MIDIPLUS

BK490
Owner's Manual

ENGLISH (page：3-12)
中文（頁：13-22）

Preface

Congratulations on your purchase of MIDIPLUS BK490 semi-weighted MIDI Controller. Designed for both the studio and the concert, The BK490 offers 49 velocity-sensitive keys. The BK490 provides extensive controllers for virtual instruments, Dews, hardware synthesizers, samplers and any other MIDI compatible device. The eight fully assignable knobs allow for instant control of your software's features and can pick up just where you left off.

The versatile and easy-to-use BK490 is a great controller in the studio and concert.

What's in the Box?

The following items should be in your package.
- BK490 semi-weighted MIDI Controller.
- Owner's Manual.
- One standard USB Cable.

BK490 Keyboard Overview：

Here are the features including in the BK490 keyboard:
- 49-note semi-weighted keyboard.
- Eight fully assignable 40mm sliders.
- Eight fully programmable knobs.
- Pitch Bend Wheel.
- Modulation Wheel.
- Sustain pedal interface (sustain pedal does not include).
- Several velocity curves for choosing.
- BK490 connect to PC through USB1.1.
- The supplied USB MIDI OUT and KEYBOARD MIDI OUT can connect to other MIDI device by oneself.

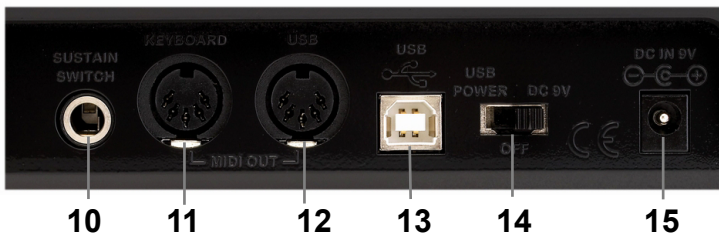● Power Supply: External 5-9V DC power, or USB power or 6 AA type batteries.

Chapter 1：Quick Start

1.1 BK490 Overview

1.1.1 Front panel Overview

1.1.2 Rear panel overview

1.1.3 Controllers description

These controllers are referred by name.

1. Data Entry	9. 8 Programmable knobs
2. Octave Keys (Up & Down)	10. Sustain Pedal
3. Pitch Bend Wheel	11. Keyboard MIDI OUT
4. Modulation Wheel	12. USB MIDI OUT
5. Standard 49Key keyboard	13. USB 1.1 jack
6. LCD display screen	14. Power selector
7. 2 Key Edit keys	15. External power Jack
8. 8 assignable sliders	

1.2 Minimum System Requirement

If you are using your BK490 with a computer, the following minimum system requirements need:

Windows	Mac OS
Pentium 3 800MHz or higher	Macintosh G3*800/G4*733 MHz or higher
(CPU requirement may be higher laptops)	(CPU requirement may be higher for laptops)
256 MB RAM	OS X 10.3.9 with 256 MB RAM
Direct X 9.0b or higher	OS X 10.4.2 or greater with 512 MB RAM
Windows XP(SP2) or higher	*G3/G4 accelerator cards are Not supported.
(Windows 98,Me,NT or 2000 not supported)	

(Attention：Window98/ME/2000 are not supported)

MIDIPLUS suggests that you connect directly to your computer built in USB ports.

1.3 Installation

BK490 do not need other driver to work with a computer, only needs the USB Audio Driver built in the system.

The first time you connect BK490 to your computer, it will automatically install the general USB-Audio Driver. After installation, the system will tell you the "new hardware" is ready to use.

1.3.1 Play with your Application Software

Generally, in PC or Mac, most MIDI software will have a MIDI port configuration or settings, sometimes it called "MIDI Devices" or "MIDI Setup". You can choose and enable your MIDI input and output devices in it.

If the BK490 driver is properly installed, and there is not other MIDI device connected, the MIDI In port of BK490 In-1 (or "Port 1" on the Mac) will be selected as the first midi input, while the MIDI Out port of BK490 Out-1 (or Port 1) will be selected as the first midi output.

If the MIDI software runs, and the MIDI-In and Out port in BK490 are selected, the MIDI message will be received when playing the BK490 keyboard. Also, the soft can send the midi message out to other device through the BK490 "USB" MIDI OUT. You can connect this USB MIDI OUT port the other sound module or virtual instrument.

1.4 MIDI Connection

MIDI connector is a standard 5-pin DIN connector which is used to connect the BK490 to sound module or virtual instrument interface" with a MIDI cable.

If you need to transmit MIDI data from your keyboard to other professional MIDI instruments, please purchase a standard MIDI cable and use it to connect the Keyboard or USB MIDI OUT jack in BK490 read panel labeled "Keyboard" or "USB" to the MIDI IN jack of the other instrument.

1.5 Power supply

Connect an USB cable from your computer to the BK490. The unit will be powered by the computer USB.
Alternatively, if you do not want to use a computer for power, you can also use 6 AA type batteries or external 5-9V DC, 500mA power adapter(Center-positive, 2.5mm barrel diameter）.

Chapter 2：The basic MIDI Controllers

Because BK490 does not contain built-in soundcard, play the keyboard will only send MIDI data out including the midi message. A virtual instrument can change it into a track of your DAW software and creates the sound based on the MIDI message received from BK490. For more details on using virtual instruments, please refer to the documentation in your DAW software.

2.1 BK490 Function Key

2.1.1 BK490 Function Key Screenshot

2.1.2 Set controller key

There are eight programmable knobs and sliders which can be used to send any MIDI controller data on any MIDI channel. All the knobs and sliders can be stored into 16 different groups at any time. Also, you can use the "SELECT" key to choose any setting of different controllers in just a few steps.

In order to activate this function, you need to do as follows:
● Press "SELECT" key.
● Move the "DATA ENTRY" knob to select a desired number. (1-16)
● Press "SELECT" key again to complete the process. The selected group will activate soon.

2.1.3 Set Mode Key

Pressing the Mode button to enter into programming the rotary knobs, sliders and keys. In order to change the settings for the knobs, sliders and keys, you need to do as follows:
● Press "MODE" key.
● Select the knob, slider, or key which you want to edit.
● Move "DATA ENTRY" knob or move "Octave UP & Down" buttons to select a desired number.

- Press "MODE" key again to complete the setting. The selected value will activate soon.

2.2 Setting

To make music on your keyboard is a very simple way. You just need to get familiar with the related features with the instrument. The following sections will discuss each of these features in detail.

2.2.1 Velocity Curve

When you're using a keyboard to play back a sample, you may find that itdoesn't respond you want. Pressing a key lightly may sound too quiet, and pressing a key hardly may sound too loud. Then you can use the Velocity Curve to change the responds to your key when pressed. Since MIDI supports 127 different velocity values (from 1 to 127), this function will allow you to choose the velocity curve you want. There are 8 velocity curves for different people. You can choose the velocity curve from the following setting step:
- Press "MODE" key.
- Press Curve key.
- LCD will display the current velocity curve number.
- You can choose the velocity curve you want by using "OCTAVE UP&DOWN" key or "DATA ENTRY" knob.
- The selected velocity curve will activate.
- Press "MODE" key once again to finish.

>> Velocity Curve graph in page 23 <<

2.2.2 Initialization

The initialization will restore BK490's factory settings, which will erase all the presets and the saved values.
To do the Initialization, you need to do as follows:
- Press "MODE" key.
- Press "Initialize" key.

- LCD will show "Enter to perform".
- Press "NEXT" key. (The key on the keyboard marked "NEXT") .
- LCD will show "Enter to confirm".
- Press "NEXT" key to confirm.
- When Initialization is done, the LCD will go back to EDIT scene.
- Press "MODE" key once again to finish.

2.2.3 Global Channel

Use this function to select different MIDI commands using certain keys from your keyboard. Activating this function the keyboard becomes a set of function keys for setting MIDI parameter commands.
The BK490's global MIDI channel is assigned by the following steps:
- Press "MODE" key.
- Press "Channel" key.
- Use "OCTAVE UP & DOWN" keys or "DATA ENTRY" to select the desired channel (1-16).
- Press "MODE" key again to finish.

2.2.4 Program & Bank

Program message (commonly referred to program changing) is used to select different instrument sounds in a MIDI device. Program message covers a range of 128 instruments. These instruments are accessed by sending program number 0 to 127.

Some MIDI devices have more than 128 instruments. In this case, the instruments will be separated into groups by 128, called bank. You can send bank MSB and bank LSB messages to enter into these different banks. Please look over the owner's manual to see how the bank change number changes the sounds on your device.
To send a program change:
- Press "MODE" key.

- Press "Program" key.
- Use "DATA ENTRY" knob or move "Octave UP & Down" buttons to select a desired number.
- Press "MODE" key to finish.

Bank change:

Actually the Bank Select message is the MIDI Controller messages, just like Volume, Pan, Sustain Pedal, Wind, and other controllers. Specifically, the controller number for the "Most Significant Byte" (i.e., MSB) of Bank Select is controller "0". The controller number for "Least Significant Byte" (i.e., LSB) of Bank Select is controller "32". The data of these messages is the bank number you want to select. (Sometimes the MSB Bank Select is referred to the rough adjustment, and the LSB Bank Select is referred to the subtle adjustment).

2.2.5 Transpose

The "Octave UP&DOWN" buttons can be used to transpose your keyboard. Some players want to play in a particular key like C or F, for example. Transpose lets you change the pitch you are controlling and continue to play in the key that is most comfortable for you.

It is possible to transpose up or down by as much as 12 MIDI notes (or semitones). This means if you press one of the transpose buttons 12 times, the tone will sound exactly one octave higher or lower.

To do the Transpose, you need to do as follows:

- Press "MODE" key.
- Press "Transpose" key
- Use "DATA ENTRY" knob or move "Octave UP & Down" buttons to select a desired number.
- Press "MODE" key to finish.

2.2.6 Controller Select

The Control Select function (CTRL SEL) will allow you to begin Programming the controller channel, the knobs, sliders, Sustain pedal,

Data Entry and Modulation wheel. In order to change the value of each controller, you need to do as follows:

● Press "MODE" key.
● Choose the number of the desired channel, knob or slider by using "DATA ENTRY" knob or move "Octave UP & Down" buttons to select a desired number.
● Press "NEXT" to set controller channel
● Press "MODE" key to finish the procedure.

To program the controller of Data Entry, it is a little difference to others; you need to do as follows:

● Press "MODE" key.
● Press "DATA BNOB" key
● Use "DATA ENTRY" knob or move "Octave UP & Down" buttons to select a desired number.
● Press "NEXT" to set the controller channel.
● Use "DATA ENTRY" knob or move "Octave UP & Down" buttons to select a desired channel.
● Press "MODE" key to finish the procedure.

2.2.7 Reset

To restore BK490's factory settings, which will erase any presets or other saved value; you need to do as follows:

● Press "MODE" key.
● Press "FACTORY RESET" key
● LCD will show "Enter to perform".
● Press "NEXT" key.
● LCD will show "Enter to confirm".
● Press "NEXT" to confirm the operation.
● LCD will show "Resetting is done"
● Press "MODE" key to finish.

前言

感謝您購買了 BK490 MIDI 主控半配重鍵盤。您的新鍵盤提供了更多的功能，例如：有 Pitch Wheel(滑音滑輪)、Modulation Wheel(調音滑輪) 、Keyboard(鍵盤)和 Octave Up & Down(八度 上&下)控制按鍵這些基本組成部分，更有八個滑動開關、八個可變旋鈕可以隨您設置和指定其控制 CC、Channel 等 MIDI 訊號。而且易於操作，BK490 鍵盤將是您在舞臺上現場表演中或是編曲中最佳的主控鍵盤。

包裝內容

如果在您的包裝盒中少了下列的附件，請與您購買的經銷商聯繫。
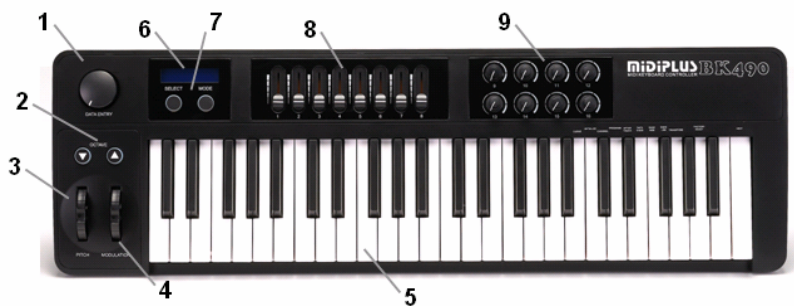- BK490 半配重鍵盤一個。
- 說明書一份。
- USB 數據線一條。

BK490 鍵盤總覽

以下是 BK490 鍵盤所提供的功能：
- 49 鍵標準半配重鍵盤。
- 八個可任意配置的滑動開關。
- 八個可任意配置的可變旋鈕。
- 滑音滑輪(Pitch Wheel)。
- 調音滑輪(Modulation Wheel)。
- 延音踏板插孔(Sustain)。
- 具有多個力度曲線可供選擇。
- 通過 USB1.1 連接 BK490 和電腦。
- 具有 USB MIDI OUT 和 KEYBOARD MIDI OUT 可分別連接其他 MIDI 設備。
- 鍵盤可外接 5-9V 直流電源，也可以直接通過 USB 線供電或使用 6 個 AA 電池，無需外接電源。

第一章：快速入門

1.1 BK490 總覽

1.1.1 面版總覽

1.1.2 背版總覽
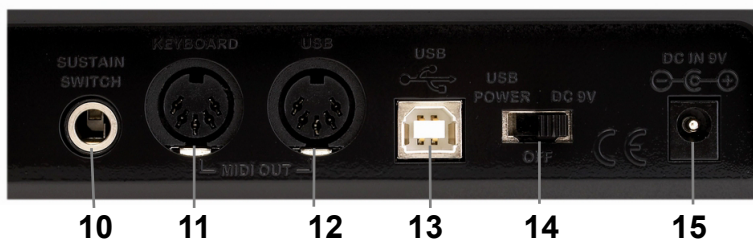
1.1.3 控制器說明

按照上面編號對應其名稱

面版		
1：	數據輸入旋鈕	DATA ENTRY
2：	八度(上&下)	Octave Key(UP&DOWN)
3：	滑音滑輪	Pitch
4：	調音滑輪	Modulation
5：	49 鍵標準半配重鍵盤	Standard 49Key keyboard
6：	LCD 顯示螢幕	LCD display screen
7：	兩個(選擇和模式)編輯鍵	2 Key Edit key
8：	八個滑動開關	8 assignable slider
9：	八個可變旋鈕	8 programmable knobs
背版		
10：	延音踏板	Sustain Pedal
11：	鍵盤 MIDI 輸出	Keyboard MIDI OUT
12：	USB MIDI 輸出	USB MIDI OUT
13：	USB 1.1 插孔	USB 1.1 interface
14：	電源切換開關	Power selector switch
15：	外部電源插孔	External power interface

1.2 基本系統要求

如果您想將您的 BK490 與電腦連線使用，至少應有以下最低要求：

Windows	Mac OS
Pentium 3 800MHz or higher	Macintosh G3*800/G4*733 MHz or higher
(CPU requirement may be higher laptops)	(CPU requirement may be higher for laptops)
256 MB RAM	OS X 10.3.9 with 256 MB RAM

DirectX 9.0b or higher	OS X 10.4.2 or greater with 512 MB RAM
Windows XP(SP2) or higher	*G3/G4 accelerator cards are not supported.
(Windows 98,Me,NT or 2000 not supported)	

(注意：不支持 Windows98,Me,NT 或 2000)
建議您根據您所使用的應用軟體對配置的要求選擇相應配置電腦和系統，因為不同軟體對您電腦的要求有所不同。

1.3 驅動程式安裝

BK490 不需要特定的音訊設備驅動，系統內建的即可實現。第一次連接 BK490 到您的電腦，電腦會自動提示，您需要做的是選擇內建驅動讓其自動安裝即可。

1.3.1 如何操作 BK490 與您的軟體

以 USB 線連接電腦使用內建音源或是外接音效卡時，打開您使用的 MIDI 軟體後請在 MIDI Setup 或是 MIDI Device 設備選項中把 MIDI IN 選擇 USB MIDI Interface；MIDI OUT 選擇電腦的內建音效卡名稱或是您的外接音效卡，設定完成後即可接通電腦與 BK490，此時您由 BK490 所彈奏控制的 MIDI 訊號便能傳遞到電腦的 MIDI 軟體記錄起來，也能即時聽到自己做製作的 MIDI 音樂。

1.4 MIDI 連接

MIDI 輸出口試使用標準的 5-pin 的 MIDI 端子。

MIDI 的輸出口可用於連接硬體編曲器、外部合成器或音源機等等。

1.5 電源供應

如果您是通過 USB 線與電腦相連的，則不需要外接電源供電，因為此時電腦可以直接通過連接的 USB 線給 BK490 提供電能；如果您不想連接電腦，那麼您將需要外接一個電源，同時需要注意選擇相對應的電源（鐵芯 2.5mm 的 5-9V DC 500mA 適配器）或是 6 個 AA 電池。

第二章：BK490 的基本 MIDI 控制

2.1 功能鍵

2.1.1 功能鍵圖

2.1.2 控制器組選擇按鍵（SELECT）

在 BK490 上，設有 16 個控制器管理組，控制組管理八個滑動開關控制和八個可變旋鈕控制，每個控制器都可以在每個組裡配置不同的參數，您可

以使用 SELECT 選擇鍵來搭配切換不同的設定以實現 16 個控制器同時變更，即切換不同的搭配效果。

具體操作步驟如下：

- 按下 SELECT 鍵。
- 通過旋轉 DATA ENTRY 來選擇 1~16 組其中一組。（選擇即時生效）
- 再次按下 SELECT 寫入記錄，下次啓動將預設選擇組啓動。

2.1.3 鍵盤模式按鍵（MODE）

爲了在有限的資源下豐富 BK490 的功能，BK490 還設計了豐富的副功能，這些副功能可以通過 MODE 鍵來進入，進入副功能後即可選擇有標示操作功能的琴鍵來進行操作；

具體操作步驟如下：

- 按下 MODE 鍵。
- 選擇你所需要標示操作功能的琴鍵。
- 通過選擇 DATA ENTRY(數據輸入旋鈕)或者 OCTAVE UP & DOWN(八度 上/下)鍵來選擇需要的參數值。(即時生效)
- 再次按下 MODE(模式) 鍵寫入記錄，下次啓動將預設修改後的結果啓動。

2.2 設定

BK490 上的功能設定遵循一個基本流程，首先選定需要設定的功能，然後設定成自己需要的狀態，然後保存設定。以下將詳細介紹具體的操作：

2.2.1 力度曲線(Curve)

在每次按下一個琴鍵的時候，都會有一個攜帶 0~127 範圍內力度值的 MIDI 音符資訊外發出去。此數值代表著您所按琴鍵時的力度。當力度值爲 0 時說明此鍵已經釋放，由於不同的演奏者有不同的演奏習慣，所以 BK490 提供了多條力度曲線以供選擇需要。您可以先去體驗每個曲線的不同力度感，再從中選擇感覺最爲合適的曲綫。

曲線選擇操作：
- 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
- 按下鍵盤上標示"Curve"(曲線)琴鍵。
- LCD 顯示幕會顯示當前力度曲線號。
- 此時您可以通過的 Octave UP&DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)進行選擇曲線號。
- 選擇好相應曲線的編號後，此曲線即可生效，此時您可以通過彈奏左邊無標示操作功能的琴鍵體驗設置後的效果。
- 再次按下 MODE(模式)鍵，將選擇的曲線編號寫入記憶區。

2.2.2 初始化(Initialize)

初始化是將所有參數初始化到出廠時的設定。其中包括全域的參數和 16 組所有的控制器 CC 和 Channel。

操作步驟：
- 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
- 按下鍵盤上的"Initialize"(初始化)琴鍵。
- LCD 會提示是否確認進入初始化。
- 然後按下標示操作功能"NEXT"(下一步)琴鍵。
- LCD 螢幕會提示是否確認進行恢复。
- 再按下"NEXT" (下一步)琴鍵進行確認。
- 初始化完成 LCD 恢復到 EDIT(編輯)介面；
- 再次按下 MODE(模式)鍵，恢復後的參數將被寫入記憶區。

2.2.3 全域通道

全域通道 Global Channel 是 BK490 主資訊通道，Keyboard(鍵盤)、Pitch Wheel(滑音滑輪)和 Sustain Pedal(延音踏板)使用此通道，其他控制器也可配置成此通道；

範圍：（1~16）
Channel 設置操作步驟：

- 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
- 按下鍵盤上的"Channel"(通道)琴鍵。
- 此時您可以通過的 Octave UP&DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)進行通道號選擇。（即時生效）
- 再次按下 MODE(模式)鍵，選擇後的 Channel(通道)寫入記憶區。

2.2.4 音色和音色庫的變化

音色資訊(Program)一般也可以說是音色變換資訊(program changes)是用於在選 MIDI 裝置中選擇不同的樂器聲音。音色資訊包括 128 個樂器。這些樂器可通過音色編號 1~128 來進行選擇。

一些 MIDI 裝置超過 128 個樂器，如果有此情況，其樂器會各自放入一個群組，一般稱之爲音色庫(Banks)。您能傳送 Bank MSB 和 Bank LSB 資訊來使用不同的音色庫。

改變音色：
- 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
- 按下鍵盤上標示操作功能"Program"(音色)琴鍵。
- 此時您可以通過的 Octave UP&DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)進行通道號選擇。（即時生效）
- 再次按下 MODE(模式)鍵，選擇後的 Program(音色)寫入記憶區。

改變音色庫：
音色庫由兩個參數決定，一個 Bank MSB，一個 Bank LSB，要設置音色庫，只要在編輯模式下分別選擇這兩個功能，然後通過設置音色的方法對他們的值進行改變，即可實現音色庫的選定操作。

音色變換和音色庫是控制組資訊，他們的設定也是針對當前使用到的控制組，一旦通過"SELECT"(選擇)功能改變了控制組，那麼相應的音色和音色庫也會隨之變化。

2.2.5 八度轉移

Octave(八度)按鍵也可用於移調，考慮到 Octave(八度)偏移較大有可能在實現了您彈不到的音符，但是同時又超出了您之前可以彈到的音符，這麼一來移調的作用就出來了，他可以只一次向上或向下移動一個單位音符。也就是說你按一個 Octave(八度)是需要做 12 次移調的，如果您要快速的實現 12 個音符或更多的音符移動，那麼則可選擇 octave(八度)轉移功能。

實現移調：
● 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
● 按下鍵盤上標示操作功能"Transpose"(移調)琴鍵。
● 此時您可以通過的 Octave UP&DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)實現移調。（即時生效）
● 再次按下 MODE(模式)鍵，選擇後的 Transpose(移調)寫入記憶區。

2.2.6 控制器

BK490 控制器分爲兩類，一類是獨立控制組控制器，一類是全域性的控制器。
獨立控制組控制器：除 Pitch Wheel(滑音滑輪)外的控制器都是組控制器，他們包括八個滑動開關控制、八個可變旋鈕控制、sustain pedal(延音踏板)、Data Entry(數據輸入旋鈕)和 Modulation Wheel(調音滑輪)。這些控制可以配置成不同控制功能和獨立的控制通道；
全域控制器：琴鍵旁的 Pitch Wheel(滑音滑輪)即是使用全域通道，使音色彈奏能滑音控制功能。

設定控制器
● 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
● 操作您需要設定的控制器，此時被操作的控制器將被選定（見 LCD 螢幕提示）。
● 通過的 Octave UP & DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)設置被選定控制器的控制號；（即可生效）

- 按下"NEXT"(下一步)進入控制器控制通道的設定介面（見 LCD 螢幕提示）。
- 通過的 Octave UP & DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)設置被選定控制器的通道號；（即可生效）
- 再次按下 MODE(模式)鍵，控制器設定後的值寫入記憶區。

注意：DATA ENTRY(數據輸入旋鈕)的設定有些不同，具體如下：
- 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
- 按下鍵盤上的"DATA KNOB"(數據旋鈕)琴鍵。
- 通過的 Octave UP&DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)設置 DATA ENTRY(數據輸入)控制器的控制號；（即可生效）
- 按下"NEXT"進入控制器控制通道的設定介面（見 LCD 提示）。
- 通過的 Octave UP&DOWN(八度 上/下)鍵或者 DATA ENTRY(數據輸入旋鈕)設置 DATA ENTRY(數據輸入)控制器的通道號；（即可生效）
- 再次按下 MODE(模式)鍵，控制器設定後的值寫入記憶區。

2.2.7 重啟初設值

所謂重啟初設值，是將當前使用控制組所有參數恢復到出廠設定時的配置，參數包括當前控制組八個滑動開關控制、八個可變旋鈕控制、Data Entry(數據輸入旋鈕)、Sustain Pedal(延音踏板)和 Modulation Wheel(調音滑輪)的控制號和控制通道號得恢復設定。

操作步驟：
- 按下 MODE(模式)鍵。此時鍵盤處於副功能操作狀態。
- 按下鍵盤上標示操作功能"FACTORY RESET"(原廠重啟初設值)琴鍵。
- LCD 螢幕會提示是否確認進入恢復。
- 然後按下"NEXT"(下一步)琴鍵。
- LCD 螢幕會提示是否確認進行恢復。
- 再按下"NEXT" (下一步)琴鍵進行確認。
- 初始化完成 LCD 螢幕恢復到 EDIT(編輯)介面；
- 再次按下 MODE(模式)鍵，恢復後的參數將被寫入記憶區。

力度曲线 Velocity Curve
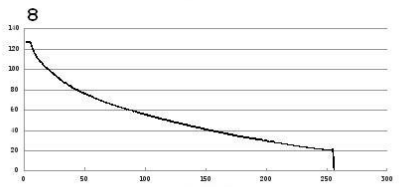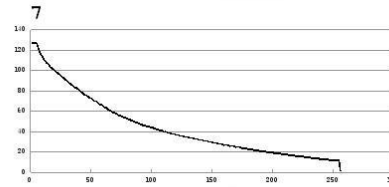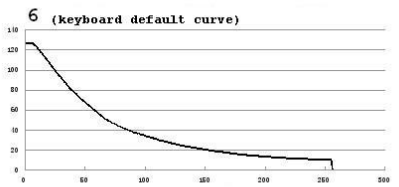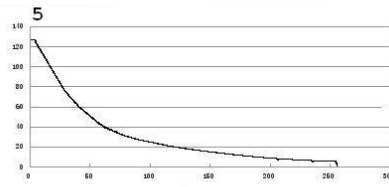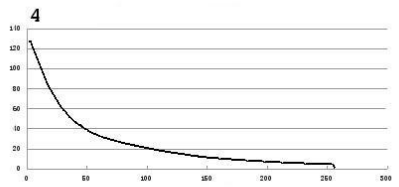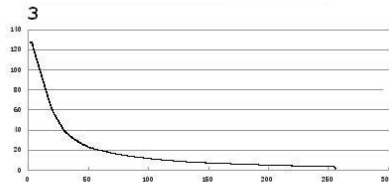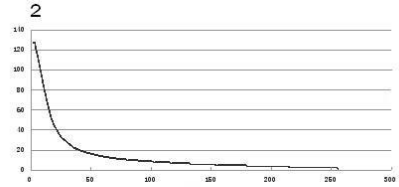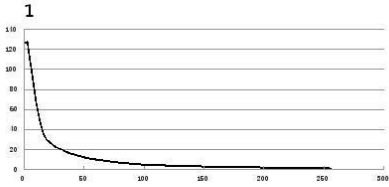
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