



 | IMPACT

LX88+

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- 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.



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Introduction

Thank you for buying the Nektar Impact LX88+ controller keyboard.

The Impact LX+ controllers are available in 25, 49, 61 and 88 note versions and come with setup software for many of the most popular DAWs. This means that for supported DAWs, the setup work has largely been done and you can focus on expanding your creative horizon with your new controller. The Nektar DAW support adds functionality that makes the user experience more transparent when you combine the power of your computer with Nektar Impact LX88+.

In addition, the Impact LX88+ allow for complete user configurable MIDI control so if you prefer to create your own setups, you can do that too. We hope you will enjoy playing, using and being creative with Impact LX88+ as much as we have enjoyed creating it.

Box Content

Your Impact LX88+ box contains the following items:

- The Impact LX88+ Controller keyboard
- Printed Guide
- A standard USB cable
- Card containing license code for software inclusion

If any of the items above are missing, please let us know via email: stuffmissing@nektartech.com

Impact LX88+ Features

- 88 note full-sized, semi-weighted velocity sensitive keyboard
- 8 velocity sensitive, LED illuminated pads
- 9 MIDI assignable faders
- 9 MIDI assignable LED illuminated buttons
- 8 MIDI assignable controller pots
- 1 Instrument page button for Nektar DAW integration only
- 6 transport buttons
- Pitch Bend and Modulation Wheels (assignable)
- Transpose up/down buttons
- Mixer, Instrument and Preset select buttons
- 5 Function buttons including Mute, Snapshot, Null, Pad Learn and Setup
- 5 User configurable presets
- 2 read-only presets (Mixer/Instrument)
- 4 pad map presets
- Shift functions for Nektar DAW integration
- 3 character, 7 segment LED display
- Layer and Split buttons
- MIDI out socket
- USB port (back) and USB bus powered
- Power on/off switch (back)
- DC socket
- 1/4" jack Foot Switch socket (Back)
- Connect to iPad via Apple USB Camera Connection Kit
- Nektar DAW support integration

Minimum System Requirements

As a USB class compliant device, Impact LX88+ can be used from Windows XP or higher and any version of Mac OS X. The DAW integration files can be installed on Windows Vista/7/8/10 or higher and Mac OS X 10.7 or higher.

Getting Started

Connection and Power

The Impact LX88+ is USB Class compliant. This means there is no driver to install to get the keyboard set up with your computer. Impact LX88+ uses the built-in USB MIDI driver which is already part of your operating system on Windows and OS X.

This makes the first steps simple:

- Locate the included USB cable and plug one end in to your computer and the other in to your Impact LX88+
- If you want to connect a foot switch to control sustain, plug it in to the 1/4" jack socket on the back of the keyboard
- Set the power switch on the back of the unit to On

Your computer will now spend a few moments identifying the Impact LX88+ and subsequently you will be able to set it up for your DAW.

An optional 9V 600mA DC power supply can be connected to the DC power socket on the back of the LX88+, if you plan to use the keyboard without a computer.

Nektar DAW Integration

If your DAW is supported with Nektar DAW integration software, you'll need to first create a user account on our website and subsequently register your product to then gain access to the downloadable files applicable to your product.

Start by creating a Nektar user account here: www.nektartech.com/registration

Next follow the instructions given to register your product and finally click on the "My Downloads" link to access your files.

IMPORTANT: Make sure to read the installation instructions in the PDF guide, included in the downloaded package, to ensure you don't miss an important step.

Using Impact LX88+ as a Generic USB MIDI Controller

You do not need to register your Impact LX88+ in order to use your controller as a generic USB MIDI controller. It will work as a USB class device on OS X, Windows, iOS and Linux.

However there are several additional benefits to registering your product:

- Notification of new updates to your Impact LX88+ DAW integration
- PDF download of this manual as well as the latest DAW integration files
- Access to our email technical support
- Warranty service

Keyboard, Octave and Transpose

The Impact LX88 keyboard is velocity sensitive so you can play the instrument expressively. There are 4 different velocity curves to choose from, each with varying dynamics. In addition, there are 3 fixed velocity settings.

We recommend you spend a little time playing with the default velocity curve and then determine if you need more or less sensitivity. You can learn more about velocity curves and how to select them on page 20.

Changing Transpose, Octave, Program, MIDI Channel and Preset with Transpose Buttons

The Transpose buttons can be used to send out MIDI program messages, change the Global MIDI channel or select the Impact LX88+'s control presets - in addition to changing the default transpose setting.

To change the buttons function:

- Press the two Transpose buttons simultaneously.
- The display will now show the current assignment abbreviation for a little over 1 second.
- Press the Transpose up or down button to step through the options.

Below is the list of the functions that the Transpose buttons can be assigned to control. The Display column shows the text abbreviation for each function as they appear on the Impact LX88+ display. The function remains assigned to the buttons until another function is selected. After power cycling the default function is selected.

Display	Function	Value range
trA	Transpose the keyboard up or down	-/+ 12 semi tones
Oct	Shift Octave up/down	-/+ 2
PrG	Sends out MIDI program change messages	0-127
GCh	Change the Global MIDI Channel	1 to 16
PrE	Select any of the 5 control presets	1 to 5

Layer & Split

The Impact LX88+ can send MIDI notes on a layer and split zone providing a total of 3 zones that each can send on a different MIDI channel. If you own a multitimbral sound module, multiple synths or operate a multitimbral software instrument, you will be able to take advantage of these features.

Layer

The layer zone is on if the layer button is illuminated. By default the layer MIDI channel is set to 2. The global MIDI channel is set to 1 by default so each key press will now send two MIDI notes: One on channel 1 and another on channel 2.

Split

The split zone is on if the split button is illuminated. By default the split point is set to F#2 (the 3rd F# from the left of the keyboard) and the split zone is therefore the keys below F#2. The default MIDI channel for the split zone is 3.

If layer is still on, you will be sending one MIDI note on channel 3 when playing the keys below F#2 and two MIDI notes on channel 1 and 2 when you play the notes from F#2 and up.

Setting the Split point

To change the split point, press and hold the Layer and Split buttons. Next select the new split point by pressing the corresponding key on the keyboard. Release the Layer and Split buttons and the new split point is set.

Setting Octave and MIDI Channel with Transpose Buttons

It's quick and easy to change layer and split settings using the configurable transpose buttons. Here is how it works:

- Assign either Octave or MIDI Channel to the Transpose buttons as described on the previous page.
- Press and hold the zone button (Layer or Split) while pressing the Transpose buttons to change the setting for the function you selected.
- Release the zone button when done.

If for example you assign the Transpose buttons to Octave, you are able to quickly set the octave shift value independently for each of the layer and split zones while pressing their respective buttons. Once you release the zone button, pressing the Transpose buttons will affect only the main keyboard zone.

Sending MIDI Program Messages

MIDI program messages can be sent via the MIDI channel set up for layer or split.

- First assign Program to the Transpose buttons as described on the previous page.
- Press and hold the zone button (Layer or Split) while pressing the Transpose buttons. Each press will send out a MIDI program message on the MIDI channel assigned to the selected zone. The program number you are sending is indicated on the display.

You can also send out a specific MIDI program change message. This is described in the Setup section.

Wheels & Foot Switch

Pitch bend and Modulation Wheels

The two wheels next to the Layer/Split and Transpose buttons are typically used for Pitch bend and Modulation.

The Pitch bend wheel is spring loaded and automatically reverts to its center position upon release. It's ideal to bend notes when you are playing phrases that require this kind of articulation. The bend range is determined by the receiving instrument.

The Modulation wheel can be freely positioned and is programmed to control modulation by default.

Both the Pitch bend and the Modulation wheel are MIDI assignable with settings stored over power cycling so you don't lose them when you switch the unit off. Pitch bend and Modulation assignments are not part of the Impact LX88+ presets.

Foot Switch

You can connect a foot switch pedal (optional, not included) to the 1/4" jack socket on the back of the Impact LX88+ keyboard. The correct polarity is automatically detected on boot-up, so if you plug in your foot switch after boot-up is complete, you may experience the foot switch working in reverse. To correct that, do the following

- Switch the Impact LX88+ off
- Make sure your foot switch is connected
- Switch the Impact LX88+ on

The polarity of the foot switch should now be automatically detected.

Controlling MIDI Software

Impact LX88+ has incredible flexibility when it comes to controlling a DAW or other MIDI software. There are typically 3 different ways to set up Impact LX88+'s many controls, though it's not uncommon to use a combination of different approaches.

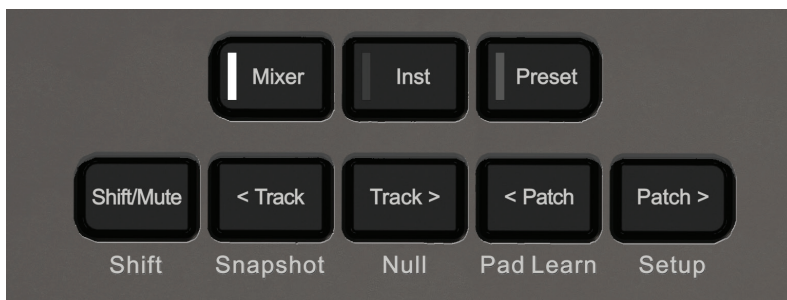
1. Install the Impact DAW integration files for use with an existing DAW (must be on our supported list)
2. Set up a DAW with controller learn
3. Programming Impact LX88+ controls for your software

Option 1 only requires installation of our DAW integration files and following the included PDF guide. You will need to create a user here: www.nektartech.com/registration and register your LX88+ to get access to the files and PDF user guide.

If you plan to use your DAWs learn function or Impact's presets at a later stage, we do recommend reading through this chapter in order to understand how Impact LX88+ is structured. Lets start with an overview of what is stored in memory.

Mixer, Instrument and Presets

Impact LX88+ has 5 user configurable presets though in reality, the total amount of useable presets is 7. That's because the Mixer and Instrument buttons each recall a read-only preset..



A preset contains control settings for the 9 faders, 9 fader buttons and 8 pots.

The Preset button recalls the currently selected user preset and there are 3 different ways you can recall any of the 5 presets:

1. Press and hold [Preset] while using the +/- keys (C3/C#3) to change the preset selection.
2. Assign either the Octave or Transpose buttons to change preset (described on page 6)
3. Use the Setup menu to load a specific Preset

Below is a list of what each of the 5 presets are programmed to by default. Each can be programmed with your own MIDI settings which we will cover later.

Preset	Description
1	GM Instrument preset
2	GM Mixer ch 1-8
3	GM Mixer ch 9-16
4	Learn friendly 1 (Fader buttons Toggle)
5	Learn friendly 2 (Fader buttons Trigger)

Presets 1, 4 and 5 are set up to transmit on the global MIDI channel. When you change the global MIDI channel (as described earlier, you can use the Transpose buttons to do this at any time) you therefore change the MIDI channel that these presets transmit on. With 16 MIDI channels available it means you can create 16 unique setups and just change the MIDI channel to switch between them.

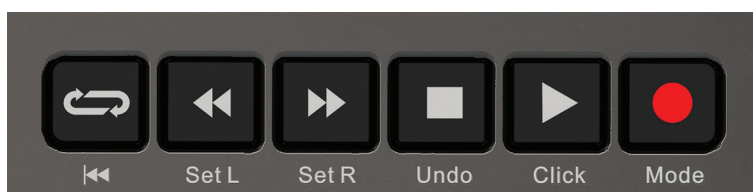
A list of controller assignments for each of the 5 presets is available on pages 24-28.

Controlling MIDI Software (cont)

Global Controls

Global controls are controls that are not stored in a preset and therefore Pitch bend/Modulation wheels plus the Foot Switch fall in this category.

The 6 transport buttons in addition, are also global controls and assignments are stored over power cycling.



As you change presets or adjust your preset controls, global controls remain unchanged. This makes sense since Transport and keyboard controls typically are set up to do one thing specifically.

Function Buttons

The second row of buttons below the display contains 5 function and menu buttons. The buttons primary functions are to change track and patches in DAWs that are supported by Nektar DAW Integration.

The following describes their secondary function.

Shift/Mute

When you press and hold this button, the MIDI output from real-time controls is muted. This allows you to reposition faders and pots without sending MIDI data.

In addition, pressing this button activates the secondary functions of buttons, screened below those buttons. So for example, press and hold [Shift/Mute]+[Pad 4] will load Pad Map 4. Press and hold [Shift/Mute]+[Pad 2] will load Pad Map 2.

Snapshot

Pressing [Shift]+[Snapshot] will send out current status of faders and pots. This can both be used as a status recall feature but also as a fun experimental feature to change parameters without knowing for sure what will happen.

Null

Impact's DAW integration files contain automatic catch-up or soft takeover functions that avoids parameter jumping by delaying parameter updates until a physical control position matches the value of the parameters.

The Null function works in a similar way but does not rely on feedback from your software to achieve it. It remembers your parameter settings when you change between presets so you catch-up parameter values or "null".

Example:

1. Select [Preset] and make sure [Shift]+[Null] is set to on.
2. Set the Transpose buttons to change presets (as described earlier) and select Preset 1.
3. Move Fader 1 to maximum (127).
4. Select Preset 2 using the Transpose buttons.
5. Move fader 1 to minimum (000).
6. Select Preset 1 using the Transpose buttons.
7. Move Fader 1 away from it's minimum position and notice the display reads "Up" until you reach 127.
8. Select Preset 2 and move the fader away from the maximum position. Notice the display reads 'dn' until you reach 000.

While "up" or "dn" is displayed, no control update values are sent to your software.

The null setting is independent for each of Mixer, Inst. and Preset.

To switch the function on or off, first select [Preset] and then press [Shift]+[Null] until you see the status you want (on/off). Press [Mixer] or [Inst] followed by pressing [Shift]+[Null] to set the setting for each of these options.

If you are using Nektar Integrated DAW support, please make sure to check the setup instructions for your DAW. Null is in some cases required to be off because Impact LX88+ uses a different method to avoid parameter jumping.

Pad Learn

Pad learn allows you to quickly select a pad and learn a note assignment by pressing a key on the keyboard. This is explained in more detail in the next section about Pads. To activate pad learn, press [Shift]+[Pad Learn].

Setup

Pressing [Shift]+[Setup] will mute the keyboard output and instead activate the setup menus accessible via the keyboard. Go to page 15 for more information about the setup menus.

Pads

The 8 pads are velocity sensitive and programmable with either note or MIDI switch messages. This means you can use them as regular MIDI buttons as well as to punch out your drum beats and percussive melody parts. In addition, the pads have 4 velocity curve options and 3 fixed velocity options you can choose between, depending on what you are doing and your playing style.



Pad Maps

You can load and save up to 4 different pad setups in 4 memory locations called Pad maps. Here is how you load pad maps:

- Press and hold the [Shift/Mute] button. The pad corresponding to the currently loaded pad map should now be illuminated.
- Press the pad that corresponds to the pad map you want to recall. The pad map has now been loaded.

Page 14 show the 4 pad maps default assignments. Map 1 is a chromatic scale which is continued in Map 2. If you have drum setup that's laid out this way (many are) you can access drums 1-8 using Map 1 and drums 9-16 using Map 2.

Pad Learn

It's easy to change a pad note assignments using the Pad Learn function. It works as follows:

1. Press the function button combination [Shift]+[Pad Learn]. The display will now blink, showing P1 (pad 1) as the default selected pad.
2. Hit the pad you want to assign a new note value to. The display blinks and updates to show the number of the pad you selected.
3. Press the key on the keyboard that corresponds to the note you want to assign to the pad. You can keep playing notes on the keyboard until you have found the note you want.
4. When you are done, press [Shift]+[Pad Learn] to exit and start playing your pads with the new assignment.

You can keep repeating steps 2. and 3. until you have created a complete Pad Map.

Programming MIDI Messages to Pads

The pads can also be used as MIDI switch buttons. To learn more, check the Setup section that covers how controls are programmed.

Pad Velocity Curves

You can choose between 4 velocity curves and 3 fixed velocity value options. For more information about the velocity curves and how to choose them, read about the Setup Menu and go to page 19 for details about pad velocity curves.

Clips & Scenes buttons

The two Clips & Scenes buttons are reserved for Nektar DAW integration and do not have a function otherwise.

What the Pad's LED Colors Tell You

The pads color coding provides information about their current status. As you change pad maps for instance, you will notice that the MIDI note off color changes. This tells you which pad map is currently loaded.:

PAD MAP	COLOR
1	Green
2	Orange
3	Yellow
4	Red

The above Pad Map color coding is only true when pads are programmed with MIDI notes. If you program the pads to send other MIDI messages, the pad colors are set up in the following way:

MIDI cc: The pad illuminates depending on which value is sent. Value = 0 switch off the LED. If the value is between 1 and 126, the color is green and if value = 127 the color is red.

MIDI cc feedback: If your DAW is capable of responding relatively to a MIDI cc message (i.e ignore the value sent), a status message can be sent from the DAW to activate the pad LED. To set that up, the pad's Data 1 and Data 2 values need to be the same (see Setup, page 14 about programming Data 1 and Data 2 values) and your DAW can then send status values to illuminate the pad as follows: Value = 0 switch off the LED. If the value is between 1 and 126, the color is green. If value = 127 the color is red.

Example: Program a pad to send MIDI cc 45 and set both Data 1 and Data 2 to 0. Set your DAW up to return MIDI cc 45 to activate the LED. Depending on the value sent from the DAW, the pad will be off, green or red.

Program: All pad LEDs are off except one that corresponds with the last sent MIDI Program message. The active pad is illuminated Orange. This enables you to always see at a glance which MIDI Program is active.

Pads Maps Default Settings

Map 1

	Note	Note No.	Data 1	Data 2	Data 3	Chan
P1	C1	36	0	127	0	Global
P2	C#1	37	0	127	0	Global
P3	D1	38	0	127	0	Global
P4	D#1	39	0	127	0	Global
P5	E1	40	0	127	0	Global
P6	F1	41	0	127	0	Global
P7	F#1	42	0	127	0	Global
P8	G1	43	0	127	0	Global

Map 2

	Note	Note No.	Data 1	Data 2	Data 3	Chan
P1	G#1	44	0	127	0	Global
P2	A1	45	0	127	0	Global
P3	A#1	46	0	127	0	Global
P4	B1	47	0	127	0	Global
P5	C2	48	0	127	0	Global
P6	C#2	49	0	127	0	Global
P7	D2	50	0	127	0	Global
P8	D#2	51	0	127	0	Global

Map 3

	Note	Note No.	Data 1	Data 2	Data 3	Chan
P1	C3	60	0	127	0	Global
P2	D3	62	0	127	0	Global
P3	E3	64	0	127	0	Global
P4	F3	65	0	127	0	Global
P5	G3	67	0	127	0	Global
P6	A3	69	0	127	0	Global
P7	B3	71	0	127	0	Global
P8	C4	72	0	127	0	Global

Map 4

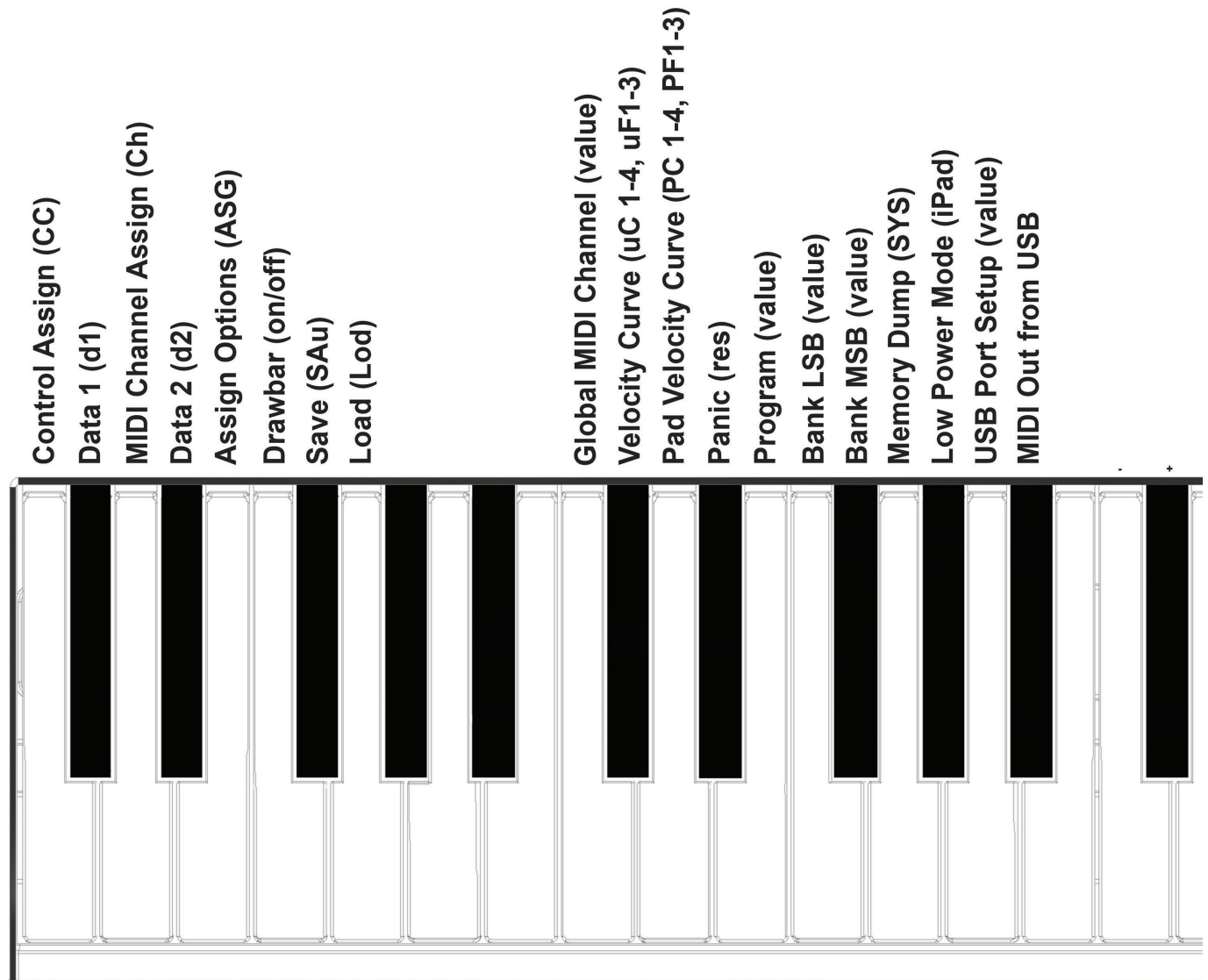
	Note	Note No.	Data 1	Data 2	Data 3	Chan
P1	C1	36	0	127	0	Global
P2	D1	38	0	127	0	Global
P3	F#1	42	0	127	0	Global
P4	A#1	46	0	127	0	Global
P5	G1	43	0	127	0	Global
P6	A1	45	0	127	0	Global
P7	C#1	37	0	127	0	Global
P8	C#2	49	0	127	0	Global

Setup Menu

The Setup menu gives access to additional functions such as control assign, load, save, selecting velocity curves and more. To enter the menu, press the [Shift]+[Patch>] (Setup) buttons. This will mute the MIDI output of the keyboard and instead the keyboard now is used to select menus.

When the Setup menu is active, the display will show {S.E.t.} with the 3 dots blinking for as long as the menu is active.

The chart below provides an overview of menus assigned to each key and what display abbreviations you see in the Impact LX88+ display (in parentheses), when a key is pressed.



The functions are separated in two groups. The first group spanning C1-G1 covers control assignments and behavior, including Save and Load of the 5 presets and 4 pad maps. When you press the keys in this group you first see an abbreviation showing the function. This means you can press keys until you find exactly the menu you want without worrying about controls changing assignments. Since this group of functions are the ones you most likely will use more regularly this makes the menus easy to find.

The second group spanning C2-A#2 covers global and setup functions. Most of the second group functions will show you their current status when you press a key.

On the following page we cover how each of these menus work. Note the documentation assumes you have an understanding of MIDI including how it works and behaves. If you are not familiar with MIDI, we recommend you study MIDI before making control assignment changes to your keyboard. A good place to start is the documentation of the software you want to control or the MIDI Manufacturers Association www.midi.org

Assigning Controls to MIDI messages

Since the Mixer and Instrument presets are read-only, the first 4 functions C1-E1 applies only to Presets and cannot be selected if either Mixer or the Instrument [Inst.] preset is selected. To enter the Setup menu's assign functions, please do the following:

- Press [Preset]
- Press [Shift]+[Patch>] (Setup)
- The display now reads {S.E.t.} with the 3 display dots {...} blinking

The Setup menu is now active and the keyboard no longer send MIDI notes when you press the keys. To exit the Setup menu, press [Shift]+[Patch>] (Setup) again at any time.

Control Assign (C1)

This function allows you to change the MIDI CC number of a control. (Assignment type has to be MIDI CC). Most of the controls by default are assigned to send MIDI CC message type. Here is how it works:

- Press the low C1 on your keyboard to select Control Assign. The display reads {CC}
- Move or press a control. The value you see in the display is the currently assigned value (000-127)
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The value assignment is instant so if you exit the Setup menu after making changes, those changes remain active
- You can also enter a specific value using the white number keys spanning G4-B5. Press Enter (C6) to accept the change.

MIDI Channel Assign (D1)

Each control within a preset can be assigned to send on a specific MIDI channel or follow the Global MIDI channel.

- Press D1. The display reads {Ch}
- Move or press a control. The value you see in the display is the currently assigned MIDI channel (000-16). The MIDI specifications allow for 16 MIDI channels. In addition Impact LX88+ give you the option to select 000 which is the selection for the Global MIDI channel. Most of the default presets assign controls to the Global MIDI channel so you may see this value when you move a control.
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The value assignment is instant so if you exit the Setup menu after making changes, those changes remain active
- You can also enter a specific selection (1-16) using the white number keys spanning G4-B5. Press Enter (C6) to accept the change

Note: If you want to assign a button to select a specific Global MIDI Channel, read about Assignment Types on the next page.

Assignment Types (E1)

Most of the controls in the default presets are assigned to MIDI CC messages. But there are several other options and the below chart shows you which are available for the two types of controls.

Controller Type	Assignment Type	Display Abbreviations
Pitch bend, Modulation Wheel, Faders 1-9, Pots 1-8	MIDI CC	CC
	Aftertouch	At
	Pitch Bend	Pbd
LED Buttons 1-9, Transport buttons, Foot Switch, Pads 1-8	MIDI CC Toggle	toG
	MIDI CC Trigger/Release	trG
	MIDI note	n
	MIDI note toggle	nt
	MIDI Machine Control	nnc
	Program	Prg
	Global MIDI Channel select	GCh

To change an assignment type, do the following:

- Press the E1 on your keyboard to select Assign Options. The display reads {ASG}
- Move or press a control. The type abbreviation you see in the display is the currently assigned type as per above chart
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The type change is instant so if you exit the Setup menu after making changes, those changes remain active

Data 1 and Data 2 Values (C#1 & D#1)

The Data 1 and Data 2 functions are required for some controller assignments as per the chart below.

Controller Type	Assignment Type	Data 1	Data2
Pitch bend, Modulation Wheel, Faders 1-9, Pots 1-8, Pots	MIDI CC	Max value	Min value
	Aftertouch	Max value	Min value
	Pitch Bend	Max value	Min value
Buttons 1-9, Transport buttons, Foot Switch, Pads 1-8	MIDI CC Toggle	CC value 1	CC value 2
	MIDI CC Trigger/Release	Trigger value	Release value
	MIDI note	Note on velocity	MIDI note #
	MIDI Machine Control	n/a	Sub-ID #2
	Program	n/a	Message value
	Global MIDI Channel select	n/a	1-16

To enter a Data 1 or Data 2 value, do the following:

- Press either C#1 or D#1 on your keyboard to select either Data 1 or Data 2. The display reads {d1} or {d2}
- Move or press a control. The controls Data 1 or Data 2 value will be visible in the display
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The value assignment is instant so if you exit the Setup menu after making changes, those changes remain active
- You can also enter a specific value using the white number keys spanning G4-B5. Press Enter (C6) to accept the change

Fader Buttons and Pads LED behavior

Whether you are using any of the LED fader buttons or the 8 pads to send out a MIDI message, the LED behavior works the same way. We already covered how the LED pads respond to MIDI feedback on page 12 but we present the information here again because it's relevant to Assignment Types.

MIDI cc: The pad illuminates depending on which value is sent. Value = 0 switch off the LED. If the value is between 1 and 126, the color is green and if value = 127 the color is red.

MIDI cc feedback: If your DAW is capable of responding relatively to a MIDI cc message (i.e ignore the value sent), a status message can be sent from the DAW to activate the pad LED. To set that up, the pad's Data 1 and Data 2 values need to be the same (see Setup, page 14 about programming Data 1 and Data 2 values) and your DAW can then send status values to illuminate the pad as follows: Value = 0 switch off the LED. If the value is between 1 and 126, the color is green. If value = 127 the color is red.

Example: Program a pad to send MIDI cc 45 and set both Data 1 and Data 2 to 0. Set your DAW up to return MIDI cc 45 to activate the LED. Depending on the value sent from the DAW, the pad will be off, green or red.

Program (Orange): All pad LEDs are off except one that corresponds with the last sent MIDI Program message. The active pad is illuminated Orange. This enables you to always see at a glance which MIDI Program is active.

Global MIDI Channel select (Yellow): If a button or pad has been assigned to send the Global MIDI Channel select message type, the LED will only illuminate when the actual Global MIDI Channel = the button's programmed Global MIDI Channel.

This means that if you press the button, it will set the Global MIDI Channel to what the button was programmed to and the button will illuminate yellow. If the Global MIDI Channel is subsequently set either by pressing a button or pad that has been assigned to select a different MIDI channel or any of the other two options to change the Global MIDI Channel, the LED will turn off.

If you primarily want to use for example the 8 LED buttons to select the Global MIDI channel, it means that only the button corresponding to the current channel will be illuminated yellow. The others will be off.

Drawbar On/Off (F1)

The Drawbar function reverses the value output of the 9 faders from the default 0-127 to 127-0. This can also be achieved by reversing the min/max values of a control when you program Data 1 and Data 2. However if you don't want to change the reversal permanently in your preset, this function is ideal and here is how to activate it:

- Press F1. The display will show {drb} and then alternate with the function status (on or off)
- Change the status, using the keys with the -/+ symbols screened above (C3/C#3)

The change is immediate so to try out the setting just press [Shift]+[Setup] to exit the Setup menu.

Save Presets and Pad Maps (F#1)

When you make assignment changes to a control or pad, the changes are stored in a current working memory area and the settings are also stored over power cycling.

However if you change preset or pad map your settings will be lost because the loaded data will overwrite your programmed changes. If you don't want to lose your work we recommend saving as soon as you have created your setup. Here is how to do that:

Save a Preset

- Press F#1 to activate the Save menu. The display will read {SAu} (yeah, that's supposed to be a v)
- Select the Preset you want to save to, using the keys with the -/+ symbols screened above (C3/C#3).
- You can also enter a specific preset number (1-5) using the white number keys spanning G4–D5).
- Press Enter (C6) to save to the selected Preset location (applicable for both selection methods)

Save a Pad Map

- Press F3 to activate the save menu. The display will read {SAu} (yeah, that's supposed to be a v)
- Press [Enter] (last C key on your keyboard) to confirm menu selection
- Press [Shift] and the pad corresponding to the pad map you want to save your pad settings to (1-4)
- Press Enter (C6) to save to the selected pad map location

Load a Preset (G1)

We explained earlier how you can use the Transpose buttons to select presets. Here is an alternative option for loading presets so you don't have to change your button functions.

- Press G1 to activate the Load menu. The display will read {Lod} (better than Loa, right?)
- Select the Preset you want to load using the keys with the -/+ symbols screened above (C3/C#3). Presets are loaded instantly as you step through them.
- You can also enter a specific preset number (1-5) using the white number keys spanning G4–D5. Press Enter (C6) to load the selected Preset location (only applicable when loading using the number entry option)

Global Functions and Options

Unlike the Control Assign functions, Global functions can be accessed regardless of what preset has been selected. And just to recap: Pressing [Shift]+[Patch>] (Setup) buttons will activate the Setup menu and the display will show {S.E.t.} with the 3 dots blinking for as long as the menu is active. The following assumes the Setup menu is active.

Global MIDI Channel (C2)

The Impact LX88+ keyboard always transmit on the Global MIDI Channel but this setting also affect any control or pad that is not assigned to a specific MIDI channel (i.e. 1-16). Earlier we learned how the Transpose buttons can be set up to change the Global MIDI Channel but here is another option:

- Press the C2 key on your keyboard to select Global MIDI Channel. The display show the current value {001-016}
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The value assignment is instant so if you exit the Setup menu after making changes, those changes remain active
- You can also enter a specific selection (1-16) using the white number keys spanning G4–B5. Press Enter (C6) to accept the change

Setting the Layer & Split MIDI Channels (C2)

MIDI channel can also be set independently for layer and split on the Impact LX88+. On page 7 we covered how to set MIDI Channel using the transpose buttons but you can also set the MIDI channel for Layer and Split in the Setup menu.

- Press the C2 key on your keyboard to select Global MIDI Channel. The display show the current value {001-016}
- Press and hold the [Layer] or [Split] button. The selected button will now blink
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). Press Enter (C6) to accept the change
- You can also enter a specific selection (1-16) using the white number keys spanning G4–B5. Press Enter (C6) to accept the change

Keyboard Velocity Curves (C#2)

There are 4 different keyboard velocity curves and 3 fixed velocity levels to choose between, depending on how sensitive and dynamic you want the Impact LX88+ keyboard to play.

Name	Description	Display abbreviation
Normal	Focus on mid to high velocity levels	uC1
Soft	The most dynamic curve with a focus on the low to mid velocity levels	uC2
Hard	Focus on the higher velocity levels. If you don't like exercising your finger muscles, this may be the one for you	uC3
Linear	Approximates a linear experience from low to high	uC4
127 Fixed	Fixed velocity level at 127	uF1
100 Fixed	Fixed velocity level at 100	uF2
64 Fixed	Fixed velocity level at 64	uF3

Here is how you change a velocity curve:

- Press the C#2 key on your keyboard to select Velocity Curve. The display show the current selection
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The value assignment is instant so if you exit the Setup menu after making changes, those changes remain active
- You can also enter a specific selection (1-7) using the white number keys spanning A4–G5. Press Enter (C6) to accept

Pads Velocity Curves (D2)

There are 4 different pad velocity curves and 3 fixed velocity levels to choose between, depending on how sensitive and dynamic you want the Impact LX88+ pads to play.

Name	Description	Display abbreviation
Normal	Focus on mid to high velocity levels	PC1
Soft	The most dynamic curve with a focus on the low to mid velocity levels	PC2
Hard	Focus on the higher velocity levels. If you don't like exercising your finger muscles, this may be the one for you	PC3
Linear	Approximates a linear experience from low to high	PC4
127 Fixed	Fixed velocity level at 127	PF1
100 Fixed	Fixed velocity level at 100	PF2
64 Fixed	Fixed velocity level at 64	PF3

Here is how you change a velocity curve:

- Press the D2 key on your keyboard to select Velocity Curve. The display show the current selection
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). The value assignment is instant so if you exit the Setup menu after making changes, those changes remain active
- You can also enter a specific selection (1-7) using the white number keys spanning A4-G5. Press Enter (C6) to accept the change

Panic (D#2)

Panic sends out the all notes off and reset all controllers MIDI messages on all 16 MIDI channels. This happens the minute you press D#4 and the Setup menu will exit upon release of the key.

Program (E2)

Earlier in this guide we covered how you can send MIDI program change messages using the Octave and Transport buttons. However there may be times when the Transpose buttons are needed for another function or you want to send out a specific MIDI program change message without having to inc/dec to get to it. This function allows you to do that.

- Press the E2 key on your keyboard to select Program. The display show the last sent program message or 000 by default
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). Press Enter (C6) to accept the change and send out the selected MIDI program message.
- You can also enter a specific selection (0-127) using the white number keys spanning G4-B5(. Press Enter (C6) to accept the change

Sending Program Messages via Layer & Split (E2)

MIDI Program messages can also be sent independently for layer and split on the Impact LX+88. On page 13 we covered how to set it using the transpose buttons but you can also send a MIDI Program message on the Layer and Split MIDI channels, in the Setup menu.

- Press the E2 key on your keyboard to select Program. The display show the last sent program message or 000 by default
- Press and hold the [Layer] or [Split] button. The selected button will now blink
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). Press Enter (C6) to accept the change and send out the selected MIDI program message
- You can also enter a specific selection (0-127) using the white number keys spanning G4-B5(. Press Enter (C6) to accept the change

Bank LSB (F2)

This function will send a Bank LSB MIDI message from the keyboard. Note, most software products don't respond to Bank change messages but many MIDI hardware products do. Here is how you send out a Bank LSB message

- Press the F2 key on your keyboard to select Bank LSB. The display show the last sent Bank message or 000 by default
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). Press Enter (C6) to accept the change and send out the selected Bank LSB message.
- You can also enter a specific selection (0-127) using the white number keys spanning G4-B5(. Press Enter (C6) to accept the change

Bank MSB (F#2)

This function will send a Bank MSB MIDI message from the keyboard. Note, most software products don't respond to Bank change messages but many MIDI hardware products do. Here is how you send out a Bank MSB message

- Press the F#2 key on your keyboard to select Bank MSB. The display show the last sent Bank message or 000 by default
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). Press Enter (C6) to accept the change and send out the selected Bank MSB message.
- You can also enter a specific selection (0-127) using the white number keys spanning G4-B5(. Press Enter (C6) to accept the change

Sending Bank LSB/MSB Messages via Layer & Split (F2 & F#2)

MIDI Program messages can also be set independently for layer and split on the Impact LX88+.

- Press the F2 (or F#2) key on your keyboard to select Program. The display show the last sent Bank message or 000 by default
- Press and hold the [Layer] or [Split] button. The selected button will now blink
- Change the value in decrements/increments using the keys with the -/+ symbols screened above (C3/C#3). Press Enter (C6) to accept the change and send out the selected MIDI Bank message
- You can also enter a specific selection (0-127) using the white number keys spanning G4-B5(. Press Enter (C6) to accept the change

Memory Dump (G2)

The Memory Dump function will back up your current controller assignment settings including the 5 user presets by sending out MIDI sysex data. The data can be recorded in your DAW or other application capable of recording sysex data and replayed/sent back to your Impact LX88+ keyboard when you want to reload your settings.

Sending out a memory dump for backup:

- Make sure your MIDI software program is set up and capable of recording MIDI Sysex data
- Start recording
- Press the G2 key on your keyboard to activate the memory dump. The display reads {SYS} while the data is being sent.
- Stop recording when the display reads {000}. The content of your Impact LX88+ memory should now be recorded in your MIDI software program

Restoring a backup:

A memory dump/backup MIDI sysex file can be sent to the Impact LX88+ at any time, while the unit is powered on, in order to restore a backup. Make sure the Impact LX88+ is the output destination of the MIDI track containing the backup data. The display will read {SyS} when data is received. Once the data has transmission has been completed, the backup has been restored.

Low Power Mode(G#2)

LX88+ can be run at lower power to enable connectivity and powering from an iPad or to conserve battery power when running it with a laptop. When Low Power Mode is on, all LED's are permanently off. To enable the LEDs again, Low Power Mode should be switched off.

There are a couple of ways the LX88+ can enter and exit Low Power Mode:

- With LX88+ off, press and hold the [Cycle]+[Record] buttons and switch the unit on.
- Release the buttons once the unit has powered up. Low Power Mode is now active while the
- When activated in this manner, the Low Power Mode is not stored when when you switch th



You can also set Lower Power Mode so the setting is stored when the LX88+ is switched off:

- Make sure LX88+ is on and enter [Setup].
- Press G#2 and change the setting to On by using the +/- keys.

USB Port Setup (A2)

Impact LX88+ has one physical USB port however there are 2 virtual ports as you may have discovered during the MIDI setup of your music software. The additional virtual port is used by the Impact DAW software to handle communication with your DAW. You only need to change the USB Port Setup setting if the Impact LX88+ setup instructions for your DAW specifically advises that this should be done.

MIDI Out from USB (A#2)

The MIDI out jack on the back of the Impact LX88+ can be used to route MIDI messages directly from the Impact LX88+ keyboard and controls to external hardware. This is the default operation.

It's also possible to use the MIDI out as a USB to MIDI interface which means that if you are using music application on your computer, you can route MIDI messages from the application to external hardware, via the build-in MIDI port. Here is how you change the port setting:

- Press the A#2 key on your keyboard to toggle the on/off setting for USB Out from USB
- When the display reads {On} the MIDI output acts as a USB to MIDI interface.
- The change is immediate so you can check if the setting is correct before leaving the Setup menu

User Preset 1 GM Instrument

Faders						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
F1	MIDI CC	73	127	0	Global	Attack
F2	MIDI CC	75	127	0	Global	Decay
F3	MIDI CC	72	127	0	Global	Release
F4	MIDI CC	91	127	0	Global	Effect depth 1 (Reverb Send level)
F5	MIDI CC	92	127	0	Global	Effect depth 2
F6	MIDI CC	93	127	0	Global	Effect depth 3 (Chorus send level)
F7	MIDI CC	94	127	0	Global	Effect depth 4
F8	MIDI CC	95	127	0	Global	Effect depth 5
F9	MIDI CC	7	127	0	Global	Volume

Buttons						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
B1	MIDI CC (Toggle)	0	127	0	Global	Bank MSB
B2	MIDI CC (Toggle)	2	127	0	Global	Breath
B3	MIDI CC (Toggle)	3	127	0	Global	Control Change (Undefined)
B4	MIDI CC (Toggle)	4	127	0	Global	Foot Controller
B5	MIDI CC (Toggle)	6	127	0	Global	Data Entry MSB
B6	MIDI CC (Toggle)	8	127	0	Global	Balance
B7	MIDI CC (Toggle)	9	127	0	Global	Control Change (Undefined)
B8	MIDI CC (Toggle)	11	127	0	Global	Expression Controller
B9	MIDI CC (Toggle)	65	127	0	Global	Portamento On/Off

Fader						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
K1	MIDI CC	74	127	0	Global	Brightness
K2	MIDI CC	71	127	0	Global	Harmonic Content
K3	MIDI CC	5	127	0	Global	Portamento Rate
K4	MIDI CC	84	127	0	Global	Portamento Depth
K5	MIDI CC	78	127	0	Global	Control Change (Vibrato Delay)
K6	MIDI CC	76	127	0	Global	Control Change (Vibrato Rate)
K7	MIDI CC	77	127	0	Global	Control Change (Vibrato Depth)
K8	MIDI CC	10	127	0	Global	Pan

Note: B9 is assigned to MIDI cc 65 on all presets intended to be available for a global function

User Preset 2 GM Mixer 1-8

Faders						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
F1	MIDI CC	7	127	0	1	CH1 Volume
F2	MIDI CC	7	127	0	2	CH2 Volume
F3	MIDI CC	7	127	0	3	CH3 Volume
F4	MIDI CC	7	127	0	4	CH4 Volume
F5	MIDI CC	7	127	0	5	CH5 Volume
F6	MIDI CC	7	127	0	6	CH6 Volume
F7	MIDI CC	7	127	0	7	CH7 Volume
F8	MIDI CC	7	127	0	8	CH8 Volume
F9	MIDI CC	7	127	0	G	Selected CH Volume

Buttons						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
B1	MIDI CC (Toggle)	12	127	0	1	Mute
B2	MIDI CC (Toggle)	12	127	0	2	Mute
B3	MIDI CC (Toggle)	12	127	0	3	Mute
B4	MIDI CC (Toggle)	12	127	0	4	Mute
B5	MIDI CC (Toggle)	12	127	0	5	Mute
B6	MIDI CC (Toggle)	12	127	0	6	Mute
B7	MIDI CC (Toggle)	12	127	0	7	Mute
B8	MIDI CC (Toggle)	12	127	0	8	Mute
B9	MIDI CC (Toggle)	65	127	0	Global	Portamento

Fader						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
K1	MIDI CC	10	127	0	1	CH Pan
K2	MIDI CC	10	127	0	2	CH Pan
K3	MIDI CC	10	127	0	3	CH Pan
K4	MIDI CC	10	127	0	4	CH Pan
K5	MIDI CC	10	127	0	5	CH Pan
K6	MIDI CC	10	127	0	6	CH Pan
K7	MIDI CC	10	127	0	7	CH Pan
K8	MIDI CC	10	127	0	8	CH Pan

Note: B9 is assigned to MIDI cc 65 on all presets intended to be available for a global function

User Preset 3 GM Mixer 9-16

Faders						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
F1	MIDI CC	7	127	0	9	CH1 Volume
F2	MIDI CC	7	127	0	10	CH2 Volume
F3	MIDI CC	7	127	0	11	CH3 Volume
F4	MIDI CC	7	127	0	12	CH4 Volume
F5	MIDI CC	7	127	0	13	CH5 Volume
F6	MIDI CC	7	127	0	14	CH6 Volume
F7	MIDI CC	7	127	0	15	CH7 Volume
F8	MIDI CC	7	127	0	16	CH8 Volume
F9	MIDI CC	7	127	0	G	Selected CH Volume

Buttons						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
B1	MIDI CC (Toggle)	12	127	0	9	Mute
B2	MIDI CC (Toggle)	12	127	0	10	Mute
B3	MIDI CC (Toggle)	12	127	0	11	Mute
B4	MIDI CC (Toggle)	12	127	0	12	Mute
B5	MIDI CC (Toggle)	12	127	0	13	Mute
B6	MIDI CC (Toggle)	12	127	0	14	Mute
B7	MIDI CC (Toggle)	12	127	0	15	Mute
B8	MIDI CC (Toggle)	12	127	0	16	Mute
B9	MIDI CC (Toggle)	65	127	0	Global	Portamento

Fader						
Ctrl	Msg Type	CC	Data 1	Data 2	Chan	Param
K1	MIDI CC	10	127	0	9	CH Pan
K2	MIDI CC	10	127	0	10	CH Pan
K3	MIDI CC	10	127	0	11	CH Pan
K4	MIDI CC	10	127	0	12	CH Pan
K5	MIDI CC	10	127	0	13	CH Pan
K6	MIDI CC	10	127	0	14	CH Pan
K7	MIDI CC	10	127	0	15	CH Pan
K8	MIDI CC	10	127	0	16	CH Pan

Note: B9 is assigned to MIDI cc 65 on all presets intended to be available for a global function

User Preset 4 “Learn Friendly” 1

Faders

Ctrl	Msg Type	CC	Data 1	Data 2	Chan
F1	MIDI CC	80	127	0	Global
F2	MIDI CC	81	127	0	Global
F3	MIDI CC	82	127	0	Global
F4	MIDI CC	83	127	0	Global
F5	MIDI CC	85	127	0	Global
F6	MIDI CC	86	127	0	Global
F7	MIDI CC	87	127	0	Global
F8	MIDI CC	88	127	0	Global
F9	MIDI CC	3	127	0	Global

Buttons

Ctrl	Msg Type	CC	Data 1	Data 2	Chan
B1	MIDI CC (Toggle)	66	127	0	Global
B2	MIDI CC (Toggle)	67	127	0	Global
B3	MIDI CC (Toggle)	68	127	0	Global
B4	MIDI CC (Toggle)	69	127	0	Global
B5	MIDI CC (Toggle)	98	127	0	Global
B6	MIDI CC (Toggle)	99	127	0	Global
B7	MIDI CC (Toggle)	100	127	0	Global
B8	MIDI CC (Toggle)	101	127	0	Global
B9	MIDI CC (Toggle)	65	127	0	Global

Fader

Ctrl	Msg Type	CC	Data 1	Data 2	Chan
K1	MIDI CC	89	127	0	Global
K2	MIDI CC	90	127	0	Global
K3	MIDI CC	96	127	0	Global
K4	MIDI CC	97	127	0	Global
K5	MIDI CC	116	127	0	Global
K6	MIDI CC	117	127	0	Global
K7	MIDI CC	118	127	0	Global
K8	MIDI CC	119	127	0	Global

Note: B9 is assigned to MIDI cc 65 on all presets intended to be available for a global function

User Preset 5 “Learn Friendly” 2

Faders

Ctrl	Msg Type	CC	Data 1	Data 2	Chan
F1	MIDI CC	80	127	0	Global
F2	MIDI CC	81	127	0	Global
F3	MIDI CC	82	127	0	Global
F4	MIDI CC	83	127	0	Global
F5	MIDI CC	85	127	0	Global
F6	MIDI CC	86	127	0	Global
F7	MIDI CC	87	127	0	Global
F8	MIDI CC	88	127	0	Global
F9	MIDI CC	3	127	0	Global

Buttons

Ctrl	Msg Type	CC	Data 1	Data 2	Chan
B1	MIDI CC (Trig)	66	127	0	Global
B2	MIDI CC (Trig)	67	127	0	Global
B3	MIDI CC (Trig)	68	127	0	Global
B4	MIDI CC (Trig)	69	127	0	Global
B5	MIDI CC (Trig)	98	127	0	Global
B6	MIDI CC (Trig)	99	127	0	Global
B7	MIDI CC (Trig)	100	127	0	Global
B8	MIDI CC (Trig)	101	127	0	Global
B9	MIDI CC (Trig)	65	127	0	Global

Fader

Ctrl	Msg Type	CC	Data 1	Data 2	Chan
K1	MIDI CC	89	127	0	Global
K2	MIDI CC	90	127	0	Global
K3	MIDI CC	96	127	0	Global
K4	MIDI CC	97	127	0	Global
K5	MIDI CC	116	127	0	Global
K6	MIDI CC	117	127	0	Global
K7	MIDI CC	118	127	0	Global
K8	MIDI CC	119	127	0	Global

Factory Restore

If you need to restore factory settings for example if you by mistake managed to change the assignments needed for DAW integration files, here is how you do that.

- Make sure your Impact LX88+ is switched off
- Press the [Layer]+[Split] buttons simultaneously
- Switch your Impact LX88+ on
- Keep holding the buttons for 3 seconds, then release



