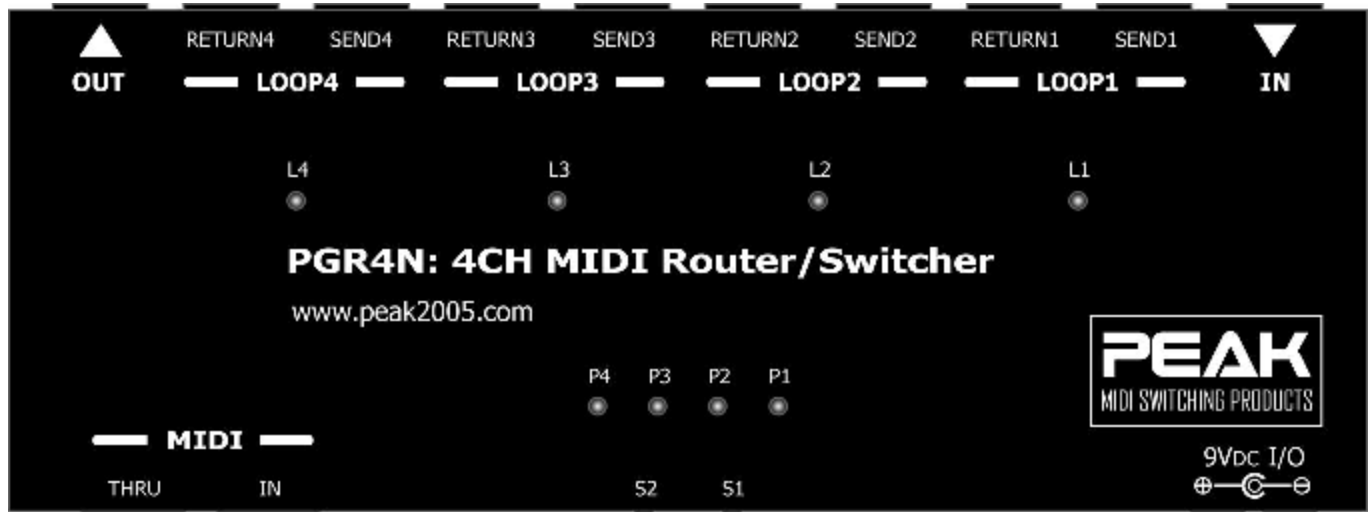# PEAK PGR4N
4CH MIDI Router / Switcher

Rev 3.0.0 (NOV.27.2011)
**www.peak2005.com**

Specifications:

- PEAK GPR4N Guitar Router/Switcher provides 4 mono audio loops for 4 stomp boxes.
- Up to 128 memory presets save to EEPROM memory.
- Each preset can be programmed sub-preset in Momentary mode. (to toggle the audio loop status when receives the same MIDI Program Change messages (PC))
- High-quality made in Japan relays for switching loops in series.
- MIDI THRU connector for passing the MIDI IN messages to other MIDI devices.
- Supports MIDI Program Change messages (PC) and MIDI Control Change messages (CC) from MIDI channel#1 to channel#16.
- Phantom power over Pin6 and Pin7 of MIDI IN connector.
- Powered by 250mA, 9 Volt DC Adapter (not included) with a 5.5mm/2.1mm barrel connector.
- Includes a high quality voltage regulator circuit for noise/hum reduction.
- Double power DC connector for passing the input voltage to other devices.
- Housed in SPCC restless metal chassis formed by a laser cutting process.
- Finish: Powder coated in matt black by electric beam air-brush.
- Dimensions: approx. 84 mm x 230 mm. x 40 mm.
- Weight: approx. 1,200g.

Description
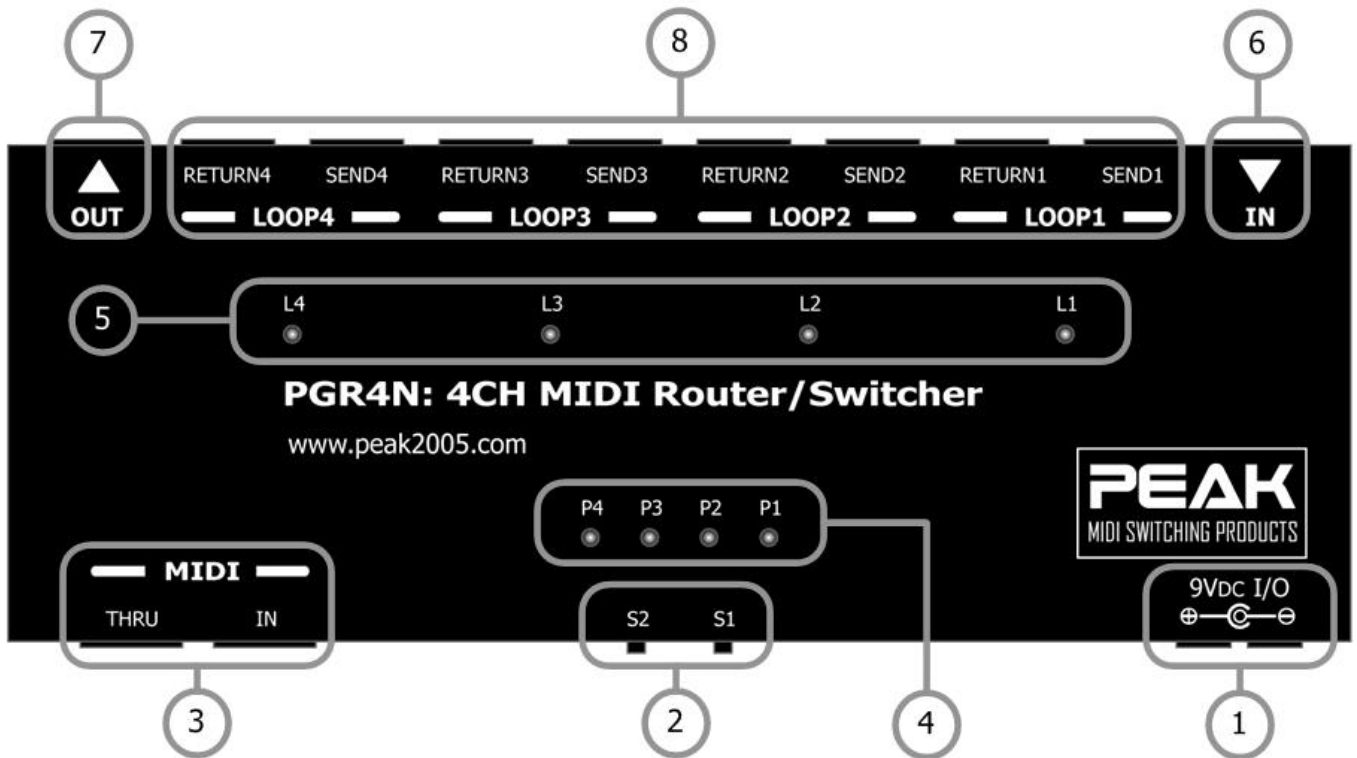
(1) POWER In/Out:	9V/DC, 250mA with double terminals for linking to other devices. ** We recommend the Boss PSA-100/110/120/220/230 or 240 depending on your local AC supply voltage **	
(2) S1, S2:	These switches are used to configure the PGR4N.(see details in the next section)	
(3) MIDI IN-THRU:	* MIDI IN: This is a 7-pin DIN jack for MIDI cables. It allows the PGR4N to receive commands from an external MIDI device. You can use standard MIDI cable both 5 pins and 7 pins to connect to the MIDI IN port. The PGR4N supports phantom power over pin6 and pin7 of the standard 7 pins MIDI cable. * MIDI THRU: This is a 5-pin DIN jack for MIDI cables. It passes MIDI commands received by the MIDI IN jack to other MIDI devices.	
(4) P1, P2, P3, P4:	These 4 LED's display Mode and Preset status.	
(5) L1, L2, L3, L4:	These 4 LED's display loop ON/OFF status. When the LED is on the loop is active.	
(6) IN:	This is standard 1/4" mono jack. This accepts an audio signal from an external source such as a guitar.	
(7) OUT:	This is a standard 1/4" mono jack that routes the audio signal from the PGR4N loops to an external device, such as a guitar amplifier.	
(8) LOOP1 – LOOP4:	These are standard 1/4" mono jacks that provide or control Loop#1 to Loop#4. * SEND: Provides a switchable (muting) output signal to the input of an external device/effect. *RETURN: This accepts an audio signal from an external device/effect.	

PGR4N single operation
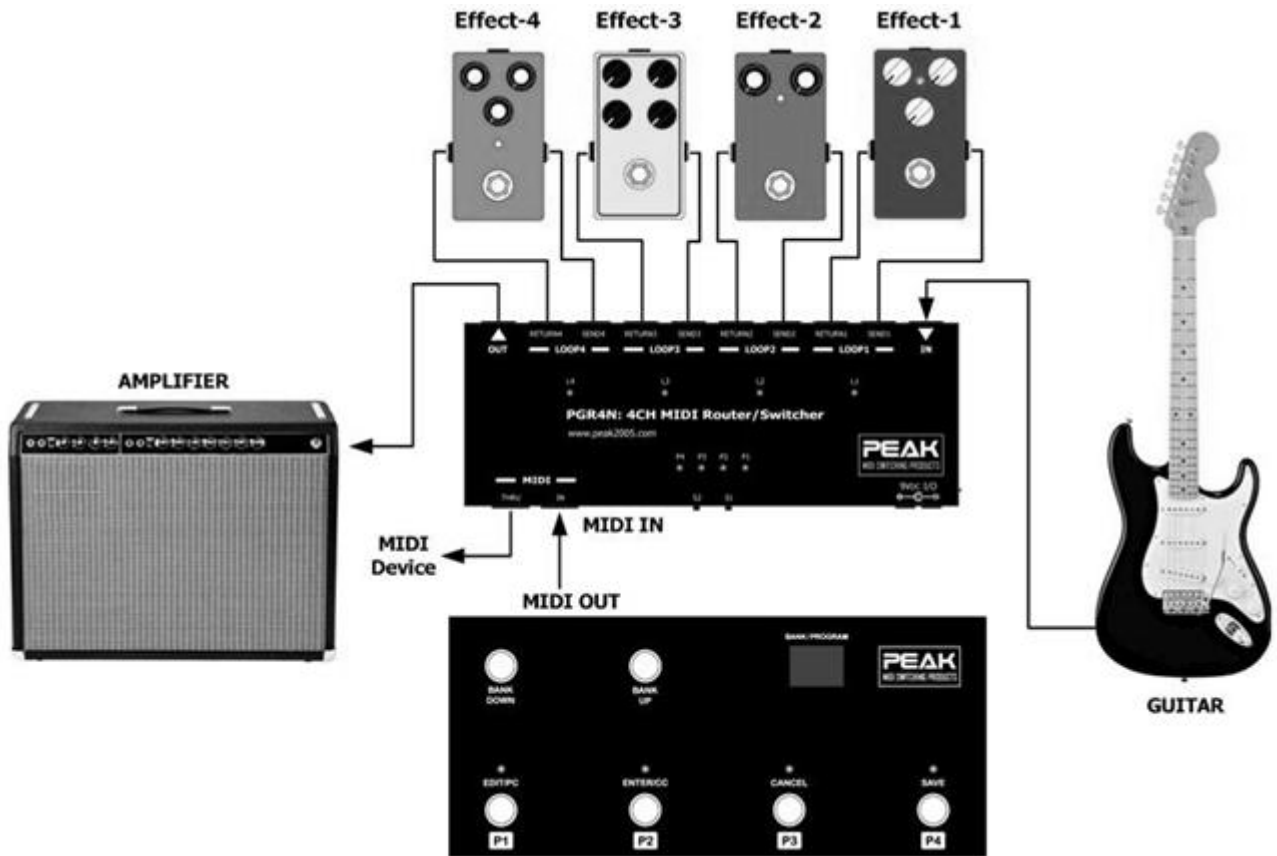
PGR4N with expansion
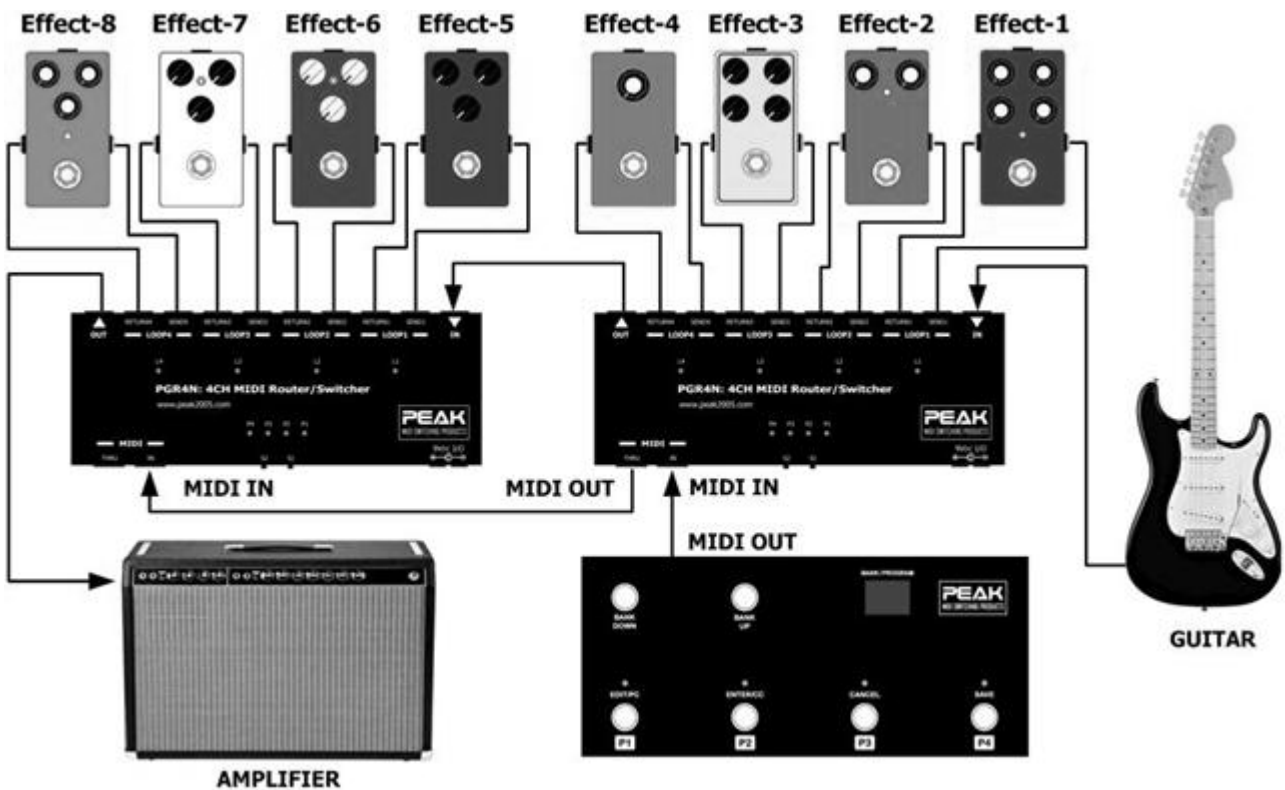
Basic Operations

1. PGR4N configuration setting

P4	P3	P2	P1	Description
○	○	○	●	Setting MIDI Program Channel.
○	○	●	○	Setting PGR4N Device Number.
●	●	●	●	Reset to default.

<div align="center">Table-1 Display LED's P1-P4 status for Mode setting</div>

The PGR4N can be controlled by MIDI Program Change messages (PC) and MIDI Control Change message (CC), making it compatible with every MIDI foot controller available. To configure the PGR4N please follow by steps below;

1. Remove the POWER **(1)** from the PGR4N.
2. Press and hold the S1 **(2)** switch.
3. Re-apply POWER **(1)** to the PGR4N and wait for LED's P1 **(4)** to flash, and then release the P1 **(4)** switch.
4. The PGR4N Mode setting can now be changed as **Table-1** by press S1 **(2)** switch for forward or press S2 **(2)** switch for backward.
5. To enter the setting please press S1 **(2)** switch and hold for 3 seconds for ENTER/EDIT, or press S2 **(2)** switch and hold for 3 seconds for CANCEL/EXIT.

Reset to default Setting.

To re-configure the PGR4N to the factory default settings, please follow the steps below;

1. Remove the POWER **(1)** from the PGR4N.
2. Press and hold on the S1 **(2)** switch.
3. Re-apply POWER **(1)** to the PGR4N and wait for LED's P1 **(4)** to flash, and then release the P1 **(4)** switch.
4. The PGR4N is now in the "PGR4N configuration setting" menu. Press S1 **(2)** switch for forward or press S2 **(2)** switch for backward, until all 4 LED's P1 – P4 **(4)** are flashing as the **table-3.**

P4	P3	P2	P1	Description
●	●	●	●	Reset to default.

<div align="center">Table-3 Display LED's status for Reset to default.</div>

5. Press & hold S1 **(2)** switch for 3 seconds. The PGR4N will be reset to the factory default settings.
6. To cancel press S2 **(2)** switch.
7. After completing a reset please remove the power and re-apply to reboot the unit.

MIDI Channel# Setting

To configure the PGR4N for *MIDI Channel Setting*, please follow the steps below;

1. Remove the POWER **(1)** from the PGR4N.
2. Press and hold on the S1 **(2)** switch.
3. Re-applying POWER **(1)** to the PGR4N and wait for LED's P1 **(4)** to flash, and then release the P1 **(4)** switch.
4. The PGR4N is now in the "PGR4N configuration setting" menu. Press S1 **(2)** switch for forward or press S2 **(2)** switch for backward, until LED's P1 – P4 **(4)** are flashing as the **table-4.**

P4	P3	P2	P1	Description
○	○	○	●	Setting MIDI Channel#

Table-4 Display LED's status for MIDI Channel Setting.

5. Press & hold S1 **(2)** switch for 3 seconds to ENTER to the *MIDI Channel# Setting* then LED's L1-L4 **(5)** is flashing. LED's L1-L4 **(5)** will be flashing showing the current MIDI channel setting. (please see **table-5**)
6. The *MIDI Channel#* can be changed as **table-5** (1-16 channels) by press S1 **(2)** switch for forward or press S2 **(2)** switch for backward. LED's L1-L4 **(5)** will flash, indicating the MIDI Channel#.
7. Press & hold S1 **(2)** switch for 3 seconds to save the selected MIDI channel# into memory.
8. When releasing the S1 **(2)** switch, PGR4N will return to the "PGR4N configuration setting" menu. LED's P1 **(2)** will return to flashing.
9. Press & hold S2 **(2)** for 3 seconds or remove the POWER **(1)** from the PGR4N to EXIT.

L4	L3	L2	L1	MIDI Channel#
○	○	○	●	Channel# 1
○	○	●	○	Channel# 2
○	○	●	●	Channel# 3
○	●	○	○	Channel# 4
○	●	○	●	Channel# 5
○	●	●	○	Channel# 6
○	●	●	●	Channel# 7
●	○	○	○	Channel# 8
●	○	○	●	Channel# 9
●	○	●	○	Channel# 10
●	○	●	●	Channel# 11
●	●	○	○	Channel# 12
●	●	○	●	Channel# 13
●	●	●	○	Channel# 14
●	●	●	●	Channel# 15
○	○	○	○	Channel# 16

Table-5 Display LED's L1-L4 status for MIDI Channel

PGR4N Device Number Setting

This section details how to select PGR4N Device Number for provide MIDI Preset of each device and expand the PGR4N. To configure the PGR4N for device number setting, please follow by steps below;

1. Remove POWER **(1)** from the PGR4N.
2. Press and hold the S1 **(2)** switch.
3. Re-apply POWER **(1)** to the PGR4N and wait for LED's P1 **(4)** to flash, and then release the P1 **(4)** switch.
4. PGR4N is now in the "PGR4N configuration setting" menu. Press S1 **(2)** switch for forward or press S2 **(2)** switch for backward, until LED's P1 – P4 **(4)** are flashing as per **table-8.**

P4	P3	P2	P1	Description
○	○	●	○	PGR4N Device Number Setting

Table-8 Display LED's status for PGR4N Device Number Setting.

5. Press & hold S1 **(2)** switch for 3 seconds. This will put the *PGR4N into Device Number setting mode* & LED's L1-L4 **(5)** will be flashing.
6. The Device number can be changed as per **table-9** (1-4 devices) by press S1 **(2)** switch for forward or press S2 **(2)** switch for backward. LEDs L1-L4 **(5)** will flash, indicating the PGR4N device number status.
7. To save the PGR4N device number into memory please press & hold S1 **(2)** switch for 3 seconds.
8. To cancel please press & hold S2 **(2)** switch for 3 seconds, PGR4N will return to "PGR4N configuration setting" menu.
9. Press and hold S2 **(2)** for 3 seconds or remove POWER **(1)** from the PGR4N to EXIT.

L4	L3	L2	L1	PGR4N Device Number#
○	○	○	●	Device No# 1
○	○	●	○	Device No# 2
○	●	○	○	Device No# 3
●	○	○	○	Device No# 4

Table-9 Display LED's status for PGR4N Device Number.

Preset Programming

The PGR4N can save the status of LOOP1 – LOOP4 **(8)** with a total 128 presets. To program a preset use the following steps;

1. Apply POWER **(1)** to the PGR4N.
2. Send the preset/patch from your MIDI foot controller to turn the PGR4N to the required preset. The foot controller may send MIDI Program Change message (PC) to the PGR4N unit.
3. When the PGR4N receives the MIDI Program Change message (PC) then the L1-L4 will be showing the current setting of LOOP1 – LOOP4 (see **table-10**).
4. Press S1 **(2)** switch (INC LOOP +1) or press S2 switch (DEC LOOP -1) then L1 – L4 will show the LOOPs on/off status.
5. When you complete the LOOP settings then press S1 **(2)** for 3 seconds to save the loop settings into this preset memory.
6. For cancel please press S2 **(2)** for 3 seconds (or simply remove POWER plug).

L4	L3	L2	L1	LOOP4	LOOP3	LOOP2	LOOP1
○	○	○	○	OFF	OFF	OFF	OFF
○	○	○	●	OFF	OFF	OFF	**ON**
○	○	●	○	OFF	OFF	**ON**	OFF
○	○	●	●	OFF	OFF	**ON**	**ON**
○	●	○	○	OFF	**ON**	OFF	OFF
○	●	○	●	OFF	**ON**	OFF	**ON**
○	●	●	○	OFF	**ON**	**ON**	OFF
○	●	●	●	OFF	**ON**	**ON**	**ON**
●	○	○	○	**ON**	OFF	OFF	OFF
●	○	○	●	**ON**	OFF	OFF	**ON**
●	○	●	○	**ON**	OFF	**ON**	OFF
●	○	●	●	**ON**	OFF	**ON**	**ON**
●	●	○	○	**ON**	**ON**	OFF	OFF
●	●	○	●	**ON**	**ON**	OFF	**ON**
●	●	●	○	**ON**	**ON**	**ON**	OFF
●	●	●	●	**ON**	**ON**	**ON**	**ON**

Table-10 Show L1, L2, L3, L4 and LOOP1 – LOOP4 status.

Momentary Preset Programming

The PGR4N has a momentary mode to toggle the LOOP status in the current preset when PGR4N receives the same MIDI Program Change message (PC). This means you can toggle L1 – L4 that you have saved in the preset.

1. Apply POWER **(1)** to the PGR4N.
2. Send the preset/patch from your MIDI foot controller to turn the PGR4N to the required preset.
3. When the PGR4N receives the MIDI Program Change message (PC) then the L1-L4 will show the current settings of LOOP1 – LOOP4 (see **table-10**).
4. Press & hold S1 **(2)** switch for 3 seconds to enter to the momentary mode setting (see **table-11**).

P4	P3	P2	P1	Mode description
○	○	●	○	Momentary Preset Programming

Table-11 Momentary Preset Programming.

5. P1 & P2 Led's will be flashing to show you the current momentary mode status of the selected preset.
6. Press S1 **(2)** or S2 **(2)** switch to enable/disable the momentary mode (see **table-12**) and press & hold S1 **(2)** for 3 seconds. This will either enable/disable the momentary mode of the selected preset.

P4	P3	P2	P1	Mode description
○	○	●	●	Enable Momentary Preset (Momentary preset mode)
○	○	●	○	Disable Momentary Preset (Latch mode)

Table-12 Momentary Preset Programming.

7. If you enable the momentary mode then L1-L4 will show the status of the current momentary preset (see **table-13**).
8. Press S1 **(2)** switch (INC LOOP +1) or press S2 **(2)** switch (DEC LOOP -1) then L1 – L4 will show the LOOP on/off status.
9. When you have completed setting the LOOPs then press S1 **(2)** for 3 seconds to save the loop setting into this preset memory.
10. To cancel please press the S2 **(2)** switch for 3 seconds (or simply remove the POWER plug).

L4	L3	L2	L1	LOOP4	LOOP3	LOOP2	LOOP1
○	○	○	○	OFF	OFF	OFF	OFF
○	○	○	●	OFF	OFF	OFF	**ON**
○	○	●	○	OFF	OFF	**ON**	OFF
○	○	●	●	OFF	OFF	**ON**	**ON**
○	●	○	○	OFF	**ON**	OFF	OFF
○	●	○	●	OFF	**ON**	OFF	**ON**
○	●	●	○	OFF	**ON**	**ON**	OFF
○	●	●	●	OFF	**ON**	**ON**	**ON**
●	○	○	○	**ON**	OFF	OFF	OFF
●	○	○	●	**ON**	OFF	OFF	**ON**
●	○	●	○	**ON**	OFF	**ON**	OFF
●	○	●	●	**ON**	OFF	**ON**	**ON**
●	●	○	○	**ON**	**ON**	OFF	OFF
●	●	○	●	**ON**	**ON**	OFF	**ON**
●	●	●	○	**ON**	**ON**	**ON**	OFF
●	●	●	●	**ON**	**ON**	**ON**	**ON**

Table-13 Show L1, L2, L3, L4 and LOO1 – LOOP4 status.

PGR4N MIDI Program Table

L4	L3	L2	L1	MIDI PROGRAM CHANGE NUMBER (PGR4N Preset)							
○	○	○	○	0	16	32	48	64	80	96	112
○	○	○	●	1	17	33	49	65	81	97	113
○	○	●	○	2	18	34	50	66	82	98	114
○	○	●	●	3	19	35	51	67	83	99	115
○	●	○	○	4	20	36	52	68	84	100	116
○	●	○	●	5	21	37	53	69	85	101	117
○	●	●	○	6	22	38	54	70	86	102	118
○	●	●	●	7	23	39	55	71	87	103	119
●	○	○	○	8	24	40	56	72	88	104	120
●	○	○	●	9	25	41	57	73	89	105	121
●	○	●	○	10	26	42	58	74	90	106	122
●	○	●	●	11	27	43	59	75	91	107	123
●	●	○	○	12	28	44	60	76	92	108	124
●	●	○	●	13	29	45	61	77	93	109	125
●	●	●	○	14	30	46	62	78	94	110	126
●	●	●	●	15	31	47	63	79	95	111	127

Table-14 MIDI Program Change number (PC#).

PGR4N MIDI Continuous Controllers (CC)

The PGR4N responds to MIDI Continuous Controller messages sent on its set MIDI channel. The PGR4N supports a MIDI controller capable of transmitting CC messages by assigning a button/switch on the controller to control a single loop on/off or momentary switch. A loop's status will change without affecting other loops.

Audio Loop OR Latched Switch	CC# For Device#1	CC# For Device#2	CC# For Device#3	CC# For Device#4	OFF Value	ON Value
Loop4	80	84	88	92	0 - 63	64 - 127
Loop3	81	85	89	93	0 - 63	64 - 127
Loop2	82	86	90	94	0 - 63	64 - 127
Loop1	83	87	91	95	0 - 63	64 - 127

Table-15 MIDI Controller number (CC#) for on/off audio loop in latched type.

You can assign a button on the foot controller to turn a loop ON/OFF by transmitting CC# with ON/OFF values shown on Table-15.

Momentary Switch	CC# For Device#1	CC# For Device#2	CC# For Device#3	CC# For Device#4	Momentary Value
Loop4	104	108	112	116	0 - 127
Loop3	105	109	113	117	0 - 127
Loop2	106	110	114	118	0 - 127
Loop1	107	111	115	119	0 - 127

Table-16 MIDI Controller number (CC#) for on/off audio loop in Momentary type

You can assign a button on the foot controller to toggle loops ON/OFF by transmitting CC# with any value as shown in Table-16. The target loop will be toggled to the other status.

PGR4N Phantom power

The PGR4N supports phantom power over Pin6 and Pin7 of a standard 7pins MIDI cable. The supply power depends on the 9VDC I/O input terminal. Before connecting a standard 7 Pin MIDI cable to the MIDI IN port, you must check with your MIDI controller specification which Pin6 and Pin7 are connected. The PGR4N also works with a standard 5pins MIDI cable but phantom power will not allow.