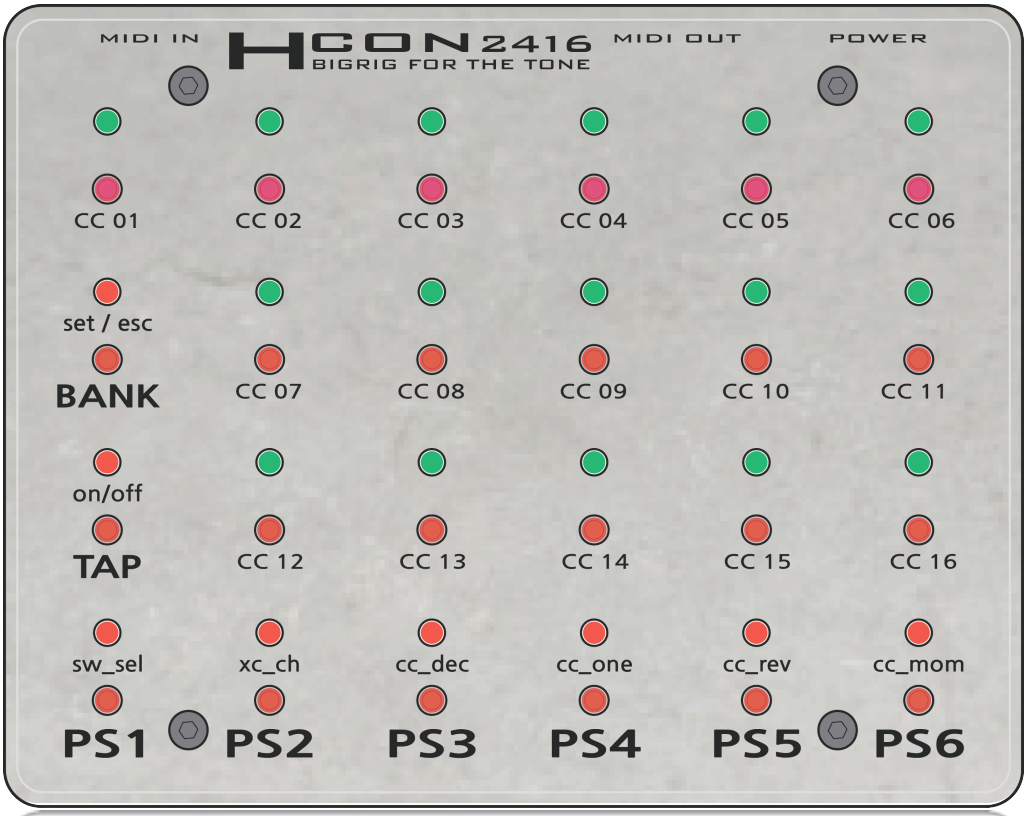
HCON2416
MIDI Controller for Guitar Rack System

Operating Guide



BIGRIG For the TONE

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INTRODUCTION

- **BIGRIG HCON2416** is a MIDI Controller that can control your Guitar Rack System.
- **BIGRIG HCON2416** transmits simultaneously, 16 MIDI Control Change Messages, 1 Program Change Message, 1MIDI Control Change Message for tempo with Timing Clock.
- **BIGRIG HCON2416** has 16 Instant Access Switches that can transmit CC Message, and on/off combinations of IA Switches can be saved in 0~96 memory locations.
- Once a Preset is selected, **BIGRIG HCON2416** transmits 1 PC Message to the
- 1 Program Change Message is sent via MIDI Channel which is set in the Power on Setup mode.
- One can select, and use 16 Bank, 6 Preset, and Global Preset (97 Presets) via the Bank and the Preset Switch.
- When the Tempo is set using the Tap Switch, **BIGRIG HCON2416** transmits MIDI Timing Clock.
- Every Switch has its own LED.
- There are 4 modes which is Operation mode, Bank Change mode, Setup mode, and Power on Setup mode.
- **BIGRIG HCON2416** operates using a 9VAC/DC @ 70ma adaptor.

  You must choose from either of the following to supply power to your machine.

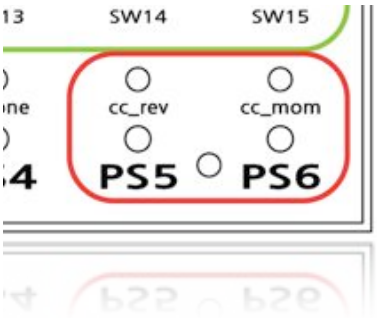
  - To use Phantom Power, you must supply power through MIDI Out Port 1, 3 Pin.
  - You can supply power through a 2.1x5.5 (mm) connector.
- Weight 320g
- Size 119.5 x 94 x 34 (mm)

OPERATION MODE

1. STORING PRESET

1. Select Preset to Edit and Store.
2. Edit desired on/off combination using the IA Switches.
3. A flashing PS LED will indicate that the combination has been changed.
4. To save, press and hold PS switch.(a press would recall the original combination.)

HCON2416 transmits the value type selected via Setup mode with the CC message. Possible combinations of value types are shown below. Press and hold cc_rev or cc_mom switch to change on/off status.



	cc_rev	cc_mom	Type	transmitting CC Value	
				Switch is off	Switch is on
1	off	off	**Normal**	0	127
2	on	off	**Reverse**	127	0
3	off	on	**Momentary (A)**	127 - (25 msec) - 0	127 - (25 msec) - 0
4	on	on	**No Value**	0	0

2. GLOBAL PRESET

HCON2416 contains a Global Preset feature.

To select Global Preset, press the selected PS switch again. Since Global Preset is not provided with its own PS LED, you can tell that in Global Preset by checking that all PS LEDs are off. When Global Preset is selected, the combination of the IA Switches will be saved automatically.

3. MIDI TIMING CLOCK

HCON2416 has a Tap Tempo feature.

Tempo will be set by pressing the Tap switch more than twice, HCON2416 transmits the MIDI Timing Clock according to the Tempo. This is convenient, for the tempo is synced among the machines that can recognize Time Clock. When the power is turned on, the Time Clock is set at a BPM of 120.

LED blinks according to the Tempo.

For the machines that cannot recognize Time Clock, you need to set the tempo separately via CC message. Every time the Tap switch is pressed, HCON2416 transmits alternatively **CC #64, Value 127 / 0** through the MIDI channel selected via Power on Setup mode.

There may be a slight discrepancy with the machines which rounds off the BPM to the nearest whole number.

Press and hold Tap switch to turn on/off this feature.

When Tap Tempo feature is off,

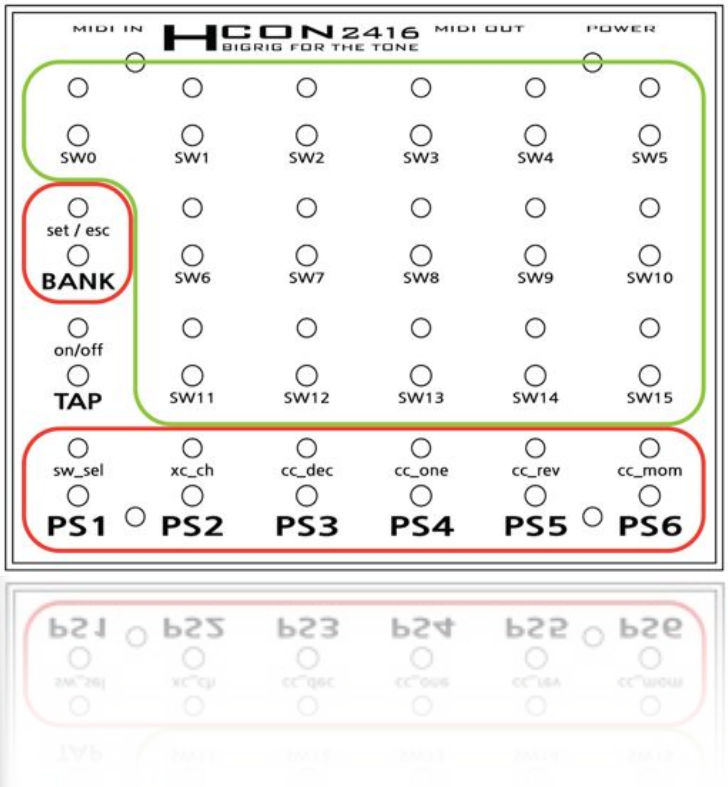
- Press and hold Tap switch to turn on the Tap Tempo feature.
- HCON2416 stop transmitting clock.
- HCON2416 can transmits alternatively **CC #64, Value 127 / 0.**

The time clock message included in the incoming MIDI message and MIDI IN feature is on, the Timing Clock message is THRU-ed and the LED will blink in sync with the Tempo. (MIDI IN feature can be set via Power on Setup mode.)

You can decide whether to send a timing clock constantly or only send 2 bars. In order to select continuous or 2 bars, switch to setup mode and press and hold the tap switch. When the LED is lit, it will continue to transmit a timing clock.

CHANGING BANK

HCON2416 provides a total of 16 banks which are Bank 0 to Bank 15. The usable switches are shown in the picture on the right.



Tip #1

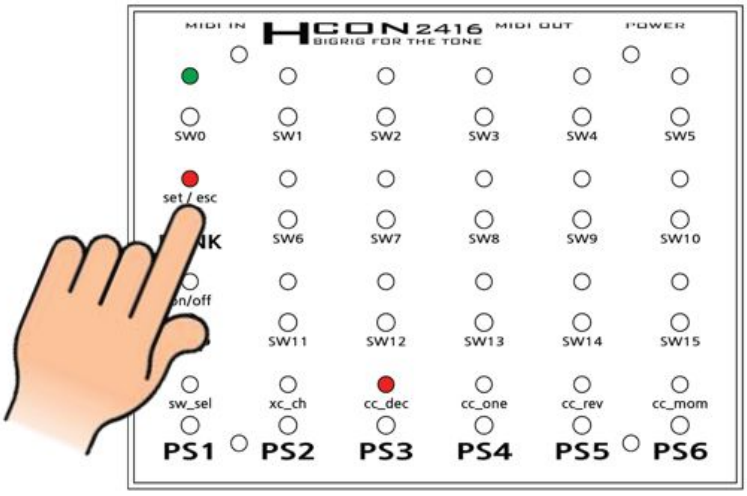
When the Bank value is altered, Bank LED will blink.

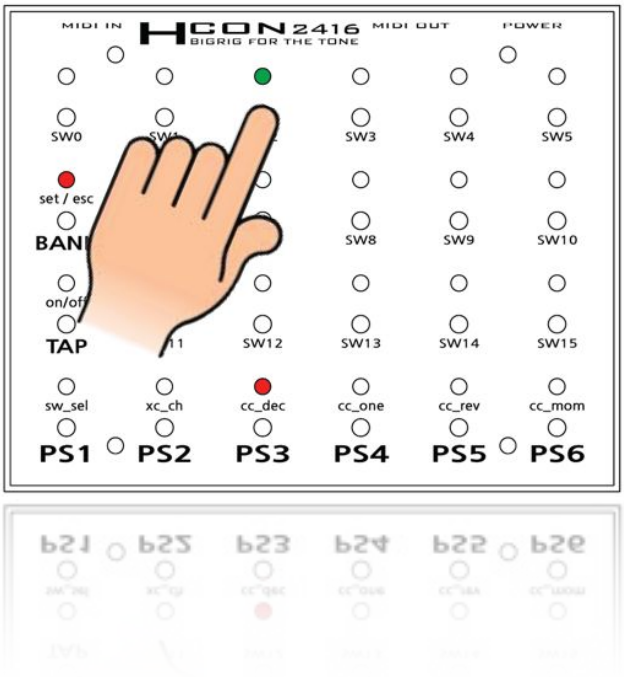
1. **To recall the pre-altered bank, press the Bank switch.**
2. **Press the desired Preset switch to apply the altered Bank value and switchto Operation mode.**

1. ENTER BANK MODE

In a Bank 0 / Preset 3, press Bank switch to enter Bank mode.

(Press PS3 to check present bank and switch to Operation mode.)





2. Changing Bank

Change to Bank 2.

Bank LED blinks.

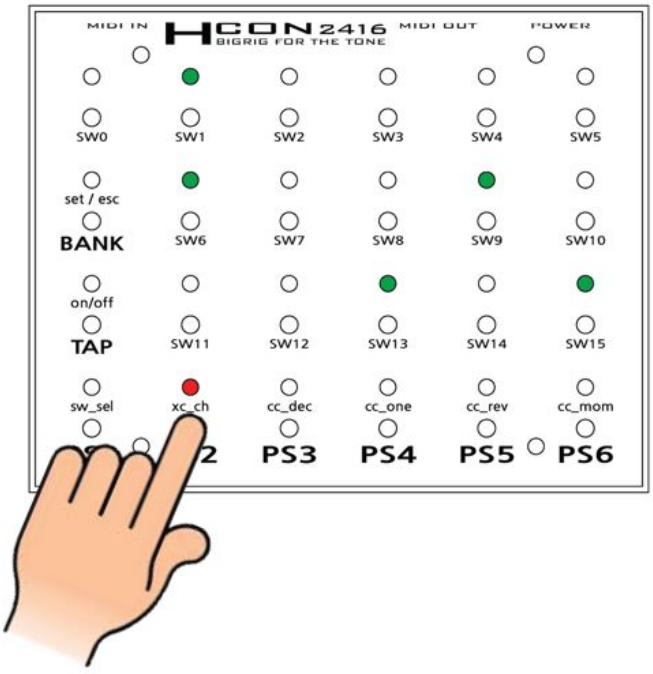
(Pressing the Bank switch while Led is blinking will reload the pre-altered Bank value.)

3. Exit Bank Mode

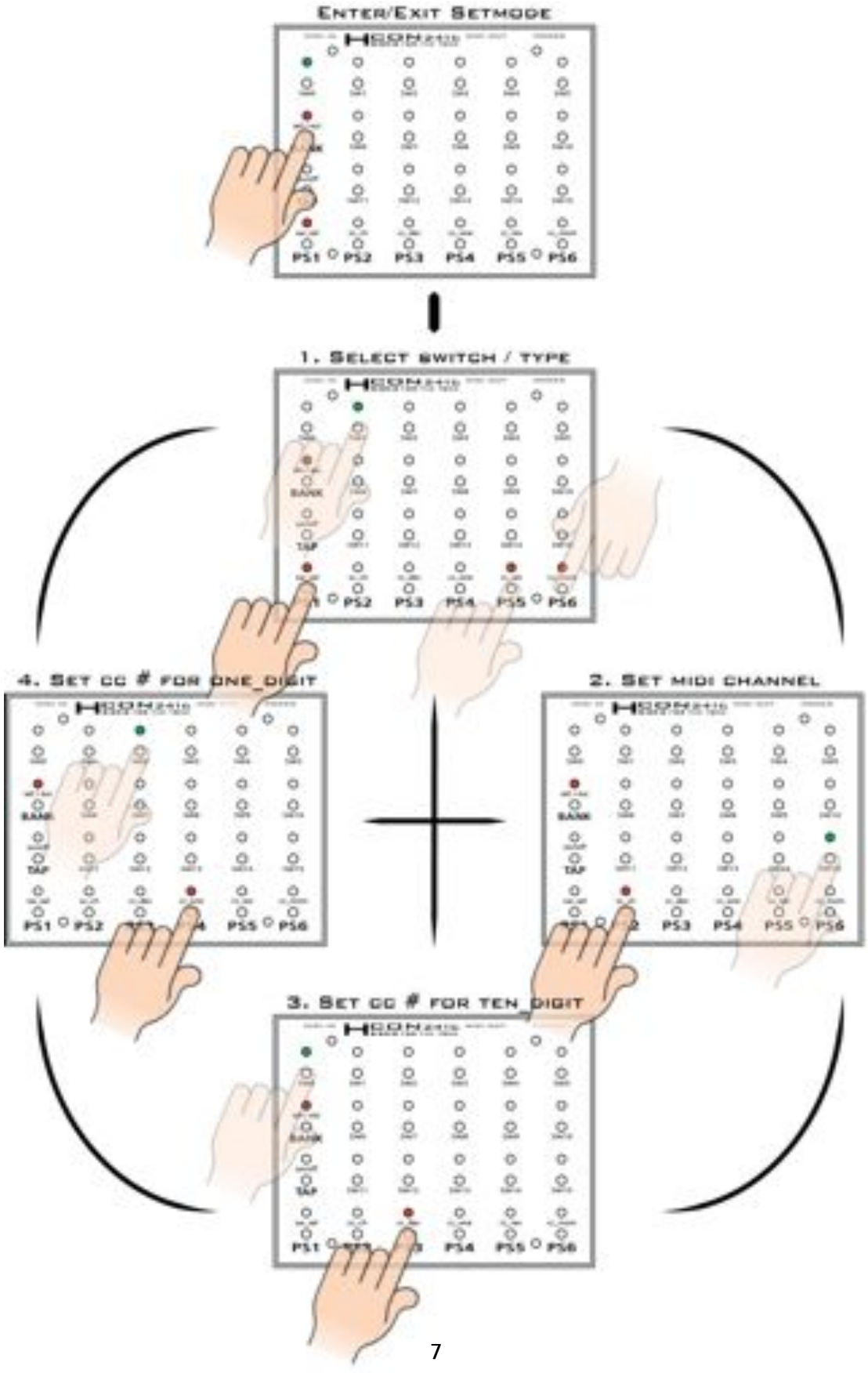
Press PS2

Switch to Operation mode

Now in a Bank 2 / Preset 2

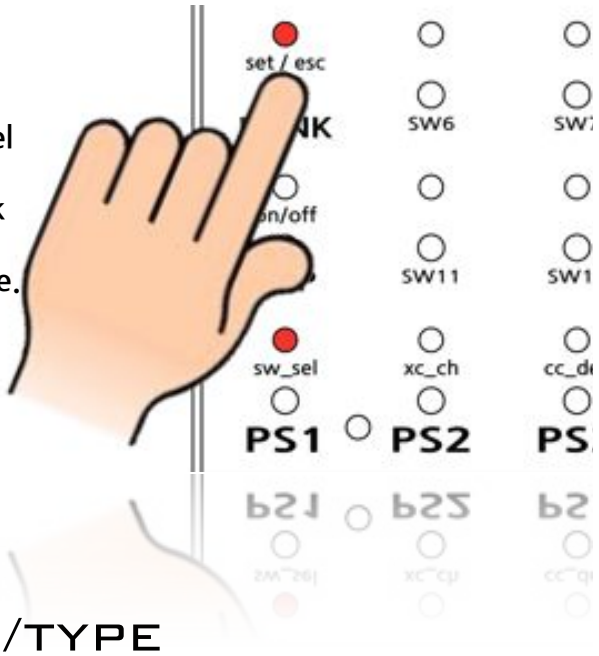


Setup mode


Enter/Exit Setmode
1. Select switch / type
2. Set midi channel
3. Set cc # for ten_digit
4. Set cc # for one_digit
BANK
TAP
PS1
PS2
PS3
PS4
PS5
PS6

ENTER/EXIT SETUP MODE

HCON2416 provides 16 Instant Access switches. To assign CC channel and number, press and hold the Bank switch which triggers the Setup Mode. You can always switch to Operation Mode by press and hold the Bank switch.

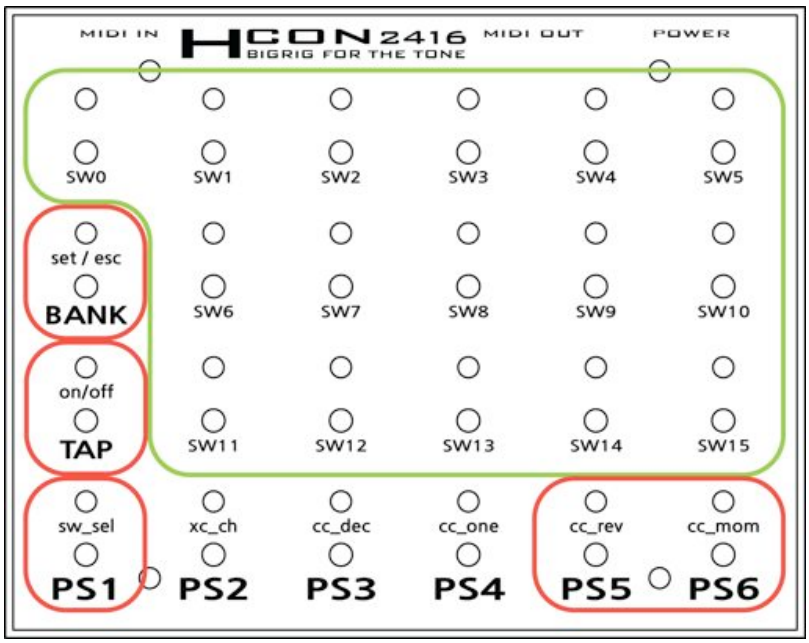


1. SELECT SWITCH/TYPE

Select the Instant Access switch you want to set.

The switches you can use in this process is shown in the picture on the right.

Also, you can select the CC value type which will be included in the CC message.



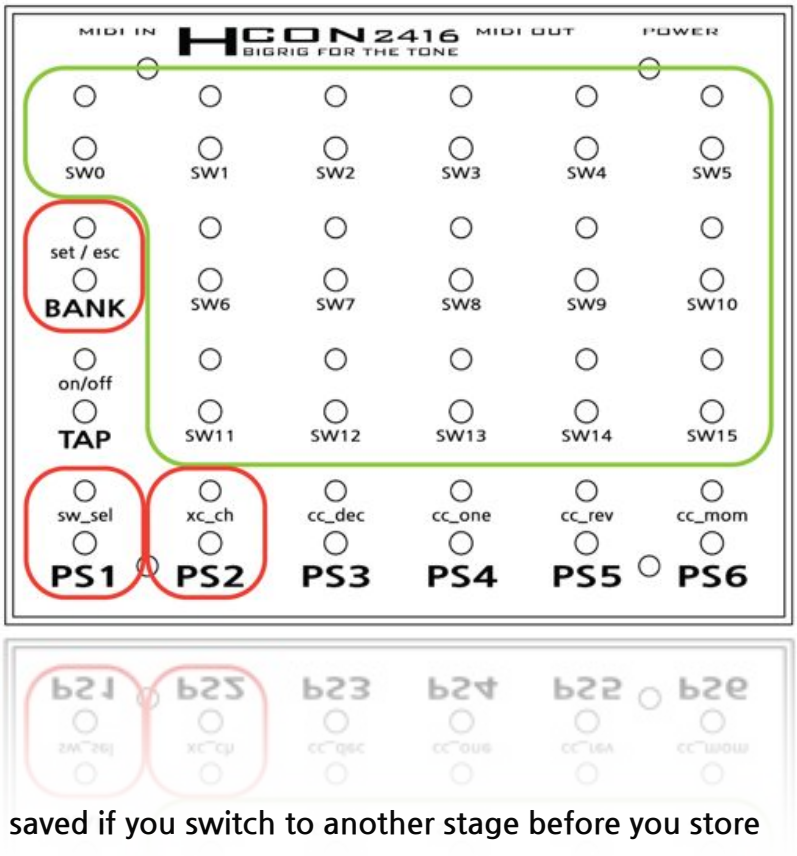
	cc_rev	cc_mom	Type	transmitted CC Value	
				Switch is off	Switch is on
1	off	off	Normal	0	127
2	on	off	Reverse	127	0
3	off	on	Momentary (A)	127 - (25 msec) - 0	127 - (25 msec) - 0
4	on	on	No Value	0	0

2. SET MIDI CHANNEL

Designate the MIDI channel of the CC message which will be transmitted by the selected Instant Access switch.

The switches you can use are shown on the right.

You can always switch to the previous stage (selecting the switches) or other stage which will be introduced shortly.



The changed value will not be saved if you switch to another stage before you store by press and hold.

Tip #2

When setting MIDI channel via switch 0~15, the actual channel being used is equal to that value +1.

For instance, while sw15 have been selected in the picture above, the actual MIDI IN channel would be 16.

Tip #3

When the data is edited, LED will blink

you can either

1. click the blinking switch to recall previous settings.
2. press and hold to save the changes you've made.

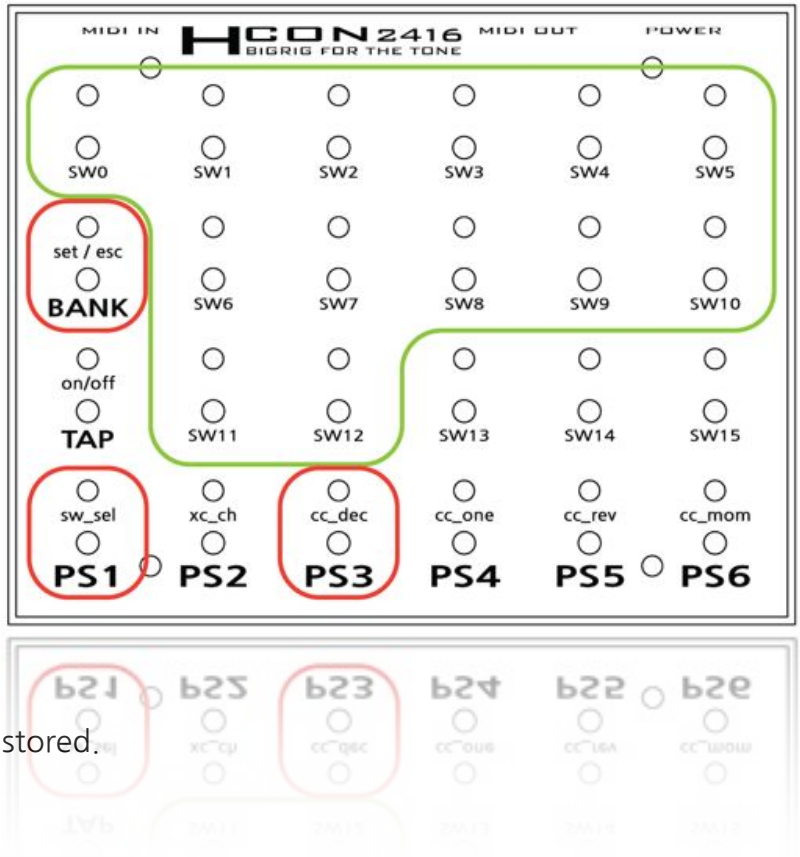
3. Set cc# for ten_digit

The selected switch designates a ten digit of CC number which will be transmitted as the CC message.

The switches you can use are shown on the right.

You can always switch over to another stage.

The altered values will not be saved if you switch over to another stage when the data had been edited and not stored.



Tip #3

When the data is edited, LED will blink

you can either

1. click the blinking switch to recall previous settings.
2. press and hold to save the changes you've made.

EX) When the CC number you are trying to designate to a switch you have selected is

- **8**, then select sw0

  [the tenth digit number is 0]

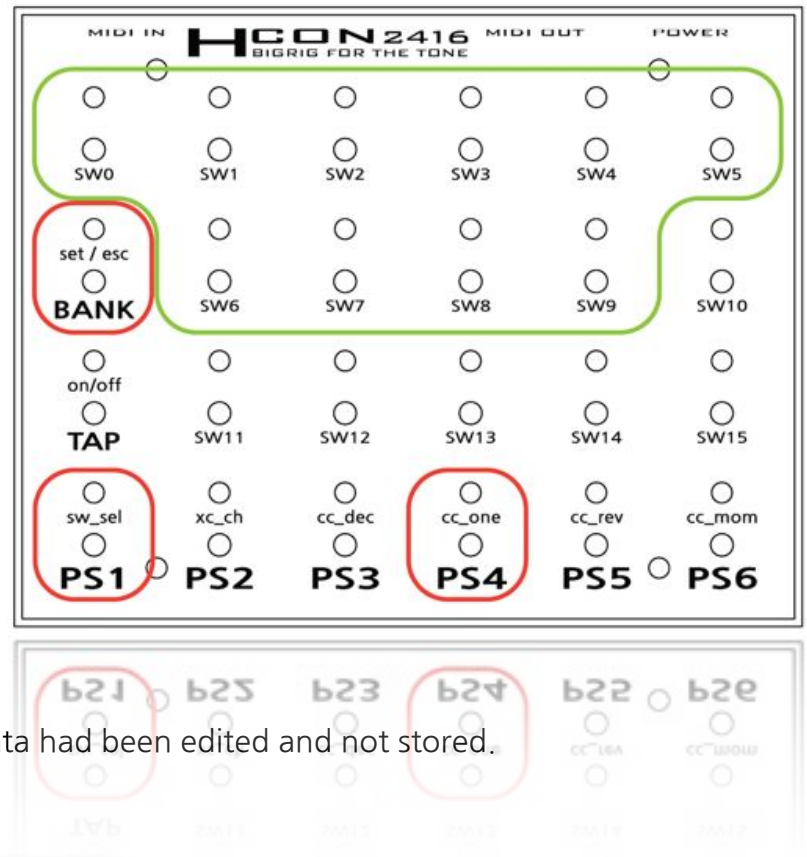
- **117**, then select sw11

  [the tenth digit number is 11 (110+7)]

4. Set cc# for one_digit

The selected switch designates a single digit CC number which will be transmitted as the CC message.

The switches you can use are shown on the picture on the right.



You can always switch over to another stage.

The altered values will not be saved if you switch over to another stage when the data had been edited and not stored.

Tip #3

When the data is edited, LED will blink and you can either:

1. click the blinking switch to go back to your previous settings.

2. press and hold to save the changes you've made.

EX) If the CC number that the selected switch designates is

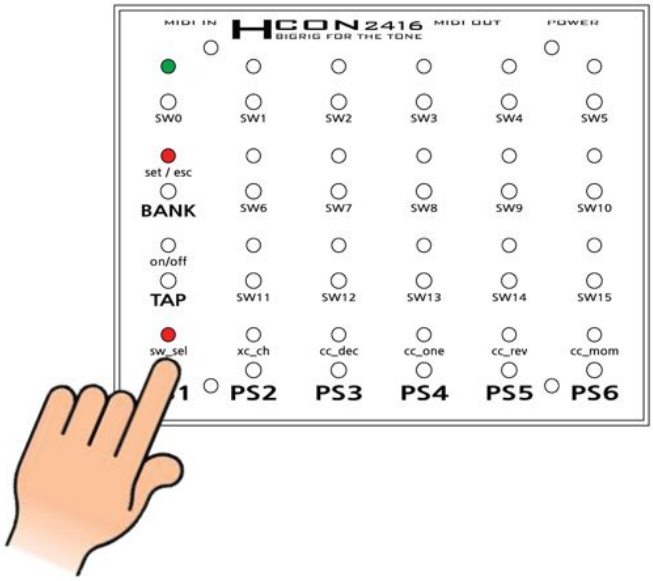
- **8**, then select sw8

  [the single digit number is 8]

- **10**, then select sw0

  [the single digit number is 0 (10+0)]

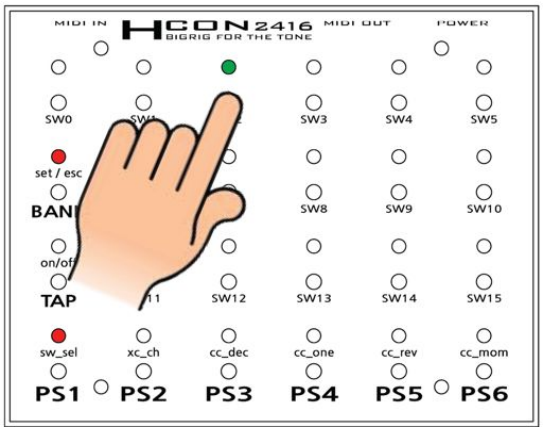
The following pictures and commentaries describes how to change settings of sw2 which is **ch 15, CC #11, Normal type** to **ch 2, CC #123 and Momentary type**.



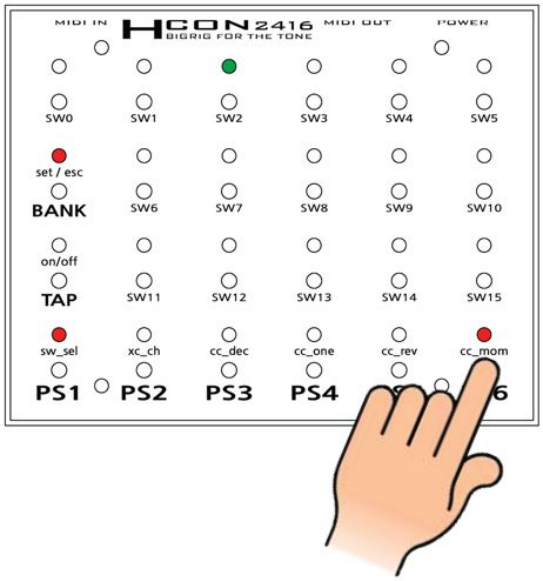
In order to select a switch you want to set, press sw_sel.

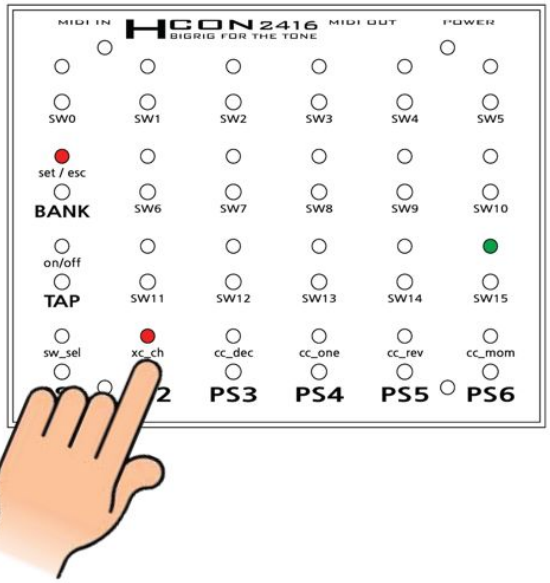
Now, Sw0 is selected.

To select switch you're trying to set, press sw2.



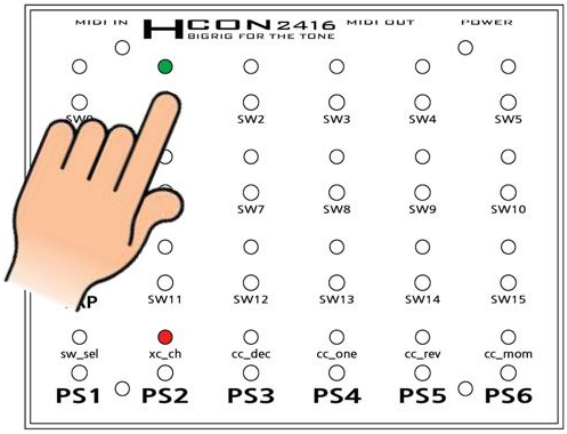
Press and hold cc_mom to set Momentary Type.



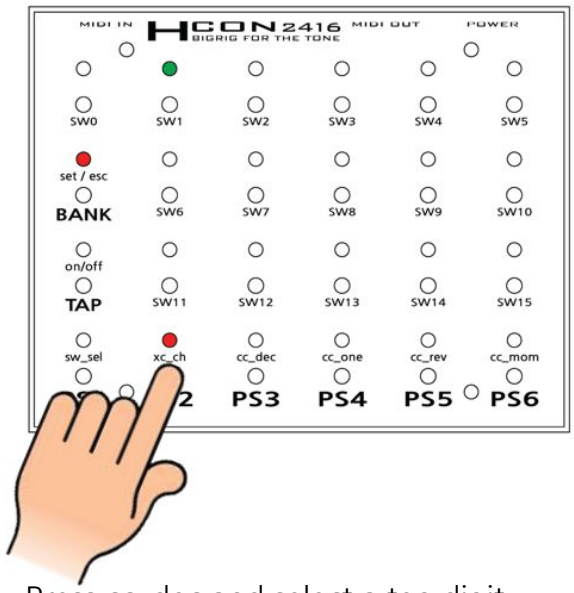


To set the MIDI channel, press xc_ch. Right now, we're in ch16.

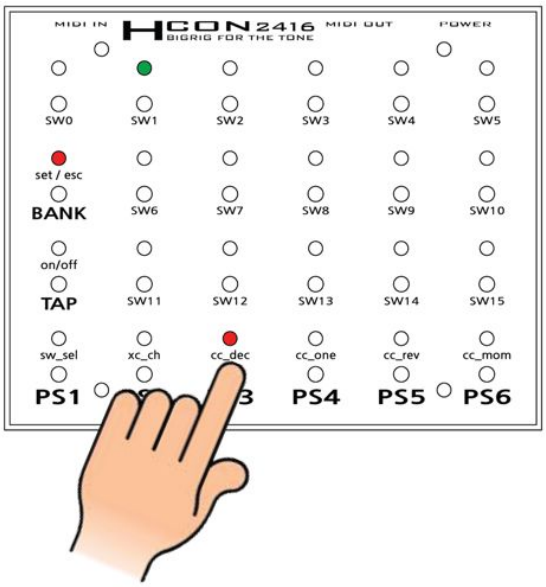
Press sw1 to change MIDI channel to ch 2. xc_ch LED will blink when edited. To check the previous channel, press xc_ch again.



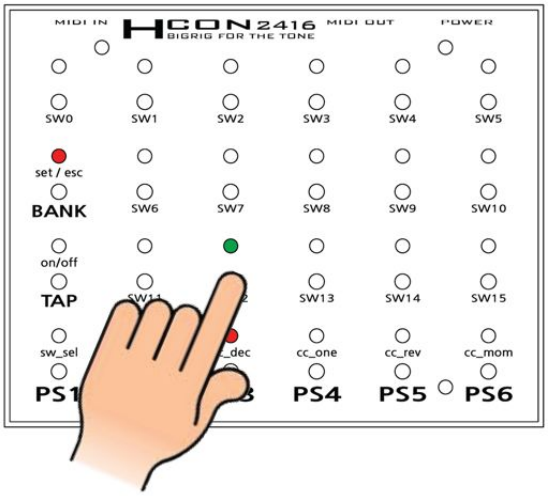
To save the altered ch value, press and hold xc_ch.

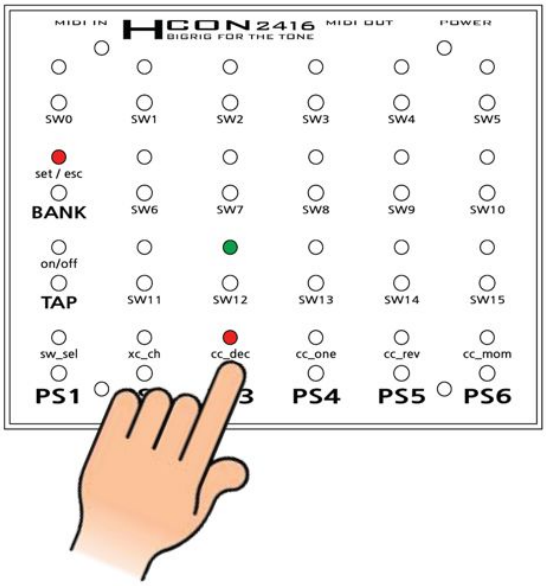


Press cc_dec and select a ten digit number. Currently, the CC number is 10+x.

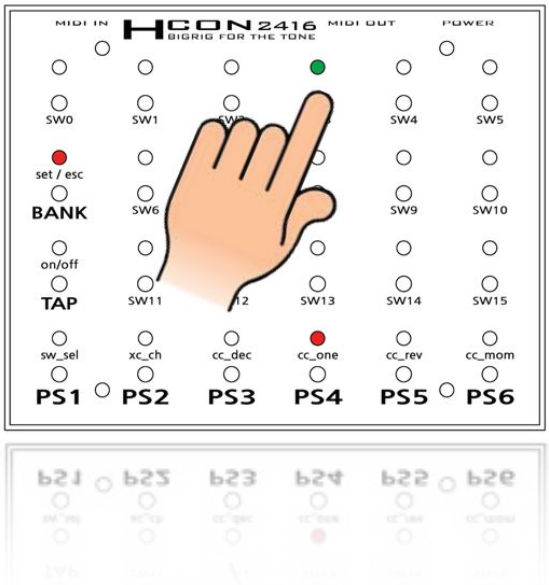


Press sw12 to change the tenth digit to 120. Then, cc_dec LED will start blinking. To check the previous value, press cc_dec.



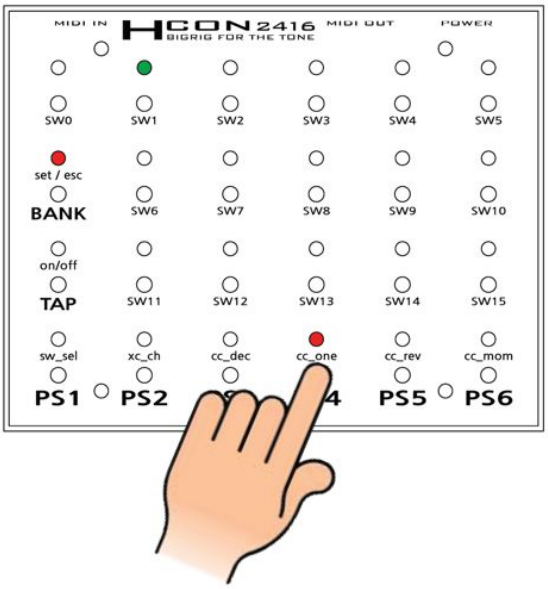


Press cc_one and select the desired single digit value. Currently, the CC number is x + 1.

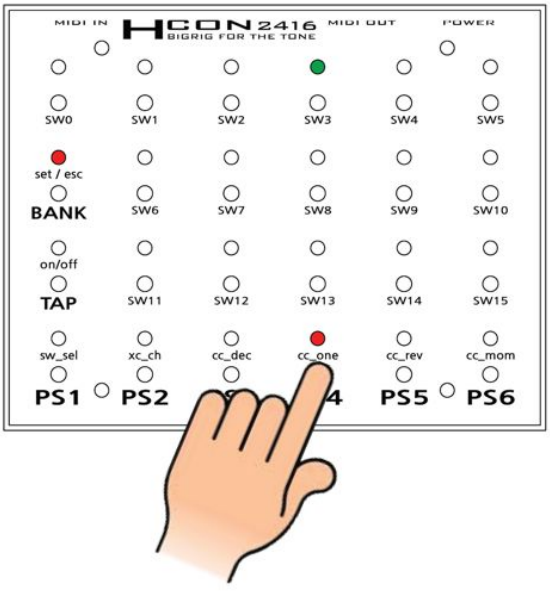


Press and hold to save the altered value.

Press and hold cc_dec to save altered value.

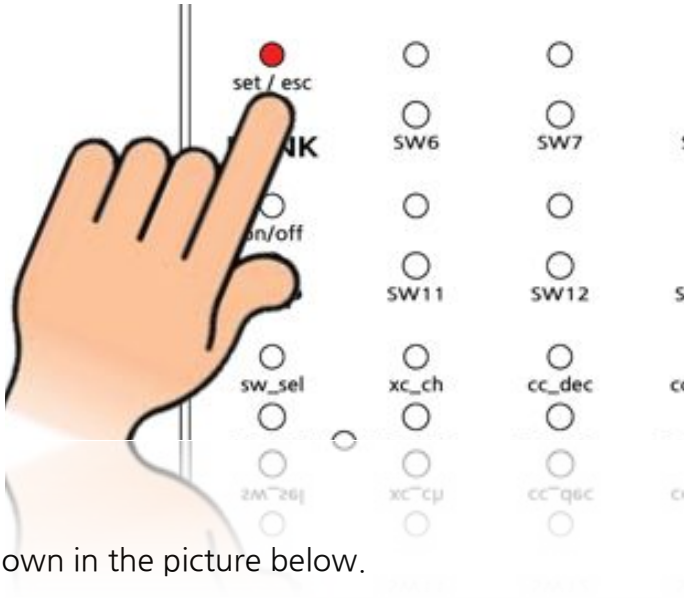


Press sw3 to change the value of the single digit to 3. Then cc_one LED will blink. To check the previous value, press cc_one.



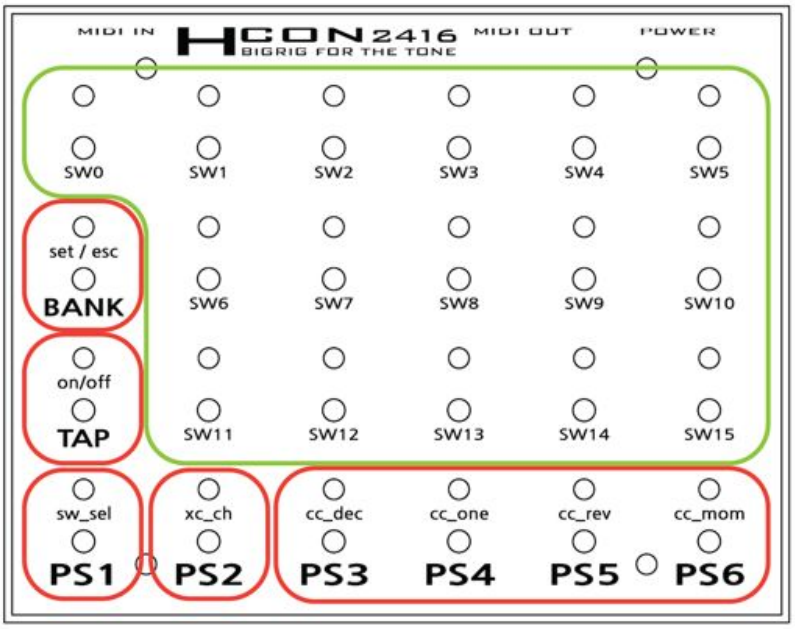
05 Power on Setup

Enter Power on Setup Mode by pressing the Bank switch while connecting the power supply.



To save the settings and switch to Operation Mode, press and hold the Bank switch.

Available switches in this mode are shown in the picture below.



Bank ; Store setting and switch to operation mode

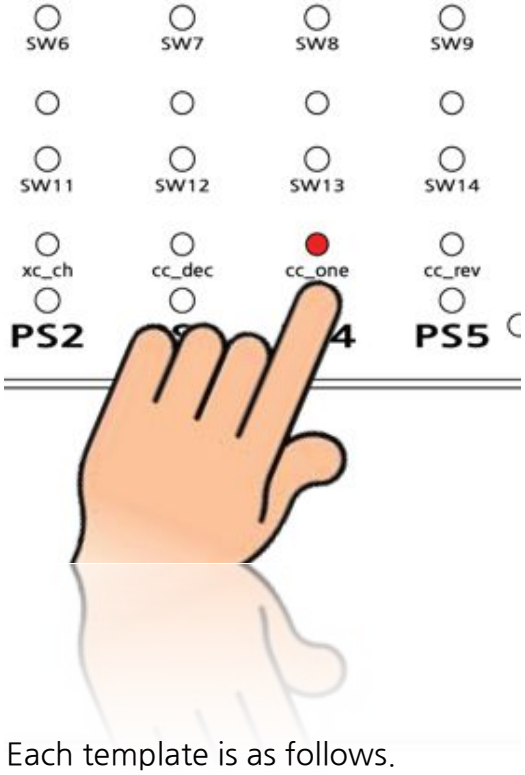
Tap ; Load factory defaults & clear (Only when you force-disconnect the power supply.)

PS1 ; Filter feature on/off

PS2 ; MIDI IN feature on/off & PC channel set

PS3 ~ PS6 ; Load template

1. Load Template



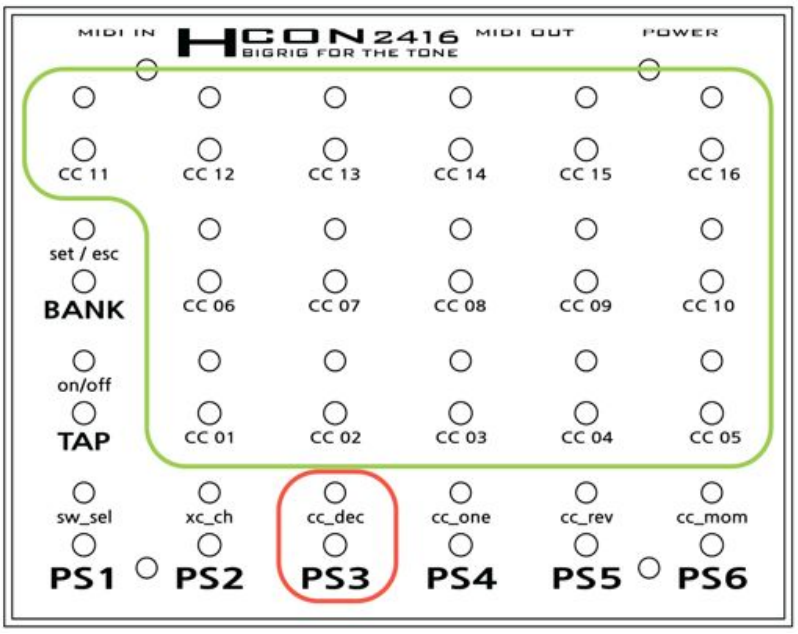
HCON2416 provides 4 templates for easy access.

You'll be able to designate CC number and MIDI ch 16 to each of the Instant Access switches when you load the corresponding templates by holding down one of the PS3~PS6 switches. (Saved preset is preserved.)

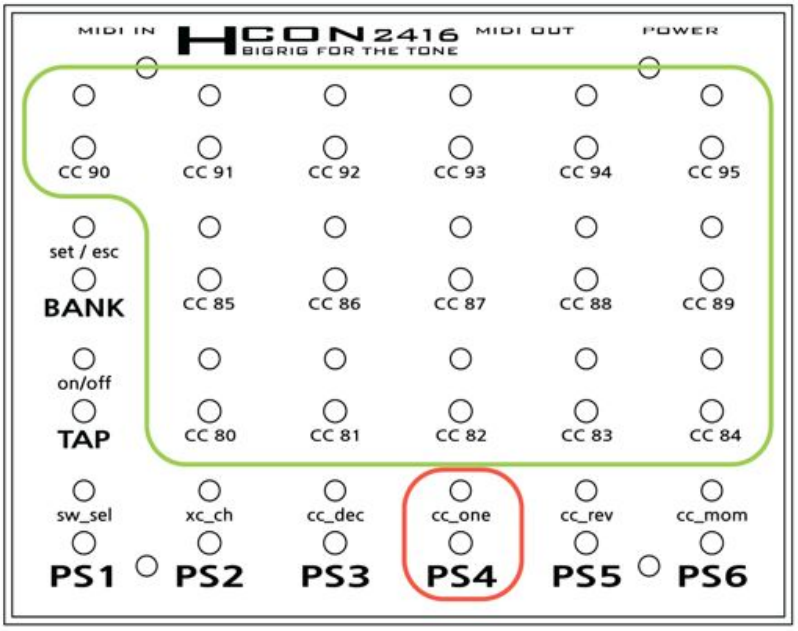
It can be edited in Setup Mode whenever you want to.

Each template is as follows.

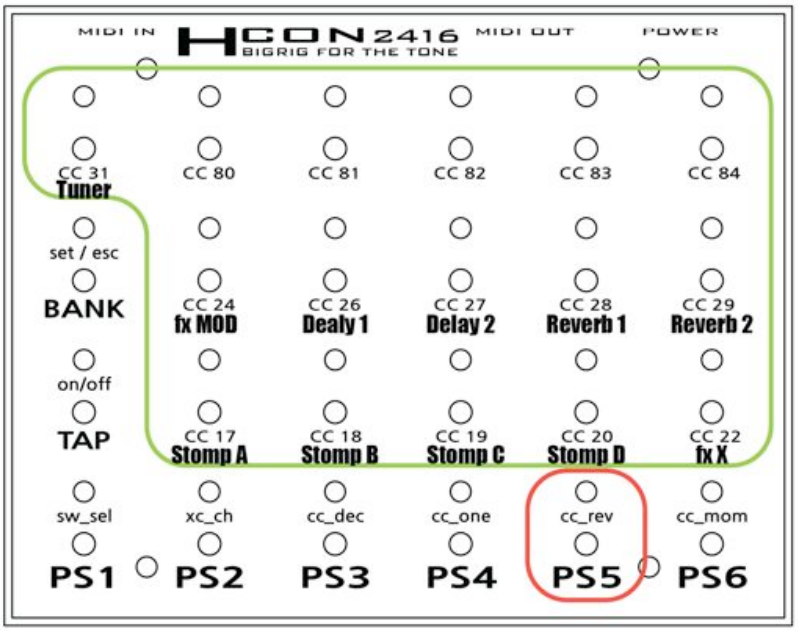
1-1. CAE template



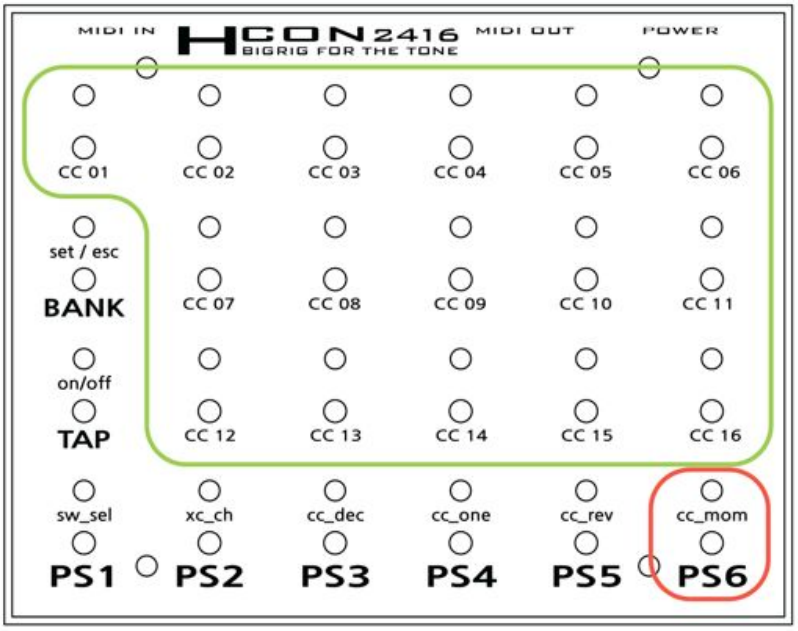
1-2. GCX/RJM template



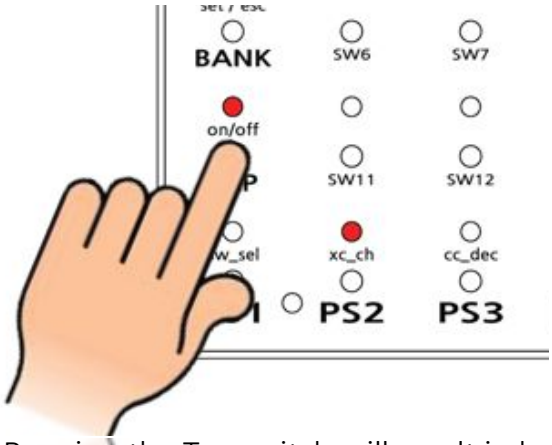
1-3. Kemper template



1-4. Default



2. Load factory default & clear



Pressing the Tap switch will result in both loading the default template and **clearing all of the saved presets.**

This is only applied when you force-disconnect and reconnect the power supply. **This safety device will prevent you from resetting the presets by mistake.**

Tip #3

When the data is edited, LED will blink

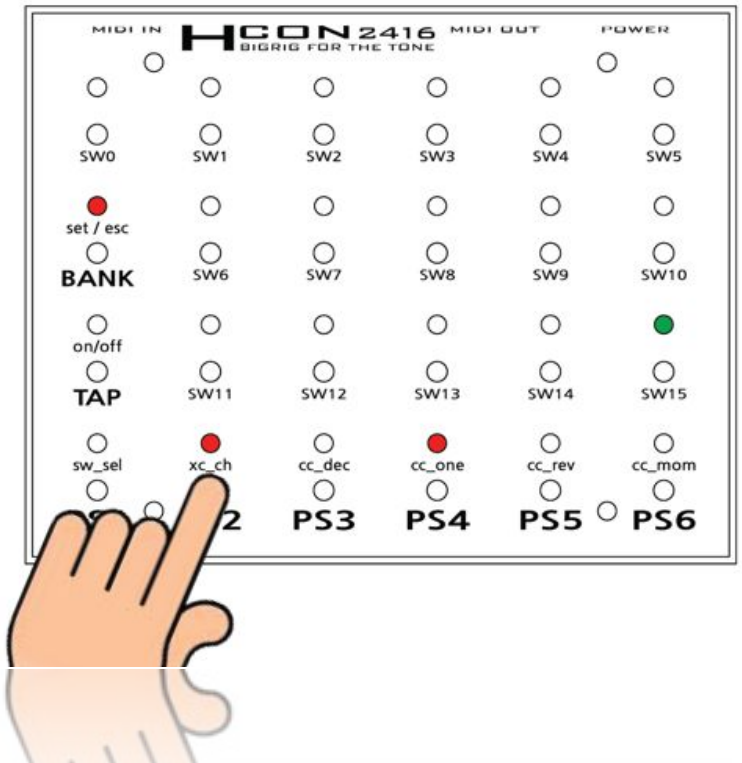
you can either

1. click the blinking switch to recall previous settings.
2. press and hold to save the changes you've made.

Tip #4

Tap switch had been pressed and LED is turned on by mistake, you can save the settings and switch to Operation Mode by holding down the Bank switch.

3. MIDI IN ON/OFF



To turn on/off the MIDI IN feature, press and hold PS2 switch. When it is turned on, you'll be able to see the MIDI IN channel, and either alter or save channel.

The MIDI channel assigned in this stage is used collectively by some MIDI messages as shown in the following commentaries.

Tip #2

When setting MIDI channel via switch 0~15, the actual channel being used is equal to that value +1.

For instance, while sw15 have been selected in the picture above, the actual MIDI IN channel would be 16.

2-1. PC message @ MIDI IN

PC message channel which will be recognized by HCON2416

Ex) When you received PC #14 message through a set channel, **HCON2416** will load Bank 2 / Preset 2. (**HCON2416** has 6 presets in each Bank)

2-2. PC message @ MIDI OUT

PC message channel transmitted by HCON2416 when preset has been altered.

Ex) **HCON2416** transmits PC message of each preset when the preset is altered. Each bank has 6 presets, so if it is set as Bank 2/ Preset 4, PC#22(6*3+4=18+4=22) will be transmitted to the set channel.

2-3. Tap CC (#64, Fixed number) message

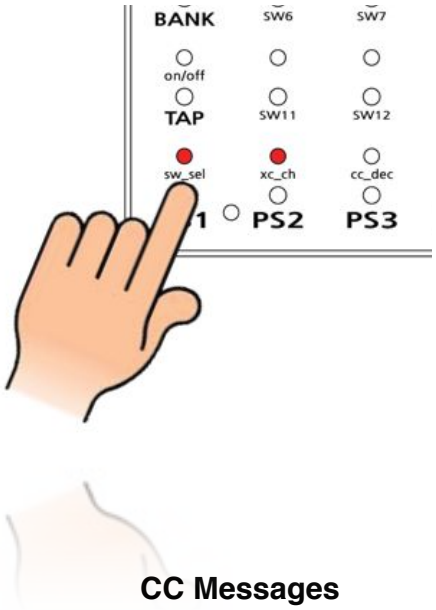
CC message channel transmitted when Tap switch of HCON2416 is pressed.

Ex) When the Tap switch of **HCON2416** is pressed more than twice, the corresponding tempo of MIDI Timing Clock will be transmitted. This makes tempo syncing easy with other machines that recognize clock. However, for those machines that do not recognize the clock, you must set the tempo using an alternative CC message. **HCON2416** transmits **CC #64 and value 127 / 0** alternatively whenever the Tap switch is pressed.

Discrepancies may arise between the machines which round up the decimals of the tempo.

4. FILTER ON/OFF

When you turn on the FILTER feature provided by **HCON2416**, MIDI Thru feature will be enabled partly.



FILTER	PC Messages	CC Messages
OFF	**HCON2416** will THRU PC messages transmitted via 4 other channels other than selected ch.	Transmits all 16 CC messages whenever preset is altered.
	Technologically, this fake MIDI Thru uses MCU resources which is different from a general MIDI Thru. To minimize latency and to prevent error, recommend use no more than 5 PC messages in different channels simultaneously including the PC message recognized by **HCON2416.**	
ON	Turn off MIDI Thru feature.	Only transmits CC messages whose on/off status had been changed whenever preset was altered.

PC # CHART

Bank	G Preset	PS1	PS2	PS3	PS4	PS5	PS6
0	0	1	2	3	4	5	6
1	0	7	8	9	10	11	12
2	0	13	14	15	16	17	18
3	0	19	20	21	22	23	24
4	0	25	26	27	28	29	30
5	0	31	32	33	34	35	36
6	0	37	38	39	40	41	42
7	0	43	44	45	46	47	48
8	0	49	50	51	52	53	54
9	0	55	56	57	58	59	60
10	0	61	62	63	64	65	66
11	0	67	68	69	70	71	72
12	0	73	74	75	76	77	78
13	0	79	80	81	82	83	84
14	0	85	86	87	88	89	90
15	0	91	92	93	94	95	96