



25-Key **MIDI Keyboard Controller**

606304

User's Manual

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1.0 SAFETY WARNINGS AND GUIDELINES

- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from its power source and allow it to fully dry before reapplying power.
- This device is intended for indoor use only.
- Do not place this device on or near a heat source, such as a fireplace, heating vent, radiator, etc.
- Clean only using a soft, dry cloth. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.
- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

2.0 INTRODUCTION

Congratulations on your purchase of the Monoprice 606304 25-key USB MIDI Keyboard Controller!

This keyboard controller provides quick and easy control over your music software. It connects to your computer via USB, which enables MIDI communications and provides power to the keyboard. It is class-compliant, which means that there is no need to download any drivers. Simply plug the keyboard in, turn it on, and you're ready to start creating music!

Note that this controller does not have any internal sound generation capability. It requires the use of external sound modules, software synthesizers, or hardware or software sequencers.

3.0 FEATURES

- 25 Keys to trigger your MIDI hardware & software
- 4 Rotary encoder knobs
- 1 Slider
- Pitch-bend & Modulation wheels
- MIDI Out port for standalone use
- 1 Assignable pedal input
- Driverless plug-and-play for Windows and Mac
- Powered from the USB bus or using an optional 9 VDC power adapter (not included)

4.0 CUSTOMER SERVICE

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problem with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website (www.monoprice.com) during normal business hours (Mon-Fri: 5am-7pm PT, Sat-Sun: 9am-6pm PT) or via email at support@monoprice.com

5.0 PACKAGE CONTENTS

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

- 1x 25-key MIDI keyboard controller

- 1x User's manual

6.0 ABOUT MIDI CONTROL

MIDI, which is an acronym for Musical Instrument Digital Interface, is a communications standard, which allows MIDI-enabled devices to "talk" to each other. This keyboard does not produce sounds of its own. Instead, it uses MIDI to direct an external sound source to produce a particular sound. You can also connect it to a USB-capable Windows or Mac PC to control third-party music creation software.

7.0 CONTROLS AND CONNECTIONS

7.1 Front Panel



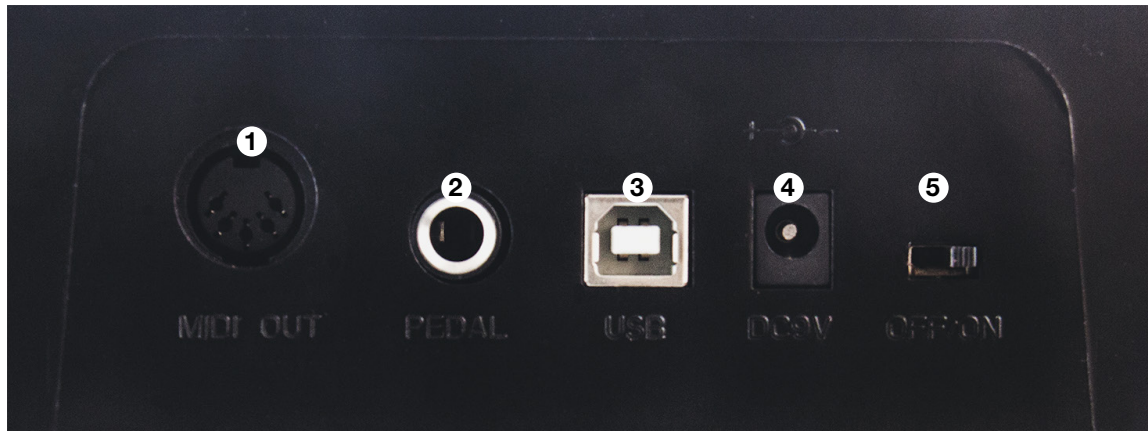
1. **EDIT:** Enters and exits the Keyboard Multi-Function mode where additional features and capabilities of the keyboard may be accessed. The LED next to the Edit button indicates whether or not Keyboard Multi-Function mode is active. Please see **Section 9.1** for more details on using Keyboard Multi-Function mode.
2. **▲/▼ Octave / Assignable Data Buttons:** These buttons default to adjusting the keyboard octave range, but they can be reassigned to other useful functions. When assigned to MIDI controllers, the messages are sent out on the Global MIDI Channel.

The ▲/▼ Octave / Assignable Data Buttons behave differently depending on how you press them. A single button press changes the value by one increment, while holding a button down changes the values quickly. If you press both buttons at the same time, it will reset the value back to 0. Pressing both buttons and EDIT at the same time will reset any Transpose value back to 0. Please see **Section 10.1** for more details on using the Octave buttons and **Section 10.2** for more information on using the Transpose feature.

3. **SWITCH:** This button allows you to alternate between two banks of Knob controller assignments. This effectively doubles the number of assignable Knob controllers from four to eight. The LEDs above and below the button indicate the currently selected controller group, either A1-A4 or B1-B4.
4. **A1-A4 and B1-B4 KNOBS:** The Knobs have useful default assignments, but they can be assigned to any MIDI CC (Control Change message) that you choose. You can even assign an independent MIDI channel for each knob. This allows you to get more expressive with your sounds during your performance. For example, with a knob assigned to a synthesizer's filter, it is possible to make the sound brighter or darker as you play. For more details on KNOB assignments, see **Section 9.2**.

5. **SLIDER:** By default, the SLIDER is set to control Volume (MIDI CC #7). However, it can be assigned to any MIDI Control Change message that you choose, transmitting on the Global MIDI Channel. For more details on SLIDER assignment, see **Section 9.2**.
6. **PITCH BEND:** By default, the Pitch Bend wheel sends MIDI Pitch Bend (MIDI CC #146) messages. However, it can be reassigned to any MIDI CC (Control Change message) you choose, transmitting on the keyboard's Global MIDI Channel. For more details on PITCH BEND wheel assignment, see **Section 9.2**.
7. **MODULATION:** By default, the Modulation wheel transmits a Modulation message (MIDI CC #1), which adds vibrato to the sound. However, it can be reassigned to any MIDI CC (Control Change message) you choose, transmitting on the keyboard's Global MIDI Channel. For more details on MODULATION wheel assignment, see **Section 9.2**.
8. **KEYBOARD AND MULTI-FUNCTION SELECTION:** The individual keys on the keyboard are used to play notes, which are sent through the MIDI Out port to MIDI-capable devices, as well as via USB to the music creation software on your computer. However, in Keyboard Multi-Function mode, the keys are also used to select various features and parameter values. Please see **Section 9.1** for details on using Keyboard Multi-Function mode.
9. **LED DISPLAY:** The LED display shows information about the current status of the keyboard. When the keyboard is at rest, it shows the currently selected MIDI program number. If you use the KNOBS or SLIDER, the display shows the controller values being sent. It also shows the Octave and Transpose values if those are being edited. When in Keyboard Multi-Function mode, the display shows the values you have selected for a particular function. Please refer to **Section 12.3** for a list of display messages and their meanings.

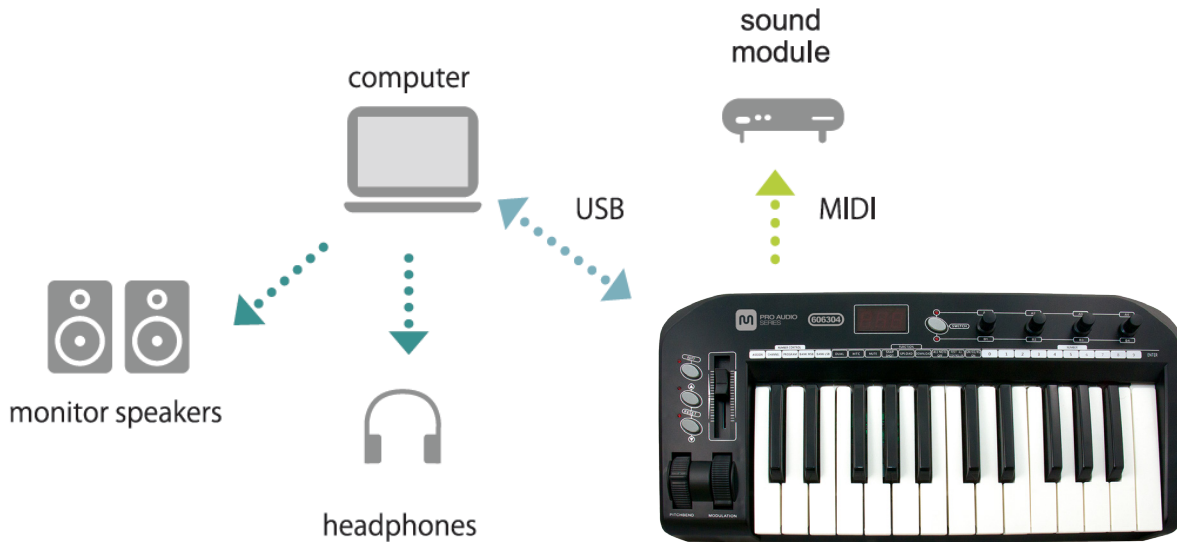
7.2 Rear Panel



1. **MIDI OUT:** The MIDI Out jack can be used to connect the controller to the MIDI Input of any compatible MIDI device, such as a multitimbral sound module, keyboard synthesizer, or a computer MIDI interface.
2. **PEDAL:** The 1/4" Pedal jack is for connecting a Sustain Pedal or Momentary Foot Switch to the keyboard. This type of pedal can be used to hold notes even if you've released the keys on the keyboard, functioning in the same way as a sustain pedal on a piano. The pedal jack will also work with Expression Pedals under certain circumstances. Please see **Section 9.7** for additional information.
3. **USB:** The USB connector allows the keyboard to be connected to a compatible computer using a USB cable. This connection enables MIDI communications between the keyboard and the PC. The USB connection also provides the power needed to operate the keyboard.
4. **DC 9V:** This DC power input connector is for use with an optional AC power adapter (not included). The correct AC power adapter produces 9 VDC, 1A of power. Physically, it has 5.5mm barrel diameter, a 2.5mm pin diameter, and the pin is positive polarity.
5. **OFF/ON:** The OFF/ON power switch turns the keyboard on and off when it is connected to a USB power source or an external power adapter.

8.0 SETUP AND INSTALLATION

8.1 Hardware Diagram



Connecting the keyboard to your Windows PC or Mac using a USB cable allows you to control music creation software on your computer. You can also connect the keyboard to a MIDI compatible sound module. See **Section 8.4** for more details.

8.2 Windows Setup

Perform the following steps to connect the keyboard to a PC running Microsoft Windows:

1. Ensure that the power switch on the keyboard is set to the OFF position.
2. Plug one end of a USB cable (not included) into the USB port on the keyboard.
3. Plug the other end of the USB cable into an available USB port on your PC.
4. Slide the power switch on the keyboard to the ON position.
5. Windows will detect the keyboard and will prompt you to install the new hardware. Follow the on screen instructions.
6. Once installation is complete, the keyboard will appear as a new USB Audio Device, labeled "606304 MIDI Keyboard", available for use in your MIDI compatible applications.

8.3 Mac OS X Setup

Perform the following steps to connect the keyboard to a PC running Microsoft Windows:

1. Ensure that the power switch on the keyboard is set to the OFF position.
2. Plug one end of a USB cable (not included) into the USB port on the keyboard.
3. Plug the other end of the USB cable into an available USB port on your Mac.
4. Slide the power switch on the keyboard to the ON position.
5. The keyboard will appear as a new USB Audio Device, labeled "606304 MIDI Keyboard", available for use in your MIDI compatible applications.

8.4 Stand-Alone Hardware Operation

You can connect the keyboard to other MIDI compatible devices, such as a multitimbral sound module or keyboard synthesizer. Perform the following steps to connect the keyboard to a MIDI device.

1. Plug one end of a 5-pin DIN MIDI cable (not included) into the MIDI Out jack on the rear panel.
2. Plug the other end of the MIDI cable into the MIDI In jack on a MIDI compatible device.
3. Ensure that the keyboard is set to the same MIDI Channel as the MIDI device or that the device is configured to receive "Global" or "Omni" messages, which are transmitted on all channels at once. Please refer to **Section 9.3** for MIDI Channel details.

Please note that in stand-alone operation, the keyboard must be powered by an optional 9V 1A DC power supply center positive.

9.0 FUNCTIONS

9.1 Keyboard Multi-Function Mode

The KEYBOARD MULTI-FUNCTION mode allows you to change the various parameter settings in your 606304 keyboard, altering how the keyboard behaves. Press the EDIT button to enter KEYBOARD MULTI-FUNCTION mode. Press the EDIT button again to exit the KEYBOARD MULTI-FUNCTION mode.

While in KEYBOARD MULTI-FUNCTION mode, press a Function key on the keyboard to select the action you want. The available Functions are written just above the keys on the top panel.

Then use the NUMERIC keys 0-9 to enter a new parameter value, if needed. Once the new parameter setting is input, press the ENTER key to confirm the change.

9.2 Controller Assignments

The Monoprice 606304 keyboard allows you to assign many different useful controller messages to the KNOBS, SLIDER, WHEELS, and BUTTONS. The controller messages consist of standard MIDI CCs (Control Change messages) and advanced controller message assignments. All of these controller messages allow you to add more expression to your performances, enable quick editing of your favorite sound parameters, and perform other useful functions. For a list of all the available controller messages, see **Section 12.2**.

To assign a new MIDI CC or advanced controller message to the SLIDER, WHEELS, ▲/ ▼ BUTTONS, or KNOBS, enter the KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the ASSIGN key. The LED will display CHO, prompting you to "choose" the physical control you want to edit.
2. Move the desired physical controller. This will indicate to the keyboard that you want to assign a new MIDI CC to that controller. For example, if you want to assign a new MIDI CC to the SLIDER, move the SLIDER. The LED display will display the current MIDI Control Number of the selected controller.
3. Use the NUMERIC keys to input the desired CC or advanced controller number, then press ENTER. MIDI CCs are numbered from 0-127 and their functionality follows the MIDI specification, while the advanced controller functions are numbered from 128 to 159. The LED will display "don" (done) to confirm that the new assignment has been set.

Please refer to **Section 12.1** for a list of assignable controls and **Section 12.2** for a list of all available MIDI CC and advanced controller assignments.

9.3 MIDI Channel

MIDI is a channelized communications protocol, which allows you to direct messages to specific MIDI compatible devices. When using the 606304 keyboard with a computer, you can leave the MIDI Channel set to 1 and allow your software to do the routing for you. However, if you want to use it with external sound modules, you may want to change the MIDI channel to so that you're sending the right signals to the right devices.

The Global Channel is the main MIDI channel used by the 606304 keyboard. The SLIDER, PEDAL, WHEELS, ▲/▼BUTTONS, and KEYBOARD keys all use the Global MIDI channel. To assign the Global Channel, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the CHANNEL key. The LED will display the currently selected MIDI Channel.
2. Using the NUMERIC keys, input the desired Global MIDI Channel number (1-16), then press ENTER. The LED will display "don" (done) to confirm that the new channel assignment has been set.

For added flexibility, the KNOBS of your 606304 can each be assigned to an independent MIDI Channel. This allows you to keep the MIDI messages originating from the KNOBS separate from the rest of the keyboard and from each other, if so desired. To set an independent MIDI Channel for a KNOB, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the CHANNEL key.
2. Move the KNOB that you want to assign.
3. Using the NUMERIC keys, input the desired MIDI Channel number (0-16), then press ENTER. The LED will display "don" (done) to confirm that the new channel has been set.

Note that a selection of 0 assigns the KNOB to use the Global MIDI Channel.

9.4 Program Change

Program Change messages are used to tell hardware MIDI devices to load a specific sound for you to play. Software instruments normally don't need Program Change messages, since the sound can usually be selected and saved in the session file of your Digital Audio Workstation (DAW). However, if you need to send Program Change messages, there are two easy ways to do it with the 606304 keyboard.

By default, KNOB A1 is set to send Program Change messages (advanced controller #152), which allows you to quickly and easily scroll through sound programs. However, you can assign other physical controls to perform this function, such as the ▲/▼BUTTONS.

To send a single specific Program Change message, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the PROGRAM key. The LED will display the currently selected Program. *Note that the display may not change because it already shows the currently selected program number when no other operation is in progress.*
2. Using the NUMERIC keys, input the desired Program Change number (0-127), then press ENTER. The LED will display "don" (done) to confirm that the Program Change message has been sent.

According to the MIDI specification, sound program banks are arranged in groups of 128. You can access any sound in a bank by sending its corresponding Program Change number. Changing to a different program bank can be achieved by sending Bank MSB and Bank LSB messages. This function is described in **Section 9.5** below.

It's expected that most of the time you'll be working with Program Bank 0, so within this bank, only the Program Change message is sent. However, if a different bank is selected, the keyboard will send the corresponding Bank MSB and Bank LSB messages, along with the Program Change message. This helps ensure that the Program Change occurs in the correct sound bank.

9.5 Bank MSB & Bank LSB

MSB is an acronym for "Most Significant Bit", which is the bit position with the greatest value in a binary number. For example, in the number 1234, the 1 would be most significant bit because it represents the greatest value (1000). Similarly, LSB is an acronym for "Least Significant Bit", which is the bit position with the smallest value. In the above example, the 4 would be the least significant bit.

The Bank MSB and Bank LSB are used to select between many different sound Program Banks by forming Bank Change messages.

To send a specific Bank Change message, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press either the BANK MSB or BANK LSB key. The LED will display the currently selected value. *Note that a Bank Change message may consist of a Bank MSB message, a Bank LSB message, or both.*
2. Using the NUMERIC keys, input the desired Bank Change number (0-127), then press ENTER. The LED will display "don" (done) to confirm that the Bank Change message has been sent.

Bank MSB and Bank LSB can also be transmitted by the physical controls of the keyboard, such as the KNOBS. Just follow the same procedure outlined in **Section 9.2** for controller assignments. Bank MSB is controller #0 and Bank LSB is controller #32.

9.6 Keyboard Curve

The keys on the 606304 keyboard are velocity sensitive, which means that the keyboard tracks how hard or soft you play them. This can affect the sound characteristics and/or volume of the notes you play. There are five Keyboard Curves, 0-4, which determine how the keyboard responds to your playing style.

To enable Keyboard Curve selection from a physical control, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the ASSIGN key. The LED will display CHO, prompting you to "choose" the physical control you want to use.
2. Move the desired physical controller. For example, if you want to assign a Keyboard Curve selection to a KNOB, move the desired KNOB. The LED will display the current MIDI Control Number of the selected controller.
3. Using the NUMERIC keys, input the advanced controller #157 (Keyboard Curve), then press ENTER. The LED will display "don" (done) to confirm that the Keyboard Curve selection has been enabled.
4. Play the keyboard while adjusting the Keyboard Curve values. When you have determined the curve that you like, you can reassign the physical controller to do something else.

When selecting your preferred Keyboard Curve, it is a good idea to use a familiar velocity sensitive instrument voice, such as a piano sound, so you can hear how it reacts to your playing. For each Curve, try playing loudly, softly, and in-between, and then select the curve that is most comfortable for your playing style.

9.7 Pedal Curve

Different types of foot pedals can be used to perform different functions with the 606304 keyboard.

The most common pedal is a Sustain Pedal, which is a foot operated toggle switch. You can also use an Expression Pedal, which can send a range of controller values. An Expression Pedal is similar to the gas pedal on an automobile, in that it can return values between fully on and fully off.

The Pedal Curve determines how quickly the pedal will move from its minimum to the maximum value. Ideally, you will want the pedal to use its full throw, i.e., to produce the minimum value when it is not depressed and to produce the maximum value when it is fully depressed. If the pedal moves from minimum to maximum value in less than the full throw, you should increase the Pedal Curve. If the pedal never reaches the minimum or maximum value, decrease the Pedal Curve. The default Pedal Curve value is 64, which is optimized for most pedals.

To enable Pedal Curve value selection from a physical control, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the ASSIGN key. The LED will display CHO, prompting you to "choose" the physical control you want to use.
2. Move the desired physical controller. For example if you want to assign the Pedal Curve adjustment to a KNOB, move the desired KNOB. The LED will display the current MIDI Control Number of the selected controller.
3. Using the NUMERIC keys, input the advanced controller number, #158, then press ENTER. The LED will display "don" (done) to confirm that the Pedal Curve has been enabled.
4. Play the keyboard while adjusting the Pedal Curve values (1-127). When you have determined which curve value you want, you can reassign the physical controller to something else.

When adjusting the Pedal Curve, it is a good idea to use a familiar sound that responds to pedal control, so you can hear how it reacts to your playing. The pedal should be assigned to an easily audible sound modulation such as Pitch or Volume, and then you can make your adjustments. The Pedal MIDI CC is fixed to #64 (Sustain), but it may be possible to reassign this controller message in your music creation software. Please consult your software's instruction manual for more information on this subject.

9.8 Tempo

There are two ways to adjust tempo with your 606304 keyboard. The first is to assign the advanced controller (#156) to a physical control, such as the SLIDER or a KNOB. To assign tempo to a physical controller, enter the KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the ASSIGN key. The LED will display CHO, prompting you the "choose" the physical control you want to edit.
2. Move the desired physical controller. For example, if you want to assign tempo control to a KNOB, move the KNOB. The LED will show the current MIDI Control Number of the selected controller.
3. Using the NUMERIC keys, input the advanced controller number for tempo (#156), then press ENTER. The LED will display "don" (done) to confirm that the new assignment has been set.

9.9 RPN & NRPN

RPN and NRPN messages help expand the MIDI universe, allowing the implementation of new MIDI controllers. RPN stands for “Registered Parameter Number” and conforms to the MIDI specification, while NRPN stands for “Non-Registered Parameter Number” and is defined by each manufacturer. Therefore, how an NRPN behaves can be different for each manufacturer or even for each device. In any case, these controllers are your gateways to access whole new ranges of MIDI controls, provided those functions are implemented in the target MIDI device.

RPNs and NRPNs work in a similar fashion. Each requires a pair of MIDI controller messages and values that are used to define the RPN or NRPN to be sent. For RPNs, the controllers are #100 (LSB) and #101 (MSB), while for NRPNs, the controllers are #98 (LSB) and #99 (MSB). The values sent via these MIDI CCs define which RPN, or NRPN respectively, is selected for control.

Once the RPN or NRPN is defined, another pair of controller messages is used to send the value associated with the RPN or NRPN message. MIDI CC #6 is used to send a “coarse” value, or MSB, while MIDI CC #38 is used to send a “fine” value, or LSB, although the LSB is not always necessary.

On the 606304, you can use ASSIGN in KEYBOARD MULTI-FUNCTION mode to set each of the required MIDI controllers for sending RPN and NRPN messages to the available physical controls, such as the KNOBS. Then you can use those controls in the correct order to define the RPN or NRPN, and then send the associated value.

9.10 Dual

There may be times when you want your MIDI messages to go to two places at once, while still maintaining independent MIDI channels on your target devices. If DUAL mode is enabled, the 606304 keyboard can send MIDI message out over two channels simultaneously. MIDI transmission on two channels will continue until DUAL mode is turned off.

To enable DUAL mode, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the DUAL key. The LED will display "on" to confirm that DUAL mode is engaged.

To turn it off, re-enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, and then press the DUAL key. The LED will display "off" to confirm that DUAL mode is disengaged.

When DUAL mode is first activated, MIDI channels 1 and 2 are used by default. You can reassign which MIDI channels to use by performing the steps in **Section 9.3** above. When DUAL mode is active, you will set the DUAL mode MIDI channel. When DUAL mode is off, you will set the Global MIDI channel.

Note that the DUAL and SPLIT functions cannot be used simultaneously. Engaging DUAL mode will turn off the SPLIT function. Additionally, if new MIDI channels have been set in DUAL mode, those channels will be used in SPLIT mode, and vice versa.

9.11 MIDI Time Code (MTC)

MIDI Time Code (MTC) is a means of synchronizing two devices using MIDI timing messages. This information can be converted into SMPTE time code for use in video production environments.

To enable your 606304 keyboard to send MTC messages, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the MTC key. The LED will display "on".
2. Press the ENTER key. The LED will display "don" (done) to confirm that sending of MTC messages has been enabled.

To disable the sending of MTC messages, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then perform the following steps:

1. Press the MTC key. The LED will display "off".
2. Press the ENTER key. The LED will display "don" (done) to confirm that sending of MTC messages has been disabled.

9.12 Mute

There are times when you might want to move a control and not send out any MIDI messages. For example, you might turn up the SLIDER to control volume on one virtual instrument, then change MIDI channels to fade in the volume on an external MIDI module, but the problem is that the SLIDER is already up. If you move the slider at this point, the volume on the external MIDI module will jump to the current volume value instead of fading in gradually. The MUTE function can help in this situation by muting the keyboard's MIDI output so you can reset the SLIDER position. When MUTE mode is active, no messages will be transmitted.

To enable MUTE mode, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the MUTE key. The LED will display "on" to confirm that MUTE mode is engaged.

To turn it off, re-enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the MUTE key. The LED will display "off" to confirm that MUTE mode is disengaged.

9.13 Snap Shot

It is possible for the controls on the 606304 to get out of sync with an instrument it is controlling. This can happen when you control multiple different instruments, one after another, and move the SLIDER, PEDAL, WHEELS, and/or KNOBS. You may find that the physical position of the control doesn't match the value of the parameter that you're controlling and, when you move that control, the parameter will jump to the current value with possible unexpected effects on the audio. SNAP SHOT allows you to force

your target MIDI instrument into sync with the 606304 controls by sending a "picture" of all the current controller positions and states at once.

To perform a SNAP SHOT, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the SNAP SHOT key. The LED will display "don" to confirm that the SNAP SHOT has been sent.

9.14 Upload & Download

Once you've configured your keyboard the way you like, you can save the settings using the System Exclusive Upload function. System Exclusive, or SysEx, consists of a string of data describing the MIDI device that generated it. This data can be recorded to a SysEx compatible sequencer for storage and subsequent Download back to the keyboard at a later time.

Note: A sequencer is a software or hardware MIDI recorder. Once MIDI data is captured, the sequencer allows you to edit and play back the MIDI events in a sequence.

Before you can capture SysEx data from the 606304, you should make sure that SysEx data is not being filtered out by your sequencing software. You may need to consult the manual for your sequencer to find out if there are MIDI filters that could impede SysEx reception.

To Upload the SysEx data from the 606304, first start your sequencer recording. Then press the EDIT button to enter KEYBOARD MULTI-FUNCTION mode, and press the UPLOAD key to transmit the data. The LED should display "SEu", indicating that the keyboard is performing the System Exclusive Upload. When it is complete, the display will return to its original state.

To Download the data from your sequencer to the 606304, first ensure that your sequencer is ready to play the data back. Then press the EDIT button to enter KEYBOARD MULTI-FUNCTION mode, and press the DOWNLOAD key to ready the 606304 for SysEx reception. The display should read "SEd", signifying the keyboard is primed for System Exclusive Download. Now begin playback of the SysEx data from your sequencer. When it is complete, the display will return to its original state.

9.15 Pedal Polarity

Sustain Pedals are switches that can be either on or off. Depending on the manufacturer, the pedal's switch might be normally open or normally closed when it is at rest. When you turn on the keyboard, it automatically detects the position of the Sustain Pedal and sets the appropriate pedal polarity. If you want to change the pedal polarity, press down the pedal while turning on the unit and the normal behavior of the pedal will be reversed.

You can also switch the Pedal Polarity manually. To reverse the Pedal Polarity, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the PA POLARITY or the PB POLARITY key. The LED will display "on" to confirm that the Pedal Polarity is reversed. Press the ENTER key on the keyboard to confirm your choice. The LED will display "don" (done) to indicate that Pedal Polarity has been reversed.

To return to normal polarity, re-enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the PA POLARITY or the PB POLARITY key. The LED will display "off" to confirm that reversed Pedal Polarity is no longer in effect. Press the ENTER key on the keyboard to confirm your choice, the LED will display "don" (done) to indicate that reversed Pedal Polarity is off.

9.16 All Notes Off

MIDI communications sometimes get quite complex and mistakes in transmission or reception can occur. It is not common, but when there's a miscommunication, it's possible for notes to get stuck. For example, the "note on" messages might get received, but no "note off" messages make it through, so the note continues to play, even though you are no longer pressing the key.

If this ever occurs, you can send an "All Notes Off" command that will release any stuck MIDI notes. To transmit the All Notes Off message, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the ALL NOTE OFF key. The LED will display "don" to confirm that the All Notes Off command has been sent.

9.17 Reset All Controllers

With so many options for MIDI control, it can be easy to lose track of the controller values that have been sent to your target MIDI device. You might hear that some aspect of your sound has changed, and you don't know which MIDI controller is responsible for the change. The Reset All Controllers function can help you figure things out by returning all controller values to their default state.

To transmit the Reset All Controllers message, enter KEYBOARD MULTI-FUNCTION mode by pressing EDIT, then press the RESET ALL CONTROLLER key. The LED will display "don" to confirm that the Reset All Controllers command has been sent.

9.18 GM/GS/XG On

GM stands for "General MIDI", which is a standard that defines a set of sounds available for use and the ways in which they are controlled. The main goal of General MIDI is for GM compatible MIDI sequences to play back correctly on GM compatible sound sources.

Most of the time, a GM compatible sequence will have a "GM On" message imbedded at the start of the sequence, but with some files you may find that you have to turn GM on manually. Also, even if you don't have a GM sequence, you may want to enter GM mode on your device for access to the familiar sound set and ease of use.

You can send a GM On message using KEYBOARD MULTI-FUNCTION mode. Press EDIT, then press the GM ON key. The LED will display "don" to confirm that the GM On command has been sent.

GS is an extension to the GM standard discussed above. GS makes some additional sounds and controls available for use in GS compatible devices.

XG is another extension to the GM standard discussed above. XG adds more controllers and options for editing the sounds within XG compatible devices.

10.0 OCTAVE AND TRANSPOSE

10.1 Octave

Sometimes, you may want to play keys that are a higher or lower pitch than the current range of the keyboard. By default, the ▲/▼ BUTTONS are assigned to adjust the octave range, so pressing them allows you to shift the keyboard octave up and down, to a maximum of ± 3 octaves.

Pressing the ▲ BUTTON increases the value by one, while pressing the ▼ BUTTON decreases the value by one. Pressing both buttons at the same time will reset the value to zero.

The ▲/▼ BUTTONS have LEDs next to them that indicate the current octave and transposition status. When the LED next to a button is on, it shows that there's an active

octave adjustment. When the LED blinks slowly, it indicates that there is a transposition. If the LED flickers quickly, it means that there are both octave and transpose adjustments active at the same time. Finally, when both LEDs are off, there is no octave or transpose adjustment currently active. For information on the transposition function, see **Section 10.2** below.

By default, the ▲/▼ BUTTONS are assigned to advanced controller #154 (Octave), but you can reassign them to send any controller you want. Please refer to **Section 9.2** above for details on how to reassign the ▲/▼ BUTTONS.

10.2 Transpose

Transposition reassigns which notes the keys play. This may come in handy if you learned a song in one musical key (e.g., C Major), but wish to play it back in another key (e.g., E Major). If you hold the EDIT key and press the ▲/▼ BUTTONS, it allows you to shift the keyboard up and down in semitones, with the maximum range of adjustment being ± 12 semitones.

Pressing the ▲ BUTTON increases the note value by one half note (e.g., transposing C to C \sharp), while pressing the ▼ BUTTON decreases the note value by one half note (e.g., transposing E to E \flat). Pressing both buttons at the same time will reset the value to zero.

The ▲/▼ BUTTONS have LEDs next to them that indicate the current octave and transposition status. When the LED next to a button is on, it shows that there's an active octave adjustment. When the LED blinks slowly, it shows that there's a transposition. If the LED flickers quickly, it means that there are both octave and transpose adjustments active at the same time. Finally, when both LEDs are off, there is no octave or transpose adjustment currently active. For information on the octave shift function, see **Section 10.1** above.

11.0 TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website (www.monoprice.com) during regular business hours, 7 days a week. You can also get assistance through email by sending a message to tech@monoprice.com

12.0 DATA TABLES

12.1 Assignable Controllers

Item	Channel Range	Initial Channel	Parameter Range	Default Controller	Initial Value
▲/▼	1~16: Global Channel	0	0~159	154 (OCTAVE)	0
SLIDER		0	0~147	147 (MASTER VOLUME)	0
PITCH		0	0~147	146 (PITCH)	64
MODULATION		0	0~147	1 (MODULATION)	0
PEDAL		0	0~151	64 (SUSTAIN)	0
KNOB A1	0~16: Global Channel	0	0~159	152 (PROGRAM)	0
KNOB A2		0	0~159	153 (GLOBAL CHANNEL)	0
KNOB A3		0	0~159	156 (TEMPO)	100
KNOB A4		0	0~159	157 (KEYBOARD CURVE)	0
KNOB B1	1~16: Independent Channel	0	0~159	7 (CHANNEL VOLUME)	100
KNOB B2		1	0~159	7 (CHANNEL VOLUME)	100
KNOB B3		2	0~159	7 (CHANNEL VOLUME)	100
KNOB B4		3	0~159	7 (CHANNEL VOLUME)	100

12.2 Controller List

Controller Number	Definition	Value Range
0	(MSB) BANK SELECT	0-127
1	(MSB) MODULATION	0-127
2	(MSB) BREATH	0-127
3	UNDEFINED	0-127
4	(MSB) FOOT CONTROLLER	0-127
5	(MSB) PORTAMENTO TIME	0-127
6	(MSB) DATA ENTRY	0-127
7	(MSB) CHANNEL VOLUME	0-127
8	(MSB) BALANCE	0-127
9	UNDEFINED	0-127
10	(MSB) PAN	0-127
11	(MSB) EXPRESSION	0-127
12	(MSB) EFFECT CONTROL 1	0-127
13	(MSB) EFFECT CONTROL 2	0-127
14-31	UNDEFINED	0-127
32	(LSB) BANK SELECT	0-127
33	(LSB) MODULATION	0-127
34	(LSB) BREATH	0-127
35	UNDEFINED	0-127
36	(LSB) FOOT CONTROLLER	0-127
37	(LSB) PORTAMENTO TIME	0-127
38	(LSB) DATA ENTRY	0-127
39	(LSB) CHANNEL VOLUME	0-127
40	(LSB) BALANCE	0-127
41	UNDEFINED	0-127
42	(LSB) PAN	0-127
43	(LSB) EXPRESSION	0-127
44-63	CONTROLLER	0-127

64	SUSTAIN PEDAL	<63 OFF, >64 ON
65	PORTAMENTO	<63 OFF, >64 ON
66	SOSTENUTO	<63 OFF, >64 ON
67	SOFT PEDAL	<63 OFF, >64 ON
68	LEGATO FOOTSWITCH	<63 NORMAL, >64 LEGATO
69	HOLD 2	<63 OFF, >64 ON
70	SOUND CONTROLLER	0-127
71	RESONANCE	0-127
72	RELEASE TIME	0-127
73	ATTACK TIME	0-127
74	CUTOFF	0-127
75	DECAY TIME	0-127
76	VIBRATO RATE	0-127
77	VIBRATO DEPTH	0-127
78	VIBRATO DELAY	0-127
79	SOUND CONTROLLER	0-127
80-83	GENERAL PURPOSE CONTROLLER	0-127
84	PORTAMENTO CONTROL	0-127
85-90	CONTROLLER	0-127
91	REVERB DEPTH	0-127
92	TREMOLO DEPTH	0-127
93	CHORUS DEPTH	0-127
94	CELESTE/DETUNE DEPTH	0-127
95	PHASER DEPTH	0-127
96	DATA INCREMENT	0-127
97	DATA DECREMENT	0-127
98	(LSB) NRPN	0-127
99	(MSB) NRPN	0-127
100	(LSB) RPN	0-127
101	(MSB) RPN	0-127

102-119	CONTROLLER	0-127
120	ALL SOUND OFF	0
121	RESET ALL CONTROLLERS	0
122	LOCAL CONTROL	0 OFF, 127 ON
123	ALL NOTES OFF	0
124	OMNI OFF	0
125	OMNI ON	0
126	MONO	0
127	POLY	0
128	(RPN) PITCH BEND SENSITIVITY	0-127
129	(RPN) CHANNEL FINE TUNING	0-127
130	(RPN) CHANNEL COARSE TUNING	0-127
131	(RPN) MODULATION DEPTH RANGE	0-127
132	(NRPN) VIBRATO RATE	0-127
133	(NRPN) VIBRATO DEPTH	0-127
134	(NRPN) VIBRATO DELAY	0-127
135	(NRPN) FILTER CUTOFF FREQUENCY	0-127
136	(NRPN) FILTER RESONANCE	0-127
137	(NRPN) EQ LOW GAIN	0-127
138	(NRPN) EQ HIGH GAIN	0-127
139	(NRPN) EQ LOW FREQUENCY	0-127
140	(NRPN) EQ HIGH FREQUENCY	0-127
141	(NRPN) ENVELOPE GENERATOR ATTACK TIME	0-127
142	(NRPN) ENVELOPE GENERATOR DECAY TIME	0-127
143	(NRPN) ENVELOPE GENERATOR RELEASE TIME	0-127
144	POLYPHONIC KEY PRESSURE	0-127
145	AFTERTOUCH	0-127
146	PITCH BEND	0-127
147	MASTER VOLUME	0-127
148	START (MTC)	-

149	CONTINUE (MTC)	-
150	STOP (MTC)	-
151	RESET (MTC)	-
152	PROGRAM	0-127
153	GLOBAL CHANNEL	0-127
154	OCTAVE	-3~3
155	TRANSPOSE	-12~12
156	TEMPO	20-250
157	KEYBOARD CURVE	0-4
158	PEDAL A CURVE	1-127
159	PEDAL B CURVE	1-127

12.3 LED Display Definitions

LED Display	Definition
xxx	3 digit display, at rest shows Program Number
xx	Positive Transposition value
-xx	Negative Transposition value
x	Positive Octave value
-x	Negative Octave value
CHO	Prompt to "choose" a function or control
on / off	Current function is On or Off
don	Current function is "done" or complete
Err	Error, the value range is not supported
SEu	System Exclusive Upload
SEd	System Exclusive Download

13.0 COMPLIANCE



This product is in compliance with CE directives and bears the CE mark. For detailed information on specific directives, please contact Monoprice Customer Service.

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