Roland® SOUND EXPANSION

BASS & DRUMS

M-BD 1

Owner's Manual
取扱説明書

Introduction

Thank you, and congratulations on your choice of the Roland M-BD1 Sound Expansion Series.
Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (page 2), "USING THE UNIT SAFELY" (page 3), and "IMPORTANT NOTES" (page 6). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

This manual explains the unique functions and built-in Patches and Performances of the M-BD1, a sound module in the Sound Expansion Series. For details on how to operate it, or a list of error messages, you should refer to the Sound Expansion Series Owner's Manual.

Features

- The M-BD1 consists of bass and drum sounds created by five well-known musicians.
  Bass : Marcus Miller, Abraham Laboriel, John Patitucci
  Drums: Abe Laboriel Jr., Bob Wilson
- Bass sounds are slap, fingered, picking, fretless, harmonics and acoustic bass manners, various musical instruments. Patches include slide and playing noise that serve to improve the bass performance.
- Drum sounds are phrase loops with drum patterns of groove touch and Waveforms with a combination of strong and weak percussion hits for 1 shot.
- As well as the Rhythm part, it provides various Patches that can cope with the Drum Set or Velocity Mix/Switch, expression and the Performances that combine those Patches, so that you can easily create highly expressive drum sounds.
- The M-BD1 offers two modes: the "Patch" mode (which is ideal for playing live), and the "Performance" mode, which is the normal mode to use when playing the module using a sequencer.
- Provides Rhythm sets that have the phrase loops organized by B.P.M. (tempo). This makes it simple to play manually for live performances and allows you to play while synched with a sequencer for phrase-loop play.
- Comes with an effects processor (reverb and chorus), so you can try your hand at applying a full range of modifications, and enjoy the sonic illusion of playing in a large concert hall!
- An input jack allows you to route sound from another device to this unit and have both be mixed, thus eliminating the need for separate mixing equipment.
- Offers a selection of sound mappings, so music data for the General MIDI System/GS Format can be conveniently enjoyed.

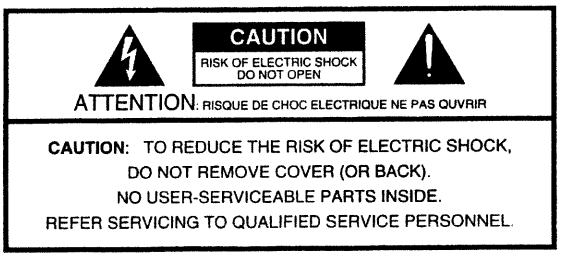
はじめに

このたびは、ローランド サウンド・エクスパンション・シリーズ「M-BD1」をお買い上げいただきまして、ありがとうございます。この機器を正しくお使いいただくために、ご使用前に「安全上のご注意」(P.4) と「使用上のご注意」(P.7) をよくお読みください。また、この機器の優れた機能を十分ご理解いただくためにも、この取扱説明書をよくお読みください。取扱説明書は必要なときにすぐに見ることができるよう、手元に置いてください。

本書ではM-BD1に内蔵されているパッチ、パフォーマンスなどについて解説しています。操作方法やエラー・メッセージなどについてはサウンド・エクスパンション・シリーズ取扱説明書をご覧ください。

主な特長

- M-BD1は、5名の有名ミュージシャンによる高品位なベース音色とドラム音色を搭載しています。
  Bass : Marcus Miller, Abraham Laboriel, John Patitucci
  Drums: Abe Laboriel Jr., Bob Wilson
- ベース音色は、スラップ、フィンガード、ピッキング、フレットレス、ハーモニックス、アコースティック・ベース等の各奏法や楽器の種類別の音色をはじめ、ベース奏法の表現力を向上させるスライド、プレイング・ノイズ等を含んだ音色を豊富に搭載しています。
- ドラム音色は、グルーブ感溢れるドラム・パターンのフレーズ・ループや、1ショット・ウェーブでは各楽器の強打、弱打でペアになったウェーブフォームを含んでいます。
- リズム・パート以外に、パッチにおいてもドラム・セットやベロシティー・ミックス／スイッチに対応したセットを用意しており、これらを組み合わせたパフォーマンスも用意していますので、簡単に表現力豊かなドラム音色を演奏することができます。
- ライブでの演奏に適したパッチ・モードと、シーケンサーを使った自動演奏に適したパフォーマンス・モードがあります。
- リバーブとコーラスのエフェクトにより、コンサート・ホールで演奏しているような音の広がりを出したり、音作りの機能として活用できます。
- インプット・ジャックを装備していますので、ミキサーなどを用意しなくても他の音源の出力とミックスしてアウトプット・ジャックから出力できます。
- GMシステム／GSフォーマットのミュージック・データを利用する際に便利な音色配列も用意しています。



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled onto the product; or
    C. The product has been exposed to rain; or
    D. The product does not appear to operate normally or exhibits a marked change in performance; or
    E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

For the USA

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded.
Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

The product which is equipped with a THREE WIRE GROUNDING TYPE LINE PLUG must be grounded.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
⊘	The ⊘ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
●	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

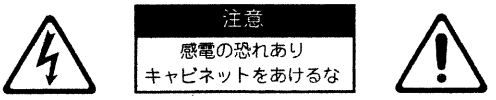
- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open or perform any internal modifications on the unit.
- When using the unit with a rack or stand recommended by Roland, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand, you still need to make sure that any location you choose for placing the unit provides a level surface that will properly support the unit, and keep it from wobbling.
- Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged.
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.
- Protect the unit from strong impact. (Do not drop it!)
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.
- Before using the unit in a foreign country, consult with your dealer, or qualified Roland service personnel.

⚠CAUTION

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit.
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.
- Never climb on top of, nor place heavy objects on the unit.
- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (refer to the Sound Expansion Series Owner's Manual page 2).
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.

安全上のご注意

マークについて　この機器に表示されているマークには、次のような意味があります。



注意：　感電防止のため、パネルやカバーを外さないでください。この機器の内部には、お客様が修理／交換できる部品はありません。
修理は、お買い上げ店またはローランド・サービスに依頼してください。

このマークは、機器の内部に絶縁されていない「危険な電圧」が存在し、感電の危険があることを警告しています。

このマークは、注意喚起シンボルです。取扱説明書などに、一般的な注意、警告、危険の説明が記載されていることを表わしています。

火災・感電・傷害を防止するには

⚠警告と⚠注意の意味について

⚠ 警告	取扱いを誤った場合に、使用者が死亡または重傷を負う可能性が想定される内容を表わしています。
⚠ 注意	取扱いを誤った場合に、使用者が傷害を負う危険が想定される場合および物的損害のみの発生が想定される内容を表わしています。 ※物的損害とは、家屋・家財および家畜・ペットにかかわる拡大損害を表わしています。

図記号の例

	△は、注意（危険、警告を含む）を表わしています。具体的な注意内容は、△の中に描かれています。左図の場合は、「一般的な注意、警告、危険」を表わしています。
	⃠は、禁止（してはいけないこと）を表わしています。具体的な禁止内容は、⃠の中に描かれています。左図の場合は、「分解禁止」を表わしています。
	● は、強制（必ずすること）を表わしています。具体的な強制内容は、● の中に描かれています。左図の場合は、「電源プラグをコンセントから抜くこと」を表わしています。

以下の指示を必ず守ってください

⚠警告

- この機器を使用する前に、以下の指示と取扱説明書をよく読んでください。
- この機器を分解したり、改造したりしないでください。
- 修理／部品の交換などで、取扱説明書に書かれていないことは、絶対にしないでください。必ずお買い上げ店またはローランド・サービスに相談してください。
- 次のような場所での使用や保存はしないでください。
  - ○ 温度が極端に高い場所（直射日光の当たる場所、暖房機器の近く、発熱する機器の上など）
  - ○ 水気の近く（風呂場、洗面台、濡れた床など）や湿度の高い場所
  - ○ ホコリの多い場所
  - ○ 振動の多い場所

⚠警告

- この機器の設置には、ローランドが推奨するラック（SYRシリーズ）を使用してください。
- この機器の設置にラック（SYRシリーズ）を使用する場合、ぐらついた所や傾いた所にラックを設置しないでください。安定した水平な所に設置してください。機器を単独で設置する場合も、同様に安定した水平な所に設置してください。
- 電源プラグは、必ずAC100Vの電源コンセントに差し込んでください。
- 電源コードを無理に曲げたり、電源コードの上に重いものを載せたりしないでください。電源コードに傷がつきます。

⚠警告

● この機器を単独で、あるいはヘッドホン、アンプ、スピーカーと組み合わせて使用した場合、設定によっては永久的な難聴になる程度の音量になります。大音量で、長時間使用しないでください。万一、聴力低下や耳鳴りを感じたら、直ちに使用をやめて専門の医師に相談してください。

● この機器に、異物（燃えやすいもの、硬貨、針金など）や液体（水、ジュースなど）を絶対に入れないでください。

● 次のような場合は、直ちに電源を切って電源コードをコンセントから外し、お買い上げ店またはローランド・サービスに修理を依頼してください。

○ 電源コードやプラグが破損したとき
○ 異物が内部に入ったり、液体がこぼれたりしたとき
○ 機器が（雨などで）濡れたとき
○ 機器に異常や故障が生じたとき

● お子様のいるご家庭で使用する場合、お子様の取り扱いやいたずらに注意してください。必ず大人のかたが、監視／指導してあげてください。

● この機器を落としたり、この機器に強い衝撃を与えないでください。

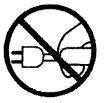
● 電源は、タコ足配線などの無理な配線をしないでください。特に、電源タップを使用している場合、電源タップの容量（ワット／アンペア）を超えると発熱し、コードの被覆が溶けることがあります。

● 外国で使用する場合は、お買い上げ店またはローランド・サービスに相談してください。

⚠注意

● この機器は、風通しのよい、正常な通気が保たれている場所に設置して、使用してください。

● 電源コードを機器本体やコンセントに抜き差しするときは、必ずプラグを持ってください。



● 長時間使用しないときは、電源プラグをコンセントから外してください。

● 接続したコードやケーブル類は、繁雑にならないように配慮してください。特に、コードやケーブル類は、お子様の手が届かないように配慮してください。

● この機器の上に乗ったり、機器の上に重いものを置かないでください。

● 濡れた手で電源コードのプラグを持って、機器本体やコンセントに抜き差ししないでください。

● この機器を移動するときは、電源プラグをコンセントから外し、外部機器との接続を外してください。

● お手入れをするときには、電源を切って電源プラグをコンセントから外してください（サウンド・エクスパンションシリーズ取扱説明書P.2）。

● 落雷の恐れがあるときは、早めに電源プラグをコンセントから外してください。

Important Notes

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzene, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Memory Backup

- This unit contains a battery which powers the unit's memory circuits while the main power is off. When this battery becomes weak, the message shown below will appear in the display. Once you see this message, have the battery replaced with a fresh one as soon as possible to avoid the loss of all data in memory. To have the battery replaced, consult with your dealer, or qualified Roland service personnel.

"btL"

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in another MIDI device (e.g., a sequencer).
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- A small amount of noise may be heard from the display during normal operation.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

使用上のご注意

4～5ページに記載されている「安全上のご注意」以外に、次のことに注意してください。

■電源について

- 雑音を発生する装置（モーター、調光器など）や消費電力の大きな機器とは、別のコンセントを使用してください。
- 接続するときは、誤動作やスピーカーなどの破損を防ぐため、必ずすべての機器の電源を切ってください。

■設置について

- この機器の近くにパワー・アンプなどの大型トランスを持つ機器があると、ハム（うなり）を誘導することがあります。この場合は、この機器との間隔や方向を変えてください。
- テレビやラジオの近くでこの機器を動作させると、テレビ画面に色ムラが出たり、ラジオから雑音が出ることがあります。この場合は、この機器を遠ざけて使用してください。

■お手入れについて

- 通常のお手入れは、柔らかい布で乾拭きするか、堅く絞った布で汚れを拭き取ってください。汚れが激しいときは、中性洗剤を含んだ布で汚れを拭き取ってから、柔らかい布で乾拭きしてください。
- 変色や変形の原因となるベンジン、シンナーおよびアルコール類は、使用しないでください。

■修理について

- お客様がこの機器を分解、改造された場合、以後の性能について保証できなくなります。また、修理をお断りする場合もあります。
- 修理に出される場合、記憶した内容が失われることがあります。大切な記憶内容は、他のMIDI機器（シーケンサーなど）に保存するか、記憶内容をメモしておいてください。修理するときには記憶内容の保存に細心の注意を払っておりますが、メモリー部の故障などで記憶内容が復元できない場合もあります。失われた記録内容の修復に関しましては、補償も含めご容赦願います。

■メモリー・バックアップについて

- 本体内には、電源を切った後も記憶した内容を保持するための電池を装備しています。電池が消耗してくると、ディスプレイに次のように表示されます。電池が消耗すると記憶した内容が失われますので、早めに交換してください。交換するときは、必ずローランド・サービスに相談してください。

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■その他の注意について

- 記憶した内容は、機器の故障や誤った操作などにより、失われることがあります。失っても困らないように、大切な記憶内容はバックアップとして他のMIDI機器（シーケンサーなど）に保存しておいてください。
- 本体メモリーの失われた記憶内容の修復に関しましては、補償を含めご容赦願います。
- 故障の原因になりますので、ボタン、つまみ、入出力端子などに過度の力を加えないでください。
- ディスプレイを強く押したり、叩いたりしないでください。
- ディスプレイから多少音がすることがありますが、故障ではありません。
- ケーブルの抜き差しは、ショートや断線を防ぐため、プラグを持ってください。
- この機器は多少発熱することがありますが、故障ではありません。
- 音楽をお楽しみになる場合、隣近所に迷惑がかからないように、特に夜間は、音量に十分注意してください。ヘッドホンを使用すれば、気がねなくお楽しみいただけます。
- 輸送や引っ越しをするときは、この機器が入っていたダンボール箱と緩衝材、または同等品で梱包してください。

About the Demo Songs

Contained within the M-BD1 are two demo songs. The names of these songs and their composers are listed below. See page 6 in the Sound Expansion series Owner's Manual for instructions on how to listen to the demo songs.

Song No.	S-1
Song title	Quick Trip
Composer	Jack Procher
Copyright	© 1996 SOCAN
Patches	1, 9, 10, 24, 27, 28, 42, 77, 85, 89, 93, 94, 95, 96, 112,113,123,137,140,154,172
Rhythm Set	d9 ,d10

Song No.	S-2
Song title	Walk'n Shak'n Swing'n in a Reharsal Studios!
Composer	Naoki Matsuura
Copyright	© 1996 Roland Corporation
Patches	7, 11, 18, 24, 26, 37, 45, 46, 72, 77, 80, 82, 90, 91, 93, 94, 97, 99,114,115,120,121
Rhythm Set	d11

■ Biographies of Composers

Jack Procher

Jack is versatile musician and composer, who has freelanced for 25 years.
Although he has recorded and performed live music as a drummer with a variety of artists, he also plays keyboards, guitar, electric bass and trumpet.
His ability to play such a variety of instruments has enhanced his knowledge and understanding of composition and arranging, especially when creating music using computers, samplers and synths.
His music can be heard throughout the world on television and CD, and even on a new sound module for Roland in Japan

Naoki Matsuura (GigBag)

While living in the USA for 10 years, he started playing as a professional bass player. Mainly he was playing local live and studio sessions around New England area. Naoki joined many sessions and gigs with Paquito De Rivera, Tommy Campbell, etc. He joined Tiger Okoshi's band: Tiger's Baku.
Since 1991 Naoki joined Roland as a musical director of MIDI Data. At present he has left the company, and is recharging his batteries for new projects.

* No data for the music that is played will be output from MIDI OUT.

デモ曲について

M-BD1には2曲のデモ曲が内蔵されています。曲名と作曲者などは以下の通りです。デモ曲をお聴きになりたいときは、サウンド・エクスパンション・シリーズ取扱説明書の「デモ曲の聴き方」(p. 6)をご覧ください。

曲番号	S-1
曲名	Quick Trip
作曲者	Jack Procher
著作権	© 1996 SOCAN
使用パッチ	1, 9, 10, 24, 27, 28, 42, 77, 85, 89, 93, 94, 95, 96, 112,113,123,137,140,154,172
使用リズム・セット	d9 ,d10

曲番号	S-2
曲名	Walk'n Shak'n Swing'n in a Reharsal Studios!
作曲者	Naoki Matsuura
著作権	© 1996 Roland Corporation
使用パッチ	7, 11, 18, 24, 26, 37, 45, 46, 72, 77, 80, 82, 90, 91, 93, 94, 97, 99,114,115,120,121
使用リズム・セット	d11

■作曲者のプロフィール

Jack Procher（ジャック・プロシャー）

ジャックは25年のキャリアを持ち、フリーで活躍する多才なミュージシャン／コンポーザーである。ドラマーとして多くのアーティストのライブ活動やレコーディングに参加しているが、キーボード、ギター、エレクトリック・ベースやトランペットも演奏するマルチ・プレーヤーである。
彼のマルチ・プレーヤーとしての才能は、特にコンピューター、サンプラー、シンセサイザーを使用した音楽の作曲／編曲に活かされている。
彼の音楽は数多くのテレビ番組やCDで聴くことができるが、本製品のデモ・プレイで彼の音楽を楽しんでもらいたい。

松浦直樹 (Naoki Matsuura) GigBag

10年間の渡米中にプロ・ベーシストとしての活動を開始。ボストンを中心にライブやスタジオなどの演奏活動を行う。パキート・デ・リベラ、トミー・キャンベルらと競演する他、タイガー大越が率いるTiger's Bakuに参加。1991年に帰国。後にローランド社員となりMIDIデータの開発を手がける。現在は同社を退社し、新たなプロジェクトに向けて充電中。

* デモ曲の演奏データはMIDI OUTコネクター／端子からは出力されません。

Tone List／音色一覧表

Performance List
パフォーマンス一覧表

For information that will help you better understand these lists, see page 14.／各リストの解説は p. 13 をご覧ください。

<PC No.1: P01 All Stars>

Part	Rx Ch	No.	Patch Name
1	1	1	Marcus 3way
2	2	6	Abe Sr. 4way
3	3	14	John P.4way
4	4	38	JP Soft A.Bs
5	5	64	Abe Latin Bs
6	6	93	Harm Eb#9
7	7	107	Drum LP Menu
8	10	d1	R&R rhythm 1

Reverb: Stage 2; Chorus: Chorus 1

<PC No.2: P02 Funk>

Part	Rx Ch	No.	Patch Name
1	1	77	MM Hip-Hop
2	2	50	JP P.Bass 1
3	3	10	Hyper Funk
4	4	83	T-Wow Slappy
5	5	47	JP Rock+Slap
6	6	96	SlidesNoises
7	7	120	AL Funk 120
8	10	d2	Funk SET

Reverb: Stage 1; Chorus: Chorus 1

<PC No.3 :P03 Natulal>

Part	Rx Ch	No.	Patch Name
1	1	25	MM FrtlsBend
2	2	42	Hybrid Wood
3	3	57	StudioMellow
4	4	62	AL 2way Fng
5	5	16	JP Chorus Bs
6	6	92	Harm A#9
7	7	117	BW Swamp 90
8	10	d3	Natural SET

Reverb: Stage 2; Chorus: Chorus 1

<PC No.4 :P04 Ballad>

Part	Rx Ch	No.	Patch Name
1	1	24	Marcus OctFl
2	2	54	Dyno Ballad
3	3	65	AL Latin Ch.
4	4	38	JP Soft A.Bs
5	5	84	Refretter 1
6	6	96	SlidesNoises
7	7	113	BW Brush 66
8	10	d4	Slam SET

Reverb: Stage 2; Chorus: Chorus 1

<PC No.5: P05 Studio>

Part	Rx Ch	No.	Patch Name
1	1	8	AL 3way P.Bs
2	2	27	MM Weathery
3	3	41	Dry Acoustic
4	4	66	AL Fat Latin
5	5	86	Bass Harmos
6	6	96	SlidesNoises
7	10	162	Warm Verb Sn
8	10	d12	Empty Sn

Reverb: Stage 2; Chorus: Chorus 1

<PC No.6 :P06 Slam>

Part	Rx Ch	No.	Patch Name
1	1	60	Abe's P.Bass
2	2	48	JP Rock Fls
3	3	79	Sticky Bass
4	4	62	AL 2way Fng
5	5	87	Marcus Harms
6	10	194	18"Hi-Hats2
7	10	157	Rock On Wet
8	10	d13	Empty Sn/Hat

Reverb: Stage 2; Chorus: Chorus 1

<PC No.7 :P07 Rock 1>

Part	Rx Ch	No.	Patch Name
1	1	43	John's Rock
2	2	9	Space Bass
3	3	17	6StringThing
4	4	12	AL Dark Slap
5	5	90	Harm Up
6	6	143	Room Toms
7	10	156	Rock On Room
8	10	d14	Empty Sn/Tom

Reverb: Room 2; Chorus: Chorus 1

<PC No.8 :P08 Rock 2>

Part	Rx Ch	No.	Patch Name
1	1	44	Pick UP
2	2	59	Touchy Bass
3	3	71	MM Jazz Bs
4	4	73	Bright Pick
5	5	91	Harm Down
6	6	97	All Slides
7	10	125	Whammer KIT
8	10	d15	Empty Sn/Hat/Kick/Cym

Reverb: Stage 2; Chorus: Chorus 1

<PC No.9 :P09 Dance>

Part	Rx Ch	No.	Patch Name
1	1	81	Mutey SynBs
2	2	18	Mondo Johndo
3	3	83	T-Wow Slappy
4	4	64	Abe Latin Bs
5	5	97	All Slides
6	6	103	Snare Menu 3
7	7	108	Sweeping LPs
8	10	d8	Dance SET

Reverb: Room 1; Chorus: Chorus 2

<PC No.10 :P10 Layer Drums>

Part	Rx Ch	No.	Patch Name
1	1	171	Kick&Cym 1/2
2	1	148	Ringer Snare
3	1	193	18"Hi-Hats1
4	1	143	Room Toms
5	10	176	Kick&Cym 2/8
6	10	151	Wet Piccolo
7	10	195	16"Hi-Hats1
8	10	d15	Empty Sn/Hat/Kick/Cym

Reverb: Stage 2; Chorus: Chorus 1

<PC No.11:P11 Quick Trip>

Part	Rx Ch	No.	Patch Name
1	1	1	Marcus 3way
2	2	93	Harm Eb#9
3	3	123	Ringer KIT
4	4	94	Harm E+11
5	5	96	SlidesNoises
6	6	27	MM Weathery
7	7	112	BW Jz 6/8 52
8	10	d10	Quick Trip 2

Reverb: Stage 2; Chorus: Chorus 1

<PC No.12 :P12 WALKIN>

Part	Rx Ch	No.	Patch Name
1	1	26	MM Smooth Fl
2	2	91	Harm Down
3	3	24	Marcus OctFl
4	4	18	Mondo Johndo
5	5	82	T-Wow Fretls
6	6	91	Harm Down
7	7	24	Marcus OctFl
8	10	d11	WALKIN

Reverb: Stage 1; Chorus: Chorus 1

<PC No.13 :P13 Dalay>

Part	Rx Ch	No.	Patch Name
1	1	9	Space Bass
2	2	23	MM FretnotBs
3	3	82	T-Wow Fretls
4	4	84	Refretter 1
5	5	88	Harmonicus
6	6	90	Harm Up
7	10	110	PlayC4Fun 90
8	10	d8	Dance SET

Reverb: Delay ; Chorus: Chorus 1

<PC No.14 :P14 Pan-Delay>

Part	Rx Ch	No.	Patch Name
1	1	11	Abe's Thumbs
2	2	24	Marcus OctFl
3	3	83	T-Wow Slappy
4	4	85	Refretter 2
5	5	92	Harm A#9
6	6	93	Harm Eb#9
7	7	96	SlidesNoises
8	10	d2	Funk SET

Reverb: Pan-Delay; Chorus: Chorus 3

<PC No.15 :P15 Flanger>

Part	Rx Ch	No.	Patch Name
1	1	80	Abe Flangpop
2	2	78	Rock Flanger
3	3	75	Phaser Mute
4	4	84	Refretter 1
5	5	16	JP Chorus Bs
6	6	95	Harm E69
7	7	111	Flanged 112
8	10	d7	R&R rhythm 2

Reverb: Stage 2; Chorus: Chorus 2

<PC No.16 :P16 Default Perf>

Part	Rx Ch	No.	Patch Name
1	1	1	Marcus 3way
2	2	1	Marcus 3way
3	3	1	Marcus 3way
4	4	1	Marcus 3way
5	5	1	Marcus 3way
6	6	1	Marcus 3way
7	7	1	Marcus 3way
8	10	d1	R&R rhythm 1

Reverb: Stage 1; Chorus: Chorus 1

PC No.:
Program Number
(Performance Number)

No.:
Patch Number
(Rhythm set Number)

PC No.:
プログラム・ナンバー
（パフォーマンス・ナンバー）

No.:
パッチ・ナンバーまたは
リズム・セット・ナンバー

Patch List
パッチ一覧表

■CC0: 80; CC32: 0

No.	PC No.	Name	Voice
1	1	Marcus 3way	3
2	2	MM Slap Bass	2
3	3	MM Fat Slap	1
4	4	Miller Pop	1
5	5	MM Dynathumb	1
6	6	Abe Sr. 4way	4
7	7	Abe 3way Bs	3
8	8	AL 3way P.Bs	3
9	9	Space Bass	3
10	10	Hyper Funk	3
11	11	Abe's Thumbs	1
12	12	AL Dark Slap	1
13	13	Poppin' Abe	1
14	14	John P.4way	4
15	15	John P.3way	3
16	16	JP Chorus Bs	4
17	17	6StringThing	3
18	18	Mondo Johndo	4
19	19	JP Fat Slap	1
20	20	JP Brite Slp	1
21	21	JP Fing+Slap	2
22	22	Solo Fretles	3
23	23	MM FretnotBs	1
24	24	Marcus OctFl	2
25	25	MM FrtlsBend	1
26	26	MM Smooth Fl	1
27	27	MM Weathery	1
28	28	Abe's Fretls	1
29	29	AL French Ch	1
30	30	AL Layer Fls	3
31	31	AL Fls Solo	1
32	32	JP 6Str Fls	1
33	33	JP Solo Fls	1
34	34	John's OctFl	2
35	35	B-Motional	3
36	36	Weather Frls	3
37	37	AcoustiTouch	3
38	38	JP Soft A.Bs	1
39	39	JP Hard A.Bs	1
40	40	Ac.Bs Club	2
41	41	Dry Acoustic	3
42	42	Hybrid Wood	2
43	43	John's Rock	1
44	44	Pick UP	1
45	45	JP Rock Pick	1
46	46	Dark Pick	1
47	47	JP Rock+Slap	2
48	48	JP Rock Fls	2
49	49	Velo Rock Bs	3
50	50	JP P.Bass 1	1
51	51	JP P.Bass 2	1
52	52	JP P.Bass 3	2
53	53	JP P.Bass 4	2
54	54	Dyno Ballad	2
55	55	Velo Fingers	3
56	56	Ch. Fingers	3
57	57	StudioMellow	1
58	58	Fat Fingers	3
59	59	Touchy Bass	4
60	60	Abe's P.Bass	2
61	61	AL Solid Fng	1
62	62	AL 2way Fng	2
63	63	Abe Soft Bs	1
64	64	Abe Latin Bs	1
65	65	AL Latin Ch.	2
66	66	AL Fat Latin	1
67	67	AL Old Soul	1
68	68	AL Mellow	1
69	69	Marcus Jazz	1
70	70	MM Jazz Ch.	1
71	71	MM Jazz Bs	1
72	72	Marcus Mute	1
73	73	Bright Pick	1
74	74	Garden Party	3
75	75	Phaser Mute	2
76	76	MM Dry Mute	1
77	77	MM Hip-Hop	1
78	78	Rock Flanger	2
79	79	Sticky Bass	2
80	80	Abe Flangpop	1
81	81	Mutey SynBs	3
82	82	T-Wow Fretls	2
83	83	T-Wow Slappy	2
84	84	Refretter 1	3
85	85	Refretter 2	4
86	86	Bass Harmos	1
87	87	Marcus Harms	1
88	88	Harmonicus	1
89	89	Tune Up	4
90	90	Harm Up	4
91	91	Harm Down	4
92	92	Harm A#9	4
93	93	Harm Eb#9	4
94	94	Harm E+11	4
95	95	Harm E69	4
96	96	SlidesNoises	1
97	97	All Slides	1
98	98	All Noises	1
99	99	Ac.Bs Noises	1
100	100	Kick Menu	1
101	101	Snare Menu 1	1
102	102	Snare Menu 2	1
103	103	Snare Menu 3	1
104	104	Hi-Hat Menu	1
105	105	Tom-Tom Menu	1
106	106	Cymbals Menu	1
107	107	Drum LP Menu	1
108	108	Sweeping LPs	2
109	109	SlapHappy 90	4 *
110	110	PlayC4Fun 90	2 *
111	111	Flanged 112	1 *
112	112	BW Jz 6/8 52	1 *
113	113	BW Brush 66	1 *
114	114	AL Slam 66	1 *
115	115	AL Whack 76	1 *
116	116	AL Grunge 84	1 *
117	117	BW Swamp 90	1 *
118	118	BW Latin 102	1 *
119	119	BW Fusion112	1 *
120	120	AL Funk 120	1 *
121	121	AL Shuff.126	1 *
122	122	Fat Rock KIT	4 ** K,S,H,T
123	123	Ringer KIT	4 ** K,S,H,T
124	124	DynaPicc.KIT	4 ** K,S,H
125	125	Whammer KIT	4 ** K,S,H
126	126	BigBalladKIT	4 ** K,S,H,T
127	127	Fat PunchKIT	4 ** K,S,H,T
128	128	Fat Funk KIT	4 ** K,S,H,T

■CC0: 81; CC32: 0

No.	PC No.	Name	Voice
129	1	Garage KIT	4 ** K,S,H,T
130	2	Rock On KIT	4 ** K,S,H,T
131	3	Natural KIT	4 ** K,S,H,T
132	4	Pitched KIT	4 ** K,S,H,T
133	5	Basher KIT	4 ** K,S,H,T
134	6	Edgy KIT	4 ** K,S,H,T
135	7	FAT Comp.KIT	4 ** K,S,H,T
136	8	FAT & Tight	4 ** K,S,H,T
137	9	Studio KIT	4 ** K,S,H,T
138	10	Tight FunKIT	4 ** K,S,H,T
139	11	TightPiccKIT	4 ** K,S,H,T
140	12	Dry DanceKIT	4 ** K,S,H,T
141	13	R&B KIT	4 ** K,S,H,T
142	14	DynoSnareKIT	4 ** K,S,H
143	15	Room Toms	2 ** T
144	16	Natural Toms	2 ** T
145	17	Soft Toms	1 ** T
146	18	Big Toms Dry	2 ** T
147	19	Big Toms Wet	2 ** T
148	20	Ringer Snare	2 ** S
149	21	Loud Ring Sn	2 ** S
150	22	Live Piccolo	2 ** S
151	23	Wet Piccolo	2 ** S
152	24	Natural Crak	2 ** S
153	25	Natural Verb	2 ** S
154	26	Natural Bryt	2 ** S
155	27	Dry Ringer	2 ** S
156	28	Rock On Room	2 ** S
157	29	Rock On Wet	2 ** S
158	30	FAT Impact	2 ** S
159	31	Nice Ballad	2 ** S
160	32	Huge FAT Snr	2 ** S
161	33	Warm Room Sn	2 ** S
162	34	Warm Verb Sn	2 ** S
163	35	Dry FAT Sn	2 ** S
164	36	FAT Hall Sn	2 ** S
165	37	Funk Sn Dry	2 ** S
166	38	Funk Sn Room	2 ** S
167	39	Natural Ping	2 ** S
168	40	Room Ping	2 ** S
169	41	Dance Snr 1	2 ** S
170	42	Dance Snr 2	2 ** S
171	43	Kick&Cym 1/2	2 ** K
172	44	Kick&Cym 1/4	2 ** K
173	45	Kick&Cym 2	1 ** K
174	46	Butt Kicker	2 ** K
175	47	Kick&Cym 2/3	2 ** K
176	48	Kick&Cym 2/8	2 ** K
177	49	Kick&Cym 3	1 ** K
178	50	Kick&Cym 4	1 ** K
179	51	Kick&Cym 5	1 ** K
180	52	Kick&Cym 6	1 ** K
181	53	Kick&Cym 7	1 ** K
182	54	Kick&Cym 6/8	2 ** K
183	55	Kick&Cym 8	1 ** K
184	56	Kick&Cym 8/2	2 ** K
185	57	Kick&Cym 9	1 ** K
186	58	Kick&Cym 9/6	2 ** K
187	59	Kick&Cym 10	1 ** K
188	60	Kick&Cym 11	1 ** K
189	61	Kick&Cym 12	1 ** K
190	62	Kik&Cym11/12	2 ** K
191	63	Kick&Cym12/4	2 ** K
192	64	Lo-Fi Kick	1 ** K
193	65	18"Hi-Hats1	2 ** H
194	66	18"Hi-Hats2	3 ** H
195	67	16"Hi-Hats1	2 ** H
196	68	16"Hi-Hats2	2 ** H
197	69	CR-78 Hi-Hat	1 ** H

Patch Table2 List
音色テーブル2 一覧表

■Part 1 — 7.....

<Guitar>

PC No.	CC0	CC32	Patch No.	Patch Name	Voice
32	0	0	88	Harmonicus	1

<Bass>

PC No.	CC0	CC32	Patch No.	Patch Name	Voice
33	0	0	40	Ac.Bs Club	2
	1	0	37	AcoustiTouch	3
	8	0	38	JP Soft A.Bs	1
34	0	0	43	John's Rock	1
	1	0	58	Fat Fingers	3
	2	0	69	Marcus Jazz	1
	3	0	71	MM Jazz Bs	1
	4	0	48	JP Rock Fls	2
	8	0	56	Ch. Fingers	3
35	0	0	45	JP Rock Pick	1
	1	0	72	Marcus Mute	1
	2	0	77	MM Hip-Hop	1
	3	0	75	Phaser Mute	2
	8	0	76	MM Dry Mute	1
36	0	0	28	Abe's Fretls	1
	1	0	23	MM FretnotBs	1
	2	0	32	JP 6Str Fls	1
	3	0	36	Weather Frls	3
	4	0	82	T-Wow Fretls	2
	5	0	33	JP Solo Fls	1
37	0	0	2	MM Slap Bass	2
	1	0	1	Marcus 3way	3
	8	0	6	Abe Sr. 4way	4
	9	0	9	Space Bass	3
38	0	0	14	John P.4way	4
	8	0	13	Poppin' Abe	1
39	0	0	81	Mutey SynBs	3

<SFX>

PC No.	CC0	CC32	Patch No.	Patch Name	Voice
121	0	0	98	All Noises	1
	5	0	97	All Slides	1

■Part 8.....

PC No.	CC0	CC32	Patch No.	Patch Name	Voice
1	--	--	d1	R&R rhythm 1	
2	--	--	d7	R&R rhythm 2	
9	--	--	d3	Natural SET	
17	--	--	d4	Slam SET	
27	--	--	d8	Dance SET	
33	--	--	d5	Ballad SET	

PC No.: Program Number
CC0: Value of Controller Number 0
CC32: Value of Controller Number 32
R. Set: Rhythm Set
Voice: Number of Voices
---: Ignored

PC No.: プログラム・ナンバー
CC0: コントローラー・ナンバー0の値
CC32: コントローラー・ナンバー32の値
R. Set: リズム・セット
Voice: 使用ボイス数
---: 無視されます

Rhythm Set List (CC0: 80, CC32: 0)
リズム・セット一覧表

<PC No.1: d 1 R&R rhythm 1>

Key	Note No.	Rhythm Tone Name	
C2	36	Boomer K2	
C#2	37	Live Stick	
D2	38	Ring hrd Sn	
D#2	39	Ring rol Sn	
E2	40	Ring flm Sn	
F2	41	16 MPL hrdTm	
F#2	42	18 Hat cls 1	[EXC 1]
G2	43	13 MPL hrdTm	
G#2	44	18 Hat cls 2	[EXC 1]
A2	45	12 MPL hrdTm	
A#2	46	18 Hat opn 2	[EXC 1]
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 1	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 2	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Deep Dry K	
C#5	73	Real Dry K1	
D5	74	Comp K1	
D#5	75	Ring rol Sn	
E5	76	Ring sft Sn	
F5	77	Ring hrd Sn	
F#5	78	Ring flm Sn	
G5	79	SlamRm sftSn	
G#5	80	SlamRm rolSn	
A5	81	SlamRm hrdSn	
A#5	82	SlamRm flmSn	
B5	83	18 Hat hlf 1	[EXC 1]
C6	84	18 Hat hlf 2	[EXC 1]
C#6	85	18 Hat pdl	[EXC 1]
D6	86	18 Hat opn 1	[EXC 1]
D#6	87	16 MPL sftTm	
E6	88	13 MPL sftTm	
F6	89	12 MPL sftTm	
F#6	90	10 MPL sftTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	BW Jz 6/8 52	
C7	96	BW Fusion112	

<PC No.2: d 2 Funk SET>

Key	Note No.	Rhythm Tone Name	
C2	36	Real Dry K2	
C#2	37	NaturalStick	
D2	38	Funk Sn1	
D#2	39	Picc. flm Sn	
E2	40	Picc. hrd Sn	
F2	41	Soft Low Tom	
F#2	42	16 Hat cls 2	[EXC 1]
G2	43	Soft Low Tom	
G#2	44	16 Hat hlf 1	[EXC 1]
A2	45	Soft Mid Tom	
A#2	46	16 Hat hlf 2	[EXC 1]
B2	47	Soft Mid Tom	
C3	48	Soft Hi Tom	
C#3	49	Long Crash 1	
D3	50	Soft Mid Tom	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Deep Dry K	
C#5	73	Comp K1	
D5	74	Comp K2	
D#5	75	Picc. rol Sn	
E5	76	Funk Sn1	
F5	77	Funk Sn2	
F#5	78	Dry flm Sn	
G5	79	Picc. sft Sn	
G#5	80	Picc. rol Sn	
A5	81	Picc. mid Sn	
A#5	82	Picc. flm Sn	
B5	83	16 Hat cls 1	[EXC 1]
C6	84	16 Hat opn 1	[EXC 1]
C#6	85	16 Hat pdl	[EXC 1]
D6	86	16 Hat opn 2	[EXC 1]
D#6	87	16 MPL sftTm	
E6	88	13 MPL sftTm	
F6	89	12 MPL sftTm	
F#6	90	10 MPL sftTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	BW Swamp 90	
C7	96	AL Shuff.126	

<PC No.3: d 3 Natural SET>

Key	Note No.	Rhythm Tone Name	
C2	36	Deep Dry K	
C#2	37	NaturalStick	
D2	38	Dry hrd Sn	
D#2	39	Dry rol Sn	
E2	40	Dry sft Sn	
F2	41	16 MPL sftTm	
F#2	42	16 Hat cls 2	[EXC 1]
G2	43	13 MPL sftTm	
G#2	44	16 Hat hlf 1	[EXC 1]
A2	45	12 MPL sftTm	
A#2	46	16 Hat opn 1	[EXC 1]
B2	47	12 MPL sftTm	
C3	48	10 MPL sftTm	
C#3	49	Long Crash 2	
D3	50	10 MPL sftTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 1	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Real Dry K1	
C#5	73	Comp K2	
D5	74	Comp K3	
D#5	75	Dry rol Sn	
E5	76	Dry sft Sn	
F5	77	Dry hrd Sn	
F#5	78	Dry flm Sn	
G5	79	SlamRm sftSn	
G#5	80	SlamRm rolSn	
A5	81	SlamRm hrdSn	
A#5	82	SlamRm flmSn	
B5	83	16 Hat cls 1	[EXC 1]
C6	84	16 Hat hlf 2	[EXC 1]
C#6	85	16 Hat pdl	[EXC 1]
D6	86	16 Hat opn 2	[EXC 1]
D#6	87	16 MPL hrdTm	
E6	88	13 MPL hrdTm	
F6	89	12 MPL hrdTm	
F#6	90	10 MPL hrdTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	BW Jz 6/8 52	
C7	96	BW Latin 102	

<PC No.4: d 4 Slam SET>

Key	Note No.	Rhythm Tone Name	
C2	36	Comp K3	
C#2	37	Live Stick	
D2	38	RockOn Sn1	
D#2	39	Dry flm Sn	
E2	40	RockOn Sn2	
F2	41	16 MPL hrdTm	
F#2	42	16 Hat cls 1	[EXC 1]
G2	43	13 MPL hrdTm	
G#2	44	16 Hat hlf 2	[EXC 1]
A2	45	12 MPL hrdTm	
A#2	46	16 Hat opn 2	[EXC 1]
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 1	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Boomer K1	
C#5	73	Comp K2	
D5	74	Deep Dry K	
D#5	75	DryFat rolSn	
E5	76	RockOn Sn1	
F5	77	RockOn Sn2	
F#5	78	Warm flm Sn	
G5	79	SlamRm sftSn	
G#5	80	SlamRm rolSn	
A5	81	SlamRm hrdSn	
A#5	82	SlamRm flmSn	
B5	83	16 Hat cls 2	[EXC 1]
C6	84	16 Hat hlf 1	[EXC 1]
C#6	85	16 Hat pdl	[EXC 1]
D6	86	16 Hat opn 1	[EXC 1]
D#6	87	16 MPL sftTm	
E6	88	13 MPL sftTm	
F6	89	12 MPL sftTm	
F#6	90	10 MPL sftTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	AL Slam 66	
C7	96	AL Grunge 84	

<PC No.5: d 5 Ballad SET>

Key	Note No.	Rhythm Tone Name	
C2	36	Comp K3	
C#2	37	NaturalStick	
D2	38	Verb hrd Sn	
D#2	39	Warm flm Sn	
E2	40	Warm sft Sn	
F2	41	LoVerb hrdTm	
F#2	42	16 Hat cls 1	[EXC 1]
G2	43	LoVerb hrdTm	
G#2	44	16 Hat hlf 2	[EXC 1]
A2	45	HiVerb hrdTm	
A#2	46	16 Hat opn 2	[EXC 1]
B2	47	HiVerb hrdTm	
C3	48	HiVerb hrdTm	
C#3	49	Long Crash 1	
D3	50	HiVerb hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Boomer K1	
C#5	73	Comp K2	
D5	74	Deep Dry K	
D#5	75	DryFat rolSn	
E5	76	RockOn Sn1	
F5	77	RockOn Sn2	
F#5	78	Warm flm Sn	
G5	79	SlamRm sftSn	
G#5	80	SlamRm rolSn	
A5	81	SlamRm hrdSn	
A#5	82	SlamRm flmSn	
B5	83	16 Hat cls 2	[EXC 1]
C6	84	16 Hat hlf 1	[EXC 1]
C#6	85	16 Hat pdl	[EXC 1]
D6	86	16 Hat opn 1	[EXC 1]
D#6	87	16 MPL sftTm	
E6	88	13 MPL sftTm	
F6	89	12 MPL sftTm	
F#6	90	10 MPL sftTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	AL Slam 66	
C7	96	AL Funk 120	

<PC No.6: d 6 Studio SET>

Key	Note No.	Rhythm Tone Name	
C2	36	Deep Dry K	
C#2	37	NaturalStick	
D2	38	DryFat hrdSn	
D#2	39	DryFat flmSn	
E2	40	Warm sft Sn	
F2	41	16 MPL hrdTm	
F#2	42	18 Hat cls 2	[EXC 1]
G2	43	13 MPL hrdTm	
G#2	44	18 Hat hlf 1	[EXC 1]
A2	45	12 MPL hrdTm	
A#2	46	18 Hat opn 2	[EXC 1]
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 2	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 1	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Boomer K1	
C#5	73	Comp K2	
D5	74	Comp K3	
D#5	75	DryFat rolSn	
E5	76	DryFat sftSn	
F5	77	DryFat hrdSn	
F#5	78	DryFat flmSn	
G5	79	Warm sft Sn	
G#5	80	Dry rol Sn	
A5	81	Warm hrd Sn	
A#5	82	Warm flm Sn	
B5	83	18 Hat cls 1	[EXC 1]
C6	84	18 Hat hlf 2	[EXC 1]
C#6	85	18 Hat pdl	[EXC 1]
D6	86	18 Hat opn 1	[EXC 1]
D#6	87	16 MPL sftTm	
E6	88	13 MPL sftTm	
F6	89	12 MPL sftTm	
F#6	90	10 MPL sftTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	BW Brush 66	
C7	96	AL Slam 66	

<PC No.7: d 7 R&R rhythm 2>

Key	Note No.	Rhythm Tone Name	
C2	36	Medium K	
C#2	37	Live Stick	
D2	38	SlamRm sftSn	
D#2	39	SlamRm flmSn	
E2	40	SlamRm hrdSn	
F2	41	LoVerb sftTm	
F#2	42	16 Hat cls 2	[EXC 1]
G2	43	Soft Low Tom	
G#2	44	16 Hat hlf 1	[EXC 1]
A2	45	HiVerb sftTm	
A#2	46	16 Hat opn 1	[EXC 1]
B2	47	Soft Mid Tom	
C3	48	HiVerb sftTm	
C#3	49	Long Crash 2	
D3	50	Soft Hi Tom	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 2	
G#3	56	Cowbell 1	
A3	57	Long Crash 1	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Boomer K2	
C#5	73	Boomer K1	
D5	74	Real Dry K2	
D#5	75	SlamRm rolSn	
E5	76	SlamRm sftSn	
F5	77	SlamRm hrdSn	
F#5	78	SlamRm flmSn	
G5	79	SlmDry sftSn	
G#5	80	Ring rol Sn	
A5	81	SlmDry hrdSn	
A#5	82	Ring flm Sn	
B5	83	16 Hat cls 1	[EXC 1]
C6	84	16 Hat hlf 2	[EXC 1]
C#6	85	16 Hat pdl	[EXC 1]
D6	86	16 Hat opn 2	[EXC 1]
D#6	87	LoVerb hrdTm	
E6	88	Soft Low Tom	
F6	89	HiVerb hrdTm	
F#6	90	HiVerb hrdTm	
G6	91	Long Crash 2	
G#6	92	18 Hat cls 2	
A6	93	LiteVerb Sn	
A#6	94	Stomp K	
B6	95	BW Latin 102	
C7	96	AL Funk 120	

<PC No.8: d 8 Dance SET>

Key	Note No.	Rhythm Tone Name	
C2	36	Stomp K	
C#2	37	NaturalStick	
D2	38	LiteVerb Sn	
D#2	39	808 Claps	
E2	40	Choke Sn	
F2	41	Soft Low Tom	
F#2	42	CR78 Hat cls	[EXC 1]
G2	43	Soft Low Tom	
G#2	44	CR78 Hat opn	[EXC 1]
A2	45	Soft Mid Tom	
A#2	46	CR78 Hat opn	[EXC 1]
B2	47	Soft Mid Tom	
C3	48	Soft Hi Tom	
C#3	49	Long Crash 2	
D3	50	Soft Mid Tom	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 2	
G#3	56	Cowbell 1	
A3	57	Long Crash 1	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	A.Bs Nz MENU	
C#5	73	SYN Bass	
D5	74	AL Slam 66	
D#5	75	808 Claps	
E5	76	Cabasa Down	
F5	77	Cabasa Up	
F#5	78	JP Slide 1	
G5	79	Anklungs	
G#5	80	16 Hat opn 2	
A5	81	Ring flm Sn	
A#5	82	JP Slide 2	
B5	83	16 Hat cls 1	[EXC 1]
C6	84	16 Hat hlf 1	[EXC 1]
C#6	85	16 Hat hlf 2	[EXC 1]
D6	86	16 Hat opn 1	[EXC 1]
D#6	87	12 MPL sftTm	
E6	88	12 MPL sftTm	
F6	89	12 MPL sftTm	
F#6	90	12 MPL sftTm	
G6	91	Long Crash 1	
G#6	92	18 Hat cls 2	
A6	93	AL Nz 4	
A#6	94	JP Frls Nz 1	
B6	95	AL Slam 66	
C7	96	AL Whack 76	

<PC No.9: d 9 Quick Trip 1>

Key	Note No.	Rhythm Tone Name	
C2	36	Deep Dry K	
C#2	37	NaturalStick	
D2	38	DryFat hrdSn	
D#2	39	DryFat flmSn	
E2	40	Warm sft Sn	
F2	41	16 MPL hrdTm	
F#2	42	18 Hat cls 2	[EXC 1]
G2	43	13 MPL hrdTm	
G#2	44	18 Hat hlf 1	[EXC 1]
A2	45	12 MPL hrdTm	
A#2	46	18 Hat opn 2	[EXC 1]
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 2	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 1	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Medium K	
C#5	73	Live Stick	
D5	74	SlamRm sftSn	
D#5	75	DryFat flmSn	
E5	76	SlamRm hrdSn	
F5	77	LoVerb sftTm	
F#5	78	16 Hat cls 2	
G5	79	Soft Low Tom	
G#5	80	16 Hat hlf 1	
A5	81	HiVerb sftTm	
A#5	82	16 Hat opn 1	
B5	83	Soft Mid Tom	
C6	84	HiVerb hrdTm	
C#6	85	Long Crash 1	
D6	86	Soft Hi Tom	
D#6	87	Long Ride 1	
E6	88	Crash 1	
F6	89	RockOn Sn1	
F#6	90	RockOn Sn2	
G6	91	Warm hrd Sn	
G#6	92	DryFat sftSn	
A6	93	Funk Sn1	
A#6	94	Funk Sn2	
B6	95	Picc. mid Sn	
C7	96	Picc. hrd Sn	

<PC No.10: d10 Quick Trip 2>

Key	Note No.	Rhythm Tone Name	
C2	36	Real Dry K2	
C#2	37	NaturalStick	
D2	38	Funk Sn1	
D#2	39	Picc. flm Sn	
E2	40	Picc. hrd Sn	
F2	41	Soft Low Tom	
F#2	42	16 Hat cls 2	[EXC 1]
G2	43	Soft Low Tom	
G#2	44	16 Hat hlf 1	[EXC 1]
A2	45	Soft Mid Tom	
A#2	46	16 Hat hlf 2	[EXC 1]
B2	47	Soft Mid Tom	
C3	48	Soft Hi Tom	
C#3	49	Long Crash 1	
D3	50	Soft Mid Tom	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Stomp K	
C#5	73	NaturalStick	
D5	74	LiteVerb Sn	
D#5	75	808 Claps	
E5	76	Choke Sn	
F5	77	Soft Low Tom	
F#5	78	CR78 Hat cls	
G5	79	Soft Low Tom	
G#5	80	CR78 Hat opn	
A5	81	Soft Mid Tom	
A#5	82	CR78 Hat opn	
B5	83	Soft Mid Tom	
C6	84	Soft Hi Tom	
C#6	85	Long Crash 2	
D6	86	Soft Mid Tom	
D#6	87	Long Ride 1	
E6	88	Crash 1	
F6	89	Funk Sn1	
F#6	90	Dry flm Sn	
G6	91	Funk Sn2	
G#6	92	Picc. rol Sn	
A6	93	Picc. sft Sn	
A#6	94	Picc. mid Sn	
B6	95	SlmDry hrdSn	
C7	96	Ring hrd Sn	

<PC No.11: d11 WALKIN>

Key	Note No.	Rhythm Tone Name	
C2	36	Deep Dry K	
C#2	37	NaturalStick	
D2	38	Deep Dry K	
D#2	39	Warm hrd Sn	
E2	40	DryFat hrdSn	
F2	41	16 MPL hrdTm	
F#2	42	18 Hat cls 2	[EXC 1]
G2	43	13 MPL hrdTm	
G#2	44	18 Hat hlf 1	[EXC 1]
A2	45	12 MPL hrdTm	
A#2	46	18 Hat opn 2	[EXC 1]
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 2	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 1	
G#3	56	Cowbell 1	
A3	57	Long Crash 1	
A#3	58	Click Stick	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Click Stick	
C5	72	Medium K	
C#5	73	Live Stick	
D5	74	SlamRm sftSn	
D#5	75	DryFat flmSn	
E5	76	SlamRm hrdSn	
F5	77	LoVerb sftTm	
F#5	78	16 Hat cls 2	
G5	79	Soft Low Tom	
G#5	80	16 Hat hlf 1	
A5	81	HiVerb sftTm	
A#5	82	16 Hat opn 1	
B5	83	Soft Mid Tom	
C6	84	HiVerb hrdTm	
C#6	85	Long Crash 1	
D6	86	Soft Hi Tom	
D#6	87	Long Ride 1	
E6	88	Crash 1	
F6	89	RockOn Sn1	
F#6	90	RockOn Sn2	
G6	91	Warm hrd Sn	
G#6	92	DryFat sftSn	
A6	93	Funk Sn1	
A#6	94	Funk Sn2	
B6	95	Picc. mid Sn	
C7	96	Picc. hrd Sn	

<PC No.12: d12 Empty Sn>

Key	Note No.	Rhythm Tone Name	
C2	36	Boomer K2	
C#2	37	----	
D2	38	----	
D#2	39	----	
E2	40	----	
F2	41	16 MPL hrdTm	
F#2	42	18 Hat cls 1	[EXC 1]
G2	43	13 MPL hrdTm	
G#2	44	18 Hat cls 2	[EXC 1]
A2	45	12 MPL hrdTm	
A#2	46	18 Hat opn 2	[EXC 1]
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 1	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 2	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Meat K	
C#5	73	Boomer K1	
D5	74	Medium K	
D#5	75	Deep Dry K	
E5	76	Real Dry K1	
F5	77	Real Dry K2	
F#5	78	Real Dry K3	
G5	79	Stomp K	
G#5	80	Comp K1	
A5	81	Comp K2	
A#5	82	Comp K3	
B5	83	Lo-Fi K	
C6	84	16 Hat pdl	[EXC 1]
C#6	85	16 Hat cls 1	[EXC 1]
D6	86	16 Hat hlf 1	[EXC 1]
D#6	87	16 Hat opn 1	[EXC 1]
E6	88	16 Hat opn 2	[EXC 1]
F6	89	LoVerb hrdTm	
F#6	90	LoVerb hrdTm	
G6	91	HiVerb hrdTm	
G#6	92	HiVerb hrdTm	
A6	93	HiVerb hrdTm	
A#6	94	HiVerb hrdTm	
B6	95	Soft Low Tom	
C7	96	Soft Hi Tom	

<PC No.13: d13 Empty Sn/Hat>

Key	Note No.	Rhythm Tone Name	
C2	36	Boomer K2	
C#2	37	----	
D2	38	----	
D#2	39	----	
E2	40	----	
F2	41	16 MPL hrdTm	
F#2	42	----	
G2	43	13 MPL hrdTm	
G#2	44	----	
A2	45	12 MPL hrdTm	
A#2	46	----	
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	Long Crash 1	
D3	50	10 MPL hrdTm	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 2	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Meat K	
C#5	73	Boomer K1	
D5	74	Medium K	
D#5	75	Deep Dry K	
E5	76	Real Dry K1	
F5	77	Real Dry K2	
F#5	78	Real Dry K3	
G5	79	Stomp K	
G#5	80	Comp K1	
A5	81	Comp K2	
A#5	82	Comp K3	
B5	83	Lo-Fi K	
C6	84	16 Hat pdl	[EXC 1]
C#6	85	16 Hat cls 1	[EXC 1]
D6	86	16 Hat hlf 1	[EXC 1]
D#6	87	16 Hat opn 1	[EXC 1]
E6	88	16 Hat opn 2	[EXC 1]
F6	89	LoVerb hrdTm	
F#6	90	LoVerb hrdTm	
G6	91	HiVerb hrdTm	
G#6	92	HiVerb hrdTm	
A6	93	HiVerb hrdTm	
A#6	94	HiVerb hrdTm	
B6	95	Soft Low Tom	
C7	96	Soft Hi Tom	

<PC No.14: d14 Empty Sn/Tom>

Key	Note No.	Rhythm Tone Name	
C2	36	Boomer K2	
C#2	37	----	
D2	38	----	
D#2	39	----	
E2	40	----	
F2	41	----	
F#2	42	18 Hat cls 1	[EXC 1]
G2	43	----	
G#2	44	18 Hat cls 2	[EXC 1]
A2	45	----	
A#2	46	18 Hat opn 2	[EXC 1]
B2	47	----	
C3	48	----	
C#3	49	Long Crash 1	
D3	50	----	
D#3	51	Long Ride 1	
E3	52	Crash 1	
F3	53	LngRide Bell	
F#3	54	Tambourine	
G3	55	Long Crash 2	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Meat K	
C#5	73	Boomer K1	
D5	74	Medium K	
D#5	75	Deep Dry K	
E5	76	Real Dry K1	
F5	77	Real Dry K2	
F#5	78	Real Dry K3	
G5	79	Stomp K	
G#5	80	Comp K1	
A5	81	Comp K2	
A#5	82	Comp K3	
B5	83	Lo-Fi K	
C6	84	16 Hat pdl	[EXC 1]
C#6	85	16 Hat cls 1	[EXC 1]
D6	86	16 Hat hlf 1	[EXC 1]
D#6	87	16 Hat opn 1	[EXC 1]
E6	88	16 Hat opn 2	[EXC 1]
F6	89	LoVerb hrdTm	
F#6	90	LoVerb hrdTm	
G6	91	HiVerb hrdTm	
G#6	92	HiVerb hrdTm	
A6	93	HiVerb hrdTm	
A#6	94	HiVerb hrdTm	
B6	95	Soft Low Tom	
C7	96	Soft Hi Tom	

<PC No.15: d15 Empty Sn/Hat/Kick/Cym>

Key	Note No.	Rhythm Tone Name	
C2	36	----	
C#2	37	----	
D2	38	----	
D#2	39	----	
E2	40	----	
F2	41	16 MPL hrdTm	
F#2	42	----	
G2	43	13 MPL hrdTm	
G#2	44	----	
A2	45	12 MPL hrdTm	
A#2	46	----	
B2	47	12 MPL hrdTm	
C3	48	10 MPL hrdTm	
C#3	49	----	
D3	50	10 MPL hrdTm	
D#3	51	----	
E3	52	----	
F3	53	----	
F#3	54	----	
G3	55	----	
G#3	56	Cowbell 1	
A3	57	Long Crash 2	
A#3	58	Rattles	
B3	59	Long Ride 2	
C4	60	CGA Mute Hi	
C#4	61	CGA Mute Lo	
D4	62	CGA Slap	
D#4	63	Conga Hi	
E4	64	Conga Lo	
F4	65	Timbale	
F#4	66	Timbale	
G4	67	Agogo	[EXC 2]
G#4	68	Agogo	[EXC 2]
A4	69	Cabasa Up	
A#4	70	Maracas	
B4	71	Cabasa Cut	
C5	72	Meat K	
C#5	73	Boomer K1	
D5	74	Medium K	
D#5	75	Deep Dry K	
E5	76	Real Dry K1	
F5	77	Real Dry K2	
F#5	78	Real Dry K3	
G5	79	Stomp K	
G#5	80	Comp K1	
A5	81	Comp K2	
A#5	82	Comp K3	
B5	83	Lo-Fi K	
C6	84	16 Hat pdl	[EXC 1]
C#6	85	16 Hat cls 1	[EXC 1]
D6	86	16 Hat hlf 1	[EXC 1]
D#6	87	16 Hat opn 1	[EXC 1]
E6	88	16 Hat opn 2	[EXC 1]
F6	89	LoVerb hrdTm	
F#6	90	LoVerb hrdTm	
G6	91	HiVerb hrdTm	
G#6	92	HiVerb hrdTm	
A6	93	HiVerb hrdTm	
A#6	94	HiVerb hrdTm	
B6	95	Soft Low Tom	
C7	96	Soft Hi Tom	

<PC No.16: d16 Drum Loop 1>

Key	Note No.	Rhythm Tone Name
C2	36	BW Jz 6/8 66
C#2	37	BW Jz 6/8 66
D2	38	BW Brush 66
D#2	39	BW Brush 66
E2	40	AL Slam 66
F2	41	AL Whack 66
F#2	42	AL Whack 66
G2	43	AL Grunge 66
G#2	44	AL Grunge 66
A2	45	BW Swamp 66
A#2	46	BW Swamp 66
B2	47	BW Fusion 66
C3	48	AL Funk 66
C#3	49	AL Funk 66
D3	50	AL Shuff. 66
D#3	51	AL Shuff. 66
E3	52	BW Brush 76
F3	53	AL Slam 76
F#3	54	AL Slam 76
G3	55	AL Whack 76
G#3	56	AL Whack 76
A3	57	AL Grunge 76
A#3	58	AL Grunge 76
B3	59	BW Swamp 76
C4	60	BW Latin 76
C#4	61	BW Latin 76
D4	62	BW Fusion 76
D#4	63	BW Fusion 76
E4	64	AL Funk 76
F4	65	AL Shuff. 76
F#4	66	AL Shuff. 76
G4	67	BW Brush 84
G#4	68	BW Brush 84
A4	69	AL Slam 84
A#4	70	AL Slam 84
B4	71	AL Whack 84
C5	72	AL Grunge 84
C#5	73	AL Grunge 84
D5	74	BW Swamp 84
D#5	75	BW Swamp 84
E5	76	BW Latin 84
F5	77	BW Fusion 84
F#5	78	BW Fusion 84
G5	79	AL Funk 84
G#5	80	AL Funk 84
A5	81	AL Shuff. 84
A#5	82	AL Shuff. 84
B5	83	BW Brush 90
C6	84	AL Slam 90
C#6	85	AL Slam 90
D6	86	AL Whack 90
D#6	87	AL Whack 90
E6	88	AL Grunge 90
F6	89	BW Swamp 90
F#6	90	BW Swamp 90
G6	91	BW Latin 90
G#6	92	BW Latin 90
A6	93	BW Fusion 90
A#6	94	BW Fusion 90
B6	95	AL Funk 90
C7	96	AL Shuff. 90

<PC No.17: d17 Drum Loop 2>

Key	Note No.	Rhythm Tone Name
C2	36	BW Brush 102
C#2	37	BW Brush 102
D2	38	AL Slam 102
D#2	39	AL Slam 102
E2	40	AL Whack 102
F2	41	AL Grunge102
F#2	42	AL Grunge102
G2	43	BW Swamp 102
G#2	44	BW Swamp 102
A2	45	BW Latin 102
A#2	46	BW Latin 102
B2	47	BW Fusion102
C3	48	AL Funk 102
C#3	49	AL Funk 102
D3	50	AL Shuff.102
D#3	51	AL Shuff.102
E3	52	BW Brush 112
F3	53	AL Slam 112
F#3	54	AL Slam 112
G3	55	AL Whack 112
G#3	56	AL Whack 112
A3	57	AL Grunge112
A#3	58	AL Grunge112
B3	59	BW Swamp 112
C4	60	BW Latin 112
C#4	61	BW Latin 112
D4	62	BW Fusion112
D#4	63	BW Fusion112
E4	64	AL Funk 112
F4	65	AL Shuff.112
F#4	66	AL Shuff.112
G4	67	BW Brush 120
G#4	68	BW Brush 120
A4	69	AL Slam 120
A#4	70	AL Slam 120
B4	71	AL Whack 120
C5	72	AL Grunge120
C#5	73	AL Grunge120
D5	74	BW Swamp 120
D#5	75	BW Swamp 120
E5	76	BW Latin 120
F5	77	BW Fusion120
F#5	78	BW Fusion120
G5	79	AL Funk 120
G#5	80	AL Funk 120
A5	81	AL Shuff.120
A#5	82	AL Shuff.120
B5	83	BW Brush 126
C6	84	AL Slam 126
C#6	85	AL Slam 126
D6	86	AL Whack 126
D#6	87	AL Whack 126
E6	88	AL Grunge126
F6	89	BW Swamp 126
F#6	90	BW Swamp 126
G6	91	BW Latin 126
G#6	92	BW Latin 126
A6	93	BW Fusion126
A#6	94	BW Fusion126
B6	95	AL Funk 126
C7	96	AL Shuff.126

Waveform List
ウェーブフォーム一覧表

No.	Wave Name	
1	MM Slap Bs A	
2	MM Slap Bs B	
3	MM Slap Bs C	
4	MM Pop Bs A	
5	MM Pop Bs B	
6	MM Pop Bs C	
7	MM Frls Bs A	
8	MM Frls Bs B	
9	MM Frls Bs C	
10	MM Jazz Bs A	
11	MM Jazz Bs B	
12	MM Jazz Bs C	
13	MM Pick Bs A	
14	MM Pick Bs B	
15	MM Pick Bs C	
16	MM Harm Bs A	
17	MM Harm Bs B	
18	MM Harm Bs C	
19	AL Funk Bs A	
20	AL Funk Bs B	
21	AL Funk Bs C	
22	AL Pop Bs A	
23	AL Pop Bs B	
24	AL Pop Bs C	
25	AL Frls Bs A	
26	AL Frls Bs B	
27	AL Frls Bs C	
28	AL LatinBs A	
29	AL LatinBs B	
30	AL LatinBs C	
31	AL Old Bs A	
32	AL Old Bs B	
33	AL Old Bs C	
34	AL P.Bass A	
35	AL P.Bass B	
36	AL P.Bass C	
37	JP Funk Bs A	
38	JP Funk Bs B	
39	JP Funk Bs C	
40	JP Pop Bs A	
41	JP Pop Bs B	
42	JP Pop Bs C	
43	JP Frls Bs A	
44	JP Frls Bs B	
45	JP Frls Bs C	
46	JP Pick Bs A	
47	JP Pick Bs B	
48	JP Pick Bs C	
49	JP Rock Bs A	
50	JP Rock Bs B	

No.	Wave Name	
51	JP Rock Bs C	
52	JP 6StrBs pA	
53	JP 6StrBs pB	
54	JP 6StrBs pC	
55	JP 6StrBs fA	
56	JP 6StrBs fB	
57	JP 6StrBs fC	
58	JP Ac.Bs p A	
59	JP Ac.Bs p B	
60	JP Ac.Bs p C	
61	JP Ac.Bs f A	
62	JP Ac.Bs f B	
63	JP Ac.Bs f C	
64	Sld&Nz MENU	*
65	Slides MENU	*
66	E.Bs Nz MENU	*
67	A.Bs Nz MENU	*
68	MM Slide 1	***
69	MM Slide 2	***
70	AL Slide	***
71	JP Slide 1	***
72	JP Slide 2	***
73	JP Slide 3	***
74	AL Nz 1	***
75	AL Nz 2	***
76	AL Nz 3	***
77	AL Nz 4	***
78	AL Nz 5	***
79	AL Nz 6	***
80	AL Nz 7	***
81	AL Nz 8	***
82	AL Nz 9	***
83	JP Frls Nz 1	***
84	JP Frls Nz 2	***
85	JP Frls Nz 3	***
86	JP Frls Nz 4	***
87	JP Ac.Nz 1	***
88	JP Ac.Nz 2	***
89	JP Ac.Nz 3	***
90	JP Ac.Nz 4	***
91	DrumGrv MENU	*
92	BW Jz 6/8 52	
93	BW Brush 66	
94	AL Slam 66	
95	AL Whack 76	
96	AL Grunge 84	
97	BW Swamp 90	
98	BW Latin 102	
99	BW Fusion112	
100	AL Funk 120	

No.	Wave Name	
101	AL Shuff.126	
102	Kik&CymSET 1	**
103	Kik&CymSET 2	**
104	Kik&CymSET 3	**
105	Kik&CymSET 4	**
106	Kik&CymSET 5	**
107	Kik&CymSET 6	**
108	Kik&CymSET 7	**
109	Kik&CymSET 8	**
110	Kik&CymSET 9	**
111	Kik&CymSET10	**
112	Kik&CymSET11	**
113	Kik&CymSET12	**
114	Kik&CymSET13	**
115	SNR SET 1p	**
116	SNR SET 1f	**
117	SNR SET 2p	**
118	SNR SET 2f	**
119	SNR SET 3p	**
120	SNR SET 3f	**
121	SNR SET 4p	**
122	SNR SET 4f	**
123	SNR SET 5p	**
124	SNR SET 5f	**
125	SNR SET 6p	**
126	SNR SET 6f	**
127	SNR SET 7p	**
128	SNR SET 7f	**
129	SNR SET 8p	**
130	SNR SET 8f	**
131	SNR SET 9p	**
132	SNR SET 9f	**
133	SNR SET 10p	**
134	SNR SET 10f	**
135	SNR SET 11p	**
136	SNR SET 11f	**
137	HAT SET 1p	**
138	HAT SET 1f	**
139	HAT SET 1pdl	**
140	HAT SET 2p	**
141	HAT SET 2f	**
142	HAT SET 2pdl	**
143	HAT SET 3	**
144	TOM SET 1p	**
145	TOM SET 1f	**
146	TOM SET 2	**
147	TOM SET 3p	**
148	TOM SET 3f	**
149	KIK MENU	*
150	Meat K	***

No.	Wave Name	
151	Boomer K1	***
152	Boomer K2	***
153	Medium K	***
154	Deep Dry K	***
155	Real Dry K1	***
156	Real Dry K2	***
157	Real Dry K3	***
158	Stomp K	***
159	Comp K1	***
160	Comp K2	***
161	Comp K3	***
162	Lo-Fi K	***
163	SNR MENU 1	*
164	SNR MENU 2	*
165	SNR MENU 3	*
166	Ring sft Sn	***
167	Ring hrd Sn	***
168	Ring rol Sn	***
169	Ring flm Sn	***
170	SlamRm sftSn	***
171	SlamRm hrdSn	***
172	SlamRm rolSn	***
173	SlamRm flmSn	***
174	SlmDry sftSn	***
175	SlmDry hrdSn	***
176	Dry sft Sn	***
177	Dry hrd Sn	***
178	Dry rol Sn	***
179	Dry flm Sn	***
180	RockOn Sn1	***
181	RockOn Sn2	***
182	Verb sft Sn	***
183	Verb hrd Sn	***
184	Warm sft Sn	***
185	Warm hrd Sn	***
186	Warm flm Sn	***
187	DryFat sftSn	***
188	DryFat hrdSn	***
189	DryFat rolSn	***
190	DryFat flmSn	***
191	Funk Sn1	***
192	Funk Sn2	***
193	Picc. sft Sn	***
194	Picc. mid Sn	***
195	Picc. hrd Sn	***
196	Picc. rol Sn	***
197	Picc. flm Sn	***
198	Choke Sn	***
199	LiteVerb Sn	***
200	Live Stick	***

No.	Wave Name	
201	NaturalStick	***
202	Click Stick	***
203	HAT MENU	*
204	18 Hat pdl	***
205	18 Hat cls 1	***
206	18 Hat cls 2	***
207	18 Hat hlf 1	***
208	18 Hat hlf 2	***
209	18 Hat opn 1	***
210	18 Hat opn 2	***
211	16 Hat pdl	***
212	16 Hat cls 1	***
213	16 Hat cls 2	***
214	16 Hat hlf 1	***
215	16 Hat hlf 2	***
216	16 Hat opn 1	***
217	16 Hat opn 2	***
218	CR78 Hat cls	***
219	CR78 Hat opn	***
220	TOM MENU	*
221	16 MPL sftTm	***
222	16 MPL hrdTm	***
223	13 MPL sftTm	***
224	13 MPL hrdTm	***
225	12 MPL sftTm	***
226	12 MPL hrdTm	***
227	10 MPL sftTm	***
228	10 MPL hrdTm	***
229	Soft Low Tom	***
230	Soft Mid Tom	***
231	Soft Hi Tom	***
232	LoVerb sftTm	***
233	LoVerb hrdTm	***
234	HiVerb sftTm	***
235	HiVerb hrdTm	***
236	CYM MENU	*
237	Long Crash 1	***
238	Long Crash 2	***
239	Long Ride 1	***
240	Long Ride 2	***
241	LngRide Bell	***
242	SYN Bass	
243	Agogo	
244	Anklungs	
245	Rattles	
246	Crash 1	
247	808 Claps	
248	Cowbell 1	
249	Tambourine	
250	Timbale	
251	Maracas	
252	Cabasa Cut	
253	Cabasa Up	
254	Cabasa Down	
255	CGA Menu	*

Menu Waveform List
メニュー・ウェーブフォーム 一覧表

<64: Sld&Nz MENU>

Key	Wave No.	Wave Name
C4	74	AL Nz 1
C#4	68	MM Slide 1
D4	76	AL Nz 3
D#4	69	MM Slide 2
E4	77	AL Nz 4
F4	78	AL Nz 5
F#4	70	AL Slide
G4	80	AL Nz 7
G#4	71	JP Slide1
A4	81	AL Nz 8
A#4	72	JP Slide 2
B4	82	AL Nz 9
C5	83	JP Frls Nz 1
C#5	73	JP Slide 3
D5	84	JP Frls Nz 2
E5	86	JP Frls Nz 4

<65: Slides MENU>

Key	Wave No.	Wave Name
C4	68	MM Slide 1
D4	69	MM Slide 2
E4	70	AL Slide
F4	71	JP Slide 1
G4	72	JP Slide 2
A4	73	JP Slide 3

<66: E.Bs Nz MENU>

Key	Wave No.	Wave Name
C4	74	AL Nz
D4	75	AL Nz
E4	76	AL Nz
F4	77	AL Nz
G4	78	AL Nz
A4	79	AL Nz
B4	80	AL Nz
C5	81	AL Nz
D5	82	AL Nz
E5	83	JP Frls Nz 1
F5	84	JP Frls Nz 2
G5	85	JP Frls Nz 3
A5	86	JP Frls Nz 4

<67: A.Bs Nz MENU>

Key	Wave No.	Wave Name
C4	87	JP Ac.Nz 1
D4	88	JP Ac.Nz 2
E4	89	JP Ac.Nz 3
F4	90	JP Ac.Nz 4

<91: DrumGrv MENU>

Key	Wave No.	Wave Name
C4	93	BW Brush 66
D4	94	AL Slam 66
E4	95	AL Whack 76
F4	96	AL Grunge84
G4	97	BW Swamp 90
A4	98	BW Latin 102
B4	92	BW Jz 6/8 52
C5	99	BW Fusion112
D5	100	AL Funk 120
E5	101	AL Shuff.126

<149: KIK MENU>

Key	Wave No.	Wave Name
C4	150	Meat K
D4	151	Boomer K1
E4	152	Boomer K2
F4	153	Medium K
G4	154	Deep Dry K
A4	155	Real Dry K1
B4	156	Real Dry K2
C5	157	Real Dry K3
D5	158	Stomp K
E5	159	Comp K1
F5	160	Comp K2
G5	161	Comp K3
A5	162	Lo-Fi K

<163: SNR MENU 1>

Key	Wave No.	Wave Name
C4	166	Ring sft Sn
D4	167	Ring hrDSn
E4	168	Ring rol Sn
F4	169	Ring flm Sn
G4	170	SlamRm sftSn
A4	171	SlamRm hrdSn
B4	172	SlamRm rolSn
C5	173	SlamRm flmSn
D5	174	SlmDry sftSn
E5	175	SlmDry hrdSn
F5	176	Dry sft Sn
G5	177	Dry hrDSn
A5	178	Dry rol Sn
B5	179	Dry flm Sn

<164: SNR MENU 2>

Key	Wave No.	Wave Name
C4	180	RockOn Sn1
D4	181	RockOn Sn2
E4	182	Verb sft Sn
F4	183	Verb hrDSn
G4	184	Warm sft Sn
A4	185	Warm hrd Sn
B4	186	Warm flm Sn
C5	187	DryFat sftSn
D5	188	DryFat hrdSn
E5	189	DryFat rolSn
F5	190	DryFat flmSn

<165: SNR MENU 3>

Key	Wave No.	Wave Name
C4	191	Funk Sn1
D4	192	Funk Sn2
E4	193	Picc. sft Sn
F4	194	Picc. mid Sn
G4	195	Picc. hrd Sn
A4	196	Picc. rol Sn
B4	197	Picc. flm Sn
C5	198	Choke Sn
D5	199	LiteVerb Sn
E5	200	Live Stick
F5	201	NaturalStick
G5	202	Click Stick

<203: HAT MENU>

Key	Wave No.	Wave Name
C4	204	18 Hat pdl
D4	205	18 Hat cls 1
E4	206	18 Hat cls 2
F4	207	18 Hat hlf 1
G4	208	18 Hat hlf 2
A4	209	18 Hat opn 1
B4	210	18 Hat opn 2
C5	211	16 Hat pdl
D5	212	16 Hat cls 1
E5	213	16 Hat cls 2
F5	214	16 Hat hlf 1
G5	215	16 Hat hlf 2
A5	216	16 Hat opn 1
B5	217	16 Hat opn 2
C6	218	CR78 Hat cls
D6	219	CR78 Hat opn

<220: TOM MENU>

Key	Wave No.	Wave Name
C4	221	16 MPL sftTm
D4	222	16 MPL hrdTm
E4	223	13 MPL sftTm
F4	224	13 MPL hrdTm
G4	225	12 MPL sftTm
A4	226	12 MPL hrdTm
B4	227	10 MPL sftTm
C5	228	10 MPL hrdTm
D5	229	Soft Low Tom
E5	230	Soft Mid Tom
F5	231	Soft Hi Tom
G5	232	LoVerb sftTm
A5	233	LoVerb hrdTm
B5	234	HiVerb sftTm
C6	235	HiVerb hrdTm

<236: CYM MENU>

Key	Wave No.	Wave Name
C4	237	Long Crash 1
D4	238	Long Crash 2
E4	239	Long Ride 1
F4	240	Long Ride 2
G4	241	LngRide Bell

<255: CGAMenu>

Key	Wave No.	Wave Name	
C2	255	CGA Mute Hi	*
C3	255	CGA Mute Lo	*
C4	255	CGA Slap	*
C5	255	Conga Hi	*
C6	255	Conga Lo	*

Set Waveform Table
セット・ウェーブフォーム 構成表

Key	Kik&CymSET	SNR SET	HAT SET	TOM SET
A# 1 (34)	—	—	O	—
B 1 (35)	O	—	—	—
C 2 (36)	O	—	—	—
C# 2 (37)	—	O	—	—
D 2 (38)	—	O	—	—
D# 2 (39)	—	O	—	—
E 2 (40)	—	O	—	—
F 2 (41)	—	—	—	O
F# 2 (42)	—	—	O	—
G 2 (43)	—	—	—	O
G# 2 (44)	—	—	O	—
A 2 (45)	—	—	—	O
A# 2 (46)	—	—	O	—
B 2 (47)	—	—	—	O
C 3 (48)	—	—	—	O
C# 3 (49)	O	—	—	—
D 3 (50)	—	—	—	O
D# 3 (51)	O	—	—	—
E 3 (52)	O	—	—	—
F 3 (53)	O	—	—	—
F# 3 (54)	O	—	—	—
G 3 (55)	O	—	—	—

About the Tone List

■ About the Performance List

Performance P01 to P09 are the collection of the bass and drum sounds that are ideal for each music genre. Drum sounds P05 to P08 consist of more than one Part, and therefore can be easily swapped such as Snare Drum.

Performance P10 includes two Drum Sets layering Parts 1 to 4 (Rx ch:1) and Parts 5 to 8 (Rx Ch:10).

* When you change Parts where more than one Part are layered using Program Change message, be sure to set the Program Change Message Receive Switch of the Part that shares the same channel to "OFF". (Refer to page 5 in the Sound Expression Series Owner's Manual.)

Performances P11 and P12 are used in the built-in demo songs.

Performances P13 to P15 are for solo play, and make the best use of effects'. The Flanger produces a unique undulating effect, and Pan-Delay creates a delayed sound that moves from side to side.

With Performance 16, all Parts are set to the most standard values. This Performance is called up when a GM System On or GS Reset signal is received. The initial values of the Part parameters are shown below.

Part Param1	Part Param2	MIDI Rx
Level = 120	Rx Ch = 1-7,10	Vol&Hold = ON
Pan = 0	Key Shift = 0	Prog Chg = ON
Reverb = 64	Detune = 0	----------
Chorus = 64	Assign = 0	----------

• How to Switch Performances from an External Instrument

If you want to connect an external instrument to switch Performances using MIDI messages, you need to carry out the following steps to send the required MIDI messages to the M-DC1.

1. Send System Exclusive (SysEx) messages to set the control channel (the MIDI channel used for changing Performances).
   At the factory defaults, this parameter is set to OFF.
   (Example) To set the control channel to "16," send:
   F0 41 10 46 12 00 00 00 20 0F 51 F7
2. Send a value for Controller Number 0 that matches the value set for Bank Select Message Reception on the M-BD1. Then send "0" as the value for Controller Number 32.
3. Send the Program Number (PC #1 through #16).

■ About the Patch List

The Controller No. 0 (CC0) value shown in the lists is the value when at the factory defaults. If you have altered the setting for "Bank Sel" (Bank Select Message Reception; see page 5 in the Sound Expansion Series manual), remember to take the current value into account.

Patches marked with an asterisk ("*") are made using phrase-loop Waveforms. The number from 52 to 126 attached to the Patch name indicates the B.P.M. (tempo) when played with the C4 key.

Patches marked with double asterisks ("**") were created using Set Waveforms. Only the specified key will be played.
"K.S.H.T" marked at the right of "**" shows the type of the Set Waveform used for the Patch.
(K: Kik & CymSET S: SNR SET H:HAT SET T: TOM SET)

■ Tone Table 2

The M-BD1 offers a tone layout called Tone Table 2 that comes in handy when using a GM score or music data for a GS sound module. When a General MIDI System On message or GS Reset message is received from the MIDI IN connector, the M-BD1 switches to Tone Table 2 and calls up Performance Number 16.

When switched to Tone Table 2, the setting for Bank Select Message Reception on the M-BD1 (see page 5 of the Sound Expansion Series Owner's Manual) is disabled, and Patches are switched according to the Program Number listed above and the values for Controller Number 0 and Controller Number 32.

If a value other than those in the list is received, the message "noP." appears on the display and that Part is not played. However, you can use the panel to choose any Patch or Rhythm Set.
If you change to the Tone Table 2, the volume of each Part can be controlled with CC11 : Expression.

■ About the Rhythm Set List

The Controller No. 0 (CC0) value shown in the lists is the value when at the factory defaults. If you have altered the setting for "Bank Sel" (Bank Select Message Reception; see page 5 in the Sound Expansion Series manual), remember to take the current value into account.

[EXC]: Percussion sounds with the same number are not played at the same time.

The keys of the d12 to d15 Rhythm Tone Names that are marked with "----" are muted. These Rhythm Sets can be used to create a drum sound by layering a Rhythm Part and the other Part, such as Performance P05 to P08 and P10. d16 and d17 (Drum Loop 1, 2) are the Rhythm Sets where the Phrase Loops are arranged in each B.P.M. The number attached to the Rhythm Tone Name of each Key is the B.P.M. for each key.

■ About the Waveform List

The Patches and Rhythm Sets provided by the M-BD1 were all created using the Waveforms shown in the lists. Although the way the Waveforms are assigned to Patches cannot be altered from the panel, you can change these assignments using System Exclusive messages. The lists should be referred to carefully whenever you wish to carry out such changes.

Waveforms marked with an asterisk ("*") sre Menu Waveforms. Multiple Waveforms are assigned to keys. (Check out the Menu Waveform List for more details.)

Waveforms marked with double asterisks ("**") sre Set Waveforms. Each Waveform is assigned to a certain key so that it won't be played by any other key in a Patch. (Check out the Set Waveform Table for more details.)

Waveforms marked with triple asterisks ("***") have a reversed version assigned to the upper part of the keyboard.

■ About the Menu Waveform List

With Menu Waveforms, a different Waveform is assigned to each key. The Waveforms assigned to keys which have a Wave Number marked with an asterisk ("*") can be used only with Menu Waveforms.

Notes

* Please be aware that the Program Change data that is actually sent or received is one less than the value of the PC number described above.

* The extent to which the Reverb/Chorus Send Level will act in modifying the sound will be different depending on the Patch. This is because the effects have been set differently for each Patch, in order to produce the best possible sound.

* The Send Level for Parts should be set to "64" if you want the Send Level for the effects that are specified to be used by the Patches to be applied in the originally intended way. At any value other than "64," the value of the Patch Send Level will increase/decrease in a relative manner with respect to it.

The Waveforms of this unit are selected from the CD-ROM's "BASS LEGEND", "BURNING GROOVES" and "LIQUID GROOVES" of Spectrasonics, the manufacture that has produced many high quality CD-ROM's for S-series (sampler).

音色一覧表について

■パフォーマンス一覧表について

パフォーマンスP01～P09 はそれぞれの音楽ジャンルに適したベース、ドラム音色を集めたものです。またP05～P08のドラム音色は複数パートを組み合わせて構成されていますので、スネア・ドラム等の音色の差し替えを簡単に行うことができます。

パフォーマンスP10はパート1～4（Rx Ch:1）とパート5～8（Rx Ch:10）をレイヤーさせて2組のドラム・セットを構成しています。

※ 複数パートがレイヤーされているパートの音色の切り替えをプログラム・チェンジで行う場合、他の同一チャンネルのパートのプログラム・チェンジ・メッセージ受信スイッチを「off」にしてください。（サウンド・エクスパンション・シリーズ取扱説明書p.5参照）

パフォーマンスP11、P12は、本体に内蔵されているデモ曲で使用しています。

パフォーマンスP13～P15は、エフェクターの特長を活かしたソロ演奏用のパフォーマンスです。Flangerでは独特のうねり感が得られ、Pan-Delayではディレイ音が左右に飛び交います。

パフォーマンスP16は、すべてのパートが最も標準的な値に設定されています。GMシステム・オン、GSリセットを受信したときはこのパフォーマンスが呼び出されます。パート・パラメーターの初期設定は以下のようになっています。

Part Param1	Part Param2	MIDI Rx
Level = 120	Rx Ch = 1-7,10	Vol&Hold = ON
Pan = 0	Key Shift = 0	Prog Chg = ON
Reverb = 64	Detune = 0	----------
Chorus = 64	Assign = 0	----------

●外部MIDI機器からのパフォーマンスの切り替えかた

MIDIメッセージを使って外部機器からパフォーマンスを切り替えたいときは、以下の手順で本機に各MIDIメッセージを送信してください。

1. システム・エクスクルーシブ・メッセージを送信して、コントロール・チャンネル（パフォーマンス切り替えに使うMIDIチャンネル）を設定する（工場出荷時はOFFに設定されています）。

   （例）コントロール・チャンネルを16に設定する

   F0 41 10 46 12 00 00 00 20 0F 51 F7

2. コントローラー・ナンバー0の値を、本機の「バンク・セレクト・メッセージ受信スイッチ」で設定した値に合わせて送信する。その後、コントローラー・ナンバー32の値として0を送信する。

3. プログラム・ナンバー1～16を送信する。

■パッチー覧表について

コントローラー・ナンバー0の値は工場出荷時のものです。本機のバンク・セレクト・メッセージ受信スイッチの設定（サウンド・エクスパンション・シリーズ取扱説明書p.5参照）を変更している場合は、その値を参照してください。

「*」印の付いているパッチは、フレーズ・ループのウェーブフォームを使用して作られています。パッチ・ネームについている52から126までの数字は、C4キーで演奏したときのB.P.M.（テンポ）です。

「**」印のついているパッチはセット・ウェーブ・フォームを使用したパッチです。特定のキーのみ発音します。「**」の後のK, S, H, Tはそのパッチが使用しているセット・ウェーブフォームの種類を表しています。
(K: Kik & CymSET S: SNR SET H:HAT SET T: TOM SET)

■音色テーブル2について

M-BD1にはGM/GS音源用のSMFミュージック・データを利用する際に便利な「音色テーブル2」という音色配列があります。MIDI INからGMシステム・オン、またはGSリセットを受信すると音色テーブル2に切り替わり、パフォーマンスNo.16（Default Perf）が呼び出されます。

音色テーブル2に切り替えると、本機のバンク・セレクト・メッセージ受信スイッチの設定（サウンド・エクスパンション・シリーズ取扱説明書p.5参照）が無効になり、表のプログラム・ナンバー、コントローラー・ナンバー0の値、コントローラー・ナンバー32の値にしたがってパッチ、リズム・セットが切り替わります。

上記以外の値を受信するとディスプレイに「noP.」と表示されそのパートは発音しません。ただし、パネルの操作ではすべてのパッチ、リズム・セットを選ぶことができます。
また、音色テーブル2に切り替えると、CC11: Expressionで各パートの音量がコントロールできる設定になります。

■リズム・セット一覧表について

コントローラー・ナンバー0の値は工場出荷時のものです。本機のバンク・セレクト・メッセージ受信スイッチの設定（サウンド・エクスパンション・シリーズ取扱説明書p.5参照）を変更している場合は、その値を使用してください。

[EXC]：同じ番号の打楽器音は同時に鳴りません。

d12～d15のリズム・トーン・ネームの ---- のキーはミュートされていて発音しないように設定されています、これらのリズム・セットはパフォーマンスP05～P08、P10のようにリズム・パートと他のパートをレイヤーさせて、ドラム音色を構成する時に使用します。
d16, d17（Drum Loop 1, 2）はフレーズ・ループをB.P.Mごとにそろえたリズム・セットです。各キーのリズム・トーン・ネームに付いている数字が各キーでのB.P.Mです。

■ウェーブフォーム一覧表について

M-BD1では表に挙げるさまざまなウェーブフォームを用いてパッチやリズム・セットを作成しています。パッチやリズム・セットを構成するウェーブフォームを、パネル操作で変更することはできませんが、システム・エクスクルーシブ・メッセージを使うと変えることができます。その際に、本表をご利用ください。

「*」印のついているウェーブフォームはメニュー・ウェーブフォームです。複数のウェーブフォームが、キーごとに割り当てられています。（メニュー・ウェーブフォーム一覧表参照）

「**」印のついているウェーブフォームはセット・ウェーブフォームです、パッチでリズム・セットが組みやすいように特定のキーにウェーブフォームが割り当ててあり、それ以外のキーでは発音しないように設定されています。（セット・ウェーブフォーム構成表参照）

「***」印のついているウェーブフォームは、鍵盤のアッパー・パートにリバース音が割り当てられています。

■メニュー・ウェーブフォーム一覧表について

メニュー・ウェーブフォームでは、キーごとに異なるウェーブフォームが割り当てられています。
各キーにアサインされているウェーブフォームのうち、Wave No.（ウェーブ・ナンバー）に「*」印の付いているものは、メニュー・ウェーブフォームのみで使用しているウェーブフォームです。

＜注意＞

※ プログラム・チェンジで実際に送受信されるデータは、PC No.から1を引いた値になりますのでご注意ください。

※ 本機ではエフェクトのかかり具合が各パッチに対して最適になるようにあらかじめ設定しています。したがってリバーブ／コーラス・センド・レベルの効き具合は各パッチで異なります。

※ パフォーマンス・モードで、パッチで設定されているエフェクトのセンド・レベルをそのまま有効にしたいときは、パートのセンド・レベルを64にしてください。64以外にするとパッチのセンド・レベルの値も相対的に増減します。

本製品のウェーブフォームは、Sシリーズ（サンプラー）用の高品位なCD-ROMを数多く製作しているSpectrasonics社のCD-ROM「BASS LEGENDS」、「BURNING GROOVES」、「LIQUID GROOVES」の中からセレクトされています。

B.P.M. Conversion Table／B.P.M.変換テーブル

Original B.P.M.= 52

bpm	key	k.s.	dtn
40	G3	−05	+46
41	G#3	−04	−11
42	G#3	−04	+30
43	A3	−03	−29
44	A3	−03	+11
45	A3	−03	+50
46	A#3	−02	−12
47	A#3	−02	+25
48	B3	−01	−39
49	B3	−01	−03
50	B3	−01	+32
51	C4	00	−34
52	C4	00	00
53	C4	00	+33
54	C#4	+01	−35
55	C#4	+01	−03
56	C#4	+01	+28
57	D4	+02	−41
58	D4	+02	−11
59	D4	+02	+19
60	D4	+02	+48
61	D#4	+03	−24
62	D#4	+03	+05
63	D#4	+03	+32
64	E4	+04	−41
65	E4	+04	−14
66	E4	+04	+13
67	E4	+04	+39
68	F4	+05	−36
69	F4	+05	−10
70	F4	+05	+15
71	F4	+05	+39
72	F#4	+06	−37
73	F#4	+06	−13
74	F#4	+06	+11
75	F#4	+06	+34
76	G4	+07	−43
77	G4	+07	−20
78	G4	+07	+02
79	G4	+07	+24
80	G4	+07	+46
81	G#4	+08	−33
82	G#4	+08	−11
83	G#4	+08	+10
84	G#4	+08	+30
85	A4	+09	−49
86	A4	+09	−29
87	A4	+09	−09
88	A4	+09	+11
89	A4	+09	+30
90	A4	+09	+50
91	A#4	+10	−31
92	A#4	+10	−12
93	A#4	+10	+06
94	A#4	+10	+25
95	A#4	+10	+43
96	B4	+11	−39
97	B4	+11	−21
98	B4	+11	−03
99	B4	+11	+15
100	B4	+11	+32
101	B4	+11	+49
102	C5	+12	−34
103	C5	+12	−17
104	C5	+12	00
105	C5	+12	+17
106	C5	+12	+33
107	C5	+12	+49
108	C#5	+13	−35
109	C#5	+13	−19
110	C#5	+13	−03
111	C#5	+13	+13
112	C#5	+13	+28
113	C#5	+13	+44
114	D5	+14	−41
115	D5	+14	−26
116	D5	+14	−11
117	D5	+14	+04
118	D5	+14	+19
119	D5	+14	+33
120	D5	+14	+48
121	D#5	+15	−38
122	D#5	+15	−24
123	D#5	+15	−10
124	D#5	+15	+05
125	D#5	+15	+18
126	D#5	+15	+32
127	D#5	+15	+46
128	E5	+16	−41
129	E5	+16	−27
130	E5	+16	−14
131	E5	+16	00
132	E5	+16	+13
133	E5	+16	+26
134	E5	+16	+39
135	F5	+17	−48
136	F5	+17	−36
137	F5	+17	−23
138	F5	+17	−10
139	F5	+17	+02
140	F5	+17	+15
141	F5	+17	+27
142	F5	+17	+39
143	F#5	+18	−49
144	F#5	+18	−37
145	F#5	+18	−25
146	F#5	+18	−13
147	F#5	+18	−01
148	F#5	+18	+11
149	F#5	+18	+22
150	F#5	+18	+34
151	F#5	+18	+46
152	G5	+19	−43
153	G5	+19	−32
154	G5	+19	−20
155	G5	+19	−09
156	G5	+19	+02
157	G5	+19	+13
158	G5	+19	+24
159	G5	+19	+35
160	G5	+19	+46
161	G#5	+20	−43
162	G#5	+20	−33
163	G#5	+20	−22
164	G#5	+20	−11
165	G#5	+20	−01
166	G#5	+20	+10
167	G#5	+20	+20
168	G#5	+20	+30
169	G#5	+20	+41
170	A5	+21	−49
171	A5	+21	−39
172	A5	+21	−29
173	A5	+21	−19
174	A5	+21	−09
175	A5	+21	+01
176	A5	+21	+11
177	A5	+21	+21
178	A5	+21	+30
179	A5	+21	+40
180	A5	+21	+50
181	A#5	+22	−41
182	A#5	+22	−31
183	A#5	+22	−22
184	A#5	+22	−12
185	A#5	+22	−03
186	A#5	+22	+06
187	A#5	+22	+16
188	A#5	+22	+25
189	A#5	+22	+34
190	A#5	+22	+43
191	B5	+23	−48
192	B5	+23	−39
193	B5	+23	−30
194	B5	+23	−21
195	B5	+23	−12
196	B5	+23	−03
197	B5	+23	+06
198	B5	+23	+15
199	B5	+23	+23
200	B5	+23	+32

Original B.P.M.= 66

bpm	key	k.s.	dtn
40	D#3	−09	+33
41	E3	−08	−24
42	E3	−08	+18
43	F3	−07	−42
44	F3	−07	−02
45	F3	−07	+37
46	F#3	−06	−25
47	F#3	−06	+12
48	F#3	−06	+49
49	G3	−05	−16
50	G3	−05	+19
51	G#3	−04	−46
52	G#3	−04	−13
53	G#3	−04	+20
54	A3	−03	−47
55	A3	−03	−16
56	A3	−03	+16
57	A3	−03	+46
58	A#3	−02	−24
59	A#3	−02	+06
60	A#3	−02	+35
61	B3	−01	−36
62	B3	−01	−08
63	B3	−01	+19
64	B3	−01	+47
65	C4	00	−26
66	C4	00	00
67	C4	00	+26
68	C#4	+01	−48
69	C#4	+01	−23
70	C#4	+01	+02
71	C#4	+01	+26
72	D4	+02	−49
73	D4	+02	−25
74	D4	+02	−02
75	D4	+02	+21
76	D4	+02	+44
77	D#4	+03	−33
78	D#4	+03	−11
79	D#4	+03	+11
80	D#4	+03	+33
81	E4	+04	−45
82	E4	+04	−24
83	E4	+04	−03
84	E4	+04	+18
85	E4	+04	+38
86	F4	+05	−42
87	F4	+05	−22
88	F4	+05	−02
89	F4	+05	+18
90	F4	+05	+37
91	F#4	+06	−44
92	F#4	+06	−25
93	F#4	+06	−06
94	F#4	+06	+12
95	F#4	+06	+31
96	F#4	+06	+49
97	G4	+07	−33
98	G4	+07	−16
99	G4	+07	+02
100	G4	+07	+19
101	G4	+07	+37
102	G#4	+08	−46
103	G#4	+08	−29
104	G#4	+08	−13
105	G#4	+08	+04
106	G#4	+08	+20
107	G#4	+08	+36
108	A4	+09	−47
109	A4	+09	−31
110	A4	+09	−16
111	A4	+09	00
112	A4	+09	+16
113	A4	+09	+31
114	A4	+09	+46
115	A#4	+10	−39
116	A#4	+10	−24
117	A#4	+10	−09
118	A#4	+10	+06
119	A#4	+10	+21
120	A#4	+10	+35
121	A#4	+10	+49
122	B4	+11	−36
123	B4	+11	−22
124	B4	+11	−08
125	B4	+11	+06
126	B4	+11	+19
127	B4	+11	+33
128	B4	+11	+47
129	C5	+12	−40
130	C5	+12	−26
131	C5	+12	−13
132	C5	+12	00
133	C5	+12	+13
134	C5	+12	+26
135	C5	+12	+39
136	C#5	+13	−48
137	C#5	+13	−36
138	C#5	+13	−23
139	C#5	+13	−11
140	C#5	+13	+02
141	C#5	+13	+14
142	C#5	+13	+26
143	C#5	+13	+39
144	D5	+14	−49
145	D5	+14	−37
146	D5	+14	−25
147	D5	+14	−14
148	D5	+14	−02
149	D5	+14	+10
150	D5	+14	+21
151	D5	+14	+33
152	D5	+14	+44
153	D#5	+15	−44
154	D#5	+15	−33
155	D#5	+15	−22
156	D#5	+15	−11
157	D#5	+15	00
158	D#5	+15	+11
159	D#5	+15	+22
160	D#5	+15	+33
161	D#5	+15	+44
162	E5	+16	−45
163	E5	+16	−35
164	E5	+16	−24
165	E5	+16	−14
166	E5	+16	−03
167	E5	+16	+07
168	E5	+16	+18
169	E5	+16	+28
170	E5	+16	+38
171	E5	+16	+48
172	F5	+17	−42
173	F5	+17	−32
174	F5	+17	−22
175	F5	+17	−12
176	F5	+17	−02
177	F5	+17	+08
178	F5	+17	+18
179	F5	+17	+27
180	F5	+17	+37
181	F5	+17	+47
182	F#5	+18	−44
183	F#5	+18	−34
184	F#5	+18	−25
185	F#5	+18	−16
186	F#5	+18	−06
187	F#5	+18	+03
188	F#5	+18	+12
189	F#5	+18	+21
190	F#5	+18	+31
191	F#5	+18	+40
192	F#5	+18	+49
193	G5	+19	−42
194	G5	+19	−33
195	G5	+19	−24
196	G5	+19	−16
197	G5	+19	−07
198	G5	+19	+02
199	G5	+19	+11
200	G5	+19	+19

Original B.P.M.= 76

bpm	key	k.s.	dtn
40	C#3	−11	−11
41	C#3	−11	+32
42	D3	−10	−27
43	D3	−10	+14
44	D#3	−09	−46
45	D#3	−09	−07
46	D#3	−09	+31
47	E3	−08	−32
48	E3	−08	+04
49	E3	−08	+40
50	F3	−07	−25
51	F3	−07	+09
52	F3	−07	+43
53	F#3	−06	−24
54	F#3	−06	+08
55	F#3	−06	+40
56	G3	−05	−29
57	G3	−05	+02
58	G3	−05	+32
59	G#3	−04	−38
60	G#3	−04	−09
61	G#3	−04	+19
62	G#3	−04	+48
63	A3	−03	−25
64	A3	−03	+02
65	A3	−03	+29
66	A#3	−02	−44
67	A#3	−02	−18
68	A#3	−02	+07
69	A#3	−02	+33
70	B3	−01	−42
71	B3	−01	−18
72	B3	−01	+06
73	B3	−01	+30
74	C4	00	−46
75	C4	00	−23
76	C4	00	00
77	C4	00	+23
78	C4	00	+45
79	C#4	+01	−33
80	C#4	+01	−11
81	C#4	+01	+10
82	C#4	+01	+32
83	D4	+02	−47
84	D4	+02	−27
85	D4	+02	−06
86	D4	+02	+14
87	D4	+02	+34
88	D#4	+03	−46
89	D#4	+03	−27
90	D#4	+03	−07
91	D#4	+03	+12
92	D#4	+03	+31
93	D#4	+03	+49
94	E4	+04	−32
95	E4	+04	−14
96	E4	+04	+04
97	E4	+04	+22
98	E4	+04	+40
99	F4	+05	−42
100	F4	+05	−25
101	F4	+05	−08
102	F4	+05	+09
103	F4	+05	+26
104	F4	+05	+43
105	F#4	+06	−40
106	F#4	+06	−24
107	F#4	+06	−08
108	F#4	+06	+08
109	F#4	+06	+24
110	F#4	+06	+40
111	G4	+07	−44
112	G4	+07	−29
113	G4	+07	−13
114	G4	+07	+02
115	G4	+07	+17
116	G4	+07	+32
117	G4	+07	+47
118	G#4	+08	−38
119	G#4	+08	−24
120	G#4	+08	−09
121	G#4	+08	+05
122	G#4	+08	+19
123	G#4	+08	+34
124	G#4	+08	+48
125	A4	+09	−39
126	A4	+09	−25
127	A4	+09	−11
128	A4	+09	+02
129	A4	+09	+16
130	A4	+09	+29
131	A4	+09	+43
132	A#4	+10	−44
133	A#4	+10	−31
134	A#4	+10	−18
135	A#4	+10	−05
136	A#4	+10	+07
137	A#4	+10	+20
138	A#4	+10	+33
139	A#4	+10	+45
140	B4	+11	−42
141	B4	+11	−30
142	B4	+11	−18
143	B4	+11	−06
144	B4	+11	+06
145	B4	+11	+18
146	B4	+11	+30
147	B4	+11	+42
148	C5	+12	−46
149	C5	+12	−35
150	C5	+12	−23
151	C5	+12	−11
152	C5	+12	00
153	C5	+12	+11
154	C5	+12	+23
155	C5	+12	+34
156	C5	+12	+45
157	C#5	+13	−44
158	C#5	+13	−33
159	C#5	+13	−22
160	C#5	+13	−11
161	C#5	+13	00
162	C#5	+13	+10
163	C#5	+13	+21
164	C#5	+13	+32
165	C#5	+13	+42
166	D5	+14	−47
167	D5	+14	−37
168	D5	+14	−27
169	D5	+14	−16
170	D5	+14	−06
171	D5	+14	+04
172	D5	+14	+14
173	D5	+14	+24
174	D5	+14	+34
175	D5	+14	+44
176	D#5	+15	−46
177	D#5	+15	−36
178	D#5	+15	−27
179	D#5	+15	−17
180	D#5	+15	−07
181	D#5	+15	+02
182	D#5	+15	+12
183	D#5	+15	+21
184	D#5	+15	+31
185	D#5	+15	+40
186	D#5	+15	+49
187	E5	+16	−41
188	E5	+16	−32
189	E5	+16	−23
190	E5	+16	−14
191	E5	+16	−05
192	E5	+16	+04
193	E5	+16	+13
194	E5	+16	+22
195	E5	+16	+31
196	E5	+16	+40
197	E5	+16	+49
198	F5	+17	−42
199	F5	+17	−34
200	F5	+17	−25

B.P.M. Conversion Table／B.P.M.変換テーブル

Original B.P.M.= 84

bpm	key	k.s.	dtn	bpm	key	k.s.	dtn
40	B2	−13	+16	121	F#4	+06	+32
41	C3	−12	−42	122	F#4	+06	+46
42	C3	−12	00	123	G4	+07	−40
43	C3	−12	+41	124	G4	+07	−26
44	C#3	−11	−19	125	G4	+07	−12
45	C#3	−11	+19	126	G4	+07	+02
46	D3	−10	−43	127	G4	+07	+16
47	D3	−10	−05	128	G4	+07	+29
48	D3	−10	+31	129	G4	+07	+43
49	D#3	−09	−33	130	G#4	+08	−44
50	D#3	−09	+02	131	G#4	+08	−31
51	D#3	−09	+36	132	G#4	+08	−18
52	E3	−08	−30	133	G#4	+08	−04
53	E3	−08	+03	134	G#4	+08	+09
54	E3	−08	+35	135	G#4	+08	+21
55	F3	−07	−33	136	G#4	+08	+34
56	F3	−07	−02	137	G#4	+08	+47
57	F3	−07	+29	138	A4	+09	−41
58	F#3	−06	−41	139	A4	+09	−28
59	F#3	−06	−12	140	A4	+09	−16
60	F#3	−06	+17	141	A4	+09	−03
61	F#3	−06	+46	142	A4	+09	+09
62	G3	−05	−26	143	A4	+09	+21
63	G3	−05	+02	144	A4	+09	+33
64	G3	−05	+29	145	A4	+09	+45
65	G#3	−04	−44	146	A#4	+10	−43
66	G#3	−04	−18	147	A#4	+10	−31
67	G#3	−04	+09	148	A#4	+10	−19
68	G#3	−04	+34	149	A#4	+10	−08
69	A3	−03	−41	150	A#4	+10	+04
70	A3	−03	−16	151	A#4	+10	+15
71	A3	−03	+09	152	A#4	+10	+27
72	A3	−03	+33	153	A#4	+10	+38
73	A#3	−02	−43	154	A#4	+10	+49
74	A#3	−02	−19	155	B4	+11	−39
75	A#3	−02	+04	156	B4	+11	−28
76	A#3	−02	+27	157	B4	+11	−17
77	A#3	−02	+49	158	B4	+11	−06
78	B3	−01	−28	159	B4	+11	+05
79	B3	−01	−06	160	B4	+11	+16
80	B3	−01	+16	161	B4	+11	+26
81	B3	−01	+37	162	B4	+11	+37
82	C4	00	−42	163	B4	+11	+48
83	C4	00	−21	164	C5	+12	−42
84	C4	00	00	165	C5	+12	−31
85	C4	00	+20	166	C5	+12	−21
86	C4	00	+41	167	C5	+12	−10
87	C#4	+01	−39	168	C5	+12	00
88	C#4	+01	−19	169	C5	+12	+10
89	C#4	+01	00	170	C5	+12	+20
90	C#4	+01	+19	171	C5	+12	+31
91	C#4	+01	+39	172	C5	+12	+41
92	D4	+02	−43	173	C#5	+13	−49
93	D4	+02	−24	174	C#5	+13	−39
94	D4	+02	−05	175	C#5	+13	−29
95	D4	+02	+13	176	C#5	+13	−19
96	D4	+02	+31	177	C#5	+13	−10
97	D4	+02	+49	178	C#5	+13	00
98	D#4	+03	−33	179	C#5	+13	+10
99	D#4	+03	−16	180	C#5	+13	+19
100	D#4	+03	+02	181	C#5	+13	+29
101	D#4	+03	+19	182	C#5	+13	+39
102	D#4	+03	+36	183	C#5	+13	+48
103	E4	+04	−47	184	D5	+14	−43
104	E4	+04	−30	185	D5	+14	−33
105	E4	+04	−14	186	D5	+14	−24
106	E4	+04	+03	187	D5	+14	−15
107	E4	+04	+19	188	D5	+14	−05
108	E4	+04	+35	189	D5	+14	+04
109	F4	+05	−49	190	D5	+14	+13
110	F4	+05	−33	191	D5	+14	+22
111	F4	+05	−17	192	D5	+14	+31
112	F4	+05	−02	193	D5	+14	+40
113	F4	+05	+13	194	D5	+14	+49
114	F4	+05	+29	195	D#5	+15	−42
115	F4	+05	+44	196	D#5	+15	−33
116	F#4	+06	−41	197	D#5	+15	−24
117	F#4	+06	−26	198	D#5	+15	−16
118	F#4	+06	−12	199	D#5	+15	−07
119	F#4	+06	+03	200	D#5	+15	+02
120	F#4	+06	+17				

Original B.P.M.= 90

bpm	key	k.s.	dtn	bpm	key	k.s.	dtn
40	A#2	−14	−04	121	F4	+05	+12
41	A#2	−14	+39	122	F4	+05	+27
42	B2	−13	−19	123	F4	+05	+41
43	B2	−13	+21	124	F#4	+06	−45
44	C3	−12	−39	125	F#4	+06	−31
45	C3	−12	00	126	F#4	+06	−17
46	C3	−12	+38	127	F#4	+06	−04
47	C#3	−11	−25	128	F#4	+06	+10
48	C#3	−11	+12	129	F#4	+06	+23
49	C#3	−11	+47	130	F#4	+06	+37
50	D3	−10	−18	131	F#4	+06	+50
51	D3	−10	+17	132	G4	+07	−37
52	D#3	−09	−50	133	G4	+07	−24
53	D#3	−09	−17	134	G4	+07	−11
54	D#3	−09	+16	135	G4	+07	+02
55	D#3	−09	+47	136	G4	+07	+15
56	E3	−08	−21	137	G4	+07	+27
57	E3	−08	+09	138	G4	+07	+40
58	E3	−08	+39	139	G#4	+08	−47
59	F3	−07	−31	140	G#4	+08	−35
60	F3	−07	−02	141	G#4	+08	−23
61	F3	−07	+27	142	G#4	+08	−11
62	F#3	−06	−45	143	G#4	+08	+02
63	F#3	−06	−17	144	G#4	+08	+14
64	F#3	−06	+10	145	G#4	+08	+26
65	F#3	−06	+37	146	G#4	+08	+38
66	G3	−05	−37	147	G#4	+08	+49
67	G3	−05	−11	148	A4	+09	−39
68	G3	−05	+15	149	A4	+09	−27
69	G3	−05	+40	150	A4	+09	−16
70	G#3	−04	−35	151	A4	+09	−04
71	G#3	−04	−11	152	A4	+09	+07
72	G#3	−04	+14	153	A4	+09	+19
73	G#3	−04	+38	154	A4	+09	+30
74	A3	−03	−39	155	A4	+09	+41
75	A3	−03	−16	156	A#4	+10	−48
76	A3	−03	+07	157	A#4	+10	−37
77	A3	−03	+30	158	A#4	+10	−26
78	A#3	−02	−48	159	A#4	+10	−15
79	A#3	−02	−26	160	A#4	+10	−04
80	A#3	−02	−04	161	A#4	+10	+07
81	A#3	−02	+18	162	A#4	+10	+18
82	A#3	−02	+39	163	A#4	+10	+28
83	B3	−01	−40	164	A#4	+10	+39
84	B3	−01	−19	165	A#4	+10	+49
85	B3	−01	+01	166	B4	+11	−40
86	B3	−01	+21	167	B4	+11	−30
87	B3	−01	+41	168	B4	+11	−19
88	C4	00	−39	169	B4	+11	−09
89	C4	00	−19	170	B4	+11	+01
90	C4	00	00	171	B4	+11	+11
91	C4	00	+19	172	B4	+11	+21
92	C4	00	+38	173	B4	+11	+31
93	C#4	+01	−43	174	B4	+11	+41
94	C#4	+01	−25	175	C5	+12	−49
95	C#4	+01	−06	176	C5	+12	−39
96	C#4	+01	+12	177	C5	+12	−29
97	C#4	+01	+30	178	C5	+12	−19
98	C#4	+01	+47	179	C5	+12	−10
99	D4	+02	−35	180	C5	+12	00
100	D4	+02	−18	181	C5	+12	+10
101	D4	+02	00	182	C5	+12	+19
102	D4	+02	+17	183	C5	+12	+29
103	D4	+02	+34	184	C5	+12	+38
104	D#4	+03	−50	185	C5	+12	+47
105	D#4	+03	−33	186	C#5	+13	−43
106	D#4	+03	−17	187	C#5	+13	−34
107	D#4	+03	00	188	C#5	+13	−25
108	D#4	+03	+16	189	C#5	+13	−16
109	D#4	+03	+32	190	C#5	+13	−06
110	D#4	+03	+47	191	C#5	+13	+03
111	E4	+04	−37	192	C#5	+13	+12
112	E4	+04	−21	193	C#5	+13	+21
113	E4	+04	−06	194	C#5	+13	+30
114	E4	+04	+09	195	C#5	+13	+39
115	E4	+04	+24	196	C#5	+13	+47
116	E4	+04	+39	197	D5	+14	−44
117	F4	+05	−46	198	D5	+14	−35
118	F4	+05	−31	199	D5	+14	−26
119	F4	+05	−16	200	D5	+14	−18
120	F4	+05	−02				

Original B.P.M.= 102

bpm	key	k.s.	dtn	bpm	key	k.s.	dtn
40	G#2	−16	−21	121	D#4	+03	−04
41	G#2	−16	+22	122	D#4	+03	+10
42	A2	−15	−36	123	D#4	+03	+24
43	A2	−15	+05	124	D#4	+03	+38
44	A2	−15	+44	125	E4	+04	−48
45	A#2	−14	−17	126	E4	+04	−34
46	A#2	−14	+21	127	E4	+04	−20
47	B2	−13	−41	128	E4	+04	−07
48	B2	−13	−05	129	E4	+04	+07
49	B2	−13	+31	130	E4	+04	+20
50	C3	−12	−34	131	E4	+04	+33
51	C3	−12	00	132	E4	+04	+46
52	C3	−12	+34	133	F4	+05	−41
53	C#3	−11	−33	134	F4	+05	−28
54	C#3	−11	−01	135	F4	+05	−15
55	C#3	−11	+31	136	F4	+05	−02
56	D3	−10	−38	137	F4	+05	+11
57	D3	−10	−07	138	F4	+05	+23
58	D3	−10	+23	139	F4	+05	+36
59	D#3	−09	−48	140	F4	+05	+48
60	D#3	−09	−19	141	F#4	+06	−39
61	D#3	−09	+10	142	F#4	+06	−27
62	D#3	−09	+38	143	F#4	+06	−15
63	E3	−08	−34	144	F#4	+06	−03
64	E3	−08	−07	145	F#4	+06	+09
65	E3	−08	+20	146	F#4	+06	+21
66	E3	−08	+46	147	F#4	+06	+33
67	F3	−07	−28	148	F#4	+06	+44
68	F3	−07	−02	149	G4	+07	−44
69	F3	−07	+23	150	G4	+07	−32
70	F3	−07	+48	151	G4	+07	−21
71	F#3	−06	−27	152	G4	+07	−09
72	F#3	−06	−03	153	G4	+07	+02
73	F#3	−06	+21	154	G4	+07	+13
74	F#3	−06	+44	155	G4	+07	+24
75	G3	−05	−32	156	G4	+07	+36
76	G3	−05	−09	157	G4	+07	+47
77	G3	−05	+13	158	G#4	+08	−42
78	G3	−05	+36	159	G#4	+08	−31
79	G#3	−04	−42	160	G#4	+08	−21
80	G#3	−04	−21	161	G#4	+08	−10
81	G#3	−04	+01	162	G#4	+08	+01
82	G#3	−04	+22	163	G#4	+08	+12
83	G#3	−04	+43	164	G#4	+08	+22
84	A3	−03	−36	165	G#4	+08	+33
85	A3	−03	−16	166	G#4	+08	+43
86	A3	−03	+05	167	A4	+09	−46
87	A3	−03	+25	168	A4	+09	−36
88	A3	−03	+44	169	A4	+09	−26
89	A#3	−02	−36	170	A4	+09	−16
90	A#3	−02	−17	171	A4	+09	−05
91	A#3	−02	+02	172	A4	+09	+05
92	A#3	−02	+21	173	A4	+09	+15
93	A#3	−02	+40	174	A4	+09	+25
94	B3	−01	−41	175	A4	+09	+35
95	B3	−01	−23	176	A4	+09	+44
96	B3	−01	−05	177	A#4	+10	−46
97	B3	−01	+13	178	A#4	+10	−36
98	B3	−01	+31	179	A#4	+10	−26
99	B3	−01	+48	180	A#4	+10	−17
100	C4	00	−34	181	A#4	+10	−07
101	C4	00	−17	182	A#4	+10	+02
102	C4	00	00	183	A#4	+10	+12
103	C4	00	+17	184	A#4	+10	+21
104	C4	00	+34	185	A#4	+10	+31
105	C#4	+01	−50	186	A#4	+10	+40
106	C#4	+01	−33	187	A#4	+10	+49
107	C#4	+01	−17	188	B4	+11	−41
108	C#4	+01	−01	189	B4	+11	−32
109	C#4	+01	+15	190	B4	+11	−23
110	C#4	+01	+31	191	B4	+11	−14
111	C#4	+01	+46	192	B4	+11	−05
112	D4	+02	−38	193	B4	+11	+04
113	D4	+02	−23	194	B4	+11	+13
114	D4	+02	−07	195	B4	+11	+22
115	D4	+02	+08	196	B4	+11	+31
116	D4	+02	+23	197	B4	+11	+40
117	D4	+02	+38	198	B4	+11	+48
118	D#4	+03	−48	199	C5	+12	−43
119	D#4	+03	−33	200	C5	+12	−34
120	D#4	+03	−19				

B.P.M. Conversion Table／B.P.M.変換テーブル

Original B.P.M.= 112

bpm	key	k.s.	dtn	bpm	key	k.s.	dtn
40	F#2	−18	+17	121	C#4	+01	+34
41	G2	−17	−40	122	C#4	+01	+48
42	G2	−17	+02	123	D4	+02	−38
43	G2	−17	+43	124	D4	+02	−24
44	G#2	−16	−18	125	D4	+02	−10
45	G#2	−16	+21	126	D4	+02	+04
46	A2	−15	−41	127	D4	+02	+18
47	A2	−15	−03	128	D4	+02	+31
48	A2	−15	+33	129	D4	+02	+45
49	A#2	−14	−31	130	D#4	+03	−42
50	A#2	−14	+04	131	D#4	+03	−29
51	A#2	−14	+38	132	D#4	+03	−16
52	B2	−13	−28	133	D#4	+03	−02
53	B2	−13	+05	134	D#4	+03	+10
54	B2	−13	+37	135	D#4	+03	+23
55	C3	−12	−31	136	D#4	+03	+36
56	C3	−12	00	137	D#4	+03	+49
57	C3	−12	+31	138	E4	+04	−39
58	C#3	−11	−39	139	E4	+04	−26
59	C#3	−11	−10	140	E4	+04	−14
60	C#3	−11	+19	141	E4	+04	−01
61	C#3	−11	+48	142	E4	+04	+11
62	D3	−10	−24	143	E4	+04	+23
63	D3	−10	+04	144	E4	+04	+35
64	D3	−10	+31	145	E4	+04	+47
65	D#3	−09	−42	146	F4	+05	−41
66	D#3	−09	−16	147	F4	+05	−29
67	D#3	−09	+10	148	F4	+05	−17
68	D#3	−09	+36	149	F4	+05	−06
69	E3	−08	−39	150	F4	+05	+06
70	E3	−08	−14	151	F4	+05	+17
71	E3	−08	+11	152	F4	+05	+29
72	E3	−08	+35	153	F4	+05	+40
73	F3	−07	−41	154	F#4	+06	−49
74	F3	−07	−17	155	F#4	+06	−37
75	F3	−07	+06	156	F#4	+06	−26
76	F3	−07	+29	157	F#4	+06	−15
77	F#3	−06	−49	158	F#4	+06	−04
78	F#3	−06	−26	159	F#4	+06	+07
79	F#3	−06	−04	160	F#4	+06	+17
80	F#3	−06	+17	161	F#4	+06	+28
81	F#3	−06	+39	162	F#4	+06	+39
82	G3	−05	−40	163	F#4	+06	+50
83	G3	−05	−19	164	G4	+07	−40
84	G3	−05	+02	165	G4	+07	−29
85	G3	−05	+22	166	G4	+07	−19
86	G3	−05	+43	167	G4	+07	−08
87	G#3	−04	−37	168	G4	+07	+02
88	G#3	−04	−18	169	G4	+07	+12
89	G#3	−04	+02	170	G4	+07	+22
90	G#3	−04	+21	171	G4	+07	+33
91	G#3	−04	+41	172	G4	+07	+43
92	A3	−03	−41	173	G#4	+08	−47
93	A3	−03	−22	174	G#4	+08	−37
94	A3	−03	−03	175	G#4	+08	−27
95	A3	−03	+15	176	G#4	+08	−18
96	A3	−03	+33	177	G#4	+08	−08
97	A#3	−02	−49	178	G#4	+08	+02
98	A#3	−02	−31	179	G#4	+08	+12
99	A#3	−02	−14	180	G#4	+08	+21
100	A#3	−02	+04	181	G#4	+08	+31
101	A#3	−02	+21	182	G#4	+08	+41
102	A#3	−02	+38	183	A4	+09	−50
103	B3	−01	−45	184	A4	+09	−41
104	B3	−01	−28	185	A4	+09	−31
105	B3	−01	−12	186	A4	+09	−22
106	B3	−01	+05	187	A4	+09	−13
107	B3	−01	+21	188	A4	+09	−03
108	B3	−01	+37	189	A4	+09	+06
109	C4	00	−47	190	A4	+09	+15
110	C4	00	−31	191	A4	+09	+24
111	C4	00	−16	192	A4	+09	+33
112	**C4**	**00**	**00**	193	A4	+09	+42
113	C4	00	+15	194	A#4	+10	−49
114	C4	00	+31	195	A#4	+10	−40
115	C4	00	+46	196	A#4	+10	−31
116	C#4	+01	−39	197	A#4	+10	−22
117	C#4	+01	−24	198	A#4	+10	−14
118	C#4	+01	−10	199	A#4	+10	−05
119	C#4	+01	+05	200	A#4	+10	+04
120	C#4	+01	+19				

Original B.P.M.= 120

bpm	key	k.s.	dtn	bpm	key	k.s.	dtn
40	F2	−19	−02	121	C4	00	+14
41	F2	−19	+41	122	C4	00	+29
42	F#2	−18	−17	123	C4	00	+43
43	F#2	−18	+23	124	C#4	+01	−43
44	G2	−17	−37	125	C#4	+01	−29
45	G2	−17	+02	126	C#4	+01	−16
46	G2	−17	+40	127	C#4	+01	−02
47	G#2	−16	−23	128	C#4	+01	+12
48	G#2	−16	+14	129	C#4	+01	+25
49	G#2	−16	+49	130	C#4	+01	+39
50	A2	−15	−16	131	D4	+02	−48
51	A2	−15	+19	132	D4	+02	−35
52	A#2	−14	−48	133	D4	+02	−22
53	A#2	−14	−15	134	D4	+02	−09
54	A#2	−14	+18	135	D4	+02	+04
55	A#2	−14	+49	136	D4	+02	+17
56	B2	−13	−19	137	D4	+02	+29
57	B2	−13	+11	138	D4	+02	+42
58	B2	−13	+41	139	D#4	+03	−46
59	C3	−12	−29	140	D#4	+03	−33
60	C3	−12	00	141	D#4	+03	−21
61	C3	−12	+29	142	D#4	+03	−09
62	C#3	−11	−43	143	D#4	+03	+04
63	C#3	−11	−16	144	D#4	+03	+16
64	C#3	−11	+12	145	D#4	+03	+28
65	C#3	−11	+39	146	D#4	+03	+40
66	D3	−10	−35	147	E4	+04	−49
67	D3	−10	−09	148	E4	+04	−37
68	D3	−10	+17	149	E4	+04	−25
69	D3	−10	+42	150	E4	+04	−14
70	D#3	−09	−33	151	E4	+04	−02
71	D#3	−09	−09	152	E4	+04	+09
72	D#3	−09	+16	153	E4	+04	+21
73	D#3	−09	+40	154	E4	+04	+32
74	E3	−08	−37	155	E4	+04	+43
75	E3	−08	−14	156	F4	+05	−46
76	E3	−08	+09	157	F4	+05	−35
77	E3	−08	+32	158	F4	+05	−24
78	F3	−07	−46	159	F4	+05	−13
79	F3	−07	−24	160	F4	+05	−02
80	F3	−07	−02	161	F4	+05	+09
81	F3	−07	+20	162	F4	+05	+20
82	F3	−07	+41	163	F4	+05	+30
83	F#3	−06	−38	164	F4	+05	+41
84	F#3	−06	−17	165	F#4	+06	−49
85	F#3	−06	+03	166	F#4	+06	−38
86	F#3	−06	+23	167	F#4	+06	−28
87	F#3	−06	+43	168	F#4	+06	−17
88	G3	−05	−37	169	F#4	+06	−07
89	G3	−05	−17	170	F#4	+06	+03
90	G3	−05	+02	171	F#4	+06	+13
91	G3	−05	+21	172	F#4	+06	+23
92	G3	−05	+40	173	F#4	+06	+33
93	G#3	−04	−41	174	F#4	+06	+43
94	G#3	−04	−23	175	G4	+07	−47
95	G#3	−04	−04	176	G4	+07	−37
96	G#3	−04	+14	177	G4	+07	−27
97	G#3	−04	+32	178	G4	+07	−17
98	G#3	−04	+49	179	G4	+07	−08
99	A3	−03	−33	180	G4	+07	+02
100	A3	−03	−16	181	G4	+07	+12
101	A3	−03	+02	182	G4	+07	+21
102	A3	−03	+19	183	G4	+07	+31
103	A3	−03	+36	184	G4	+07	+40
104	A#3	−02	−48	185	G4	+07	+49
105	A#3	−02	−31	186	G#4	+08	−41
106	A#3	−02	−15	187	G#4	+08	−32
107	A#3	−02	+01	188	G#4	+08	−23
108	A#3	−02	+18	189	G#4	+08	−14
109	A#3	−02	+34	190	G#4	+08	−04
110	A#3	−02	+49	191	G#4	+08	+05
111	B3	−01	−35	192	G#4	+08	+14
112	B3	−01	−19	193	G#4	+08	+23
113	B3	−01	−04	194	G#4	+08	+32
114	B3	−01	+11	195	G#4	+08	+41
115	B3	−01	+26	196	G#4	+08	+49
116	B3	−01	+41	197	A4	+09	−42
117	C4	00	−44	198	A4	+09	−33
118	C4	00	−29	199	A4	+09	−24
119	C4	00	−14	200	A4	+09	−16
120	**C4**	**00**	**00**				

Original B.P.M.= 126

bpm	key	k.s.	dtn	bpm	key	k.s.	dtn
40	E2	−20	+14	121	B3	−01	+30
41	F2	−19	−44	122	B3	−01	+44
42	F2	−19	−02	123	C4	00	−42
43	F2	−19	+39	124	C4	00	−28
44	F#2	−18	−21	125	C4	00	−14
45	F#2	−18	+17	**126**	**C4**	**00**	**00**
46	G2	−17	−44	127	C4	00	+14
47	G2	−17	−07	128	C4	00	+27
48	G2	−17	+29	129	C4	00	+41
49	G#2	−16	−35	130	C#4	+01	−46
50	G#2	−16	00	131	C#4	+01	−33
51	G#2	−16	+34	132	C#4	+01	−19
52	A2	−15	−32	133	C#4	+01	−06
53	A2	−15	+01	134	C#4	+01	+07
54	A2	−15	+33	135	C#4	+01	+19
55	A#2	−14	−35	136	C#4	+01	+32
56	A#2	−14	−04	137	C#4	+01	+45
57	A#2	−14	+27	138	D4	+02	−43
58	B2	−13	−43	139	D4	+02	−30
59	B2	−13	−14	140	D4	+02	−18
60	B2	−13	+16	141	D4	+02	−05
61	B2	−13	+44	142	D4	+02	+07
62	C3	−12	−28	143	D4	+02	+19
63	C3	−12	00	144	D4	+02	+31
64	C3	−12	+27	145	D4	+02	+43
65	C#3	−11	−46	146	D#4	+03	−45
66	C#3	−11	−19	147	D#4	+03	−33
67	C#3	−11	+07	148	D#4	+03	−21
68	C#3	−11	+32	149	D#4	+03	−10
69	D3	−10	−43	150	D#4	+03	+02
70	D3	−10	−18	151	D#4	+03	+13
71	D3	−10	+07	152	D#4	+03	+25
72	D3	−10	+31	153	D#4	+03	+36
73	D#3	−09	−45	154	D#4	+03	+47
74	D#3	−09	−21	155	E4	+04	−41
75	D#3	−09	+02	156	E4	+04	−30
76	D#3	−09	+25	157	E4	+04	−19
77	D#3	−09	+47	158	E4	+04	−08
78	E3	−08	−30	159	E4	+04	+03
79	E3	−08	−08	160	E4	+04	+14
80	E3	−08	+14	161	E4	+04	+24
81	E3	−08	+35	162	E4	+04	+35
82	F3	−07	−44	163	E4	+04	+46
83	F3	−07	−23	164	F4	+05	−44
84	F3	−07	−02	165	F4	+05	−33
85	F3	−07	+19	166	F4	+05	−23
86	F3	−07	+39	167	F4	+05	−12
87	F#3	−06	−41	168	F4	+05	−02
88	F#3	−06	−21	169	F4	+05	+08
89	F#3	−06	−02	170	F4	+05	+19
90	F#3	−06	+17	171	F4	+05	+29
91	F#3	−06	+37	172	F4	+05	+39
92	G3	−05	−44	173	F4	+05	+49
93	G3	−05	−26	174	F#4	+06	−41
94	G3	−05	−07	175	F#4	+06	−31
95	G3	−05	+11	176	F#4	+06	−21
96	G3	−05	+29	177	F#4	+06	−12
97	G3	−05	+47	178	F#4	+06	−02
98	G#3	−04	−35	179	F#4	+06	+08
99	G#3	−04	−18	180	F#4	+06	+17
100	G#3	−04	00	181	F#4	+06	+27
101	G#3	−04	+17	182	F#4	+06	+37
102	G#3	−04	+34	183	F#4	+06	+46
103	A3	−03	−49	184	G4	+07	−44
104	A3	−03	−32	185	G4	+07	−35
105	A3	−03	−16	186	G4	+07	−26
106	A3	−03	+01	187	G4	+07	−16
107	A3	−03	+17	188	G4	+07	−07
108	A3	−03	+33	189	G4	+07	+02
109	A3	−03	+49	190	G4	+07	+11
110	A#3	−02	−35	191	G4	+07	+20
111	A#3	−02	−19	192	G4	+07	+29
112	A#3	−02	−04	193	G4	+07	+38
113	A#3	−02	+11	194	G4	+07	+47
114	A#3	−02	+27	195	G#4	+08	−44
115	A#3	−02	+42	196	G#4	+08	−35
116	B3	−01	−43	197	G#4	+08	−26
117	B3	−01	−28	198	G#4	+08	−18
118	B3	−01	−14	199	G#4	+08	−09
119	B3	−01	+01	200	G#4	+08	00
120	B3	−01	+16				

B.P.M. Conversion Table／B.P.M.変換テーブル

■ About the B.P.M. Conversion Table

The B.P.M. (beats per minute: tempo) can be changed by varying the pitch.

The B.P.M. when sampling (original B.P.M) is reproduced when the key is C4 and the Part Parameters k.s. (key shift) and dtn (detune) are both zero. The numbers in the table marked with ▒ are the original B.P.M.

Example 1: Playback at a tempo twice as fast as the original B.P.M.

This can be done using either of the following two methods:

1. Play a key one octave higher.
2. Play with k.s. set to "+12."

Example 2: Playing a Patch with an original B.P.M. of 52 at 56 B.P.M.

bpm	key	k.s.	dtn
52	C4	00	00
:	:	:	:
56	C#4	+01	+28

1 2

Either of the following two methods can be used to make the setting:

1. Look up dtn in the table, set it to "+28," and play the C#4 key.
2. Look up k.s. and dtn in the table, set them respectively to "+1" and "+28," and play the C4 key.

System Exclusive messages can also be used to change the B.P.M. for a Waveform. Refer to the MIDI Implementation (pages 17 and 18 in the Sound Expansion Series Owner's Manual) and set k.s. and dtn to Pitch Coarse and Pitch Fine respectively for a Patch, or set Key and dtn to Coarse Tune and Pitch Fine respectively for a Rhythm Set.

Example 3: Playing the Waveform for Tone 1 of the Patch (No. 120AL Funk 120) assigned to Part 7 of the Performance (No. 2 Funk) at a B.P.M. of 126 instead of the original B.P.M. of 120

You can make the setting using either of the following two methods:

1 Set Pitch Fine to "-16."
F0 41 10 46 12 00 06 28 39 35 64 F7
Then play the C#4 key.

2. Set Pitch Coarse to "+1."
F0 41 10 46 12 00 06 28 38 41 59 F7
Set Pitch Fine to "-16."
F0 41 10 46 12 00 06 28 39 35 64 F7
Then play the C4 key.

As you can see, caution is required here because you can play either with the C4 key remaining as the play key or with the play key changed to a different key, depending on which method you use to make the settings.

■B.P.M.変換テーブルについて

ピッチを変えることにより、B.P.M.（Beat Per Minute：テンポ）を変えることができます。

サンプリング時のB.P.M（Original B.P.M.）は、キーがC4でパート・パラメーターのk.s.（キー・シフト）、dtn（デチューン）が共に0のときに再現されます。表中の▒のついたものがOriginal B.P.M.です。

（例1） Original B.P.M.を2倍のテンポで再生したい場合

以下の2通りの設定方法があります。

1. 1オクターブ上のキーを弾きます。
2. k.s.を+12に設定して弾きます。

（例2） Original B.P.M.=52のパッチをB.P.M.=56で再生したい場合

bpm	key	k.s.	dtn
52	C4	00	00
:	:	:	:
56	C#4	+01	+28

1 2

以下の2通りの設定方法があります。

1. dtnを表で参照の上、+28に設定し、C#4キーを弾きます。
2. k.s.、dtnを表で参照の上、それぞれ+1、+28に設定し、C4キーを弾きます。

システム・エクスクルーシブ・メッセージを使って、ウェーブフォームのB.P.M.を変換することもできます。MIDIインプリメンテーション（サウンド・エクスパンション・シリーズ取扱説明書p.17～18）を参照し、パッチの場合は変換表のk.s.、dtnをそれぞれPitch Coarse 、Pitch Fine、リズム・セットの場合は変換表のKey、dtnをそれぞれCoarse Tune、Pitch Fineに置き換えて設定してください。

（例） パフォーマンス（No.2 Funk）のパート7に割り当てられているパッチ（No.120 AL Funk 120）のトーン1のウェーブフォーム（Original B.P.M.=120）をB.P.M.=126で再生したい場合

以下の2通りの設定方法があります。

1. Pitch Fineを-16に設定する。
F0 41 10 46 12 00 06 28 39 35 64 F7
この後C#4キーを弾く

2. Pitch Coarseを+1に設定する。
F0 41 10 46 12 00 06 28 38 41 59 F7
Pitch Fineを-16に設定する。
F0 41 10 46 12 00 06 28 39 35 64 F7
この後C4キーを弾く

以上のように、プレイ・キーをC4キーのままで演奏するか、プレイ・キーを変更して演奏するかで設定のしかたが異なりますので注意してください。

Specifications

Sound Expansion Series M-BD1
: Multi-timbral Sound Module

- Parts
  Parts 1–7, Rhythm Part

- Maximum Polyphony
  28 Voices

- Effects
  Reverb (8 types)
  Chorus (3 types)

- Internal Memory
  System Setups: 1
  Performances: 16
  Patches: 197
  Rhythm Sets: 17

- Connectors
  MIDI Connectors (In, Out, Thru)
  Input Jacks (L, R)
  Output Jacks (L, R)
  Phones Jack (Stereo)

- Display
  7 Segments, 3 Characters (LED)

- Power Supply
  AC 117 V, AC 230 V or AC 240 V

- Power Consumption
  10 W (AC 117 V, AC 230 V) or 11 W (AC 240 V)

- Dimensions
  482 (W) x 165 (D) x 44 (H) mm
  19 (W) x 6-1/2 (D) x 1-3/4 (H) inches
  (EIA-1U Rack Mount Type)

- Weight
  2.65 kg
  5 lbs, 14 oz

- Accessories
  Sound Expansion Series Owner's Manual
  M-BD1 Owner's Manual
  AC Cord

* In the interest of product development, the specifications and/or appearance of this unit are subject to change without prior notice.

主な仕様

サウンド・エクスパンション・シリーズ　M-BD1
：マルチティンバー・サウンド・モジュール

●パート
パート1～7、リズム・パート

●最大同時発音数
28音

●エフェクト
リバーブ（8種類）
コーラス（3種類）

●メモリー
システム・セットアップ：1
パフォーマンス：16
パッチ：197
リズム・セット：17

●接続端子
MIDI端子（イン、アウト、スルー）
インプット・ジャック（L、R）
アウトプット・ジャック（L、R）
ヘッドホン・ジャック（ステレオ）

●ディスプレイ
7セグメント3桁（LED）

●電源
AC100V

●消費電力
7 W

●外形寸法
482（幅）×165（奥行）×44（高さ）mm
（EIA-1Uラック・マウント・タイプ）

●重量
2.65kg

●付属品
サウンド・エクスパンション・シリーズ取扱説明書
M-BD1取扱説明書
AC電源コード

●別売品
ステレオ・ヘッドホン：RH-20/80/120
システム・ラック：SYRシリーズ

※本機の仕様および外観は、改良のため予告無く変更することがあります。

Marcus Miller

Marcus Miller is a musician's musician. Few players garner the sincere respect that comes when his name is mentioned. To have accomplished so much great work in such a short period of time is nothing short of remarkable.

Born in Brooklyn, New York into a musical family, Marcus became proficient on piano, organ, clarinet, voice and bass by the time he was 14. While his aptitude on clarinet gained him entry into New York's prestigious High School of Music & Art (the FAME school), it was his attitude on the bass guitar that landed him the gig in the legendary Saturday Night Live house band (at 17!) which ultimately began his professional career. There he met saxophonist David Sanborn, who took him in as a collaborator. From there he has carved an identity as a sought-after producer and songwriter working with such greats as Luther Vandross, Natalie Cole, Roberta Flack, David Sanborn, Al Jarreau, Chaka Khan, Boz Scaggs and Wayne Shorter. Simultaneously he has sustained a reputation as one of the world's premiere session bassists playing on scores of dates with some of the best known artists in jazz, rock, and R&B including: Aretha Franklin, Scritti Pollitti, Grover Washington Jr., Donald Fagen, Bryan Ferry, Elton John, Bob James, Kazumi Watanabe, Dave Gruisin, and many others. When Miles Davis called Marcus in 1981, a musical partnership was born that created some of the most important jazz of the decade including the seminal "Tutu" album. In addition to making records with his band, The Jamaica Boys, Marcus has released four solo albums including the Grammy nominated, "Tales" on P.R.A. records.

When Marcus is asked how it has come to pass that he has been involved in so many great projects, he replies, "Well, it all comes from being committed to your instrument...practicing, continuing to learn and grow. When you do that, the good projects come to you."

Marcus Millerはミュージシャンの中のミュージシャンである。彼のように心からの尊敬を受けられるプレーヤーはほとんどいない。短時間にこれ程の偉大な仕事を成し遂げることは、驚異である。

ニューヨーク・ブルックリンの音楽一家に生まれ、14才になるまでに、彼はピアノ、オルガン、クラリネット、声楽、ベースの達人となり傑出した。クラリネットにおける才能で、ニューヨークの一流高校であるミュージック＆アートに入学する。そして更に、ベースの才能によって、なんと17才で伝説のサタデー・ナイト・ライブ・ハウスでギグする仕事を得て、プロの道に進む。そこで彼は、サクソフォーニストであるDavid Sanbornと出会い、共同制作者として迎え入れられた。ここから彼は、求められているプロデューサー、ソングライターとして、Luther Vandross、Natalie Cole、Roberta Flack、David Sanborn、Al Jarreau、Chaka Khan、Boz Scaggs、Wayne Shorterなどの偉大なアーティストとの共演で名前が知れわたり、同時に世界的に主要なセッション・ベーシストの一人として評判を得ている。Aretha Franklin、Scritti Pollitti、Grover Washington Jr.、Donald Fagen、Bryan Ferry、Elton John、Bob James、渡辺香津美、Dave Gruisinなど、数多くのジャズ、ロック、R&Bの著名なミュージシャンと共演している。1981年、Miles Davisが彼に電話したとき、二人の間に音楽の協力関係が生まれ、可能性を秘めた「Tutu」アルバムを含む、ここ10年間の最も重要なジャズの活動を創り出した。彼のバンドであるThe Jamaica Boysとのレコーディング活動の他に、グラミー賞にノミネートされた「Tales」(P. R. A. レコード) を含む4枚のソロ・アルバムをリリースしている。

これ程数多くの偉大なプロジェクトに参加することが、どうして実現できているのか、という問いに対して彼は、「そうだね、すべては自分の演奏に専心する、つまり練習し、勉強し続けて成長することだよ。そうすれば自然に自分のところにそういう仕事が舞い込んでくるよ。」と答えている。

Abraham Laboriel Sr.

Larry Carlton once said,"There are alot of great bass players in this world, but there is one, and only one Abraham Laboriel."

This tribute best describes the unique artistry of the Mexico City born virtuoso of the Bass Guitar. To witness Abe play one immediately understands that music is essentially about passion and he is truly one of the most gifted interpreters.

Originally a classically trained guitarist, Abraham infused his flamenco style on the bass guitar when he made the transition to four strings at the Berklee School of Music. Since the day that the late Henry Mancini encouraged him to come to Los Angeles, Abe has played on over 3000(!) recordings and soundtracks, prompting Guitar Player to succinctly peg him as "...the most widely used session bassist of our time." You have undoubtedly heard the diversity of his contributions to recordings by music's creme de la creme including:

Stevie Wonder, Robbie Robertson, Joe Zawinul, George Benson, Barbara Streisand, Al Jarreau, Dave & Don Gruisin, Elton John, Joe Sample, Dori Caymmi, Quincy Jones and Michael Jackson to name a few. He was also a founding member of the internationally acclaimed fusion groups Friendship and Koinonia.

Abraham's solo albums,"Dear Friends", "Guidum" and "Justo & Abraham" are stunning collections of contemporary urban and jazz originals that gather super talents from all over the music industry such as: Steve Gadd, Alex Acuña, Al Jarreau, Jim Keltner, Ernie Watts, Greg Mathieson, Paul Jackson Jr., and Phillip Bailey.

There are few musicians who truly embrace the joy of music more than Abraham Laboriel Sr.

かつてLarry Carltonはこう語った。「この世にベーシストは掃いて捨てるほどいるが、ここには一人、唯一Abraham Laborielがいるのみである。」

この賛辞は、メキシコ生まれのベースの巨匠の芸術性をよく言い表している。彼の演奏を聴きさえすれば、音楽とは本質的にパッションであり、最も才能に恵まれた演奏家の一人であるということを、すぐに納得するであろう。

元来クラシックのギタリストとして研鑽していたので、バークレー音楽学校で4弦への転向をしたときに、ベース・ギターにフラメンコのスタイルを取り入れた。晩年のHenry Mancini がロサンゼルスへ来ることを彼に勧めたときから、なんと3,000を超すレコーディングやサウンドトラックに参加しているのである。ギター・プレーヤーの間では、最も人気のあるセッション・ベーシストであると認識されており、数多くのミュージシャンのレコードを聴けば彼の貢献の多様性がはっきりとわかるであろう。具体的に言うと、Stevie Wonder、Robbie Robertson、Joe Zawinul、George Benson、Barbara Streisand、Al Jarreau、Dave & Don Gruisin、Elton John、Joe Sample、Dori Caymmi、Quincy Jones、Michael Jacksonなどである。

彼は、世界的に賞賛されたフュージョン・グループである「Friendship」と「Koinonia」の創立メンバーでもある。

彼のソロ・アルバムである、「Dear Friends」「Guidum」「Justo & Abraham」は、Steve Gadd、Alex Acuña、Al Jarreau、Jim Keltner、Ernie Watts、Greg Mathieson、Paul Jackson Jr.、Phillip Baileyといった顔ぶれを揃え、あらゆる音楽業界から非凡な才能を結集した、現代アーバンとジャズのオリジナルの超一流のコレクションである。

彼ほど音楽の楽しみを本当に知っているミュージシャンは数少ない。

John Patitucci

John's position as one of the great modern bass innovators stems from his love of musical diversity. Born in Brooklyn, New York, John grew up listening to the Beatles and Motown artists (James Jamerson being a major influence). He picked up the bass when he was 11 and played in a garage band with his older brother Thomas. In 1972 his family moved to northern California where John continued honing his rock chops while also working with gospel groups and widening his understanding of jazz. John went on to study classical bass extensively at San Francisco State University. In 1978 John came to southern California and immersed himself in the burgeoning L.A. jazz scene. His first high-exposure gig came with pianist Gap Mangione. By the 80's he had established himself as a versatile sideman and session ace working with the likes of Ry Cooder, Herbie Hancock, Tom Scott, Robben Ford, Stan Getz, Larry Carlton, Freddie Hubbard, Ernie Watts, Lee Ritenour, and Dave Gruisin.

Patitucci's reputation went international in 1985 when Chick Corea sought him as a founding member for both his Elektric and Akoustic Bands. John has garnered praise from critics and fans alike, consistently winning polls for "Best Jazz Bassist" and "Best Acoustic Bassist" from the readers of Guitar Player, Jazziz, and many other music publications.

The development of John's unique 6 string solo voice has blossomed into a rich solo career including 5 albums recorded for GRP. His album, "Another World" was nominated for a 1993 Grammy for Best Jazz Instrumental Album. He also simultaneously released the artistic triumph "Heart of the Bass" on Corea's Stretch label showcasing his orchestral compositions with trumpeter/composer Jeff Beal. John has recently gone "bi-coastal" setting up shop near his roots of the New York Jazz scene.

偉大なるモダン・ベースの革新家の一人としての彼の位置づけは、音楽の多様性への彼の愛好に由来している。ニューヨークのブルックリンで生まれ、ビートルズやモータウンのアーティスト（特にJames Jamersonの影響が多大である）を聴きながら育った。11才のときにベースを始め、兄のThomasとガレージ・バンドを始めた。1972年に北カルフォルニアに移住し、そこで、ゴスペル・グループと一緒に活動し、ジャズに対する理解を深めながら、彼のロック・チョップを研ぎ澄まし続けた。ジョンは、サンフランシスコ州立大学で、幅広くクラシック・ベースを勉強し続けた。1978年に南カルフォルニアに移住し、急成長していたL. A. のジャズ・シーンに没頭した。彼の衝撃的なデビュー・ギグは、ピアニスト、Gap Mangioneとであった。1980年までには、何でもこなす伴奏者となり、Ry Cooder、Herbie Hancock、Tom Scott、Robben Ford、Stan Getz、Larry Carlton、Freddie Hubbard、Ernie Watts、Lee Ritenour、Dave Gruisinなどと一緒に演奏し、セッションの名手となっている。

1985年、Chick Coreaが彼のエレクトリック・バンドとアコースティク・バンドのためのメンバー探しをしていたときに、彼と巡り会い、以来彼の名声は全世界的なものとなった。彼は、批評家やファンから支持されており、「Guitar Player」や「Jazziz」などの多くの音楽雑誌の読者による「ベスト・ジャズ・ベーシスト」と「ベスト・アコースティク・ベーシスト」投票では常に一位である。

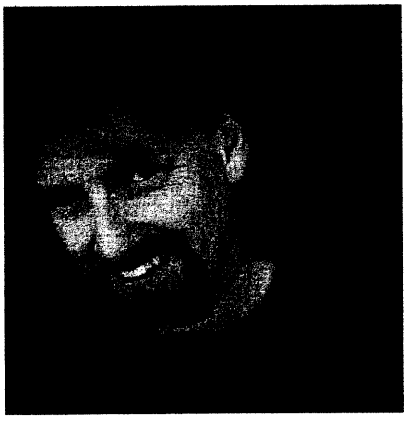
彼のユニークな6弦ソロ・ボイスは、GRPのために録音した5枚のアルバムを含めた、彼の豊富なキャリアの中で開花している。彼のアルバム、「Another World」は、1993年のグラミー賞に於いてベスト・ジャズ・インストゥルメント・アルバムの部門でノミネートされた。彼は同時に、トランペッターで作曲家でもあるJeff Bealと共にオーケストラ音楽の入っているCoreaのストレッチ・レーベルの中で、音楽的な偉業「Heart of the Bass」をリリースしている。

最近、彼のルーツであるニューヨーク・ジャズ・シーンの近くに店を構えている。

Abe Laboriel Jr.

As you can probably imagine, Abe Laboriel Jr. has been banging on objects since before he could walk. He claims that his many failed attempts at melodic instruments have given him an affinity for the simpler arts, such as cooking and drumming. After a lifetime of learning and absorbing the artistry of some of the world's most respected musicians (including mentors Jeff Porcaro, Chester Thompson and Alex Acuña), Abe Jr. has truly come into his own aggressive and commanding style. Abe's energies have most recently been focused on writing and performing with his power trio "The Raging Honkies" (with the Landau brothers), and making live and recorded appearances with artists such as Seal, Steve Vai, Duran Duran, Big Mountain, Juliana Hatfield, Kathy Mattea, Dianne Reeves and Joe Sample to name a few. Expect to hear lots of big noise from this young L.A. slammer!

恐らく彼は、生まれながらのドラム・プレーヤーなのであろう。メロディー楽器に於ける数多くの挫折のせいで、料理やドラムなどの、より単純な芸術が好きになったのだと彼は言っている。世界的に尊敬されているミュージシャン（Jeff Porcaro、Chester Thompson、Alex Acuña）の芸術性を勉強し吸収した後で、彼は自身の攻撃的で堂々たるスタイルを築き上げた。最近彼は、彼のパワー・トリオである（Landau brothersとの）The Raging Honkiesで作曲し演奏することに集中している。そして、Seal、Steve Vai、Duran Duran、Big Mountain、Juliana Hatfield、Kathy Mattea、Dianne Reeves、Joe Sampleなどとライブやレコーディング活動をしている。是非ともこの若いL. A. の"叩き屋"のビッグ・ノイズを楽しんで欲しい。



Bob Wilson

As a respected producer and arranger, a gifted songwriter and a much in-demand drummer, Bob has established an industry-wide reputation, built on a lifetime of creativity.

Born and raised in Arizona, Bob began playing professionally at age sixteen. It was in 1972 that he first joined forces with keyboardist Larry Williams, and the two formed SEAWIND, a group that would go on to forge a groundbreaking synthesis of jazz and contemporary pop music.

As an L.A. studio musician and a songwriter, as well as a producer and arranger, Bob has performed and recorded in virtually every area of the music industry. He has appeared in concert and on albums with such artists as Quincy Jones, George Benson, Boz Scaggs, Henry Mancini, Lee Ritenour, The Crusaders, Michael Omartian, Herbie Hancock, Andrae Crouch, Michel Colombier and many others. His arrangements and performances can be heard on the soundtracks of many well-known Hollywood Films & Television shows.

Bob is one of the few modern musicians, who not only does it all, but does it the best!

彼はこの業界では、才能あるプロデューサー／アレンジャー／ソング・ライター／引っ張りだこのドラマーとして、大いに名声を得ている。

アリゾナで生まれ、16才でプロとして演奏し始め、名声を高めた。

1972年には、キーボーディストのLarry Williamsと一緒にSEAWINDというグループを結成し、ジャズと現代ポップ・ミュージックの融合を開拓し続けた。

彼は、プロデューサー、アレンジャーのみならずソングライター、L. A.のスタジオ・ミュージシャンとして、あらゆる音楽業界の分野で演奏、録音をしている。Quincy Jones、George Benson、Boz Scaggs、Henry Mancini、Lee Ritenour、The Crusaders、Michael Omartian、Herbie Hancock、Andrae Crouch、Michel Colombierなど多数のアーティストと一緒にコンサートを開いたり、アルバムを作っている。彼のアレンジメントや演奏は、非常に有名なハリウッド映画のサウンド・トラックや、テレビ・ショーで聴くことができる。

彼は、単なる演奏ではなく、ごきげんな音楽を演奏するという点で、数少ないモダン・ミュージシャンの一人である。

Information

When you need repair service, call your local Roland Service Station or the authorized Roland distributor in your country as shown below.

ARGENTINA
Instrumentos Musicales S.A.
Florida 638
(1005) Buenos Aires
ARGENTINA
TEL: (01) 394 4029

BRAZIL
Roland Brasil Ltda.
R. Coronel Octaviano da Silveira
203 05522-010
Sao Paulo BRAZIL
TEL: (011) 843 9377

CANADA
Roland Canada Music Ltd. (Head Office)
5480 Parkwood Way Richmond
B. C., V6V 2M4 CANADA
TEL: (0604) 270 6626

Roland Canada Music Ltd. (Toronto Office)
Unit 2, 109 Woodbine Downs
Blvd, Etobicoke, ON
M9W 6Y1 CANADA
TEL: (0416) 213 9707

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As of October, 28, 1996

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For Europe

CE This product complies with the requirements of European Directive 89/336/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and 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.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

CLASS B **NOTICE**
This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

CLASSE B **AVIS**
Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Règlement des signaux parasites par le ministère canadien des Communications.

The Sound Expansion Series Owner's Manual contained errors. We apologize for any inconvenience. Please make the following corrections.

p. 6 "How to Make a Bulk Dump"

[Addition]

Because the information for parameters included in Part Param 1 is controlled by Control Change messages, it cannot be stored using Bulk Dump.

[Wrong]

ALL Sends all of the data as well as the Parameter settings for Master and MIDI Rx that can be adjusted from the front panel.

PF Sends Performance settings and the Parameter settings for Part Param 1 and Part Param 2 that can be adjusted from the front panel.

[Correct]

ALL The information for all settings (except the ones listed below) is sent.
All parameters included in Part Param 1
Bank Sel and SysEx parameters for MIDI Rx
NPRN receive switch
Master device ID
Monitor settings

PF Performance settings are sent, but the setting information for parameters included in Part Param 1 is not sent. For parameters that can be adjusted from the front panel, the settings that are sent are the parameters included in Part Param 2, Vol & Hold parameters for MIDI Rx, Prog Chg parameters, and the mute settings for each Part.

p.9: "Pitch Is Strange"

[Wrong]

Are the settings for Key Shift and Tune (p. 4) appropriate?

[Correct]

Are the settings for Key Shift and Tune (p. 4-5) appropriate?

p.9: "Patch Table 2 Not Obtained With GM System On or GS Reset"

[Wrong]

Make sure the "Sys Ex" setting (a switch for enabling reception of System Exclusive messages) is not set at "OFF."

[Correct]

Make sure the "Sys Ex" setting (a switch for enabling reception of System Exclusive messages) is not set at "OFF" or "PAr."

p.14: "Reset All Controllers"

[Wrong]

Controller	Value
Modulation	0 (minimum)
Volume	127 (maximum)
Panpot	64 (center)
Expression	0 (minimum)
Hold 1	0 (off)
Channel pressure	0 (minimum)
Pitch bend change	±0 (center)
RPN	No specified parameter, no value is changed.
NRPN	No specified parameter, no value is changed.

[Correct]

Controller	Value
Modulation	0 (minimum)
Soft	0
Sostenuto	0
Expression	0 (minimum)
Hold 1	0 (off)
Channel pressure	0 (minimum)
Pitch bend change	±0 (center)
RPN	No specified parameter, no value is changed.
NRPN	No specified parameter, no value is changed.

p.15: "Parameter base address"

[Wrong]

2)Parameter associcated with adress following the symbol % are for Sound Expansion Series.

[Correct]

Parameters associated with address following the symbol % are specifically for the JV-880 or JV-90 and therefore will have no effect on this unit.

サウンド・エクスパンション・シリーズ取扱説明書の記載に誤りがありました。お詫びするとともに、下記のように訂正させていただきます。

p.6「バルクダンプのしかた」

【追加】

Part Param 1に含まれるパラメーターの情報はコントロール・チェンジ・メッセージを使って管理されるため、バルク・ダンプでは保存されません。

【誤】

ALL 下記のすべてのデータとフロント・パネルで調節できるMaster、MIDI Rxに含まれるパラメーターの設定を送信します。

PF パフォーマンスの設定と、フロント・パネルで調節できるPart Param1、Part Param 2に含まれるパラメーターの設定を送信します。

【正】

ALL 本機のすべての設定情報を送信しますが、下記の設定は送信されません。
Part Param 1に含まれるすべてのパラメーター
MIDI RxのBank Selパラメーター、SysExパラメーター
NRPN受信スイッチ
MasterのDevice ID
Monitorの設定

PF パフォーマンスの設定を送信しますが、Part Param 1に含まれるパラメーターの設定情報は送信されません。フロント・パネルで調節できるパラメーターについては、Part Param 2に含まれるパラメーター、MIDI RxのVol&Holdパラメーター、Prog Chgパラメーター、そして各パートのミュートの設定を送信します。

p.14「リセット・オール・コントローラー」

【誤】

コントローラー	設定値
モジュレーション	0（最小）
ボリューム	127（最大）
パンポット	64（中央）
エクスプレッション	0（最小）
ホールド1	0（オフ）
チャンネル・プレッシャー	0（最小）
ピッチ・ベンド・チェンジ	±0（中点）
RPN	RPNナンバー未設定状態、内部データは変化しない
NRPN	NRPNナンバー未設定状態、内部データは変化しない

【正】

コントローラー	設定値
モジュレーション	0（最小）
ソフト	0
ソステヌート	0
エクスプレッション	0（最小）
ホールド1	0（オフ）
チャンネル・プレッシャー	0（最小）
ピッチ・ベンド・チェンジ	±0（中点）
RPN	RPNナンバー未設定状態、内部データは変化しない
NRPN	NRPNナンバー未設定状態、内部データは変化しない

M-BD1

Roland®

SOUND EXPANSION

Sound Expansion Series

Owner's Manual

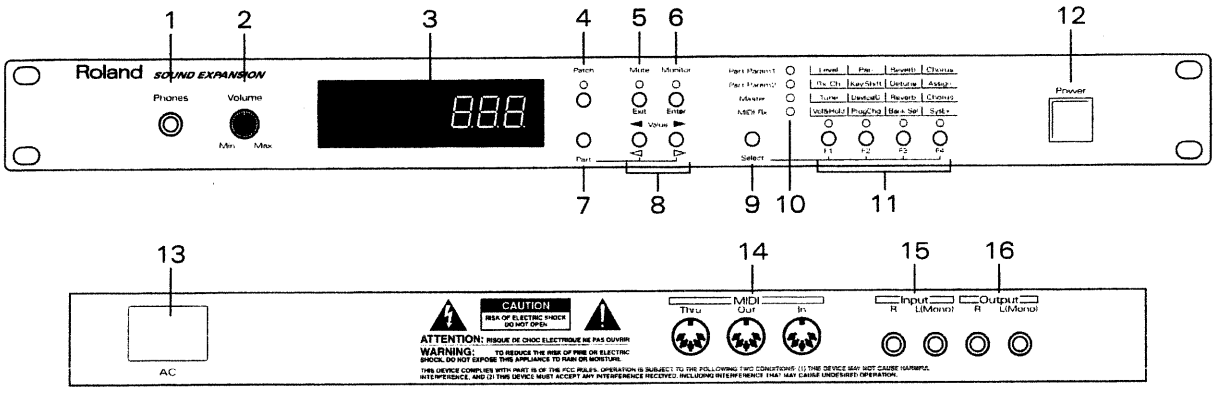
Using This Manual...

This owner's manual is for use with all models in the Sound Expansion Series. It covers virtually all the available functions, and explains how to use them. However, each model in the Sound Expansion Series also provides its own unique features, designed to deliver a great deal more expressiveness and realism within the musical realism that the model is specialized for. Since each model also has its own individual owner's manual, please refer to that manual as well.

Contents

00785290 '95-12-A4-11KG

Part Names and Descriptions



1. Phones (headphones) Jack

This is for connecting headphones. Sound still comes out of the Output L/R jacks even when headphones are plugged in.

2. Volume Knob

Used to adjust the volume of the sound output to the Output L/R jacks and the headphones jack.

3. Display

Shows the numbers assigned to Patchs and the values of Parameters. It also displays messages in the event of an error.

4. Patch Button

Patches can be selected by using Value buttons when the indicator for this button is lit up or flashing.

5. Mute Button

To stop the part sounding, press this button and the indicator for this button is lit up.

6. Monitor Button

Parts for which the indicator on this button is lighted are played — all other Parts will be silent.

7. Part Button

To switch Parts, hold down the Part button while you press the Value button.

8. Value Buttons

These buttons are used to change various settings. You can reduce a value rapidly by holding down the ◄ Value button and pressing the ► button. In the same way, you can increase a value rapidly by holding down the ► Value button and pressing the ◄ button.

9. Select Button
10. Select Indicator
11. Function Buttons

These are used to change the settings for this sound module. They are also used to return values to their factory defaults (p. 6). The Select indicator also serves as a level meter for the unit (p. 7).

12. Power Switch

This is used to switch the power on and off. Press the button once to switch the power on, and press it again to return it to its original position and switch the power off.

13. AC Jack

Insert the power cord included with the unit into this jack, and plug the other end into an AC power outlet.

14. MIDI In/MIDI Out/MIDI Thru Connectors

MIDI In: Receives messages from external MIDI devices.
MIDI Out: Transmits messages from the unit to external MIDI devices (Bulk Dump: p. 6).
MIDI Thru: Provides duplicate of the complete MIDI message stream received via MIDI In, without change.

15. Input L/R Jacks

By connecting the output jacks of another sound module to these jacks, you can obtain the mixed output for the two sound modules from the Output L/R jacks and the Phones jack. If you want monaural input, connect the cable to the L jack.
The volume of the sound input to the Input L/R jacks remains constant regardless of the position of this unit's Volume knob.

16. Output L/R jacks

These jacks provide output of the audio signals. If you want monaural output, connect the audio cable to the L jack.

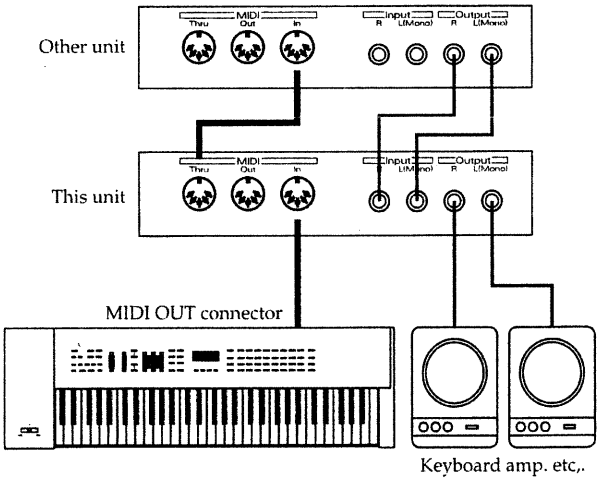
Quick Start

Connections and Power-up

■ Making the Connections .....

First make sure that the power off this unit, and on all other external devices is switched off. Then hook up the unit and the other equipment as shown below.

Use cables with 1/4" phone plugs to connect the unit's Output jacks to a keyboard amp; or to connect the unit's Input jacks with the output jacks on another device. Use MIDI cables to make connections between MIDI connectors.



If you connect the output jacks on another sound module to the unit's Input jacks, you can listen to the sounds output from the two sound modules without using a mixer.

You can listen to the unit even if you have no keyboard amp or audio set. Just plug in headphones to the Phones jack.

■ Before Turning On the Power.....

Before you switch on the power, make sure that the unit's Volume knob is at "Min," and make sure that the volume knobs for the keyboard amp and any other external equipment are also at their lowest settings.

■ Turning On the Power .....

First switch on the power for the unit, and then turn on the keyboard amp or other connected equipment. After you've done that, adjust the unit's Volume knob and the volume controls on the other equipment to get the appropriate sound level.

When switching off the power, first turn off the keyboard amp or other equipment, and then switch off the unit.

* This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

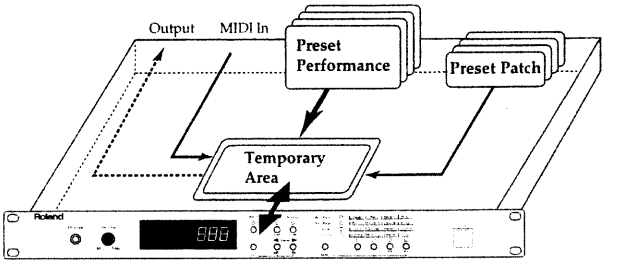
About the Unit's Operation Modes

This unit has a Performance mode and a Patch mode. In the Performance mode, it functions as a multi-timbral sound generator capable of playing eight Parts. In the Patch mode, it works as a sound generator which focuses on playing just a single Part.

The Performance mode can be used for ensemble play with a sequencer, and the Patch mode works well for live-stage performances with a MIDI keyboard hooked up.

About the Temporary Area

When a Performance or Patch is called up, the information for its settings is stored in a temporary area. The only Performances and Patches that you can play with MIDI messages from the MIDI In connector, or can manipulate with the buttons on the front panel are the Performances and Patches that have been read into the temporary area.



You can change the parameters for Performance or Patch that has been called up into the temporary area. You can also change parameters remotely using an external MIDI device connected to the MIDI in connector.

The data in the temporary area is preserved in memory even while the power is off.

Note, however, that if you select another Performance or Patch, settings data in the temporary area before that is discarded.

You can also output the setting values through the MIDI Out connector for storage on an external MIDI device (p. 6).

Try Listening to Sounds in the Performance Mode

This unit has a large number of built-in Performances. A "Performance" is a collection of many settings, including Patches assigned to Parts 1 to 7, Rhythm Set values assigned to Part 8, and the values for Level, Pan, and Effects for each of these Parts.

■ Switching to the Performance Mode.....

You can start up the unit in the Performance mode by switching on the power while holding down the Part button. This setting remains in memory even after the power if switched off.

* The unit is set to the Performance mode when shipped from the factory.

■ Choosing a Performance

Hold down the Select button and press the F1 button. "PF" appears on the display. Then the currently selected Performance number appears on the display, as shown below.

While in this state, you can use the Value buttons to choose a Performance. Pressing the Enter button makes it possible to start playing with the selected Performance. To cancel instead, press the Exit button.

For more information on the settings for each Performance, refer to the Performance Chart in the owner's manual for the particular model that you're using.

■ Changing Performance Settings

If the MIDI receive channels set for the various Parts don't match the MIDI send channels used by the connected MIDI keyboard, no sound is played.

Try changing the settings for the Patches and Effects assigned to the Parts to modify a Performance to suit your own style of play. Here's how to change these settings.

• Choosing a Part

To switch Parts, hold down the Part button while you press / . The display shows you which Part is selected — for example, "P-1" on the display indicates "Part 1"; and "P-2" means "Part2."

The figure below shows how the display looks when Part 1 has been selected.

• Changing the Patches and Rhythm Set

Press the Patch button to make the indicator light up, and then use the Value buttons to choose the desired Patches or Rhythm Set.

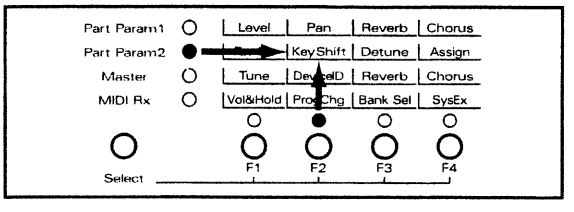
* A Rhythm Set can be assigned only to Part 8.

• Changing Parameter Settings

You can make changes to the various Parameters printed on the right-hand side of the unit's front panel.

Choose the Parameter Group with the Select button, and then use the F1, F2, F3, or F4 button to select the Parameter. The lit-up indicator shows you which Parameter has been selected.

In the example below, the Key Shift Parameter is selected.



View the value shown in the display while using the Value buttons to change the value.

■ About the Functions for the Parameters

The Parameters that make up Part Param 1, Part Param 2 and a part of MIDI Rx (Vol&Hold, Prog Chg) can be set independently for each Part. The Parameters contained in Master and a part of MIDI Rx (Bank Sel, SysEx) are set commonly for all Parts.

See the Parameter Chart on page 9 for a description of each Parameter's possible range and their default values.

• Part Param 1 (Part Parameter 1)

Level: This adjusts the volume level for each Part.

Pan: Allows you to localize the sound image for each Part. At "0," the sound is centered in the stereo field. Settings of "L1" to "L64" place the sound at positions toward the left, with a larger number indicating a further distance away from the center. In the same way, settings of "r1" to "r63" position the sound to the right, with a larger number indicating a further distance away from the center.

Reverb (Reverb Level): This sets the depth of the Reverb effect (reverberation effect) for each of the Parts.

Chorus (Chorus Level): This sets the depth of the Chorus effect (an effect that makes the sound "fatter") that is applied to each Part.

There are patches that are set the chorus output send to reverb. The chorus level is changed, and the reverb level changes when using the these patches.

• Part Param 2 (Part Parameters 2)

Rx Ch (MIDI Receive Channel): This sets the MIDI receive channel for each Part.

Key Shift: This alters, in half-steps, the pitch at which each Part is played. This pitch is raise (or lowered) by an octave for each setting of +12 (or –12).

This parameter is set to too high or low value, and this unit might not sound or make strange sound in key range.

Detune: This is used to make fine adjustments in the pitch for each Part. The pitch is raised (or lowered) by half a semitone for each setting of +50 (or –50).

Assign (Voice Assign): This assigns a minimum number of voices available for play by a Part. This unit can simultaneously play a maximum of 28 voices. If you are using a sequencer to play complex arrangements, the number of voices available may not be enough, and some notes could be dropped.

If this happens, you may want to assign a number of voices that are required for certain Parts to prevent voices for such important Parts from being stolen, even when the total number of simultaneous notes exceeds 28. Remember, however, that the total number of voices assigned to all Parts together cannot be greater that 28.

• Master Parameters

Tune: This adjusts the pitch that becomes the overall standard for the unit (middle A = A4). This display shows "27.4 Hz" to "52.6 Hz," which represents a value of from 427.4 Hz to 452.6 Hz.

Device ID: The same model ID may be held by other sound modules in this series, or by the JV-80, JV-90, JV-1000, or JV-880. The device ID is information that is used to individually distinguish each device when MIDI devices are used together. If you are using any of the above units at the same time, change the device ID when sending system exclusive (SysEx) messages to them.

Reverb (Reverb Switch): This toggles the reverb effect for the entire unit on or off.

Chorus (Chorus Switch): This toggles the chorus effect for the entire unit on or off.

• MIDI Rx (MIDI Message Reception)

Vol&Hold (Volume/Hold Message Reception Switch): Determines whether Volume and/or Hold messages are to be received or not. The meaning of the settings shown in the display is as follows:

- on — Volume messages and hold messages are both received.
- hLd — Hold messages are received, but volume messages are not.
- voL — Volume messages are received, but hold messages are not.
- oFF — Neither volume messages nor hold messages are received.

Prog Chg (Program Change Message Receive Switch): Allows you to enable/disable reception of Program Change messages. Program Change messages are accepted when "on" is displayed, and ignored when "oFF" is selected.

Bank Sel (Bank Select Message Reception): This changes the unit's Patch, using a Bank Select message (Controller Number 0 or 32) in combination with a Program Change message. When shipped from the factory the Patch can be changed with a Controller Number 0 value of 80 or 81. The display reads "80" at this time. When the display shows "0," Patches can be switched with Controller Number 0 values of 0 and 1. Similarly, Patches can be switched with Controller Number 0 values of 10 and 11 when "10" is shown. You can set this value to any number from 0 to 126. When set to "oFF," no Bank Select messages are received. When the Patch Table set to "2," this parameter cannot be work.

SysEx (System Exclusive Message Receive Switch): This setting determines whether or not system exclusive messages are received. Bulk Dump data is also one type of system exclusive message.

- on — System Exclusive message is received.
- PAr — System Exclusive message other than "GS Reset," "Exit GS," "GM System On," or "GM System Off" is received.
- oFF — System Exclusive message is not received.

■ Muting a Part

Parts for which the Mute button is pressed (the indicator lights) will remain silent.

■ Monitoring a Part

After pressing the Monitor button to light up the indicator, only one Part will be heard at a time, with all other Parts muted out. During ensemble play with a sequencer, it can sometimes be hard to tell how each Part is being played. At such times, you can activate the Monitor button (get its indicator to light) and then switch through the Parts to listen to how each is played.

Try Listening to Sounds in the Patch Mode

In the Patch mode, the unit functions as a sound generator for just one Part. Reverb and Chorus can be selected for each Patch in this mode, which can give you powerful sounds for live performances.

■ Switch to the Patch Mode

The Patch mode is enabled by switching on the power while holding down the Patch button. This setting remains in memory even after the power is switched off. The indicator for the Patch button flashes when in the Patch mode.

■ Setting Patches

In the same way as for the Performance mode, you can make changes to the various Parameters printed on the right-hand side of the unit's front panel. The functions of the Parameters are no different from the Performance mode — check out "Changing Parameter Settings" (p. 4) for more information.

However, Key Shift, Detune and Assign parameter of the Part Param 2 and Vol&Hold, Prog Chg parameter of the MIDI Rx doesn't work in the Patch mode. When these parameters are selected, "- - -" appears on the display as shown below.

Storing the Unit's Settings

You can transmit the information for the unit's settings from the MIDI Out connector. This function is called a "Bulk Dump." This sends the unit's data to a sequencer or some other MIDI device in real-time for storage on the other device. You can also use this function to return settings stored on another device to the unit.

How to Do a Bulk Dump

Hold down the select button and press the F2 button. "bd" appears on the display. Then use the Value buttons to select the information that you want to send.

- ALL Sends all of the data as well as the Parameter settings for Master and MIDI Rx that can be adjusted from the front panel.
- PF Sends Performance settings and the Parameter settings for Part Param 1 and Part Param 2 that can be adjusted from the front panel.
- Pat Sends the information for Patches assigned to Parts 1 to 7.
- rhy Sends the settings for the Rhythm Set assigned to Part 8.

* The display and operation shown above explain the usage when in the Performance mode. In the Patch mode, the selections "PF" and "rhy" are not available. Also, selecting "Pat" causes the information for only one Patch to be sent.

After starting recording on the sequencer, press the unit's Enter button. The Bulk Dump is executed when you press this button. If you want to cancel the Bulk Dump, press the Exit button.

■ Saving Settings

To save the unit's setting data, connect its MIDI Out connector to the MIDI In connector on a sequencer (or some other MIDI device), and then set the unit's Device ID number (p. 5). When you've done this, start recording on the sequencer and execute a Bulk Dump. After the Bulk Dump has finished, stop recording on the sequencer.

■ Returning Saved Settings to the Unit

To load settings data back into the unit, connect the MIDI Out connector on the sequencer to the unit's MIDI In connector. Make sure that the unit's Device ID number (p. 5) is set to the same number that was used when the settings were save. Also check to make sure that the System Exclusive Message Receive Switch (p. 5) is set to "on."

After you have checked these, send the settings data stored on the sequencer to the unit.

If you record Bulk Dump data at the start of a batch of music data, you can set up the unit simply by sending the song data to the unit.

Returning Settings to Their Factory Defaults (Factory Preset)

This returns all of the unit's settings to the data in effect when the unit was shipped from the factory.

Hold down the Select button and press F3. When the message "FP" flashes on the display, confirm that you want to go ahead by pressing the Enter button. Press the Exit button instead if you change your mind.

NRPN Receive Switch

If you hold down the Select button and press F4, "nrP" flashes on the display. After this disappears, you can use the Value button to select "on" or "oFF." When set to "on," you can use an NRPN (non-registered parameter number) to edit the unit's Patches and Rhythm Sets. This is automatically set to "on" when a GS Reset or GM System On message is received.

When at "oFF," a Patch or Rhythm Set cannot be edited even when an NRPN is received. The setting is always at "oFF" when the power is switched on.

* No GS Reset or GM System On messages are received when the SysEx parameter is set to "oFF" or "PAr."

How to Listen to the Demo Songs

Holding down the Select button as you switch on the power makes it possible to listen to the demo songs. Use the Value buttons to choose a song number. The Demo song is played back when you press the Enter button. Pressing the Exit button stops playback.

Press the Exit button once more, you can play this unit it was.

For more information on the Demo songs, see the owner's manual for the particular model that you're using.

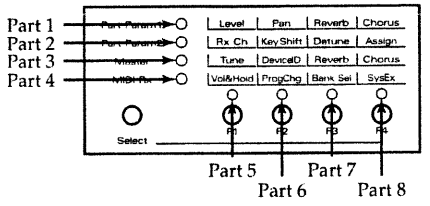
Other Handy Functions

■ Level Meter Function

When the indicator for a Patch button is lit up or flashing, the Select indicator works like a level meter for the unit. It normally indicates the total level for all Patches taken together, but when you're monitoring a Part it indicates only the level for that Part.

■ MIDI Monitor Function

You can display the status of receiving MIDI messages for each Part (Note messages only). If you hold down the Part button, the Select indicator and the indicators for the F1 to F4 buttons will light up while the Part button is held down. The following figure shows the relationship between the Part and the indicators.



Error Messages

nOP (No Patch)
Patch not found in the Bank specified by means of Program Change and/or Controller No. 0 & 32 messages.

btL (Battery Low)
The battery required for preserving parameter settings in nearly depleted. Consult with the nearest Roland Service Station.

oFL (MIDI Off Line)
MIDI communications have been disrupted. Consider if the cable connected to MIDI In if faulty, or if there could be a problem with the external device. (The error will appear if the external device has been switched off.)

bFL (MIDI Buffer Full)
Data could not be processed successfully because too much was received within a short period of time.

cSE (MIDI Checksum Error)
A checksum contended in System Exclusive messages received by the unit was found to be in error.

* Should an error other than those explained above (such as Er1, Er2, etc.) appear, you should consult with the nearest Roland Service Center or other authorized service personnel.

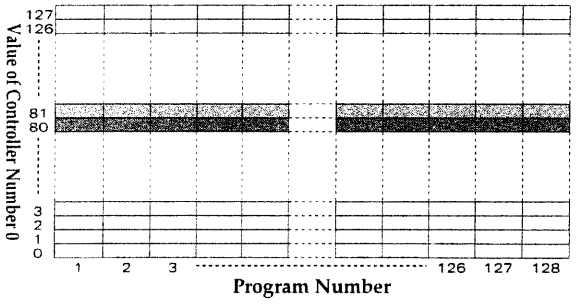
Using MIDI Messages to Control the Unit

This unit can send and receive the MIDI messages indicated by "O" in the MIDI Implementation Chart on page 20. You can use these MIDI message external device. For details, see "MIDI Implementation" (p. 12). Read on for an explanation of some typical functions that you can use.

■ Changing Patches

This unit has more than 128 built-in Patches, so it's not possible to select every Patch with just Program Change messages. For this reason, Patches can be switched by using Program Change messages together with Bank Select messages.
A Bank Select message is a combination of Controller Number 0 and Controller Number 32, but this unit always treats the value of Controller Number 32 as "0" (zero).

When the unit is shipped from the factory, you can select Patches from 1 to 128 with a value of 80 for Controller Number 0 and with the Program Number. You can select Patches from 129 to 255 with a value of 81 for Controller Number 0 and with the Program Number. This is shown in the following figure.



Program Number

To change a Patch, send MIDI messages from the external device in the sequence shown below.

Controller Number 0
  Value: 80 (Patches 1 to 128)
  Value: 81 (Patches 129 to 256)
Controller Number 32
  Value: 0
Program Number
  Value: 1 to 128

The Patch is changed when the MIDI messages are received in this sequence. If you sent only a Program Number without sending Controller Number 0, the previously sent value for Controller Number 0 and the Program Number just sent are used to choose the Patch.

* When shipped from the factory, the unit is set up for switching patches with a value of 80 or 81 for Controller Number 0, but you can modify the Bank Sel parameter (p. 5) to change the value for Controller Number 0 that is used to switch Patches.
* The number of Patches varies from one model to another.
* If you specify a Bank in which a Patch is not assigned, the message "nOP" (no Patch) appears on the display and no sound is played. Press the Value button to return to the previous display. Refer to the owner's manual for the particular model you are using for descriptions of the Patches assigned to the different Banks.

■ Changing Performances

You can also use Program Change messages to change the Performance. When shipped from the factory, however, the unit was set so this feature is disabled. See "MIDI Implementation" (p. 16: Control channel) for more details.

■ Changing the Patch Table

This unit has two Patch Tables. Patch Table 1 (details of which can be found in the owner's manuals for the particular model that you're using) is enabled when the unit's power is switched on, but changes to Patch Table 2 when a General MIDI System On or GS Reset message is received. You can switch back to Patch Table 1 by sending a General MIDI System Off or Exit GS message to the unit; or by switching the power off, then on again.
See the owner's manual for the particular model that you're using for information on the Patch Table 2.

* This unit receives GS reset or GM system on message when it is set to Patch mode, automatically change to Performance mode.

* If SysEx parameter (p.5) set to "oFF" or "PAr," this unit doesn't change to Patch Table 2 because of this unit doesn't receive GM system on and GS reset message.

Important!

When Patch Table 2 has been selected, a dot appears in the lower left corner of the display, as shown below.

Reference

Parameters

• Part Param 1

Parameter	Value
Level	0 — 127
Pan	L64 — 0 — r63
Reverb	0 — 127
Chorus	0 — 127

• Part Param 2

Parameter	Value
Rx Ch	1 — 16
Key Shift	-48 — 0 — +48
Detune	-50 — 0 — +50
Assign	0 — 28

• Master

Parameter	Value
Tune (*)	427.4 — 452.6 Hz
Device ID	1 — 32
Reverb	oFF, on
Chorus	oFF, on

• MIDI Rx Sw

Parameter	Value
Vol&Hold	oFF, voL, hLd, on
Prog Chg	oFF, on
Bank Sel	oFF, 0 — 126
Sys Ex	oFF, PAr, on

(*) The hundreds digit (always 4) is not displayed.

Troubleshooting

If your unit is not providing the expected response, check through the following for a ready solution.

• Power Doesn't Come On

Make sure the power cord is connected properly (both the plug going to this unit and the one at the outlet).

• Sound Not Produced

Recheck that power is indeed switched on — on this unit as well as any other devices (keyboard amp, mixer, etc.).
Could the volume be turned down too low on this unit, or on your keyboard amp, mixer, or other device?
Are all your cable connected properly?
Could any of the cables possibly be faulty?
Check settings for "Level" (p. 4) to make sure they are not at "0."
Could the volume possibly have been lowered by MIDI messages sent to the unit by another device (such as Controller Number 7 or 11)?
Have you checked to make sure that the channel number being used by the keyboard or sequencer for transmission is the same as what this unit is set to be receiving on?
Could you futility be trying to play while a Demo is playing?
Have you checked that relevant Parts are not set to be muted?
Could you be sending an invalid Bank Select message?

• Reverb/Chorus Not Obtained

Could the Master setting for Reverb or Chorus be set to "oFF"?
Are you sure that the Part Param 1 settings for Reverb or Chorus are not set to a value that is too low?

• Distortion or Other Noise Is Heard

Is the volume at a suitable level on this unit, or on your keyboard amp, mixer, or other device?
Could you possibly be using an excessively high level for this unit's Level (p. 4) and Master Level? (These settings are alterable only through System Exclusive messages.)
Have the Output or Phones jacks gotten very dirty?

• Pitch Is Strange

Are the settings for Key Shift (p. 4) and Tune (p. 5) appropriate?
Are Pitch Bend messages being constantly sent to the unit?

• Sound Doesn't Change

Could you have Prog Chg or Bank Sel (p. 5) switched off?
If sending Bank Select messages and/or Program Change message, make sure you are sending them in the correct order.

• Multiple Sounds Heard at the Same Time

Check the channels you have assigned to Parts. The same channel could be assigned to more than one Part.

• Notes Get Dropped

The maximum polyphony of the unit is 28 notes. Not all notes can be played if you attempt to sound more than this at the same time. To avoid having voices stolen from your most important Parts, use the (Voice) Assign setting to reserve a minimum number of voices for those Parts you want to sound.

• Patch Table 2 Not Obtained With GM System On or GS Reset

Make sure the "Sys Ex" setting (a switch for enabling reception of System Exclusive messages) is not set at "oFF."

Roland Exclusive Messages

1. Data Format for Exclusive Messages

Roland's MIDI implementation uses the following data format for all Exclusive messages (type IV):

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
CMD	Command ID
[BODY]	Main data
F7H	End of exclusive

•MIDI status: F0H, F7H

An Exclusive message must be flanked by a pair of status codes, starting with a Manufacturer ID immediately after F0H (MIDI version 1.0).

•Manufacturer ID: 41H

The Manufacturer ID identifies the manufacturer of a MIDI instrument that sends an Exclusive message. Value 41H represents Roland's Manufacturer ID.

•Device ID: DEV

The Device ID contains a unique value that identifies individual devices in the implementation of several MIDI instruments. It is usually set to 00H–0FH, a value smaller by one than that of a basic channel, but value 00H–1FH may be used for a device with several basic channels.

•Model ID: MDL

The Model ID contains a value that identifies one model from another. Different models, however, may share an identical Model ID if they handle similar data.

The Model ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Model IDs, each representing a unique model:

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

•Command ID: CMD

The Command ID indicates the function of an Exclusive message. The Command ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Command IDs, each representing a unique function:

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

•Main data: BODY

This field contains a message to be exchanged across an interface. The exact data size and content will vary with the Model ID and Command ID.

2. Address-mapped Data Transfer

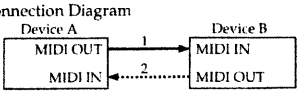
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records—waveform and tone data, switch status, and parameters, for example, to specific locations in a machine-dependent address space, thereby allowing access to data residing at the address a message specifies.

Address-mapped data transfer is therefore independent of models and data categories. This technique allows use of two different transfer procedures: one-way transfer and handshake transfer.

•One-way transfer procedure (See Section 3 for details.)

This procedure is suited to the transfer of a small amount of data. It sends out an Exclusive message completely independent of the receiving device's status.

Connection Diagram

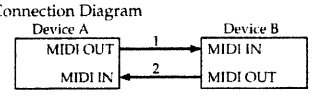


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

•Handshake-transfer procedure (This device does not use this procedure)

This procedure initiates a predetermined transfer sequence (handshaking) across the interface before data transfer takes place. Handshaking ensures that reliability and transfer speed are high enough to handle a large amount of data.

Connection Diagram



Connection at points 1 and 2 is essential.

Notes on the above procedures

* There are separate Command IDs for different transfer procedures.

* Devices A and B cannot exchange data unless they use the same transfer procedure, share identical Device ID and Model ID, and are ready for communication.

3. One-way Transfer Procedure

This procedure sends out data until it has all been sent and is used when the messages are so short that answerbacks need not be checked.
For longer messages, however, the receiving device must acquire each message in time with the transfer sequence, which inserts 20 milliseconds intervals.

Types of Messages

Message	Command ID
Request data 1	RQ1 (11H)
Data set 1	DT1 (12H)

•Request data #1: RQ1 (11H)

This message is sent out when there is a need to acquire data from a device at the other end of the interface. It contains data for the address and size that specify designation and length, respectively, of data required.
On receiving an RQ1 message, the remote device checks its memory for the data address and size that satisfy the request.
If it finds them and is ready for communication, the device will transmit a "Data set 1 (DT1)" message, which contains the requested data. Otherwise, the device won't send out anything.

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
11H	Command ID
aaH	Address MSB
:	:
:	:
	LSB
ssH	Size MSB
:	:
:	:
	LSB
sum	Check sum
F7H	End of exclusive

* The size of the requested data does not indicate the number of bytes that will make up a DT1 message, but represents the address fields where the requested data resides.

* Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.

* The same number of bytes comprises address and size data, which, however, vary with the Model ID.

* The error-checking process uses a checksum that provides a bit pattern where the last 7 bits are zero when values for an address, size, and that checksum are summed.

•Data set 1: DT1 (12H)

This message corresponds to the actual data transfer process.
Because every byte in the data is assigned a unique address, a DT1 message can convey the starting address of one or more bits of data as well as a series of data formatted in an address-dependent order.

The MIDI standards inhibit non real-time messages from interrupting an Exclusive one. This fact is inconvenient for devices that support a "soft-thru" function. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out in separate 'segments'.

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
12H	Command ID
aaH	Address MSB
:	:
:	:
	LSB
ddH	Data MSB
:	:
:	:
	LSB
sum	Check sum
F7H	End of exclusive

* A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.

* Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.

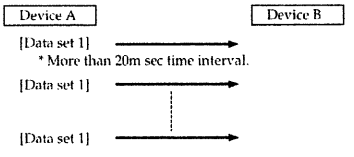
* The number of bytes comprising address data varies from one Model ID to another.

* The error-checking process uses a checksum that provides a bit pattern where the last 7 bits are zero when values for an address, size, and that checksum are summed.

•Example of Message Transactions

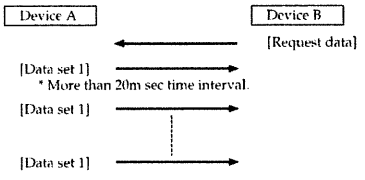
•Device A sending data to Device B

Transfer of a DT1 message is all that takes place.



•Device B requesting data from Device A

Device B sends an RQ1 message to Device A.
Checking the message, Device A sends a DT1 message back to Device B.



1. RECEIVE DATA

Channel Voice Message

• Note Off

Status	Second	Third
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
kk = Note number: 00H — 7FH (0 — 127)
vv = velocity: 00H — 7FH (0 — 127)

In the performance mode, ignored when the "MIDI receive switch" is OFF for each part.
In the rhythm part (part 8), ignored when "ENV mode" is at "NO-SUSTAIN" for each rhythm tone.

• Note On

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
kk = Note number: 00H — 7FH (0 — 127)
vv = velocity: 01H — 7FH (1 — 127)

In the performance mode, ignored when the "MIDI receive switch" is OFF for each part.

Control change

• Bank select

Status	Second	Third
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
mm = MSB of the bank number: 50H — 51H (80 — 81)
"mm" is adjustable from 0,1 to 126,127.
ll = LSB of the bank number: 0H (0)

The Bank Select is suspended until receiving a program change.
This message is ignored when "Program bank sel" of the system common is OFF.
If the part which MIDI receive channel is set the same as the control channel, the performance is changed when receive the bank select message.

The bank number specified as following.

Bank select

MSB	LSB	Program change	Media (Patch number)
80	0	1 — 128	Preset A (#1 — #128)
81	0	1 — 127	Preset B (#129 — #255)

When the module receives bank select LSB, it will always count as 0.

• Modulation

Status	Second	Third
BnH	01H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Modulation depth: 00H — 7FH (0 — 127)

The effect of the modulation depends on the value of "Mod1 — 4" of the patch tone.
This message is ignored when "Receive Modulation" of the system common is OFF.

• Portamento time

Status	Second	Third
BnH	05H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Portamento time: 00H — 7FH (0 — 127)

You can adjust the portamento time of the patch common.
This message is ignored when "Receive Control change" of the system common is OFF.

• Volume

Status	Second	Third
BnH	07H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Volume: 00H — 7FH (0 — 127)

You can adjust the volume of specified channel.
This message is ignored when "Receive volume" of the system common is OFF.
In the performance mode, ignored when the "Receive volume switch" is OFF for each part.
This message is ignored when "Volume switch" of the patch tone is OFF.

• Pan

Status	Second	Third
BnH	0AH	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Pan: 00H — 7FH (0 — 127)

0 represents the left end, 64 the center, and 127 the right end.
This message is ignored when "Receive Control Change" of the system common is OFF.

• Expression

Status	Second	Third
BnH	0BH	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Expression: 00H — 7FH (0 — 127)

The effect of the expression depends on the value of "Exp1 — 4" of the patch tone.
This message is ignored when "Receive Control Change" of the system common is OFF.

• Hold 1

Status	Second	Third
BnH	40H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Control value: 00H — 7FH (0 — 127) 0 — 63 = OFF, 64 — 127 = ON

Note played can be sustained for as long as the time that elapses between turning hold on and off.
This message is ignored when "Receive Control Change" of the system common is OFF.
In the performance mode, ignored when the "hold1 receive switch" is OFF for each part.
In the rhythm part (part8), ignored when "ENV mode" is at "NO-SUSTAIN" for each rhythm tone.
This message is ignored when "Hold-1 switch" of patch tone is OFF.

• Portamento

Status	Second	Third
BnH	41H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Control value: 00H — 7FH (0 — 127) 0 — 63 = OFF, 64 — 127 = ON

Switches over "Portamento sw" of patch common.
This message is ignored when "Receive control change" of the system common is OFF.

• Sostenuto

Status	Second	Third
BnH	42H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Control value: 00H — 7FH (0 — 127) 0 — 63 = OFF, 64 — 127 = ON

• Soft

Status	Second	Third
BnH	43H	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Control value: 00H — 7FH (0 — 127)

The value is changed, and the "Soft" effect change.

• Effect 1 depth (Reverb send level)

Status	Second	Third
BnH	5BH	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = Control value: 00H — 7FH (0 — 127)

You can adjust the Reverb send level of specified channel.
This message is ignored when "Receive control change" of the system common is OFF.

• Effect 3 depth (Chorus send level)

Status	Second	Third
BnH	5DH	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = control value: 00H — 7FH (0 — 127)

You can adjust the Chorus send level of specified channel.
This message is ignored when "Receive control change" of the system common is OFF.

• NRPN MSB/LSB

Status	Second	Third
BnH	63H	mmH
BnH	62H	llH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
mm = MSB of the specified parameter by NRPN
ll = LSB of the specified parameter by NRPN

When the power is turned on, or "General MIDI System On" is received, Rx.NRPN will be set OFF, and NRPN will not be received.
When "GS reset" or Rx.NRPN = ON is received,NRPN can be received.
The value set by NRPN will not be reset even if Program change or Reset all controller is received.

•• NRPN ••

The NRPN (Non Registered Parameter number) message allows an extended range of control changes to be used, letting you use control messages which are not part of the MIDI Specification and may be unique to an individual model. To use these messages, you must first use NRPN MSB and NRPN LSB message to specify the parameter to be controlled, and then use Data Entry messages to specify the value of the specified parameter. Once an NRPN parameter has been specified, all Data Entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN Null (RPN Number = 7FH/7FH) when you have finished setting the value of the desired parameter.

On This module, the following NRPN can be received.

NRPN MSB LSB	Data entry MSB	Function and range
01H 08H	mmH	Vibrato Rate (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 09H	mmH	Vibrato Depth (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 0AH	mmH	Vibrato Delay (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 20H	mmH	TVF Cutoff Frequency (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 21H	mmH	TVF Resonance (relative chenge) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 63H	mmH	TVF&TVA Envelope Attack Time (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 64H	mmH	TVF&TVA Envelope Decay Time (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
01H 66H	mmH	TVF&TVA Envelope release Time (relative change) mm: 0EH — 40H — 72H (–50 — 0 — +50)
18H rrH	mmH	Rhythm Instrument Pitch Coarse (relative change) rr: Rhythm Instrument note number mm: 00H — 40H — 7FH (–64 — 0 — +63 semitone)
1AH rrH	mmH	Rhythm Instrument TVA level (absolute change) rr: Rhythm Instrument note number mm: 00H — 7FH (0 — max)
1CH rrH	mmH	Rhythm Instrument Panpot (absolute change) rr: Rhythm Instrument note number mm: 00H, 01H — 40H — 7FH (random, left-center-right)
1DH rrH	mmH	Rhythm instrument Reverb Send Level (absolute change) rr: Rhythm Instrument note number mm: 00H — 7FH (0 — max)
1EH rrH	mmH	Rhythm Instrument Chorus Send Level (absolute change) rr: Rhythm Instrument note number mm: 00H — 7FH (0 — max)

Data entry LSB (llH) is ignored
Parameters marked "relative change" change relative to the preset value (40H). Even among different GS devices, "relative change" parameters may sometimes differ in the way the sound changes or in the range of change.
Parameters marked "absolute change" will be set to the absolute value of the parameter, regardless of the preset value.

• RPN MSB/LSB

Status	Second	Third
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
mm = MSB of the specified parameter by RPN
ll = LSB of the specified parameter by RPN

•• RPN ••

RPN (registered parameter number) is a parameter number of tone color or musical expression defined in MIDI specification.
With the Sound Expansion Series as the receiver,RPN#0 (pitch bend sensitivity), RPN#1 (fine tuning) and RPN#2 (coarse tuning) are effective. when sending an RPN to the Sound Expansion Series,first specify the MSB and LSB of the RPN to be used to control a parameter and then set the value in the data entry field.

RPN MSB LSB	Data entry MSB LSB	Description
00H 00H	mmH —	Pitch bend sensitivity mm: 00H — 0CH (0 — 12 semitone) ll: Ignored Up to 1 octave You can adjust "BENDER — RANGE DOWN" and "BENDER — RANGE UP" at same time. In the rhythm part (part8), this message is not recognized.
00H 01H	mmH llH	Fine tuning mm, ll: 20H, 00H — 40H, 00H — 60H, 00H (–8192 x 50 / 8192 — 0 — +8192 x 50 / 8192 cent) In the patch mode, the master tune is adjusted. In the performance mode, fine tune at each part is adjusted. In the performance mode, when received as specified control channel, the master tune is adjusted.
00H 02H	mmH —	Coarse tuning mm: 10H — 40H — 70H (–48 — 0 — +48 semitone) ll: Ignored In the patch mode, this message is not recognized. In the performance mode, coarse tune for each part is adjusted .
7FH 7FH	— —	RPN reset mm, ll: Ignored It returns to the state where no RPN parameters are specified. Current setting value is no change.

• Data entry MSB/LSB

Status	Second	Third
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
mm = MSB of the value of the parameter specified with RPN
ll = LSB of the value of the parameter specified with RPN

This message is ignored when "Receive control change" of the system common is OFF.

• Program Change

Status	Second
CnH	ppH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
pp = Program number: 00H — 7FH (prog.1 — prog.128)

This message is ignored when "Receive program change" of the system common is OFF.
If the part which MIDI receive channel is set the same as the control channel, the performance is changed when receive the program change message.

• Channel pressure

Status	Second
DnH	vvH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
vv = value: 00H — 7FH (0 — 127)

The effect of the Channel pressure depends on the value of "After 1 — 4" of the patch tone.
This message is ignored when "Receive Channel pressure" of the System common is OFF.

• Pitch bend change

Status	Second	Third
EnH	llH	mmH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
mm, ll = value: 00H, 00H — 7FH, 7FH (–8192 — +8191)

This message is ignored when " Receive Pitch bend " of the system common is OFF.

MIDI IMPLEMENTATION

Channel Mode Message

• All Sound Off

Status	Second	Third
BnH	78H	00H

n = MIDI channel number: 0H — FH (ch.1 — ch.16)

When this message is received, all currently-sounding notes on this corresponding channel will be turned off immediately.
This message is ignored when the "MIDI receive switch" is OFF for each part.

• Reset All Controllers

Status	Second	Third
BnH	79H	00H

n = MIDI channel number: 0H — FH (ch.1 — ch.16)

If this message is received, the values of following controllers will be changed.

Controller	Value
Modulation	0 (off)
Volume	127 (maximum)
Panpot	64 (center)
Expression	0 (off)
Hold 1	0 (off)
Channel pressure	0 (off)
Pitch bend change	0 (center)
RPN	No specified parameter, no value is changed.
NRPN	No specified parameter, no value is changed.

• All note off

Status	Second	Third
BnH	7BH	00H

n = MIDI channel number: 0H — FH (ch.1 — ch.16)

When this message is recognized, all the note which have been turned on by "MIDI note on" message are turned off. However if Hold 1 or Sostenuto is on, the sound will be continued untill these are turned off.

• OMNI Off

Status	Second	Third
BnH	7CH	00H

n = MIDI channel number: 0H — FH (ch.1 — ch.16)

Recognized as "All note off".

• OMNI On

Status	Second	Third
BnH	7DH	00H

n = MIDI channel number: 0H — FH (ch.1 — ch.16)

This message is recognized as "All note off". (Sound Expansion Series doesn't recognize OMNI on.)

• MONO

Status	Second	Third
BnH	7EH	mmH

n = MIDI channel number: 0H — FH (ch.1 — ch.16)
mm = number of mono: 00H — 10H (0 — 16)

"Assign mode" of patch common is Switched to "SOLO."
Recognize as "All notes off", and sets each patch MODE4 (M = 1).

• POLY

Status	Second	Third
BnH	7FH	00H

n = MIDI channel number :0H — FH (ch.1 — ch.16)
Switched over "Assign mode" of patch common.
Recognized all notes off, and set MODE3 at each patch.

System Realtime message

• Active sensing

Status
FEH

When Sound Expansion Series receives an "Active sensing," it measures time intervals between incoming messages. If the subsequent message does not come within 350 ms after the previous one, Sound Expansion Series will turn off all MIDI - on notes as if it received "Reset all controllers," stop measuring message interval.

• System Exclusive message

status	data bytes
F0H	iiH, ddH,.....,eeH
F7H	

F0H System exclusive
ii = manufacturer ID :41H (65)
dd, ..., ee = data: 00H — 7FH (0 — 127)
F7H: EOX (End of Exclusive/System common)

System exclusive message is ignored when "Receive Exclusive" of the system common is OFF.
Refer to section 3,4

System Exclusive Message for setting the Modes

"Data set 1 (DT1)", the Roland's Exclusive format, is used for "GS reset" and "Exit GS Mode." The "Universal non-realtime message" format is used for "General MIDI system on" and "General MIDI system off."

• General MIDI system on

This model will be in an operational mode of "Patch Table 2" when receiving this message.

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Description
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI On)
F7H	EOX (End Of Exclusive)

When this message is received, Rx.BANK SELECT will be OFF and Rx.NRPN will be OFF.
This message will not be received when "Exclusive" parameter of "MIDI Rx Sw" group = OFF.
Make an interval of 50ms or more, before receiving the next message.

• General MIDI system off

This model will be in an operational mode of "Patch Table 1" when receiving this message.

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 02H	F7H

Byte	Description
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
02H	Sub ID#2 (General MIDI On)
F7H	EOX (End Of Exclusive)

This message will not be received when "SysEx" parameter of "MIDI Rx Sw" group = OFF.
Make an interval of 50ms or more, before receiving the next message.

• GS reset

This model will be in an operational mode of "Patch Table 2" when receiving this message.

Status	Data byte	Status
F0H	41H, dev, 42H, 12H, 40H, 00H, 7FH, 00H, 41H	F7H

Byte	Description
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H — 1FH (1 — 32), Initial value is 10H (17))
42H	Model ID (GS)
12H	Command ID (DT1)
40H	address MSB
00H	address
7FH	address LSB
00H	data (GS reset)
41H	Check sum
F7H	EOX (End Of Exclusive)

When this message is received, Rx.NRPN will set ON.
This message will not be received when "SysEx" parameter of "MIDI Rx Sw" group = OFF.
Make an interval of 50ms or more, before receiving the next message.

• Exit GS mode

This model will be in an operational mode of "Patch Table 1" when receiving this message.

Status	Data byte	Status
F0H	41H, dev, 42H, 12H, 40H, 00H, 7FH, 7FH, 42H	F7H

Byte	Description
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H — 1FH (1 — 32), Initial value is 10H (17))
42H	Model ID (GS)
12H	Command ID (DT1)
40H	Address MSB
00H	Address
7FH	Address LSB
7FH	Data (Exit GS mode)
42H	Check sum
F7H	EOX (End Of Exclusive)

This message will not be received when "Exclusive" parameter of "MIDI Rx Sw" group = OFF.
Make an interval of 50ms or more, before receiving the next message.

2. TRANSMIT DATA

System realtime

• Active sensing

status
FEH

This message is transmitted with 250 milli seconds interval.

• System exclusive message

status	data bytes
F0H	iiH,ddH,.....,eeH
F7H	

F0H: System exclusive
ii = manufacturer ID: 41H (65)
dd, ..., ee = Data: 00H — 7FH (0 — 127)
F7H: EOX (End of Exclusive/System common)

Refer to section 3,4.

3. Exclusive communications

The Sound Expansion Series can send and receive patch parameter, etc using the system exclusive message.
The model ID code of the Sound Expansion Series is 46H. The device ID code is to be determined by the "Device ID" setting of Master.

The Sound Expansion Series ignores GS exclusive message other than "GS reset," "Exit GS mode" and "Scale tune parameter," General MIDI system on, General MIDI system off, GS reset and Exit GS.
The model ID of the GS is 42H.

One way communication.

• Request data 1 RQ1 (11H)

Bytes	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID
46H	Model ID (Sound Expansion Series)
11H	Command ID (RQ 1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
ssH	Size MSB
ttH	Size
uuH	Size
vvH	Size LSB
sum	Check sum
F7H	EOX (End of exclusive)

Receive only: the Sound Expansion Series does not send this message.

Data set 1 DT1 (12H)

• 1. Sound Expansion Series (MODEL ID = 46H)

Bytes	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID
46H	Model ID
12H	Command ID (DT 1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data
:	:
ffH	Data
sum	Check sum
F7H	EOX (End of exclusive)

2. GS (MODEL ID = 42H)

Bytes	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID
42H	Model ID (GS)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
eeH	Data
:	:
ffH	Data
sum	Check sum
F7H	EOX (End of Exclusive)

Note: When the device ID is 7FH, Sound Expansion Series can receive the exclusive message even if the unit number is anything.

• Parameter address map

Address and size are configured in 7 bits, hexadecimal notation.

Address	MSB		LSB	
Binary	0aaa aaaa	0bbb bbbb	0ccc cccc	0ddd dddd
7-bits hex	AA	BB	CC	DD

Size	MSB		LSB	
Binary	0sss ssss	0ttt tttt	0uuu uuuu	0vvv vvvv
7-bits hex	SS	TT	UU	VV

• Parameter base address

1) A pair of two addresses preceded by the symbol # represents a divided — by -two data. e.g.the data ABH (hex) is divided into 0AH and 0BH and sent in that order.
2) Parameter associated with address following the symbol % are for Sound Expansion Series

• Example of exclusive data

Data Set 1 (1 byte data)
To Select Pan-Delay for the Reverb Type.
F0 41 10 46 12 00 00 10 0D 07 5C F7

Note that the 5th byte value is 12H in order to "Set" the data.
Send the data (07 for Pan-Delay) with the address (00 00 01 0D for reverb type) of the "Performance common" parameter.

Data set 1 (2 byte data)
To Select Wave Number 141 for Patch Tone 1 in Part 1.
F0 41 10 46 12 00 00 28 01 08 0C 43 F7

The Address for Patch Tone 1 in Part 1 is 00 00 28 01.
If you want to send 140 as a data, first you need to change it to hex-decimal notation which is 8C.
Then divide this in 2 byte, which is called "nibblizing" , and send 08 0C as data.

Request Data
Make the module to send the chorus level.
F0 41 10 46 11 00 00 10 12 00 00 00 01 5D F7

Note that the 5th byte value is 11H, in order to "Request" the data.
Send 00 00 10 12 as an Address for Chorus Level and 00 00 00 01 as "Size of the data" for it, which is 1 byte.
When the module receives this data, it will automatically send back the following data from MIDI OUT.
F0 41 10 46 12 00 00 10 12 3C 22 F7

You will notice that the Chorus Level is 3C (60).

Check sum
The error checking process uses a checksum and provides a bit pattern where the last significant 7 bits are zero, when values for an address, data (or size) and the checksum are summed.

< Example >
F0 41 10 46 12 00 00 10 0D 06 5D F7

[80H – ((00H + 00H + 10H + 0DH + 06H) & 7FH)] & 7F = 5DH
Address data

1. Sound Expansion Series <MODEL ID = 46H>

* 1 - 1 System Common

Address		Description	
00 00 00 00	0000 000a	Panel mode	0 — 1 (PERFORMANCE, PATCH)
00 00 00 01	0aaa aaaa	Master tune	1 — 127 (427.4 — 452.6)
%00 00 00 02	0aaa aaaa	Key transpose	28 — 100
%00 00 00 03	0000 000a	Transpose Switch	0 — 1
00 00 00 04	0000 000a	Reverb switch	0 — 1 (OFF, ON)
00 00 00 05	0000 000a	Chorus switch	0 — 1 (OFF, ON)
%00 00 00 06	0000 000a	Hold polarity	0 — 1
%00 00 00 07	0000 000a	Pedal 1 polarity	0 — 1
%00 00 00 08	0000 00aa	Pedal 1 mode	0 — 3
%00 00 00 09	0aaa aaaa	Pedal 1 assign	0 — 100
%00 00 00 0A	0000 000a	Pedal 2 polarity	0 — 1
%00 00 00 0B	0000 00aa	Pedal 2 mode	0 — 3
%00 00 00 0C	0aaa aaaa	Pedal 2 assign	0 — 100
%00 00 00 0D	0000 00aa	C1 mode	0 — 3
%00 00 00 0E	0aaa aaaa	C1 assign	0 — 100
%00 00 00 0F	0aaa aaaa	Aftertouch threshold	0 — 127
		MIDI receive switch	
00 00 00 10	0000 000a	Volume	0 — 1 (OFF, ON)
00 00 00 11	0000 000a	Control change	0 — 1 (OFF, ON)
00 00 00 12	0000 000a	Channel pressure	0 — 1 (OFF, ON)
00 00 00 13	0000 000a	Modulation	0 — 1 (OFF, ON)
00 00 00 14	0000 000a	Pitch bend	0 — 1 (OFF, ON)
00 00 00 15	0000 000a	Program change	0 — 1 (OFF, ON)
00 00 00 16	0000 000a	Bank select	0 — 1 (OFF, ON)
		MIDI transmit switch	
%00 00 00 17	0000 000a	Volume	0 — 1
%00 00 00 18	0000 000a	Control change	0 — 1
%00 00 00 19	0000 000a	Channel pressure	0 — 1
%00 00 00 1A	0000 000a	Modulation	0 — 1
%00 00 00 1B	0000 000a	Bender	0 — 1
%00 00 00 1C	0000 000a	Program change	0 — 1
%00 00 00 1D	0000 000a	Bank select	0 — 1
00 00 00 1E	0000 aaaa	Patch receive channel	0 — 15 (1 — 16)
%00 00 00 1F	000a aaaa	Patch transmit channel	0 — 17
00 00 00 20	000a aaaa	Control channel	0 — 16 (1 — 16, OFF)
%00 00 00 21	0000 000a	Output mode	0 — 1 (OUT2, OUT4)
%00 00 00 22	0000 000a	Rhythm edit key	0 — 1 (INT&MIDI, INT)
00 00 00 23	0000 000a	Scale tune switch	0 — 1 (OFF, ON)
00 00 00 24	0aaa aaaa	Scale Tune Part1 C	0 — 127 (–64 — +63)
00 00 00 25	:	: C#	
00 00 00 26	:	: D	
00 00 00 27	:	: D#	
00 00 00 28	:	: E	
00 00 00 29	:	: F	
00 00 00 2A	:	: F#	
00 00 00 2B	:	: G	
00 00 00 2C	:	: G#	
00 00 00 2D	:	: A	
00 00 00 2E	:	: A#	
00 00 00 2F	:	: B	
00 00 00 30	0aaa aaaa	Scale Tune Part2 C	0 — 127 (–64 — +63)
	:	:	
00 00 00 3B	:	: B	
00 00 00 3C	0aaa aaaa	Scale Tune Part3 C	0 — 127 (–64 — +63)
	:	:	
00 00 00 47	:	: B	
00 00 00 48	0aaa aaaa	Scale Tune Part4 C	0 — 127 (–64 — +63)
	:	:	
00 00 00 53	:	: B	
00 00 00 54	0aaa aaaa	Scale Tune Part5 C	0 — 127 (–64 — +63)
	:	:	
00 00 00 5F	:	: B	
00 00 00 60	0aaa aaaa	Scale Tune Part6 C	0 — 127 (–64 — +63)
	:	:	
00 00 00 6B	:	: B	
00 00 00 6C	0aaa aaaa	Scale Tune Part7 C	0 — 127 (–64 — +63)
	:	:	
00 00 00 77	:	: B	
00 00 00 78	0aaa aaaa	Scale Tune Part8 C	0 — 127 (–64 — +63)
	:	:	
00 00 01 03	:	: B	
00 00 01 04	0aaa aaaa	Scale Tune Patch C	0 — 127 (–64 — +63)
	:	:	
00 00 01 0F	:	: B	
00 00 01 10	0— —	(Dummy)	
00 00 01 11	0aaa aaaa	Master volume	0 — 127
Total Size	00 00 01 12		

1-2 Performance

1-2-1 Performance Common

Address		Description	
00 00 10 00	0aaa aaaa	Performance name 1	32 — 127
00 00 10 01	0aaa aaaa	Performance name 2	32 — 127
00 00 10 0B	0aaa aaaa	Performance name 12	32 — 127
00 00 10 0D	0000 0aaa	Reverb type	0 — 7 (ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DLY)
00 00 10 0E	0aaa aaaa	Reverb level	0 — 127
00 00 10 0F	0aaa aaaa	Reverb time	0 — 127
00 00 10 10	0aaa aaaa	Reverb feedback	0 — 127
00 00 10 11	0000 00aa	Chorus type	0 — 2 (CHORUS1, CHORUS2, CHORUS3)
00 00 10 12	0aaa aaaa	Chorus level	0 — 127
00 00 10 13	0aaa aaaa	Chorus depth	0 — 127
00 00 10 14	0aaa aaaa	Chorus rate	0 — 127
00 00 10 15	0aaa aaaa	Chorus feedback	0 — 127
00 00 10 16	0000 000a	Chorus output If this parameter set to "OUTPUT," chorus signal send to "Output." If this parameter set to "REV," chorus signal send to reverb.	0 — 1 (OUTPUT, REV)
00 00 10 17	000a aaaa	Part 1 Voice assign	0 — 28
00 00 10 18	000a aaaa	Part 2 Voice assign	0 — 28
00 00 10 1E	000a aaaa	Part 8 Voice assign	0 — 28
Total Size	00 00 00 1F		

Note: The sum of Voice reserves must be less than or equal to 28

1-2-2 Performance Part

00 00 1x dd
x = 08H — 0FH (Part1 — part8), dd = Description

Address		Description	
%00 00 1x 00	0000 000a	Transmit switch	0 — 1
%00 00 1x 01	0000 aaaa	Transmit channel	0 — 15
%00 00 1x 02	0000 aaaa 0000 bbbb	Transmit program change	0 — 128
%00 00 1x 04	0000 aaaa 0000 bbbb	Transmit volume	0 — 128
%00 00 1x 06	0000 aaaa 0000 bbbb	Transmit pan	0 — 128
%00 00 1x 08	0aaa aaaa	Transmit key range lower	0 — 127
%00 00 1x 09	0aaa aaaa	Transmit key range upper	0 — 127
%00 00 1x 0A	0aaa aaaa	Transmit key transpose	28 — 100
%00 00 1x 0B	0aaa aaaa	Transmit velocity sense	1 — 127
%00 00 1x 0C	0aaa aaaa	Transmit velocity max	0 — 127
%00 00 1x 0D	0000 0aaa	Transmit velocity curve	0 — 6
%00 00 1x 0E	0000 000a	Internal switch	0 — 1
%00 00 1x 0F	0aaa aaaa	Internal key range lower	0 — 127
%00 00 1x 10	0aaa aaaa	Internal key range upper	0 — 127
%00 00 1x 11	0aaa aaaa	Internal key transpose	28 — 100
%00 00 1x 12	0aaa aaaa	Internal velocity sense	1 — 127
%00 00 1x 13	0aaa aaaa	Internal velocity max	0 — 127

%00 00 1x 14	0000 0aaa	Internal velocity curve	0 — 6
00 00 1x 15	0000 000a	Receive switch	0 — 1 (OFF, ON)
00 00 1x 16	0000 aaaa	Receive channel	0 — 15 (1 — 16)
#00 00 1x 17	0000 aaaa	Patch number	0 — 254
	0000 bbbb		
00 00 1x 19	0aaa aaaa	Part level	0 — 127
00 00 1x 1A	0aaa aaaa	Part pan	0 — 127 (L64 — 63R)
00 00 1x 1B	0aaa aaaa	Part coarse tune	16 — 112 (–48 — +48)
00 00 1x 1C	0aaa aaaa	Part fine tune	14 — 114 (–50 — +50)
00 00 1x 1D	0000 000a	Reverb switch	0 — 1 (OFF, ON)
00 00 1x 1E	0000 000a	Chorus switch	0 — 1 (OFF, ON)
00 00 1x 1F	0000 000a	Receive program change	0 — 1 (OFF, ON)
00 00 1x 20	0000 000a	Receive volume	0 — 1 (OFF, ON)
00 00 1x 21	0000 000a	Receive hold-1	0 — 1 (OFF, ON)
%00 00 1x 22	0000 00aa	Output select	0 — 2 (MN, SB, PAT)
%00 00 1x 23	0000 00aa	Patch media	2 (EXP)
%00 00 1x 24	0000 000a	Sequencer switch	0 — 1 (ON, OFF)
Total Size	00 00 00 25		

Note: The value of the Transmit key range upper must be greater than or equal to the Transmit key range lower.
Note: The value of the Internal key range upper must be greater than or equal to the Internal key range lower.

* 1-3 Patch

00 0s 2y dd
0s = 00H — 06H (Performance Mode Temporary patch)
08H (Patch Mode Temporary patch)
dd = Description

* 1-3-1 Patch Common

Address		Description	
00 0s 20 00	0aaa aaaa	Patch name 1	32 — 127
00 0s 20 01	0aaa aaaa	Patch name 2	32 — 127
00 0s 20 0B	0aaa aaaa	Patch name 12	32 — 127
00 0s 20 0C	0000 000a	Velocity switch	0 — 1 (OFF, ON)
00 0s 20 0D	0000 0aaa	Reverb type	0 — 7
			(ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DLY)
00 0s 20 0E	0aaa aaaa	Reverb level	0 — 127
00 0s 20 0F	0aaa aaaa	Reverb time	0 — 127
00 0s 20 10	0aaa aaaa	Delay feedback	0 — 127
00 0s 20 11	0000 00aa	Chorus type	0 — 2 (CHORUS1, CHORUS2, CHORUS3)
00 0s 20 12	0aaa aaaa	Chorus level	0 — 127
00 0s 20 13	0aaa aaaa	Chorus depth	0 — 127
00 0s 20 14	0aaa aaaa	Chorus rate	0 — 127
00 0s 20 15	0aaa aaaa	Chorus feedback	0 — 127
00 0s 20 16	0000 000a	Chorus output	0 — 1 (OUTPUT, REV)
		If this parameter set to "OUTPUT," chorus signal send to "Output."	
		If this parameter set to "REV," chorus signal send to reverb.	
00 0s 20 17	0aaa aaaa	Analog feel	0 — 127
00 0s 20 18	0aaa aaaa	Patch level	0 — 127
00 0s 20 19	0aaa aaaa	Patch pan	0 — 127 (L64 — 63R)
00 0s 20 1A	0aaa aaaa	Bender range down	16 — 64 (–48 — 0)
00 0s 20 1B	0000 aaaa	Bender range up	0 — 12
00 0s 20 1C	0000 000a	Key assign	0 — 1 (POLY, SOLO)
00 0s 20 1D	0000 000a	Solo legato	0 — 1 (OFF, ON)
00 0s 20 1E	0000 000a	Portamento switch	0 — 1 (OFF, ON)
00 0s 20 1F	0000 000a	Portamento mode	0 — 1 (LEGATO, NORMAL)
00 0s 20 20	0000 000a	Portamento type	0 — 1 (TIME, RATE)
00 0s 20 21	0aaa aaaa	Portamento time	0 — 127
Total Size	00 00 00 22		

* 1-3-2 Patch Tone

y = 08H — 0BH (Patch Tone 1 — Patch Tone 4)

Address		Description	
%00 0s 2y 00	0000 00aa	Wave group	1 (EXP)
#00 0s 2y 01	0000 aaaa	Wave number	0 — 254
	0000 bbbb		(1 — 255)
00 0s 2y 03	0000 000a	Tone switch	0 — 1 (OFF, ON)
00 0s 2y 04	0000 000a	FXM switch	0 — 1 (OFF, ON)
00 0s 2y 05	0000 aaaa	FXM depth	0 — 15 (1 — 16)
00 0s 2y 06	0aaa aaaa	Velocity range lower	0 — 127
00 0s 2y 07	0aaa aaaa	Velocity range upper	0 — 127
	(Turn "On" the Velocity switch of the Patch common parameters to make "Velocity Range" work.)		
00 0s 2y 08	0000 000a	Volume switch	0 — 1 (OFF, ON)
00 0s 2y 09	0000 000a	Hold-1 switch	0 — 1 (OFF, ON)
00 0s 2y 0A	0000 aaaa	Modulation 1 destination	0 — 12 (*1)
00 0s 2y 0B	0aaa aaaa	Modulation 1 depth	1 — 127 (–63 — +63)
00 0s 2y 0C	0000 aaaa	Modulation 2 destination	0 — 12 (*1)
00 0s 2y 0D	0aaa aaaa	Modulation 2 depth	1 — 127 (–63 — +63)
00 0s 2y 0E	0000 aaaa	Modulation 3 destination	0 — 12 (*1)
00 0s 2y 0F	0aaa aaaa	Modulation 3 depth	1 — 127 (–63 — +63)
00 0s 2y 10	0000 aaaa	Modulation 4 destination	0 — 12 (*1)
00 0s 2y 11	0aaa aaaa	Modulation 4 depth	1 — 127 (–63 — +63)
00 0s 2y 12	0000 aaaa	Aftertouch 1 destination	0 — 12 (*1)
00 0s 2y 13	0aaa aaaa	Aftertouch 1 depth	1 — 127 (–63 — +63)
00 0s 2y 14	0000 aaaa	Aftertouch 2 destination	0 — 12 (*1)
00 0s 2y 15	0aaa aaaa	Aftertouch 2 depth	1 — 127 (–63 — +63)
00 0s 2y 16	0000 aaaa	Aftertouch 3 destination	0 — 12 (*1)
00 0s 2y 17	0aaa aaaa	Aftertouch 3 depth	1 — 127 (–63 — +63)
00 0s 2y 18	0000 aaaa	Aftertouch 4 destination	0 — 12 (*1)
00 0s 2y 19	0aaa aaaa	Aftertouch 4 depth	1 — 127 (–63 — +63)
00 0s 2y 1A	0000 aaaa	Expression 1 destination	0 — 12 (*1)
00 0s 2y 1B	0aaa aaaa	Expression 1 depth	1 — 127 (–63 — +63)
00 0s 2y 1C	0000 aaaa	Expression 2 destination	0 — 12 (*1)
00 0s 2y 1D	0aaa aaaa	Expression 2 depth	1 — 127 (–63 — +63)
00 0s 2y 1E	0000 aaaa	Expression 3 destination	0 — 12 (*1)
00 0s 2y 1F	0aaa aaaa	Expression 3 depth	1 — 127 (–63 — +63)
00 0s 2y 20	0000 aaaa	Expression 4 destination	0 — 12 (*1)
00 0s 2y 21	0aaa aaaa	Expression 4 depth	1 — 127 (–63 — +63)
(1) 0 to 12 of (1) refer to the followings			
(OFF, PITCH, CUTOFF, RESONANCE, LEVEL, PITCH LFO1, PITCH LFO2, TVF LFO1, TVF LFO2, TVA LFO1,TVA LFO2, LFO1 RATE, LFO2 RATE)			
00 0s 2y 22	0000 0aaa	LFO-1 form	0 — 5 (TRI, SIN, SAW, SQR, RND1, RND2)
00 0s 2y 23	0000 0aaa	LFO-1 offset	0 — 4 (–100, -50, 0, +50, +100)
00 0s 2y 24	0000 000a	LFO-1 synchro	0 — 1 (OFF, ON)
00 0s 2y 25	0aaa aaaa	LFO-1 rate	0 — 127
#00 0s 2y 26	0000 aaaa	LFO-1 delay	0 — 128
	0000 bbbb		(0 — 127, KEY-OFF)
00 0s 2y 28	0000 000a	LFO-1 fade polarity	0 — 1 (IN, OUT)
00 0s 2y 29	0aaa aaaa	LFO-1 fade time	0 — 127
00 0s 2y 2A	0aaa aaaa	LFO-1 pitch depth	1 — 127 (–63 — +63)
00 0s 2y 2B	0aaa aaaa	LFO-1 TVF depth	1 — 127 (–63 — +63)
00 0s 2y 2C	0aaa aaaa	LFO-1 TVA depth	1 — 127 (–63 — +63)
00 0s 2y 2D	0000 0aaa	LFO-2 form	0 — 5 (TRI, SIN, SAW, SQR, RND1, RND2)
00 0s 2y 2E	0000 0aaa	LFO-2 offset	0 — 4 (–100, -50, 0, +50, +100)
00 0s 2y 2F	0000 000a	LFO-2 synchro	0 — 1 (OFF, ON)
00 0s 2y 30	0aaa aaaa	LFO-2 rate	0 — 127
#00 0s 2y 31	0000 aaaa	LFO-2 delay	0 — 128
	0000 bbbb		(0 — 127, KEY-OFF)
00 0s 2y 33	0000 000a	LFO-2 fade polarity	0 — 1 (IN, OUT)
00 0s 2y 34	0aaa aaaa	LFO-2 fade time	0 — 127
00 0s 2y 35	0aaa aaaa	LFO-2 pitch depth	1 — 127 (–63 — +63)
00 0s 2y 36	0aaa aaaa	LFO-2 TVF depth	1 — 127 (–63 — +63)
00 0s 2y 37	0aaa aaaa	LFO-2 TVA depth	1 — 127 (–63 — +63)
00 0s 2y 38	0aaa aaaa	Pitch coarse	16 — 112 (–48 — +48)
00 0s 2y 39	0aaa aaaa	Pitch fine	14 — 114 (–50 — +50)
00 0s 2y 3A	0000 aaaa	Random pitch	0 — 15
			(0, 5, 10, 20, 30, 40, 50, 70, 100, 200, 300, 400, 500, 600, 800, 1200)
00 0s 2y 3B	0000 aaaa	Pitch key follow	0 — 15
			(–100, -70, -50, -30, -10, 0, +10, +20, +30, +40, +50, +70, +100, +120, +150, +200)
00 0s 2y 3C	0aaa aaaa	P-ENV velocity sense	1 — 127 (–63 — +63)
00 0s 2y 3D	0000 aaaa	P-ENV T1 velocity	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 3E	0000 aaaa	P-ENV T4 velocity	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 3F	0000 aaaa	P-ENV time key follow	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 40	0aaa aaaa	P-ENV depth	52 — 76 (–12 — +12)
00 0s 2y 41	0aaa aaaa	P-ENV time 1	0 — 127
00 0s 2y 42	0aaa aaaa	P-ENV level 1	1 — 127 (–63 — +63)
00 0s 2y 43	0aaa aaaa	P-ENV time 2	0 — 127
00 0s 2y 44	0aaa aaaa	P-ENV level 2	1 — 127 (–63 — +63)
00 0s 2y 45	0aaa aaaa	P-ENV time 3	0 — 127
00 0s 2y 46	0aaa aaaa	P-ENV level 3	1 — 127 (–63 — +63)
00 0s 2y 47	0aaa aaaa	P-ENV time 4	0 — 127
00 0s 2y 48	0aaa aaaa	P-ENV level 4	1 — 127 (–63 — +63)
00 0s 2y 49	0000 00aa	TVF mode	0 — 2 (OFF, LPF, HPF)
00 0s 2y 4A	0aaa aaaa	Cutoff frequency	0 — 127
00 0s 2y 4B	0aaa aaaa	Resonance	0 — 127
00 0s 2y 4C	0000 000a	Resonance mode	0 — 1 (SOFT, HARD)
00 0s 2y 4D	0000 aaaa	TVF key follow	0 — 15
			(–100, -70, -50, -30, -10, 0, +10, +20, +30, +40, +50, +70, +100, +120, +150, +200)
00 0s 2y 4E	0000 0aaa	TVF-ENV velocity curve	0 — 6 (1 — 7)
00 0s 2y 4F	0aaa aaaa	TVF-ENV velocity sense	1 — 127 (–63 — +63)
00 0s 2y 50	0000 aaaa	TVF-ENV T1 velocity	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 51	0000 aaaa	TVF-ENV T4 velocity	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)

00 0s 2y 52	0000 aaaa	TVF-ENV time key follow	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 53	0aaa aaaa	TVF-ENV depth	1 — 127 (–63 — +63)
00 0s 2y 54	0aaa aaaa	TVF-ENV time 1	0 — 127
00 0s 2y 55	0aaa aaaa	TVF-ENV level 1	0 — 127
00 0s 2y 56	0aaa aaaa	TVF-ENV time 2	0 — 127
00 0s 2y 57	0aaa aaaa	TVF-ENV level 2	0 — 127
00 0s 2y 58	0aaa aaaa	TVF-ENV time 3	0 — 127
00 0s 2y 59	0aaa aaaa	TVF-ENV level 3	0 — 127
00 0s 2y 5A	0aaa aaaa	TVF-ENV time 4	0 — 127
00 0s 2y 5B	0aaa aaaa	TVF-ENV level 4	0 — 127
00 0s 2y 5C	0aaa aaaa	Level	0 — 127
00 0s 2y 5D	0000 aaaa	TVA key follow	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
#00 0s 2y 5E	0000 aaaa	Pan	0 — 128
	0000 bbbb		(L64 — 63R, RND)
00 0s 2y 60	0000 aaaa	Panning key follow	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 61	0000 00aa	TVA delay mode	0 — 2 (NORMAL, HOLD, PLAY-MATE)
#00 0s 2y 62	0000 aaaa	TVA delay time	0 — 128
	0000 bbbb		(0 — 127, KEY-OFF)
00 0s 2y 64	0000 0aaa	TVA-ENV velocity curve	0 — 6 (1 — 7)
00 0s 2y 65	0aaa aaaa	TVA-ENV velocity sense	1 — 127 (–63 — +63)
00 0s 2y 66	0000 aaaa	TVA-ENV T1 velocity	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 67	0000 aaaa	TVA-ENV T4 velocity	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 68	0000 aaaa	TVA-ENV time key follow	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 0s 2y 69	0aaa aaaa	TVA-ENV time 1	0 — 127
00 0s 2y 6A	0aaa aaaa	TVA-ENV level 1	0 — 127
00 0s 2y 6B	0aaa aaaa	TVA-ENV time 2	0 — 127
00 0s 2y 6C	0aaa aaaa	TVA-ENV level 2	0 — 127
00 0s 2y 6D	0aaa aaaa	TVA-ENV time 3	0 — 127
00 0s 2y 6E	0aaa aaaa	TVA-ENV level 3	0 — 127
00 0s 2y 6F	0aaa aaaa	TVA-ENV time 4	0 — 127
00 0s 2y 70	0aaa aaaa	Dry level	0 — 127
00 0s 2y 71	0aaa aaaa	Reverb send level	0 — 127
00 0s 2y 72	0aaa aaaa	Chorus send level	0 — 127
%00 0s 2y 73	0000 000a	Output select	0 — 1 (MAIN, SUB)
00 0s 2y 74	0000 000a	Redamper switch	0 — 1 (OFF, ON)
Total Size	00 00 00 75		

The values of the Velocity Range Upper must be greater than or equal to the values of Velocity Range Lower.

* 1-4 Rhythm Setup 1

00 mm rr cc
mm = 07
rr = 40H — 7CH (Note #36 — Note #96)
cc = Description

* 1-4-1 Rhythm Note 1

Address		Description	
00 mm rr 00	0000 00aa	Wave group	1 (EXP)
#00 mm rr 01	0000 aaaa	Wave number	0 — 254
0000 bbbb	(1 — 255)		
00 mm rr 03	0000 000a	Tone switch	0 — 1 (OFF, ON)
00 mm rr 04	0aaa aaaa	Coarse tune	0 — 127 (C-1 — G9)
00 mm rr 05	000a aaaa	Mute group	0 — 31 (OFF, 1 — 31)
00 mm rr 06	0000 000a	Envelope mode	0 — 1 (NO-SUSTAIN, SUSTAIN)
00 mm rr 07	0aaa aaaa	Pitch fine	14 — 114 (–50 — +50)
00 mm rr 08	0000 aaaa	Random pitch	0 — 15
			(0, 5, 10, 20, 30, 40, 50, 70, 100, 200, 300, 400, 500, 600, 800, 1200)
00 mm rr 09	0000 aaaa	Bender range	0 — 12
00 mm rr 0A	0aaa aaaa	P-ENV velocity sense	1 — 127 (–63 — +63)
00 mm rr 0B	0000 aaaa	P-ENV time velocity sense	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 mm rr 0C	0aaa aaaa	P-ENV depth	52 — 76 (–12 — +12)
00 mm rr 0D	0aaa aaaa	P-ENV time 1	0 — 127
00 mm rr 0E	0aaa aaaa	P-ENV level 1	1 — 127 (–63 — +63)
00 mm rr 0F	0aaa aaaa	P-ENV time 2	0 — 127
00 mm rr 10	0aaa aaaa	P-ENV level 2	1 — 127 (–63 — +63)
00 mm rr 11	0aaa aaaa	P-ENV time 3	0 — 127
00 mm rr 12	0aaa aaaa	P-ENV level 3	1 — 127 (–63 — +63)
00 mm rr 13	0aaa aaaa	P-ENV time 4	0 — 127
00 mm rr 14	0aaa aaaa	P-ENV level 4	1 — 127 (–63 — +63)
00 mm rr 15	0000 00aa	TVF mode	0 — 2 (OFF, LPF, HPF)
00 mm rr 16	0aaa aaaa	Cutoff frequency	0 — 127
00 mm rr 17	0aaa aaaa	Resonance	0 — 127
00 mm rr 18	0000 000a	Resonance mode	0 — 1 (SOFT, HARD)
00 mm rr 19	0aaa aaaa	TVF-ENV velocity sense	1 — 127 (–63 — +63)
00 mm rr 1A	0000 aaaa	TVF-ENV time velocity sense	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 mm rr 1B	0aaa aaaa	TVF-ENV depth	1 — 127 (–63 — +63)
00 mm rr 1C	0aaa aaaa	TVF-ENV time 1	0 — 127
00 mm rr 1D	0aaa aaaa	TVF-ENV level 1	0 — 127
00 mm rr 1E	0aaa aaaa	TVF-ENV time 2	0 — 127
00 mm rr 1F	0aaa aaaa	TVF-ENV level 2	0 — 127
00 mm rr 20	0aaa aaaa	TVF-ENV time 3	0 — 127
00 mm rr 21	0aaa aaaa	TVF-ENV level 3	0 — 127
00 mm rr 22	0aaa aaaa	TVF-ENV time 4	0 — 127
00 mm rr 23	0aaa aaaa	TVF-ENV level 4	0 — 127
00 mm rr 24	0aaa aaaa	Level	0 — 127
#00 mm rr 25	0000 aaaa	Pan	0 — 128
0000 bbbb	(L64 — 63R, RND)		
00 mm rr 27	0aaa aaaa	TVA-ENV velocity sense	1 — 127 (–63 — +63)
00 mm rr 28	0000 aaaa	TVA-ENV time velocity sense	0 — 14
			(–100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
00 mm rr 29	0aaa aaaa	TVA-ENV time 1	0 — 127
00 mm rr 2A	0aaa aaaa	TVA-ENV level 1	0 — 127
00 mm rr 2B	0aaa aaaa	TVA-ENV time 2	0 — 127
00 mm rr 2C	0aaa aaaa	TVA-ENV level 2	0 — 127
00 mm rr 2D	0aaa aaaa	TVA-ENV time 3	0 — 127
00 mm rr 2E	0aaa aaaa	TVA-ENV level 3	0 — 127
00 mm rr 2F	0aaa aaaa	TVA-ENV time 4	0 — 127
00 mm rr 30	0aaa aaaa	Dry level	0 — 127
00 mm rr 31	0aaa aaaa	Reverb send level	0 — 127
00 mm rr 32	0aaa aaaa	Chorus send level	0 — 127
%00 mm rr 33	0000 000a	Output select	0 — 1 (MAIN, SUB)
Total Size	00 00 00 34		

* 1-5 Rhythm Setup 2

00 mm rr cc
mm = 20
rr = 38H — 3FH (Note #28 — Note #35)
= 40H — 46H (Note #97 — Note #103)
cc = Description

* 1-5-1 Rhythm Note 2

Same as 1-4-1.

2 GS

< MODEL ID = 42H >

2-1 Scale Tune

w = 0 — 7 (Scale tune Part8,1,2,...,7)

Address		Description		
40 1w 40	0aaa aaaa	Scale Tune C		00 — 127 (–64 — +63)
40 1w 41	:	:	C#	
40 1w 42	:	:	D	
40 1w 43	:	:	D#	
40 1w 44	:	:	E	
40 1w 45	:	:	F	
40 1w 46	:	:	F#	
40 1w 47	:	:	G	
40 1w 48	:	:	G#	
40 1w 49	:	:	A	
40 1w 4A	:	:	A#	
40 1w 4B	:	:	B	
Total Size	00 00 0C			

Note: If you send the Scale Tune data, must send from "C" to "B" (1 oct) per packet.

/ Example of DT1 application /

To set the tune (C — B) of the performance part 1 Arabia, send the data as follow:
F0H 41H 10H 42H 12H 40H 11H 40H 3AH 6DH 3EH 34H 0DH 38H 6BH 3CH 6FH 40H 36H 0FH 50H F7H

Table A-1: Decimal to Hexadecimal

The MIDI message are expressed in hexadecimal configured in 7 bits.
This table is useful when you read or write MIDI messages.

(D) = decimal
(H) = Hexadecimal

(D)	(H)	(D)	(H)	(D)	(H)	(D)	(H)
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	69	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

The decimal value of MIDI channel, Program change, etc is the decimal number in the table plus 1.
In the hexadecimal notation in configured 7 bits, the maximum data of 1 byte is 128. If the data is mode than 128,used plural bytes.
The signed value is 00H = –64, 40H = 0, 7FH = +63. In decimal notation,the value is the decimal number in the table minus 64.
The signed value of dual bytes is 00 00H = –8192, 40 40H = 0, 7F 7FH =8191. For example,converted aaH bbH (hex) to decimal to the following: aa bbH — 40 00H = aa x 128 + bb –64 x 128

Table A-2: ASCII code

Patch Name and Performance Name of MIDI data are described the ASCII code in the table below.

(H) = hexadecimal

Character	(H)	Character	(H)	Character	(H)	Character	(H)
(Space)	20H						
A	41H	Q	51H	j	6AH	1	31H
B	42H	R	52H	k	6BH	2	32H
C	43H	S	53H	l	6CH	3	33H
D	44H	T	54H	m	6DH	4	34H
E	45H	U	55H	n	6EH	5	35H
F	46H	V	56H	o	6FH	6	36H
G	47H	W	57H	p	70H	7	37H
H	48H	Y	59H	q	71H	8	38H
I	49H	Z	5AH	r	72H	9	39H
J	4AH	a	61H	s	73H	0	30H
K	4BH	b	62H	t	74H	+	2BH
L	4CH	c	63H	u	75H	-	2DH
M	4DH	d	64H	v	76H	*	2AH
N	4EH	e	65H	w	77H	/	2FH
O	4FH	f	66H	x	78H	#	23H
P	50H	g	67H	y	79H	!	21H
		h	68H	z	7AH	,	2CH
				i	69H	.	2EH

SOUND MODULE
Model
Sound Expansion Series

MIDI Implementation Chart

Date : Feb. 22, 1995
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	X	1 — 16	
Channel	Changed	X	1 — 16	Memorized
Mode	Default	X	Mode 3	
	Messages	X	Mode 3, 4 (M = 1)	
	Altered	**********		
Note Number :		X	0 — 127	
	True Voice	**********	0 — 127	
Velocity	Note ON	X	O	
	Note OFF	X	O	
After Touch	Key's	X	X	
	Ch's	X	O	
Pitch Bend		X	O	Resolution: 9 bits
Control Change	0, 32	X	O *1	Bank select
	1	X	O *2	Modulation
	5	X	O *2	Portamento time
	6, 38	X	O *2	Data entry
	7	X	O *1	Volume
	10	X	O *2	Panpot
	11	X	O *2	Expression
	64	X	O *1	Hold 1
	65	X	O *2	Portamento
	66	X	O *2	Sostenuto
	67	X	O *2	Soft
	91	X	O *2	Reverb
	93	X	O *2	Chorus
	98, 99	X	O *1	NRPN LSB, MSB
	100, 101	X	O *2	RPN LSB, MSB
Prog Change	: True #	X	O *1	
		**********	0 — 127	
System Exclusive		O	O	
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Message	: All Sound Off	X	O	
	: Reset All Controllers	X	O	
	: Local ON/OFF	X	X	
	: All Notes Off	X	O (123 — 127)	
	: Active Sense	O	O	
	: Reset	X	X	
Notes		* 1 O X is selectable * 2 O X is selectable using external MIDI device		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

Roland®

17048635

UPC 17048635

1098:

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