KILLAMIX P4-0781
Mini Compact USB
Controller

KILLAMIX P4-0781 Mini Compact USB Controller User Manual
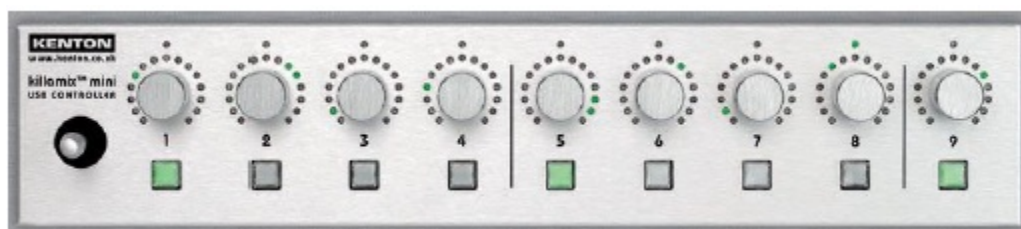
KILLAMIX

KILLAMIX P4-0781 Mini Compact USB Controller

Product Usage Instructions

Connecting the Killamix Mini to Your Computer

When connecting the Killamix Mini to your computer via the USB cable, ensure that it is detected and recognized as a MIDI device. Select it in the MIDI port select section of your software. On Mac, it will display as Killamix Mini, and on PC, it will show as USB Audio Device. Ensure it is selected in the MIDI IN section.

Configuring Encoders and Buttons:

To configure the encoders to send controller incremental messages or offset controller numbers, refer to the Configuring Extra Operational Modes section on page 6 of the manual. For software learning, set all knobs near the center position for reliable results.

Operational Modes

The Killamix Mini sends consistent controller messages from knobs/buttons/joystick with varying MIDI channel numbers. Configure encoder LEDs and button modes according to your preferences. Refer to the manual for detailed instructions on configuring extra operational modes.

FAQ

- **Q:** What software applications are compatible with the Killamix Mini?
- **A:** The Killamix Mini is intended for use with software applications that can learn controller messages sent to them. Ensure compatibility with your preferred software.
- **Q**: How do I troubleshoot if the device is not detected by my computer?
- **A**: If the Killamix Mini is not detected, ensure proper connection, check for driver installations, and consult the dealer or a technician if needed.

The Killamix-Mini compact USB controller is housed in a sturdy brushed aluminum case with solid aluminum knobs. It is the perfect companion to your laptop, whether you are using a sequencer, DJ-ing or VJ-ing, just plug in the USB cable and go. Despite having only 9 knobs, 9 buttons, and a joystick, the Killamix-Mini can in effect be 144 knobs, 144 buttons, and a joystick. By pressing a single knob you can select any MIDI transmit channel from 1 to 9, or with a combination of two knobs, select the remaining channels 10 to 16. When you select a new MIDI channel, the current values of the knobs for that channel are stored so that they can be restored when you next select this channel, thus avoiding any parameter jump difficulties typical of units with traditional knobs and faders. When the values are restored, the LED rings around the knobs indicate their new positions.

The 9 rotary encoders

- The encoders send controller messages (CCs) when turned. The leftmost encoder always sends CC#1, the next one CC#2, and so on until the rightmost one sends CC#9. As the encoders are turned, the LED rings around the
- encoders indicate the position that the knob is in. If you change MIDI channel by pressing a knob, the true position of the knob will be stored so that when you later return to the same channel, the knob will continue sending from
- where it previously left off and the LED ring will be updated to indicate that position. When the Killamix Mini is powered on after having been off, it will revert to the channel and data values last saved (by pushing a knob) – so if you
- want to save the exact current state of the unit before powering down, you should press the knob(s) for the currently selected channel first.
- As mentioned above, pressing any knob will change the MIDI transmit channel to that indicated beneath it, so

pressing knob #9 (the rightmost one) will select MIDI channel #9. The LED above the knob will light to indicate the current

- channel. When a new channel is selected, any knob or switch values that have changed (on any channel) will be stored, then the values for the new channel will be indicated by the LED rings. To select MIDI channels 10 to 16 you need

- to press two knobs in combination. Press and hold knob #9 then press one of the other knobs 1 to 7. Adding the two numbers together gives the final channel number, so knob #9 plus knob #3 gives channel 12, and knob #9 plus knob

- #7 gives channel #16. There will be two LEDs lit above the knobs for channels 10 –16. A CC#23 message is sent on the new channel when selected for software that can make use of this.

- When turned very slowly, the encoder data values change (increment or decrement) 30 times each revolution. When turned faster (normal speed) the encoder values will change 60 times per revolution. If the encoder knobs are turned

- very fast, the encoder values will change 60 times per revolution but 3 at a time so making the whole range (0-127) in less than one turn, allowing you to go from one end of the data scale to the other in one twist of the knob. Turning the knob further after maximum or minimum position has been reached will continue to send the same max or min data. You cannot step from max to min or vice versa.

It is possible to configure the encoders to send controller incremental messages instead of standard messages. Also the controller numbers can be offset from their default values. See the "Configuring extra operational modes" section on page 6. When getting the software to learn controller messages from the knobs, we recommend that you set all the knobs to somewhere near the center position (as indicated on the learning) before initiating the learning process. We have found this to produce the most reliable results.

The 9 push buttons

- The push buttons also (by default) send controller messages (CCs) when pushed. The leftmost push button sends CC#10, the next one CC#11, and so on until the rightmost one sends CC#18. The push buttons send values 127 or 0 on

- the selected channel. By default, they send 127 when pressed only, but can be configured to work in any of three modes:

- On only (127 when pressed), On/Off (127 when pressed, 0 when released) or toggle (alternate 127 and 0).

- The button LEDs show the current state, which will be always lit for On only mode, lit only when pressed for On/Off, and dependent on the last state for the toggle. See "configuring button operational modes"

The joystick

- The joystick also sends controller messages (CCs) when moved. By default, the X-axis (left & right) sends CC#19, while the Y-axis (up & down) sends CC#20. The joystick is spring-loaded to return to the center position when released.

- The center position is data value #64. For the X-axis, the left position is zero, and the right position #127. For the Y-axis, the down position is zero, and the up position #127. The joystick data values are not stored or restored when you

- change the channel, but the joystick will always send on the currently selected MIDI channel. There are two optional 4 pole modes selectable for the joystick in which the center position is zero, and moving right sends

CC#19, up sends CC#20, left sends CC#21, and down sends CC#22. Mode 1 sends variable values 0 – 127. Mode 2 (switch) sends value 127 only.

- See the "Configuring extra operational modes" section on page 6.
- There is also a calibration routine built-in, which can be used if the joystick goes out of calibration due to wear and tear. Again

The USB port

The USB socket is located on the left side of the unit, towards the back. Use the supplied USB cable to connect to your computer. The USB port in the Killamix Mini is designed to be compatible with MIDI class-compliant drivers and as such will work with Windows XP/Vista/ 7 and Mac OS-X (10.2 onwards) without requiring additional drivers. The Killamix Mini also works with Linux 2.5 kernels and above. We are not currently able to supply drivers for other operating systems such as Windows 98 / 2000 / NT, or earlier Mac ones.

Using your computer

- When you plug the USB cable from the Killamix Mini into your computer, the device should be detected and identified as Killamix Mini manufactured by Kenton.
- In order to use this device with your software, you will need to select it in the MIDI port select section of your software. On a MAC it will show as "Killamix Mini", on a PC it will show as "USB Audio Device". Ensure that it is selected in the MIDI IN section.
- The Killamix Mini is intended for use with software applications that "learn" which controller messages are being sent to them. Because of this, the Killamix Mini always sends the same controller message from the same
- knob/button/joystick (although the start number can now be offset). Only the MIDI channel number changes.
- As mentioned above, when getting software to learn controller messages from the knobs, we recommend that you set all the knobs to somewhere near the center position (as indicated on the learning) before initiating the learn process.

CONFIGURING BUTTON OPERATIONAL MODES

available at all times during use

CONFIGURING BUTTON OPERATIONAL MODES – available at all times during use Press and hold knob #9 then press knob #8 – then release both. To show that this mode has been entered, ALL the encoder LEDs will light up. The channel LEDs will show the channel being edited and the button LEDs will indicate the current mode for each button as follows:

- ON = on only mode (127 sent when the button is pressed)
- OFF = on/off mode (127 sent when pressed, 0 sent when released)
- FLASHING = toggle mode (127 and 0 sent on alternate presses)

To change the mode for any button, press it to step to the next mode. To exit this mode press any one of the knobs, and release. You will be returned to the program/channel you were on before the mode was selected. On exiting this mode, any button that has changed will be left in one of the following states. For on-only mode ON, for the other modes OFF. Note however that this is a global operation (applies to that button on all MIDI channels), so if a button mode has been changed, the button LED might not show the intended condition until used and re-saved.

CONFIGURING EXTRA OPERATIONAL MODES

The Killamix Mini has several extra modes of operation which have been added in response to customer requests. These have to be selected or deselected at boot-up. You need to unplug the USB cable from the Killamix Mini to start this operation, then wait around five seconds. Now plug the USB cable back in whilst holding push buttons 6 & 8 pressed down. Allow a couple of seconds for the USB interface to initialize then release the buttons. Push button 9 will light up to indicate that the mode has been successfully entered, plus any of buttons 1 to 8 depending on what extra modes are currently active. The push button LED shows ON if the mode is active – plus one of the LEDs of the associated learning. To select or deselect, press the appropriate push button. The default is OFF in all cases.

Button 1 – Encoder mode – absolute or incremental

- Off = send encoder absolute values (default)
- On = send encoder incremental messages instead of absolute values.
- Two modes are available which are indicated by leading #1.
- 1 = Doepfer mode
- 2 = Ableton signed 7-bit mode

Doepfer mode description

The increment message is always CC#96 where the data value is the CC to be incremented Decrement message is always CC#97 where the data value is the CC to be decremented Example 1: 0xB0, 96, 07 would increment controller 7 on MIDI channel 1

Example 2: 0xB4, 97, 16 would decrement controller 16 on MIDI channel 5 This mode can only ever increment or decrement by one, due to the way it works. Ableton signed 7-bit mode description:

The message is the normal CC (1 to 9) where data values of 1 to 63 signify increment and data values of 65 to 127 signify decrement. A data value of 1 will increment by 1 and a data value of 63 will increment by 63 – similarly, a data value of 65 will decrement by 1 and a data value of 127 will decrement by 63.

Button 2 – Joystick mode

- Off = standard X/Y joystick (default)
- On – two modes are available indicated by the LEDs lit on the learning above button 2
- 1 – four pole mode with center zero (CCs 19,20,21,22) sending analog values 0 –127
- 2 – four pole mode switching joystick (CCs 19,20,21,22) only value 127 sent at limits When in 4 pole mode, the center position is zero, and moving right sends CC#19, up sends CC#20, left sends CC#21 and down sends CC#22.

button 3 – Receive CCs for Encoders and Push buttons

Off = incoming MIDI messages ignored (default)
On = two modes are available indicated by the LEDs lit on the leading above button 3

1. Allow received CCs to update Encoder and Push button values for all channels. This mode updates ALL CCs on ALL channels – even if that channel is not the one currently selected, however note the following exception: For push buttons, only buttons set to toggle mode will be updated because this is the only mode that can be meaningfully used. Push buttons set to on-only or on-off modes will still operate as usual but will not be updated by received CCs.

2. Allow received CCs to update Encoders Allow received CCs (or Notes if selected) to update push button LEDs *ONLY* Push button LEDs are not directly updated from the buttons.
   Works for all 3 button modes – on only / on-off / toggle

Button 4 – Hi-Speed Encoder mode

- Off = normal 3-speed operation (default)
- On = hi-speed mode active
- Hi-Speed mode is implemented so that turning the encoder VERY slowly will still increment or decrement slowly, but anything faster will operate at hi-speed

Button 5 – Buttons send MIDI notes

- Off = buttons send controllers (CCs 10 – 18) as standard – (default)
- On = push buttons send MIDI notes instead of controllers

There are 4 active modes which are indicated by the LED-ring above button 5. Where the following LEDs are lit, modes are as follows:

1. Impulse mode for Ableton drums – buttons are mapped to white keys only from middle C (MIDI note #60)
2. Consecutive mode (white & black keys) starting from MIDI note #36
3. Consecutive mode (white & black keys) starting from MIDI note #48
4. Consecutive mode (white & black keys) starting from MIDI note #60

Remember to set the individual buttons to their on/off mode if you want to send note-offs when you release the buttons.

Button 6 – Knobs pressed send controller messages mode (instead of changing the channel)

- Off = Knobs pressed change MIDI channel (default)
- On = The selected modes are indicated by the LED ring above button 6.

The LED ring above button 6 indicates the mode:

1. Knobs send controllers 24-32 with value 127 when pressed (nothing when released)
2. Knobs send controllers 24-32 with a value of 127 when pressed and with a value 0 when released

As single knob presses no longer change MIDI channels – you can change MIDI channels in this mode by using knob 9 plus one of knobs 1-7, this means that you can now only select channels 1 to 7 in this mode.

Pressing knobs 9+8 still allows you to set button modes as usual.
Button 7 – Offset controller numbers (does not affect Note numbers if selected)
Off = Controller numbers (CCs) are as standard (default)
On = Controller numbers are offset by the following amounts indicated by which LED of the leering is lit:

1. offset by 10 – knobs go 11 to 19 – buttons 20 to 28 – joystick 29/30 [/31/32]
2. offset by 20 – knobs go 21 to 29 – buttons 30 to 38 – joystick 39/40 [/41/42]
3. offset by 30 – knobs go 31 to 39 – buttons 40 to 48 – joystick 49/50 [/51/52]
4. offset by 40 – knobs go 41 to 49 – buttons 50 to 58 – joystick 59/60 [/61/62]
5. offset by 50 – knobs go 51 to 59 – buttons 60 to 68 – joystick 69/70 [/71/72]

6. offset by 60 – knobs go 61 to 69 – buttons 70 to 78 – joystick 79/80 [/81/82]

7. offset by 70 – knobs go 71 to 79 – buttons 80 to 88 – joystick 89/90 [/91/92]

8. offset by 80 – knobs go 81 to 89 – buttons 90 to 98 – joystick 99/100 [/101/102]

9. offset by 90 – knobs go 91 to 99 – buttons 100 to 108 – joystick 109/110 [/111/112]

Button 8 – reduce LED brightness
Off = LED brightness at maximum level (default)
On = Push buttons can be reduced to one of 8 levels of brightness. Ledrings have only 2 levels of brightness – maximum and reduced. The brightness is indicated by push button 9 and by which LED of the ledring is lit. The brightness of the LED rings does not change during configuration

1. Push buttons brightness level 1 (minimum) – leading to reduced brightness

2. Push buttons brightness level 2 – learning reduced brightness

3. Push buttons brightness level 3 – leading reduced brightness

4. Push buttons brightness level 4 – ledring to reduced brightness

5. Push buttons brightness level 5 – ledring maximum brightness

6. Push buttons brightness level 6 – ledring maximum brightness

7. Push buttons brightness level 7 – ledring maximum brightness

8. Push buttons brightness level 8 – ledring maximum brightness

Knob 9 (not button) – last push button lights button LED mode

- When LED 9 is all off, the mode is inactive and LEDs operate normally.

- When leading 9 LED #1 is lit, the mode is active [on].

- When on, the last square push button pressed (or released) indicates which button was pressed last.

- If you change MIDI channels then all button LEDs go out until a button is pressed on this channel.

- The current on/off state of the button is not indicated in this mode

Button 9 – Exit this mode – saves the settings and exits to normal operational mode

BUILT-IN SET-UP AND CALIBRATION ROUTINES

Displaying the firmware revision number (buttons 1 & 3)
Power the unit on (plug into the USB port) whilst holding buttons 1 & 3 pressed down. Allow a couple of seconds for the USB interface to initialize then release the buttons. Buttons 1 & 3 should light up indicating this mode. The LED rings 1 to 4 indicate the firmware revision number in the following way: going clockwise from the left segment, the first 9 LEDs indicate the numbers 1 to 9, and a zero is indicated by the 15th LED (the last one). The revision number is a 4 digit number where LED ring #1 indicates 1000s, LED ring #2 indicates 100s, LED ring #3 indicates 10s, and LED ring #4 indicates units. When you have read and noted the version number, press button #9 to start normal operation – the LED startup display will start.

Resetting the unit to default values (buttons 2 & 4)

- To reset the unit to default values, power the unit on (plug into the USB port) whilst holding buttons 2 & 4 pressed down. Allow a couple of seconds for the USB interface to initialize then release the buttons. Buttons 2 & 4 should light up

- indicating this mode. The routine is complete when the LED startup display starts. The joystick should be re-

calibrated after a reset.

Calibrating the joystick (buttons 3 & 5)

The joystick will have been calibrated when the unit is manufactured, but should it need re-calibrating due to wear and tear or a reset (above item), use the following procedure:

1. power the unit on (plug into the USB port) whilst holding buttons 3 & 5 pressed down. Allow a couple of seconds for the USB interface to initialize then release the buttons. Buttons 3 & 5 should light up indicating this mode.
2. when the LED ring around knob #1 is lit (all 15 LEDs) the center position of the joystick has been captured for both the X & Y axis.
3. move the joystick to the far right then move the joystick in a wide circle clockwise, as you do this, the left, then the right segments of the LED rings will light up to indicate that a value has been captured for this position. The positions requiring capture are right, down, left, and up. It will not register the next position until the previous one in the sequence has been successfully captured, so hold at each stage until the LED ring indicates capture. New capture values must be at least equal to the previous capture value for that position.
4. You need to capture each value 4 times to complete the sequence, by which time all 9 of the LED rings will be fully lit.
5. The unit will then perform some calculations and store the values, and then the LED startup display starts.

Configuring extra operational modes (buttons 6 & 8)
As described on page 5.
UPGRADING THE KILLAMIX-MINI FIRMWARE (buttons 7 & 9)
Before starting you should have the SysEx upgrade file ready on your computer. You will also need software on your computer that can send SysEx dump files (.syx format) We very strongly recommend using MIDI-OX if using a PC. Important – if you are using a laptop or portable computer, ensure that it is powered from the mains for the duration of this operation. Read through all the following instructions before starting this operation

- Power the unit on (plug into the USB port) whilst holding buttons 7 & 9 pressed down. Allow a couple of seconds for the USB interface to initialize then release the buttons. Various buttons will light up depending on the status of various
- checks made. Ideally, buttons 1,2,3,4 & 5 will light up at this stage, indicating that the unit is completely ready to receive a firmware upgrade. See later for what to do if this is not the case.
- Load the file into your software (if necessary) and start the SysEx file dump from your computer. The procedure should only take a few seconds. If everything goes as it should, all 9 of the buttons should be lit up when the download
- procedure has been completed and the received file has been checked. You now need to press button #9 to confirm that you want to perform the final irreversible copy operation to complete the upgrade. A few seconds after you have
- done this, buttons 1 to 8 will go out leaving button #9 alone lit – indicating that the copy operation is complete. Only then should you unplug the USB cable – wait 5 seconds then plug it in again to resume normal operation. The
- Killamix Mini will now use the upgraded firmware. You can if you wish check for the new firmware version number (see section above).

If anything goes wrong with the upgrade process, for example, the SysEx dump file was corrupt, or the wrong number of bytes were received, then the process will abort. See the error states below. The following LEDs indicate the status of the upgrade procedure:

- 123 Firmware upgrade mode (moves onto one of the next steps too fast to see this)
- 1234 Download area for an upgrade not blank (error state) – see error #4 info below.
- 12345 Ready to receive SysEx dump file.
- 123456 Correct SysEx file dump header identified – waiting for rest of file.
- 1234567 Checksum failed (error state) – see error #7 info below.
- 12345678 Complete dump received – will then be checksum checked.
- 123456789 Complete dump received – checksum OK – ready for button #9 press.
- 9 only Indicates that the copy procedure is complete, you can now unplug

Error state #4 – this will only occur if an incomplete SysEx dump file has previously been received. The download area will now be erased but you will have to unplug the USB cable and start again.
Error state #7 – this means that a complete file has been received, but that the file is corrupt. The download area will be erased but you will have to unplug the USB cable and start again.
If LEDs 12345 remain lit when you have sent the dump, this indicates that no valid dump has actually been received. Check you have selected the correct port settings on the computer.
Wait 10 seconds in case there is a delay in sending from your computer, then unplug the USB cable and start again. If LEDs 123456 remain lit when you have sent the dump, this indicates that an incomplete dump has been received. Wait 10 seconds in case there is a delay in sending from your computer, then unplug the USB cable and start again. You will probably end up with error state #4 at the restart (see above)

Extremely important note
When the SysEx dump file has been successfully received, the checksum verified, and you have pressed button #9 to confirm the upgrade, then the old operating system is erased and the new one copied to the operational area – this only takes about 1 second, but it is absolutely essential that power to the unit is maintained during this copy period. For this reason, you should never perform the firmware upgrade operation if your computer is running on battery power. Ensure that the computer is running from the main supply. If power fails during the final copy operation (after pressing button #9 and before buttons 1 to 8 go out leaving button 9 only lit), then the Killamix Mini will become unusable and will have to be returned to Kenton to have the operating system restored

Specifications

- **Encoders**: 9 – 60 state changes per revolution (30 / 60 / 180 inc/Dec per rev)
- **Buttons**: 9 – illuminated
- **Joystick:** X + Y axis continuously variable – spring return to center
- **USB port:** Suitable for USB MIDI class compliant drivers – USB 2 / full speed
- **MIDI transmit (via USB):** CCs #1 to #23 on any MIDI channel (1 – 16)
- **MIDI receive (via USB)**: CCs #1 to #17 on current MIDI channel (1 – 16) Firmware upgrade SysEx dump only
- **Connection:** USB mini B (5 pins) socket on left side of unit
- **Power**: USB Bus powered
- **Power consumption**: < 100mA in normal operation
- **Finish:** Brushed aluminum with solid brushed aluminum knobs
- **Weight**: 0.5 Kilos
- **Dimensions**: 320mm x 64mm x 46mm high (12.6" x 2.6" x 1.8")
- **Supplied accessories:** USB cable – Mini B to A – 1.8 meters
- **Compliance**: This product has been tested and found to comply with FCC and CE requirements for

electromagnetic emissions and immunity. RoHS compliant (Restriction of Hazardous Substances – eg Lead)

- **WEEE Directive**: Correct disposal of this product at the end of its working life

(applies to the European Union & other European countries with separate collection systems)
The crossed-out wheelie bin symbol affixed to this product indicates that it should not be disposed of with other household wastes at the end of its working life. To prevent possible harm to the environment or to human health from uncontrolled waste disposal, please separate this from other types of waste and recycle it responsibly to promote the sustainable reuse of material resources.
Household users should contact either the retailer where they purchased the product, or their local government office for details of where and how they can take this item for environmentally safe recycling.
Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

FCC STATEMENT

FCC STATEMENT FOR KILLAMIX MINI
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, 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 I 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 the receiver.
- Connect the equipment to 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.

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Documents / Resources

KENTON **KILLAMIX-MINI** COMPACT USB CONTROLLER User Manual	**KILLAMIX P4-0781 Mini Compact USB Controller** [pdf] User Manual P4-0781 Mini Compact USB Controller, P4-0781, Mini Compact USB Controller, Compact USB Controller, USB Controller, Controller

References

- [**User Manual**](#)