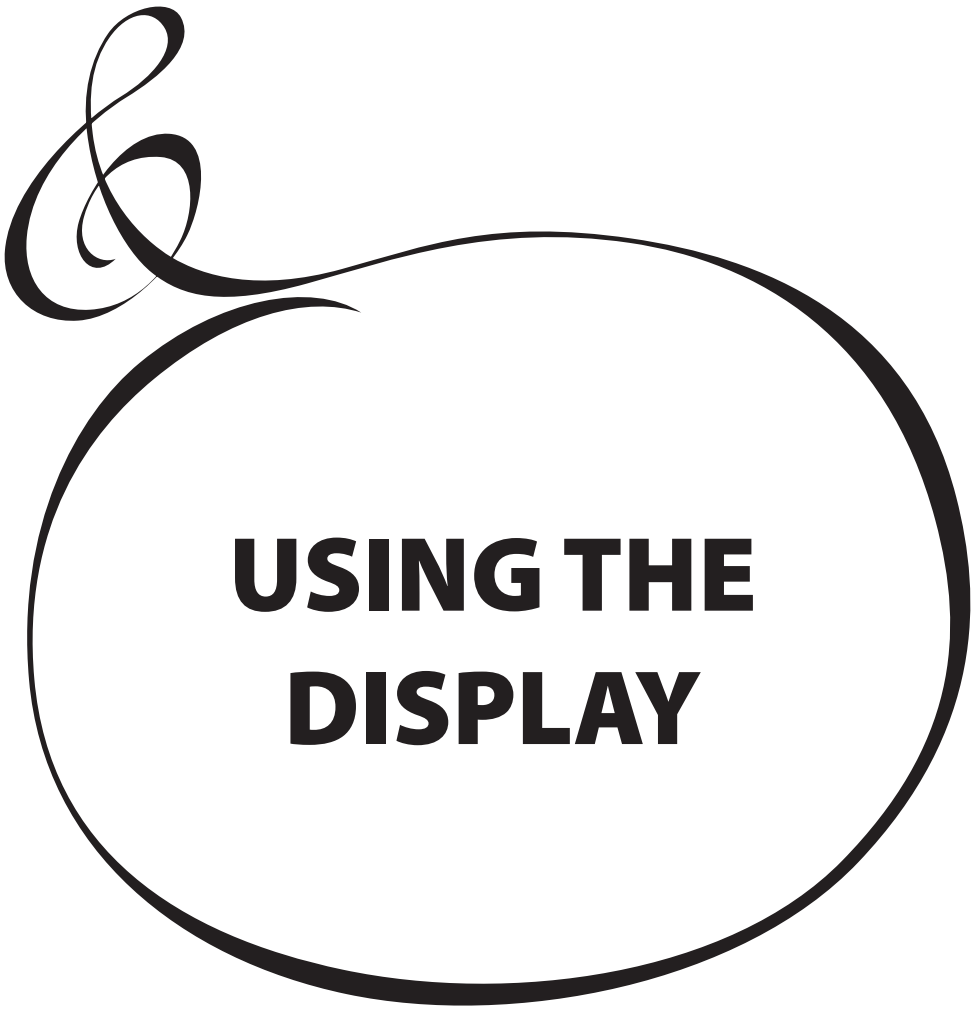
NOTE: This Parameter is a System Parameter (P. 184), and it is common for all the Patches.

NOTE: All edited System Parameters will be Recorded at the same time using this procedure.

④ RETURN TO THE PLAY MODE



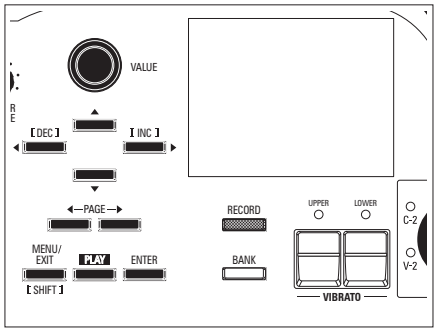
Press the [PLAY] button to return to the PLAY Mode.



USING THE DISPLAY

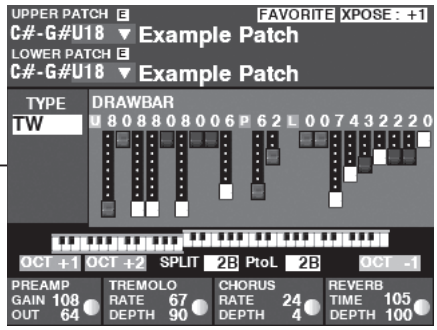
USING THE DISPLAY

The Display and buttons on the Information Center allow you to make various adjustments which cannot be accessed from the other controls on the Control Panel. For example, adjustment of the speed of the digital Leslie rotors, or MIDI setup.



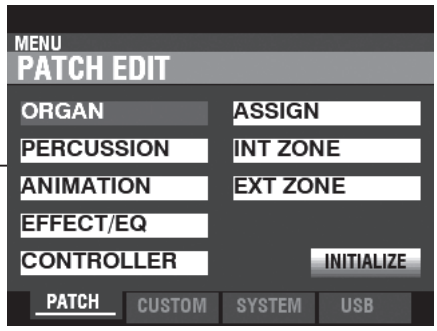
The Display has three (3) Modes - PLAY Mode, MENU Mode and FUNCTION Mode. The next pages explain how to read the Display in each Mode.

- **PLAY Mode (P. 70)**



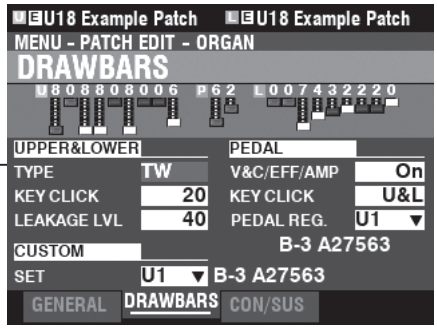
The PLAY Mode allows you to see or modify the current basic settings such as Drawbar settings, Patch Numbers and other information.

- **MENU Mode (P. 72)**



The MENU Mode allows you to see the different FUNCTION Modes where you can customize the instrument.

- **FUNCTION Mode (P. 74)**



The FUNCTION Mode allows you to see and adjust the various Parameters.

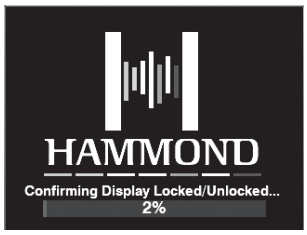
Although the FUNCTION Mode contains many pages, their basic operation is similar.

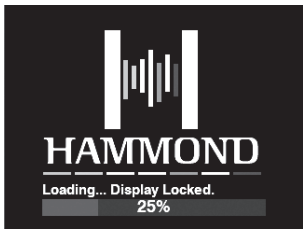
tips **♯(SHARP) AND #(NUMBER SIGN) IN THE DISPLAY SCREEN**

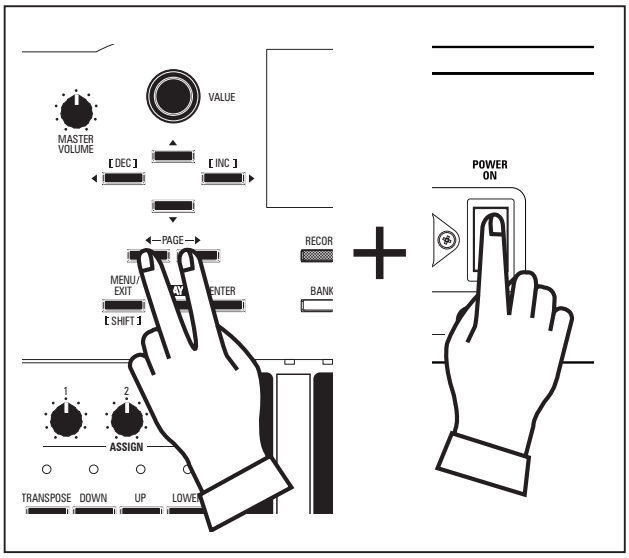
On this organ, the musical symbol ♯(sharp) is displayed as # (number sign) due to functional limitation.

LOCKING THE DISPLAY

You can Lock the Display in order to prevent accidental changes during live performance, or when more than one musician will be using the same instrument.







To Lock the Display, do the following:

1. With the power to the organ "OFF," Press and Hold the two PAGE [◀][▶] buttons.
2. While holding the PAGE buttons, turn the power to the organ "ON." Continue to hold the PAGE buttons until "Confirming Display Locked/Unlocked" is shown in the Display.

   After approximately 5 seconds, "Display Locked" will show at the bottom of the Display. You can then release the PAGE buttons.

   To Unlock the Display, follow the above two steps. You will see "Display Unlocked" in the Display.

When the Display is Locked:

1. [MENU/EXIT] is disabled.
2. [RECORD] is disabled.
3. The "Shortcut" feature is disabled.
4. Patches can still be recalled.

NOTE: If the Display is Locked, you will see a message in the Display when the instrument is first turned "ON:" "Loading...Display Locked."

NOTE: If the Display is Locked, holding the red [RECORD] button and applying power will not Unlock it. Follow the procedure described above to Unlock the Display.

PLAY MODE

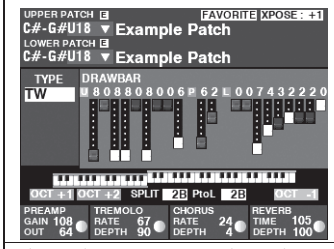
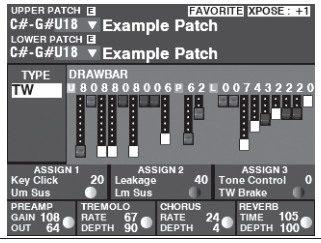
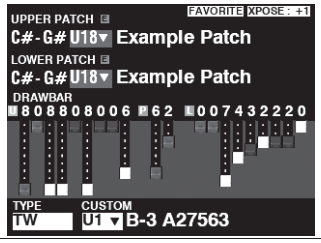
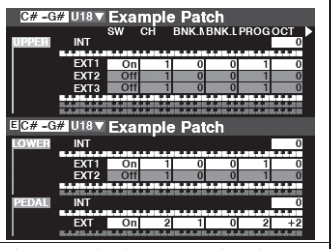
The PLAY Mode is the normal performance mode. The information necessary for ordinary performance will be displayed.

TO LOCATE THIS MODE:

The PLAY Mode is automatically displayed when the instrument is first powered "ON" and the opening screen disappears. If another mode is displayed, press the [PLAY] button.

PLAY MODES

There are four PLAY Mode Types for different applications.

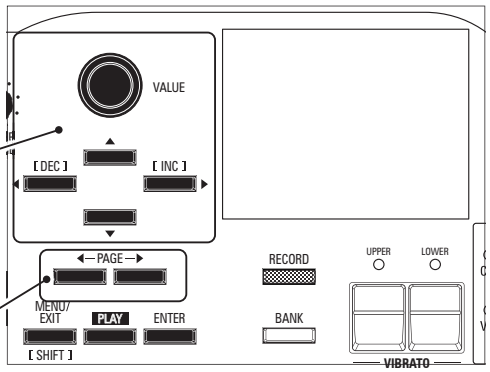
Internal Zones	Assigns	Simple	External Zones
			
This is the most commonly used Type and is shown when the organ is first powered "ON." It displays Internal Zones and Effects, in addition for basic information.	This Type displays assignment and value for Assignable Controllers and Effects, in addition for basic information.	This Type displays basic information only.	This Type displays Internal and External Zones for controlling external MIDI equipment.

NOTE: You can select either Horizontal or Vertical Drawbar display (P. 136).

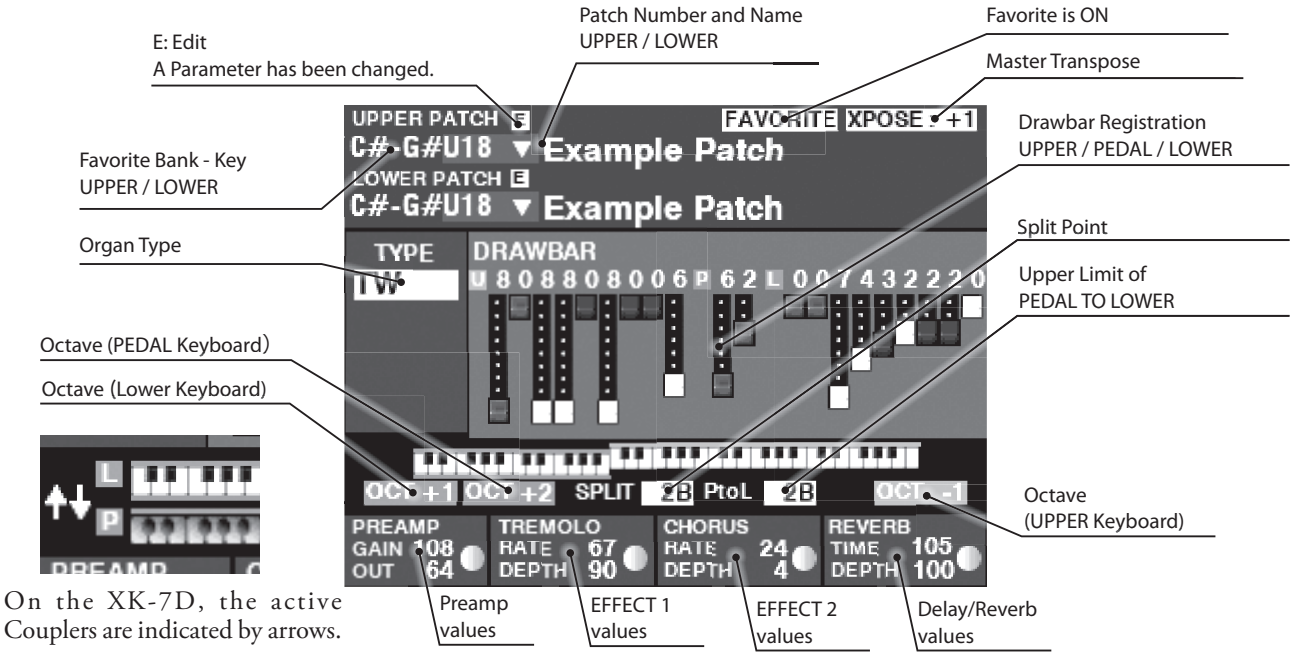
OPERATION

Each PLAY Mode allows you to select the Patches and adjust the displayed Parameters.

The Types are selected by the [PLAY] or PAGE [◀] / [▶] buttons.

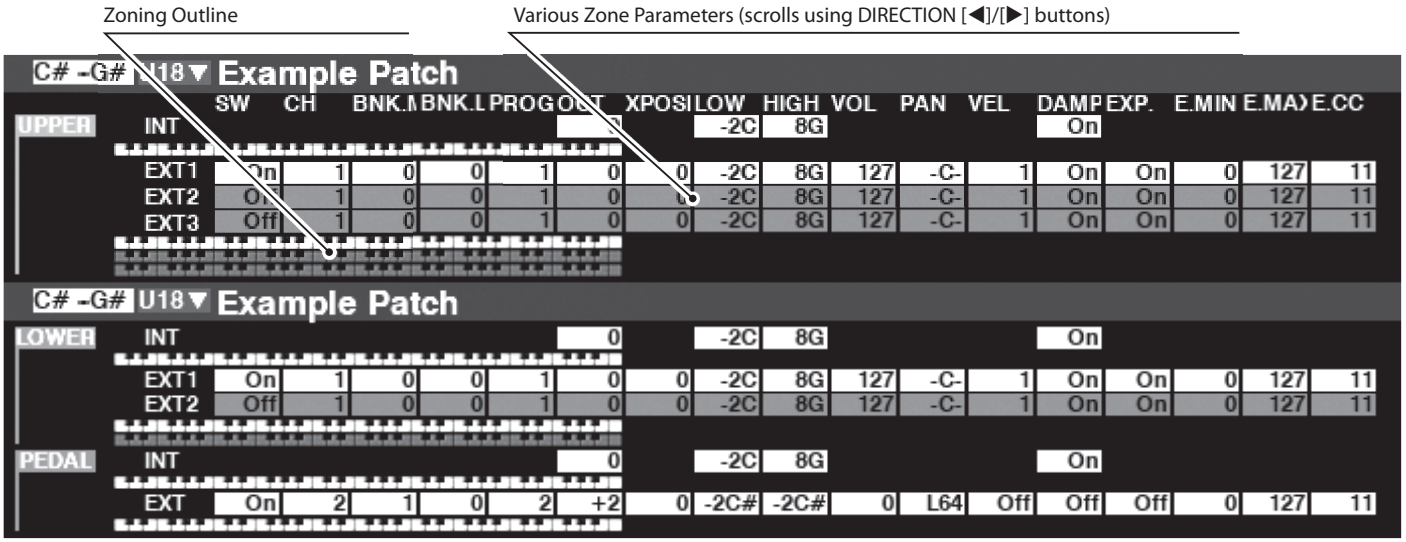


HOW TO READ THE DISPLAY (INTERNAL ZONES)



On the XK-7D, the active Couplers are indicated by arrows.

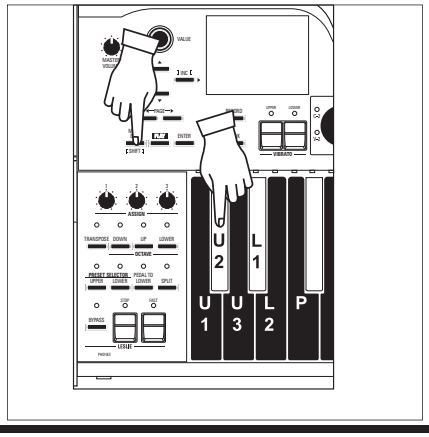
HOW TO READ THE DISPLAY (EXTERNAL ZONES)



The Internal Zones (P. 102) and the External Zones (P. 103) are advanced features for controlling the internal sound engine or external MIDI equipment.

NOTE: There are multiple Octave parameters in this organ, and values shown for the "OCT" column on the INT row are taken from ORGAN - GENERAL (P. 81).

You can select whether you want each External Zone to transmit MIDI data by Pressing and Holding the [SHIFT] button and pressing the specified Preset Key to turn MIDI transmission "On" or "Off" for each External Zone (see the illustration on the right).



MENU MODE

As explained earlier, the MENU Mode allows you to see the different FUNCTION Modes where you can customize the instrument.

To locate this mode:

PRESS THE [MENU/EXIT] BUTTON.

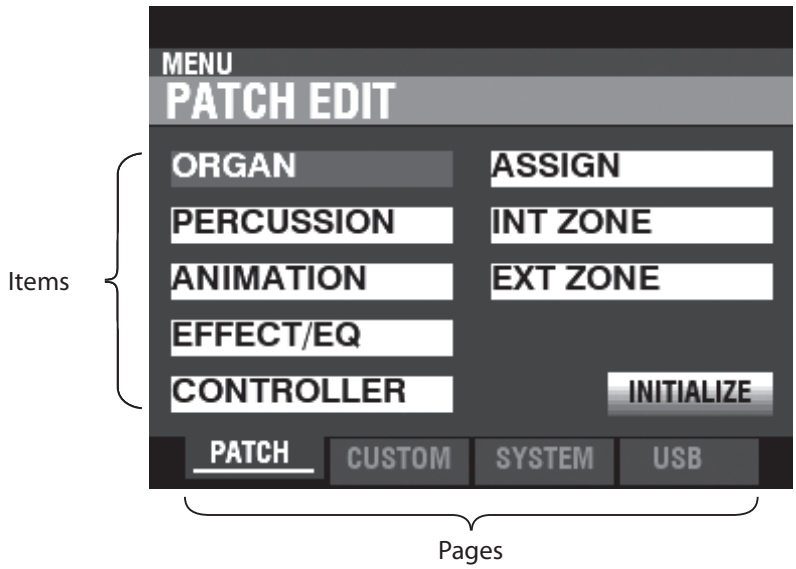
The MENU Mode has four Pages.

Use the PAGE [◀]/[▶] buttons to scroll through the Pages.

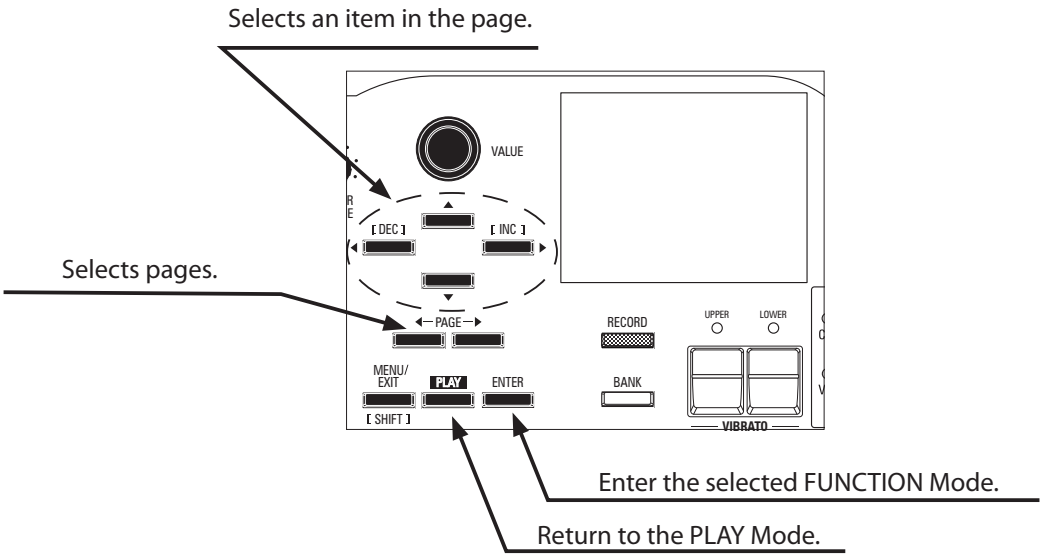
Use the DIRECTION buttons to select the desired FUNCTION Mode.

After doing the above, press the [ENTER] button to enter the desired FUNCTION Mode.

HOW TO READ THE DISPLAY



OPERATION IN THIS MODE



MENU MODE CONTENTS

PATCH (P. 80)

1. **ORGAN (P. 81)**

   This allows you to adjust the basics of an ORGAN Patch such as Volume, Sounding range, Virtual Multi-Contacts, etc.

2. **PERCUSSION (P. 85)**

   This allows you to make various changes to the characteristics of the Percussion.

3. **ANIMATION (P. 86)**

   This allows you to adjust the Vibrato & Chorus of the Tone Wheel Organs, Vibrato for the Transistor Organs, and Tremulant for the Pipe Organ as well as the digital Leslie.

4. **EFFECT / EQ (P. 88)**

   This allows you to adjust effects such as Overdrive, Reverb, Chorus, etc., as well as to adjust the Equalizer.

5. **CONTROLLER (P. 100)**

   This allows you to adjust how you want the Pitch Bend, Damper, Tone Wheel Brake or ProChord to function with each Patch.

6. **ASSIGN (P. 101)**

   This allows you to assign various functions to the ASSIGN knobs and buttons.

7. **INTERNAL ZONE (P. 102)**

   This allows you to adjust how the Keyboard will control the functions of the internal sound engine such as SPLIT or Coupler.

8. **EXTERNAL ZONE (P. 103)**

   This allows you to adjust the Parameters for transmitting to external MIDI devices.

9. **INITIALIZE icon (P. 106)**

   This icon initializes temporary Patch Parameters.

CUSTOM (P. 108)

1. **TONE WHEEL (P. 109)**

   This allows you to edit the characteristics of the Tone Wheel Organ.

2. **PEDAL REG. (P. 118)**

   This allows you to edit the harmonics used by the PEDAL Drawbars of the Tone Wheel Organ.

3. **LESLIE (P. 119)**

   This allows you to edit the inbuilt digital Leslie.

4. **CONTACT (P. 116)**

   This allows you to edit or create the Virtual Multi-Contacts of the Tone Wheel Organ.

5. **PIPE (P. 122)**

   This allows you to select and edit each Pipe Organ Stop.

SYSTEM (P. 126)

1. **SOUND (P. 127)**

   This allows you to adjust Master Tune, Transpose, and Master Equalizer.

2. **AUDIO (P. 128)**

   This allows you to adjust the audio configuration between Voice Sections and output jacks.

3. **CONTROL (P. 130)**

   This allows you to adjust the Parameters for the various Controllers such as Foot Switch, Expression Pedal, Display and Keyboard.

4. **PATCH LOAD (P. 138)**

   This allows you to select which contents are loaded when a Patch is selected.

5. **FAVORITE (P. 140)**

   This allows you to select and edit Favorites.

6. **MIDI (P. 154)**

   This allows you to adjust MIDI Channels, and various messages for the MIDI port and the USB MIDI.

7. **GLOBAL (P. 139)**

   This allows you to adjust the AUTO POWER OFF time.

8. **DEFAULT (P. 143)**

   This allows you to initialize all or part of the organ to factory settings.

9. **INFORMATION (P. 144)**

   This allows you to see which jacks on the Accessory Panel are currently active and which version of software is currently installed. Also allows you to update the software.

USB FLASH DRIVE

1. **LOAD (P. 164)**

   This allows you to Load Setups, Patches or Custom Files from the USB Flash drive.

2. **SAVE (P. 163)**

   This allows you to Save Setups, Patches, Custom Files, etc., to the USB Flash drive.

3. **DELETE (P. 167)**

   This allows you to Delete Setups, Patches or Custom Files, from the USB Flash drive.

4. **FORMAT (P. 161)**

   This allows you to initialize the USB Flash drive.

5. **SONG (P. 165)**

   This allows you to record your performance and save as a Song to a USB Flash drive, or playback Songs from a USB Flash drive.

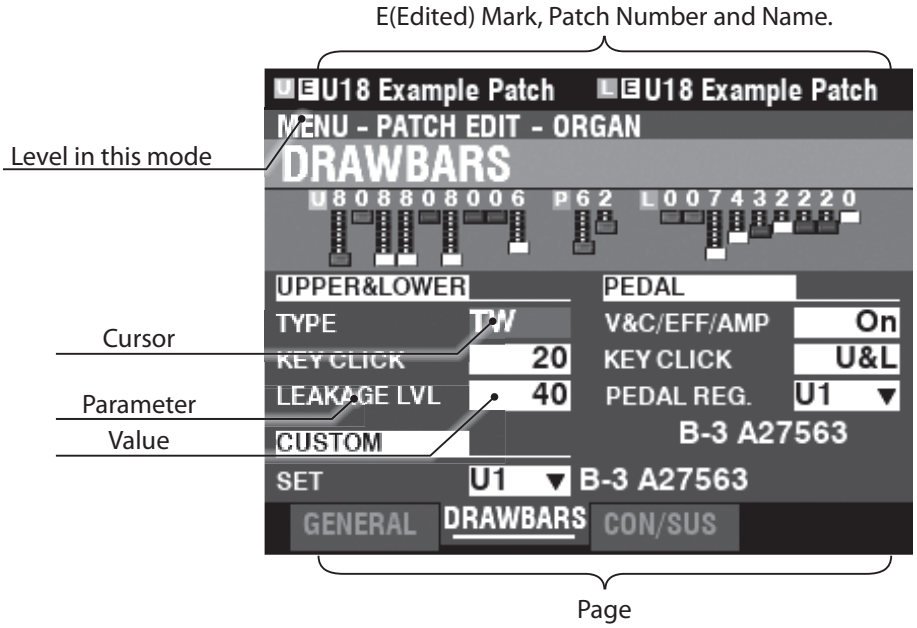
tips **ICON**

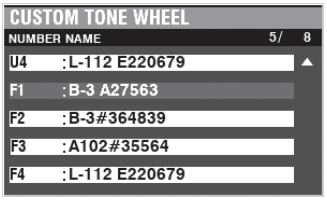
For the XK-7 / XK-7D, the word "icon" is used to denote a button on the Display. This is to differentiate the buttons shown in the Display from physical buttons on the Control Panel.

FUNCTION MODE

The FUNCTION Mode allows you to see and adjust the various Parameters. Although the FUNCTION Mode contains many pages, their basic operation is similar.

HOW TO READ THE DISPLAY





tips **LIST SELECTION**

A "▼" showing in the Display indicates multiple selections are available.

To open a List Menu, move the cursor to one of the values shown in the Display and press the [ENTER] button.

You can select an available option either by using the [VALUE] knob or Pressing and Holding the [SHIFT] button and pressing the [DEC] / [INC] buttons. To close the List, press the [ENTER] button again.

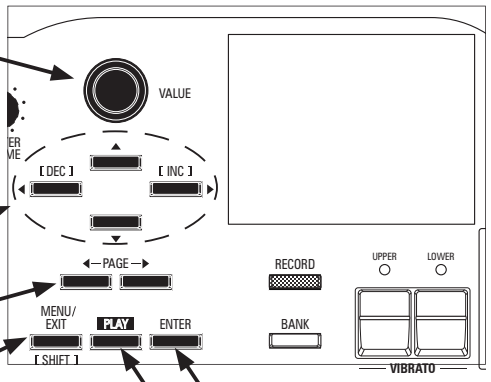
OPERATION IN THIS MODE

Adjusts the value.
The value will increase or decrease by steps.
The value will increase or decrease by coarse steps while holding [SHIFT] button.

Selects an item in the page.
Increases/decreases the value by steps by pressing the [DEC] / [INC] buttons while holding the [SHIFT] button.

Moves the Pages.

Moves up one level in this Mode.



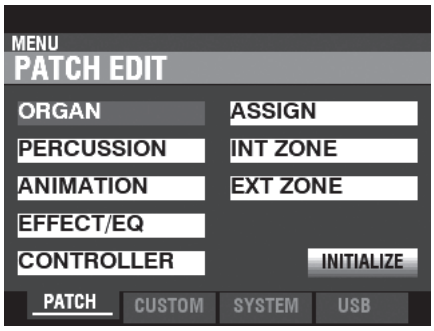
Selects the icon in the Page.

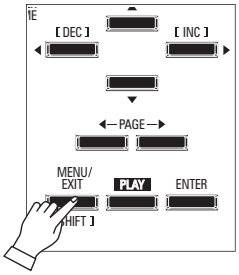
Return to the PLAY Mode.

EXAMPLE OF OPERATION

Example: Select a Leslie Cabinet

① GO TO THE MENU MODE

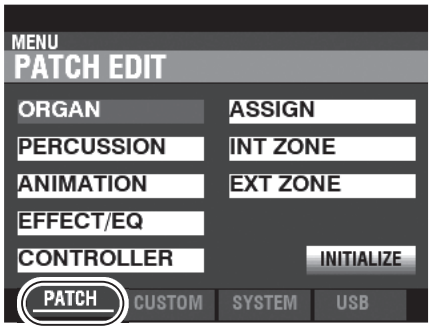


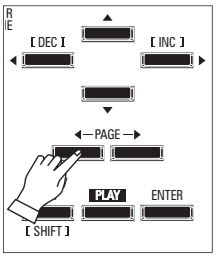


This example will show you how to select a Leslie Cabinet.

Press the [MENU/EXIT] button. The MENU Mode will appear.

② MOVE THE PAGE IN THE MENU MODE

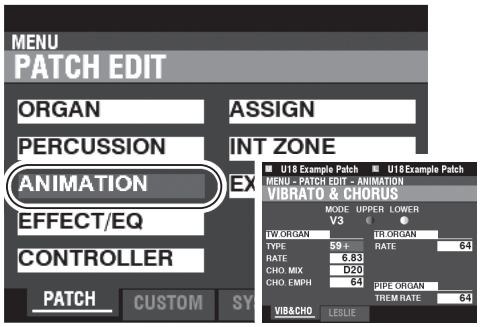


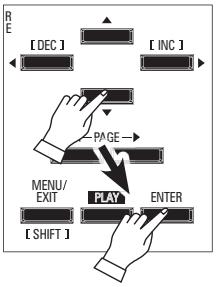


Use the PAGE [◀]/[▶] buttons to select the different Pages in each Menu.

For this example, the PATCH Edit Menu is already displayed so it is not necessary to touch either of the PAGE [◀]/[▶] buttons.

③ SELECT THE ITEM IN THE PAGE AND ENTER THE FUNCTION MODE





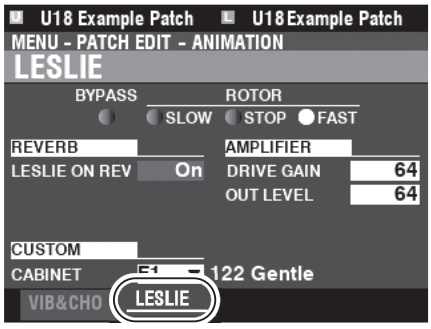
Use the DIRECTION buttons to select the item to edit.

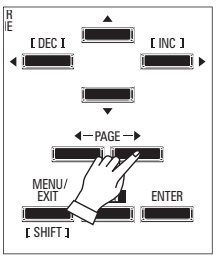
For this example, press the [▼] button to select "**ANIMATION**."

Press the [ENTER] button to select each FUNCTION Mode.

For this example, the **VIBRATO AND CHORUS** page of the **ANIMATION** FUNCTION Mode is selected.

④ MOVE THE PAGE IN THE FUNCTION MODE

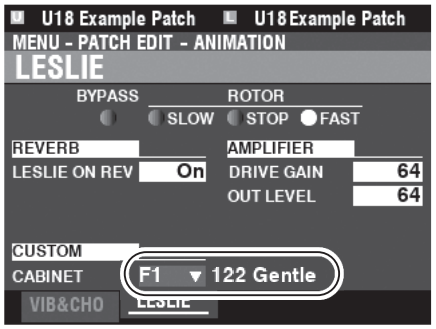


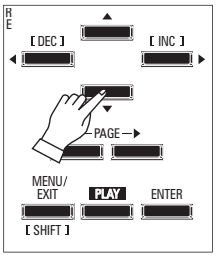


Use the PAGE [◀]/[▶] buttons to select the individual FUNCTION Mode Page you want to edit.

For this example, press the PAGE [▶] button to select the **LESLIE** FUNCTION Mode Page.

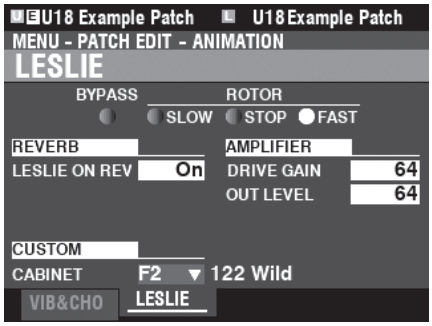
⑤ MOVE THE CURSOR TO THE PARAMETER

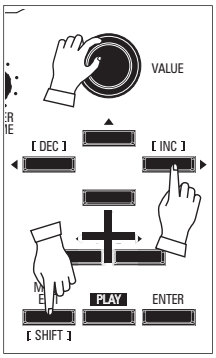




Use the DIRECTION buttons to move the cursor to the Parameter you wish to adjust. For this example, select "CUSTOM CABINET."

⑥ CHANGE THE VALUE





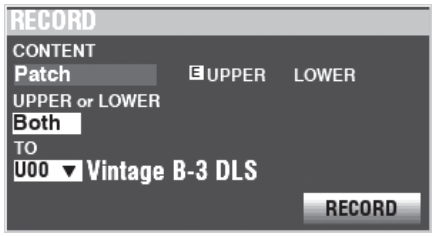
Use the [VALUE] knob to change the selected value. For this example, increase the value by turning the [VALUE] knob to the right.

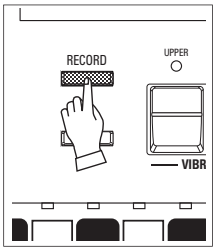
NOTE: The [E] mark appears when the value has changed.

NOTE: You can also change values by using the [DEC] / [INC] buttons while Pressing and Holding the [SHIFT] button.

NOTE: To change other Parameters, repeat steps 1 through 6 above and on the previous page.

⑦ RECORD THE PATCH



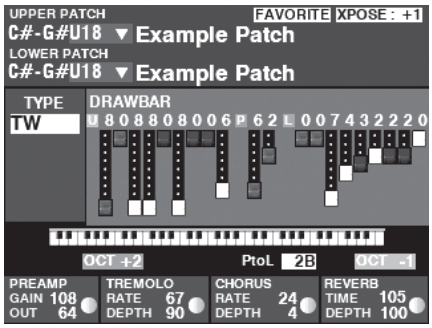


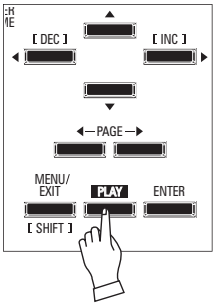
These settings are "temporary," and will not be remembered if another Patch is selected, or if the instrument is turned "OFF."

To Record your settings, see page 64.

NOTE: The [E] mark disappears after the Patch has been Recorded.

⑧ RETURN TO THE PLAY MODE





Press the [PLAY] button to return to the PLAY Mode.

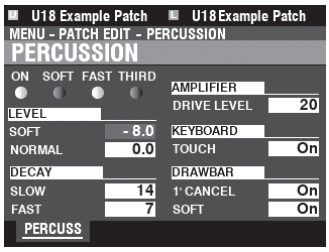
"SHORTCUTS"

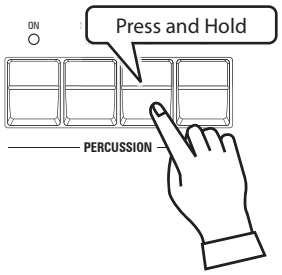
To make programming quicker and easier, many of the buttons on the Control Panel can be used to access the FUNCTION Mode associated with that button instantaneously. This is called a "Shortcut."

Pressing and Holding any of the buttons or turning any of the knobs while holding the [SHIFT] button on the Control Panel automatically "shortcuts" the Display to the related FUNCTION Mode.

SHORTCUT EXAMPLE

Example: Locate the **PERCUSSION** FUNCTION Mode



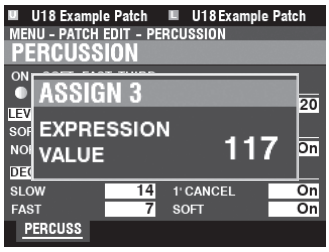


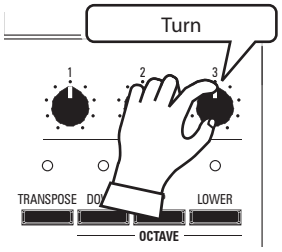
If you wish to edit the Percussion settings, Press and Hold any of the four PERCUSSION buttons ([ON], [SOFT], [FAST], or [THIRD]) and the Display will immediately show the **PERCUSSION** FUNCTION Mode.

See the next chapter "Patch Parameters" for the association between button or knobs and FUNCTION Modes.

NOTE: You can change the Display Shortcut time. This is explained in more detail on page 136.

"POP-UP"

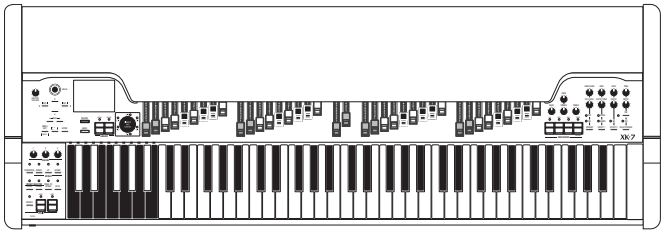




When you operate a knob or a Drawbars, you can see its value even if an unrelated page is displayed in this organ.

For example, if you turn the ASSIGN [3] knob while the page "**PERCUSSION**" is displayed on the screen, a temporary "pop-up" will appear showing the function and value assigned to it (in this example, "Expression").

NOTE: You can change the Display "pop-up" time. This is explained in more detail on page 136.

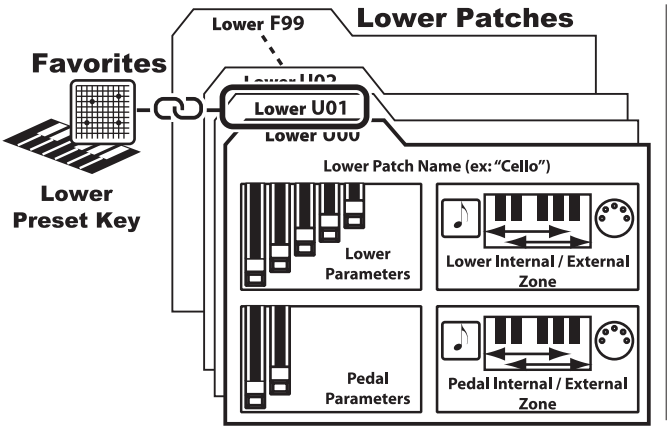


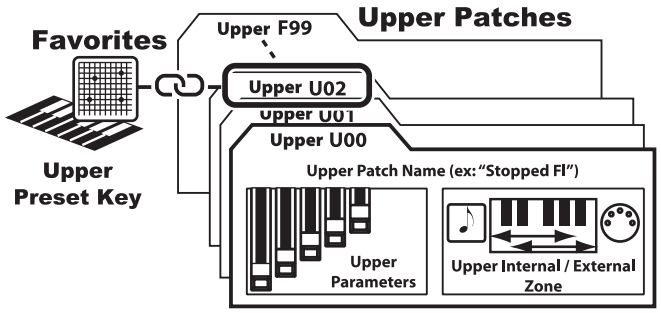
PATCH PARAMETERS

"Patches" are the basic memory units of the XK-7 / XK-7D which store various Parameter settings and which can be recalled during performance. A Patch can contain not only settings of the buttons and knobs on the Control Panel but also MENU Parameters.

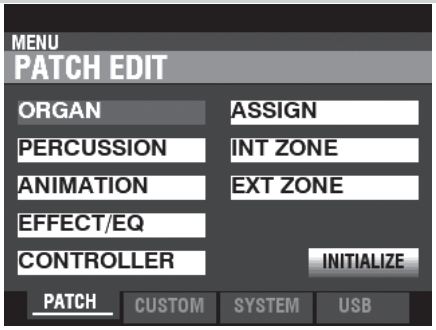
To locate this mode:

[MENU/EXIT] - **PATCH**





MENU AND CONTENTS



1. **ORGAN (P. 81)**

   This allows you to adjust the basic components of the Organ sound.

2. **PERCUSSION (P. 85)**

   This allows you to adjust the characteristics of the UPPER PERCUSSION.

3. **ANIMATION (P. 86)**

   This allows you to adjust the Animation features such as Vibrato/Chorus and Leslie.

4. **EFFECT/EQ (P. 88)**

   This allows you to adjust various effects such as Overdrive, Multi Effects, Reverb, etc., as well as an Equalizer.

5. **CONTROLLER (P. 100)**

   This allows you to adjust Parameters for the Pitch Bend, Damper Pedal, Tone Wheel Brake and ProChord.

6. **ASSIGN (P. 101)**

   This allows you to assign various functions to the ASSIGN knobs and buttons.

7. **INTERNAL ZONE (P. 102)**

   This allows you to determine how the Keyboard will interact with the internal sound engine.

8. **EXTERNAL ZONE (P. 103)**

   This allows you to configure Zones for controlling external MIDI devices.

9. **INITIALIZE icon (P. 106)**

   This allows you to initialize all the temporary Patch Parameters in order to allow you to create a custom Patch from the default status of the Parameters.

This FUNCTION Mode allows you to adjust the basic components of the Organ sound such as Patch Volume, Sounding Range, Organ Type, Virtual Multi-Contact, etc.

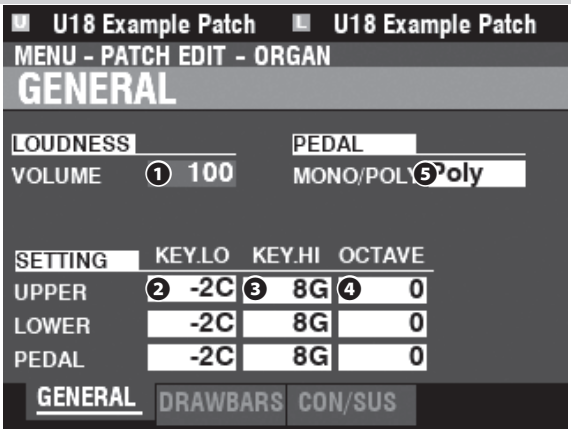
To locate this mode:

[MENU/EXIT] - **PATCH** - **ORGAN** - [ENTER]

This FUNCTION Mode contains the Pages listed below:

1. **GENERAL** (P. 81)
2. **DRAWBARS** (P. 82)
3. **CONTACT/SUSTAIN** (P. 84)

GENERAL



This Page allows you to adjust Patch Volume, as well as the Sounding Ranges and Octave settings for each Part.

LOUDNESS

❶ VOLUME

Setting Range: 0 – 127

This allows you to adjust the volume of the selected Patch.

SETTING

❷ KEY RANGE LOW

❸ KEY RANGE HIGH

Setting Range: -2C – 8G

This allows you to adjust the sounding range for each Part.

❹ OCTAVE

Setting Range: -2 – 0 – +2

This allows you to set the octave for each Part.

NOTE: The actual octave in which a Part will sound will be the sum of this Parameter plus the OCTAVE setting of the INTERNAL ZONES. See page 102 for more information about Octaves.

PEDAL

❺ MONO/POLY

Settings: Mono, Poly

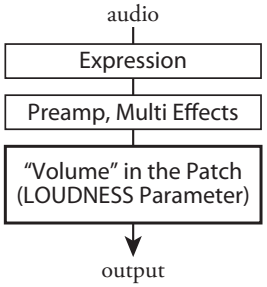
This allows you to set the sounding method of the PEDAL Part when playing from a Pedalboard.

Mono.....The lowest note will sound.
Poly.....Multiple notes will sound.

NOTE: To set the sounding method using the PEDAL TO LOWER feature, see INTERNAL ZONES (P. 102).

tips **LOUDNESS - VOLUME**

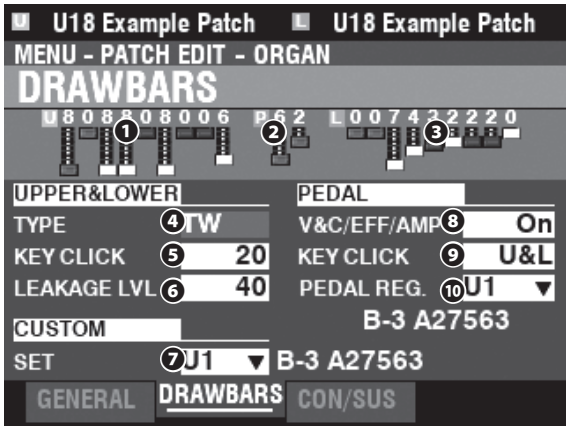
The LOUDNESS - VOLUME Parameter adjusts the total volume of the Patch after Effects have been added. Use this Parameter to adjust volume balance between and among Patches.



DRAWBARS

Shortcut: [SHIFT] + any Drawbars
[SHIFT] + [KEY CLICK], [LEAKAGE] (XK-7D)

This Page allows you to adjust the Drawbar Parameters for each Part.



❶❷❸ Registrations UPPER, PEDAL and LOWER

This allows you to see the Drawbar Registrations for each Part.

UPPER AND LOWER PARTS

These Parameters allow you to adjust the characteristics of the Drawbars for the UPPER and LOWER Parts.

❹ TYPE

This allows you to select the ORGAN Type.

TW..... Tone Wheel Organ such as B-3/C-3.
Mellow..... Electronic Organ with sine wave oscillators.
Vx...... Reproduces the sound of a vintage British Transistor Organ.
Farf...... Reproduces the sound of a vintage Italian Transistor Organ.
Ace...... Reproduces the sound of a vintage Japanese Transistor Organ.
Pipe..... Classical and Theatre Pipe Organs.

❺ KEY CLICK LEVEL

Setting Range: 0 – 127

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

This allows you to adjust the intensity of the Virtual Multi-Contacts for the UPPER and LOWER Parts.

At "0," the note will sound with no "click" at the onset of the sound as with a traditional electronic instrument.

A higher value will create a faster attack as well as introduce Key Click.

This Parameter is linked with the [KEY CLICK] knob (XK-7D only).

❻ LEAKAGE LEVEL

Setting Range: 0 – 127

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓					

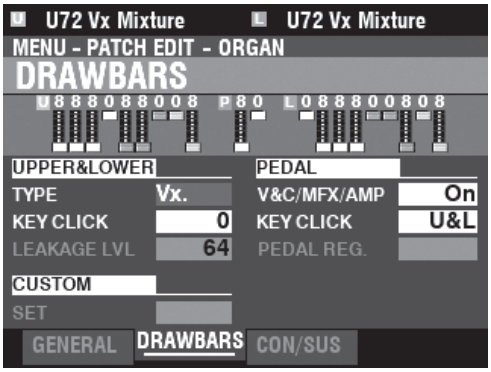
This allows you to adjust the total volume of the Leakage Tone.

A higher value will result in a louder Leakage Tone.

This Parameter is linked with the [LEAKAGE] knob (XK-7D only).

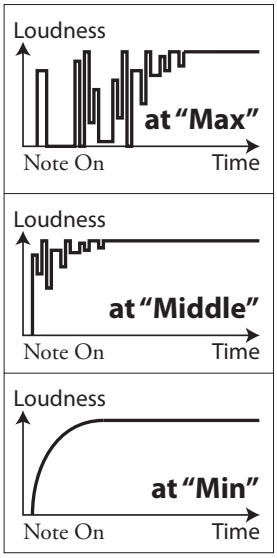
tips **DISABLED PARAMETERS**

All of the ORGAN Parameters affect the Tone Wheel Organs; however, some of the ORGAN Parameters do not affect the Transistor or Pipe Organs - for example, Leakage Level, PEDAL Type and Custom Tone Wheels. If a particular Parameter does not affect the selected Organ Type, it will be "greyed out" or darkened in the Display (see the example below). However, the value of a disabled Parameter can still be adjusted using the [VALUE] knob.



tips **KEY CLICK**

On Tone Wheel organs such as the B-3/C-3, each time a key is depressed 9 electrical switch contacts are closed by means of 9 horizontal flat springs which touch 9 busbars. Each time a contact is closed or released, a "key click" was produced. The XK-7 / XK-7D replicates the feature.



How the "Key Click Level" works.

tips **LEAKAGE TONE**

On a vintage B-3/C-3, there may be a slight amount of signal leak between notes (page 112). The XK-7 / XK-7D replicates this feature.

❼ CUSTOM SET

Setting Range: U1 – U4, F1 – F4

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓					✓

This allows you to select a Custom set (P. 174) for each Tone Wheel Organ (P. 109) and Pipe Organ (P. 122).

PEDAL PART

These Parameters allow you to adjust the characteristics of the Drawbars for the PEDAL Part.

❽ V&C / EFF / AMP

Settings: Off, On

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

This allows you to select whether the PEDAL Part will be affected by Vibrato & Chorus, EFFECTS 1 and 2 and the Preamplifier.

On.....All of the effects will affect the PEDAL Part along with the UPPER and LOWER Parts. Use this setting to play the organ as "one instrument" for all Parts.

Off.....The effects do not affect the PEDAL Part to create a "clean" sound. Use this setting to play the UPPER, LOWER and PEDAL Parts in a "melody - chord - bass" style.

❾ KEY CLICK LEVEL

Settings: Off, U&L

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

This allows you to adjust the intensity of the Virtual Multi-Contacts for the PEDAL Part.

Off.....The note will sound with no "click" at the onset of the sound as with a traditional electronic instrument.

U&L.....Linked with UPPER & LOWER ❺.

❿ SUB DRAWBARS

Setting Range: U1 – U4, F1 – F4

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓					

This allows you to select the harmonic settings for the PEDAL or Custom Sub Drawbars (P. 118) when the "TW" Type ❹ is selected.

tips **CUSTOM**

In this organ, Parameters that are too detailed to set as Patch Parameters are edited and stored as "Custom" units, and you can access them by selecting the Custom Number.

tips **V&C / EFF / AMP**

On earlier vintage Hammond Organs, the UPPER, LOWER and PEDAL divisions share Vibrato & Chorus, and the preamplifier is shared with all the Manual and Pedal divisions. Therefore, a slight amount of distortion is caused by the PEDAL division interfering with the Manual divisions.

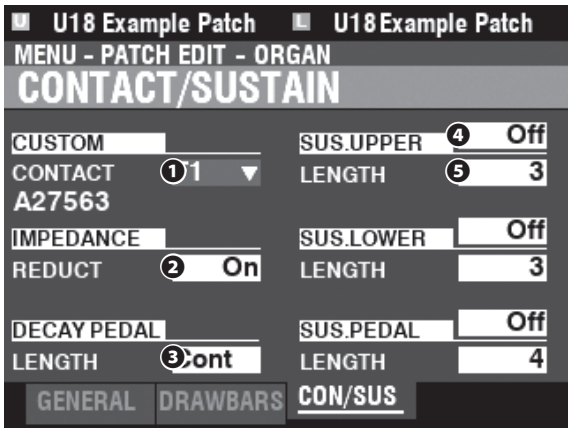
Starting with the B-2/C-2 and later models, these were separated, masking a cleaner sound. But the sharing referred to above creates a unique sound character. The XK-7 / XK-7D replicates this feature.

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

CONTACT/SUSTAIN

Shortcut: [PEDAL SUSTAIN] (XK-7D)

This Page allows you to adjust the Parameters for the Virtual Multi-Contacts and Sustain.



VIRTUAL MULTI-CONTACT

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓				

❶ CUSTOM CONTACT SET

Setting Range: U1 – U4, F1 – F4

This allows you to select a Custom set (P. 174) for each Tone Wheel Organ (P. 116).

NOTE: The Virtual Multi-Contacts and this Parameter will work when the SOUNDING POINT (P. 137) is set at "Patch."

IMPEDANCE

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓				

❷ REDUCTION

Settings: Off, On

This allows you to select whether the volume will be slightly reduced when multiple keys are pressed and held and additional keys are pressed.

NOTE: When using Sustain on the UPPER or LOWER Parts, the reduced volume is not returned by releasing keys. Notes will sound at the updated volume when the next keys are pressed.

NOTE: The Impedance Reduction can be adjusted as a Custom Tone Wheel (P. 115).

DECAY PEDAL

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

❸ LENGTH

Settings: 1 – 10, Cont

This allows you to select whether PEDAL notes will sound continuously or decay similar to a plucked string bass, and to select the length of the decay.

A higher value will result in a slower Decay. If "Cont" (Continuous) is selected, the PEDAL tone will sound continuously with no decay when pedals are pressed and held.

SUSTAIN UPPER / LOWER / PEDAL

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

This allows you to add a smooth decay to the UPPER, LOWER and PEDAL Drawbar tones.

❹ SWITCH

Settings: Off, On

This allows you to turn Sustain "On" or "Off" on the selected Part.

NOTE: If Sustain is "ON," all of the Virtual Multi-Contacts will fade out at the same rate and no Key Click or Delay is applied to the Release of the notes.

NOTE: SUS. PEDAL is linked with the [PEDAL SUSTAIN] button on the Control Panel (XK-7D only).

NOTE: You can enable Sustain for the UPPER and LOWER Parts by pressing a Foot Switch (P. 130).

❺ LENGTH

Setting Range: 1 – 10

This allows you to adjust the length of the Sustain effect for the selected Part.

tips **WHAT ARE CONTACTS?**

The B-3/C-3 keys use a mechanism known as "Multi-Contact" to start and stop sound when played.

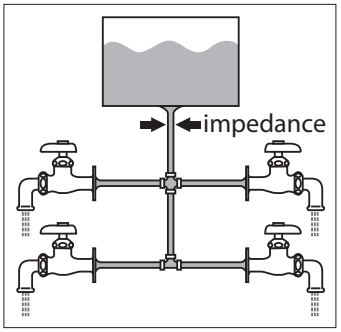
Each note on the Keyboard receives nine different audio signals from the Tone Wheels corresponding to the key's harmonics, which are connected/cut by nine contacts (P. 50).

The depth of each contact varies among the keys on a particular keyboard, and this also differs from one instrument to another.

The Virtual Multi-Contacts in this organ replicate the above-described mechanism by means of special Keyboards and software (P. 116).

tips **WHAT IS IMPEDANCE?**

"Impedance" here refers to the AC load on a Tone Wheel generator. When a key is depressed, it is "loaded down" by the circuits related to the contacts under the key being depressed. When more keys using the same Tone Wheels are depressed, the Tone Wheel is loaded down further, causing a slight volume drop on those notes.



tips **SUSTAIN**

The word "Sustain" has a different meaning for an electronic organ than for a synthesizer. On an electronic organ, "Sustain" refers to a note or noes continuing to sound and smoothly decaying after the key is released. This is called "Release Rate" on a synthesizer.

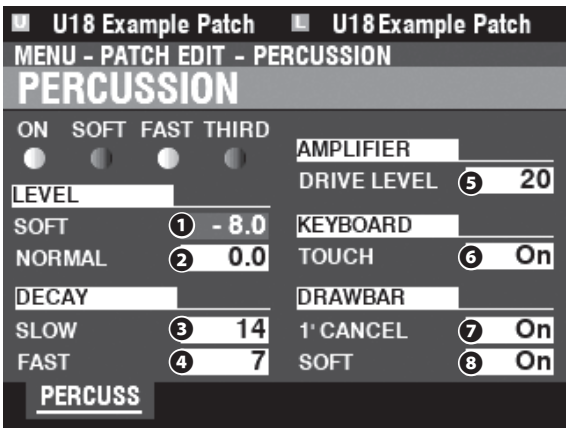
This FUNCTION Mode allows you to adjust the characteristics of the Percussion.

To locate this mode:

[MENU/EXIT] - **PATCH** - **PERCUSSION** - [ENTER]

Shortcut: **PERCUSSION [ON], [SOFT], [FAST], or [THIRD]**

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓				



LEVEL

❶ SOFT

❷ NORMAL

Setting Range: **-22.0 – +10.5 [dB]**

This allows you to adjust the Percussion Volume levels for both the "SOFT" and "NORMAL" Volume settings.

DECAY

❸ SLOW

❹ FAST

Setting Range: **1 – 24, Cont**

This allows you to adjust the Percussion Decay time.

A higher value will result in a slower Decay. If "Cont" (Continuous) is selected, the Percussion tone will sound continuously with no decay when keys are pressed and held.

AMPLIFIER

❺ DRIVE LEVEL

Setting Range: **0 – 127**

This allows you to adjust the (Over)drive level of the Percussion.

A higher value will result in more distortion and the peak level of the attack will be held longer.

KEYBOARD

❻ TOUCH

Settings: **Off, On**

This allows you to adjust the Touch Response of the Percussion.

Play / Touch	Legato	Rapid
On	All notes will decay.	Re-keying is required.
Off	Each key will sound.	Re-keying is not required.

DRAWBARS

❼ 1´ CANCEL

Settings: **On, Off**

This allows you to cancel the UPPER 1´ Drawbar while using Percussion.

On.....The 1' Drawbar will be canceled when Percussion is "ON."

Off.....The 1' Drawbar will continue to sound when Percussion is "ON."

❽ SOFT

Settings: **On, Off**

This allows you to reduce the UPPER Drawbar volume while using the Percussion if the [SOFT] button is "OFF" (LED not lit).

On.....The volume level of the Drawbars will be reduced by a small amount (about 6 dB) when Percussion is "ON" at Normal volume.

Off.....The volume of the Drawbars will remain at the same level when Percussion is "ON" at Normal volume.

tips **DRIVE LEVEL**

The Percussion amplifier on a B-3/C-3 sometimes would add a slight amount of distortion to the sound. The XK-7 / XK-7D replicates this feature.

tips **TOUCH**

The percussion generator on a B-3/C-3 had a single envelope, meaning the Percussion tone would sound only if the keys were played in a "detached" (non-legato) manner. This can be very useful, in that it allows you to add an accent to the beginning of a musical phrase.

tips **1´ CANCEL**

The B-3/C-3 had no exclusive key contact for the Percussion, but, used the 1´ contact. The XK-7 / XK-7D replicates this feature.

tips **DRAWBAR - SOFT**

On a vintage B-3/C-3, when Percussion was turned "ON" and the Volume setting was "NORMAL," the UPPER Manual Drawbars were slightly reduced in volume (about 6 dB). The XK-7 / XK-7D replicates this feature.

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

ANIMATION

This FUNCTION Mode allows you to adjust the Animation features such as Vibrato/Chorus and Leslie.

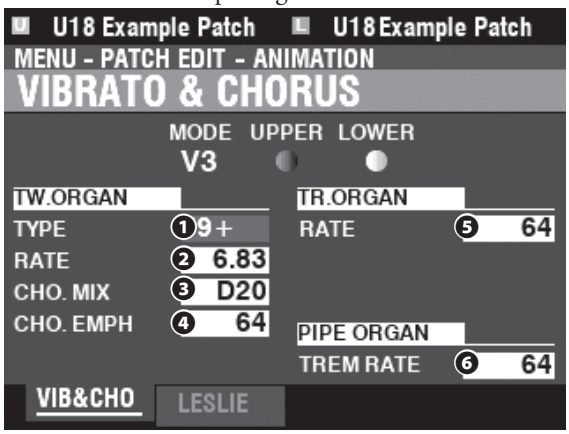
To locate this mode:

[MENU/EXIT] - **PATCH** - **ANIMATION** - [ENTER]

VIBRATO AND CHORUS

Shortcut: **Press and Hold the** VIBRATO [UPPER] **or** [LOWER] **buttons or,** [SHIFT] **button +** [VIBRATO AND CHORUS] **knob.**

This Page allows you to adjust the Vibrato & Chorus of the Tone Wheel Organs, Vibrato for the Transistor Organs, and Tremulant for the Pipe Organ.



TONE WHEEL ORGAN

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓				

❶ TYPE

Settings: See below

This allows you to select the Vibrato Delay Line type.

'55-57 .....Metal Box (1955 - 1957).
'57-59 .....Big Silver Box (1957 - 1959).
'59+ .....Small Silver Box (1959 or later).

❷ RATE

Setting Range: 5.78 – 7.90 Hz (349 – 475 rpm)

This allows you to adjust the rate of the Vibrato & Chorus.

◆ For Chorus (C1 to C3) only

❸ CHO. MIX

Setting Range: D64 – Even – 63V

This allows you to adjust the intensity of the Chorus.

"D" = direct or dry sound. "V" = Vibrato sound.

❹ CHO. EMPH (EMPHasis)

Setting Range: 0 – 127

This allows you to adjust the amount the high frequencies of Chorus are emphasized.

A higher value will increase the volume of the higher frequencies.

TRANSISTOR ORGAN

TW	Mellow	Vx.	Farf.	Ace.	Pipe
		✓	✓	✓	

❺ RATE

Setting Range: 0 – 127

This allows you to adjust the rate of the Vibrato.

PIPE ORGAN

TW	Mellow	Vx.	Farf.	Ace.	Pipe
					✓

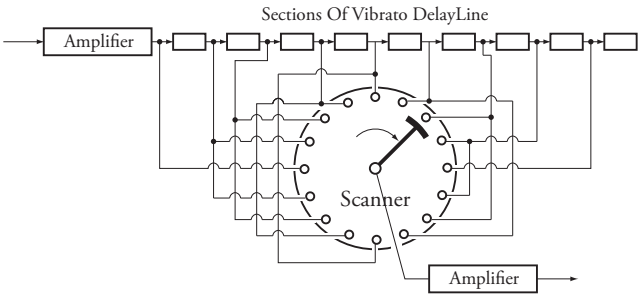
❻ TREMULANT RATE

Setting Range: 0 – 127

This allows you to adjust the rate of the Tremulant.

tips **VIBRATO AND CHORUS**

On a tone-wheel Hammond Organ equipped with Vibrato & Chorus, the vibrato circuitry consists of a series of plural coils or low-pass filter sections called a "delay line" or "line box" and a motor-driven "scanner" which scans the delay line and progressively retards the phase, creating the Vibrato effect.



tips **MIX**

"Vibrato Chorus," is obtained when the vibrato output signal is mixed with a portion of signal without vibrato. This creates a "shimmering" effect much used by jazz, blues and rock organists. This Parameter allows you to adjust the balance between the Vibrato and non-Vibrato signals to create the type of Chorus effect you want.

tips **VIBRATO (TRANSISTOR ORGAN)**

On an electronic organ, Vibrato is accomplished by modulating the frequency produced by the master oscillators. This effect is replicated on the XK-7 / XK-7D.

tips **TREMULANT**

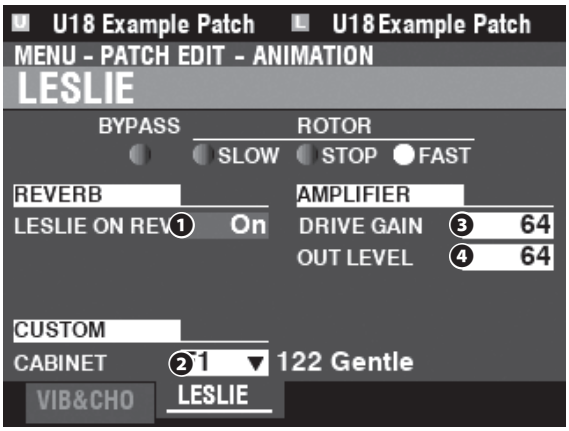
On a pipe organ, a **Tremulant** varies the air pressure to the pipes periodically, producing a vibrato or tremolo effect. On the XK-7 / XK-7D, Tremulant can be applied to the Pipe Voices.

LESLIE

Shortcut: **Press and Hold the** LESLIE [BYPASS], [STOP] **or** [FAST] **button.**

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

This Page allows you to adjust the Parameters affecting the inbuilt digital Leslie for the Tone Wheel and Transistor Organs.



REVERB

❶ LESLIE ON REVERB

Settings: Off, On

This allows you to adjust the routing of the Delay/Reverb.

Off.....The digital Leslie modulates the ORGAN sounds only.

On.....The digital Leslie modulates both the ORGAN sounds and the Delay/Reverb.

CABINET

❷ CUSTOM CABINET

Setting Range: F1 – F10, U1 – U10

This allows you to select a Custom Leslie Cabinet.

NOTE: See page 119 for more information about Custom Leslie Cabinets.

AMPLIFIER

❸ DRIVE GAIN

Setting Range: 0 – 127

This allows you to adjust the input level to the virtual power amplifier.

A higher level allows the sound to be distorted further.

❹ OUT LEVEL

Setting Range: 0 – 127

This allows you to adjust output level from the virtual power amplifier.

A higher value increases the volume; however, if the volume is too high, lower it by adjusting the ❸ DRIVE GAIN.

NOTE: These Parameters do not affect a connected Leslie Speaker Cabinet.

tips **LESLIE ON REVERB**

When an audio signal containing Reverb is sent to a Leslie Cabinet, the Reverb is modulated along with the main signal. This characteristic can be replicated using this Parameter.

When this Parameter is "Off," the effect is that of a Leslie Cabinet speaking into an auditorium or a large live room, or a Leslie Cabinet having a separate Reverb amplifier and speakers such as a vintage 122RV - the Organ tones are affected by the Leslie rotors but not the Reverb.

When this Parameter is "On," the effect is that of an audio signal containing both Organ tones and Reverb being fed into a single-channel Leslie - the rotors will modulate the Reverb as well as the basic Organ tones.

The Delay and Reverb effects are part of the same effect block in the organ, so that the LESLIE ON REVERB setting affects both Delay and Reverb.

tips **PREAMPLIFIER AND POWER AMPLIFIER**

The preamplifier in a vintage Hammond Organ and the power amplifier of a Leslie Speaker have different characteristics as well as different characters of tone when overdriven.

Generally, the AO-28 preamplifier in a B-3/C-3 adds a "sweet" distorted sound containing both even- and odd-numbered harmonics, while the power amplifier in a Leslie Speaker such as a 122 adds a "hard" distorted sound in which the odd-numbered harmonics predominate.

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

This FUNCTION Mode allows you to adjust various effects such as Preamp, Multi Effects, Reverb, etc., as well as an Equalizer which can be adjusted for different settings on each Patch.

To locate this mode:

[MENU/EXIT] - **PATCH** - **EFFECT/EQ** - [ENTER]

This FUNCTION Mode ccontains the Pages or effects listed below:

- **EFFECT 1** (P. 88)
- **PREAMP** (P. 92)
- **EFFECT 2** (P. 94)
- **DELAY/REVERB** (P. 97)
- **PATCH EQUALIZER** (P. 99)

EFFECT 1

Shortcut: **Press and Hold the** EFFECT 1 [ON] **button or,**
[SHIFT] + **either** EFFECT 1 [RATE] [DEPTH/FREQ]

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

EFFECT 1 contains the effects listed below which are inserted at pre-Overdrive or Expression (P. 46).

1. TREMOLO

Tremolo is a periodic raising and lowering of the amplitude or volume at a determined rate.

2. WAH-WAH

Wah-Wah is a periodic emphasis and de-emphasis of upper frequencies by means of a frequency filter to impart a speech-like quality to the sound.

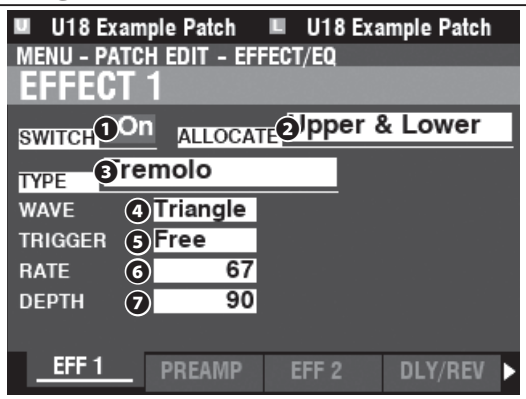
3. RING MODULATOR

Ring Modulation is a signal-processing effect whereby two different frequencies are mixed together in such a way as to reduce or eliminate the individual frequencies themselves, leaving only the sum and the difference of the two frequencies.

4. COMPRESSOR

Compressor detects the volume of the source, and reduces or emphasizes the amount of volume change.

EFFECT 1



❶ SWITCH

Settings: Off, On

This allows you to turn an EFFECT 1 "ON" or "OFF."

❷ ALLOCATE

Settings: Upper, Lower, Upper & Lower

This allows you to select the Part(s) to be affected by EFFECT 1.

This Parameter is linked with the LEDs [UPPER] [LOWER] on the Control Panel.

NOTE: You can select whether to include the PEDAL Part with the "Lower" using the PEDAL - V&C/EFF/AMP Parameter (P. 83).

❸ TYPE

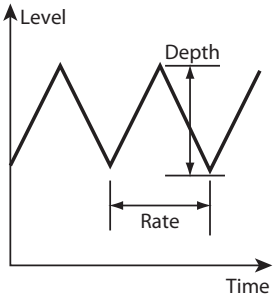
Settings: Tremolo, Wah-Wah, Ring Mod., Compressor

This allows you to select an EFFECT 1.

Each Effect has different Parameters. This is explained starting below.

Tremolo

Tremolo is a periodic raising and lowering of the amplitude or volume at a determined rate.



❹ WAVE (WAVEform)

Settings: Triangle, Square, Saw Down, Saw Up, S & H, Fluctuation, Dull Square

This allows you to select which waveform is used to modulate the volume.

Please consult "LFO" (P. 89) for a detailed description of each available waveform.

❺ TRIGGER

This allows you to adjust whether the phase of the modulating waveform will reset each time a key is depressed.

Free..... Pressing a key will intercept the LFO at whatever point it happens to be in its cycle.

Single..... The LFO of each note oscillates individually. Each LFO will start its cycle when a key is depressed.

❻ RATE

Setting Range: 0 – 127

This allows you to adjust the modulation rate.

A higher value results in a faster rate.

This Parameter is linked with the [RATE] knob on the Control Panel.

❼ DEPTH

Setting Range: 0 – 127

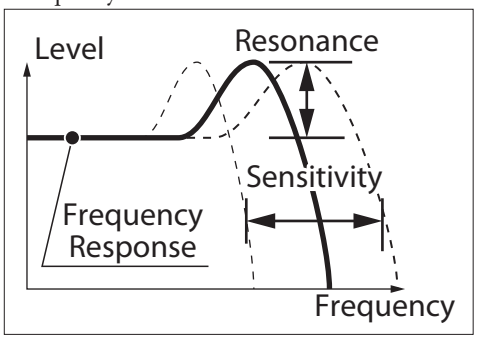
This allows you to adjust the depth of the modulation.

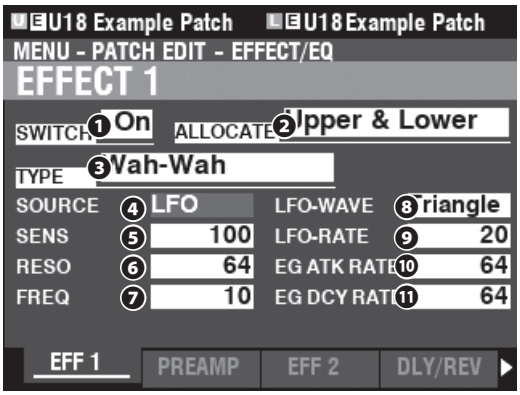
At "0" there is no change in volume - the depth increases as the value increases. At "127" the Tremolo alternates between no sound and maximum volume.

This Parameter is linked with the [DEPTH/FREQ] knob on the Control Panel.

Wah-Wah

Wah-Wah is a periodic emphasis and de-emphasis of upper frequencies by means of a frequency filter to impart a speech-like quality to the sound.





❹ SOURCE

Settings: Manual, Exp, LFO, Input

This allows you to select how to modulate the Wah-Wah effect.

Manual.....The central frequency is determined a fixed value. Turn the [RATE] [DEPTH/FREQ] knobs to modulate.

Exp.....Allows you to use a connected Expression Pedal.

LFO.....Allows a cyclical modulation using a dedicated LFO.

EG.....Allows you to use a dedicated envelope generator.

❺ SENS (SENSitivity)

Setting Range: 0 – 127

This allows you to adjust the sensitivity or width of the effect when the ❹ SOURCE is not at "Manual."

A higher value results in a wider dynamic response.

If the ❹ SOURCE is not at "LFO," this Parameter is linked with the [RATE] knob on the Control Panel.

❻ RESO (RESonance)

Setting Range: 0 – 127

This allows you to boost the cut-off frequency of the Low-Pass Filter and create a more pronounced "Wah" effect.

A higher value results in a greater resonance.

❼ FREQ (FREQuency)

Setting Range: 0 – 127

This allows you to adjust the central frequency.

A higher value increases the frequency.

This Parameter is linked with the [DEPTH/FREQ] knob on the Control Panel.

❽ LFO WAVE (WAVEform)

Settings: Triangle, Square, Saw Down, Saw Up, S & H, Fluctuation

If the ❹ SOURCE is at "LFO," this allows you to select the waveform of the LFO.

Please see the "tips" below for a detailed description of each available waveform.

❾ LFO RATE

Setting Range: 0 – 127

If the ❹ SOURCE is at "LFO," this allows you to adjust the rate of the LFO.

A higher value results in a faster rate.

This Parameter is linked with the [RATE] knob on the Control Panel.

❿ EG ATK(ATtacK) RATE

Setting Range: 0 – 127

⓫ EG DCY(DeCaY) RATE

Setting Range: 0 – 127

If the ❹ SOURCE is at "EG," this allows you to set the Decay (the rate at which the EG (Envelope Generator) reaches its minimum value from its maximum value when a key is pressed and held.)

As an example, for "Wah-Wah," the Attack controls the onset of the effect (the "Wa") while the Decay controls the resolution of the effect (the "ah").

tips **LFO**

The LFO (Low Frequency Oscillator) is an oscillator which makes a periodic change to the sound by utilizing a low-frequency range which is inaudible as a sound by the human ear.

This organ has below LFO waveforms.


.....**Triangle:** The value repeats up and down smoothly.


.....**Square:** The value repeats at its highest and lowest values.


.....**Saw Up:** The value repeats ascending.


.....**Saw Down:** The value repeats descending.


.....**Sample and Hold:** Random values, repeating frequently.

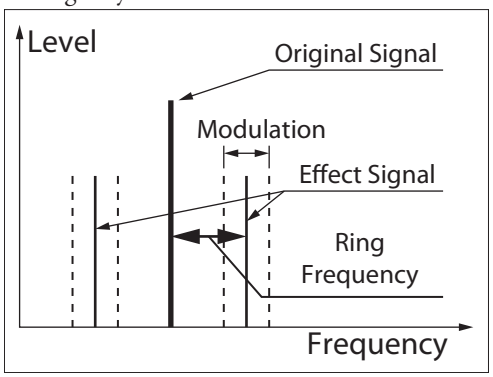

.....**Fluctuation:** Random values, repeating frequently and smoothly.

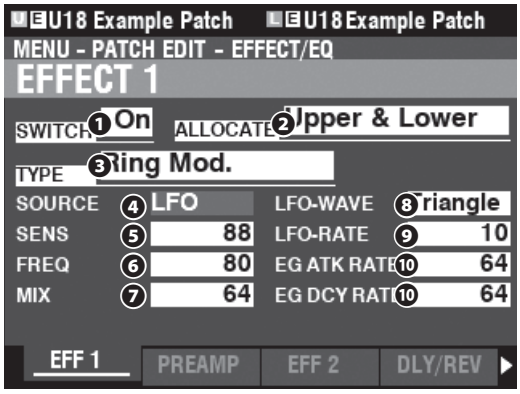

.....**Dull Square:** A smooth square waveform inspired by the sound from a vintage electronic piano.

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

Ring Mod.

Ring Modulation is a signal-processing effect whereby two different frequencies are mixed together in such a way as to reduce or eliminate the individual frequencies themselves, leaving only the sum and the difference of the two frequencies.





❹ SOURCE

Settings: Manual, Exp, LFO, Note

This allows you to select how to modulate the ring frequency.

Manual.....The Ring frequency sounds at a fixed value. Turn the [RATE] [DEPTH/FREQ] knobs to modulate.

Exp.....Allows you to use a connected Expression Pedal.

LFO.....Allows a cyclical modulation effect using a dedicated LFO-Low Frequency Oscillator.

Note.....Allows you to assign a ring frequency to the UPPER Keyboard.

EG.....Allows you to use a dedicated envelope generator.

❺ SENS (SENSitivity)

Setting Range: 0 – 127

This allows you to adjust the sensitivity or width of the Exp, LFO or EG.

A higher value results in a wider excursion of the Exp, LFO or EG.

If the ❹ SOURCE is not at "LFO," this Parameter is linked with the [RATE] knob on the Control Panel.

NOTE: The SOURCE must be set to "Exp", "LFO" or "EG" to hear this effect.

❻ FREQ (FREQuency)

Setting Range: 0 – 127

This allows you to adjust the central ring frequency.

A higher value results in a higher central frequency.

This Parameter is linked with the [DEPTH/FREQ] knob on the Control Panel.

❼ MIX

Setting Range: 0 – 127

This allows you to adjust the volume balance between the "dry" and the effect sounds.

At "0" only the "dry" sound is heard. The effect level becomes greater as the value increases. At "64" the ratio between the "dry" and the effect sounds becomes 1:1. At "127," only the effect sound is heard.

❽ LFO WAVE (WAVEform)

Settings: Triangle, Square, Saw Down, Saw Up, S & H, Fluctuation

If the ❹ SOURCE is at "LFO," this allows you to select the waveform of the LFO.

Please consult "LFO" (P. 89) for a detailed description of each available waveform.

❾ LFO RATE

Setting Range: 0 – 127

If the ❹ SOURCE is at "LFO," this allows you to adjust the rate of the LFO.

A higher value results in a faster rate.

This Parameter is linked with the [RATE] knob on the Control Panel.

❿ EG ATK(ATtacK) RATE

Setting Range: 0 – 127

⓫ EG DCY(DeCaY) RATE

Setting Range: 0 – 127

If the ❹ SOURCE is at "EG," these allow you to set the Attack (the rate at which the effect reaches its maximum value) and Decay (the rate at which the EG (Envelope Generator) reaches its minimum value from its maximum value when a key is pressed and held.)

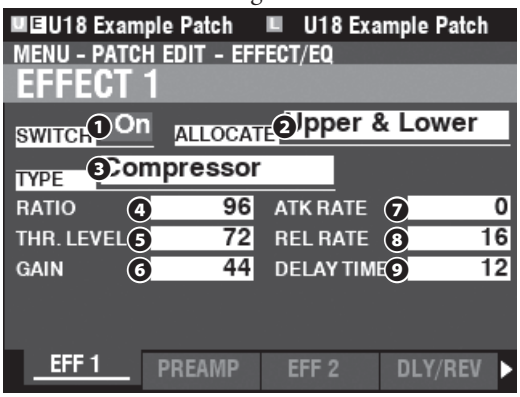
As an example, for "Ring Modulator," the Attack controls the "rise" of the effect from its onset to its maximum value, while the Decay controls the "fall" of the effect from its maximum to its minimum setting.

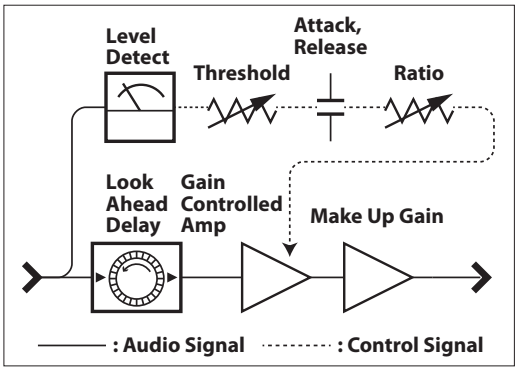
tips **RING MODULATION**

"Ring modulation" in analog circuits is accomplished by arranging diodes in a circle or ring, giving rise to the term, "ring modulator." The result is a sound rich in overtones and typically having somewhat of a bell-like or metallic quality. Because of this, the sound is sometimes called a "Klang tone."

Compressor

Compressor detects the volume of the source, and reduces or emphasizes the amount of volume change.





Compressor Structure

❹ RATIO (REDUCTION RATIO)

Setting Range: 0 – 127 (1:1 – ∞:1)

This allows you to adjust the rate at which the volume changes between input and output.

A higher value results in a lesser change of volume.

❺ THR. LEVEL (THRESHOLD LEVEL)

Setting Range: 0 – 127 (-24 – ±0 [dB])

This allows you to adjust the value of the input level at which reduction begins.

A lower value results in compression beginning at a lower input level.

This Parameter is linked with the [RATE] knob on the Control Panel.

❻ GAIN (MAKE UP GAIN)

Setting Range: 0 – 127 (0 – +24 [dB])

This allows you to increase the volume to a level to be reduced by the compression process.

A higher value results in a higher volume.

This Parameter is linked with the [DEPTH/FREQ] knob on the Control Panel.

❼ ATK RATE (ATTACK RATE)

Setting Range: 0 – 127

This allows you to adjust the rate at which the volume is reduced when the input sound exceeds the threshold level.

A higher value results in a slower reduction rate and the Attack of the sound is emphasized.

❽ REL RATE (RELEASE RATE)

Setting Range: 0 – 127

This allows you to adjust the rate at which the volume is returned when the input sound is lower than the threshold level.

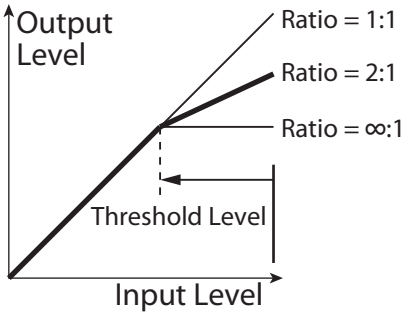
A higher value results in a slower release time and the Return gain is delayed.

❾ DELAY TIME

Setting Range: 0 – 127 (0 – 40[ms])

This allows you to adjust the "lookahead" time to accelerate the beginning of the Attack or Release.

A higher value results in a longer lookahead time and as a result a longer delay before the output sound is heard.



Compressor Concept

tips **WHAT IS "LOOKAHEAD?"**

"Lookahead" is a special feature of digital compression systems whereby the system can "look ahead" to see the signal before it is processed, identify any possible problems (such as spikes, etc.) and apply any needed correction before Attack, Release and other Parameters are applied. The illustration at the top shows this.

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

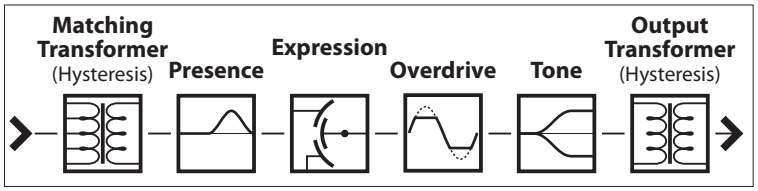
PREAMPLIFIER

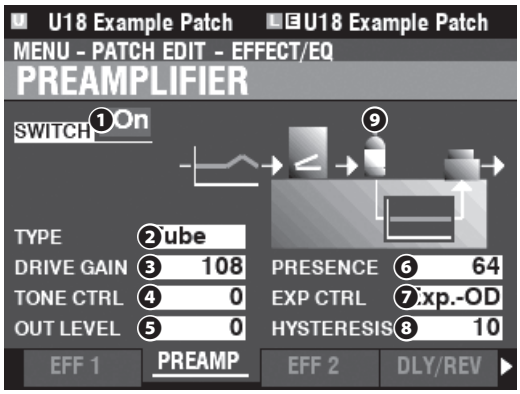
Shortcut: **Press and Hold the** PREAMP [ON] **button or,**
[SHIFT] + **either** PREAMP [DRIVE] [OUT LEVEL]

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	

Preamplifier (hereinafter "Preamp")is the circuit for amplifying the audio signal. You can use these Parameters toadd excessive gain to create an "overdriven" sound.

NOTE: The Preamp is placed between Effect "1" and Effect "2."





❶ SWITCH

Settings: Off, On

This allows you to turn Preamp "ON" or "OFF."

This Parameter is linked with the PREAMP [ON] button on the Control Panel.

❷ TYPE

This allows you to adjust the character of the Preamplifier.

Tube ..... Soft clipped sound similar to AO-28 of a B-3/C-3 vacuum tube (valve) amplifier.
Solid ..... Hard clipped sound similar to a solid state amplifier.
Clip ..... Precision hard-clipped sound.
EP Amp ..... Soft clipped sound similar to the amplifier of an Electric Piano.

❸ DRIVE GAIN

Setting Range: 0 – 127

This allows you to adjust the amount of the Overdrive Level.

A higher value results in more distortion.

This Parameter is linked with the PREAMP [DRIVE GAIN] knob on the Control Panel.

❹ TONE CONTROL

Setting Range: -9 – ±0 – +9 [dB]

This Parameter duplicates the performance of the tone control on the AO-28 preamp of a B-3/C-3. Its response is unique, to cut the overall treble above 200 Hz gently.

NOTE: The tone control on the B-3/C-3 preamp had "minus" settings only; however, this Parameter provides "plus" settings in addition to "minus" settings.

NOTE: This Parameter is enabled even if the ❶ SWITCH is at "Off."

❺ OUT LEVEL

Setting Range: -64 – ±0 – +63

This allows you to adjust the volume of the Preamplifier.

This Parameter is linked with the PREAMP [OUT LEVEL] knob on the Control Panel.

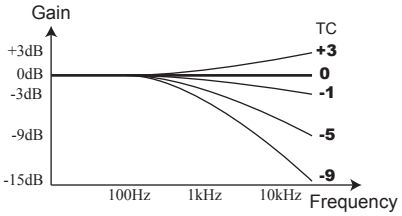
tips **AO-28 PREAMP**

The Preamplifier unit in the B-3/C-3 is referred to as the "AO-28" preamp.

The AO-28 preamp has many functions - amplifying the audio signal which comes from the Matching Transformer, controlling the volume and tonality from the Expression Pedal, Tone Control, and so on.

After doing the above, the AO-28 will output the final audio signal via the Output Transformer.

The XK-7 / XK-7D replicate the characteristics of the AO-28 preamplifier as well as the Matching and Output Transformers.



Tone Control

❻ PRESENCE

Setting Range: 0 – 127

This allows you to boost the treble range at the pre-Overdrive stage.

❼ EXP. CTRL (EXPression ConTRoL)

This allows you to select how the Overdrive will be affected by the Expression Pedal.

EX-OD ..... Both volume and distortion will changed by the Expression.
OD-EX ..... Only volume will be changed by the Expression.
OD Only ..... Only distortion will be changed by the Expression.
Input ..... Similar to OD ONLY, but with a smaller amount of change.

NOTE: The response to the Expression Pedal will be slightly delayed at "OD Only" or "Input" to avoid quantization noise.

NOTE: The Expression for PEDAL Part will be disabled when this Parameter is set at "OD Only" or "Input" and PEDAL V&C/EFF/AMP (P. 83) is set at "Off."

❽ HYSTERESIS

Setting Range: 0 – 127

This allows you to select the strength of the hysteresis characteristics.

The higher the value, the more "asymmetrical" the sound.

NOTE: This Parameter is not available when the Organ Type is at "Vx.", "Farf." or "Ace.."

❾ CLIP

This indicates clipping or saturation of the Preamp by changing its color.

This is Parameter is linked with the [CLIP] LED on the Control Panel.

NOTE: The shape of this indicator will change according to the selected ❷ TYPE.

tips PRESENCE

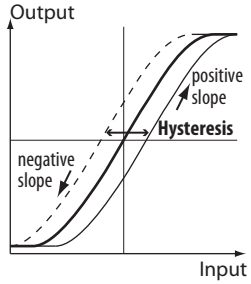
The B-3/C-3's preamp has a unique frequency response that is not completely flat.

The "PRESENCE" Parameter of this organ emphasizes this, and at the minimum setting you will hear the frequency characteristics of a B-3/C-3 in good condition, while the maximum will exaggerate the frequency characteristics.

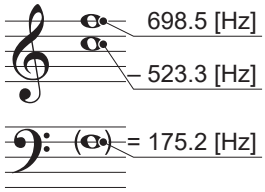
The effect of this Parameter on the tonal character is more pronounced when you increase the "DRIVE GAIN" value and distort the sound.

tips HYSTERESIS

The Preamplifier circuit on the B-3/C-3 uses transformers to transmit audio signals. When a signal passes through a transformer, the threshold value differs when the signal level rises and falls, resulting in so-called "non-linear distortion." This is called "hysteresis."



To hear the hysteresis effect, pull out the 8' (first white) Drawbar and play a "C" note and an "F" note below it together. You will hear the lower "F" note at a subtracted level.



tips w/ PREAMP AND DISABLED PARAMETERS

If an external Leslie Speaker is connected, and the Parameter "w/ PREAMP" in the SYSTEM - AUDIO - LESLIE is at "With," the audio characteristics are optimized for the particular Leslie Speaker model.

If this Parameter is set to "With," the Hysteresis feature is disabled.

NOTE: The Parameters described on this spread are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

EFFECT 2

Shortcut: **Press and Hold the** EFFECT 2 [ON] **button or,** [SHIFT] + **either** EFFECT 2 [RATE] **or** [DEPTH]

TW	Mellow	Vx.	Farf.	Ace.	Pipe
✓	✓	✓	✓	✓	✓

EFFECT 2 contains the effects listed below and are placed after the Expression or Preamplifier in contrast to EFFECT 1 (P. 46).

1. **Auto Pan**

Auto Pan smoothly shifts the sound back and forth between Left and Right channels.

2. **Phaser**

Phaser will create the effect of splitting an audio signal into two paths and varying their phase relationship to each other, resulting in an alternately hollow and full-bodied sound. It can be described as a "swooshing" or "twisting" effect.

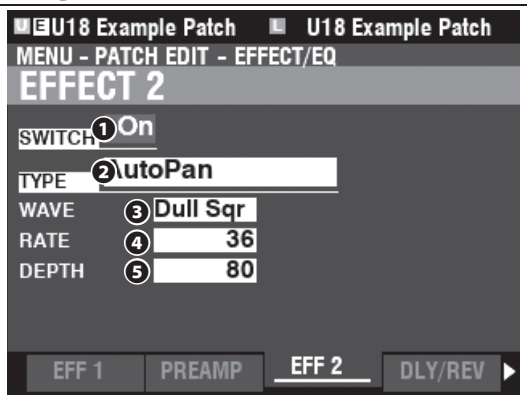
3. **Flanger**

Flanging occurs when two identical signals are mixed together, and one of the signals is time-delayed by a very small amount.

4. **Chorus**

Chorus refers to a shimmering, non-periodic enhancement of the sound. It is intended to be similar to several instruments sounding in unison, and is helpful when a thicker tonal texture is desired.

EFFECT 2



❶ **SWITCH**

Settings: Off, On

This allows you to turn an EFFECT 2 "ON" or "OFF."

❷ **TYPE**

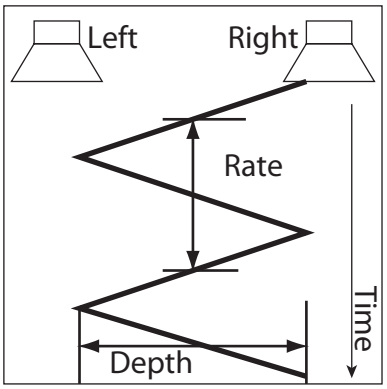
Setting Range: Auto Pan, Phaser, Flanger, Chorus, Delay

This allows you to select an EFFECT 2.

Each Effect has different Parameters. This is explained starting at the right column.

Auto Pan

Auto Pan smoothly shifts the sound back and forth between Left and Right channels.



NOTE: This effect type is made for a stereo connection and without the Leslie effect. If a monaural connection or the Leslie effect is used, the effect will be incomplete.

❸ **WAVE(WAVEform)**

Settings: Triangle, Square, Saw Up, Saw Down, S & H, Fluctuation, Dull Square

This allows you to select the LFO waveform (P. 89) which will modulate the sound.

A higher wave height results in the sound being panned to the left. For example, the "Saw Up" repeats move the panning sound smoothly from right to left.

❹ **RATE**

Setting Range: 0 – 127

This allows you to adjust the rate of the modulation.

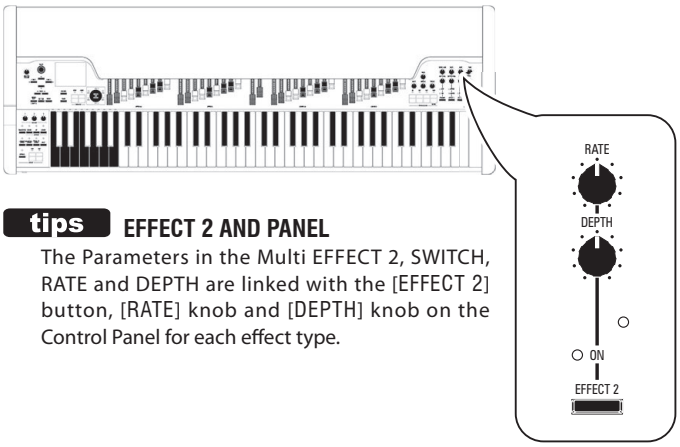
A higher value results in a faster rate.

❺ **DEPTH**

Setting Range: 0 – 127

This allows you to adjust the depth of the modulation.

At "0" there is zero panning. A higher value results in wider panning.

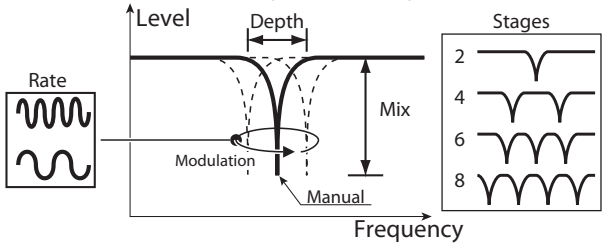


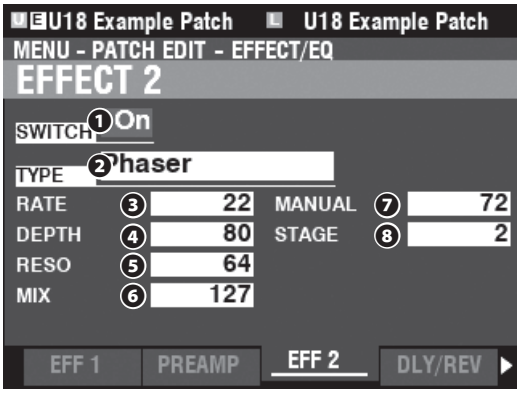
tips **EFFECT 2 AND PANEL**

The Parameters in the Multi EFFECT 2, SWITCH, RATE and DEPTH are linked with the [EFFECT 2] button, [RATE] knob and [DEPTH] knob on the Control Panel for each effect type.

Phaser

Phaser will create the effect of splitting an audio signal into two paths and varying their phase relationship to each other, resulting in an alternately hollow and full-bodied sound. It can be described as a "swooshing" or "twisting" effect.





❸ RATE

Setting Range: 0 – 127

This allows you to adjust the frequency rate.

A higher value results in a faster rate.

❹ DEPTH

Setting Range: 0 – 127

This allows you to adjust the depth of the modulation.

A higher value results in a deeper modulation.

❺ RESO (RESOnance)

Setting Range: 0 – 127

This allows you to adjust the resonance (feed-back) amount.

A higher value results in a greater resonance.

❻ MIX

Setting Range: 0 – 127

This allows you to adjust the volume balance between the "dry" and the effect sounds.

At "0" only the "dry" sound is heard - the effect level becomes greater as the value increases. At "127" the ratio between the "dry" and the effect sounds becomes 1:1.

❼ MANUAL

Setting Range: 0 – 127

This allows you to select the middle frequency of the phase effect.

A higher value results in a higher frequency.

❽ STAGE

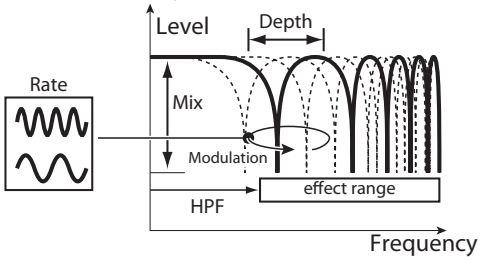
Setting Range: 2, 4, 6, 8, 10

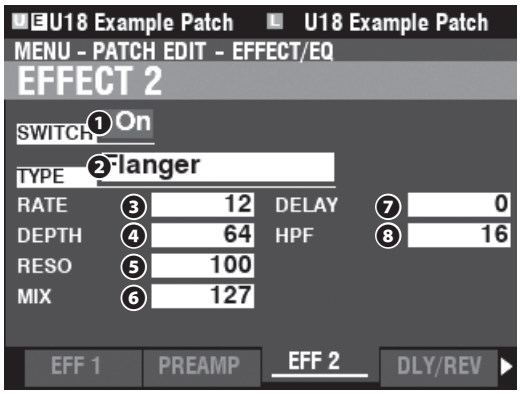
This allows you to adjust the complexity or "stage" of the phasing.

A higher value creates more complex effects.

Flanger

Flanging occurs when two identical signals are mixed together, and one of the signals is time-delayed by a very small amount.





❸ RATE

Setting Range: 0 – 127

This allows you to adjust the modulation rate.

A higher value results in a faster rate.

❹ DEPTH

Setting Range: 0 – 127

This allows you to adjust the depth of the modulation.

A higher value results in a deeper modulation.

❺ RESO (RESOnance)

Setting Range: 0 – 127

This allows you to adjust the resonance (feed-back) amount.

A higher value results in a greater resonance.

❼ MIX

Setting Range: 0 – 127

This allows you to adjust the volume balance between the "dry" and the effect sounds.

At "0" only the "dry" sound is heard. The effect level becomes greater as the value increases. At "127" the ratio between the "dry" and the effect sounds becomes 1:1.

❻ DELAY

Setting Range: 0 – 127

This allows you to control the delay of the Flanger effect.

A higher value results in a longer delay.

❽ HPF (High Pass Filter)

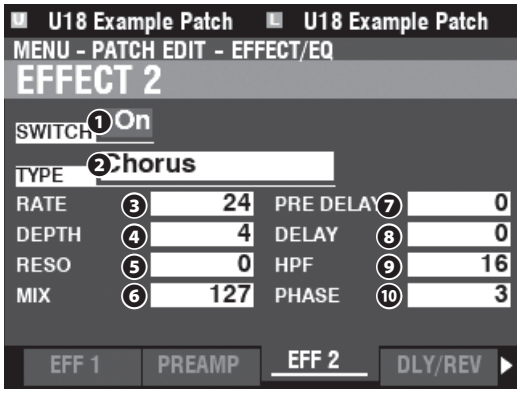
Setting Range: 0 – 127

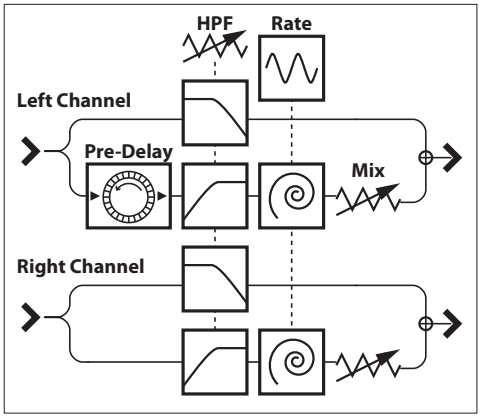
This allows you to control the frequency range of the Flanger effect.

At "0" the effect is added to all frequencies. The effect is added to the higher frequencies as the value increases.

Chorus

Chorus refers to a shimmering, non-periodic enhancement of the sound. It is intended to be similar to several instruments sounding in unison, and is helpful when a thicker tonal texture is desired.





Chorus Structure

❸ RATE

Setting Range: 0 – 127

This allows you to adjust the rate of the rising and falling effect.

A higher value results in a faster rate.

❹ DEPTH

Setting Range: 0 – 127

This allows you to adjust the modulation depth.

A higher value results in a deeper modulation.

❺ RESO (RESOnance)

Setting Range: 0 – 127

This allows you to adjust the resonance (feed-back) amount.

A higher value results in a greater resonance.

❻ MIX

Setting Range: 0 – 127

This allows you to adjust the volume balance between the "dry" and the effect sounds.

At "0" only the "dry" sound is heard. The effect level becomes greater as the value increases. At "127" the ratio between the "dry" and the effect sounds becomes 1:1.

❼ PRE DELAY

Setting Range: 0 – 127

This allows you to delay the signal to the Chorus effect for a channel even if the source is Monaural. A higher value creates a time difference between the Left and Right sound sources.

❽ DELAY

Setting Range: 0 – 127

This allows you to control the delay of the Chorus effect.

A higher value results in a greater delay.

❾ HPF (High Pass Filter)

Setting Range: 0 – 127

This allows you to control the frequency range of the Chorus effect.

At "0" the effect is added to all frequencies. The effect is added to the higher frequencies as the value increases.

❿ PHASE

Settings: 2, 3

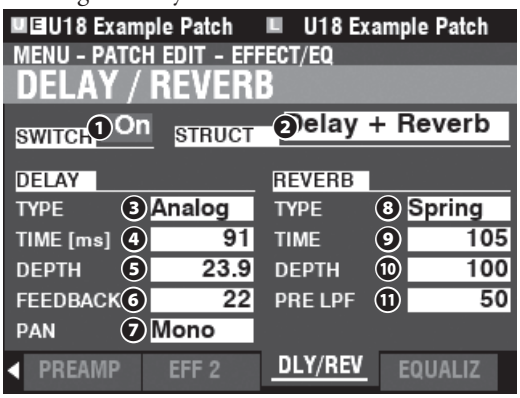
This allows you to select the algorithm of the Chorus effect.

2 ..... two-phase.
3 ..... three-phase.

DELAY/REVERB

Shortcut: **Press and Hold the** DELAY/REVERB [ON], [TAP]**(when STRUCT is at "Reverb") button.**
[SHIFT] + DELAY/REVERB [TIME], [DEPTH] **knob**

This Page allows you to select the overall DELAY/REVERB effect.



COMMON

❶ SWITCH

Settings: Off, On

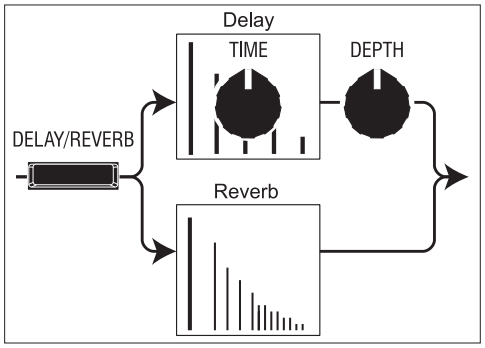
This allows you to turn Delay/Reverb "On" or "Off."

NOTE: This Parameter is linked to the DELAY/REVERB [ON] button on the Control Panel.

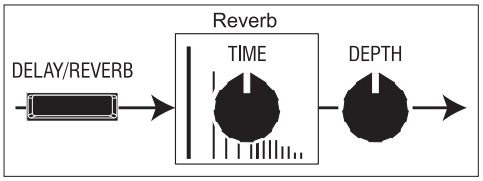
❷ STRUCT (STRUCTure)

Settings: Delay, Reverb, Delay + Reverb

This allows you to select the basic structure for Delay/Reverb.



Knobs assignment when STRUCT is at "Delay" or "Delay + Reverb."



Knobs assignment when STRUCT is at "Reverb."

DELAY

Delay adds echo effects.

❸ TYPE

This allows you to select the type of the Delay effects.

Analog.....The delayed sound becomes progressively "darker" with each repetition. If the ❹ TIME is changed while the Delay is sounding, the pitch will also change.

Digital.....The delayed sound retains the same overall sound on each repetition. If the ❹ TIME is changed while the Delay is sounding, the pitch does not change but some noise may result.

❹ TIME

Setting Range: 10 – 3000 [ms]

This allows you to adjust the Delay time.

A higher value results in a longer Delay time

This Parameter is linked with the [TIME] knob on the Control Panel when ❷ STRUCT is at "Delay" or "Delay + Reverb."

Also, this Parameter can be set by tapping the [TAP] button on the Control Panel (or, a Foot Switch which is assigned to "Delay Time").

❺ DEPTH

Setting Range: 0 – 127

This allows you to adjust the volume the Delay sounds.

At "0" only the "dry" sound is heard. The effect level becomes greater as the value increases.

This Parameter is linked with the [DEPTH] knob on the Control Panel when ❷ STRUCT is at "Delay" or "Delay + Reverb."

❻ FEEDBACK

Setting Range: 0 – 127

This allows you to adjust the number of repetitions of the effect sound.

A higher value results in a greater number of repetitions.

tips **ERASE THE DELAY SOUND**

If a Delay continues to sound indefinitely due to an excessive feedback level, you can erase or silence it by Pressing and Holding the [TAP] button (or, a Foot Switch which is assigned to "Delay Time").

The beginning of the erasing procedure is indicated by the rapid flashing of the [TAP] LED. Continue to hold the [TAP] button for longer than the Delay time.

❼ PAN

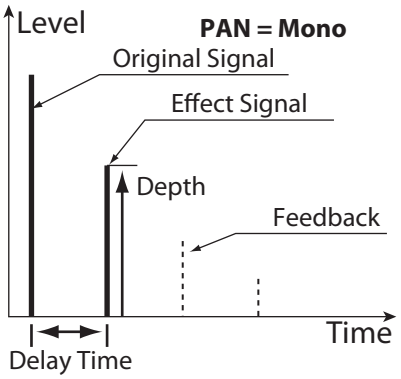
Settings: Mono, RtoL, LtoR

This allows you to select how sounds are reflected.

Mono ..... A simple monophonic "echo."

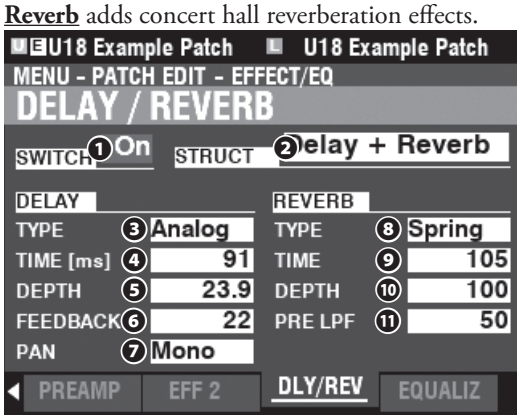
RtoL, LtoR ..... The delay is alternated in the stereo field. At "RtoL" the delayed sound comes from the right. At "LtoR" the delayed sound comes from the left.

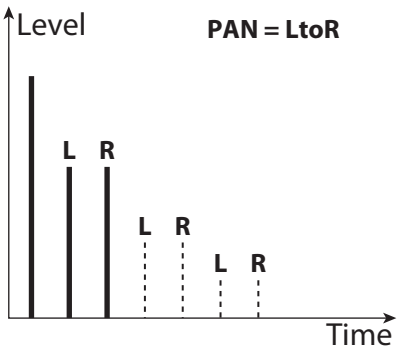
NOTE: This Parameter is not applicable if a monophonic (single-channel) sound system is used, LESLIE ON REVERB is used (P. 87) or a Leslie Speaker Cabinet is connected.



REVERB

Reverb adds concert hall reverberation effects.





❽ TYPE

This allows you to select Reverb Types.

Room 1 ..... Large room.
Room 2 ..... Small room.
Live ..... Ambient room.
Hall 1 ..... Dark Hall, similar to a theatre.
Hall 2 ..... Bright Hall, similar to an auditorium.
Church ..... Church.
Plate ..... Iron-plate Reverb.
Spring ..... Spring Reverb.

❾ TIME

Setting Range: 0 – 127

This allows you to adjust the decay of the Reverb.

A higher value results in a longer decay.

This Parameter is linked with the [TIME] knob on the Control Panel when the ❷ STRUCT is at "Delay" or "Delay + Reverb."

❿ DEPTH

Setting Range: 0 – 127

This allows you to select the overall depth of the entire Reverb effect.

This Parameter is linked with the [DEPTH] knob on the Control Panel when the ❷ STRUCT is at "Delay" or "Delay + Reverb."

⓫ PRE LPF(Low-Pass Filter)

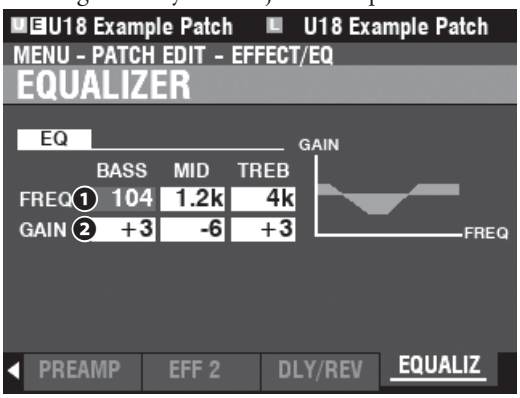
Setting Range: 0 – 127

This allows you to adjust the tone quality of the Reverb.

Higher values simulate a harder floor/wall/ceiling material.

PATCH EQUALIZER

This Page allows you to adjust the Equalization of the sound for each individual Patch.

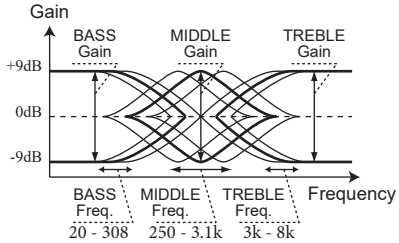


EQUALIZER

❶ FREQ (FREQuency)

Setting Range: 20 – 308 [Hz] (BASS)
250 – 3.1k [Hz] (MID)
3k – 8k [Hz] (TREB)

These allow you to adjust the center or "turnover" (BASS and TREB) or center (MID) frequency to be attenuated.



❷ GAIN

Setting Range: -9 – ±0 – +9 [dB]

These allow you to adjust the Boost/Cut of BASS, MID and TREB.

NOTE: At "0" the frequency response is "flat."

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

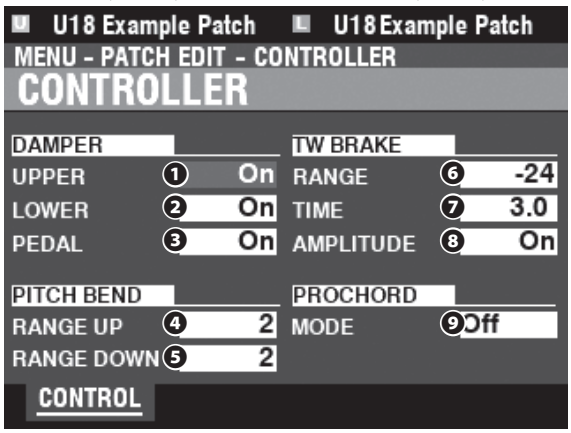
CONTROLLER

This FUNCTION Mode allows you to select how Controllers will work within a Patch such as Damper Pedal, Pitch Bend, Tone Wheel Brake or ProChord.

To locate this mode:

[MENU/EXIT] - **PATCH** - **CONTROLLER** - [ENTER]

To engage each Controller and each function in this page, see ASSIGN (P. 101) or FOOT SWITCH (P. 130).



DAMPER

❶ **UPPER**

❷ **LOWER**

❸ **PEDAL**

Settings: Off, On

These allow you to select whether or not to hold notes when a Damper or Sostenuto message is received.

PITCH BEND

❹ **RANGE UP**

Setting Range: 0 - 12 [semitones]

❺ **RANGE DOWN**

Setting Range: 0 - 24 [semitones]

These allow you to adjust the number of semitones the pitch of the selected Patch will bend "Up" or "Down" when receiving Pitch Bend or an ASSIGN knob which is set at "Pitch Bend."

TONE WHEEL BRAKE

This allows you to adjust the Tone Wheel Brake effect.

❻ **RANGE**

Setting Range: -24 – +12 [semitones]

This allows you to adjust the range of the pitch change.

❼ **TIME**

Setting Range: 0.1 – 5.0 [seconds]

This allows you to adjust the rate at which the pitch changes.

❽ **AMPLITUDE**

Settings: Off, On

This allows you to select whether the Volume will change along with the Pitch.

PROCHORD

❾ **MODE**

Settings: Off, Close, Open

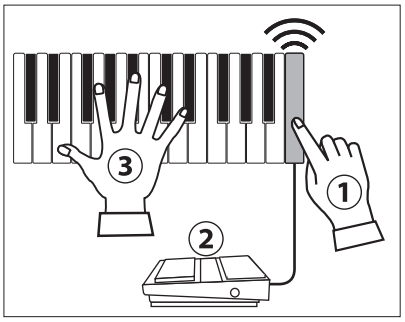
This allows you to select the function of the ProChord (see the "tips" below for detail).

Off.....No function.
Closed.....Closed Voicing.
Open.....Open Voicing.

tips SOSTENUTO APPLICATION

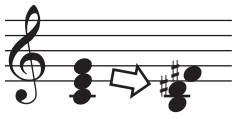
On a grand piano with 3 pedals, the middle pedal is usually a "Sostenuto" pedal. "Sostenuto" allows the player to sustain or "damp" a single note or group of notes while leaving the other notes to play normally.

This feature allows the player to, for example, hold the highest "C" note using Sostenuto, and playing chords or melodies together on the other keys.



tips TONE WHEEL BRAKE

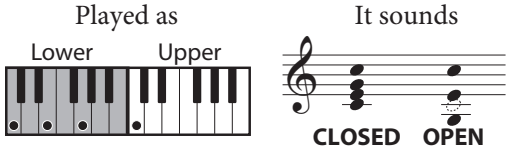
On a vintage B-3/C-3, the synchronous motor driving the tone generator turns at a constant speed; therefore "pitch bending" is not possible. However, some jazz players discovered that by turning the RUN switch "OFF" then quickly back "ON" again, a pseudo "pitch-bend" effect could be created. You can replicate this effect using this function.



Example: Range is at "-1"

tips PROCHORD

The "ProChord" feature adds complex harmonic voicing to single notes played on the UPPER Keyboard based on chord structures played on the LOWER Keyboard.

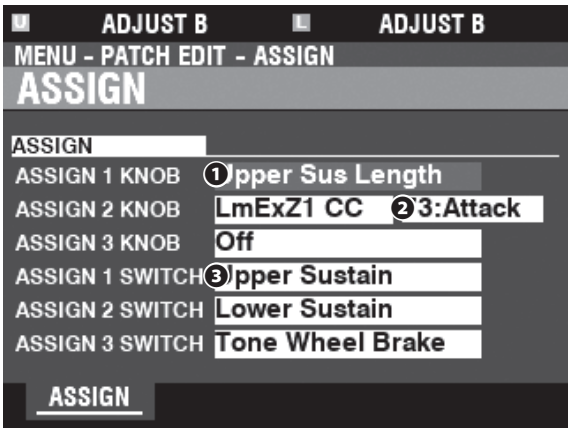


ASSIGN

This FUNCTION Mode allows you to assign various functions to the ASSIGN knobs and buttons.

To locate this mode:

[MENU/EXIT] - **PATCH** - **ASSIGN** - [ENTER]



This Display example is for the XK-7D.

ASSIGN

❶ KNOB MODE

This allows you to assign functions to the ASSIGN knobs.

Mode	Description	Controlled Parameter
Off	No function assigned.	-
Key Click Level	Adjusts the Key Click Level for the TW Organ Type.	P. 82 ❺
Leakage Level	Adjusts the Leakage Level for the TW Organ Type.	P. 82 ❻
Tone Control Value	Adjusts the Tone Control for the TW and Transistor (Vx., Farf., Ace.) Organ Types.	P. 92 ❾
TR Vibrato Rate	Adjusts the Vibrato Rate for the Transistor (Vx., Farf., Ace.) Organ Types.	P. 86 ❽
Tremulant Rate	Adjusts the Tremulant Rate for the Pipe Organ Type.	P. 86 ❺
Sus Length	Adjusts the Sustain Length for each Part.	P. 84 ❸
Pitch Bend	Sends Pitch Bend message to the internal sound engine and External Zones.	P. 100 ❹❺
Expression	Works as an Expression Pedal. The maximum value will limit both an Expression Pedal (if connected) and the assigned knob.	-
Leslie Speed	Controls Digital Leslie from Slow to Fast continuously.	-
Ext. Zone Volume	Controls the Volume for the selected External Zones.	P. 103 ⓫
Ext. Zone Pan	Controls the Pan for the selected External Zones.	P. 103 ⓬
ExZ CC	Controls desired number ❷ for the selected External Zones.	P. 101 ❷

❷ CONTROL NUMBER

Setting Range: 1 – 119 (including some deletions)

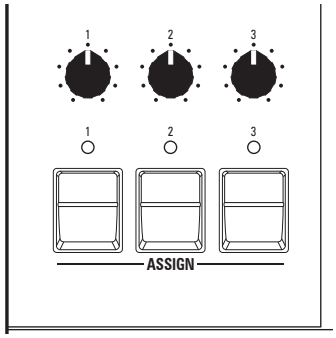
When the ❶ Knob Mode is at "ExZ CC," this allows you to assign a MIDI Control Change number to a knob.

❸ BUTTON MODE

This allows you to assign functions to the ASSIGN buttons.

Mode	Description	Controlled Parameter
Off	No function assigned.	-
Sustain	Turns Sustain "ON" or "OFF."	P. 84 ❸
Damper	Holds all notes of a Part when keys are pressed.	-
Sostenuto	Holds notes of a Part being Pressed and Held.	-
TW Brake	Allows you to bend the pitch, with the amount being determined by a Parameter setting during pressing.	-
Spring	Allows you to produce the effect of a Spring Reverb unit being jostled.	-
Ext. Zone	Enables or disables MIDI transmission for the selected External Zone.	P. 103 ❶

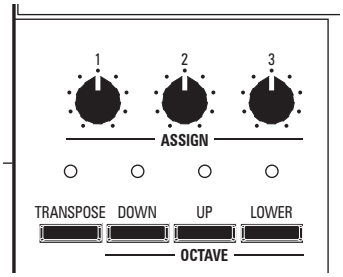
tips **ASSIGN KNOBS AND BUTTONS**



XK-7D

tips **ASSIGN TO OCTAVE BUTTONS**

The XK-7 has no buttons specifically designated as ASSIGN buttons; however, the OCTAVE buttons can function either as OCTAVE or ASSIGN buttons (P. 134).



XK-7

tips **SHORTCUTS FOR ASSIGN BUTTONS OR ASSIGN KNOBS**

Pressing and Holding any ASSIGN button or turning any ASSIGN knob while holding the [SHIFT] button will "shortcut" to the related function page on the Display.

NOTE: The Parameters described on these pages are Patch Parameters and can be Recorded to individual Patches. For a complete listing of all Patch Parameters, please consult "PATCH PARAMETERS" (P. 178) .

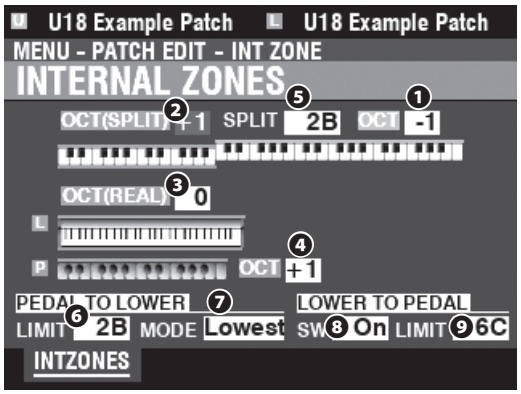
INTERNAL ZONES

This FUNCTION Mode allows you to determine how the Keyboard will interact with the internal sound engine. Use this Mode to adjust the Parameters for the SPLIT and COUPLER features.

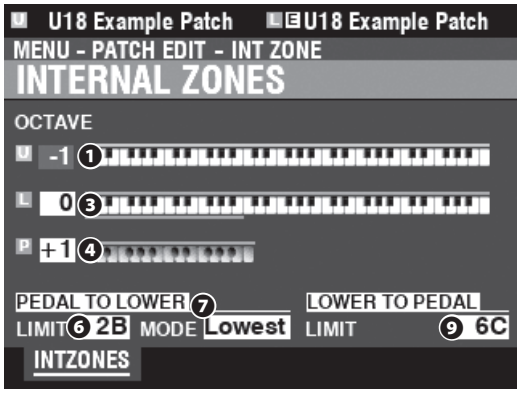
To locate this mode:

[MENU/EXIT] - **PATCH** - **INT ZONE** - [ENTER]

Shortcut: [PEDAL TO LOWER] **(both models),** [SPLIT] **(XK-7),** [LOWER TO PEDAL] **(XK-7D)**



XK-7



XK-7D

OCTAVE

❶ OCTAVE (UPPER)

❷ OCTAVE (LOWER SPLIT) (XK-7 only)

❸ OCTAVE (LOWER REAL)

❹ OCTAVE (PEDAL)

Setting Range: -2 – ±0 – +2

These allow you to select the Octave or pitch at which the selected Keyboard will sound.

NOTE: These Parameters are linked with the [OCTAVE] buttons on the Control Panel (XK-7).

There are two LOWER Octave Parameters:

OCT (SPLIT)..... ❷ controls the LOWER Octave setting when the [SPLIT] button (P. 62) is "ON" for the XK-7.

OCT (REAL)..... ❸ controls the LOWER Octave setting when using a physical LOWER Keyboard (or an expanded LOWER Keyboard for the XK-7).

NOTE: You can select whether or not to add these OCTAVE values to the notes of the External Zones (P. 155).

SPLIT (XK-7 only)

❺ SPLIT POINT

Setting Range: 1C – 6C

This allows you to adjust the dividing point between the LOWER Keyboard and the UPPER Keyboard.

NOTE: The [SPLIT] button (P. 62) must be active (LED "ON") .

COUPLER

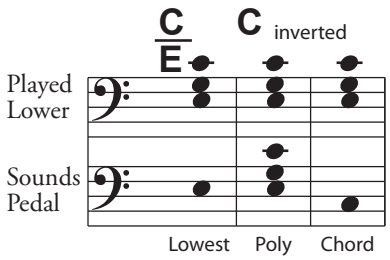
❻ PEDAL TO LOWER - LIMIT

Setting Range: 1C – 6C

This allows you to adjust the highest note of the LOWER Keyboard if the [PEDAL TO LOWER] button (P. 63) is "ON."

NOTE: When the ❼ MODE is set at "Chord," the PEDAL TO LOWER works over the entire range of the LOWER keyboard and this Parameter is disabled.

❼ PEDAL TO LOWER - MODE



This allows you to select how the PEDAL TO LOWER responds to PEDAL notes played on the LOWER Keyboard (see the illustration above).

Lowest..... PEDAL will sound the lowest note.
Poly..... PEDAL will sound polyphonic notes.
Chord..... PEDAL will sound the root of the chord.

NOTE: The "Lowest" setting detects notes via one of the physical contacts on the keyboard. If you play a chord with a light touch, multiple notes may sound, each "Lowest" note being triggered by each physical contact.

❽ LOWER TO PEDAL - SW

Settings: Off, On

This allow you to select whether LOWER TO PEDAL (P. 63) is disabled ot enabled.

When "ON," the LOWER Part sounds together with the PEDAL Part when playing a Pedalboard.

NOTE: This Parameter is linked with the [LOWER TO PEDAL] button (XK-7D).

❾ LOWER TO PEDAL - LIMIT

Setting Range: 1C – 6C

This allows you to set the highest note on the Pedalboard for which the LOWER TO PEDAL feature will take effect.

NOTE: The Parameters described on this page are Patch Parameters, and can be Recorded to a Patch. For a complete list of all Patch Parameters, please see the APPENDIX starting on page 178.

EXTERNAL ZONES

This FUNCTION Mode allows you to configure Zones for controlling external MIDI devices.

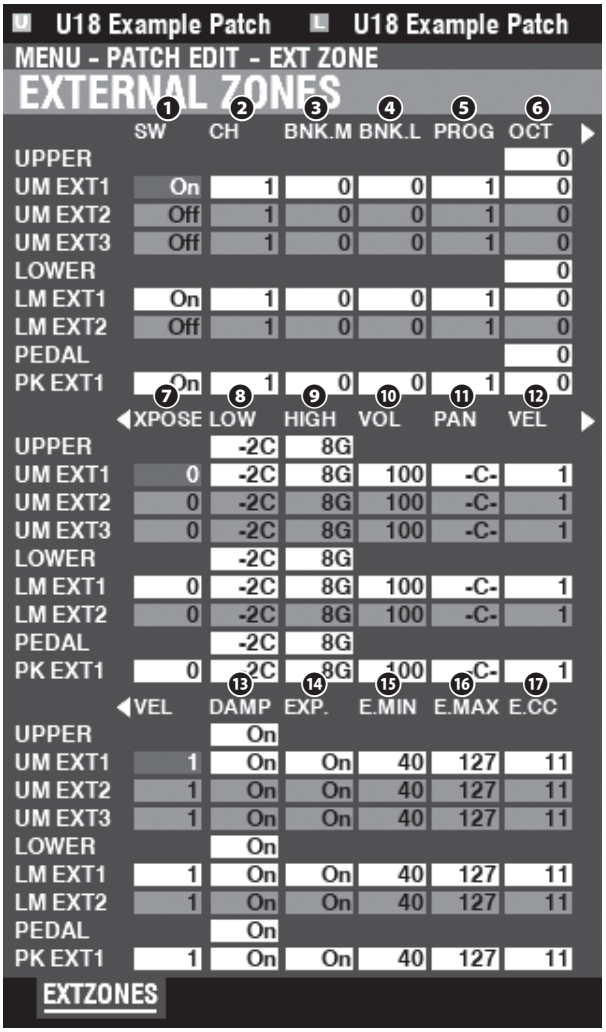
To locate this mode:

[MENU/EXIT] - **PATCH** - **EXT ZONE** - [ENTER]

External Zones allow you to control external MIDI equipment either from the XK-7 / XK-7D Keyboard or expanded Keyboards.

There are 3 External Zones for UPPER, 2 for LOWER and 1 for PEDAL physical Keyboards (P. 150).

NOTE: Using External Zones requires setting the MIDI Parameters properly. This can be done easily using a MIDI Template provided for that purpose. See page 154 for more information about MIDI Templates.



HOW TO READ THE ZONE NAME

UPPER.....Internal Zone, UPPER Part
UM EXT.....External Zone, physical UPPER Keyboard
LOWER.....Internal Zone, LOWER Part
LM EXT.....External Zone, physical LOWER Keyboard
PEDAL.....Internal Zone, PEDAL Part
PK EXT.....External Zone, physical PEDAL Keyboard

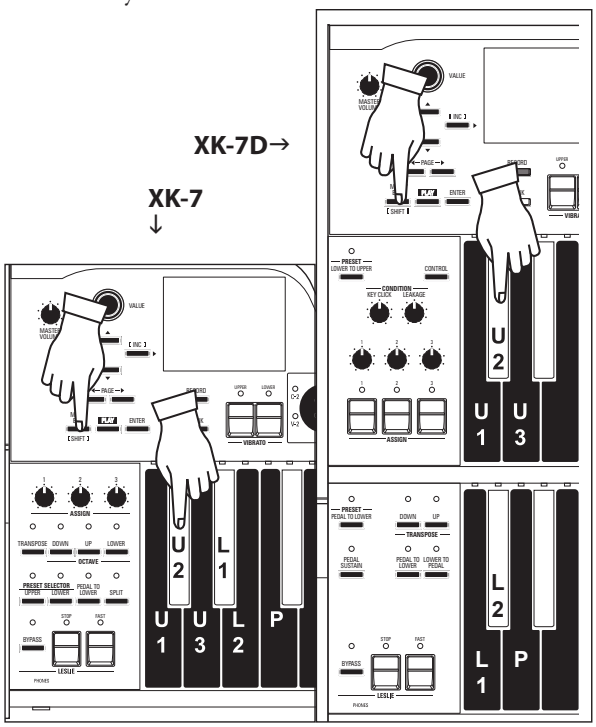
NOTE: The Internal Zones are linked with PATCH - ORGAN - GENERAL - SETTING (P. 81).

PARAMETERS

❶ SW (SWitch)

Settings: Off, On

This allows you to turn the selected Zone "On" or "Off."



You can allocate External Zones by Pressing and Holding the [SHIFT] button and pressing the specified Preset Key (see the illustration above).

❷ CH (MIDI CHannel)

Setting Range: 1 – 16

This allows you to select the MIDI Channel on which the selected Zone will transmit.

❸ BNK.M (Bank MSB)

❹ BNK.L (Bank LSB)

Setting Range: 0 – 127

❺ PROG (PROGram Change)

Setting Range: 1 – 128

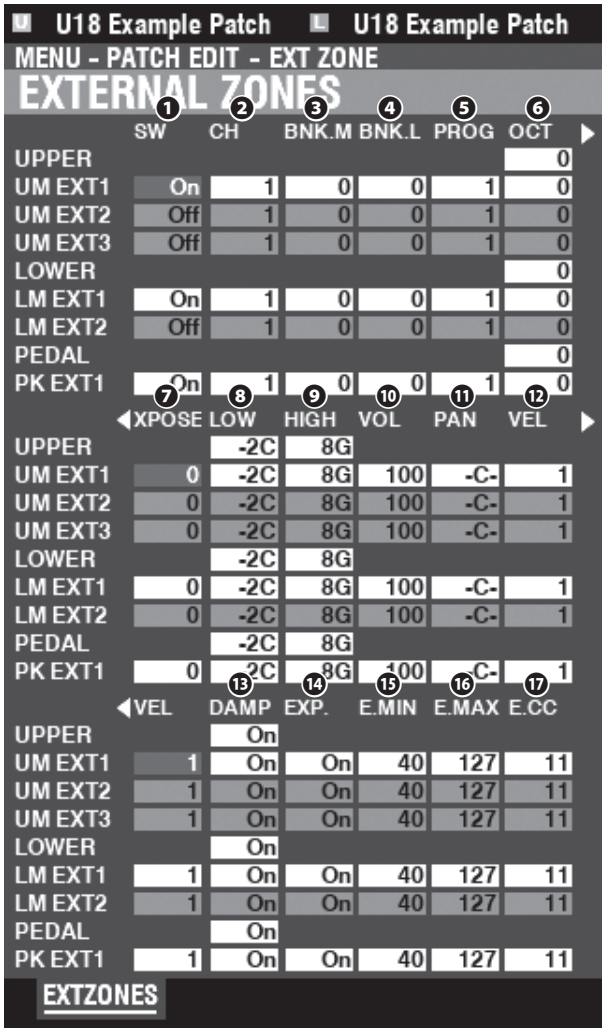
This allows you to select the Bank Select and Program Change messages transmitted by the selected Zone.

NOTE: For more specific information about connected MIDI equipment, please refer to the Owner's Manual for the specific MIDI equipment you are using.

❻ OCT (OCTave)

Setting Range: -2 – ±0 – +2

This allows you to select the Octave or pitch at which the selected Zone will sound. Adjust this Parameter if an external sound plays in an octave other than the one you need for a particular application.



❼ **XPOSE (Transpose)**

Setting Range: -6 – ±0 – +6

This allows you to shift the musical key of the selected Zone.

❽ **LOW (Key Range LOW)**

❾ **HIGH (Key Range HIGH)**

Setting Range: -2C – 8G

This allows you to adjust the UPPER and LOWER note limits for the selected Zone.

❿ **VOL (VOLume)**

Setting Range: 0 – 127

This allows you to control the Volume (Controller #7) of the sound controlled by the selected Zone.

NOTE: This value will be overridden by the Expression if the #17 E.CC is set at "7" (Volume).

⓫ **PAN**

Setting Range: L64 – C – R63

This allows you to adjust the directionality or Pan setting (Controller #10) for the selected Zone.

⓬ **VEL (VELocity Curve)**

Setting Range: Off, 1 – 4

This allows you to select how the selected External Zone will respond to key velocity.

"Off" is standard organ touch - the notes play at a fixed velocity ("100") regardless of a light or heavy key pressure. "1" is the most exaggerated velocity curve while "4" is a gentler curve. "2" and "3" are curves in between.

⓭ **DAMP (DAMPer)**

⓮ **EXP (EXPression)**

Settings: On, Off

These allow you to select whether Damper, Sostenuto or Expression values will affect the selected Zone.

⓯ **E.MIN (Expression MINimum)**

Setting Range: 0 – 63

This allows you to adjust the volume level when the Expression Pedal is "closed" or set at its minimum position.

At "0" no sound will be heard.

⓰ **E.MAX (Expression MAXimum)**

Setting Range: 64 – 127

This allows you to adjust the volume level when the Expression Pedal is all the way "open," or set at maximum.

⓱ **E.CC (Expression Control Change)**

Setting Range: Off, 7, 11

This selects which message is sent by operating the Expression Pedal (or a knob assigned to Expression).

You can select either "7" (Volume or Controller #7) or "11" (Expression or Controller #11) depending on which Controller Number a connected MIDI device will receive.

MESSAGE ON/OFF

Sometimes when transmitting MIDI messages, undesired information or not enough information may be sent. This can be prevented by switching the appropriate MIDI message "OFF."

MIDI messages which can be switched "OFF" by Patch:

.....Note, Expression, Damper (in this page).

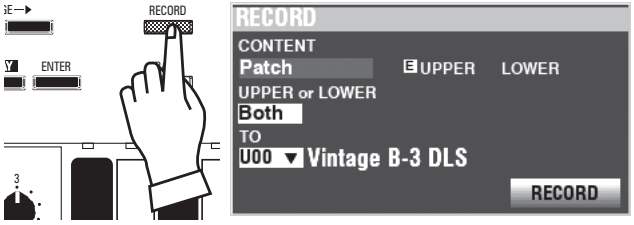
System Parameters which can be switched "OFF" individually:

.....Bank Select, Program Change, entire External Zone (see page 155).

NOTE: The Parameters described on this page are Patch Parameters, and can be Recorded to a Patch. For a complete list of all Patch Parameters, please see the APPENDIX starting on page 178.

RECORDING A USER PATCH

After you have created your own setting, you can record it as a User Patch (P. 35).



Please see page 64 for instructions on how to Record a Patch.

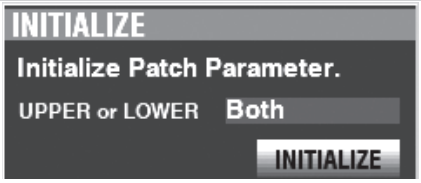
INITIALIZE

This allows you to initializes all the Patch Parameters for the Patch you are currently editing.

To locate this job:

[MENU/EXIT] - **PATCH** - **INITIALIZE** - [ENTER]

INITIALIZE PATCH



Select the Part to initialize by using the [VALUE] knob.

Upper.....UPPER Part
Lower.....LOWER Part
Both.....both Parts

Use the DIRECTION [▼] button to move the cursor to the [**INITIALIZE**] icon, and press the [ENTER] button.

The Display will show:

for approximately 1 second.

When this message disappears, the Patch is Initialized.

NOTE: If you DO NOT wish to Initialize, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

INITIAL STATUS

When initialized, the following Patch Parameters are set:

Organ Type.....TW
Percussion.....Off
Vibrato and Chorus.....Off, C-3
Leslie.....On, Slow
Preamp.....On
Other Effects.....Off

tips **DIFFERENCE BETWEEN INITIALIZE AND DEFAULT**

The "Initialize" function is similar to the "Default" function, with the following differences.

INITIALIZE:

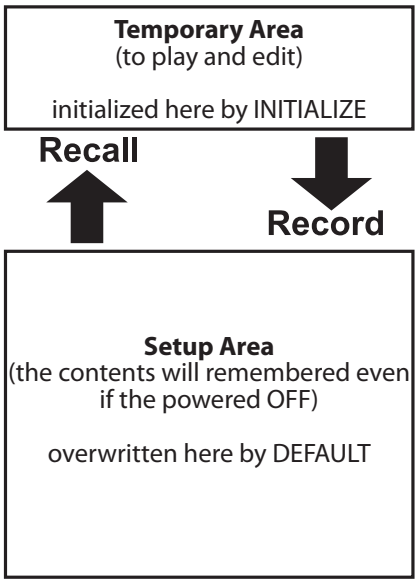
- Initializes the Temporary editing memory. The edited contents will be lost if you recall a Patch or turn the power "OFF" before Recording your changes.
- The Parameter values to be initialized are a specified value independent of the currently selected Patch.

DEFAULT:

- Overwrites and records the selected Patch in the Setup area.
- The Parameter values will be overwritten with the contents of the same "F" (factory) Patch number.

SPECIAL CASE FOR THE [A♯] AND [B]:

- An "Initialize" procedure done on the [A♯] or [B] Adjust Preset Keys will initialize both the Temporary and Setup memory areas.

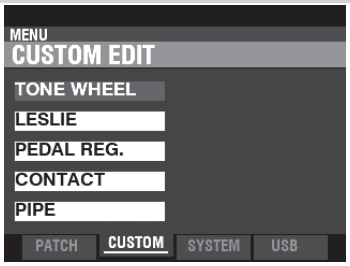


CUSTOM PARAMETERS

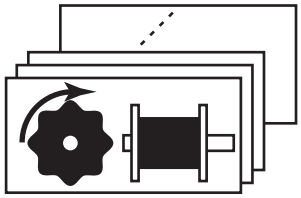
EDITING CUSTOM PARAMETERS

The XK-7 / XK-7D allows you to Record certain Parameters into macro-settings called **Custom Tone Wheels**, **Custom Leslie Cabinets**, **Custom Contacts**, **Custom Pedal Registrations** and **Custom Pipes**. In this way you can include multiple Parameter settings as part of a Patch, and include the same settings in multiple Patches.

CUSTOM CONTENTS

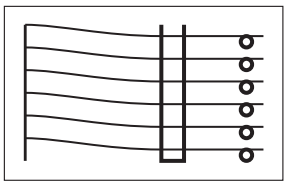


CUSTOM TONE WHEEL (P. 109)



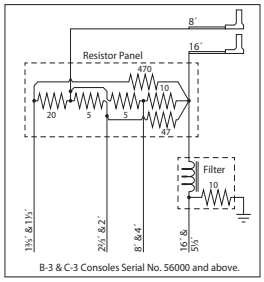
For the "TW" Organ Type, this allows you to edit or create Custom Tone Wheels. A Custom Tone Wheel includes profiles of specific organs, Drawbar Foldback points, levels of each individual Tone Wheel, etc.

CUSTOM CONTACT (P. 116)



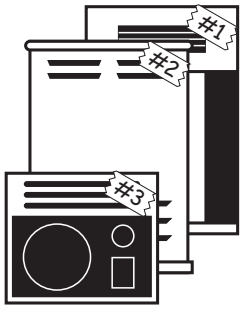
For the "TW" Organ Type, this allow you to edit or create Custom Virtual Multi-Contacts e.g. the relationship between keys pressed and contacts, delay time, etc.

CUSTOM PEDAL REGISTRATION (P. 118)



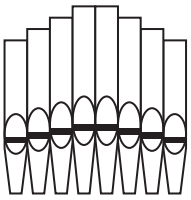
For the "TW" Organ Type, this allows you to edit or create Custom Pedal Registrations (registrations for the Pedal Drawbars).

CUSTOM LESLIE (P. 119)



For Organ Types except "Pipe," this allows you to edit or create Custom Leslie Cabinets.

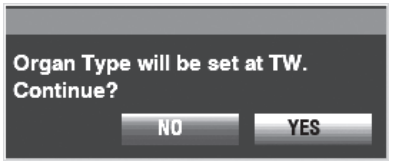
CUSTOM PIPE (P. 122)



For the "Pipe" Organ Type, this allows you to edit or create Custom Pipes. A Custom Pipe includes assignment of Pipe Voices to the Drawbars as well as Volume settings, Chiff settings, etc.

◆ WHAT IS THIS DIALOG BOX?

If you select an Organ Type other than the one currently selected, a dialog box similar to the one shown below will display:



If you want to change the Organ Type, use the DIRECTION [▶] button to move the cursor to the [**YES**] icon, and press the [ENTER] button. If you select [**NO**] the previous screen will appear.

◆ RECORD THE CUSTOM CONTENTS (P. 124)

None of the Custom Parameter settings will be remembered unless they are Recorded in one of the Custom units.

NOTE: User ("U") Custom settings come from the factory pre-programmed with the same settings as the Factory ("F") settings.

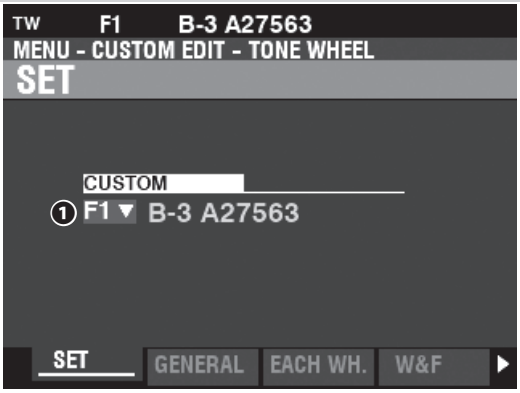
CUSTOM TONE WHEELS

This FUNCTION Mode allows you select or edit the characteristics of the Tone Wheel Organ.
The Parameters described on these pages are grouped in macro-settings called **Custom Tone Wheels.**

To locate this mode:

[MENU/EXIT] - **CUSTOM** - **TONE WHEEL** - [ENTER]

SET

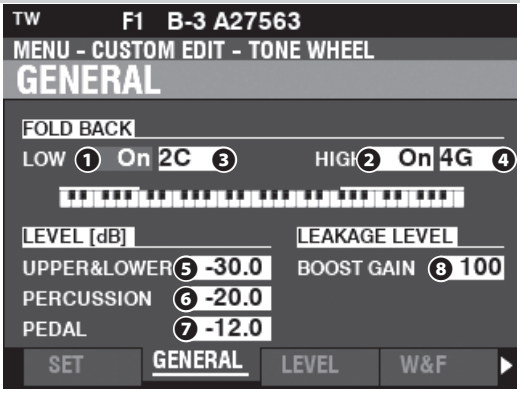


❶ CUSTOM SET (P)
Setting Range: F1 – F4, U1 – U4

This allows you to select the Custom Number to edit.

"F" refers to Factory settings which are permanently stored in memory and cannot be overwritten. "U" or User settings can be modified or even overwritten entirely in order to create your own Custom Tone Wheel.

GENERAL



FOLD BACK

❶ FOLD BACK LOW (TW)

❷ FOLD BACK HIGH (TW)
Settings: On, Off

These allow you to turn Foldback "On" or "Off."

❸ FOLD BACK - KEY LOW (TW)
Setting Range: 1C – 2C

This allows you to adjust the key-point from which the Drawbar pitches for the Sub-Fundamental (16′) Drawbar "Fold Back" (repeat the pitches played by other notes) on the lower octave of the Keyboard.

The bottom key on the Keyboard is displayed as "1C."

❹ FOLD BACK - KEY HIGH (TW)
Setting Range: 4G – 5C

This allows you to adjust the key-point at which the 1′ Drawbar pitches "Fold Back" (repeat the pitches played by other notes) in the higher octaves of the Keyboard.

NOTE: The FOLD BACK effect will be heard starting with the 2⅔′ Drawbar (first black Drawbar) and all the other Drawbars which introduce high harmonics.

LEVEL

❺ UPPER & LOWER (TW)

❻ PERCUSSION (TW)

❼ PEDAL (TW)
Setting Range: -Inf, -99.6 – +4.0 [dB]

These allow you to adjust the output level for each Part.

LEAKAGE LEVEL

❽ BOOST GAIN (TW)
Setting Range: 0 – 127

This allows you to adjust the rate at which the Leakage Tone increases as more notes are played simultaneously. A higher setting will cause the Leakage Tone to increase at a faster rate.

tips **WHAT ARE "CUSTOM TONE WHEELS?"**

The characteristics of the Tone Wheel generators such as Level, Wow/Flutter or Eccentricity may be different on each individual organ (B-3/C-3, etc.).

By using the Custom Tone Wheel feature, you can replicate the characteristics of a particular instrument and Record your settings as a Custom Tone Wheel..

tips **FOLD BACK**

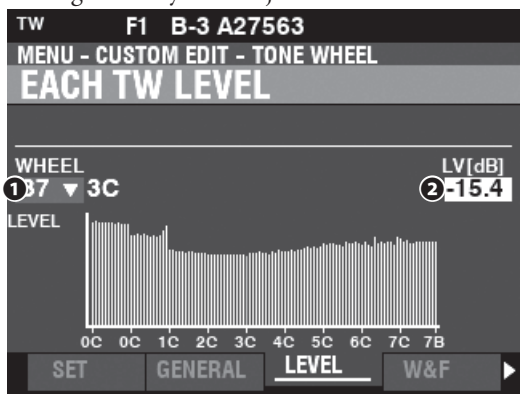
On the earliest model Hammond Organs, the Sub-Fundamental Drawbar (the one marked, "16′″) would continue to play all the way down to the lowest "C" ("1C"). Newer models such as the Hammond Models X-66, X-77 and Concorde do the same, however, the 8th harmonic Drawbar (the one marked "1′″) continues to play up the Keyboard to the next to highest "C" ("5C") on the Keyboard.

On a vintage B-3/C-3, etc., the lowest note produced by the Sub-Fundamental Drawbar is the 2nd "C" ("2C") from the left end of the Keyboard, while the highest note that can be played by the 8th harmonic Drawbar is the 4th "F♯" from the left end of the Keyboard. The lower and higher keys on the Keyboard **Fold Back**, in that they repeat the pitches played by other notes.

NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

EACH TW LEVEL

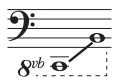
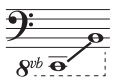
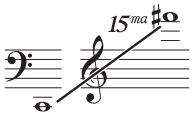
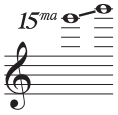
This Page allows you to adjust the level of the each wheel.



❶ WHEEL

This allows you to select the Tone Wheel you want to edit.

The setting range is displayed by "Wheel Number" and "Note."

Wheel Number	01 – 12	F01 – F12	13 – 91	F92 – F96
				
Note	0C – 0B	0C – 0B	1C – 7F♯	7G – 7B
Remarks	"Complex" for PEDAL	Extend	B-3/C-3 Manual	Extend

"F" denotes wheels used for extended "Fold Back" for the Manual - UPPER and LOWER Parts. The non-marked Wheel Numbers indicate original wheels from the B-3/C-3.

There are two ways to select the Wheel Number:

1. Use the [VALUE] knob, or,
2. If you want to locate a certain Tone Wheel quickly, move the Drawbar slightly while depressing the key you want to regulate (see the illustration on the right).

When the Wheel Number is selected, each Parameter for the wheel (❷ to ❹) is updated.

NOTE: Make sure [TRANSPOSE] (P. 66) and [OCTAVE] (P. 62) are set at "0" to ensure that the correct Wheel is selected.

❷ LEVEL (TW)

Setting Range: -Inf, -60.0 – +4.0 [dB]

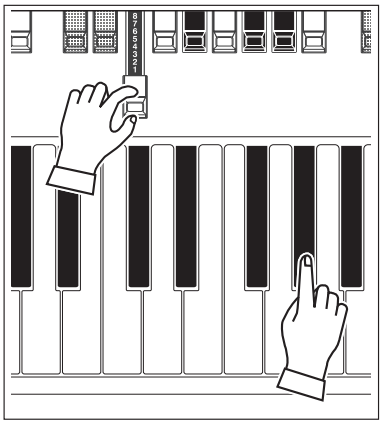
This allows you to adjust the volume of the selected Wheel.

Press and Hold the [SHIFT] button to make fine adjustments to the Wheel Level while turning the [VALUE] knob.

tips **"F" WHEELS AND PEDAL WHEELS**

On the B-3/C-3/A-100, there are 91 sounding Tone Wheels. Wheels #1 through #12 are special wheels called **Complex Wheels** used exclusively for the PEDAL tones.

Later Hammond models had 96 sounding Tone Wheels, with the Sub-Fundamental Drawbar ("16'") continuing to play all the way down to the lowest "C" ("1C") and 5 additional pitches at the top. On the XK-7 / XK-7D, the extended pitches are designated as "F" (Fold Back) pitches (see the illustration below).



Selecting a WHEEL NUMBER to edit

tips **CHANGING STEPS AND THE [SHIFT] BUTTON**

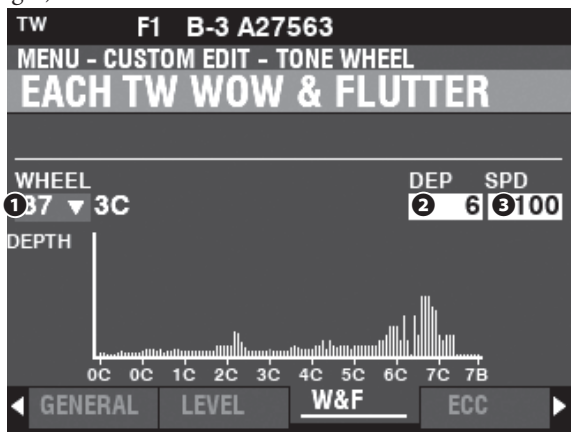
For the "dB" Parameters in this mode, turning the [VALUE] knob changes the value at 0.5[dB] increments.

Turning the [VALUE] knob while holding the [SHIFT] button will cause the value to changed at 0.1[dB] increments.

NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

EACH TW WOW & FLUTTER

This Page allows you to adjust rapid changes in pitch or phase (see the "tips" at the right).



❶ WHEEL

This allows you to select the Fundamental Wheel to edit.

NOTE: See EACH TW LEVEL (page 110) for more detail.

❷ DEPTH (TW)

Setting Range: 0 – 127

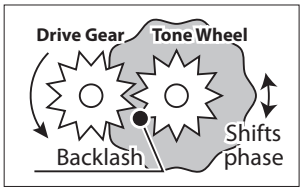
This allows you to adjust the Depth of the effect.

❸ SPEED (TW)

Setting Range: 0 – 127

This allows you to adjust the Speed of the effect.

tips WOW & FLUTTER

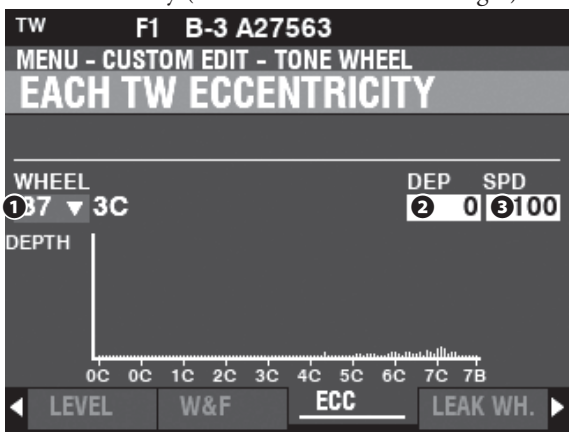


The illustration above shows how Tone Wheels are driven by an arrangement of gears connected to a constant speed motor. Because gears need a certain amount of "play" to keep them from jamming when they mesh, a Tone Wheel may rotate backwards very slightly while turning, resulting in what is known as "backlash." This will cause the pitch and/or phase to change slightly at a rapid rate. A rapid slight fluctuation of pitch is called "flutter" while "wow" is a slower "once-per-revolution" change of pitch or phase.

The terms "Wow" and "Flutter" have been given very specific definitions by the International Electrotechnical Commission or IEC, the body that establishes standards for electrical and electronic technologies. "Wow" is a cyclical pitch change of under 10 Hz while "Flutter" is a more irregular pitch variation over 10 Hz. "Wow and flutter" is the generic term for both.

EACH TW ECCENTRICITY

This Page allows you to adjust periodic changes in loudness or volume caused by wheel eccentricity (see the illustration on the right).



❶ WHEEL

This allows you to select the Fundamental Wheel to edit.

NOTE: See EACH TW LEVEL (page 110) for more detail.

❷ DEPTH (TW)

Setting Range: 0 – 127

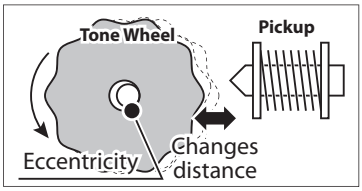
This allows you to adjust the Depth of the effect.

❸ SPEED (TW)

Setting Range: 0 – 127

This allows you to adjust the Speed of the effect.

tips WHEEL ECCENTRICITY

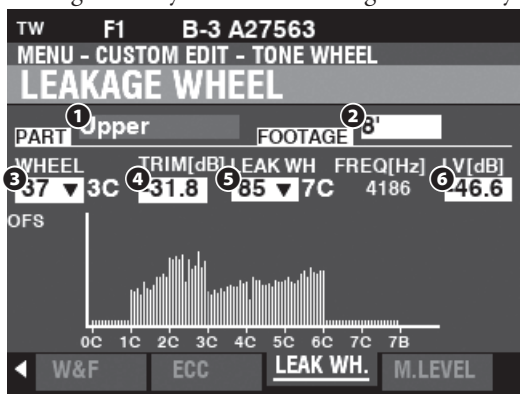


As shown in the illustration above, if a Tone Wheel has been stamped slightly off-center, the high spots on the wheel will move slightly closer or slightly further away with each revolution, resulting in the sound becoming slightly louder and softer. These Parameters recreate this phenomenon.

NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

LEAKAGE WHEEL

This Page allows you to add a Leakage Tone to any of the "Fundamental Wheels."



On the XK-7 / XK-7D the Fundamental Wheels ❸ also have Leakage Wheels ❺ associated with them. This Page allows you to edit the characteristics of the Leakage Wheels.

❶ PART

Setting Range: Upper, Lower, Percussion, Pedal

This allows you to select the Part to edit.

❷ FOOTAGE

Part	Option
Upper, Lower	16′, 5⅓′, 8′, 4′, 2⅔′, 2′, 1⅗′, 1⅓′, 1′
Percussion	2nd, 3rd
Pedal	16′, 5⅓′, 8′, 4′, 2⅔′, 2′, 1⅗′, 1⅓′

This allows you to select the Footage or Percussion harmonic to edit.

The Footages for PEDAL Part means Sub Drawbars (P. 118).

❸ WHEEL

Setting Range: F01:0C – F96:7B (Upper, Lower, Percussion)
01:0C – 91:7F♯ (Pedal)

This allows you to select the Fundamental Wheel to edit.

NOTE: See EACH TW LEVEL (page 110) for more detail.

To select the Part, footage and Fundamental Wheel, use DIRECTION [▲] [▼] [◀] [▶] buttons and [VALUE] knob or, slightly move the footage of the Drawbar while depressing the key you want to regulate (see the illustration on the right).

❹ TRIM (TW)

Setting Range: -Inf (OFF), -99.6 – +4.0 [dB] *1

This allows you to adjust the total level of the Leakage Tone relative to the Fundamental Wheel ❸.

❺ LEAK WH (TW)

Setting Range: F01:0C – F96:7B (Upper, Lower, Percussion)
01:0C – 91:7F♯ (Pedal)

This allows you to add a Leakage Tone to any of the Wheels ("Fundamental Wheels ❸") by using the "Leakage Wheels."

In addition, the frequency [Hz] is also shown at the right side of the Wheel number.

❻ LEVEL (TW)

Setting Range: -Inf (OFF), -99.6 – +4.0 [dB] *1

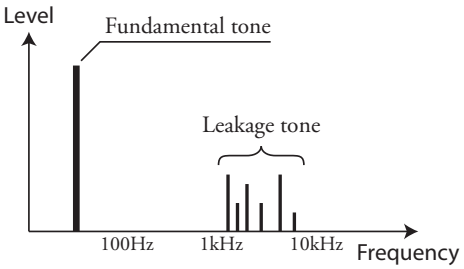
This allows you to adjust the Volume of the selected Leakage Wheel ❺.

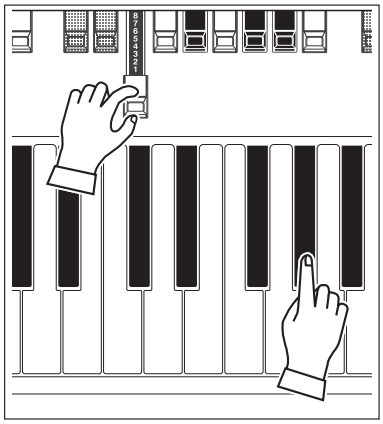
***1: Turning the [VALUE] knob will adjust the Volume by 0.5 [dB] steps.**

Turning the [VALUE] knob while Pressing and Holding the [SHIFT] button will adjust the Volume by 0.1 [dB] steps.

tips WHAT IS "LEAKAGE?"

On a tone-wheel Hammond Organ, each Tone Wheel rotates next to a magnet, making a total of 91 or 96 magnets. The Tone Wheels are mounted in separate bins to isolate them from each other and prevent the magnets from intercepting frequencies from neighboring wheels; however, a small amount of current may still "leak" through, producing a phenomenon called Leakage. Leakage is usually heard as a "hash" type sound consisting of many frequencies sounding at once. The phenomenon can be thought of as similar to white noise but with somewhat more definition, with individual pitches more discernable. A properly calibrated B-3/C-3 will have a minimum of this effect; however, an instrument which has been subjected to hard use over a period of time may exhibit more leakage noise.



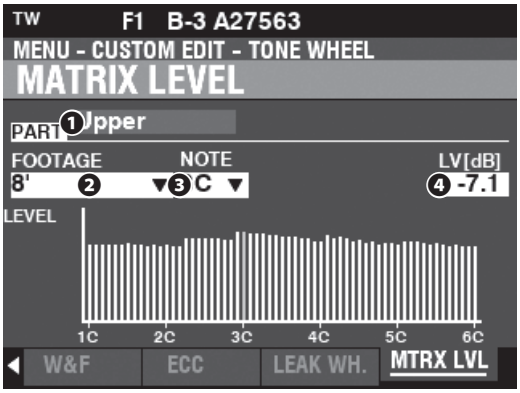


Selecting a Part, Footage and Wheel to edit

NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

MATRIX LEVEL

This Page allows you to select a **Matrix** to adjust the volume of each Part, each Drawbar and each Note.



❶ PART

Setting Range: Upper, Lower, Percussion, Pedal

This allows you to select the Part to edit.

❷ FOOTAGE

Setting Range:

Part	Option
Upper, Lower	16´, 5⅓´, 8´, 4´, 2⅔´, 2´, 1⅗´, 1⅓´, 1´
Percussion	2nd, 3rd
Pedal	Pk16-16´, 5⅓´, 8´, 4´, 2⅔´, 2´, 1⅗´, 1⅓´, Pk8-16´, 5⅓´, 8´, 4´, 2⅔´, 2´, 1⅗´, 1⅓´

This allows you to select the Footage or Percussion harmonic to edit.

The Footages labeled "Pk..." are the harmonic elements of the PEDAL Drawbars.

❸ NOTE

Setting Range: 1C – 6C

This allows you to select the Note to edit.

❹ LEVEL (TW)

Setting Range: -Inf, -60.0 – +4.0 [dB]

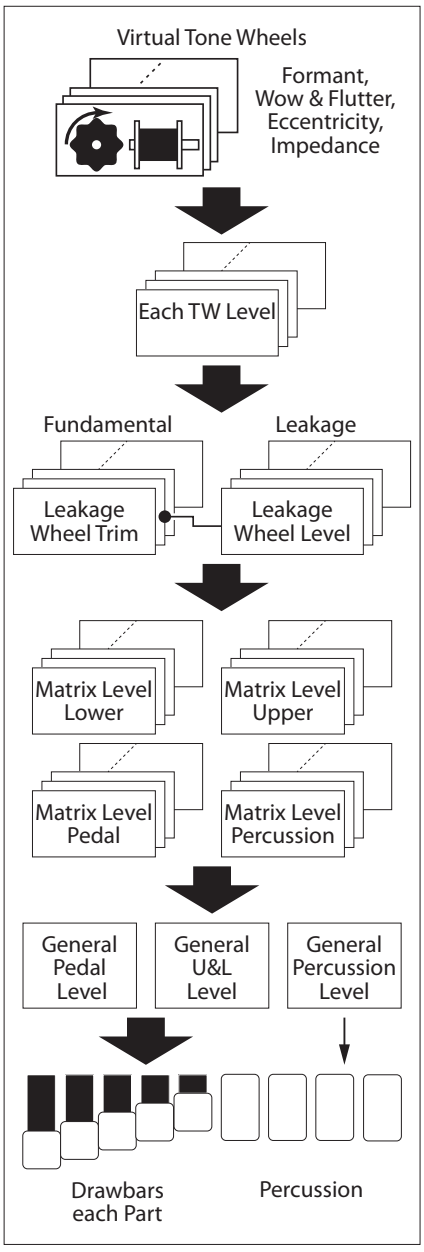
This allows you to adjust the volume of the highlighted Note within the Matrix above ❶, ❷ and ❸.

Press and Hold the [SHIFT] button to make fine adjustments to this Parameter while turning the [VALUE] knob.

tips **LEVEL PARAMETERS IN THE CUSTOM TONE WHEELS**

There are many Parameters for "Level" in the Custom Tone Wheels which interact with each other.

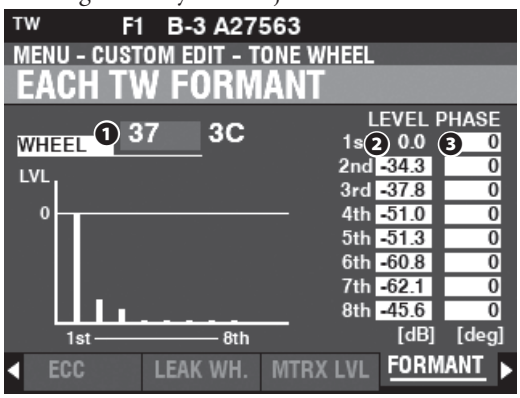
The illustration below shows this in more detail.



NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

EACH TW FORMANT

This Page allows you to adjust the formant for each Tone Wheel.

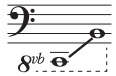
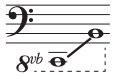
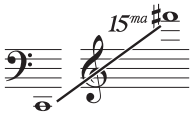
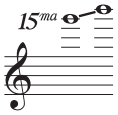


❶ WHEEL

Setting Range: 01 ~ 12, F01 ~ F12, 13 ~ 91, F92 ~ F96

This allows you to select the Tone Wheel you want to edit.

The setting range is displayed by "Wheel Number" and "Note."

Wheel Number	01 – 12	F01 – F12	13 – 91	F92 – F96
				
Note	0C – 0B	0C – 0B	1C – 7F♯	7G – 7B
Remarks	"Complex" for PEDAL	Extend	B-3/C-3 Manual	Extend

"F" denotes wheels used for extended "Fold Back" for the UPPER and LOWER Parts. The non-marked Wheel Numbers indicate original wheels from the B-3/C-3.

There are two ways to select the Wheel Number:

1. Use the [VALUE] knob, or,
2. If you want to locate a certain Tone Wheel quickly, move the Drawbar slightly while depressing the key you want to regulate (see the illustration on the right).

When the Wheel Number is selected, each Parameter for the wheel (❷ to ❹) is updated.

NOTE: Make sure [TRANSPOSE] (P. 66) and [OCTAVE] (P. 62) are set at "0" to ensure that the correct Wheel is selected.

❷ LEVEL (TW)

Setting Range: -Inf, -100 – +4.0 [dB] *1

This allows you to adjust the level for each harmonic from fundamental to eighth.

***1: Use the [VALUE] knob to adjust the Volume by 0.5 [dB] steps.**

Use the [VALUE] knob while Pressing and Holding the [SHIFT] button to adjust the Volume by 0.1[dB] steps.

❸ PHASE (TW)

Setting Range: 0 – 359 [degree] *2

This allows you to adjust the phase for each harmonic from the fundamental to the eighth.

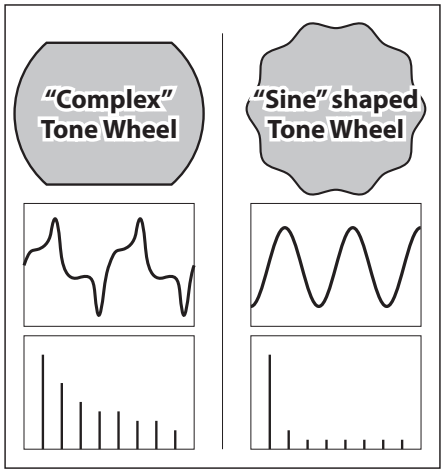
***2: Use the [VALUE] knob to adjust the Phase 1-degree steps.**

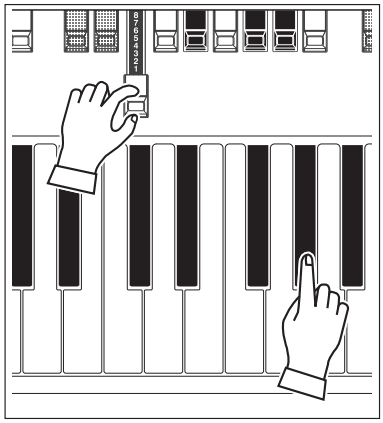
Use the [VALUE] knob while Pressing and Holding the [SHIFT] button to adjust the Phase by 10-degree steps.

tips FORMANT

The Hammond organ is an instrument that synthesizes sine waves shaped by Tone Wheels, but due to manufacturing precision, the Tone Wheels may not be able to shape an accurate sine wave, and the Complex Tone Wheels used for the PEDAL Part have a special shape in order to produce additional odd-numbered harmonics to produce a deeper bass for the Pedals.

The formant editing function of this organ reproduces such characteristics by manipulating the volume and phase of the harmonic series.

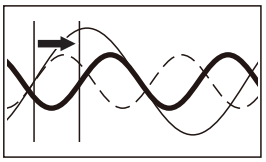




Selecting a WHEEL NUMBER to edit

tips PHASE

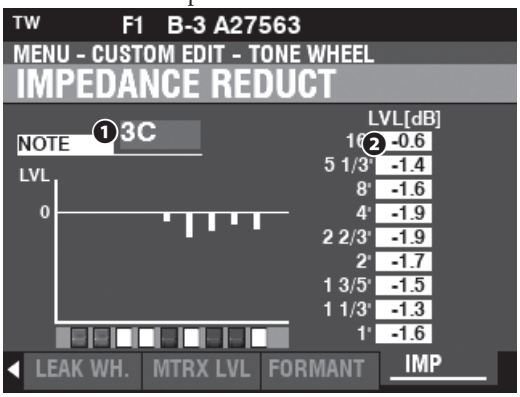
Even if the volume ratio between the fundamental and overtones is the same, they may sound different if their phases are different. This parameter adjusts this.



NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

IMPEDANCE REDUCT

This Page allows you to select whether the volume will be slightly reduced when multiple keys are pressed and held and additional keys are pressed. You can adjust the amount of Impedance Reduction for each note and each Drawbar.



❶ NOTE

Setting Range: 1C – 6C

This allows you to select the "Load" Note you want to edit.

❷ LVL (LeVeL) (TW)

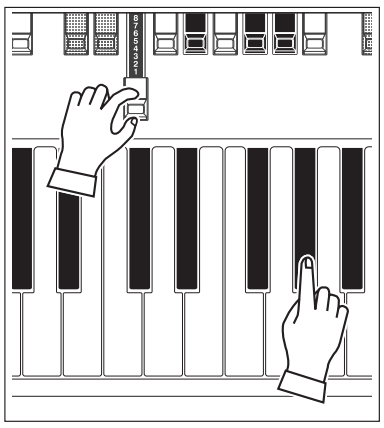
Setting Range: INF, -100 – +4.0 [dB] *1

This allows you to set how much "Load" the note selected in ❶ NOTE above will impose on the Tone Wheel corresponding to each footage from 16′ to 1′ in [dB].

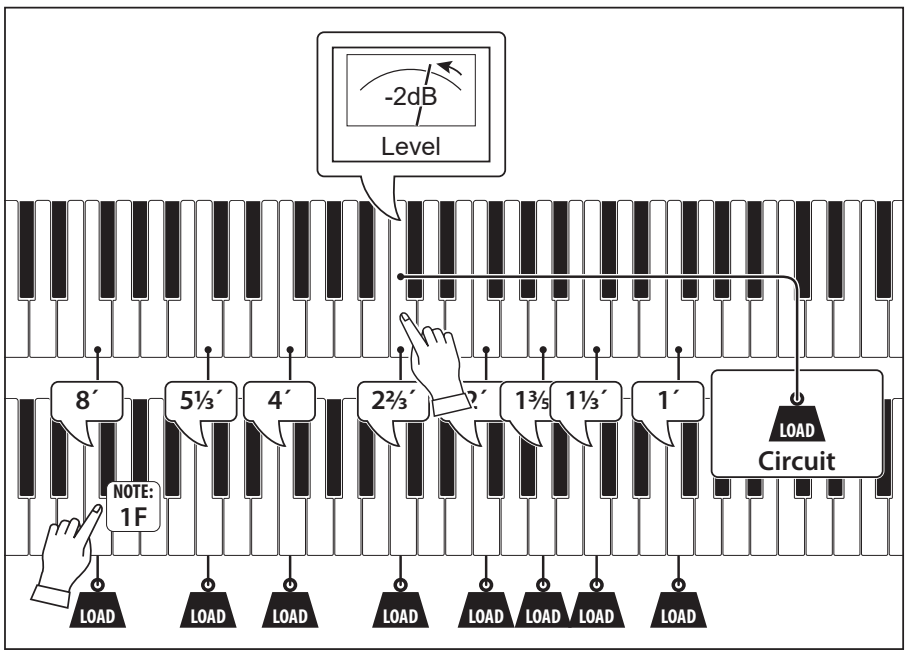
The output level of the Tone Wheels is slightly different depending on the number of notes played - for example, playing a single note on the UPPER or LOWER Part vs. playing a note on both UPPER and LOWER Parts using the same Tone Wheel. This Parameter allows you to adjust the amount of difference among multiple notes.

***1: Use the [VALUE] knob to adjust the amount of Load by 0.5 [dB] steps.**

Use the [VALUE] knob while Pressing and Holding the [SHIFT] button to adjust the amount of Load by 0.1 [dB] steps.



Selecting a NOTE to edit



tips

FACTORS FOR REDUCING OUTPUT LEVEL OF TONE WHEELS

The Tone Wheels of a vintage Hammond Organ have "impedance" or internal resistance, and the nominal output level will be reduced by various factors.

CIRCUIT

The output level is slightly reduced if a key is played, due to the fact that the internal circuit consumes electricity which is generated by Tone Wheels (see "Circuit" on the illustration on the left).

OTHER KEYS

When a key is depressed and an additional key is pressed which shares a frequency with the first key, the output put of the first key will be reduced slightly.

The illustration on the left shows playing middle "C" and the "F" key two octaves below. The output level for the "C" key's (8′) is reduced by playing the "F" key's (2⅔′).

NOTE: The Parameters labeled (TW) are Tone Wheel Parameters. You must Record these Parameters to a Custom Tone Wheel if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

CUSTOM CONTACT

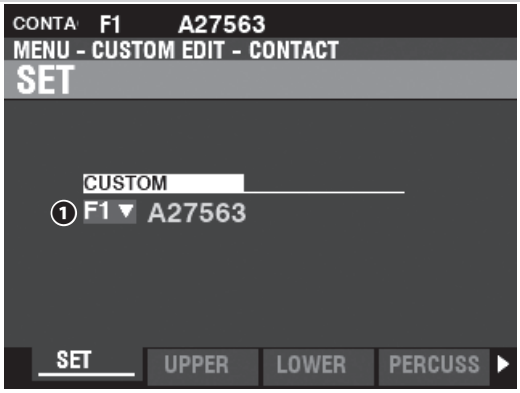
For the "TW" Organ Type, this allow you to edit or create Custom Virtual Multi-Contacts e.g. the relationship between keys pressed and contacts, delay time, etc.

The Parameters described on these pages are grouped in macro-settings called **Custom Contacts**.

To locate this mode:

[MENU/EXIT] - **CUSTOM** - **CONTACT** - [ENTER]

SET



❶ CUSTOM SET (P)

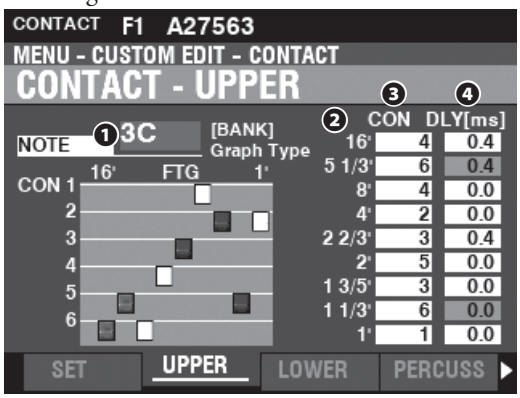
Setting Range: F1 – F4, U1 – U4

This allows you to select the Custom Number to edit.

"F" refers to Factory settings which are permanently stored in memory and cannot be overwritten. "U" or User settings can be modified or even overwritten entirely in order to create your own Custom Contact.

EDITING PAGES

There are separate editing pages for UPPER, LOWER, PERCUSSION and PEDAL. Each Page will list the Parameters for the selected Keyboard or the Percussion.



UPPER / LOWER

The UPPER and LOWER Page allows you to edit contacts for Drawbars, 16′ to 1′, 5 octaves of notes for the UPPER and LOWER Parts.

On a B-3/C-3, the 1′ contact is shared with Percussion; however, the XK-7 / XK-7D contains a separate page for the Percussion contact.

PERCUSSION

The PERCUSSION Page edits contacts for the Percussion for the UPPER Part, Second (2nd) and Third (3rd) harmonics.

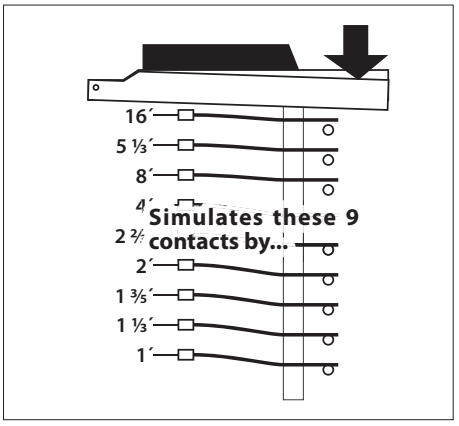
PEDAL

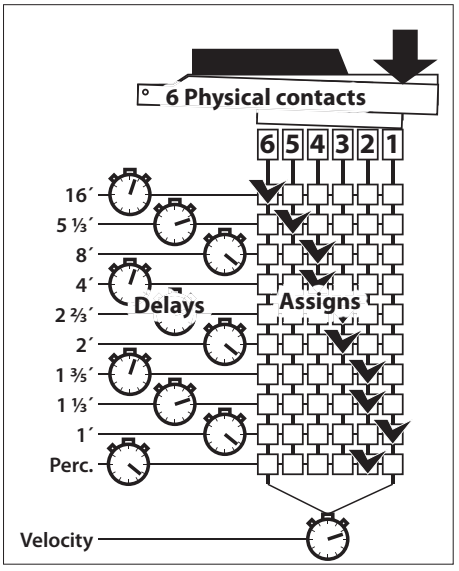
The PEDAL Page edits contacts for 16′ to 1 ⅓′ of the Pedal Sub Drawbars (P. 118), 2 octaves of notes for PEDAL Keyboard.

tips **VIRTUAL MULTI-CONTACT CONCEPT**

The Virtual Multi-Contacts on this organ simulate 9 (+1 for Percussion) contacts on the B-3/C-3 by 6 physical contacts in the Keyboard and software delays.

Contacts #1 and #6 are spaced apart and are used to measure Velocity.





tips **PERCUSSION AND CONTACTS**

The Percussion "decay" begins at the #1 contact and is released at a specified contact.

If you press a key very slowly, you may hear the Percussion tone but only the end of the decay or no sound.

Also a quiet, "thick" Key Click occurs when the Percussion contact is engaged. This replicates the B-3/C-3.

❶ NOTE

Setting Range: 1C – 6C, All

This allows you to select the note to edit.

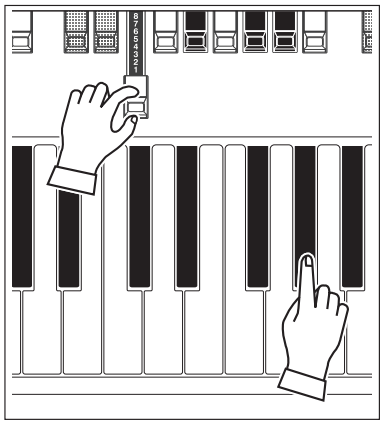
"All" is a special option which selects and edits all the notes.

❷ FOOTAGE

Setting Range: below chart

Part	Option
UPPER, LOWER	16´, 5⅓´, 8´, 4´, 2⅔´, 2´, 1⅗´, 1⅓´, 1´
PERCUSSION	2nd(SECOND), 3rd(THIRD)
PEDAL	16´, 5⅓´, 8´, 4´, 2⅔´, 2´, 1⅗´, 1⅓´

To select the Part, note and footage, use [◀]-PAGE-[▶] buttons, DIRECTION [▲] [▼] [◀] [▶] buttons and [VALUE] knob or, slightly move the footage of the Drawbar while depressing the key you want to regulate (see the illustration on the right).



How to select a Part, note and footage

❸ CONTACT (CT)

Setting Range: 1 – 6 (UPPER / LOWER / PERCUSSION)
1 – 3 (PEDAL)

This allows you to select the footage at which the selected physical contact on the Keyboard will sound.

The optional Lower Keyboards and Pedalboards have various types of physical contacts. The relation with this Parameter is listed below:

Physical Contacts XLK-5	Physical Contacts assigned on this organ
1 (top)	1, 2
2	2, 3
3 (bottom)	4, 5

Physical Contacts XPK-250W or mk2	Physical Contacts assigned on this organ
1	1, 2, 3

Physical Contacts XPK-250W mk3	Physical Contacts assigned on this organ
1 (top)	1
2	2
3 (bottom)	3

MIDI Keyboard	Physical Contacts assigned on this organ
Velocity value	Triggering with regarding V. Multi Con. Depth (P. 155)

NOTE: For faster performance response, the Contact Numbers will automatically increment. For example, if no footage is assigned to Contact #1, the footage with the lowest contact number will be assigned to Contact #1, etc.

❹ DELAY (CT)

Setting Range: 0.0 – 725.6 [ms]

This allows you to set how long the Virtual Contact delays before sounding the note once physical contact is made.

NOTE: This Parameter does not affect Physical Contact #6 (UPPER / LOWER / PERCUSSION), or #3 (PEDAL).

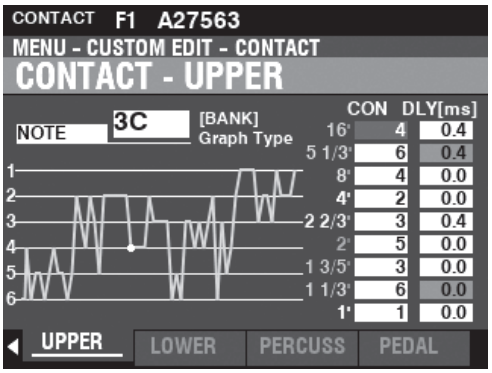
NOTE: When Physical Contact #6 (UPPER / LOWER/ PERCUSSION) or #3 (PEDAL) is set to "ON," the other Virtual Contacts will sound immediately regardless of the setting of this Parameter.

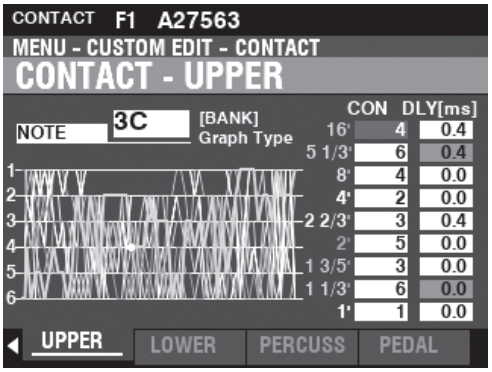
tips **VIEWING ALL THE NOTES OF CONTACTS**

You can view the values for all the notes of the Contacts by pressing the [BANK] button in the MENU - CUSTOM EDIT - CONTACT Page.

Pressing the [BANK] button repeatedly will cycle through a single view for the selected Drawbar, a multiple view of all Drawbars, and a graphic display of the allocation of the 6 Contacts.

In addition, use the PAGE buttons to select UPPER, LOWER or PERCUSSION..





NOTE: The Parameters labeled (CT) are Contact Parameters. You must Record these Parameters to a Custom Contact if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

CUSTOM PEDAL REG.

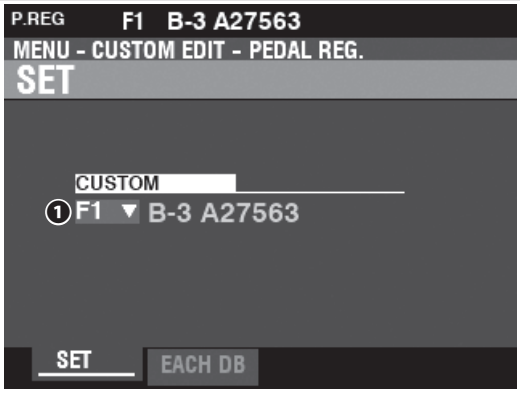
For the "TW" Organ Type, this FUNCTION Mode allows you to select or edit the registrations for the PEDAL or **Sub-Drawbars**.

The Parameters described on this page are grouped in macro-settings called **Custom Pedal Registrations**.

To locate this mode:

[MENU/EXIT] - **CUSTOM** - **PEDAL REG.** - [ENTER]

SET



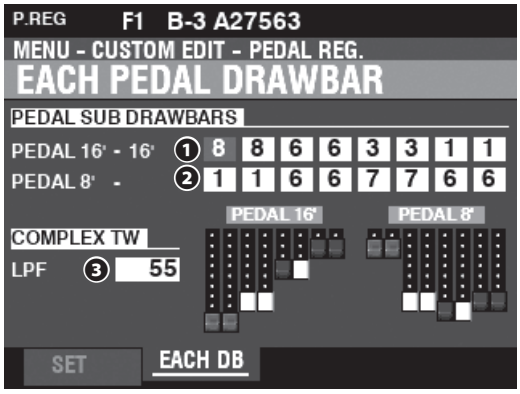
❶ CUSTOM SET (P)

Setting Range: F1 – F4, U1 – U4

This allows you to select the Custom Number to edit.

"F" refers to Factory settings which are permanently stored in memory and cannot be overwritten. "U" or User settings can be modified or even overwritten entirely in order to create your own Custom Pedal Registration.

EACH PEDAL DRAWBAR



❶ SUB DRAWBARS - 16′ (PR)

❷ SUB DRAWBARS - 8′ (PR)

Setting Range: 0 – 9

These allow you to adjust the harmonics of each PEDAL Drawbar.

❸ LPF (PR)

Setting Range: 0 – 127

This allows you to adjust the Cutoff Frequency of the Low-pass Filter for the Complex Tone Wheels (low octave of the 16′ - 16′).

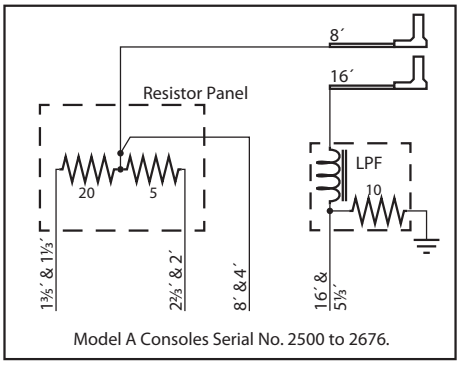
A higher value will result in a brighter tone.

NOTE: If you listen only to the footage without the fundamental notes, the volume of each note will appear to vary. This is the result of the setting of the Matrix Level in the Custom Tone Wheels.

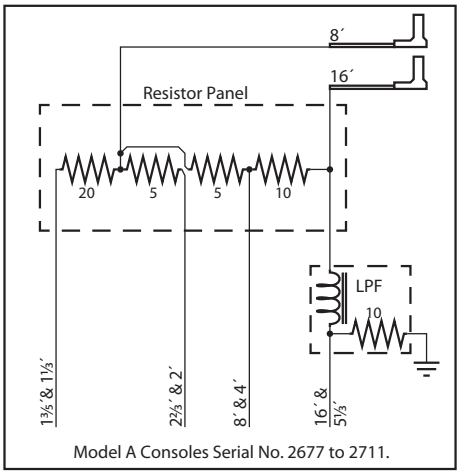
NOTE: The Parameters labeled (PR) are Pedal Registration Parameters. You must Record these Parameters to a Custom Pedal Registration if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

tips **WHAT ARE "SUB-DRAWBARS?"**

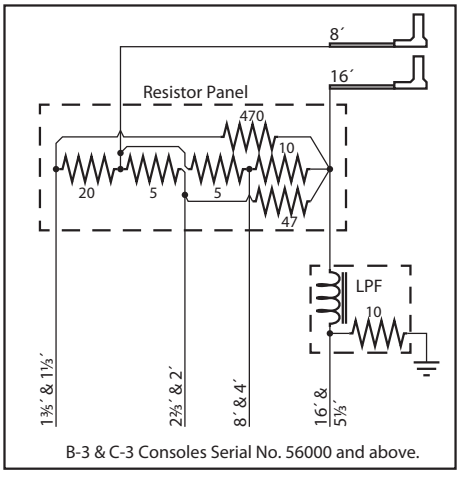
On a tone-wheel Hammond Organ, the harmonic resources for PEDAL tones are combined into two Drawbars each of which draws a combination of harmonics instead of individual harmonics as with the other Drawbars. Over the years, several different schemes were used to voice the PEDAL Drawbars. These are shown below.



Model A Consoles Serial No. 2500 to 2676.



Model A Consoles Serial No. 2677 to 2711.



B-3 & C-3 Consoles Serial No. 56000 and above.

For Organ Types except "Pipe," this FUNCTION Mode allows you to select or edit the Parameters for the inbuilt digital Leslie.

The Parameters described on these pages are grouped in macro-settings called **Custom Leslies**.

To locate this mode:

[MENU/EXIT] - **CUSTOM** - **LESLIE** - [ENTER],

CABINET NUMBER

❶ CUSTOM CABINET (P)

Setting Range: U1 – U10, F1 – F10

This allows you to select the Custom Number to edit.

"F" refers to Factory settings which are permanently stored in memory and cannot be overwritten. "U" or User settings can be modified or even overwritten entirely in order to create your own Custom Leslie Cabinet.

NOTE: See the APPENDIX on page 174 for more information about Custom Leslie Cabinets.

SPEAKER

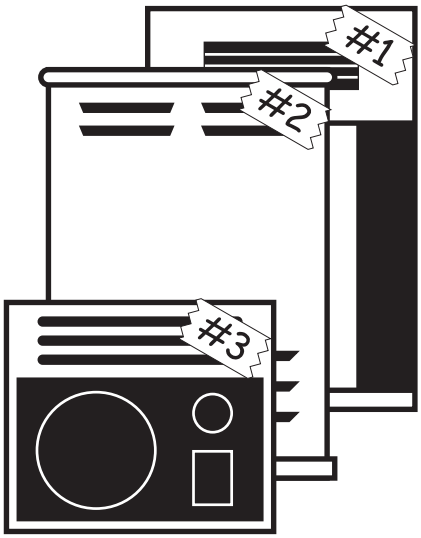
❶ SPEAKER (L)

Setting Range: L145 Front, L145 Rear, L147 Front, L147 Rear, L122 Front, L122 Rear, Cone Type, PR-40 Type

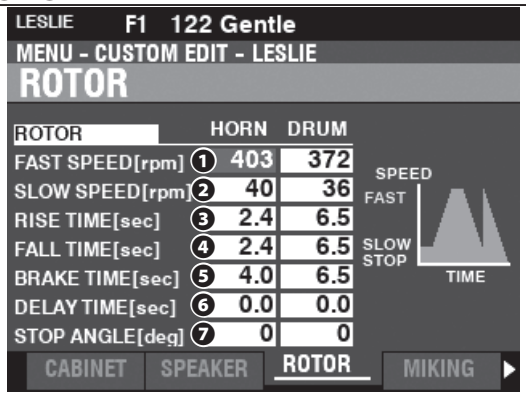
This allows you to select the Speaker Type and Front and Rear microphone placement.

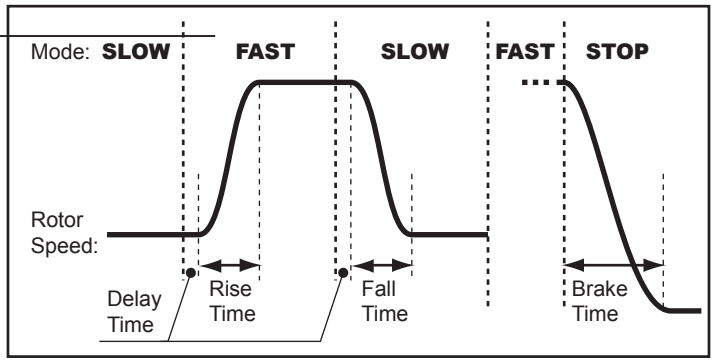
tips **WHAT ARE "CUSTOM LESLIE CABINETS?"**

All of the Parameters described on this page and on the following pages comprise a Custom Leslie Cabinet. These Parameters cannot be Recorded as individual Patch Parameters; however, a Custom Cabinet number can be Recorded as part of a Patch (P. 87).



ROTOR





❶ SLOW SPEED - HORN / DRUM (L)

Setting Range: 0, 20 – 120 [rpm]

These allow you to set the rotor speed for the "SLOW" or "Chorale" Mode.

❷ FAST SPEED - HORN / DRUM (L)

Setting Range: 0, 200 – 500 [rpm]

These allow you to set the rotor speed for the "FAST" or "Tremolo" Mode.

❸ RISE TIME - HORN / DRUM (L)

Setting Range: 0.8 – 12.5 [sec] (Horn)
1.0 – 12.5 [sec] (Drum)

These allow you to adjust the time for the rotors to "ramp up" to "FAST" Mode when switching from "SLOW" or "STOP" to "FAST" Mode.

❹ FALL TIME - HORN / DRUM (L)

Setting Range: 0.8 – 12.5 [sec] (Horn)
1.0 – 12.5 [sec] (Drum)

These allow you to adjust the time for the rotor to reach the "SLOW" rotor speed when switching from "FAST" to "SLOW" Mode.

❺ BRAKE TIME - HORN / DRUM (L)

Setting Range: 0.8 – 12.5 [sec] (Horn)
1.0 – 12.5 [sec] (Drum)

These allow you to adjust the time for the rotor to Stop when switching from "FAST" to "STOP" Mode.

❻ DELAY TIME - HORN / DRUM (L)

Setting Range: 0.0 – 1.0 [sec]

These allow you to adjust the time to start changing the speed when the Mode is switched.

❼ STOP ANGLE - HORN / DRUM (L)

Setting Range: 0 – 359 [deg], Rnd

These allow you to adjust the stopping angle at "STOP" Mode.

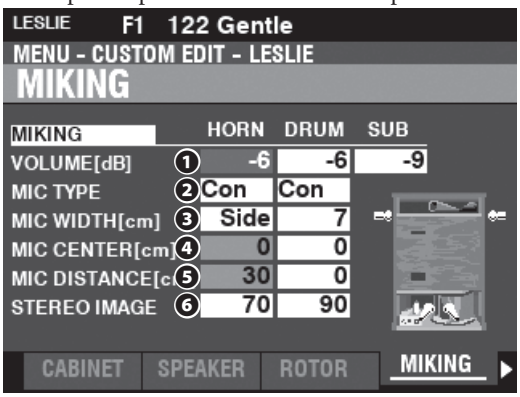
"Rnd" will stop the rotor at a random angle.

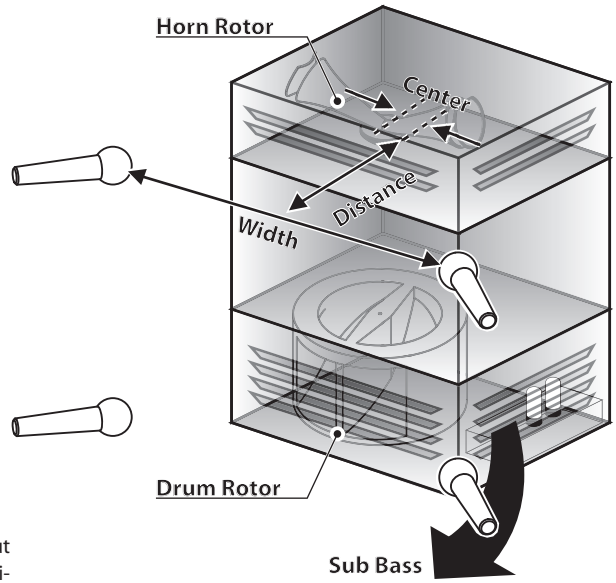
tips **WHAT IS "TIME" BASED ON?**

On the XK-7 / XK-7D, "TIME" refers to the total amount of time required to transition completely from one Mode to another - for example, to change completely from 40 to 400 rpm. The "TIME" will be different depending on the starting and ending "rpm" settings - it will take longer to accelerate from 40 to 400 rpm than from 60 to 340 rpm, as an example. The illustration above shows examples of this.

MICROPHONE SETTINGS

This Page allows you to replicate various Microphone Volume settings and Microphone placements for a Leslie Speaker Cabinet.





❶ VOLUME - HORN / DRUM / SUB(Sub Bass) (L)

Setting Range: -Inf, -76 – 0 [dB]

These allow you to adjust the volume levels.

HORN .....Microphone for Horn Rotor.
DRUM.....Microphone for Drum Rotor.
SUB .....“Dry” (unmodulated) bass sound from the woofer. This does not output directly, but is picked up by the microphone for the Drum Rotor (primarily) and the Horn Rotor (slightly).

❷ MIC TYPE (L)

These allow you to select the Microphone Types.

Dyn.....Dynamic microphone which enhances the sense of “perspective.”
Con.....Condenser microphone with “natural” character.

❸ WIDTH - HORN / DRUM (L)

Setting Range: 0 – 40 [cm], Side

These allow you to adjust the distance between Left and Right Microphones. At “0” there is no separation.

A higher value will increase the stereo separation.

The microphones are placed in front of the cabinet at 0 to 40 [cm], on each side of the cabinet at “Side.”

❹ CENTER - HORN / DRUM (L)

Setting Range: -50 – +50 [cm]

These allow you to adjust the offset between the center of two microphones and the pivot of the rotor.

❺ DISTANCE - HORN / DRUM (L)

Setting Range: 0 – 170 [cm]

These allow you to replicate distance settings between a Leslie Speaker Cabinet and the microphones. A lower value results in a deeper effect.

❻ STEREO IMAGE - HORN / DRUM (L)

Setting Range: Mono, 1 – 127

These allow you to adjust the width of the stereo imaging inside of the stereo speakers.

“Mono” is a Monaural image. A higher value creates a wider stereo image.

tips **ADJUSTING THE CENTER**

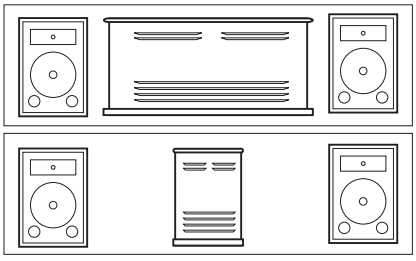
On a Leslie Speaker Cabinet, the Horn Rotor rotates counter-clockwise and the Drum Rotor rotates clockwise.

The digital Leslie replicates this feature. Setting a “+” value for the Horn rotor, and a “-” value for the Drum rotor will emphasize different directions from which the Horn and Drum baffles approach the microphones.

tips **STEREO IMAGE**

If you connect the L and R LINE OUT jacks of this organ to the stereo input of a PA system and listen to the sound through speakers positioned on either side of the stage, the sound image may be that of an unnaturally “large” Leslie Speaker.

By lowering the “Stereo Image” value and narrowing the sound image appropriately, you can achieve both a spacious sound and a sense of realism.



NOTE: The Parameters labeled “L” are Leslie Parameters. You must Record these Parameters to a Custom Leslie Cabinet if you want their settings to be remembered the next time the instrument is turned “ON.” See page 124 for instructions on how to do this.

CUSTOM PIPE

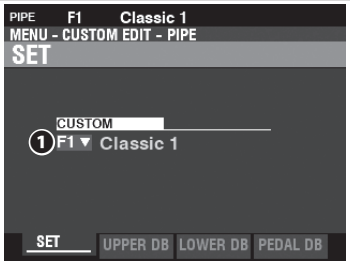
For the "Pipe" Organ Type, this FUNCTION Mode allows you to select or edit the characteristics of the Pipe Voices.

The Parameters described on these pages are grouped in macro-settings called **Custom Pipes.**

To locate this mode:

[MENU/EXIT] - **CUSTOM** - **PIPE** - [ENTER]

SET



❶ CUSTOM SET (P)

Setting Range: F1 – F4, U1 – U4

This allows you to select the Custom Number to edit.

"F" refers to Factory settings which are permanently stored in memory and cannot be overwritten. "U" or User settings can be modified or even overwritten entirely in order to create your own Custom Pipe.

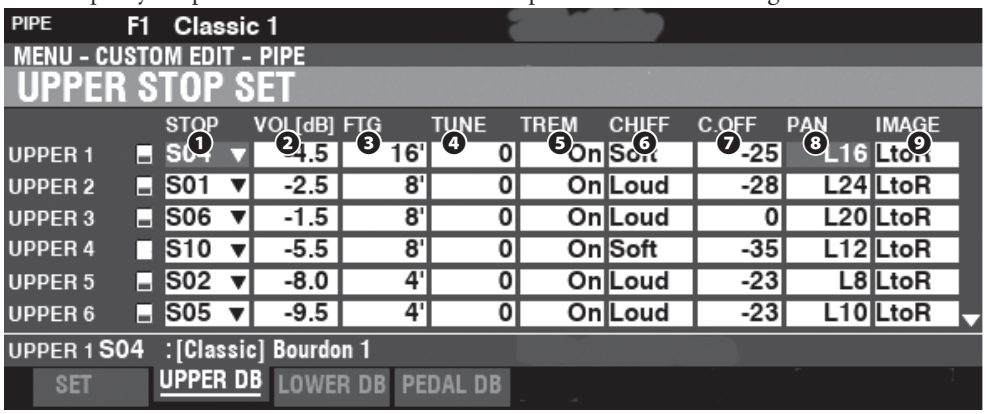
tips **CUSTOM PIPES**

The XK-7 / XK-7D has 4 different Factory Custom Pipes, indicated by an "F," which are permanently written in memory. You can create and Record up to 4 User Custom Pipes which will be indicated by a "U."

To create and Record a Custom Pipe, use the PIPE FUNCTION Mode to edit the Parameters of one of either the "F" or "U" Custom Pipes. After you have made all of your changes, you can Record them as a "U" Custom Pipe.

UPPER / LOWER / PEDAL STOP SET

This allows you to assign Pipe Stops to the Drawbars and to adjust the Parameters of each Stop to your preference. Each Parameter is explained in detail starting below.



❶ STOP (Pi)

This allows you to assign a Pipe Stop to each of the Drawbars.

NOTE: See page 174 for a list of the available Pipe Stops.

❷ VOLUME (Pi)

Setting Range: -Inf, -92.0 – +4.0 [dB]

This allows you to adjust the Volume of each Pipe Stop.

❸ FOOTAGE (Pi)

Setting Range: 32, 16, 5 1/3, 8, 4, 2 2/3, 2, 1 3/5, 1 1/3, 1

This allows you to adjust the Pitch of each Pipe Stop. The pitches are expressed in Footages.

NOTE: See page 50 for more information about pitches and their Footage designations.

❹ TUNE (Pi)

Setting Range: -50 – ±0 – +50 [cent]

This allows you to detune the pitch of the selected Pipe Voice Up or Down by cents (50 cents = one quarter-step).

❺ TREMULANT (Pi)

Settings: Off, On

This allows you to add Tremulant to the Pipe Voices using the VIBRATO AND CHORUS controls.

❻ CHIFF (Pi)

Settings: Off, Soft, Mid, Loud

This allows you to adjust the amount of Chiff or attack for the selected Pipe Voice.

Off.....No Chiff.
Soft.....A small amount of chiff.
Mid.....A moderate amount of chiff.
Loud.....The maximum amount of chiff.

NOTE: Reed stops such as "Hautbois," "Trompette," "Cornopean," etc., do not receive Chiff.

❼ C. OFF (Cutoff Frequency) (Pi)

Setting Range: -127 – 0

This allows you to adjust the Cutoff Frequency (brightness).

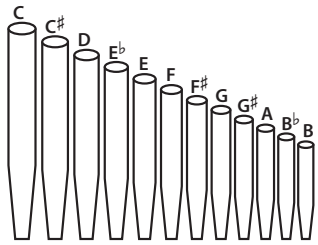
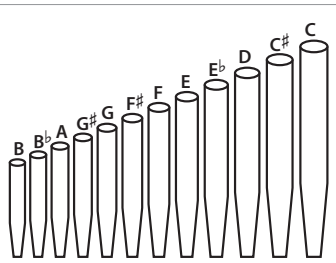
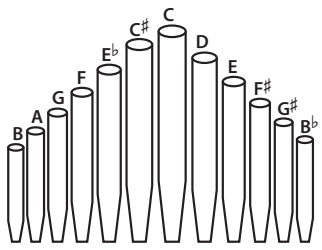
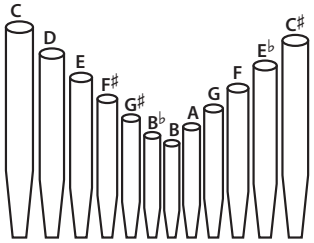
❽ PAN (Pi)

Setting Range: L64 – C – R63

This allows you to adjust the basic direction of the Pipe Rank.

❾ IMAGE (Pi)

This allows you to replicate different arrangements of pipes in pipe chests.

FIX	No image	No imaging - all the notes sound from the center).
L-R		Pipes producing lower pitches are on the left. Playing notes chromatically going up on the Keyboard will cause the pipes on the left to sound first
R-L		Pipes producing higher pitches are on the right. Playing notes chromatically going up on the Keyboard will cause the pipes on the right to sound first
PYR		When notes are played chromatically going from left to right on the Keyboard, the notes start in the center and alternate between left and right
INV		When notes are played chromatically going up on the Keyboard, the notes start at one end and alternate between left and right until they meet in the center.

tips TREMULANT

Pipe organs typically have one or more "tremulants" which vary the air pressure to the pipes periodically, producing a vibrato or tremolo effect.

tips WHAT IS "CHIFF?"

On a pipe organ, when a flue stop such as a Diapason, String or Flute is drawn and a key is depressed, a valve opens, and air escapes through the hole in which the pipe sits, allowing the pipe to sound. When the air first enters the pipe, there is a small, short burst of upper harmonics before the tone develops fully. The term "Chiff" was coined by pipe organ makers to describe this sound.

tips REED STOPS

The stops or ranks of a pipe organs can be broadly divided into two categories: Flue stops and Reed stops.

Flue stops produce sound by vibrating the air column, similar to a flute or recorder.

Reed pipes produce sound by vibrating a metal tongue against a cylindrical metal piece called a "shallot." Reed stops are generally louder and more harmonically complex the Flue stops.

tips WHAT IS "PIPE VOICE IMAGING?"

The pipes of a pipe organ are arranged into sets called **ranks**. Each rank consists of pipes representing a specific sound on the organ - Open Diapason, Trompette, etc. (In keeping with the different philosophies of organ sound, many organ stop names are of European origin; hence the use of French, German, Dutch, etc.)

The pipes of each rank are supported by an assembly called a chest. The pipes can be arranged in many different ways on the chest. The pipe arrangement chosen by the maker depends on several things - aesthetics, musical, etc. - but the four most common ones are shown on the left.

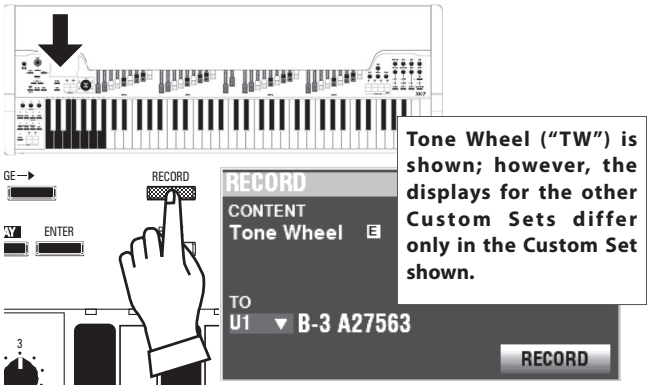
The two pipe placement schemes at the bottom of the chart on the left are sometimes referred to as "C-C♯" placement due to chromatic notes being separated.

NOTE: The Parameters labeled (Pi) are Pipe Parameters. You must Record these Parameters to a Custom Pipe if you want their settings to be remembered the next time the instrument is turned "ON." See page 124 for instructions on how to do this.

RECORDING A CUSTOM SETTING

To Record a Custom Setting, do the following:

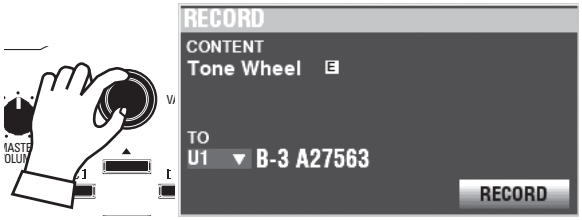
① PRESS THE RED [RECORD] BUTTON



After you have made your changes to a Custom Setting, press the red [RECORD] button. The **RECORD** Dialog Box will display.

NOTE: If edits have been made to a Custom Parameter, an "E" will appear in the Display as shown above.

② SELECT THE ITEM TO RECORD



❶ TO

Use the [VALUE] knob to select the Custom Number to Record.

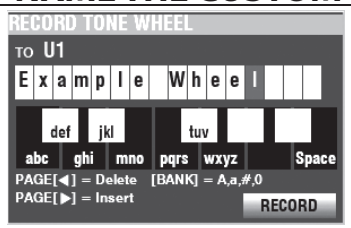
NOTE: If edits have been made to a Custom Setting, an "E" will appear to the right of the CONTENT icon.

NOTE: You cannot Record to an "F" setting.

❷ RECORD

After you have selected the Custom Number, move the cursor to this [**RECORD**] icon and press the [ENTER] button. The Naming dialog box will display.

③ NAME THE CUSTOM SETTING

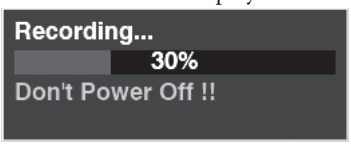


Enter the Name.

DIRECTION [◀][▶] .....Move the cursor.
[VALUE] knob .....Change the letter.
PAGE [◀] .....Delete the letter.
PAGE [▶] .....Insert a space.
Preset Keys .....Type a letter directly.
[BANK] .....Change the key's character group.

④ RECORD THE SETTING

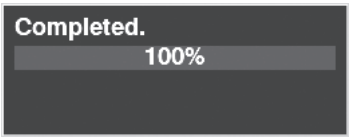
After Naming your Custom Setting, move the cursor to the [**RECORD**] icon and press the [ENTER] button. The message shown below will display.



NOTE: Do not turn the power "OFF" while the above message is displaying.

NOTE: If you DO NOT wish to Record, press the [MENU/EXIT] button instead of the [ENTER] button.

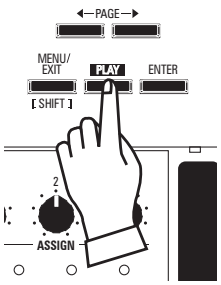
When the Display shows:



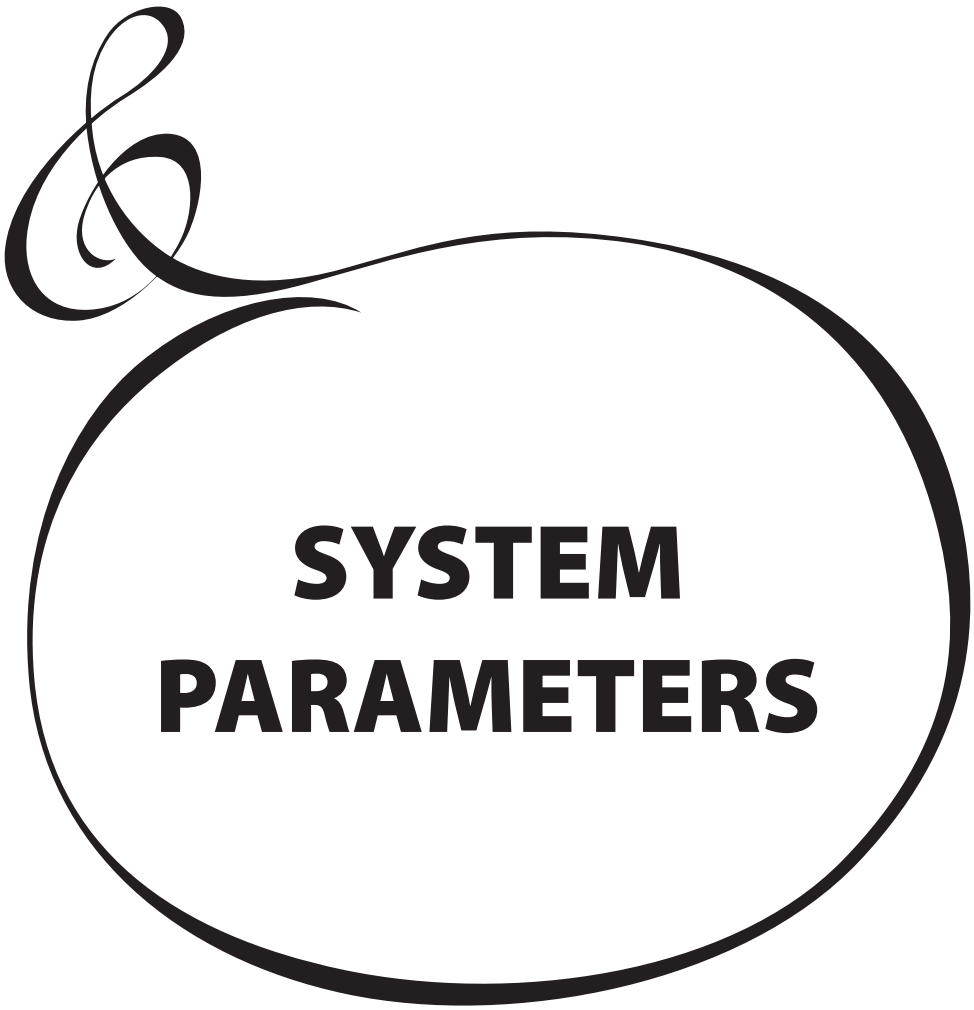
the Recording process is finished and your setting has been Recorded.

NOTE: While connecting between this organ and a computer via USB cable, the connection may be interrupted for a few moments. Therefore, it is recommended to exit the DAW or sequence application temporarily before doing the RECORD procedure.

⑤ RETURN TO THE PLAY MODE



Press the [PLAY] button to return to the PLAY Mode.

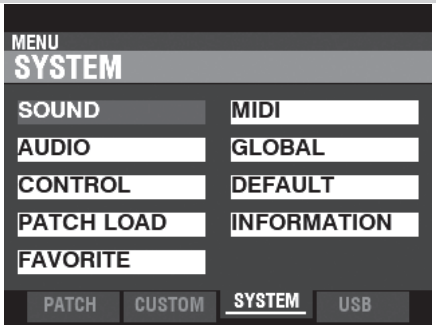


SYSTEM PARAMETERS

EDITING SYSTEM PARAMETERS

System Parameters are common Parameters for all the Patches in this organ such as the Parameters for the AUDIO jacks, the MIDI Ports, various Controllers, which portions of the instrument to load when a Patch is selected, etc.

SYSTEM PARAMETERS AND CONTENTS



SOUND (P. 127)

- Master Tune
- Transpose
- Master Equalizer

AUDIO (P. 128)

- [ROTARY OUT] jack
- [PEDAL OUT] jack
- Audio channels of the Leslie Speaker system

CONTROL (P. 130)

- Foot Switches
- Expression Pedal
- Damper
- Octave Buttons
- Tone Wheel Brake
- Knobs / Drawbars
- Display
- Keyboard

PATCH LOAD (P. 138)

- Contents to load when a Patch is selected.

FAVORITE (P. 140)

- Input method of the Preset Keys
- Select whether the Preset Keys recall Patches or Favorites
- Edit the Favorites for Patches
- Edit the Favorites for Display pages

MIDI (P. 154)

- Purpose of the MIDI Ports
- Send/Receive a Memory Dump
- MIDI Channels

GLOBAL (P. 139)

- Auto Power Off

DEFAULT (P. 143)

- Initialize each content to factory-default settings

INFORMATION (P. 144)

- Display Software Versions
- Update Software

NOTE: The Parameters in this Mode are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

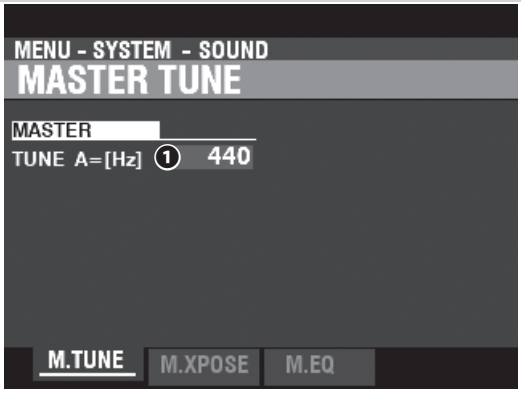
NOTE: The System Parameters are included as part of a Setup. Please see the illustration on page 162 which shows everything that is included in a Setup.

This FUNCTION Mode allows you to adjust the MASTER TUNE, MASTER TRANSPOSE and MASTER EQUALIZER Parameters which affect the entire instrument.

To locate this mode:

[MENU/EXIT] - **SYSTEM** - **SOUND** - [ENTER]

MASTER TUNE

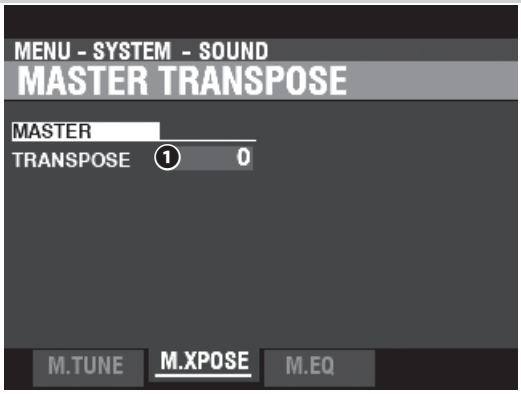


❶ MASTER TUNE

Setting Range: A=430 – 450 [Hz]

This allows you to adjust the pitch of the entire instrument Up or Down 10 Hz (approx. 40 cents).

MASTER TRANSPOSE



❶ MASTER TRANSPOSE

Setting Range: -6 – ±0 – +6 [semitones]

This allows you to Transpose the entire instrument Up or Down 6 semitones.

NOTE: This Parameter is linked to the [TRANSPOSE] button on the Control Panel.

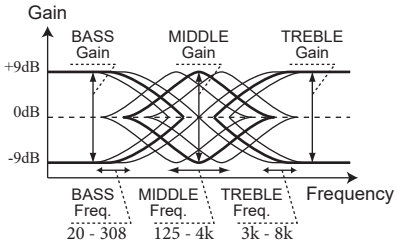
NOTE: When the power to the XK-7 / XK-7D is turned "OFF," the Transpose setting is not retained. It will be set to "0" when the power is next turned "ON."

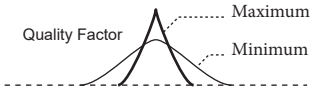
MASTER EQUALIZER

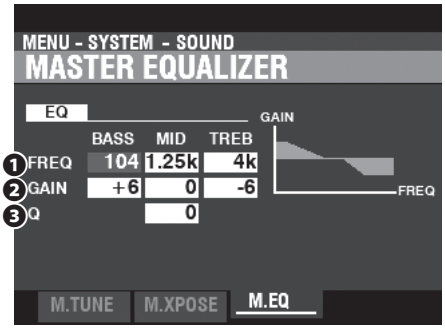
Shortcut: [SHIFT] + MASTER EQUALIZER [BASS GAIN], [MIDDLE FREQ], [MIDDLE GAIN] **OR** [TREBLE GAIN]

The Master Equalizer allows you to adjust the overall tonal quality of the instrument.

NOTE: These Parameters are linked with the MASTER EQUALIZER knobs on the Control Panel (P. 39).







❶ FREQUENCY

Setting Range: 20 – 308 [Hz] (BASS)
125 – 4k [Hz] (MID)
3k – 8k [Hz] (TREB)

These allow you to adjust the center or "turnover" (BASS and TREBLE) or center (MIDDLE) frequency to be attenuated.

❷ GAIN

Setting Range: -9 – ±0 – +9 [dB]

These allow you to adjust the Boost/Cut of the BASS, MIDDLE and TREBLE.

❸ Q

Setting Range: 0 – 63

This allows you to adjust the "Q" (Quality Factor) or Resonance of the MIDDLE Frequency Band. A higher value results in a greater emphasis of the center frequency.

NOTE: Setting both the GAIN and the "Q" at maximum may create distortion.

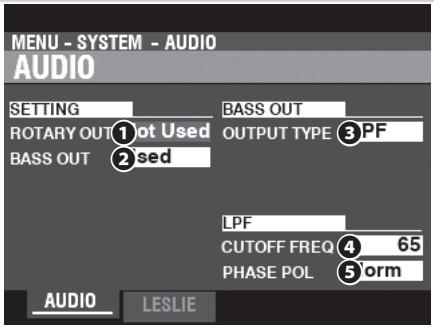
NOTE: The Master Equalizer Parameters are remembered as System Parameters; however, when the organ is next turned "ON," the Master Equalizer Parameters will be at the settings determined by the positions of the knobs on the Control Panel.

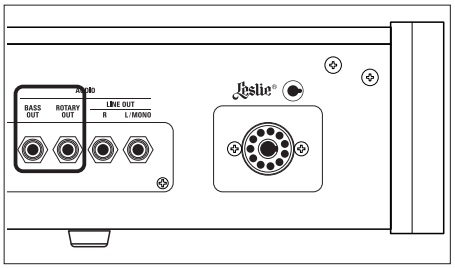
This FUNCTION Mode allows you to select how to route the audio signals from the instrument.

To locate this mode:

[MENU/EXIT] - **SYSTEM** - **AUDIO** - [ENTER]

AUDIO





BASS OUT jack and ROTARY OUT jack

SETTING

❶ ROTARY OUT

This allows you to select whether to route an audio signal from the Tone Wheel or Transistor ORGAN Types to the [ROTARY OUT] jack.

Not Used.....The audio from the Tone Wheel and Transistor ORGAN Types will be routed to the [LINE OUT] jacks, including the digital Leslie.

Used.....The audio from the Tone Wheel and Transistor ORGAN Types will be routed to the [ROTARY OUT] jack instead of the [LINE OUT] jacks. The digital Leslie is disabled.

❷ BASS OUT

This allows you to select whether use or not to use the [BASS OUT] jack to connect external audio equipment.

Not Used.....The sound from all the Parts will output to the [LINE OUT] jack and Leslie® 11-pin socket.

Used.....When the ❸ OUTPUT TYPE is at "Pedal," the sounds from the PEDAL Part will be output to the [BASS OUT] jack only, not the [LINE OUT] jack or Leslie® 11-pin socket.

NOTE: The [ROTARY OUT] and [BASS OUT] jacks always output Rotary Channel or Bass audio. These Parameters mute extraneous sound from the other output connectors.

BASS OUT

❸ OUTPUT TYPE

This allows you to select the type of audio to route to the [BASS OUT] jack (P. 46).

Pedal......"Dry" audio from the PEDAL Part.

LPF.....Extracted low-frequency band from all audio except Digital Leslie, Delay/Reverb and Equalizer.

❹ CUT OFF FREQ(Frequency)

Setting Range: 0 - 127

This allows you to adjust the upper frequency limit when the ❸ OUTPUT TYPE is set to "LPF." A lower value will output bass frequencies only.

❺ PHASE POL(Polarity)

This allows you to set the phase of the Bass frequencies when the ❸ OUTPUT TYPE is set to "LPF."

This is useful to eliminate "phase cancellation" between the [BASS OUT] frequencies and other audio output connectors.

Norm.....Normal

Rev.....Reversed

tips **APPLICATION OF CUTOFF FREQUENCY**

Some applications will be effective when the OUTPUT TYPE is set at "LPF."

JAZZ ORGAN

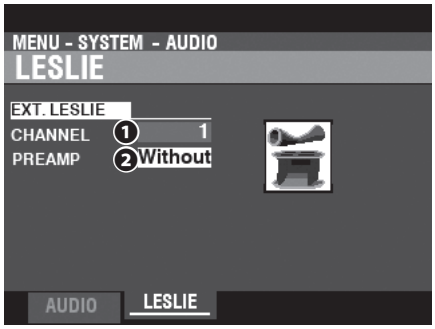
To enhance the bass line of the LOWER and PEDAL part for "Jazz Organ" playing, connect the bass audio equipment (e.g. powered Sub Woofer, Bass Amplifier) to the [BASS OUT] jack and set the CUTOFF FREQ at "5" to "7."

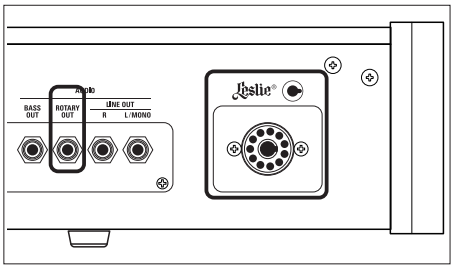
MONITOR

To monitor your playing using a separate P.A. system or Leslie Speaker:, connect full-range audio equipment (e.g. powered monitor speaker) to the [BASS OUT] jack and set the CUTOFF FREQ at 127.

LESLIE

This page allows you to adjust the Leslie Speaker or audio equipment connected to the instrument via the Leslie® socket or the [ROTARY OUT] jack.





ROTARY OUT jack and Leslie® socket

❶ CHANNEL

Settings: 1, 3

This allows you to adjust the correct routing of the audio signals when the [BYPASS] button is "ON" (LED lit), depending on the Leslie Speaker connected to the instrument via the Leslie® socket.

CHANNEL	[ROTARY OUT] or Leslie Rotary Channel	[LINE OUT] or Leslie Stationary Channel
1	Tone Wheel and Transistor Organs regardless of the status of the [BYPASS] button.	Pipe Organ and Digital Leslie Tone Wheel and Transistor Organs
3	non-[BYPASS]ed Tone Wheel and Transistor Organs	Pipe Organ and [BYPASS]ed Tone Wheel and Transistor Organs

1.....If a single-channel Leslie Speaker is connected, the audio from the Tone Wheel / Transistor Organs is sent to the Rotary Channel regardless of the status of the [BYPASS] button.

3.....Use this for connecting a 3-channel Leslie Speaker or, connecting the audio equipment to the [LINE OUT] jacks for a Stationary channel even if a single-channel Leslie speaker is connected.
The sound of the Tone Wheel or Transistor Organ Types will be sent to the correct channel depending on the status of the [BYPASS] button.

❷ w/PREAMP

Settings: Off, On

This allows you to adjust the characteristics of the internal preamplifier depending on the Leslie Speaker connected to the instrument via the Leslie® socket.

Without.....Use with Leslie Speakers without preamp simulation (122XB, 3300, 3500, 2101 etc.)

With.....Use with Leslie Speakers with preamp simulation models (122H, 142H)

SETTING EXAMPLE

Leslie Models	CHANNEL	w/PREAMP	Remarks
122H, 142H	1	With	The [BYPASS] button is disabled.
	3	With	A "dry" signal will be output to the [LINE OUT] jacks when the [BYPASS] button is "ON" (LED lit).
122XB, 981, 991, 3300, 3500	1	Without	The [BYPASS] button is disabled.
	3	Without	A "dry" signal will be output to the [LINE OUT] jacks when the [BYPASS] button is "ON" (LED lit).
2101, -mk2	3	Without	-

NOTE: The Parameters in these Modes are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

This FUNCTION Mode allows you to select the Parameters for the various Controls, including Foot Switches, Expression Pedals, controls on the Control Panel and the Display.

To locate this mode:

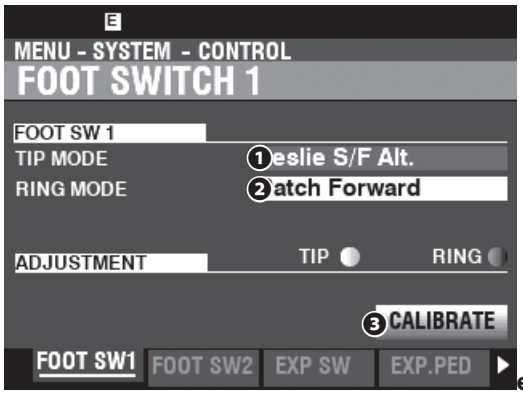
[MENU/EXIT] - **SYSTEM** - **CONTROL** - [ENTER]

or, Press the [CONTROL] button (XK-7D).

This FUNCTION Mode contains the Pages listed below:

FOOT SWITCH 1, - 2, - ON EXP. PEDAL

These Pages allow you to select the function of the Foot Switches connected to the [FOOT SWITCH] jacks and the Foot Switch allocated on the Expression Pedal.



ex: FOOT SWITCH 1 page

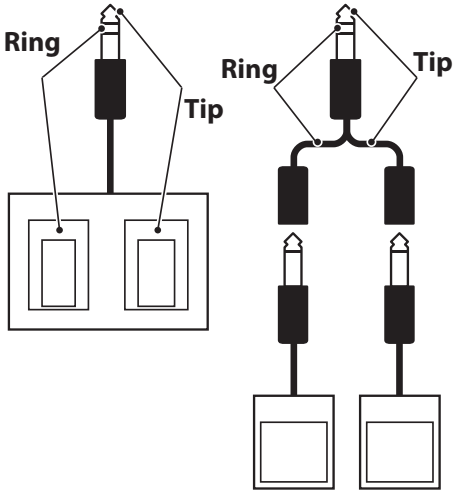
❶ MODE - TIP

This allows you to select the function of the "Tip Mode" of a connected Foot Switch.

Mode	Description
Off	No function.
Leslie S/F Alt	Allows you to switch the Leslie Rotors among "Slow/Fast/Stop." Alternates between "Fast/Slow" or "Fast/Stop" depending on the position of the [STOP] button.
Leslie S/F Tri	Alternates between "Fast/Slow." Switches to Stop when the Foot Switch is pressed and held down for approximately 1 second.
Leslie S/F Mom	Switches to Fast while the foot switch is held down. When released, it switches to either Slow or Stop depending on the position of the [STOP] button.
Tone Wheel Brake	Allows you to bend the pitch, with the amount being determined by a Parameter setting (P. 100).
Patch Forward, Backward	Allows you to move Forward or Backward through the Patches (P. 140).
Favorite Forward, Backward	Allows you to move Forward or Backward through the Favorites (P. 140) or Preset Keys.
Spring Shock	Allows you to produce the effect of a Spring Reverb unit being jostled.
Delay Time	Allows you to adjust the Delay Time of the Effects, at the interval of pressing the Foot Switch. The Feedback sound disappears when the Foot Switch is held down (P. 97).
Damper	Holds all the notes while the Foot Switch is pressed (P. 100).
Sostenuto	Holds the pressed notes when the Foot Switch is pressed (P. 100).
Upper&Lower Sustain	Allows you to add Sustain to the UPPER and LOWER tones (except Pipe) while the Foot Switch is pressed and held. The SUSTAIN - UPPER or LOWER must be set to "ON" to use this function. (P. 84).
Pedal To Lower	Allows a PEDAL note to sound when PEDAL TO LOWER is "ON" and the Foot Switch is pressed and held (P. 63).

tips **WHAT IS "TRS?"**

TRS is an acronym for "Tip-Ring-Sleeve," and refers to the fact that a connecting plug can have more than one connector. Using a Stereo Adapter, more than one Foot Switch can be connected to the XK-7 / XK-7D, thereby allowing you to control more than one function using the same Foot Switch jack.



tips **PATCH/FAVORITE FWD/REV**

Listed below are the Parts and Patches / Favorites which can be recalled sequentially by a Foot Switch.

XK-7:

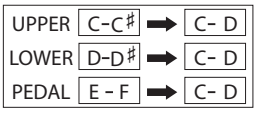
Parts are recalled according to the status of the PRESET SELECTOR [LOWER] and [UPPER] buttons.

XK-7D:

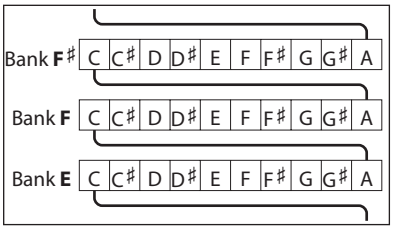
The UPPER Part is recalled. Other Parts are recalled according to the status of the PRESET [LOWER TO UPPER] and [PEDAL TO LOWER] buttons.

COMMON:

If the Patches or Favorites are different for each Part, they will be aligned to the UPPER Part.



For Favorites recalled using Preset Keys [C] through [A], the previous or next Bank is selected over Preset Keys [C] through [A].



Mode	Description
ProChord Closed, Open	Triggers the ProChord function (P. 100).
Bass 1C – 3C	Allows you to trigger a specified note of the PEDAL Part.

NOTE: All of the above functions can set for either Tip or Ring Mode. However, Ring Mode will have no effect if only one Foot Switch is connected to the FOOT SW jack.

❷ MODE - RING

This allows you to select the function of the "Ring Mode" of a connected Foot Switch.

❸ CALIBRATE

When the organ is turned "ON," it automatically detects the type of foot switch connected (normally open / normally closed), but in some cases the "pressed/released" detection may be reversed.

To resolve this, move the cursor to this icon and press the [ENTER] button without pressing the foot switch.

tips **SPRING SHOCK**

"Spring Shock" occurs when the springs in a spring reverb unit move around and strike the reverb tank, resulting in a loud "bang." This has usually been regarded as a negative effect; however, some modern and progressive music uses this as a musical effect. This Parameter allows you to introduce the effect of a spring reverb being jostled.

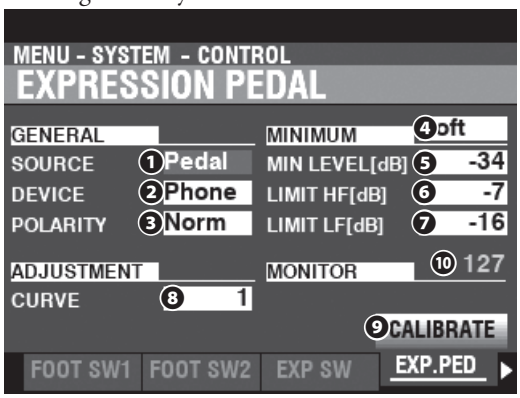
tips **BASS 1C - BASS 3C**

Many jazz and blues organists provide a bass line with the left hand on the LOWER Manual and strike one PEDAL note at the onset of each bass note to give the effect of a plucked string bass (called a "thump"). The BASS 1C - BASS 3C Parameter allows you to replicate this effect on the XK-7 / XK-7D.

NOTE: The Parameters in these Modes are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

EXPRESSION PEDAL

This Page allows you to control how a connected Expression Pedal will function.



❶ SOURCE

This allows you to select the source of Expression control.

Pedal.....Instrument Expression is controlled by a connected Expression Pedal.
MIDI.....MIDI Expression data (CC#11) will be received at the UPPER Keyboard Channel.
Both.....Instrument Expression is controlled by both Expression Pedal and MIDI Expression data.

NOTE: If you are playing back a Song (P. 165), the Expression value will be overridden and this Parameter will have no effect.

❷ DEVICE

Settings: Exp100, Phone

This allows you to select a connected Expression Pedal.

EXP-100.....EXP. PEDAL [EXP-100] jack
Phone.....EXP. PEDAL [PHONE(TRS)] jack

NOTE: If an Expression Pedal is connected via -BUS, it will be selected automatically and this step is not necessary.

❸ POLARITY

Settings: Norm, Rev

This allows you to select the polarity type of a connected Expression Pedal.

HAMMOND... EXP-50/50J/20, V-20H, V-20R; **Norm**
KORG.....XVP-10, XVP-20; **Rev**
ROLAND.....EV-5; **Norm**
YAMAHA.....FC7; **Rev**

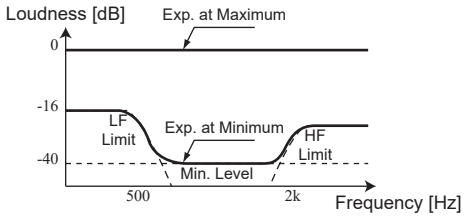
❹ MINIMUM

Settings: Off, Soft

This allows you to select whether there is "no sound" (Off) or a specified level by ❺❻❼ (Soft) when the Expression value (both Expression Pedal and MIDI Expression data) is at minimum (see the illustration on the right).

❺ MIN. LEVEL

Setting Range: Off, -40 – 0 [dB]



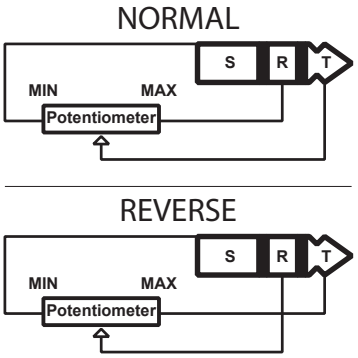
This allows you to select the amount of volume when the Expression value is at minimum.

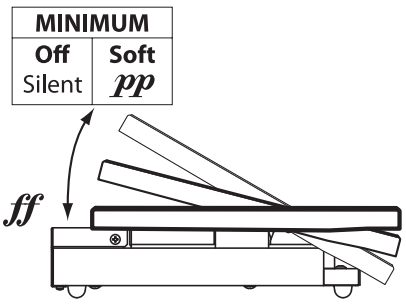
At "0" there is no change in volume, and at "Off" the volume will change between no sound and the loudest volume.

tips POLARITY

Although commercially available Expression Pedals with phone plugs (or phone jacks) may look similar, their internal wiring may differ depending on the model, and they may not function as expected (see the illustration below).

To make this organ compatible with as many models as possible, use the "Polarity" feature that swaps the wiring inside the instrument.





Minimum Expression Value

tips EXPRESSION LIMIT

On many home audio components, there is a control called "Loudness." This is intended to correct an anomaly of the human ear whereby high and low frequencies appear to be lacking at low volume levels.

The XK-7 / XK-7D incorporate a "Loudness" algorithm which replicates a B-3/C-3. At lower volume levels, both high and low frequencies are boosted so that a flatter frequency response will be perceived by the ear.

❻ LIMIT HF

Setting Range: Off, -40 – 0 [dB]

This allows you to adjust the amount of High Frequencies (above 2 kHz) that will be heard when the Expression value is set at minimum.

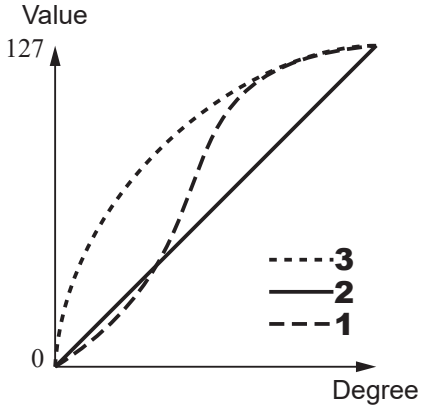
❼ LIMIT LF

Setting Range: Off, -40 – 0 [dB]

This allows you to adjust the amount of Low Frequencies (below 500 Hz) that will be heard when the Expression value is set at minimum.

❽ CURVE

Setting Range: 1 – 3



This allows you to select the "curve," or change of expression value corresponding to the angle of a connected Expression Pedal when it is depressed.

❾ CALIBRATE

This allows you to set the minimum and maximum settings of a connected Expression Pedal (see the "tips" on the right for instructions on how to do this).

NOTE: Before calibration, set the ❷ DEVICE and ❸ POLARITY for the connected Expression Pedal correctly. If these settings are wrong for the Expression Pedal you are using, malfunctions, such as incorrect values when moving the Pedal may result.

❿ MONITOR

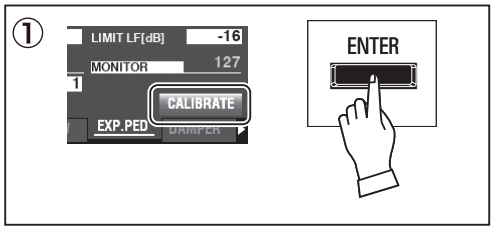
Range: 0 – 127

This allows you to see the current Expression Value, with "0" being minimum Expression and "127" being maximum Expression.

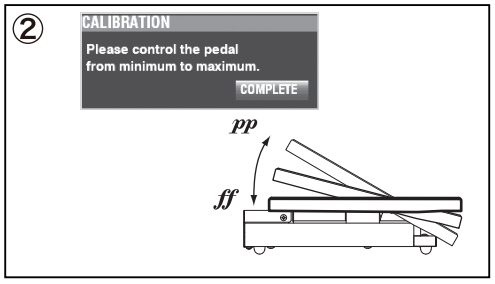
The Expression Monitor can be useful as a troubleshooting aid if you either don't hear any sound or can't change the volume using a connected Expression Pedal.

tips **CALIBRATE THE EXPRESSION PEDAL**

There are differences in operating range and range of changes in values among different Expression Pedals. If these are not consistent, you can correct it by Calibrating the Expression Pedal. Instructions on how to do this are listed starting below.

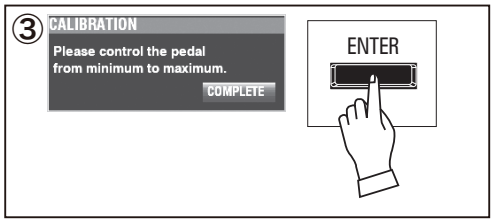


Use the DIRECTION buttons to move the cursor to the **CALIBRATE** icon and press the [ENTER] button.



The **CALIBRATION** Dialog Box will open.

Move the Expression Pedal from its minimum setting to its maximum setting.



Press the [ENTER] button to memorize the above minimum and maximum values of the connected Expression Pedal.

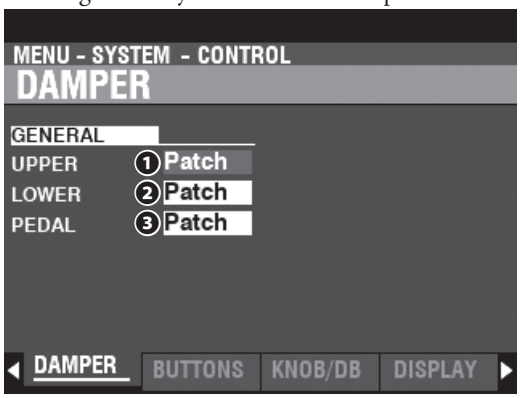
After doing the above, use the MONITOR to verify the desired values by moving the Expression Pedal with the MONITOR displaying.

Calibration values are stored in both the Temporary and Setup memory areas and are recorded automatically (P. 106).

NOTE: The Parameters in these Modes are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

DAMPER

This Page allows you to control Damper and Sostenuto.



❶ **UPPER**

❷ **LOWER**

❸ **PEDAL**

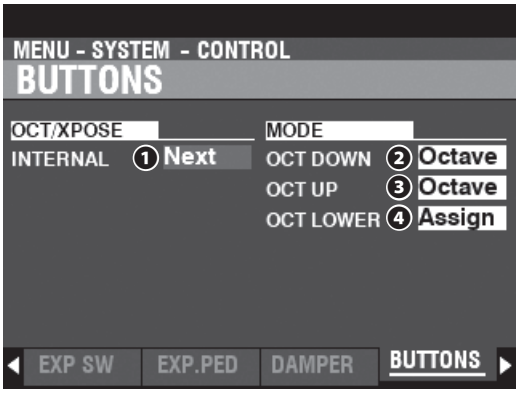
Settings: Patch, Off, On

This allows you to enable or disable the Damper and Sostenuto effects controlled by a the Foot Switch (P. 130) or ASSIGN buttons (P. 101). The available settings are listed below.

Patch .....Regarding Patch Parameter (P. 100).
Off.....Disabled regardless of the Patch Parameter setting.
On.....Enabled regardless of the Patch Parameter setting.

BUTTONS

This Page allows you to control the function of the [OCTAVE] and [TRANSPOSE] buttons.



This Display example is for the XK-7.

OCTAVE / TRANSPOSE

❶ **INTERNAL**

Settings: Every, Next

This allows you to select when the pitch is changed by pressing the OCTAVE [DOWN] [UP] or [TRANSPOSE] buttons.

At "Every," the pitch will change instantly, and at "Next" the pitch will change when the next key is pressed.

MODE (XK-7 ONLY)

❷ **DOWN**

❸ **UP**

❹ **LOWER**

Settings: Octave, Assign

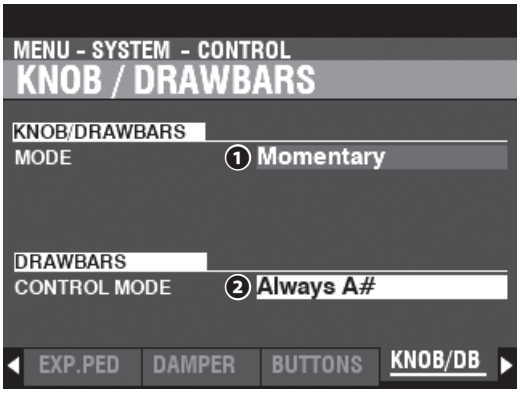
These allow you to select whether the highlighted button will work as an OCTAVE button or an ASSIGN button.

Octave .....The button controls an OCTAVE function.
Assign.....The button controls an ASSIGN function (P. 101).

NOTE: The Parameters described on these pages are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

KNOBS / DRAWBARS

This Page allows you to control the function of the Drawbars and Control Panel knobs.



KNOBS / DRAWBARS

❶ MODE

Settings: Momentary, Across

This allows you to adjust how a value is affected when a knob or Drawbar is moved.

Momentary ... When a knob or Drawbar is moved, the value will change immediately.

Across ..... When a knob or Drawbar is moved the value will not change until the current value is arrived at by the movement of the knob or Drawbar, at which point the value will change.

DRAWBARS

❷ CONTROL MODE

Settings: A♯/B, Always A♯

This allows you to select how the Preset Keys interact with the physical Drawbar Sets.

A♯/B ..... Same as B-3/C-3.
Each operation of the [A♯] and [B] Drawbars affects only the corresponding [A♯] and [B] Adjust Presets.
The Drawbar operation is not effective when the [C] through [A] Preset Keys are selected, or when the Patches are selected with the [VALUE] knob.

ALWAYS A♯ ... The [B] Drawbar set is effective when the [B] Preset Key is selected. Otherwise, the [A♯] Drawbar set is always effective.

tips **USING "EVERY" AND "NEXT"**

"Every" is most useful when accompanying a singer or instrumental soloist and attempting to find a comfortable key, while "Next" is effective when changing keys in the middle of a song.

tips **USING "MOMENTARY" AND "ACROSS"**

When "Momentary" is selected and a knob is moved, the value changes instantly.

However, there may be occasions when you want a value to change gradually instead of suddenly.

Select "Across" to change values gradually. This is especially helpful when selecting Patches since you can use "Across" to "morph" one Patch into another.

tips **APPLICATION OF CONTROL MODE**

A♯/B

Create a Registration for one part of a song using the [A♯] Preset Key, then press the [B] Preset Key to make an instantaneous registration change for the second part of the song.

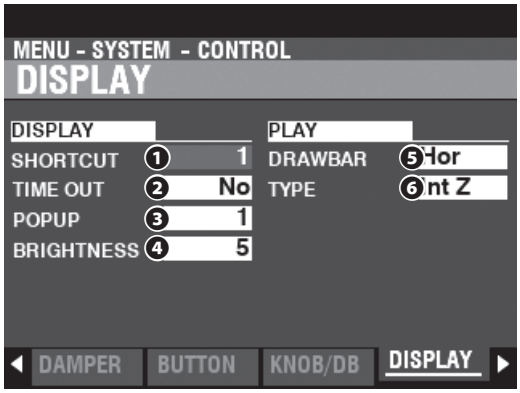
ALWAYS A♯

In addition to the above, you can also change the Drawbar registration gradually by using the [C] through [A] Preset Keys or by using the [VALUE] knob.

NOTE: The Parameters described on these pages are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

DISPLAY

This Page allows you to adjust the performance of the various controls on the Control Panel.



DISPLAY

❶ SHORTCUT

Setting Range: 0 – 2 [sec], No

This allows you to select how long a button must be held before the FUNCTION Mode Page controlled by that button appears.

NOTE: If you select "No," the Shortcut feature is disabled.

❷ TIME OUT

Setting Range: 4 – 16 [sec], No

This allows you to select how long the Display will continue to show a FUNCTION Mode Page via the "Shortcut" before reverting to the PLAY Mode.

NOTE: If you select "No," the current FUNCTION Mode Page will continue to display until another page is selected.

❸ POP UP

Setting Range: No, 0.5 – 2.0 [sec]

This allows you to select the interval at which a "Pop Up" is displayed when you move a knob such as [REVERB].

NOTE: If you select "No," the current Pop Up will continue to display until another page is selected.

❹ BRIGHTNESS

Setting Range: 1 – 10

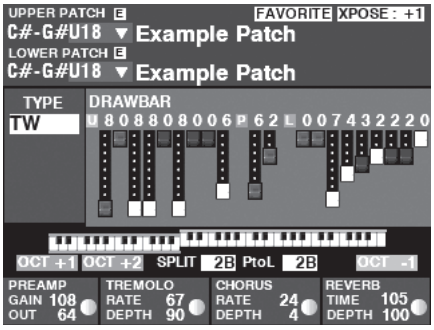
This allows you to adjust the brightness of the backlight of the Display.

A higher value will result in a brighter Display.

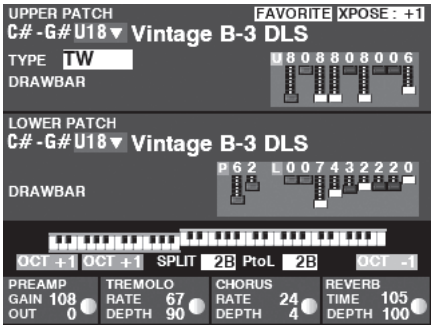
PLAY

❺ DRAWBAR

Settings: Hor, Vert



Hor(Horizontal)



Vert(Vertical)

This allows you to select the arrangement of the Drawbar Registrations in the PLAY Mode.

❻ TYPE

Settings: Internal Zones, Assign, Simple, External Zones

This allows you to select the PLAY Mode Type.

Int Z.....Internal Zones
Assigns.....Assigns
Simple.....Simple
Ext Z.....External Zones

The PLAY Modes Types can be displayed sequentially by pressing the [PLAY] button or the [◀]-PAGE-[▶] buttons when a PLAY Mode is displayed, with the following differences:

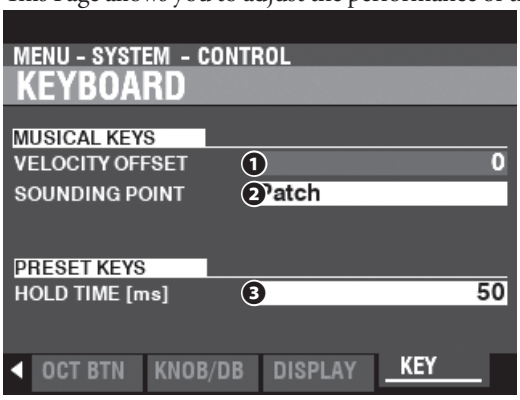
The "Type" Parameter in this page can be Recorded as a System Parameter which will take effect the next time the instrument is powered "ON."

The different "Types" displayed using the PLAY button or using the [◀]-PAGE-[▶] buttons when a PLAY Mode is displayed cannot be Recorded and are not remembered when the instrument is next powered "ON."

NOTE: The Parameters described on these pages are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

KEYBOARD

This Page allows you to adjust the performance of the Keyboard(s) of this instrument.



MUSICAL KEYS

❶ VELOCITY OFFSET

Setting Range: -15 – ±0 – +15

This allows you to adjust the time standard for measuring keyboard Velocity.

At a higher value the Keyboard must be played with a harder touch, and at a Lower value the Keyboard can be played with a softer touch than the actual Velocity.

❷ SOUNDING POINT

Setting Range: Patch, 1 – 6, Velocity

This allows you to select the sounding point of the internal sound engine.

Pressing / Setting	Pressing Shallow	Pressing Deep
Sounding Point = Patch	The note plays using the Custom Contacts (P. 84).	Still sounding.
Sounding Point = 1 – 6	All the Virtual Multi-Contacts sound simultaneously, at the specified Physical Contact.	Still sounding.
Sounding Point = Velocity	No sound.	The note will play using the Velocity Multi-Contact Depth (P. 155).
USB MIDI (P. 154) = Multi-Contact	Transmits "Note ON" data from the 6 Physical Contacts (P. 116) to the dedicated MIDI Channels (P. 154).	Note is ON.
USB MIDI = Velocity	No transmission.	"Note On" data will be transmitted with velocity value to the specified MIDI Channels using "Transmit" (P. 156).

◆ SOUNDING POINT AND SENDING PERFORMANCE DATA

The Sounding Point does not affect performance data sent via "Multi-Contact" or "Velocity" when using USB-MIDI (P. 154).

PRESET KEYS

❸ HOLD TIME

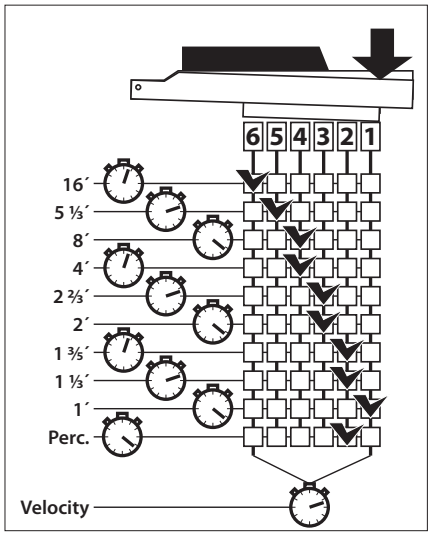
Setting Range: 0 – 100 [ms]

This allows you to set how long to Press and Hold a Preset Key to recall a Patch. This is helpful to avoid accidentally selecting a Preset Key when doing a keyboard glissando.

tips **VELOCITY**

The word "Velocity" in this Parameter indicates key velocity e.g. Piano or Forte.

On this instrument, the Velocity is measured by the "ON" or "OFF" time difference between physical contacts #1 and #6.



NOTE: The Parameters described on these pages are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

PATCH LOAD

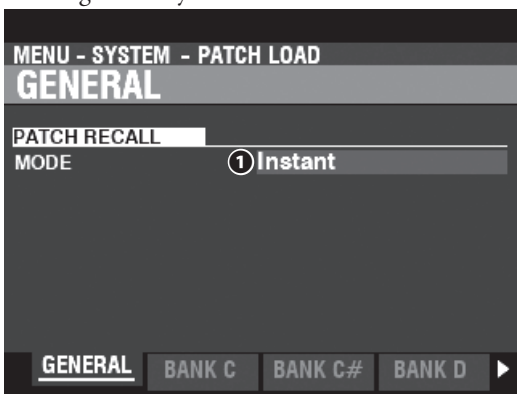
This FUNCTION Mode allows you to select which Parameters of the instrument will be recalled as part of a Patch.

To locate this mode:

[MENU/EXIT] - **SYSTEM** - **PATCH LOAD** - [ENTER]

GENERAL

This Page allows you to select how to recall Patches.



PATCH RECALL

❶ MODE

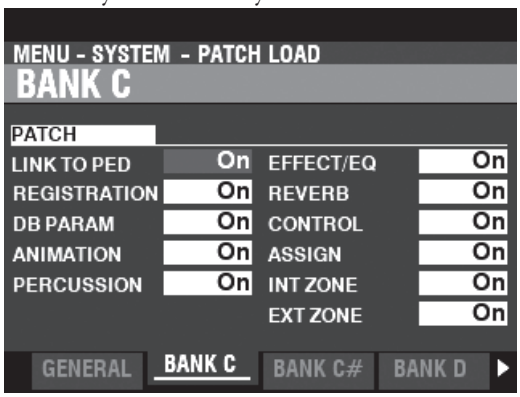
This allows you to select when a Patch is recalled.

Instant.....The Patch is recalled instantly when the [VALUE] knob is turned.

Entered.....The Patch is recalled when the [ENTER] button is pressed after the [VALUE] knob is turned.

BANK C – A

These Pages allow you to select which Parameters will be recalled by the Preset Keys for each Bank.



LINK TO PED ..... When the LOWER Patch is selected, selects the PEDAL Patch also. †1

REGISTRATION..... Drawbar Registration.

DB PARAM..... General ORGAN Section Parameters such as Drawbar (except Drawbar Registration), Contact & Sustain.

ANIMATION ..... Vibrato and Chorus, Leslie.

PERCUSSION ..... Percussion Parameters. †2

EFFECT ..... Preamplifier, EFFECT 1&2, Equalizer.

REVERB ..... Delay / Reverb effect.

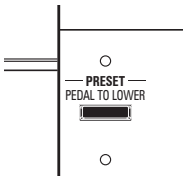
CONTROL..... Damper Pedal, Pitch Bend, TW Brake, ProChord.

ASSIGN..... ASSIGN knobs and buttons.

INT. ZONE..... Internal Zones.

EXT. ZONE..... External Zones.

†1 XK-7D: This Parameter is linked with PRESET [PEDAL TO LOWER] button on the left endblock.



†2 This Parameter allows you to select whether to recall the Percussion Parameters, and to select whether the Percussion will sound using all the Preset Keys or the [B] Preset Key only.

NOTE: The filters in these BANK pages will be applied when Patches or Favorites are Recalled using the Preset Keys.

If you Recall a Patch using the [VALUE] knob or a button, these filters are not applied and all the Patch Parameters will be recalled.

tips **PATCH LOAD EXAMPLE**

When a Patch is selected,

Example 1: On a vintage B-3/C-3, changing a Preset will change only the Drawbar registration. To replicate this on the XK-7 / XK-7D, turn the REGISTRATION Parameters "ON" and turn all the other Parameters "OFF."

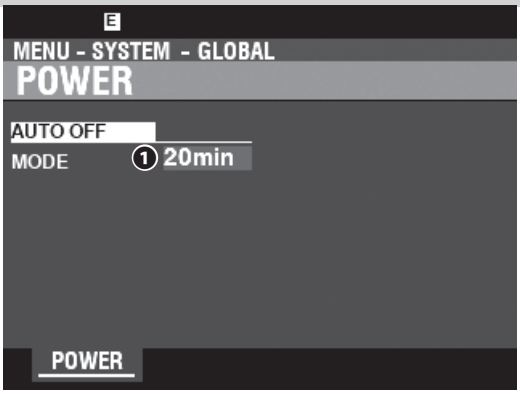
Example 2: To change the External Zones only, turn the EXT. ZONE Parameters "ON" and turn all the other Parameters "OFF."

This FUNCTION Mode allows you to control the AUTO POWER OFF feature.

To locate this mode:

[MENU/EXIT] - **SYSTEM** - **GLOBAL** - [ENTER]

POWER



AUTO OFF

❶ MODE

This allows you to select whether the power to the instrument is automatically turned "OFF" after a certain time period.

20min ..... The AC power to the instrument will turn "OFF" after 20 minutes have elapsed with no keys or buttons being pressed.

Disable..... The instrument will turn "ON" or "OFF" with the AC Power Switch, but not turn "OFF" automatically.

NOTE: The Parameters described on these pages are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

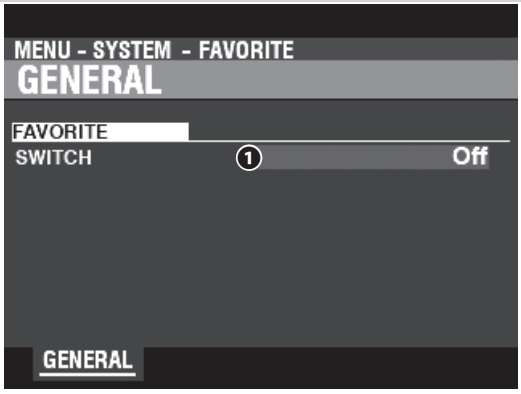
FAVORITE

This FUNCTION Mode allows you to control how Banks & Patches or Favorites are recalled using the Preset Keys.

To locate this mode:

[MENU/EXIT] - **SYSTEM** - **FAVORITE** - [ENTER]

GENERAL



❶ FAVORITE SWITCH

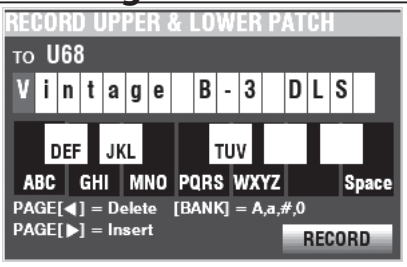
Settings: Off, On

This allows you to select whether the Preset Keys will select Patches or Favorites.

FAVORITE Switch	Preset Keys selects...	Pressing a Preset Key with holding [RECORD] button	Preset Key on start-up
Off	User Patches	Records a User Patch	A-B (Adjust B)
On	Favorites	Associates a Favorite	C-C (Top of the Favorites)

NOTE: The [VALUE] knob in the PLAY Mode always selects all the Patch Numbers and Parameters regardless of the setting of this Parameter.

*1 Recording a User Patch



Current settings (Patch Parameters) are recorded to the specified Patch related to the Preset Bank and Key.

Enter the new Patch name if needed, and move the cursor to the [**RECORD**] icon and press the [ENTER] button.

*2 Associating a Favorite

The current Patch will be associated with a Favorite assigned to a Preset Bank and Key.

tips **WHAT IS A "FAVORITE"?**

The "FAVORITE" function allows you to use the Preset Keys to recall Patches from different Banks.

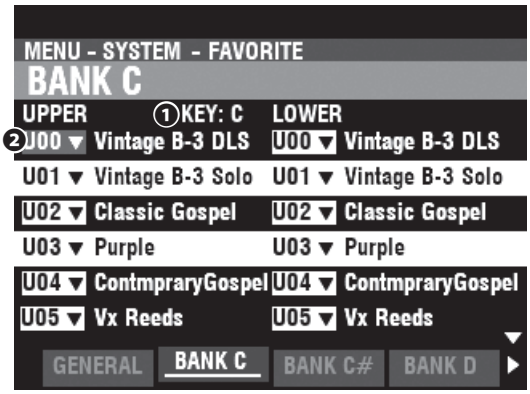
By preparing your Favorites before your performance, you can play the songs on your Set List one after the other by pressing the Preset Keys in sequence, or using a connected Foot Switch (see page 130).

BANKS C – A (PRESETS)

Shortcut: **Press and Hold any of the [C] through [A] Preset Keys (when the FAVORITE Switch Parameter on the left column is at "ON").**

This allows you to associate and confirm the assignment of Patch to Preset Keys when the FAVORITE Switch is "On."

NOTE: To edit these tables, set the FAVORITE Switch (P. 140) to "On."



❶ Preset Key

This shows the selected Preset Key containing the Favorite.

❷ Patch Number

Setting Range: U00 – U99, F00 – F99

This allows you to associate a Patch with a selected Favorite (Preset) Key.

The Patch is recalled automatically by highlighting the Bank and Patch number and using the [VALUE] knob to select the desired Bank and Patch number.

To recall a Favorite from a PLAY Mode, see "RECALL USING THE PRESET KEYS" (P. 36).

tips **BACK COLOR ON THE BANK PAGES**

The back color of each row of the BANK pages refers to the color of the Preset Keys.

tips **USING THE BANK C – A PAGES**

On the Preset BANK C – A Pages, the Patch will be recalled by locating the cursor to a Favorite.

You can recall the "previous" or "next" Favorite by using the DIRECTION [▲] / [▼] buttons.

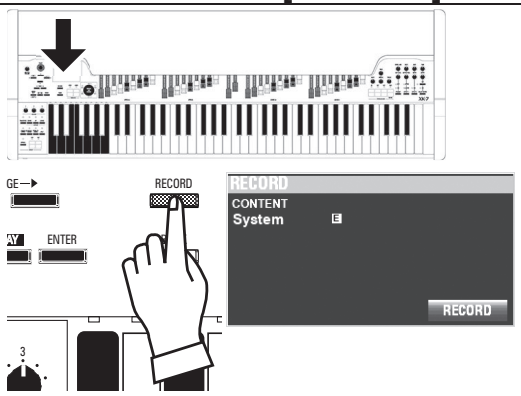
A Patch is not recalled by touching DIRECTION [◀] [▶] buttons (selecting a Part) or [◀]-PAGE-[▶] buttons (selecting a Bank).

NOTE: The Parameters in this Mode are System Parameters. You must Record these Parameters to System if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

RECORDING SYSTEM PARAMETERS

To Record the System Parameters of the XK-7 / XK-7D, do the following:

① PRESS THE RED [RECORD] BUTTON



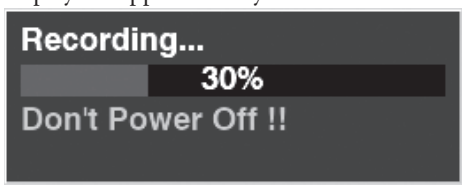
After you have made your changes to SYSTEM Parameters, press the red [RECORD] button. The **RECORD** Dialog Box will display.

NOTE: CONTENT is set at "System." Therefore, the [RECORD] icon is highlighted automatically.

NOTE: If edits have been made to a System Setting, an "E" will appear in the Display as shown above.

② RECORD THE SETTING

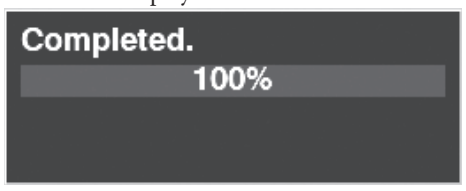
Press the [ENTER] button. The message shown below will display for approximately 1 second:



NOTE: Do not turn the power "OFF" while the above message is displaying.

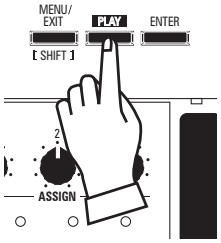
NOTE: If you DO NOT wish to Record, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

When the Display shows:



the procedure is finished.

③ RETURN TO THE PLAY MODE



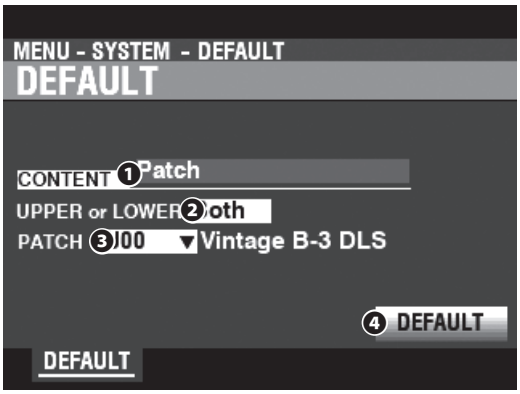
Press the [PLAY] button to return to the PLAY Mode.

DEFAULT

This FUNCTION Mode allows you to reset the XK-7 / XK-7D to factory-default settings.

TO LOCATE THIS MODE:

[MENU/EXIT] - **SYSTEM** - **DEFAULT** - [ENTER]



To reset the instrument to the factory-default settings, do the following:

❶ CONTENT

From the above screen, use the [VALUE] knob to select the content to be initialized.

Patch.....Patch
Tone Wheel.....Custom Tone Wheel
Contact.....Custom Contact
Leslie.....Custom Leslie Cabinet
Pedal Reg.....Custom Pedal Registration
Pipe.....Custom Pipe
System.....System Parameters
All.....All Parameters

❷ UPPER or LOWER (Patch only)

Settings: Both, Upper, Lower

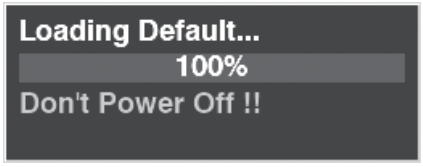
Select the portion of the instrument to Default.

❸ NUMBER

Use the DIRECTION [▼] button to move the cursor down and select the item to Delete. You can select each individual User Number as well as "All" (all the User Numbers).

❹ DEFAULT

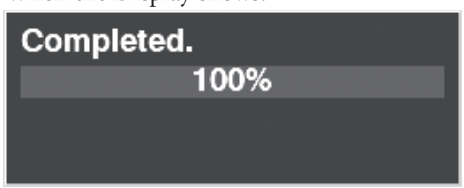
Use the DIRECTION [▼] button to move the cursor to the [**DEFAULT**] icon and press the [ENTER] button. The message shown below will display:



NOTE: Do not turn the power "OFF" while the above message is displaying.

NOTE: If you DO NOT wish to Default the instrument, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button

When the Display shows:



the procedure is finished.

tips

"USER" CONTENTS AS SHIPPED FROM THE FACTORY

As explained previously, the XK-7 / XK-7D have both "U" (User) and "F" (Factory) Patches and Custom settings.

The "U" Patches and Custom settings come from the factory with the same settings as the "F" Patches and Custom settings - Patches "F01" and "U01" are identical, for example.

The difference is that "F" settings cannot be overwritten while "U" settings can be modified and Recorded to your preference.

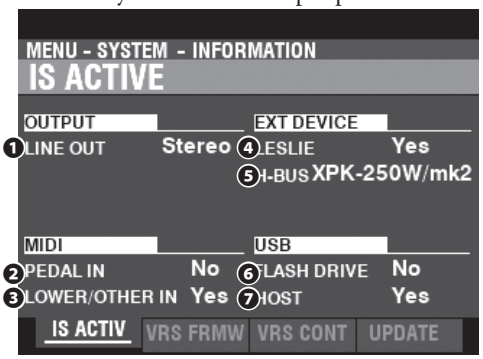
This FUNCTION Mode allows you to see the status of connected devices as well as the status of the currently installed software. It also allows you to update the system software.

TO LOCATE THIS MODE:

[MENU/EXIT] - **SYSTEM** - **INFORMATION** - [ENTER]

IS ACTIVE

This allows you to see which peripheral devices are connected.



OUTPUT

❶ LINE OUT

Settings: Mono, Stereo

This allows you to adjust how the sounds from the XK-7 / XK-7D are routed to the [LINE OUT] jacks.

NOTE: The full effect of the sounds produced by the XK-7 / XK-7D is best heard in "Stereo" (both LINE OUT jacks connected to two sound sources physically separated). If only the L/MONO jack is connected, the "Pan" function will not be heard.

MIDI

❷ PEDAL IN

❸ LOWER/OTHER IN

Settings: No, Yes

This allows you to see the connecting status of the XK-7 / XK-7D to a MIDI device via the [MIDI IN] Ports.

NOTE: This shows the receiving condition of the "Active Sense" message. It may display "No" even if properly connected if the connected device does not transmit "Active Sense" messages (such as the XPK-100 Pedalboard).

EXT. DEVICE

❹ LESLIE

Settings: No, Yes

This allows you to see whether a Leslie Speaker Cabinet is connected to the instrument via the Leslie® socket and the power to the cabinet is "ON."

❺ H-BUS

This lists connected and active H-BUS devices.

USB

❻ FLASH DRIVE

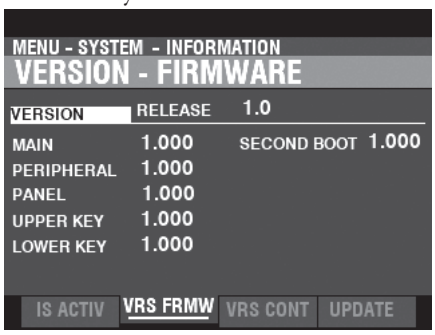
❼ HOST

Settings: No, Yes

This allows you to see the connection status between the XK-7 / XK-7D and a USB Flash Drive or a computer via a USB cable.

VERSION - FIRMWARE

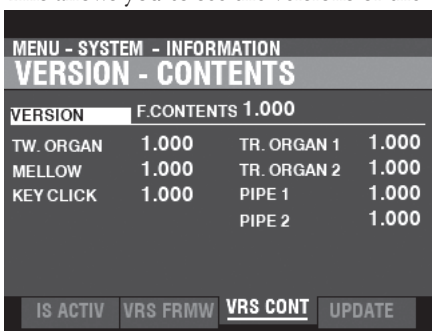
This allows you to see the versions of the main system software.



RELEASE..... Release Number.
MAIN..... Main Processor.
PERIPHERAL..... Peripheral Device Processor.
PANEL..... Display and User Interface.
UPPER KEY..... Upper Keyboard.
LOWER KEY..... Lower Keyboard (displayed only XK-7D).
SECOND BOOT..... Bootstrap Loader.

VERSION - CONTENTS

This allows you to see the versions of the Voice Cells.



F. CONTENT..... Factory Patch or Custom contents.
TW.ORGAN..... Tone Wheel Organ.
MELLOW..... Oscillator for Mellow.
CUSTOM TW..... Custom Tone Wheels.
TR.ORGAN 1..... Transistor Organ 1.
TR.ORGAN 2..... Transistor Organ 2.
PIPE 1..... Pipe Organ 1.
PIPE 2..... Pipe Organ 2.

UPDATE

See "Updating the Software" on page 145 for more information.

UPDATING THE SOFTWARE

The system software of the XK-7 / XK-7D may be updated periodically to incorporate new features, etc.

This page provides instructions on how to update the instrument software.

PREPARING UPDATING TIME

The update process may take several minutes depending on the extent of the update. Therefore, if you are updating the System Software, be sure you set aside enough time in an environment with a continuous AC power supply.

PREPARING UPDATE FILES

① DOWNLOAD THE UPDATE

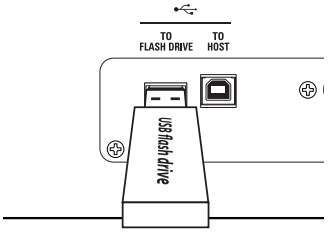
Go to the Hammond website for your region and download the software update to the desktop of your computer. It will be a compressed file containing several files called a ".zip" file.

② UNZIP THE FILE

Find the ".zip" file on your computer desktop and un-ZIP it. A folder will be created on your desktop having the same name as the ".zip" file which will contain the software update files, called ".bin" files.

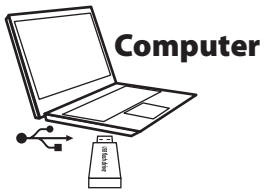
NOTE: Some web browsers will automatically un-ZIP a ".zip" file after it has been downloaded.

PREPARING MEDIA



Turn the organ "ON," and insert the USB Flash Drive into the [TO FLASH DRIVE] port.

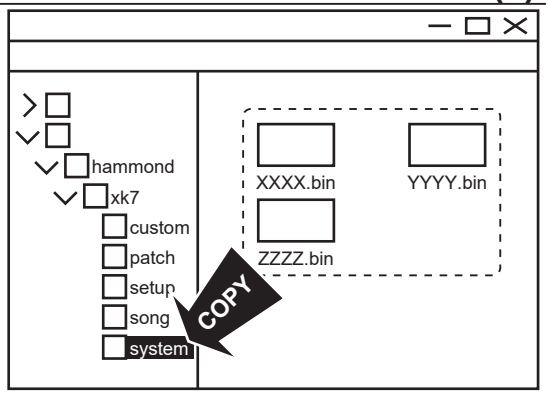
The message, "Confirming USB..." will display for approximately 1 second. Please wait for this message to disappear. The folders and sub-folders necessary for use with the XK-7 / XK-7D (P. 160) have been created.



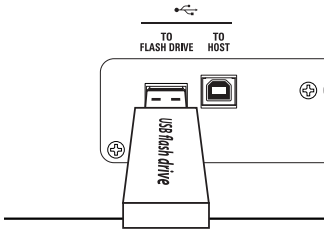
After doing the above, remove the USB Flash Drive from the organ and insert it into the computer.

UPDATING PROCEDURE

① COPY THE "BIN" UPDATE FILE(S)



Copy the ".bin" update files into the "system" sub-folder of the USB Flash Drive.

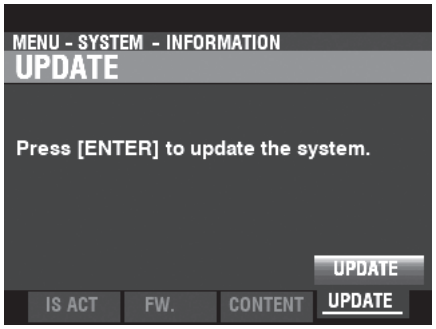


Remove the Flash Drive from your computer and insert it into the [TO FLASH DRIVE] port of the XK-7 / XK-7D. The message, "Confirming USB..." will display for approximately 1 second. Wait for this message to disappear.

② LOCATE THE "UPDATE"

Locate the **UPDATE** FUNCTION Mode Page:

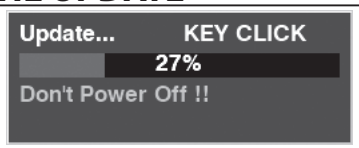
[MENU/EXIT] - **SYSTEM** - **INFORMATION** - [ENTER] - **UPDATE**



The [**UPDATE**] icon will be automatically highlighted.

(Continued on the next page.)

③ START THE UPDATE



Press the [ENTER] button. You will see a status bar similar to the one shown above during the Update procedure. Each file being installed will display a separate status bar.

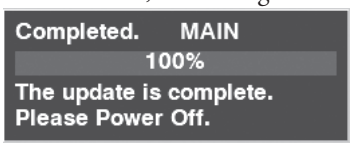
The following messages will show if there are no update files on the USB Flash Drive:

No Update File .....No ".bin" files in the \system\ Folder.

No New Update File.....The ".bin" files are either identical to or older than the ones already installed.

④ FINISH

When the update is finished, the message shown below:



will display. Turn the power to the XK-7 / XK-7D "OFF."

When the power to the instrument is next turned "ON," the updated software will take effect.

tips **IF THE "FAILED" MESSAGE DISPLAYS**

In rare cases, when you insert a USB Flash Drive, the message "**Failed to recognize USB.**" may display (see below). This indicates that the organ was unable correctly to recognize the USB Flash Drive.

If this happens, remove the USB Flash Drive and try inserting it again.

MIDI

WHAT IS "MIDI"?

"MIDI" (**M**usical **I**nstrument **D**igital **I**nterface) is the musical instrument industry standard for exchanging performance information between electronic musical instruments as well as sequencers, effects, lighting, sound reinforcement gear, etc.

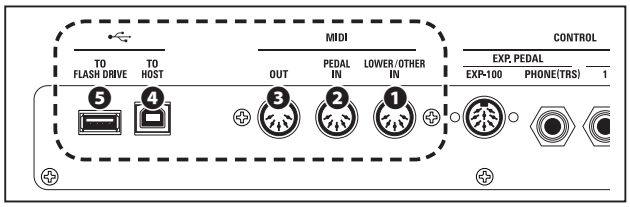
The MIDI standard allows instruments made by different manufacturers to communicate with each other.

Many types of data can be transmitted and received, including performance information, Parameter settings, and global commands.

WHAT IS "USB"?

USB (**U**niversal **S**erial **B**us) is an industry standard for connection, communication and interfacing between computers, peripherals and other electronic devices. The are many different types of USB connectors; however the XK-7 / XK-7D implements Type "A" and Type "B" connectors, which have been the most common types for electronic musical instruments.

MIDI/USB JACKS ON THE XK-7 / XK-7D



❶ MIDI LOWER/OTHER IN port

This port receives MIDI information from the MIDI Keyboard for the LOWER Part (for the XK-7) or an external MIDI device such as a sequencer or Digital Audio Workstation (DAW).

❷ MIDI PEDAL IN port

This port receives MIDI information from a connected MIDI Pedalboard.

❸ MIDI OUT port

This port transmits performance information to an external MIDI device such as a sound generator, sequencer or DAW.

❹ USB TO HOST port

Use to connect to a computer to transmit MIDI messages.

❺ USB FLASH DRIVE port

Use to connect a USB Flash Drive to Load or Save files (such as Setup, Patch, Songs, etc.) as well as to Update the software.

WHAT MIDI CAN DO ON THE XK-7 / XK-7D

The MIDI implementation of the XK-7 / XK-7D allows you to:

- Use a MIDI Keyboard/pedalboard to expand the playing versatility.
- Control an external sound generator such as a synthesizer or sampler.
- Record/playback performances to an external sequencer or computer.

For easier access to those settings, the XK-7 / XK-7D is equipped with **MIDI Templates**.

For a fuller explanation of MIDI Templates, see page 154.

USB TO HOST

The USB TO HOST Port will do the following:

- Send / receive MIDI data (Keyboard Channels: UPPER, LOWER, PEDAL and System Exclusive messages, compliant with USB AUDIO Class 1.0).

tips **USB AUDIO CLASS**

The XK-7 / XK-7D is compliant with USB AUDIO Class 1, the generic device driver which comes pre-installed on both MS Windows or Mac OS. This means you can use the USB TO HOST Port to connect the XK-7 / XK-7D to a computer and transmit and receive a MIDI data stream without an exclusive device driver.

The XK-7 / XK-7D cannot transmit audio via USB.

MIDI CHANNEL

MIDI information travels along **MIDI Channels**. These channels are similar to television channels, in that they provide a way to transmit and receive MIDI information as well as to differentiate among MIDI information sent to different devices. The current MIDI specification provides for 16 Channels, all of which travel along a single cable.

NOTE: In order for MIDI devices properly to communicate, both the sending and receiving devices must be set to the same MIDI Channel.

USING MIDI CHANNELS IN THIS ORGAN

Keyboard Channel

.....These Channels send or receive performance data for the UPPER, LOWER and PEDAL Parts as well as various Controller messages.

External Zone Channel

.....These Channels send messages for controlling external MIDI devices.

MAIN MIDI MESSAGES

MIDI information is grouped into Channel Messages for each of the 16 MIDI Channels and a System Message which applies to all Channels.

NOTE: See the MIDI IMPLEMENTATION CHART on page 186 for more details.

CHANNEL MESSAGES

The Channel Messages are classified below:

Channels / Messages	Keyboard	External Zone
Note On / Note Off	Sends or receives performance data (which key, velocity, on or off) for the XK-7 / XK-7D.	Sends performance data for external MIDI devices.
Pitch Bend	Controls pitch for the instrument.	Sends pitch control for external MIDI devices.
Program Change	Selects a Patch for the instrument.	Selects a Program Number for external MIDI devices.
Control Change	Sends or receives the various control messages for the instrument e.g. Expression, Foot Switches. This includes Bank Select or NRPN.	Sends Control messages for external MIDI devices. This includes Bank Select.

There are special Control Changes also.

Bank Select...This Control Change is for extending Program Change. Normally, Program Change has a range of only 128; however, Bank Select extends the range up to 16,384, making it possible to have up to 2,097,152 Programs.

NRPN....."NRPN" is an acronym for "Non Registered Parameter Number." The normal Control Change has a limit of 128 Controller Numbers; however, NRPN can control up to 16,384 exclusive device Parameters..

SYSTEM MESSAGES

◆ SYSTEM EXCLUSIVE MESSAGES

These are messages which are unique to a particular manufacturer or between instruments of the same model from the same manufacturer.

This instrument uses System Exclusive Messages for the following:

Memory Dump

.....Transmits the current status of the instrument which can be recorded on an external MIDI sequencer or DAW.

Data Set

.....Set an exclusive Parameter of the instrument, usually a short message.

tips **NRPN OR SYSTEM EXCLUSIVE MESSAGE?**

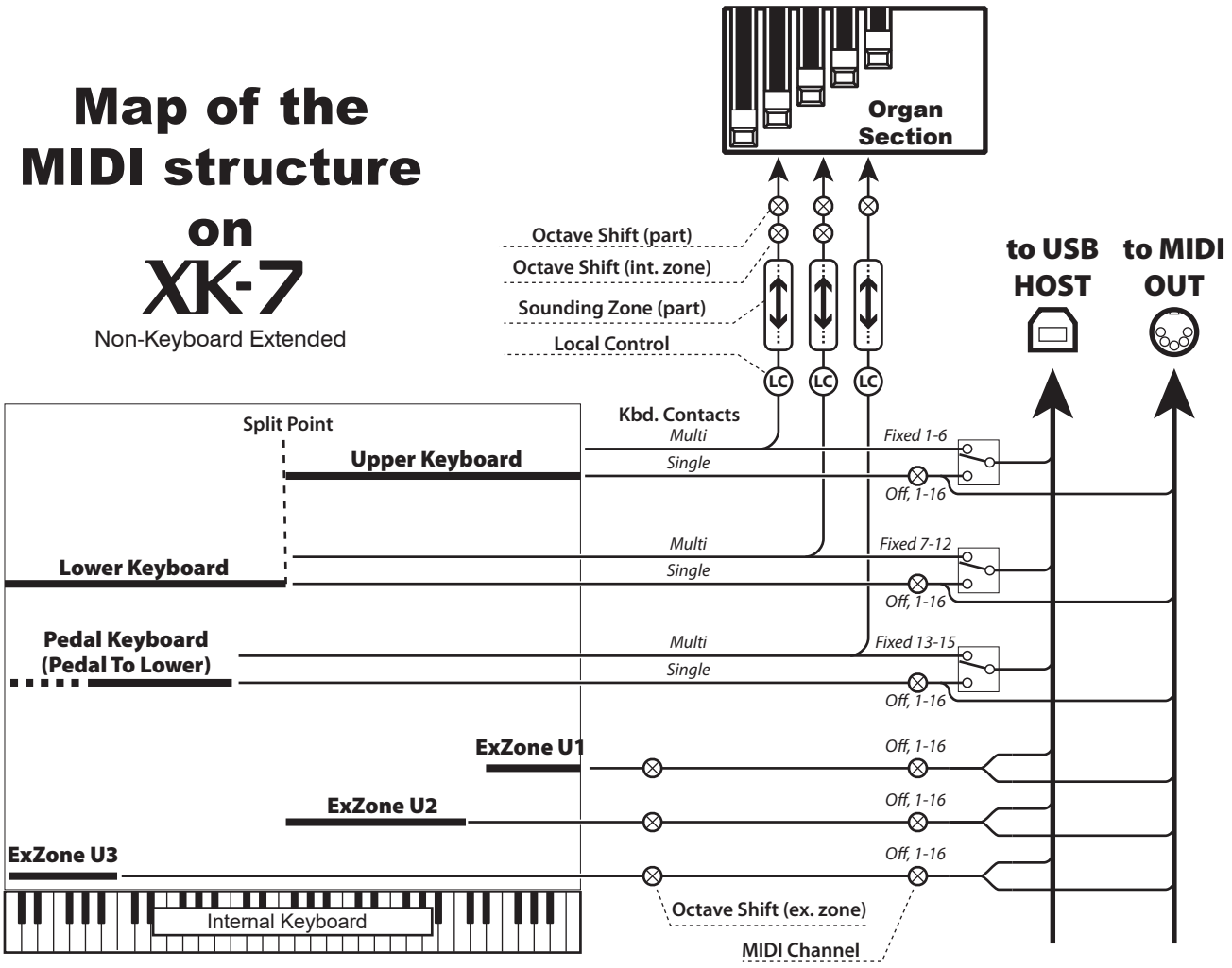
There are two ways to set an exclusive Parameter of the instrument - NRPN or System Exclusive Message (SysEx).

NRPN depends on the MIDI Channel for selecting an individual command, and it can be recorded directly on the track in the MIDI sequencer or DAW.

SysEx uses the instrument ID to select an individual command regardless of the MIDI Channel. However, some MIDI sequencers or DAWs do not support sending SysEx commands in real time.

MIDI STRUCTURE OF THE XK-7 / XK-7D

The XK-7 / XK-7D can transmit and receive MIDI data on **Keyboard Channels** as well as transmit MIDI data on **External Zones**. The following illustrations and paragraphs explain this in more detail.



KEYBOARD (INTERNAL) CHANNELS

The internal sounds of the instrument will play on what are called the **Keyboard** or **Internal Channels**.

The Keyboard Channels transmit Note On/Note Off and Velocity data from the UPPER, LOWER and PEDAL Keyboards. 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 Keyboard Channel, in addition to Note On/Note Off and Velocity data, also is used for transmitting Controller data.

EXTERNAL ZONES

The External Zone allow you to use the XK-7 / XK-7D as a MIDI Master Keyboard. These allow you to play additional sounds from another MIDI instrument such as a Synthesizer or Sampler. The External Zones transmit but do not receive MIDI data - in other words, they are MIDI OUT only.

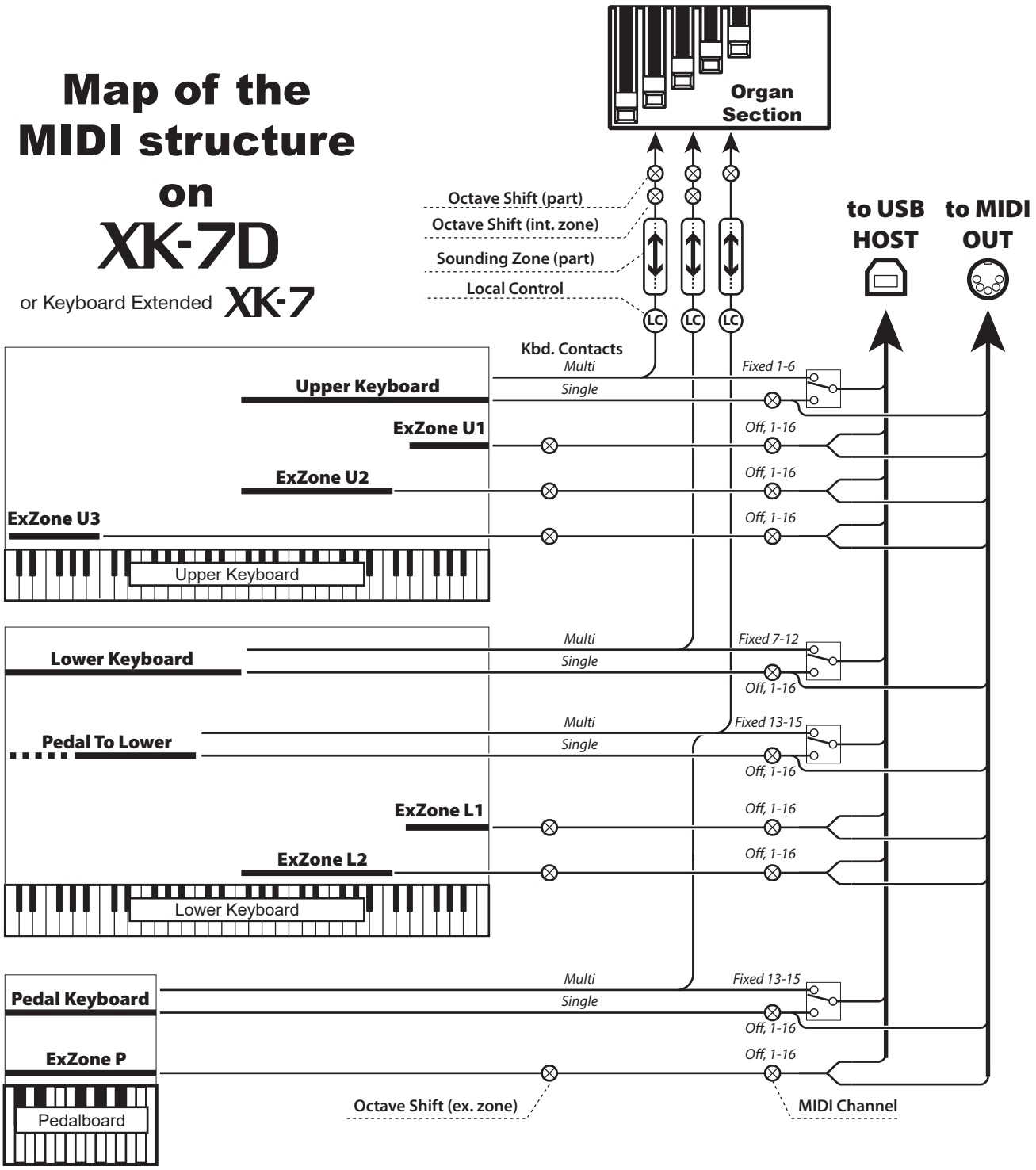
There are totally six (6) External Zone Channels - 3 for UPPER, 2 for LOWER and 1 for PEDAL Keyboards.

EXPANDED KEYBOARDS

When MIDI or -BUS Keyboards are used to expand the LOWER and/or PEDAL Parts, they will not only play the internal voices of the XK-7 / XK-7D, but also transmit MIDI data to other MIDI devices via the MIDI OUT port. Thus, both the Keyboard Channels and the External Zones will respond from connected MIDI Keyboards, as if the Expanded Keyboards were "built-in" as an integral part of the XK-7 / XK-7D.

Map of the MIDI structure on XK-7D

or Keyboard Extended XK-7



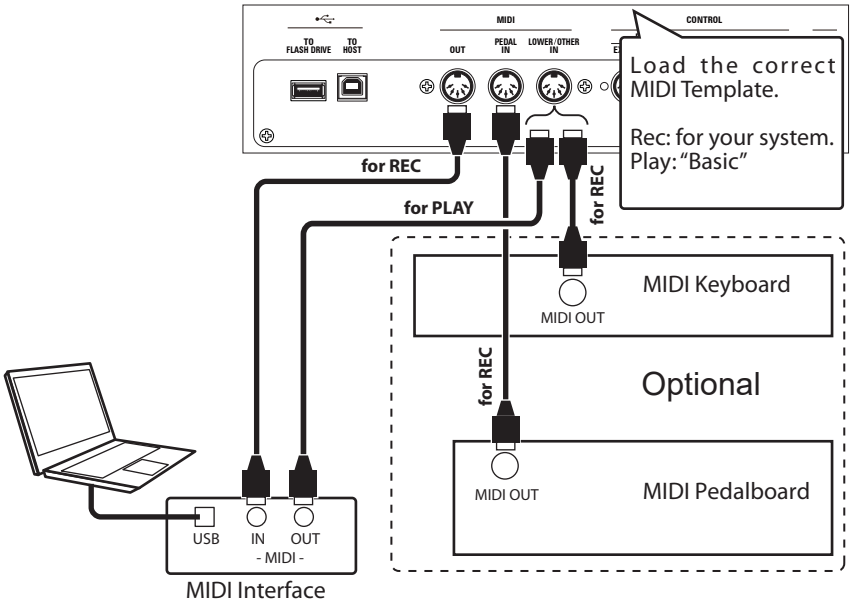
USING AN EXTERNAL SEQUENCER

This section explains how to record and play back a performance on the XK-7 / XK-7D using either an external MIDI sequencer or a computer running a Digital Audio Workstation, or DAW.

RECORDING AND PLAYING BACK A PERFORMANCE

In order to Record and Play a MIDI performance, connect the MIDI cables as shown in the illustration on the right.

NOTE: This connection cannot record MIDI data sent via External Zones.



RECORD

1. Connect MIDI cables as shown on the right (REC).
2. Go to the **MIDI** FUNCTION Mode and select the MIDI Template appropriate for your system. You can select:

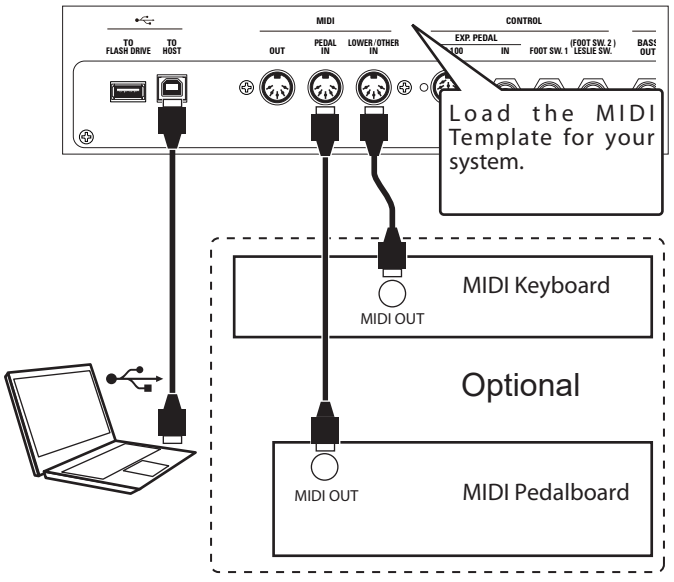
   Basic / 3 KBD Lower* / 3 KBD Upper* (*XK-7 only)
3. Configure the MIDI Channels on your sequencer or DAW. If you are recording the UPPER Keyboard only, set the MIDI Channel on your sequencer to record Channel "1." To record all Keyboards, set your sequencer to record Channels "1," "2" and "3."(UPPER=1, LOWER=2 and PEDAL=3).
4. Start recording on your sequencer or DAW.
5. If you need to send System Exclusive data, etc., transmit a MIDI Memory Dump.
6. Start your performance.

PLAYBACK

1. Make the connections as shown in the illustration above (PLAY).
2. Select and Load the "Basic" MIDI Template (see page 154).
3. Start playback of the sequence.

RECORDING A PERFORMANCE VIA USB CABLE

The USB MIDI connection will allow you to Record and Play sequences with only one cable connection and no MIDI interface between the computer and the XK-7 / XK-7D as shown on the right.



RECORD

Follow step 2 through 6 above.

PLAYBACK

Start playback of the sequencer or DAW.

It is not necessary to change the MIDI Template between recording and playback. USB MIDI always receives according to the MIDI Channel setting regardless of the "MIDI IN Mode."

USING A MIDI SYNTHESIZER

To control a MIDI Synthesizer from the XK-7 / XK-7D using both a Single Keyboard and Expanded Keyboards, do the following:

BASIC CONNECTIONS

1. CONNECT THE MIDI MODULE

Connect the MIDI OUT of the XK-7 / XK-7D to the MIDI IN of the external MIDI Synthesizer.

2. LOAD THE "EXZ..."MIDI TEMPLATE (P. 154)

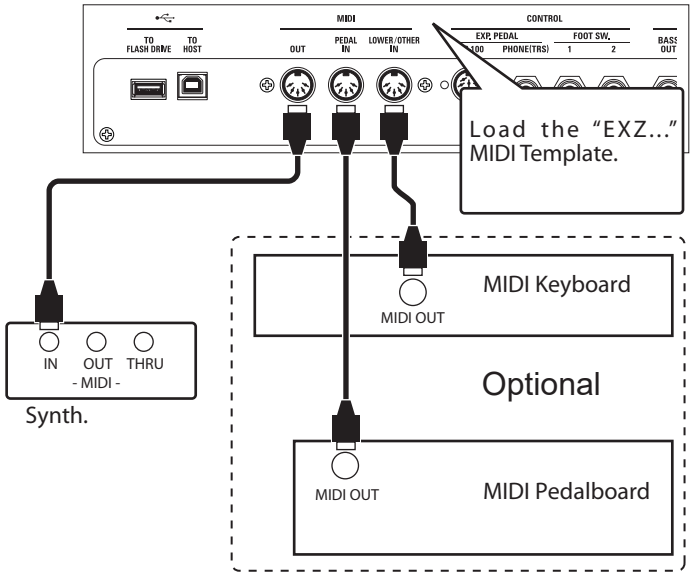
You can select:

EXZ / EXZ 3KBD Lower* / EXZ 3KBD Upper* (*XK-7 only)

This MIDI Template mutes the Keyboard Channels. If you want also to transmit MIDI data on the Keyboard Channels, you must turn them "On" manually. See page 156 "MIDI Channels" for instructions on how to do this.

3. SET THE ZONES AND RECORD THE SETTINGS TO THE PATCH.

Please refer to page 103 "EXTERNAL ZONES" for instructions on how to set Zones.



tips **SOUNDING POINT OF THE EXTERNAL ZONES**

When keys are depressed, the sounding point of the External Zones is deeper than that of the internal sounds.

SIMPLIFIED SETUP

The procedure described below allows you to transmit MIDI data without using the External Zones.

1. CONNECT A MIDI SYNTHESIZER

Connect the MIDI OUT of the XK-7 / XK-7D to the MIDI IN of the external MIDI Synthesizer.

2. LOAD THE MIDI TEMPLATE FOR YOUR SYSTEM (P. 154).

Select the MIDI Template to Load (Basic, 3KBD Lower, etc.) depending upon whether you are using Expanded Keyboards (XK-7).

Load the "Basic" (XK-7D).

3. TURN OFF UNUSED MIDI MESSAGES (P. 155).

Turn MIDI messages for controlling INDIVIDUAL, PROGRAM CHANGE, and DB REGISTRATION "Off." These messages are not used in this setup.

4. MATCH THE MIDI CHANNELS (P. 156).

Match the MIDI Channels between the Keyboard Channels of the XK-7 / XK-7D and the MIDI Synthesizer.

NOTE: In this setup, "Sounding Range" and "Program Change" cannot be changed by a Patch. Also, "Note Velocity" is transmitted by the raw value of the Keyboard and cannot be adjusted.

NOTE: Use the EXTERNAL ZONES or BASIC CONNECTIONS of this page if you want to send your preferred "Sounding Range," "Program Change," "Note Velocity," etc.

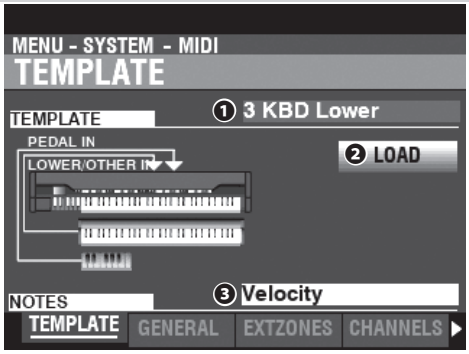
MIDI FUNCTION MODE

This FUNCTION Mode allows you to adjust the basic MIDI Parameters as well as Send and Receive a MIDI Memory Dump.

TO LOCATE THIS MODE:

[MENU/EXIT] - **SYSTEM** - **MIDI** - [ENTER]

TEMPLATE



MIDI TEMPLATE

❶ MIDI TEMPLATE

This allows you to Load various pre-programmed MIDI settings.

To Load a MIDI Template, select TEMPLATE, move the cursor to the ❷[**LOAD**] icon and press the [ENTER] button.

Template	Description
Basic	Play using the organ (and Pedalboard). (†1)
*3KBD Lower	Play using the organ and a LOWER Keyboard (and Pedalboard). (†1)
*3KBD Upper	Play using the organ and a UPPER Keyboard (and Pedalboard). (†1)
EXZ	Play using the organ (and Pedalboard). (†2)
*EXZ 3KBD Lower	Play using the organ and a LOWER Keyboard (and Pedalboard). (†2)
*EXZ 3KBD Upper	Play using a organ and a UPPER Keyboard (and Pedalboard). (†2)

***** .....XK-7 only.

†1 .....The performance information will be sent to MIDI OUT (including USB-MIDI) and can be recorded by an external sequencer.

†2 .....The External Zones of this organ control external MIDI equipment(s) (including USB-MIDI).

NOTE: For a detailed listing of MIDI Templates, see "MIDI TEMPLATES" starting on page 175.

NOTE: If a MIDI Template is selected and any of the following Parameters are changed, the box to the right of "TEMPLATE" ❶ will display, "User Edited."

NOTE MESSAGES

❸ NOTES

Settings: Velocity, Multi-Contacts

This allows you to select how to send or receive note messages via USB-MIDI.

Velocity..... Using "Keyboard Channel" Parameters (P. 156) with Velocity instead of Multi-Contacts.

Multi-Contacts ..... The Multi-Contact information for each Part will be transmitted on dedicated MIDI Channels (see the list below) regardless of the settings of the "Keyboard Channel" Parameters.

Part / Contact	UPPER	LOWER	PEDAL
1	1	7	13
2	2	8	14
3	3	9	15
4	4	10	-
5	5	11	-
6	6	12	-

NOTE: This Parameter is not included in the MIDI Template. It must be set separately.

NOTE: Even if this Parameter is set at "Multi-Contacts," the Channel Messages except Note Messages (e.g. Control Change, Pitch Bend) will be sent/received via the Keyboard Channel (P. 156).

NOTE: If any non-Multi-Contact Keyboards such as standard MIDI Keyboards or an XPK-250W or mk2 are connected to the organ, their note messages are re-sent to all the MIDI Channels on the Virtual Multi-Contacts at simultaneously (the V. MULTI CON DEPTH does not affected).

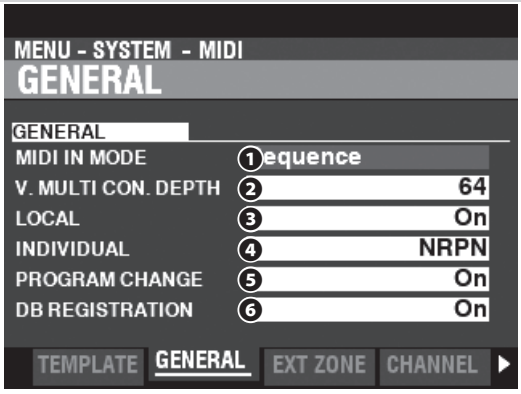
tips **RANGE OF THE MIDI TEMPLATE**

A MIDI Template includes Parameter pages at GENERAL, EXTERNAL ZONES and CHANNELS.

tips **TRANSMITTING MULTI-CONTACT IS SUPPORTED FOR USB-MIDI ONLY**

Because playing with the Multi-Contacts creates many Note On/Note Off events, the MIDI traffic could be overloaded transmitting MIDI via the MIDI OUT port using the normal MIDI baud rate. Therefore, Multi-Contact Note data can be transmitted only via USB-MIDI.

GENERAL



❶ MIDI IN

This allows you to select the function of the [MIDI IN LOWER/OTHER] Port.

Sequence

Receives MIDI messages on UPPER, LOWER and PEDAL Parts on their MIDI Channels. MIDI messages will not be re-sent.

Upper / Lower

Use this Template to connect a MIDI Keyboard as an (UPPER / LOWER / PEDAL) Keyboard.

Received MIDI messages will sound the Sections allocated to the (UPPER / LOWER / PEDAL) Keyboard ignoring the MIDI Channel, and will re-send to MIDI OUT and USB-MIDI.

NOTE: The SPLIT does not function when the MIDI IN mode is set at "Upper" or "Lower."

NOTE: IF the MIDI IN Mode is at "UPPER" or "LOWER," the Keyboard in this organ sounds by the ❷ Velocity Multi-Contact, regardless of the setting of the Sounding Point (P. 137).

❷ V(Velocity) MULTI CON(CONtact) DEPTH

Setting Range: 0 – 127

This allows you to set how to spread the time to "On" or "Off" for each Virtual Multi Contact using the received Velocity value of the Note message.

A higher value lengthens the time to engage all the VMCs via a Velocity value.

❸ LOCAL CONTROL

Settings: Off, On

This allows you to turn Local Control "On" or "Off."

On.....The Keyboard plays the internal sounds of the instrument.
Off.....The internal sounds of the XK-7 / XK-7D will not play from the Keyboard. Use this setting for recording performance to an external sequencer with a MIDI Echo feature.

❹ INDIVIDUAL PARAMETERS

Settings: Off, NRPN, Sys Ex

This allows you to set the method by which individual Parameters are transmitted.

Individual Parameters are used for controlling Patch Volume, Vibrato, etc.

Off.....Does not transmit.
NRPN.....Transmits NRPN data (P. 149).
Sys Ex.....Transmits System Exclusive (Sys Ex) data (P. 149).

NOTE: This organ receives Individual Parameters as System Exclusive messages even if this Parameter is not set at "Sys Ex."

NOTE: For a list of Individual Parameters transmitted and recognized by the XK-7 / XK-7D, consult MIDI INFORMATION on page 178.

❺ PROGRAM CHANGE

Settings: Off, On

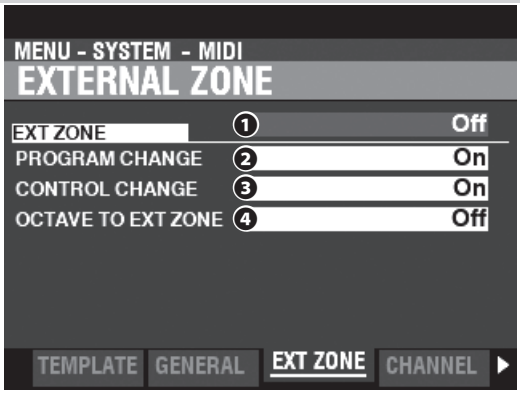
This allows you to select whether to transmit and receive Program Change messages for Patches and External Zones.

❻ DRAWBAR REGISTRATION

Settings: Off, On

This allows you to select whether to transmit and receive Drawbar Registrations.

EXTERNAL ZONES



❶ EXT(EXTernal) ZONES

Settings: Off, On

This allows you to enable or disable transmission of MIDI data on each External Zone (P. 103).

NOTE: Sending Note messages by Multi-Contact or specified MIDI Channels are omitted when this Parameter is set at "On."

❷ PROGRAM CHANGE

Settings: Off, On

This allows you to select whether to send Program Change messages for the External Zones.

❸ CONTROL CHANGE

Settings: Off, On

This allows you to select whether to send Control Change messages for the External Zones.

❹ OCTAVE TO EXT(EXTernal) ZONES

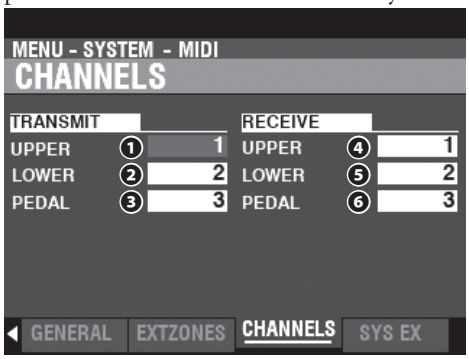
Settings: Off, On

This allows you to select whether to add the OCTAVE Parameters in the Internal Zones (P. 102) (including the OCTAVE [DOWN] [UP] buttons on the XK-7) to the External Zones.

NOTE: The Parameters in this Mode are System Parameters. You must Record these Parameters if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

CHANNELS

This Page allows you to select MIDI Channels for transmitting and receiving performance information for each Keyboard Part ("Keyboard Channel") (P. 150).



❶to❸ TRANSMIT UPPER, LOWER, PEDAL

Setting Range: 1 – 16, Off

This allows you to select the transmitting (Sending) MIDI Channels for the UPPER, LOWER and PEDAL Parts.

NOTE: These Parameters control the Internal Zones or Keyboard Channels. They do <u>not</u> affect the External Zones.

NOTE: The UPPER Channel sends Controller information such as Pitch Bend, Expression Pedal or NRPN in addition to Note On/Note Off data.

NOTE: To avoid conflicting MIDI messages, transmitting ❶❷❸ will be omitted when the External Zones (P. 155) is set at "On."

❹to❻ RECEIVE UPPER, LOWER, PEDAL

Setting Range: 1 – 16, Off

This allows you to select the Receive MIDI Channels for the UPPER, LOWER and PEDAL Parts.

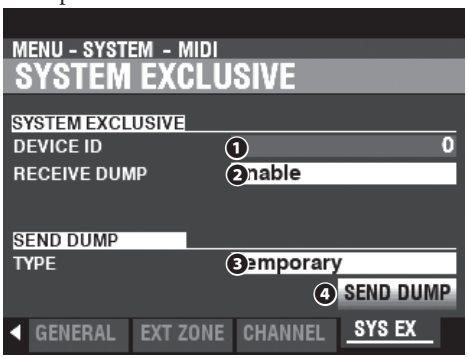
NOTE: The Note Messages will be sent/received via special MIDI Channels for each contact and ignored (*1) when the NOTES (P. 154) is set at "Multi-Contact."

***1 As an exception, when a MIDI Channel for a Part is set at "Off," it will stop transmission of all the Contacts of that Part.**

NOTE: The Parameters in this Mode are System Parameters. You must Record these Parameters if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

SYSTEM EXCLUSIVE MESSAGES

This Page allows you to send or receive System Exclusive Messages such as Memory Dump or Individual Parameters.



❶ DEVICE ID

Setting Range: 0 – 127

This allows you to set the Device ID which is used for System Exclusive Messages.

The receiving is ignored by unmatched Device ID even if transmitting to the same model.

❷ RECEIVE DUMP

Settings: Disable, Enable

This allows you to Enable or Disable receiving of a Memory Dump.

Select "Disable" if you want to prevent internal settings from being changed - for example, if you are playing back songs from an external sequencer or DAW.

The above dialog box will display while a Memory Dump is being received.

❸ SEND DUMP TYPE

Settings: Temporary, System

This allows you to select which contents will be transmitted by a Memory Dump.

Temporary	Transmits the current status of the Patch Parameters of the current Patch and the Adjust Presets (P. 178). The current Patch number or Favorite number will not be transmitted. IMPORTANT: If you are recording Sequences, transmit this data before touching any notes or controls so that the registrations for each Section will "match up."
System	Transmits the status of the System Parameters such as Controller modes, MIDI Channels (P. 184). In addition, the current Patch number or Favorite number will transmitted.

To send a Memory Dump, do the following:

1. Use the DIRECTION [▼] button to move the cursor to the ❹[**SEND DUMP**] icon.
2. Press the [ENTER] button.

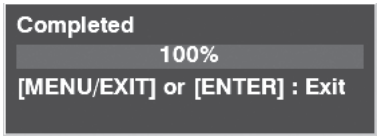
The above dialog box will show while the Memory Dump is sending.

NOTE: If you want to Save the entire contents of the XK-7 / XK-7D, save them as a Setup file instead of using a Memory Dump

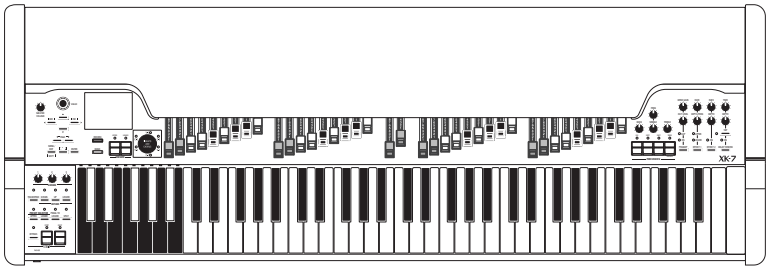
tips **WHEN THE SENDING HAS FINISHED**

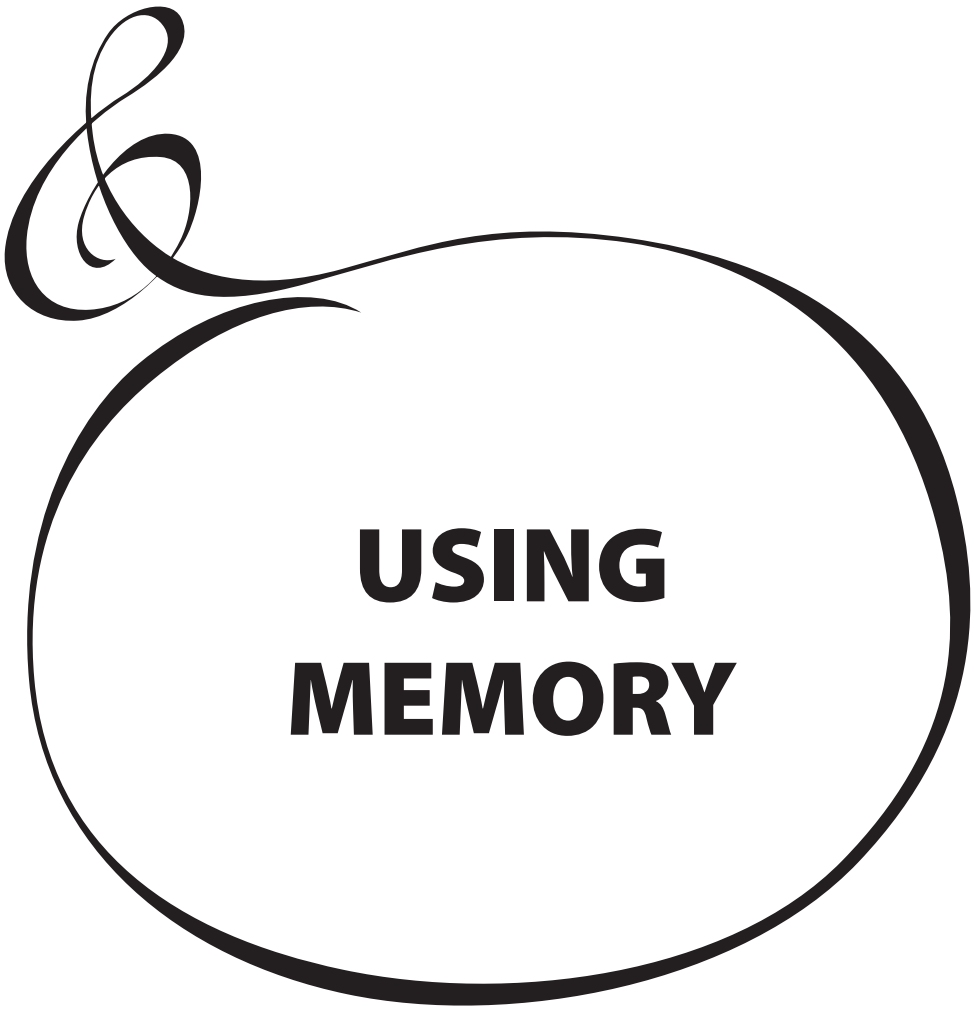
When the sending Memory Dump has finished, the "Completed" message will display.

Press the [MENU/EXIT] button or [ENTER] button to close the dialog box and return to the previous page.



NOTE: The Parameters in this Mode are System Parameters. You must Record these Parameters if you want their settings to be remembered the next time the instrument is turned "ON." See page 142 for instructions on how to do this.

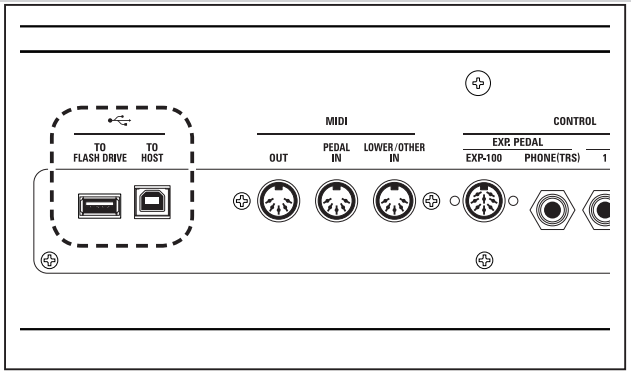


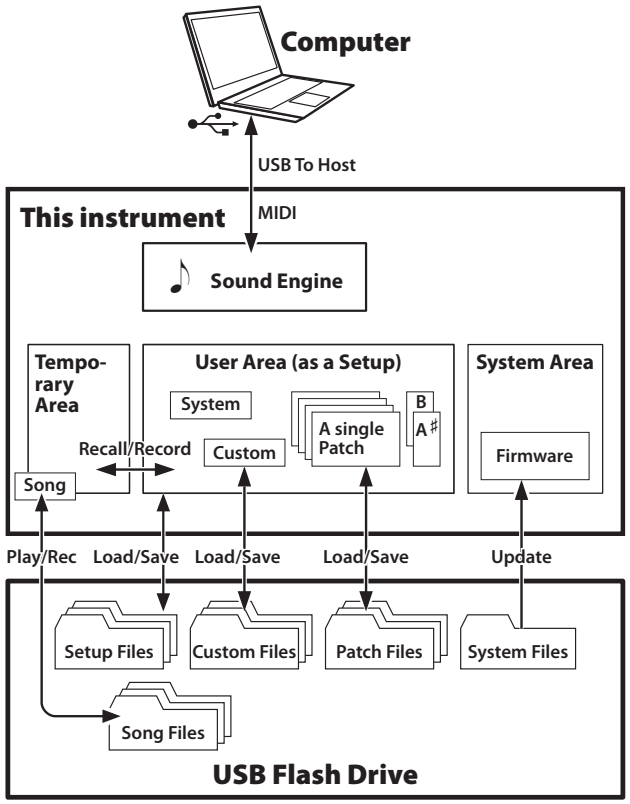


USING MEMORY

You can Save various contents such as Patches, Custom Settings, etc., as files to a USB Flash Drive.

WHAT YOU CAN DO WITH A USB FLASH DRIVE





- Save and Load Setups (see page 162).
- Save or Load a Patch or Custom Setting.
- Record or Playback Songs.
- Update the system software.

ABOUT USB FLASH DRIVES

COMPATIBLE USB FLASH DRIVES

There are various types of USB Flash Drives. Generally, a Flash Drive formatted with MS-DOS FAT32 will work.

USB CONNECTOR

1. Be sure to insert the USB Flash Drive properly.
2. Do not remove the Flash Drive or turn the power "OFF" while working with a USB Flash Drive.

FOLDER STRUCTURE

When the USB Flash Drive is inserted, the following folders are automatically created on the drive.

```
\hammond
    \xk-7
        \custom
            \cabinet
                *.ccb
            \contact
                *.cct
            \pipe
                *.cpi
            \twheel
                *.ctw
        \patch
            \lm_patch
                *.olp
            \um_patch
                *.oup
        \setup
            *.set
        \song
            *.mid
        \system
            *.bin
```

setup

Setup files are saved to this Folder

system

Copy software update files to this Folder.

NOTE: There is an "affinity" between USB Flash Drives and this instrument, and not all Flash Drives are compatible. To confirm whether a particular Flash Drive will work with the XK-7 / XK-7D, see MENU - SYSTEM - INFORMATION - IS ACTIVE - USB FLASH DRIVE (P. 144).

tips **FILE NUMBER LIMIT**

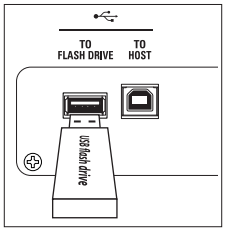
A Folder can contain up to 256 files.

FORMAT

This FUNCTION Mode allows you to format a USB Flash Drive for use with the XK-7 / XK-7D.

NOTE: Formatting a USB Flash Drive erases all data on the drive. Therefore, be sure to use either a new Drive or one which does not already have data you want to keep.

① INSERT A USB FLASH DRIVE



Turn the power to the XK-7 / XK-7D "ON" and insert a USB Flash Drive to the [TO FLASH DRIVE] Port. The message, "Confirming USB..." will display for approximately 1 second. Please wait for this message to disappear.

② LOCATE THE FORMAT PAGE

Locate the **FORMAT** FUNCTION Mode Page ([MENU/EXIT] - **USB FLASH DRIVE** - **FORMAT** - [ENTER]).

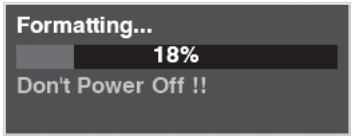
③ FORMAT THE USB FLASH DRIVE

Press the [ENTER] button.

The dialog box for confirmation will display.

To confirm that you wish to Format the USB Flash Drive, use the DIRECTION buttons to move the cursor to the [**YES**] icon and press the [ENTER] button.

NOTE: If you DO NOT wish to Format, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button. Or, select the [NO] icon and press the [ENTER] button.



If you select "YES," the dialog box for "Formatting" will display and the formatting process will begin. The time necessary to Format a USB Flash Drive may differ depending on the capacity of the Drive, but typically it will be approximately 2 or 3 seconds.

When the Format is finished, "Completed" will show in the Display for approximately 2 second.

NOTE: Do not turn the power "OFF" or remove the USB Flash Drive during the Formatting procedure.

tips **IF THE "FAILED" MESSAGE DISPLAYS**

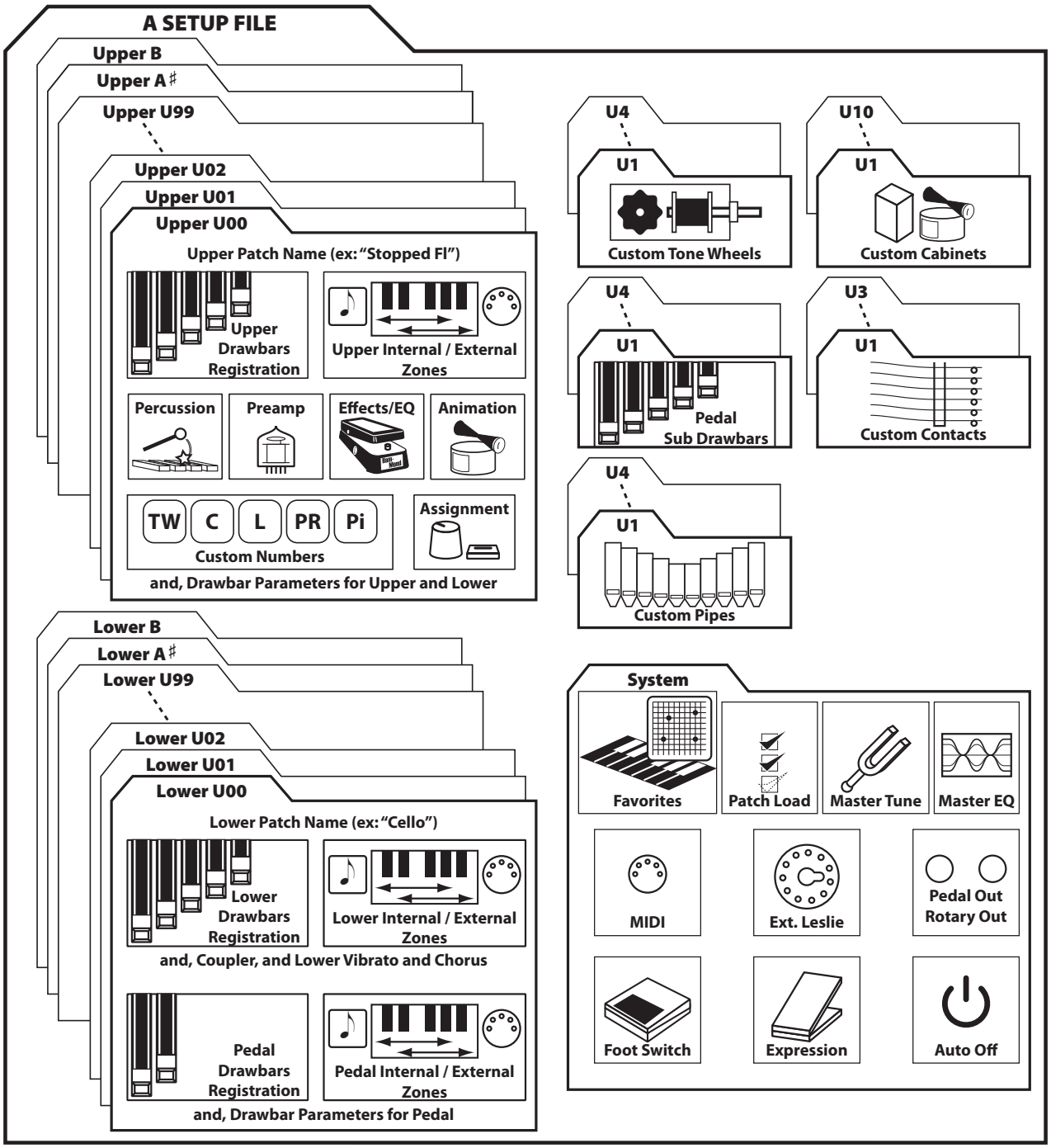
In rare cases, when you insert a USB Flash Drive, the message "**Failed to recognize USB.**" may pop up (see below). This indicates that the organ was unable correctly to recognize the USB Flash Drive.

If this happens, remove the USB Flash Drive and try inserting it again.

USING SETUP FILES

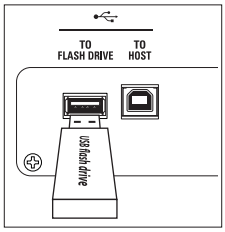
As explained elsewhere in this Manual, the XK-7 / XK-7D can be customized in a number of different ways - you can create Custom Settings, create your own Patches, etc. After you have made your changes, you can save your edits as a Setup. In this way you can customize the instrument in several different ways and save each series of edits as a separate Setup.

The illustration below shows the data which can be contained in a Setup file.



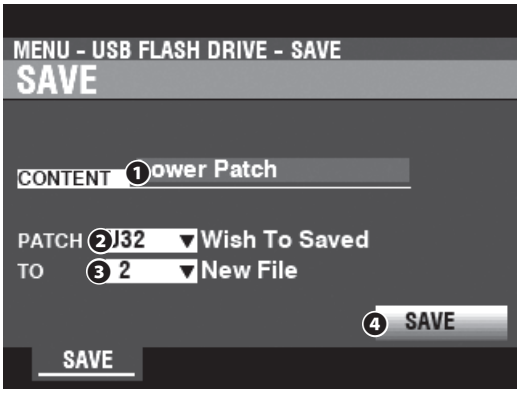
This FUNCTION Mode allows you to Save contents in the XK-7 / XK-7D to a USB Flash Drive.

① INSERT A USB FLASH DRIVE



Insert a formatted USB Flash Drive into the [TO FLASH DRIVE] Port.

② LOCATE THE "SAVE" PAGE



[MENU/EXIT] - **USB FLASH DRIVE** - **SAVE** - [ENTER].

③ SELECT THE ITEM TO SAVE

Use the DIRECTION [▲] [▼] buttons and the [VALUE] knob to select the item to Save.

❶ CONTENT

Select the type of content to Save.

Setup.....Setup file.
Upper Patch..An Upper Patch.
Lower Patch..A Lower Patch.
Tone Wheel....A Custom Tone Wheel.
Contact.....A Custom Contact.
Cabinet.....A Custom Cabinet.
Pipe.....A Custom Pipe.

❷ FILE

Select the specific file to Save.

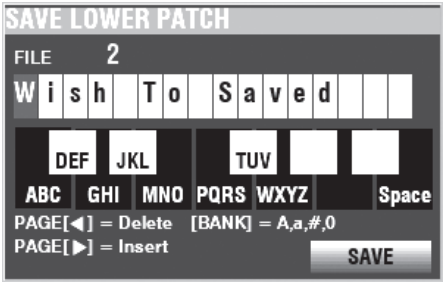
❸ TO

Select the location to which to Save the selected file. You can either overwrite an existing file or select "New File" to Save your file as a new file.

❹ SAVE

Move the cursor to the [**SAVE**] icon and press the [ENTER] button.

④ NAME THE FILE



Enter the Name.

DIRECTION [◀][▶] .....Move the cursor in the text area.
DIRECTION [▲][▼] .....Move the cursor between the text area and the [**SAVE**] icon.
[VALUE] knob .....Change the letter.
PAGE [◀] .....Delete the letter.
PAGE [▶] .....Insert a space.
Preset Keys .....Type a letter directly.
[BANK] .....Change the key's character group.

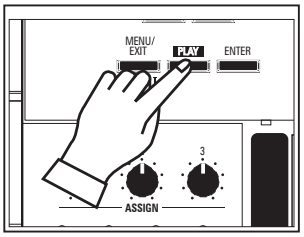
After you have finished Naming your file, move the cursor to the [**SAVE**] icon and press the [ENTER] button. The message below will display for approximately 1 second:

NOTE: Do not turn the power "OFF" while the above message is displaying.

NOTE: If you DO NOT wish to Save, press the [MENU/EXIT] button instead of the [ENTER] button.

After pressing the [ENTER] button, the above message will display for approximately 1 second:

⑤ RETURN TO THE PLAY MODE



Press the [PLAY] button to return to the PLAY Mode.

tips **FILE NAMES**

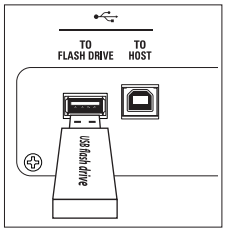
The Name you enter will be used as both the File Name (the name shown when viewing the contents of a Folder on a computer) and the content name shown in the Display on the instrument.

Also, using "Rename" to give the file a different name on a computer will not change the Name shown in the Display on the XK-7 / XK-7D.

LOAD

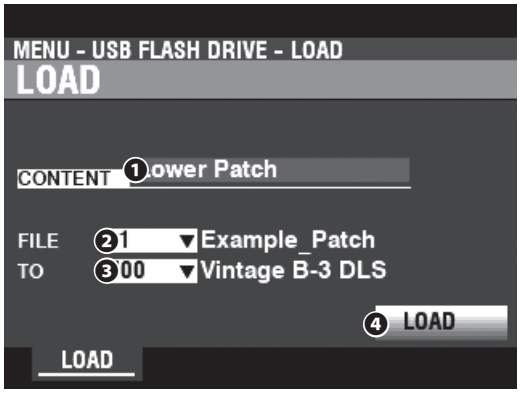
This FUNCTION Mode allows you to Load files previously Saved to a USB Flash Drive.

① INSERT A USB FLASH DRIVE



Insert a formatted USB Flash Drive into the [TO FLASH DRIVE] Port.

② LOCATE THE "LOAD" PAGE



[MENU/EXIT] - **USB FLASH DRIVE** - **LOAD** - [ENTER]

③ SELECT THE ITEM TO LOAD

Use the DIRECTION [▲] [▼] buttons and the [VALUE] knob to select the item to Load.

❶ CONTENT

Select the type of content to Load.

Setup.....Setup file.
Upper Patch..An Upper Patch.
Lower Patch..A Lower Patch.
Tone Wheel....A Custom Tone Wheel.
Contact.....A Custom Contact.
Cabinet.....A Custom Cabinet.
Pipe.....Custom Pipe.

❷ FILE

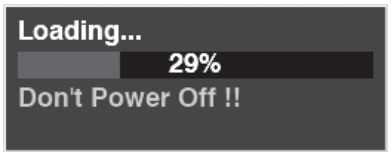
Select the file to Load.

❸ TO

Select where to Load the file.

❹ LOAD

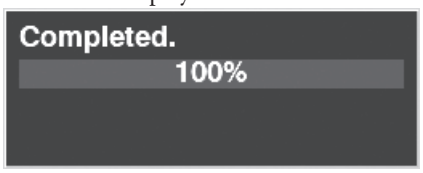
Move the cursor to the [**LOAD**] icon and press the [ENTER] button. The message below will display during loading:



NOTE: Do not turn the power "OFF" while the above message is displaying.

NOTE: If you DO NOT wish to Load, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

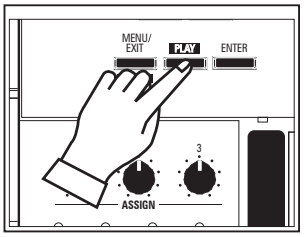
When the Display shows:



the Loading process is finished.

NOTE: While connecting between this organ and a computer via a USB cable, the connection may be interrupted for a few moments. Therefore, we recommend suspending a DAW or sequence application temporarily before the Load procedure.

④ RETURN TO THE PLAY MODE



Press the [PLAY] button to return to the PLAY Mode.

FILE COMPATIBILITY

There is file compatibility between XK-7 and XK-7D, and files (e.g. Setup) can be exchanged between them, but there are the following restrictions:

XK-7 to XK-7D

- SPLIT is disabled.
- Another assignment will appear for the ASSIGN Knobs.

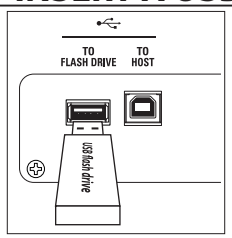
XK-7D to XK-7

- Another assignment will appear for the ASSIGN knobs.
- The XK-7 has no physical ASSIGN buttons; however, the OCTAVE buttons can be reconfigured as ASSIGN buttons. In this way, the status of ASSIGN buttons can be remembered (P. 134).

You can Record performances and Save them to a USB Flash drive as MIDI files. The Songs can be played back individually or repeated.

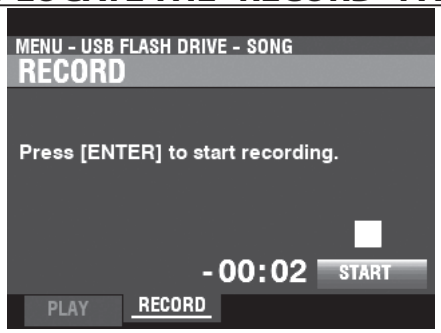
RECORD A SONG

① INSERT A USB FLASH DRIVE



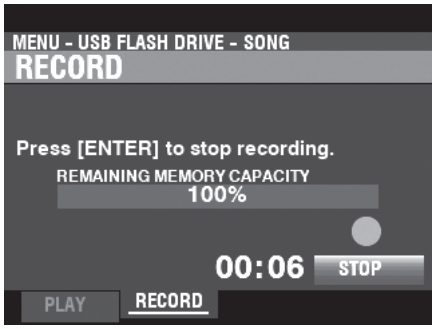
Insert a formatted USB Flash Drive into the [TO FLASH DRIVE] Port.

② LOCATE THE "RECORD" PAGE



[MENU/EXIT] - **USB FLASH DRIVE** - **SONG** - [ENTER] - **RECORD**

③ START THE RECORDING



The cursor is located on the [**RECORD**] icon.

Press the [ENTER] button. The [**STOP**] icon will be highlighted and the instrument will first perform a "dump" (transmitting the current status of the controls and Parameters).

Start playing when the counter indicates "00:00."

NOTE: The instrument will automatically stop Recording when the internal remaining Song memory is "0%."

NOTE: You can leave this Page while continuing to Record. If you want to locate this page from another display while Recording, press the red [RECORD] button.

NOTE: Recording Patches or Custom Sets is disabled while recording a Song.

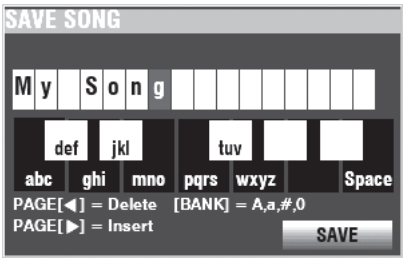
④ STOP THE RECORDING

If the **RECORD** Page is not displaying, press the [RECORD] button to locate it. The cursor will be on the [**STOP**] icon.

Press the [ENTER] button to stop the recording performance.

NOTE: The capacity of the onboard Song memory is approximately 300 kilobytes. It can record approximately 6,400 notes as 48 bytes per note.

⑤ INPUT THE SONG NAME



Enter the Name.

DIRECTION [◀][▶] ..... Move the cursor in the text area.
DIRECTION [▲][▼] ..... Move the cursor between the text area and the [**SAVE**] icon.
[VALUE] knob ..... Change the letter.
PAGE [◀] ..... Delete the letter.
PAGE [▶] ..... Insert a space.
Preset Keys ..... Type a letter directly.
[BANK] ..... Change the keys' character group.

After you have finished Naming your Song file, move the cursor to the [**SAVE**] icon and press the [ENTER] button. The message below will display for approximately 1 second:

NOTE: Do not turn the power "OFF" while the above message is displaying.

NOTE: If you DO NOT wish to Save, press the [MENU/EXIT] button instead of the [ENTER] button.

NOTE: See P. 166 for other displayed messages.

After pressing the [ENTER] button, the above message will display for approximately 1 second:

tips **WHERE YOUR SONG IS SAVED**

Your Song is saved in the "song" folder (P. 160) by Standard MIDI File Format 0.

tips **EXTERNAL ZONES NOT RECORDED**

Notes are recorded to a Song from the Internal Zones only. No External Zone data is recorded.

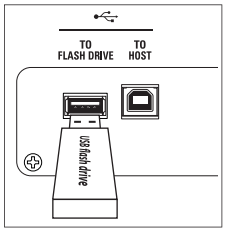
tips **SONG AND SETUP**

A Song Saved via this function will not include Setup data.

To restore the Setup data together e.g. Patch or Custom cabinet, save or load the Setup adding this procedure.

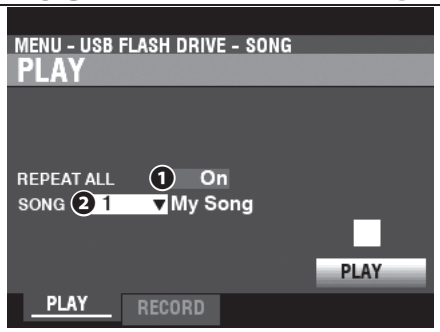
PLAYBACK SONGS

① INSERT A USB FLASH DRIVE



Insert a USB Flash Drive containing Song files previously Saved from the XK-7 / XK-7D into the [TO FLASH DRIVE] Port.

② LOCATE THE "PLAY" PAGE



[MENU/EXIT] - **USB FLASH DRIVE** - **SONG** - [ENTER] - **PLAY**

③ SELECT THE ITEM TO PLAYBACK

Use the DIRECTION [▲] [▼] buttons and the [VALUE] knob to select the item to playback.

❶ REPEAT ALL

Select the playback mode.

On.....Repeats all saved songs.
Off.....Plays a selected Song but does not repeat it.

❷ SONG

Select the Song with which to begin playback.

④ PLAYBACK

Move the cursor on the ❸[**PLAY**] icon and press the [ENTER] button. The Song file is loaded and playback will begin.

The icon is changed as [**STOP**] during playback.

NOTE: You can leave this Page while playing a song. If you want to locate this page from another display while playing back a Song, press the red [RECORD] button.

NOTE: Recording Patches or Custom Sets is disabled while playing back a Song.

⑤ STOP

If the **PLAY** Page is not displaying, press the [RECORD] button to locate it.

Move the cursor to the ❸[**STOP**] icon.

Press the [ENTER] button to stop the playback.

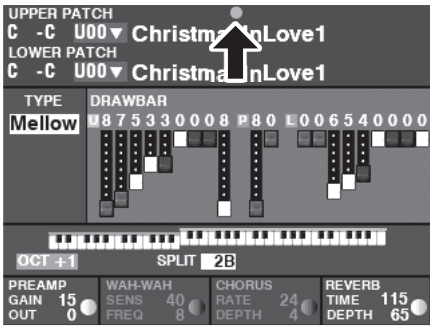
The icon is changed to [**PLAY**] when not playing back.

tips PLAYING ORDER

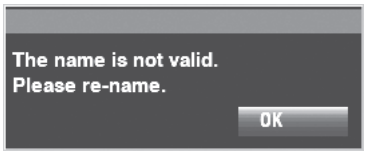
When Repeat All is "On," Songs will play in ascending order of their names (0, 1, 2, ... A, B, C...).

tips INDICATING SONG STATUS IN OTHER MODES

When the Display is moved to another Mode, the Song status is indicated at the upper portion of the Display via a blinking symbol.



tips MESSAGES AND ACTION



An invalid name (e.g. null) has been entered.

Press the [ENTER] button and give a valid Name to the file.

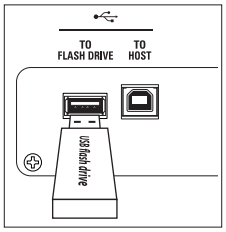
A file by the entered Name is already in memory.

Select "NO" to enter another Name and save the file, or select "YES" to overwrite the existing file with a new file with the same Name.

DELETE

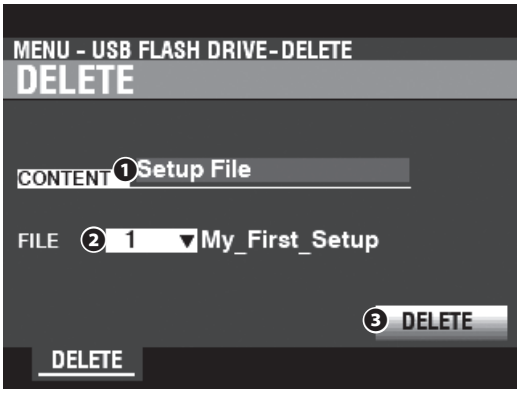
This FUNCTION Mode allows you to Delete content previously saved to a USB Flash Drive.

① INSERT A USB FLASH DRIVE



Insert a USB Flash Drive containing files previously Saved from the XK-7 / XK-7D into the [TO FLASH DRIVE] Port.

② LOCATE THE "DELETE" PAGE



[MENU/EXIT] - **USB FLASH DRIVE** - **DELETE** - [ENTER]

③ SELECT THE ITEM TO DELETE

Use the DIRECTION [▲] [▼] buttons and the [VALUE] knob to select the item to Delete.

❶ CONTENT

Settings: Setup File, Upper Patch, Lower Patch, Tone Wheel, Contact, Cabinet, Pipe, Song

Select the type of content to Delete.

❷ FILE

Select the file to Delete.

❸ DELETE

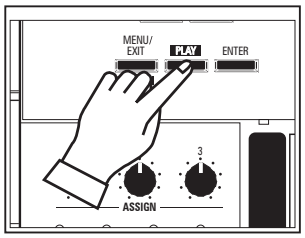
Move the cursor to the [**DELETE**] icon and press the [ENTER] button. The message below will display for approximately 1 second:

NOTE: Do not turn the power "OFF" while the above message is displaying.

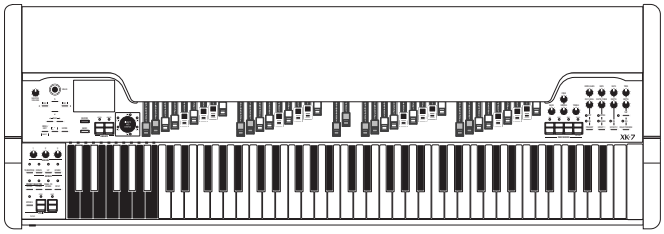
NOTE: If you DO NOT wish to Delete, press the [MENU/EXIT] or [PLAY] button instead of the [ENTER] button.

After Delete has completed, the message above will display for approximately 1 second:

④ RETURN TO THE PLAY MODE



Press the [PLAY] button to return to the PLAY Mode.



TROUBLESHOOTING

TROUBLESHOOTING

The XK-7 / XK-7D appears complicated; however, most troubles generally can be isolated by observing the operation of the various controls. This is illustrated by the following list of possible troubles, arranged according to their symptoms.

NOTE: It is assumed that the entire instrument plays properly with the exception of the symptoms mentioned.

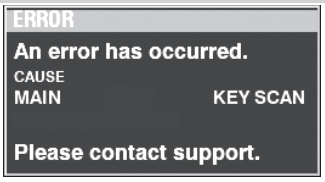
TROUBLES

- **No sound.**
  - MIDI Local Control is set to "OFF." Turn the Local Control "ON." ⇨ P. 155.
  - A Leslie Speaker Cabinet is connected. The sound of the Rotary Channel (Tone Wheel and Transistor Organs) does not appear at the [LINE OUT] or [PHONES] jacks when a Leslie Speaker is connected via the Leslie® socket.
  - Rotary Out is set at "Used." Set at "Not Used" if the [ROTARY OUT] jack is not connected. ⇨ P. 128
- **Malfunction of buttons, keys, etc.**
  - Turn the power to the instrument "OFF," then turn it "ON" again. If this procedure is not successful,
    1. Turn the power to the instrument "OFF."
    2. Press and Hold the [RECORD] button.
    3. While holding the [RECORD] button, turn the power to the instrument "ON." All Parameters will return to their factory settings.
- **Expression Pedal does not work.**
  - The EXPRESSION - SOURCE Parameter is not set properly. Set the Parameter for the function you wish. ⇨ P. 132
  - The SOURCE setting for a EFFECT 1 is "Exp." Set the Parameter at one of the other settings. ⇨ P. 89 or 90
- **Foot Switch does not work.**
  - The Parameters for the Foot Switch are not set properly. Check the Parameter settings for the Foot Switch. ⇨ P. 130
- **Foot Switch effect works when the Foot Switch is released instead of depressed.**
  - The Foot Switch Polarity was not detected. Connect the Foot Switch with the power to the organ "OFF" and turn the power "ON" without depressing the Foot Switch. ⇨ P. 130
- **[MENU/EXIT] and/or [RECORD] buttons do not work.**
  - The Display is Locked. Unlock the Display. ⇨ P. 69
- **Sticking Notes.**
  - 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 as "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 [▲][▼] 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.

ERROR MESSAGES



If the above message displays, please consult your authorized Hammond Dealer.

If the above message displays after the instrument is first turned "ON," one or more files necessary for operation of the instrument is missing.

You can identify the missing file(s) using the **INFORMATION** page (P. 144). The missing file(s) will display "---" instead of a version number.

Prepare a USB Flash Drive with the missing update files and complete the system update. Press the [ENTER] button with the [**UPDATE**] icon highlighted to start the Update procedure (P. 145).

APPENDIX

FACTORY PATCHES

Patch #	Bank	Key	Category	UPPER Name		LOWER and PEDAL Name	
F00	C	C	Showcase	Dr. L.S.	U	Dr. L.S.	L
F01	C	C♯	Showcase	Squabble	U	Squabble	L
F02	C	D	Showcase	Rock	U	Rock	L
F03	C	D♯	Showcase	Classic Rock	U	Classic Rock	L
F04	C	E	Showcase	Booker	U	Booker	L
F05	C	F	Showcase	Vx Reeds	U	Vx Reeds	L
F06	C	F♯	Showcase	Strings Ens Farf	U	Strings Ens Farf	L
F07	C	G	Showcase	Principal Chorus + Mixture	U	Principal Chorus + Mixture	L
F08	C	G♯	Showcase	Full Theatre	U	Full Theatre	L
F09	C	A	Showcase	Full Overdrive	U	Full Overdrive	L
F10	C♯	C	Rock	First 3 Overdrive	U	First 3 Overdrive	L
F11	C♯	C♯	Rock	Joe's M-3	U	Joe's M-3	L
F12	C♯	D	Rock	Power Comp	U	Power Comp	L
F13	C♯	D♯	Rock	Power Solo 1	U	Power Solo 1	L
F14	C♯	E	Rock	Power Solo 2	U	Power Solo 2	L
F15	C♯	F	Rock	Kinda Brian	U	Kinda Brian	L
F16	C♯	F♯	Rock	Mark's Foot Stmp	U	Mark's Foot Stmp	L
F17	C♯	G	Rock	Spencer Wood	U	Spencer Wood	L
F18	C♯	G♯	Rock	Jerry C.	U	Jerry C.	L
F19	C♯	A	Rock	Solo & Comp	U	Solo & Comp	L
F20	D	C	Classic Pipe	Principal Chorus	U	Principal Chorus	L
F21	D	C♯	Classic Pipe	Stopped Flute Chorus		Principal 4′ & 2′	
F22	D	D	Classic Pipe	Gamba Celeste		Flute Harmonique	
F23	D	D♯	Classic Pipe	Sesquialtera II		Gedeckt 8′	
F24	D	E	Classic Pipe	Stopped Flute 16′ & 8′		Melodia 8′	
F25	D	F	Classic Pipe	Diapason 8′ & 4′	U	Diapason 8′ & 4′	L
F26	D	F♯	Classic Pipe	Bourdon 16′ & Prin 2′		Principal 16′ & 8′	
F27	D	G	Classic Pipe	Flutes w/Trem		Gedeckt 8′ w/Trem	
F28	D	G♯	Classic Pipe	Hautbois Solo		Diapason 8′	
F29	D	A	Classic Pipe	Sforzando	U	Sforzando	L
F30	D♯	C	Theatre Pipe	Tibia 8′		Clarinet 8′	
F31	D♯	C♯	Theatre Pipe	Tibia 8′ & 4′		Diapason 8′	
F32	D♯	D	Theatre Pipe	Style D Trumpet 8′		Diapason & Vox	
F33	D♯	D♯	Theatre Pipe	Oboe 8′ & Tibia 4′		Diapason & Clarinet	
F34	D♯	E	Theatre Pipe	Tibias 16′ & 4′		Diapason & Flute	
F35	D♯	F	Theatre Pipe	Brass Trumpet 8′		Diapason & Oboe	
F36	D♯	F♯	Theatre Pipe	Tibias, Strings & Voxes		Diapason & Strings	
F37	D♯	G	Theatre Pipe	Tibia 16′ 8′ 2′ & Vox		Diapason Flute & Vox	
F38	D♯	G♯	Theatre Pipe	Full Tibias & Voxes		Diapason 8 & 4 & Vox	
F39	D♯	A	Theatre Pipe	Full Comb + Posthrn		Full Accomp.	
F40	E	C	DB Tibia	DB 8′ 4′		DB 8′ 4′ 64	
F41	E	C♯	DB Tibia	DB 8′ 2′		DB 8′ 2′ 62	
F42	E	D	DB Tibia	DB 8′ 1′		DB 8′ 4′ 2⅔′	
F43	E	D♯	DB Tibia	DB 8′ 4′ 2′		DB 8′ & 4′ 84	
F44	E	E	DB Tibia	DB 16′ 8′		DB 8′ & 4′ 61	
F45	E	F	DB Tibia	DB 16′ 4′		DB 8′ & 4′ 65	
F46	E	F♯	DB Tibia	DB 16′ 8′ 2′		DB 8′ & 4′ 73	
F47	E	G	DB Tibia	DB 16′ 8′ 4′ & 2′		DB 8′ & 4′ 87	
F48	E	G♯	DB Tibia	DB 16′ 8′ 4′ 2′ & 1′		DB 8′ 4′ 2′	
F49	E	A	DB Tibia	DB Full Organ		DB Ensemble	

The "U" and "L" at the end of the Patch Name indicates UPPER and LOWER Parts.

Patch #	Bank	Key	Category	UPPER Name		LOWER and PEDAL Name	
F50	F	C	Pop	Sylvia	U	Sylvia	L
F51	F	C♯	Pop	Lady	U	Lady	L
F52	F	D	Pop	Yeh Yeh	U	Yeh Yeh	L
F53	F	D♯	Pop	Season Time	U	Season Time	L
F54	F	E	Pop	On a Clear Day	U	On a Clear Day	L
F55	F	F	Pop	Twee motten	U	Twee motten	L
F56	F	F♯	Pop	Toccata Live	U	Toccata Live	L
F57	F	G	Pop	Je t'aime moi -+	U	Je t'aime moi -+	L
F58	F	G♯	Pop	Early Bird	U	Early Bird	L
F59	F	A	Pop	Bluesette	U	Bluesette	L
F60	F♯	C	Vx.	Vx Mellow	U	Vx Mellow	L
F61	F♯	C♯	Vx.	Vx Bright	U	Vx Bright	L
F62	F♯	D	Vx.	Vx Mixture	U	Vx Mixture	L
F63	F♯	D♯	Farf.	Farf Flute	U	Farf Flute	L
F64	F♯	E	Farf.	Farf Brass	U	Farf Brass	L
F65	F♯	F	Farf.	Farf Reeds	U	Farf Reeds	L
F66	F♯	F♯	Farf.	Farf Strings	U	Farf Strings	L
F67	F♯	G	Farf.	Farf Full	U	Farf Full	L
F68	F♯	G♯	Ace.	Ace Flute	U	Ace Flute	L
F69	F♯	A	Ace.	Ace Strings	U	Ace Strings	L
F70	G	C	Contemporary	Summer Samba	U	Summer Samba	L
F71	G	C♯	Contemporary	Pumping Compress	U	Pumping Compress	L
F72	G	D	Contemporary	Touch Wah	U	Touch Wah	L
F73	G	D♯	Contemporary	Ring + Flanged Jazz	U	Ring + Flanged Jazz	L
F74	G	E	Contemporary	California Girl	U	California Girl	L
F75	G	F	Contemporary	Won't Get Fooled	U	Won't Get Fooled	L
F76	G	F♯	Contemporary	[TAP] To Delay Time	U	[TAP] To Delay Time	L
F77	G	G	Contemporary	Drawbar Celesta	U	Drawbar Celesta	L
F78	G	G♯	Contemporary	Interference	U	Interference	L
F79	G	A	Contemporary	Talking Drawbars	U	Talking Drawbars	L
F80	G♯	C	B-3/C-3 Theatre	Cancel (P. 37)		Cancel	
F81	G♯	C♯	B-3/C-3 Theatre	French Horn 8′		Cello 8′	
F82	G♯	D	B-3/C-3 Theatre	Tibial 8′ & 2′		Dulciana 8′	
F83	G♯	D♯	B-3/C-3 Theatre	Clarinet 8′		Vibraharp 8′	
F84	G♯	E	B-3/C-3 Theatre	Novel Solo 8′		Vox 8′ & Tibia 4′	
F85	G♯	F	B-3/C-3 Theatre	Theatre Solo 16′		String Accomp. 8′	
F86	G♯	F♯	B-3/C-3 Theatre	Oboe Horn 8′		Open Diapason 8′	
F87	G♯	G	B-3/C-3 Theatre	Full Tibias 16′		Full Accomp. 8′	
F88	G♯	G♯	B-3/C-3 Theatre	Trumpet 8′		Tibia 8′	
F89	G♯	A	B-3/C-3 Theatre	Full Theatre Brass 16′		Bombarde 16′	
F90	A	C	B-3/C-3 Liturgical	Cancel		Cancel	
F91	A	C♯	B-3/C-3 Liturgical	Stopped Flute		Cello	
F92	A	D	B-3/C-3 Liturgical	Dulciana		Flute & String	
F93	A	D♯	B-3/C-3 Liturgical	French Horn		Clarinet	
F94	A	E	B-3/C-3 Liturgical	Salicional		Diapason, Gamba & Flute	
F95	A	F	B-3/C-3 Liturgical	Flutes 8′ & 4′		Great, no reeds	
F96	A	F♯	B-3/C-3 Liturgical	Oboe Horn		Open Diapason	
F97	A	G	B-3/C-3 Liturgical	Swell Diapason		Full Great	
F98	A	G♯	B-3/C-3 Liturgical	Trumpet		Tibia Clausa	
F99	A	A	B-3/C-3 Liturgical	Full Swell		Full Great with 16′	

Banks [G♯] and [A] recall Drawbar registrations only. See P. 138 ("Patch Load").

CUSTOM SETS

CUSTOM TONE WHEELS

Each Custom Tone Wheel replicates the model and serial number indicated.

F1: B-3 A27563

F2: B-3 #364839

F3: A-102 #35564

F4: L-112 E220679

CUSTOM CONTACTS

F1: B-3 A27563

Replicates B-3, serial number #A27563.

F2: Regular

Replicates the normal characteristics of a B-3/C-3. The Drawbar harmonics add from high (1′) to low (16′) when a key is pressed.

F3: Single

All the Drawbar harmonics sound simultaneously when a key is pressed.

CUSTOM SUB DRAWBARS

Each Custom Sub-Drawbar replicates the model and serial number indicated. "Solid" refers to a generic electronic organ.

F1: B-3 A27563

F2: B-3 #364839

F3: A-102 #35564

F4: Solid

CUSTOM LESLIE CABINETS

F1: 122 Gentle

122 speaker system (with a large enclosure and distinctive horn driver), picking up sound from the rear, resulting in a smooth modulation and located at the center when listening through stereo speakers.

F2: 122 Wild

122 speaker system, picking up sound from the front and using microphone settings that produce intense modulation and left and right spread.

F3: 122 Hot

122 speaker system, picking up sound from the rear and using microphone settings that provide deep modulation and a "spread" from left to right.

F4: 122 Bs Stop

122 speaker system, picking up sound from the front side and simulating the bass (drum) rotor being stopped.

F5: 31H

31H speaker system, picking up sound from the rear, achieving smooth modulation and a microphone setting that gives it just the right presence when heard to through stereo speakers.

F6: 147 Gentle

147 speaker system (with a large enclosure and having a wide range frequency response) picking up sound from the rear, resulting in a smooth modulation and located at the center when listening to through stereo speakers.

F7: 147 Wild

147 speaker system, picking up sound from the front and using microphone settings that produce intense modulation and left and right spread.

F8: 145 Gentle

145 speaker system with a middle enclosure and having a slightly narrowed frequency response to pick up sound from the rear, resulting in a smooth modulation. If this cabinet is heard through stereo speakers, the sound will be located in the center.

F9: 145 Wild

145 speaker system, picking up sound from the front and using microphone settings that produce intense modulation and left and right spread.

F10: PR-40

Replicates a Hammond PR-40 Tone Cabinet.

CUSTOM PIPES

F1: Classic 1

A Classical Pipe set suitable for general-purpose playing.

F2: Classic 2

A Classical Pipe set suitable for Baroque music (Bach, Buxtehude, etc.).

F3: Theatre 1

Theatre stops based on Wurlitzer Style 210.

F4: Theatre 2

Theater stops based on Wurlitzer Style 260 Special.

PIPE ORGAN STOPS

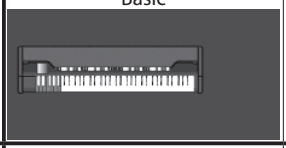
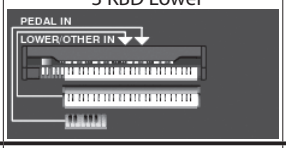
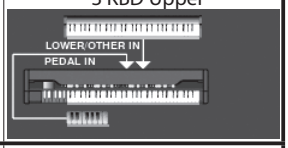
#	Pipe Voice
1	C-Open Diapason
2	C-Principal
3	C-Diapason
4	C-Bourdon 1
5	C-Bourdon 2
6	C-Gedeckt
7	C-Rohr Flute
8	C-Flute Hamonic
9	C-Flautino
10	C-Voix Cele II
11	C-Clarinet
12	C-Hautbois
13	C-Oboe
14	C-Vox Humana
15	C-Trompette
16	C-Cornet V

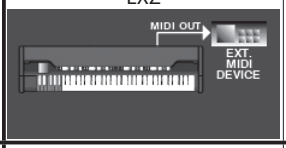
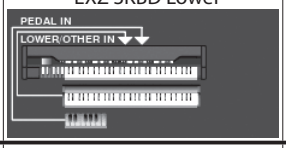
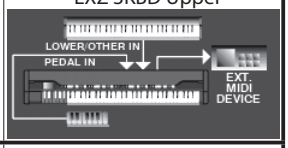
#	Pipe Voice
17	C-Mixture III
18	C-Mixture IV
19	C-Sesquialtera II
20	C-Reserved 1
21	C-Reserved 2
22	T-Tibia Clausa
23	T-Brass Saxophone
24	T-Brass Trumpet
25	T-Clarinet
26	T-English PostHorn
27	T-Orchestral Oboe
28	T-Style D Trumpet
29	T-Viol d'Orchestre
30	T-Vox Humana
31	T-Viol Celeste
32	T-Reserved 1

#	Pipe Voice
33	T-Reserved 2
34	P-ConVln 32' & Brdn 16'
35	P-ConBmb 32' & Prn 16'
36	P-ConBrdn 32' & Flte 16'
37	P-Trompette 16'
38	P-Fagott 16'
39	P-SubBs 16' & Gedeckt 8'
40	P-Diapason 8' & Flute 4'
41	P-PrnChors 8' + Mixt IV
42	P-Tibia 16' & Flute 8'
43	P-Diap 16' & PostHorn
44	P-Cornopean
45	P-Reserved 1
46	P-Reserved 2

C Classical
T Theatre
P Pedal

MIDI TEMPLATES

Template		Basic	*3 KBD Lower	*3 KBD Upper
				
General	MIDI IN	Sequence	Lower	Upper
	VMC Depth	64	64	64
	Local Control	On	On	On
	Individual Parameters	NRPN	NRPN	NRPN
	Program Change	On	On	On
	Drawbar Registration	On	On	On
External Zones	External Zones	Off	Off	Off
	Program Change	Off	Off	Off
	Control Change	Off	Off	Off
	Octave To External Zones	Off	Off	Off
Transmit Channel	Tx. Upper	1	1	1
	Tx. Lower	2	2	2
	Tx. Pedal	3	3	3
	Tx. Multi-Contact	Off	Off	Off
	Rx. Upper	1	1	1
	Rx. Lower	2	2	2
	Rx. Pedal	3	3	3
	Rx. Multi-Contact	Off	Off	Off
Comments		Play with this organ (and Pedalboard). (†1)	Play with this organ and LOWER Keyboard (and Pedalboard). (†1)	Play with this organ and UPPER Keyboard (and Pedalboard). (†1)

Template		EXZ	*EXZ 3KBD Lower	*EXZ 3KBD Upper
				
General	MIDI IN	Sequence	Lower	Upper
	VMC Depth	64	64	64
	Local Control	On	On	On
	Individual Parameters	NRPN	NRPN	NRPN
	Program Change	On	On	On
	Drawbar Registration	On	On	On
External Zones	External Zones	On	On	On
	Program Change	On	On	On
	Control Change	On	On	On
	Octave To External Zones	Off	Off	Off
Transmit Channel	Tx. Upper	Off	Off	Off
	Tx. Lower	Off	Off	Off
	Tx. Pedal	Off	Off	Off
	Tx. Multi-Contact	Off	Off	Off
	Rx. Upper	1	1	1
	Rx. Lower	2	2	2
	Rx. Pedal	3	3	3
	Rx. Multi-Contact	Off	Off	Off
Comments		Play with this organ (and Pedalboard). (†2)	Play with this organ and LOWER Keyboard (and Pedalboard). (†2)	Play with this organ and UPPER Keyboard (and Pedalboard). (†2)

* XK-7 only.

†1 The performance information will be sent to MIDI OUT (including USB MIDI), and can be recorded by an external sequencer.

†2 The External Zones of this organ control external MIDI equipment(s) (including USB MIDI).

MIDI IMPLEMENTATION

LEGEND

n=MIDI Channel Number: 0H – FH (Ch. 1 – 16)

CHANNEL VOICE MESSAGES

Note Off

Status	2nd	3rd		Description
8nH	kkH	vvH, or	kk	Note Number: 00H – 7FH (0 – 127)
9nH	kkH	00H	vv	Velocity: 00H – 7FH (0 – 127)

Note On

Status	2nd	3rd		Description
9nH	kkH	vvH	kk	Note Number: 00H – 7FH (0 – 127)
			vv	Velocity: 00H – 7FH (0 – 127)

Control Change

Bank Select (CC#0, 32)

Status	2nd	3rd		Description
BnH	kkH	mmH	mm	Bank MSB (00H = User, 01H = Factory, 64H to 6DH = Bank [C] to [A]
BnH	20H	llH	ll	Bank LSB (always 00H)

Modulation (CC#1)

Status	2nd	3rd		Description
BnH	01H	vvH	vv	Continuous Speed of the Digital Leslie: 00H – 7FH (Slow – Fast)

Volume (CC#7)

Status	2nd	3rd		Description
BnH	07H	vvH	vv	Volume: 00H – 7FH (0 – 127) Controls present (hidden) Master Volume. 127 at powered ON.

Expression (CC#11)

Status	2nd	3rd		Description
BnH	0BH	vvH	vv	Expression: 00H – 7FH (0 – 127)

Spring Shock (CC#48)

Status	2nd	3rd		Description
BnH	30H	vvH	vv	Velocity: 01H – 7FH (1 – 127)

TW Brake (CC#49)

Status	2nd	3rd		Description
BnH	31H	vvH	vv	Value: 00H – 7FH (0 – 127) 0 – 63 = "Off," 64 – 127 = "On"

Damper (CC#64)

Status	2nd	3rd		Description
BnH	40H	vvH	vv	Value: 00H – 7FH (0 – 127) 0 – 63 = "Off," 64 – 127 = "On"

Sostenuto (CC#66)

Status	2nd	3rd		Description
BnH	42H	vvH	vv	Value: 00H – 7FH (0 – 127) 0 – 63 = "Off," 64 – 127 = "On"

Sustain Active (CC#69)

Status	2nd	3rd		Description
BnH	45H	vvH	vv	Value: 00H – 7FH (0 – 127) 0 – 63 = "Off," 64 – 127 = "On"

ProChord Active (CC#85)

Status	2nd	3rd		Description
BnH	55H	vvH	vv	Value: 00H – 7FH (0 – 127) 0 – 63 = "Off," 64 – 127 = "On"

Leslie Fast (CC#92)

Status	2nd	3rd		Description
BnH	5CH	vvH	vv	Value: 00H – 7FH (0 – 127) 0 – 63 = "Off," 64 – 127 = "On" This Control for receive only.

NRPN MSB/LSB (CC#98, 99)

Status	2nd	3rd		Description
BnH	63H	mmH	mm	MSB: 00 – 7FH
BnH	62H	llH	ll	LSB: 00 – 7FH

Data Entry MSB/LSB (CC#6, 38)

Status	2nd	3rd		Description
BnH	06H	mmH	mm	MSB: 00 – 7FH
BnH	26H	llH	ll	LSB: 00 – 7FH

Program Change

Status	2nd		Description
CnH	ppH	pp	Program Number: 00H – 63H (Patch 0 – 127) 64H – 6DH (Favorite Key [C] to [A]) 7E, 7F (Adjust [A♯], [B])

Pitch Bend

Status	2nd	3rd		Description
EnH	llH	mmH	mm	MSB
			ll	LSB 00H 00H – 00H 40H – 7FH 7FH (-8192 – 0 – +8191)

Example of operation

ex: select Patch# F15 for the Upper Part

Bx 00 01 Bx 20 00 Cx 0F (x=UPPER Channel)

ex: select Favorite Bank[C♯], Key[F] for the Upper Part

Bx 00 65 Bx 20 00 Cx 69 (x=UPPER Channel)

ex: select Adjust [B] for the Upper Part

Cx 7F (x=UPPER Channel)

CHANNEL MODE MESSAGES

All Sounds Off (CC#120)

Status	2nd	3rd	Description
BnH	78H	00H	When this message is received, all currently-sounding notes on the corresponding channel will be turned off immediately.

Reset All Controllers (CC#121)

Status	2nd	3rd	Description
BnH	79H	00H	When this message is received, the following controllers will be set to their reset values: Expression: 127, TW Brake: Off, Damper: Off, Sustain: Off, Sostenuto: Off NRPN: unset; previously set data will not change

All Notes Off (CC#123)

Status	2nd	3rd	Description
BnH	7BH	00H	When All Notes Off is received, all notes on the corresponding channel will be turned off. However if Hold 1 or Sostenuto is ON, the sound will continue until these are turned off.

DRAWBAR DATA LIST

	Control Number								
Part	16′	5 1⁄3′	8′	4′	2 2⁄3′	2′	1 3⁄5′	1 1⁄3′	1′
Upper	0CH(12)	0DH(13)	0EH(14)	0FH(15)	10H(16)	11H(17)	12H(18)	13H(19)	14H(20)
Lower	15H(21)	16H(22)	17H(23)	18H(24)	19H(25)	1AH(26)	1BH(27)	1CH(28)	1DH(29)
Pedal	21H(33)	-	23H(35)	-	-	-	-	-	-

	Level								
	0	1	2	3	4	5	6	7	8
Value	00 - 0FH (0 - 15)	10 - 1FH (16 - 31)	20 - 2FH (32 - 47)	30 - 3FH (48 - 63)	40 - 4FH (64 - 79)	50 - 5FH (80 - 95)	60 - 6FH (96 - 111)	70 - 7EH (112-126)	7FH (127)

ex: Set Lower 8′ to level 7 via MIDI. Bx 17 70 (x=UPPER Channel)

SYSTEM EXCLUSIVE MESSAGES

MEMORY DUMP

1. Each Packet (139 Bytes)

F0	System Exclusive
55	SUZUKI ID
dd	Device ID (refer to P. 157)
10	Model ID MSB
26	Model ID LSB
11	Command: Data Packet
[TYPE]	Data Type 07H = Temp. Dump 08H = A♯ and B keys Dump 0AH = System Dump
[PNH]	Packet Number MSB
[PNL]	Packet Number LSB
[DATA]	64 Bytes Data 128 Bytes nibblized ASCII ex: 7EH = 37H, 45H
[CHD]	Check Digit Lower 7 bits of XOR [DATA]
F7	End Of Exclusive

2. Acknowledge

F0	System Exclusive
55	SUZUKI ID
dd	Device ID
10	Model ID MSB
26	Model ID LSB
14	Command: Acknowledge
[TYPE]	Data Type
[AK]	Result 00H = OK 05H = Check Digit Error 06H = Receive Protected
[PNH]	Packet Number MSB
[PNL]	Packet Number LSB
F7	End Of Exclusive

3. # of Packets

Temp. Dump: 6 (Temporary) + 11 (A♯ and B keys)
System Dump: 13

DUMP REQUEST (Rx. Only)

F0	System Exclusive
55	SUZUKI ID
dd	Device ID
10	Model ID MSB
26	Model ID LSB
12	Command: Dump Request
[TYPE]	Data Type 07H = Temp. Dump (replies 07H and 08H) 0AH = System Dump
F7	End Of Exclusive

NRPN SWITCH

F0	Suzuki Exclusive
55	SUZUKI ID
dd	Device ID
10	Model ID MSB
26	Model ID LSB
02	Command: NRPN Sw.
[DATA]	00: Off 01: NRPN 02: Sys Ex
F7	End Of Exclusive

When this instrument receives this message, switch Tx & Rx Individual Messages in the UPPER channel.

DATA SET

F0	System Exclusive
55	SUZUKI ID
dd	Device ID
10	Model ID MSB
26	Model ID LSB
13	Command: Data Set
[ADDRESS]	Address (5 bytes, MSB to LSB)
[DATA]	Data (Flexible bytes)
F7	End Of Exclusive

IDENTITY REQUEST (RX. ONLY)

F0	System Exclusive
7E	Universal non real-time
dd	Device ID
06	Sub ID #1
01	Sub ID #2
F7	End Of Exclusive

IDENTITY REPLY (TX. ONLY)

F0	System Exclusive
7E	Universal non real-time
dd	Device ID
06	Sub ID #1
02	Sub ID #2
55	SUZUKI ID
00 10	Device Family code
00 26	Device Family number
00 00	
00 00	
F7	End Of Exclusive

When Identity Request is received, Identity Reply will be transmitted.

PATCH PARAMETERS

Category	Parameter	NRPN		SysEx Address					SysEx Length	Data
		MSB (63)	LSB (62)	MSB to LSB						The data length 01 uses only MSB, length 02 uses MSB and LSB.
Name Upper		--	--	00	00	10	00	00	10	16 letters
Name Lower		--	--	00	00	10	00	01	10	16 letters
Internal Zones	Octave Upper	1A	00	00	00	00	1A	00	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Split On	1A	01	00	00	00	1A	01	01	00, 01 (Off, On)
	Split Point	1A	02	00	00	00	1A	02	01	00 – 7F: note number
	Octave Split Lower	1E	00	00	00	00	1E	00	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Octave Real Lower	1E	01	00	00	00	1E	01	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Pedal to Lower On	1E	02	00	00	00	1E	02	01	00, 01 (Off, On)
	Pedal to Lower Mode	1E	03	00	00	00	1E	03	01	00 – 02 (Lowest, Chord, Poly)
	Pedal to Lower Upper Limit	1E	04	00	00	00	1E	04	01	00 – 7F: note number
	Octave Pedal	21	00	00	00	00	21	00	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Lower to Pedal On	21	01	00	00	00	21	01	01	00, 01 (Off, On)
	Lower to Pedal Upper Limit	21	02	00	00	00	21	02	01	00 – 7F: note number
External Zones x= 0: Upper 1 1: Upper 2 2: Upper 3 3: Lower 1 4: Lower 2 5: Pedal	Octave	3x	05	00	00	00	3x	05	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Transpose	3x	06	00	00	00	3x	06	02	3F 7A – 40 00 – 40 06 (-6 – ±0 – +6)
	On	3x	00	00	00	00	3x	00	01	00, 01 (Off, On)
	MIDI Channel	3x	01	00	00	00	3x	01	01	00 – 0F (1 – 16)
	Bank Select MSB	3x	02	00	00	00	3x	02	01	00 – 7F (0 – 127)
	Bank Select LSB	3x	03	00	00	00	3x	03	01	00 – 7F (0 – 127)
	Program Change	3x	04	00	00	00	3x	04	01	00 – 7F (0 – 127)
	Key Range Low	3x	07	00	00	00	3x	07	01	00 – 7F: note number
	Key Range High	3x	08	00	00	00	3x	08	01	00 – 7F: note number
	Volume	3x	09	00	00	00	3x	09	01	00 – 7F (0 – 127)
	Pan	3x	0A	00	00	00	3x	0A	01	00 – 40 – 7F (Left – Center – Right)
	Velocity Curve	3x	0B	00	00	00	3x	0B	01	00 – 04 (Off, Hard – Easy)
	Damper Enable	3x	0C	00	00	00	3x	0C	01	00, 01 (Off, On)
	Expression Enable	3x	0D	00	00	00	3x	0D	01	00, 01 (Off, On)
	Expression Minimum	3x	0E	00	00	00	3x	0E	01	00 – 3F (0 – 63)
	Expression Maximum	3x	0F	00	00	00	3x	0F	01	40 – 7F (64 – 127)
	Expression CC	3x	10	00	00	00	3x	10	01	00, 01, 02 (Off, 7, 11)
Control Upper	TW Brake Range	18	00	00	00	00	18	00	01	34 – 64 – 4C (-24 – 0 – +12)
	TW Brake Time	18	01	00	00	00	18	01	01	0 – 31 (0.1 – 5.0sec)
	TW Brake Amp	18	02	00	00	00	18	02	01	00, 01 (Off, On)
	Damper Enable Upper	18	03	00	00	00	18	03	01	00, 01 (Off, On)
	Pitch Bend Up	18	04	00	00	00	18	04	01	00 – 0C (0 – 12 semitones)
	Pitch Bend Down	18	05	00	00	00	18	05	01	00 – 18 (0 – 24 semitones)
	ProChord Mode	18	06	00	00	00	18	06	01	00, 01, 02 (Off, Close, Open)
Control Lower	Damper Enable Lower	1D	01	00	00	00	1D	01	01	00, 01 (Off, On)
Control Pedal	Damper Enable Pedal	20	00	00	00	00	20	00	01	00, 01 (Off, On)
Control Assignable (XK-7)	Knob 1 (XK-7)	19	00	00	00	00	19	00	01	00 – 17 00: Off 01: Keyclick Level 02: Leakage Level 03: Tone Control Value 04: TR Vibrato Rate 05: Tremulant Rate 06: Sustain LengthU 07: Sustain Length L 08: Sustain Length P 09: Pitch Bend 0A: Expression 0B: Modulation 0C, 0D: EXZ U1 Volume,Pan 0E, 0F: EXZ U2 Volume,Pan 10, 11: EXZ U3 Volume,Pan 12, 13: EXZ L1 Volume,Pan 14, 15: EXZ L2 Volume,Pan 16, 17: EXZ P Volume,Pan 18, 19, 1A: EXZ U1, 2, 3 CC 1B, 1C: EXZ L1, 2 CC 1D: EXZ P1 CC
	Knob 2	19	01	00	00	00	19	01	01	
	Knob 3	19	02	00	00	00	19	02	01	
Control Assignable (XK-7)	Button 1	19	03	00	00	00	19	03	01	00 – 0D 00: Off 01: Sustain U 02: Sustain L 03: Sustain P 04: Damper 05: Sostenuto 06: TW Brake 07: Spring 08: EXZ U1 On 09: EXZ U2 On 0A: EXZ U3 On 0B: EXZ L1 On 0C: EXZ L2 On 0D: EXZ P On
	Button 2	19	04	00	00	00	19	04	01	
	Button 3	19	05	00	00	00	19	05	01	

Category	Parameter	NRPN		SysEx Address					SysEx Length	Data
		MSB (63)	LSB (62)	MSB to LSB						The data length 01 uses only MSB, length 02 uses MSB and LSB.
Control Assignable (XK-7D and XK-7D)	Knob 1	19	06	00	00	00	19	06	01	00 – 17 00: Off 0C, 0D: EXZ U1 Volume,Pan 01: Keyclick Level 0E, 0F: EXZ U2 Volume,Pan 02: Leakage Level 10, 11: EXZ U3 Volume,Pan 03: Tone Control Value 12, 13: EXZ L1 Volume,Pan 04: TR Vibrato Rate 14, 15: EXZ L2 Volume,Pan 05: Tremulant Rate 16, 17: EXZ P Volume,Pan 06: Sustain Length U 18, 19, 1A: EXZ U1, 2, 3 CC 07: Sustain Length L 1B, 1C: EXZ L1, 2 CC 08: Sustain Length P 1D: EXZ P1 CC 09: Pitch Bend 0A: Expression 0B: Leslie Speed
	Knob 2	19	07	00	00	00	19	07	01	
	Knob 3	19	08	00	00	00	19	08	01	
Control Assignable CC (Control Change)	Knob 1	19	09	00	00	00	19	09	01	00 – 4B (0 – 75) 00: Modulation 20: Sound Variation 01: Breath 21: Resonance 02: Undefined 3 22: Release Time 03: Foot Controller 23: Attack Time 04: Portamento Time 24: Cutoff Freq 05: Balance 25-2D: Undefined 75-83 06: Undefined 9 2E: Portament Ctrl 07: Effect Ctrl 1 2E-34: Undefined 85-90 08: Effect Ctrl 2 35: Reverb Send 09-0A: Undefined 14-15 36 Leslie Fast 0B-0E: VCont 1-4 37: Chorus Send 0F-1A: Undefined 20-31 38: Delay Send 1B: Portamento 39: Phaser Send 3A-4B: Undefined 102-119
	Knob 2	19	0A	00	00	00	19	0A	01	
	Knob 3	19	0B	00	00	00	19	0B	01	
Drawbars Upper	Octave	10	00	00	00	00	10	00	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Key Range Low	10	01	00	00	00	10	01	01	00 – 7F: note number
	Key Range High	10	02	00	00	00	10	02	01	00 – 7F: note number
	Loudness	10	03	00	00	00	10	03	01	00 – 7F (0 – 127)
	Organ Type	10	04	00	00	00	10	04	01	00 – 04 00: Tone Wheel 03: Farf. 01: Mellow 04: Ace. 02: Vx.. 05: Pipe
	Key Click Level	10	05	00	00	00	10	05	01	00 – 7F (0 – 127)
	Leakage Level	10	06	00	00	00	10	06	01	00 – 7F (0 – 127)
	Custom TW	10	07	00	00	00	10	07	01	00 – 07 (U1 – F4)
	Custom Contact	10	08	00	00	00	10	08	01	00 – 05 (U1 – F3)
	Custom Pipe	10	09	00	00	00	10	09	01	00 – 07 (U1 – F4)
	Sustain Upper On	10	0A	00	00	00	10	0A	01	00, 01 (Off, On)
	Sustain Upper Length	10	0B	00	00	00	10	0B	01	00 – 09 (1 – 10)
	Impedance Reduction	10	0C	00	00	00	10	0C	01	00, 01 (Off, On)
Drawbars Lower	Octave	1B	00	00	00	00	1B	00	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Key Range Low	1B	01	00	00	00	1B	01	01	00 – 7F: note number
	Key Range High	1B	02	00	00	00	1B	02	01	00 – 7F: note number
	Sustain Lower On	1B	03	00	00	00	1B	03	01	00, 01 (Off, On)
	Sustain Lower Length	1B	04	00	00	00	1B	04	01	00 – 09 (1 – 10)
Drawbars Pedal	Octave	1F	00	00	00	00	1F	00	02	3F 7E – 40 00 – 40 02 (-2 – ±0 – +2)
	Key Range Low	1F	01	00	00	00	1F	01	01	00 – 7F: note number
	Key Range High	1F	02	00	00	00	1F	02	01	00 – 7F: note number
	Key Click Mode	1F	03	00	00	00	1F	03	01	00, 01 (Off, U&L)
	Custom Sub Drawbars	1F	04	00	00	00	1F	04	01	00 – 07 (U1 – F4)
	Key Mode	1F	05	00	00	00	1F	05	01	00, 01 (Mono, Poly)
	Sustain Pedal On	1F	07	00	00	00	1F	07	01	00, 01 (Off, On)
	Sustain Pedal Length	1F	08	00	00	00	1F	08	01	00 – 09 (1 – 10)
	Decay Pedal Length	1F	09	00	00	00	1F	09	01	00 – 0A (1 – 10, Continue)
	Effects	1F	0A	00	00	00	1F	0A	01	00, 01 (Off, On)
Percussion	On	11	00	00	00	00	11	00	01	00, 01 (Off, On)
	Harmonic	11	01	00	00	00	11	01	01	00, 01 (Second, Third)
	Fast Decay	11	02	00	00	00	11	02	01	00, 01 (Slow, Fast)
	Volume Soft	11	03	00	00	00	11	03	01	00, 01 (Normal, Soft)
	Level at Normal	11	04	00	00	00	11	04	01	00 – 7F (0 – 127)
	Level at Soft	11	05	00	00	00	11	05	01	00 – 7F (0 – 127)
	Decay at Slow	11	06	00	00	00	11	06	01	00 – 18 (0 – 24)
	Decay at Fast	11	07	00	00	00	11	07	01	00 – 18 (0 – 24)
	Drive Level	11	08	00	00	00	11	08	01	00 – 7F (0 – 127)
	Touch	11	09	00	00	00	11	09	01	00, 01 (Off, On)
	1' Cancel	11	0A	00	00	00	11	0A	01	00, 01 (Off, On)
	Drawbar Level	11	0B	00	00	00	11	0B	01	00, 01 (0, Soft)

Category	Parameter	NRPN		SysEx Address					SysEx	Data
		MSB (63)	LSB (62)	MSB to LSB					Length	
Registration Upper	16′	--	--	00	00	01	01	00	01	00 – 08 (0 – 8)
	5 1/3′	--	--	00	00	01	01	01	01	00 – 08 (0 – 8)
	8′	--	--	00	00	01	01	02	01	00 – 08 (0 – 8)
	4′	--	--	00	00	01	01	03	01	00 – 08 (0 – 8)
	2 2/3′	--	--	00	00	01	01	04	01	00 – 08 (0 – 8)
	2′	--	--	00	00	01	01	05	01	00 – 08 (0 – 8)
	1 3/5′	--	--	00	00	01	01	06	01	00 – 08 (0 – 8)
	1 1/3′	--	--	00	00	01	01	07	01	00 – 08 (0 – 8)
	1′	--	--	00	00	01	01	08	01	00 – 08 (0 – 8)
Registration Lower	16′	--	--	00	00	01	02	00	01	00 – 08 (0 – 8)
	5 1/3′	--	--	00	00	01	02	01	01	00 – 08 (0 – 8)
	8′	--	--	00	00	01	02	02	01	00 – 08 (0 – 8)
	4′	--	--	00	00	01	02	03	01	00 – 08 (0 – 8)
	2 2/3′	--	--	00	00	01	02	04	01	00 – 08 (0 – 8)
	2′	--	--	00	00	01	02	05	01	00 – 08 (0 – 8)
	1 3/5′	--	--	00	00	01	02	06	01	00 – 08 (0 – 8)
	1 1/3′	--	--	00	00	01	02	07	01	00 – 08 (0 – 8)
	1′	--	--	00	00	01	02	08	01	00 – 08 (0 – 8)
Registration Pedal	16′	--	--	00	00	01	03	00	01	00 – 08 (0 – 8)
	8′	--	--	00	00	01	03	01	01	00 – 08 (0 – 8)
Animation Upper & Lower	Vibrato Upper	12	00	00	00	00	12	00	01	00, 01 (Off, On)
	Vibrato Mode	12	01	00	00	00	12	01	01	00 – 05 (V1 – C3)
	Vibrato Type	12	02	00	00	00	12	02	01	00 – 02 (Big Box, Small Box, Metal Box)
	Vibrato Rate (TW)	12	03	00	00	00	12	03	01	00 – 7F (5.78 – 7.90 Hz)
	Vibrato Chorus Mix	12	04	00	00	00	12	04	01	00 – 40 – 7F (D64 – Even – 63V)
	Vibrato Chorus Emphasis	12	05	00	00	00	12	05	01	00 – 7F (0 – 127)
	Vibrato Rate (Transistor)	12	06	00	00	00	12	06	01	00 – 7F (0 – 127)
	Vibrato Rate (Pipe)	12	07	00	00	00	12	07	01	00 – 7F (0 – 127)
	Leslie Bypass	12	08	00	00	00	12	08	01	00, 01 (Off, On)
	Leslie Stop	12	09	00	00	00	12	09	01	00, 01 (Off, On)
	Leslie Fast	12	0A	00	00	00	12	0A	01	00, 01 (Off, On)
	Leslie On Reverb	12	0B	00	00	00	12	0B	01	00, 01 (Off, On)
	Leslie Input Gain	12	0C	00	00	00	12	0C	01	00 – 7F (0 – 127)
	Leslie Output Gain	12	0D	00	00	00	12	0D	01	00 – 7F (0 – 127)
	Custom Cabinet	12	0E	00	00	00	12	0E	01	00 – 13 (U1 – F10)
Animation Lower	Vibrato Lower	1C	00	00	00	00	1C	00	01	00, 01 (Off, On)
Multi Effects 1	On	13	00	00	00	00	13	00	01	00, 01 (Off, On)
	Allocate	13	01	00	00	00	13	01	01	00 – 02 (Upper, Lower, Upper+Lower)
	Type	13	02	00	00	00	13	02	01	00: Tremolo 01: Wah-Wah 02: Ring Mod 03: Compressor
	Param 1	13	03	00	00	00	13	03	01	00 – 03 (0 – 3)
	Param 2	13	04	00	00	00	13	04	01	00 – 03 (0 – 3)
	Param 3	13	05	00	00	00	13	05	01	00 – 7F (0 – 127)
	Param 4	13	06	00	00	00	13	06	01	00 – 7F (0 – 127)
	Param 5	13	07	00	00	00	13	07	01	00 – 7F (0 – 127)
	Param 6	13	08	00	00	00	13	08	01	00 – 7F (0 – 127)
	Param 7	13	09	00	00	00	13	09	01	00 – 7F (0 – 127)
	Param 8	13	0A	00	00	00	13	0A	01	00 – 7F (0 – 127)
Preamplifier	On	14	00	00	00	00	14	00	01	00, 01 (Off, On)
	Drive Level	14	01	00	00	00	14	01	01	00 – 7F (0 – 127)
	Output Level	14	02	00	00	00	14	02	01	00 – 7F (0 – 127)
	Type	14	03	00	00	00	14	03	01	00 – 03 (Tube Amp, Stomp Box, Clip, EP Amp)
	Presence	14	04	00	00	00	14	04	01	00 – 7F (0 – 127)
	Exp. Control	14	05	00	00	00	14	05	01	00, 01 (Exp-PreAmp, PreAmp-Exp)
	Tone Control	14	06	00	00	00	14	06	01	00 – 12 (-9 – 0 – +9)
	Hysteresis	14	07	00	00	00	14	07	01	00 – 7F (0 – 127)
	Impedance Reduction	14	08	00	00	00	14	08	01	00 – 7F (0 – 127)
Multi Effects 2	On	15	00	00	00	00	15	00	01	00, 01 (Off, On)
	Type	15	01	00	00	00	15	01	01	00: Auto Pan 01: Phaser 02: Flanger 03: Chorus 04: Delay
	Param 1	15	02	00	00	00	15	02	01	00 – 03 (0 – 3)
	Param 2	15	03	00	00	00	15	03	01	00 – 03 (0 – 3)
	Param 3	15	04	00	00	00	15	04	01	00 – 7F (0 – 127)
	Param 4	15	05	00	00	00	15	05	01	00 – 7F (0 – 127)
	Param 5	15	06	00	00	00	15	06	01	00 – 7F (0 – 127)
	Param 6	15	07	00	00	00	15	07	01	00 – 7F (0 – 127)
	Param 7	15	08	00	00	00	15	08	01	00 – 7F (0 – 127)
	Param 8	15	09	00	00	00	15	09	01	00 – 7F (0 – 127)

Category	Parameter	NRPN		SysEx Address					SysEx Length	Data
		MSB (63)	LSB (62)	MSB to LSB						
Equalizer	Bass Freq	16	00	00	00	00	16	00	01	00 – 18 (20 – 308Hz)
	Mid Freq	16	01	00	00	00	16	01	01	00 – 0F (250 – 3.1kHz)
	Treble Freq	16	02	00	00	00	16	02	01	00 – 13 (3.0k – 8.0kHz)
	Bass Gain	16	03	00	00	00	16	03	01	00 – 09 – 12 (-9 – ±0 – +9)
	Mid Gain	16	04	00	00	00	16	04	01	00 – 09 – 12 (-9 – ±0 – +9)
	Treble Gain	16	05	00	00	00	16	05	01	00 – 09 – 12 (-9 – ±0 – +9)
Delay/Reverb	On	17	00	00	00	00	17	00	01	00, 01 (Off, On)
	Structure	17	01	00	00	00	17	01	01	00 – 02 (Reverb, Delay, Reverb + Delay)
	Delay Pan	17	02	00	00	00	17	02	01	00 – 02 (Mono, RtoL, LtoR)
	Delay Type	17	03	00	00	00	17	03	01	00, 01 (Digital, Analog)
	Delay Mix	17	04	00	00	00	17	04	01	00 – 7F (0 – 127)
	Delay Time	17	05	00	00	00	17	05	01	00 – 7F (0 – 127)
	Delay Feedback	17	06	00	00	00	17	06	01	00 – 7F (0 – 127)
	Reverb Type	17	07	00	00	00	17	07	01	00 – 07 00: Room 1 05: Church 01: Room 2 06: Plate 02: Live 07: Spring 03: Hall 1 04: Hall 2
	Reverb Depth	17	08	00	00	00	17	08	01	00 – 7F (0 – 127)
	Reverb Time	17	09	00	00	00	17	09	01	00 – 7F (0 – 127)
	Reverb Pre LPF	17	0A	00	00	00	17	0A	01	00 – 7F (0 – 127)

ex: select Organ Type at Mellow
SysEx: F0 55 dd 10 26 13 00 00 00 10 04 01 F7 (dd = Device ID)
NRPN: Bx 63 10 Bx 62 04 Bx 06 01 (x = UPPER Channel)

CUSTOM TONE WHEEL PARAMETERS

Category	Parameter	SysEx Address MSB to LSB					SysEx Length	Data	Description
Temporary Tone Wheels	Name	10	00	00	00	00	10	(16 characters)	
	Foldback Low	10	00	00	00	01	01	00, 01 (Off, On)	
	Foldback High	10	00	00	00	02	01	00, 01 (Off, On)	
	Lowest Note	10	00	00	00	03	01	00 – 0C (TW#01 – #12)	
	Highest Note	10	00	00	00	04	01	00 – 05 (TW#91 – #96)	
	Leakage Increase Rate	10	00	00	00	05	01	00 – 7F (0 – 127)	
	Percussion Total Level	10	00	00	00	06	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	
	Cust. TW Total Level Upper & Lower	10	00	00	00	07	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	
	Cust. TW Total Level Pedal	10	00	00	00	08	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	
	Each TW Level	10	00	00	01	tt	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	tt: Tone Wheel number; 00 – 0B (#01 – #12), 0C – 17 (#F01 – F12), 18 – 66 (#13 – #91), 67 – 6B (#F92 – #F96)
	Wow Flutter Depth	10	00	00	02	tt	01	00 – 7F (0 – 127)	
	Wow Flutter Speed	10	00	00	03	tt	01	00 – 7F (0 – 127)	
	Eccentricity Depth	10	00	00	04	tt	01	00 – 7F (0 – 127)	
	Eccentricity Speed	10	00	00	05	tt	01	00 – 7F (0 – 127)	

	Each Leak Level	11	0p	0g	tt	hh	02	00 00 – 08 11
								(0 – 1041: -inf, -100.0 – +4.0[dB])
									p: Part (0 = Upper, 1 = Lower, 2 = Percussion, 3 = Pedal)
									g: Footage (p = 0, 1);
									0 = 16′, 1 = 5 1/3′... 8 = 1′
									g: Footage (p = 2);
									3 = Second, 4 = Third
									g: Footage (p = 3);
									0 = 16′-16′, 1 = 16′-5 1/3′ ... 7 = 16′-1 1/3′
									8 = 8′-16′, 9 = 8′-5 1/3′ ... 15 = 8′-1 1/3′
									tt: Tone Wheel number;
									00 – 0B (#01 – #12),
									0C – 5A (#13 – #91),
									5B – 5F (#F92 – #F96)
									hh: Leak TW number;
									Same as above
									nn: Note number (for C scale, 61 notes keyboard)
									0 = lowest C, 1 = C♯, ... 3C = highest C

	Total Leak Level	12	0p	0g	tt	hh	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	
	Matrix Level	13	0p	0g	00	nn	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	
	Impedance	14	00	00	nn	0g	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	
	Formant Level	15	00	00	00	0j	02	00 00 – 08 11 (0 – 1041: -inf, -100.0 – +4.0[dB])	j: Formant (0 – 7)
	Formant Phase	15	00	00	01	0j	02	00 00 – 02 67 (0 – 359 [degree])	

CUSTOM CONTACT PARAMETERS

Category	Parameter	SysEx Address MSB to LSB					SysEx Length	Data	Description
Temporary Contact	Name	20	00	00	00	00	10	(16 characters)	7bit ASCII

	Leaf Assign	21	0p	00	0g	nn	01	00 – 05 (1 – 6)	p: Part
									0 = Upper, 1 = Lower, 2 = Percussion, 3 = Pedal
									g: Footage (p = 0, 1);
									0 = 16′, 1 = 5 1/3′... 8 = 1′
									g: Footage (p = 2);
									0 = Second, 1 = Third
									g: Footage (p = 3);
									0 = 16′, 1 = 5 1/3′... 7 = 1 1/3′
									nn: Note number (for C scale, 61 notes keyboard)
									0 = lowest C, 1 = C♯, ... 3C = highest C

	Delay Time	21	0p	01	0g	nn	01	00 – 7F (0.0 – 725.6 ms)	

CUSTOM PEDAL REG. PARAMETERS

Category	Parameter	SysEx Address MSB to LSB					SysEx Length	Data	Description
Temporary Pedal Sub Drawbars	Name	30	00	00	00	00	10	(16 characters)	7bit ASCII
	Complex TW LPF	30	00	00	00	01	01	00 – 7F (0 – 127)	
	Level	31	00	00	0g	0k	01	00 – 08 (0 – 9)	g: Main Footage; 0 = 16′, 1 = 8′ k: Sub Footage; 0 = 16′, 1 = 5 1/3′... 7 = 1 1/3′

CUSTOM PIPE PARAMETERS

Category	Parameter	SysEx Address MSB to LSB					SysEx Length	Data	Description
Pipes	Name	50	00	00	00	00	10	(16 characters)	
	Stop Assign	51	00	0p	0x	00	02	00 00 – 00 2D (C-Open Diapason – P-Cornopean)	p: Part 0 = Upper, 1 = Lower, 2 = Percussion, 3 = Pedal x: Drawbar Footage (p=0 or 1); 0 – 8 = 16´ – 1´ Drawbar Footage (p=2); 0, 1 = 16´, 8´
	Volume	51	00	0p	0x	01	02	00 00 – 01 41 (0 – 193: -inf, -92.0 – +4.0[dB])	
	Footage	51	00	0p	0x	02	01	00 – 09 (32´ – 1´)	
	Detune	51	00	0p	0x	03	02	3F 4E – 40 00 – 40 32 (-50 – ±0 – +50[cent])	
	Tremulant	51	00	0p	0x	04	01	00, 01 (Off, On)	
	Chiff	51	00	0p	0x	05	01	00 – 03 (Off, Soft, Normal, Loud)	
	Cut Off Frequency	51	00	0p	0x	06	02	3F 01 – 40 00 (-127 – 0)	
	Pan - Direction	51	00	0p	0x	07	01	00 – 40 – 7F (L64 – Center – R63)	
	Pan - Imaging	51	00	0p	0x	08	01	00 – 04 (Fixed, L-R, R-L, Pyramid, Inverted Pyramid)	

CUSTOM LESLIE PARAMETERS

Category	Parameter	SysEx Address MSB to LSB					SysEx Length	Data Data length 01 uses MSB only, length 02 uses MSB and LSB.
Cabinet	Name	40	00	00	00	00	10	(16 Characters)
	Speaker	41	00	00	00	00	01	00 – 07 00: 145 Front 04: 122 Front 01: 145 Rear 05: 122 Rear 02: 147 Front 06: Cone Type 03: 147 Rear 07: PR-40
	Fast Speed Horn	42	00	00	00	00	02	00 00, 00 01 – 02 2D (0, 200 – 500 rpm)
	Slow Speed Horn	42	00	00	00	01	02	00 00, 00 01 – 00 65 (0, 20 – 120 rpm)
	Rise Time Horn	42	00	00	00	02	01	00 – 24 (0.8 – 12.5 sec)
	Fall Time Horn	42	00	00	00	03	01	00 – 24 (0.8 – 12.5 sec)
	Brake Time Horn	42	00	00	00	04	01	00 – 24 (0.8 – 12.5 sec)
	Delay Time Horn	42	00	00	00	05	01	00 – 05 (0.0 – 1.0 sec)
	Stop Angle Horn	42	00	00	00	06	02	00 00 – 02 67, 02 68 (0 – 359 dtg, Random)
	Fast Speed Drum	42	00	00	01	00	02	00 00, 00 01 – 02 2D (0, 200 – 500 rpm)
	Slow Speed Drum	42	00	00	01	01	02	00 00, 00 01 – 00 65 (0, 20 – 120 rpm)
	Rise Time Drum	42	00	00	01	02	01	00 – 23 (1.0 – 12.5 sec)
	Fall Time Drum	42	00	00	01	03	01	00 – 23 (1.0 – 12.5 sec)
	Brake Time Drum	42	00	00	01	04	01	00 – 23 (1.0 – 12.5 sec)
	Delay Time Drum	42	00	00	01	05	01	00 – 05 (0.0 – 1.0 sec)
	Stop Angle Drum	42	00	00	01	06	02	00 00 – 02 67, 02 68 (0 – 359 dtg, Random)
	Level Horn	43	00	00	00	00	02	00, 01 – 4D (-Inf, -76 – 0 dB)
	Mic. Type Horn	43	00	00	00	01	01	00, 01 (Condenser, Dynamic)
	Mic. Width Horn	43	00	00	00	02	01	00 – 64 (0 – 100 cm)
	Mic. Center Horn	43	00	00	00	03	01	0E – 40 – 72 (-50 – ±0 – +50 cm)
	Mic. Distance Horn	43	00	00	00	04	02	00 1E – 01 48 (0 – 170 cm)
	Stereo Image Horn	43	00	00	00	05	01	00, 01 – 7F (Mono, 1 – 127)
	Level Drum	43	00	00	01	00	02	00, 01 – 4D (-Inf, -76 – 0 dB)
	Mic. Type Drum	43	00	00	01	01	01	00, 01 (Condenser, Dynamic)
	Mic. Width Drum	43	00	00	01	02	01	00 – 64 (0 – 100 cm)
	Mic. Center Drum	43	00	00	01	03	01	0E – 40 – 72 (-50 – ±0 – +50 cm)
	Mic. Distance Drum	43	00	00	01	04	02	00 1E – 01 48 (30 – 200 cm)
	Stereo Image Drum	43	00	00	01	05	01	00, 01 – 7F (Mono, 1 – 127)
	Level Sub Bass	43	00	00	02	00	01	00, 01 – 4D (-Inf, -76 – 0 dB)

Example Set the Matrix Level for Lower, 4', middle C at -12.1[dB] : F0 55 dd 10 26 13 13 01 03 00 18 06 70 F7 (dd = Device ID)
Assign the Contact for Middle C, Percussion Third at #3 via System Exclusive: F0 55 00 10 26 13 21 02 00 01 18 02 F7 (dd = Device ID)
Set Drawbar [LOWER 2] at S04 "C-Bourdon 1" via System Exclusive: F0 55 dd 10 26 13 51 00 01 01 00 00 03 F7 (dd = Device ID)

SYSTEM PARAMETERS

Category	Parameter	NRPN		SysEx Address					SysEx	Data
		MSB (63)	LSB (62)	MSB to LSB					Length	
Tune	Master Tune	00	00	00	00	00	00	00	02	032E – 0338 – 0342 (A= 430 – 440 – 450 Hz)
	Transpose	00	01	00	00	00	00	01	02	3F 7A – 40 00 – 40 06 (-6 – ±0 – +6 semitones)
Master Equalizer	Bass Gain	01	00	00	00	00	01	00	01	00 – 09 – 12 (-9 – ±0 – +9)
	Mid Gain	01	01	00	00	00	01	01	01	00 – 09 – 12 (-9 – ±0 – +9)
	Treble Gain	01	02	00	00	00	01	02	01	00 – 09 – 12 (-9 – ±0 – +9)
	Bass Freq	01	03	00	00	00	01	03	01	00 – 18 (20 – 308Hz)
	Mid Freq	01	04	00	00	00	01	04	01	00 – 0F (125 – 4kHz)
	Treble Freq	01	05	00	00	00	01	05	01	00 – 13 (3.0k – 8.0kHz)
	Mid Q	01	06	00	00	00	01	06	01	00 – 3F (0 – 63)
Audio	Use Rotary Out	02	00	00	00	00	02	00	01	00, 01 (Off, On)
	Use Bass Out	02	01	00	00	00	02	01	01	00, 01 (Off, On)
	Bass Out Type	02	02	00	00	00	02	02	01	00, 01 (Pedal, LPF)
	Bass Out C/Off Freq.	02	03	00	00	00	02	03	01	00 – 7F (0 – 127)
	Bass Out Phase Pol.	02	04	00	00	00	02	04	01	00, 01 (Normal, Inverted)
	Ext. Leslie Channel	02	05	00	00	00	02	05	01	00, 01 (1, 3)
	With Preamp	02	06	00	00	00	02	06	01	00, 01 (Without, With)
Foot Switches	Mode 1 - Tip	03	00	00	00	00	03	00	01	00 – 28 00: Off 09: Spring Shock 01: Leslie S/F Alt 0A: Delay Time 02: Leslie S/F Mom 0B: Damper 03: Leslie S/F Tri 0C: Sostenuto 04: TW Brake 0D: Sustain 05: Patch Fwd 0E: Pedal To Lower 06: Patch Back 0F: ProChord 07: Favorite Fwd 10-28: Bass 1C – 3C 08: Favorite Back
	Mode 1 - Ring	03	01	00	00	00	03	01	01	
	Mode 2 - Tip	03	02	00	00	00	03	02	01	
	Mode 2 - Ring	03	03	00	00	00	03	03	01	
	Mode EXP-100	03	04	00	00	00	03	04	01	
Expression	Source	04	00	00	00	00	04	00	01	00 – 02 (Pedal, MIDI, Both)
	Device	04	01	00	00	00	04	01	01	00, 01 (EXP-100, Phone)
	Polarity	04	02	00	00	00	04	02	01	00, 01 (H or R, Y or K)
	Min. Level Mode	04	03	00	00	00	04	03	01	00, 01 (Off, Soft)
	Min. Level	04	04	00	00	00	04	04	01	00 – 29 (Off, -40 – ±0dB)
	Min. Limit LF	04	05	00	00	00	04	05	01	00 – 29 (Off, -40 – ±0dB)
	Min. Limit HF	04	06	00	00	00	04	06	01	00 – 29 (Off, -40 – ±0dB)
	Curve	04	08	00	00	00	04	08	01	00 – 02 (B-3, Linear, Capacitor)
Damper	Upper	05	00	00	00	00	05	00	01	00, 01, 02 (Patch, Disabled, Enabled)
	Lower	05	01	00	00	00	05	01	01	
	Pedal	05	02	00	00	00	05	02	01	
Octave / Transpose buttons	Mode Oct/Xposepose	06	00	00	00	00	06	00	01	00, 01 (Every, Next)
	Mode Octave Down	06	01	00	00	00	06	01	01	00, 01 (Octave, Assign)
	Mode Octave Up	06	02	00	00	00	06	02	01	
	Mode Octave Lower	06	03	00	00	00	06	03	01	
Knobs / Drawbars	Control Mode	07	00	00	00	00	07	00	01	00, 01 (A♯/B, Always A♯)
	Action	07	01	00	00	00	07	01	01	00, 01 (Momentary, Across)
Display	Short Cut	08	00	00	00	00	08	00	01	00 – 03 (0, 1, 2 sec, No)
	Time Out	08	01	00	00	00	08	01	01	00 – 03 (4, 8, 16 sec, No)
	Pop Up	08	02	00	00	00	08	02	01	00 – 04 (No, 0.5, 1.0, 1.5, 2.0 sec)
	Brightness	08	03	00	00	00	08	03	01	00 – 09 (1 – 10)
	Play Mode Drawbars	08	04	00	00	00	08	04	01	00, 01 (Horizontal, Vertical)
	Play Mode Type	08	05	00	00	00	08	05	01	00 – 03 (Int. Zones, Assign, Simple, Ext. Zones)
Keyboard	Velocity Offset	09	00	00	00	00	09	00	02	3F 71 – 40 00 – 40 0F (-15 – ±0 – +15)
	Organ Sounding Point	09	01	00	00	00	09	01	01	00 – 07 (Patch, 1 – 7, Velocity)
	Preset Key Hold Time	09	02	00	00	00	09	02	01	00 – 0A (0.0 – 1.0 sec)
Global	Auto Power Off	--	--	--	--	--	--	--	--	00, 01 (Disable, 20min)
MIDI Common	MIDI In Mode	--	--	00	00	00	0C	00	01	00 – 02 (Upper, Lower, Sequencer)
	Rx VMC Depth	--	--	00	00	00	0C	01	01	00 – 7F (0 – 127)
	Local Control	--	--	00	00	00	0C	02	01	00, 01 (Off, On)
	TRx Individual Parameters	--	--	00	00	00	0C	03	01	00 – 02 (Off, NRPN, SysEx)
	TRx Program Change	--	--	00	00	00	0C	04	01	00, 01 (Off, On)
	TRx Drawbar Regi	--	--	00	00	00	0C	05	01	00, 01 (Off, On)
	Tx External Zones	--	--	00	00	00	0C	06	01	00, 01 (Off, On)
	Tx EXZ Program Change	--	--	00	00	00	0C	07	01	00, 01 (Off, On)
	Tx EXZ Control Change	--	--	00	00	00	0C	08	01	00, 01 (Off, On)
	Octave to EXZ	--	--	00	00	00	0C	09	01	00, 01 (Off, On)
	Device ID	--	--	--	--	--	--	--	--	00 – 7F (0 – 127)
	Rx Dump	--	--	--	--	--	--	--	--	00, 01 (Off, On)
USB MIDI	TRx Notes	--	--	00	00	00	0C	0C	01	00, 01 (Velocity, Multi-Contact)
MIDI Channel	Tx Upper	--	--	00	00	00	0D	00	01	00 – 10 (1 – 16, Off)
	Tx Lower	--	--	00	00	00	0D	01	01	00 – 10 (1 – 16, Off)
	Tx Pedal	--	--	00	00	00	0D	02	01	00 – 10 (1 – 16, Off)
	Rx Upper	--	--	00	00	00	0D	03	01	00 – 10 (1 – 16, Off)
	Rx Lower	--	--	00	00	00	0D	04	01	00 – 10 (1 – 16, Off)
	Rx Pedal	--	--	00	00	00	0D	05	01	00 – 10 (1 – 16, Off)

Category	Parameter	NRPN		SysEx Address					SysEx Length	Data
		MSB (63)	LSB (62)	MSB to LSB						
Patch Load b = Bank	Action	0A	00	00	00	00	0A	00	01	00, 01 (Instant, Entered)
	Registration	4b	00	00	00	00	4b	00	01	00, 01 (Off, On)
	Drawbar	4b	01	00	00	00	4b	01	01	00, 01 (Off, On)
	Percussion	4b	02	00	00	00	4b	02	01	00, 01 (Off, On)
	Animation	4b	03	00	00	00	4b	03	01	00, 01 (Off, On)
	Effect / EQ	4b	04	00	00	00	4b	04	01	00, 01 (Off, On)
	Delay / Reverb	4b	05	00	00	00	4b	05	01	00, 01 (Off, On)
	Control	4b	06	00	00	00	4b	06	01	00, 01 (Off, On)
	Assign	4b	07	00	00	00	4b	07	01	00, 01 (Off, On)
	Internal Zones	4b	08	00	00	00	4b	08	01	00, 01 (Off, On)
	External Zones	4b	09	00	00	00	4b	09	01	00, 01 (Off, On)
	Pedal to Lower	4b	0A	00	00	00	4b	0A	01	00, 01 (Off, On)

ex: set Master Tune set at “442” Hz
SysEx: F0 55 dd 10 26 13 00 00 00 00 00 03 3A F7 (dd = Device ID)
NRPN: Bx 63 00 Bx 62 00 Bx 06 03 Bx 26 3A (x = UPPER Channel)

ex: select Expression Source set at “MIDI”
SysEx: F0 55 dd 10 26 13 00 00 00 04 00 01 F7 (dd = Device ID)
NRPN: Bx 63 04 Bx 62 01 Bx 06 01 (x = UPPER Channel)

FAVORITES

Category	Parameter	NRPN		SysEx Address					SysEx Length	Data	Default	Description
		MSB (63)	LSB (62)	MSB to LSB								
Favorites	On	0B	04	00	00	00	0B	04	01	00, 01 (Off, On)	00 (Off)	
	Assign Upper	50	ff	00	00	00	50	ff	02	00 00 – 00 63 (U00 – U99), 00 64 – 01 47 (F00 – F99)	same as User Patch#	ff: 00 – 63 (C-C – A-A)
	Assign Lower	51	ff	00	00	00	51	ff				

Example Set Upper E-C♯ at F04 via System Exclusive.....F0 55 dd 10 26 13 00 00 00 50 29 00 68 F7 (dd = Device ID)

MIDI IMPLEMENTATION CHART

Stage Organ
Model: XK-7

MIDI Implementation Chart

Date: 13-Nov-2025
Version: 1.0

Function		Transmitted	Recognized	Remarks
Basic	Default	*1	*1	*1: Upper = 1, Lower = 2, Pedal = 3 when the "Basic" MIDI Template is recalled.
Channel	Changed	1 – 16	1 – 16	
	Default	3	3	
Mode	Messages	X	X	
	Altered	*****	1	Switched by MIDI IN Mode.
Note		12 – 120 (61 key)*2	0 – 127	*2: with oct. shift
Number	: True Voice	*****	0 – 127	
Velocity	Note ON	O	O	
	Note OFF	O	O	
After Touch	Key's	X	X	
	Ch's	X	X	
Pitch Bend		O	O	
	0, 32	O	O	Bank Select MSB, LSB
	1	O	O	Modulation
	6, 38	O	O	Data Entry MSB, LSB
	7	O	O	Volume
	10	O	X	Pan
	11	O	O	Expression
	12 – 20	O	O	Drawbar Reg. Upper
	21 – 29	O	O	Drawbar Reg. Lower
Control	33, 35	O	O	Drawbar Reg. Pedal
Change	48	O	O	Spring Shock
	49	O	O	TW Brake
	64	O	O	Damper
	66	O	O	Sostenuto
	69	O	O	Sustain Active
	85	O	O	ProChord Active
	92	X	O	Leslie Fast
	98, 99	O	O	NRPN LSB, MSB
	1 – 119	O	X	Assignable Knob
Program		O	O	
Change	: True #	0 – 127	0 – 99, 127	
System Exclusive		O	O	
System	: Song Position	X	X	
Common	: Song Select	X	X	
	: Tune	X	X	
System	: Clock	X	X	
Real Time	: Commands	X	X	
	: All Sounds Off	X	O	(120)
	: Reset All Controllers	O	O	(121)
Aux	: Local On/Off	X	X	
Messages	: All Notes Off	O	O	
	: Active Sense	O	O	
	: Reset	X	X	

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO O: Yes
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO X: No

MIDI CHANNELS AND MESSAGES

MIDI IN MODE		any	Sequence			Upper	Lower	MIDI IN PEDAL
CHANNEL / MESSAGE		External Zone (Tx. only)	Upper (Tx. and Rx.)	Lower (Tx. and Rx.)	Pedal (Tx. and Rx.)	Upper (Rx. only)	Lower (Rx. only)	Pedal (Rx. only)
Note		O	O	O	O	O	O	O
Pitch Bend		O	O	X	X	X	X	X
Modulation	(1)	X	O	X	X	X	X	X
Volume	(7)	O	O *1*2	X	X	X	X	X
Pan	(10)	O	X	X	X	X	X	X
Expression	(11)	O	O *1	X	X	X	X	X
Damper	(64)	O	O	O	O	X	X	X
Sostenuto	(66)	X	O	O	O	X	X	X
Sustain	(69)	X	O	X	X	X	X	X
ProChord	(85)	X	O	X	X	X	X	X
Drawbar Reg.		X	12 - 20 (Upper) 21 - 29 (Lower) 33, 35 (Pedal)	X	X	X	X	X
Spring Shock	(48)	X	O	X	X	X	X	X
TW Brake	(49)	X	O	X	X	X	X	X
Leslie Fast	(92)	X	O *2	X	X	X	X	X
RPN	(100, 101)	X	X	X	X	X	X	X
NRPN	(98, 99)	X	O	X	X	X	X	X
Assign	(1 – 119)	O	X	X	X	X	X	X
All Notes Off	(123)	O	O	O	O	O	O	O
All Sounds Off	(120)	X	O *2	O*2	O*2	O	O	O
Reset All Ctrl.	(121)	O	O	O	O	X	X	X
Bank Select	(0, 32)	Change the voice for each zone.	Patch# Favorite#	Patch# Favorite#	X	X	X	X
Program Change					X	X	X	X

*1: Affects all Parts

*2: For Rx. only.

SPECIFICATIONS

Sound Engine

ORGAN Section

VEM (Virtual Electro-Mechanical) sound engine
Polyphony: 61 (Tone Wheel Organ)

Keyboard

Single manual (XK-7) / Dual manual (XK-7D)
73 keys (61 musical + 12 Preset keys)
6L (6-contacts, Long key) square-front ("waterfall" type) keyboard

ORGAN Section

Parts

3 (Upper, Lower, Pedal)

Drawbars

5 sets (Upper & Lower: 2 sets, 9 pitches, Pedal: 1 set, 2 pitches)

Organ Types

6 (TW, Mellow, Vx., Farf., Ace., Pipe)

Percussion

Buttons: On, Volume Soft, Fast Decay, Third Harmonic

Others

Virtual Multi-Contact, Sustain

Effects

Patch

Vibrato & Chorus, EFFECT 1, Preamplifier, EFFECT 2, Leslie, Equalizer, Delay/Reverb

Master

Equalizer

Key Map

Internal Zone

Transpose, Octave, Split(XK-7 only), Pedal To Lower, Lower to Pedal

External Zones

Upper: 3, Lower: 2, Pedal:1

Controllers

Assign Knob 1/2/3, Assign Button 1/2/3 (XK-7D only)

Memory

Favorites

Patches: 10 banks x 10 keys

Patch

Factory: 100, User: 100, Adjust Presets A♯/B

Custom Tone Wheel

Factory: 4, User: 4

Custom Pedal Registration

Factory: 4, User: 4

Custom Contact

Factory: 3, User: 3

Custom Pipe

Factory: 4, User: 4

Custom Cabinet

Factory: 10, User: 10

Storage

USB Flash Drive

Display

320 x 240 pixels

Connections

MIDI

Pedal In, Lower/Other In (XK-7), Other In (XK-7D), Out

USB

To Host

H-BUS

To Keyboard/Pedal (0.3A max)

Audio

Line Out L/Mono, R, Headphones, Rotary Out, Bass Out

Leslie

11 - pin, 1 and 3 channels available

Others

Leslie Switch, Foot Switch 1, 2, Expression Pedal (EXP-100, Phone)

Dimensions

XK-7

1184(W), 399(D), 128(H) mm
46.6″(W), 15.7″(D), 5.04″(H)

XK-7D

1186(W). 566(D). 192(H) mm
46.7″(W), 22.3″(D), 7.56″(H)

Weight

XK-7

18.3 kg
40.3 lbs

XK-7D

31.3 kg
69.0 lbs

Accessory

Common

AC Power Cord

XK-7D only

Tapping Screw (4)
Rubber Foot (4)

VOICE AND FOOTAGE LABEL

UPPER A♯

Flute 16´	Bass 16´	Flute 8´	Clarinet 8´	Sax 8´	Trumpet 8´	Strings 8´	Flute 4´	Strings 4´	Ace
Bass 16´	Strings 16´	Flute 8´	Oboe 8´	Trumpet 8´	Strings 8´	Flute 4´	Piccolo 4´	Strings 4´	Farf
16´	8´	4´	2´	II	III	IV	∿	⩚	Vx.
Bourdon 16´	OpenDiap 8´	Gedeckt 8´	VoixClst II	Octave 4´	Flauto 4´	Flute 2´	Mixture III	Hautbois 8´	Pipe

UPPER B

Flute 16´	Bass 16´	Flute 8´	Clarinet 8´	Sax 8´	Trumpet 8´	Strings 8´	Flute 4´	Strings 4´
Bass 16´	Strings 16´	Flute 8´	Oboe 8´	Trumpet 8´	Strings 8´	Flute 4´	Piccolo 4´	Strings 4´
16´	8´	4´	2´	II	III	IV	∿	⩚
Bourdon 16´	OpenDiap 8´	Gedeckt 8´	VoixClst II	Octave 4´	Flauto 4´	Flute 2´	Mixture III	Hautbois 8´

PEDAL

Bass 16´+8´	PrncChorus +Mixture

LOWER A♯

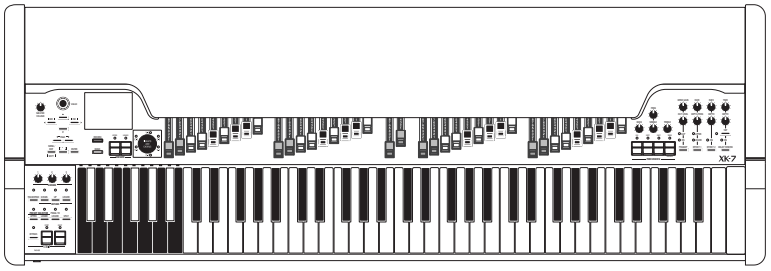
Flute 16´	Bass 16´	Flute 8´	Clarinet 8´	Sax 8´	Trumpet 8´	Strings 4´	Flute 4´	Strings 4´	Ace
Bass 16´	Strings 16´	Flute 8´	Oboe 8´	Trumpet 8´	Strings 8´	Flute 4´	Piccolo 4´	Strings 4´	Farf
16´	8´	4´	2´	II	III	IV	∿	⩚	Vx.
Principal 16´	Principal 8´	Melodia 8´	RohrFlute II	Prestant 4´	Flute 4´	SuperOctave 2´	Mixture III	Trompette 8´	Pipe

LOWER B

Flute 16´	Bass 16´	Flute 8´	Clarinet 8´	Sax 8´	Trumpet 8´	Strings 4´	Flute 4´	Strings 4´
Bass 16´	Strings 16´	Flute 8´	Oboe 8´	Trumpet 8´	Strings 8´	Flute 4´	Piccolo 4´	Strings 4´
16´	8´	4´	2´	II	III	IV	∿	⩚
Principal 16´	Principal 8´	Melodia 8´	RohrFlute II	Prestant 4´	Flute 4´	SuperOctave 2´	Mixture III	Trompette 8´

These templates indicate Voices and Footages for the "Ace.," "Farf.," "Vx." and "Pipe" Organ Types. If you wish, you may copy and cut these, and place them in front of the Drawbars.

NOTE: Be sure to use removable ("wall-safe") tape when affixing these templates. Using regular transparent or "magic" tape may damage the finish.



SERVICE

Hammond maintains a policy of continuously improving and upgrading its instruments and therefore reserves the right to change specifications without notice. Although every attempt has been made to insure the accuracy of the descriptive contents of this Manual, total accuracy cannot be guaranteed.

Should the owner require further assistance, inquiries should first be made to your Authorized Hammond Dealer.

If you still need further assistance, contact Hammond at the following addresses:

In the United States Contact:

HAMMOND SUZUKI USA, Inc.

219 W. Wrightwood Ave.
Elmhurst, Illinois 60126
UNITED STATES
Tel: (630) 543-0277
Fax: (630) 543-0279
Web site: https://hammondorganco.com
Contact: https://hammondorganco.com/contact-us/

Product Registration
https://hammondorganco.com/product-registration/

In European countries contact:

HAMMOND SUZUKI EUROPE B. V.

Parmentierstraat 8
4131 HA Leerdam
THE NETHERLANDS
Tel: (+31) 347-370 594
Web site: www.hammond.eu
Contact: info@hammond.eu

Product Registration
www.hammond.eu/Contact/RegistrationPage

For other countries:

SUZUKI CORPORATION

2-25-7, Ryoke, Chuo-ku, Hamamatsu,
Shizuoka Pref. 430-0852
JAPAN
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Contact
https://suzukimusic-global.com/contact.php

Manufacturer:

SUZUKI MUSICAL INSTRUMENT MFG. Co., Ltd.

2-25-7, Ryoke, Chuo-ku, Hamamatsu, Shizuoka Pref. 430-0852
JAPAN

SUZUKI MUSICAL INST. MFG. CO., LTD. Hamamatsu, Japan

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